Oracle Utilities Customer Care and Billing

Administration Guide

Volume 1

Release 2.3.1

E18368-01

September 2010

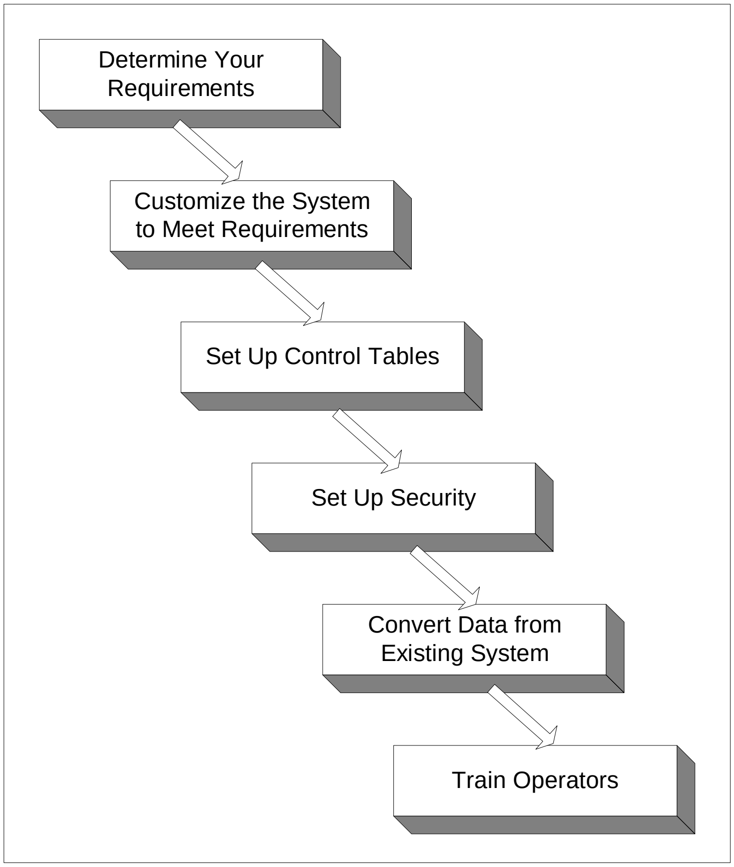
Oracle Utilities Customer Care and Billing Administration Guide

E18368-01

Preparing To Implement

Getting ready for production takes a good deal of planning. You have probably already begun analyzing your requirements according to your business and organizational needs. You will need to review your current environment and think about what changes could be made now and in the future. And while you might have decided to simply transfer your current processing structure to Oracle Utilities Customer Care and Billing, you may also have discovered that Oracle Utilities Customer Care and Billing can provide new options.

Because the system is sophisticated and customizable, there are a number of steps involved in rolling out and using your new system.


Determine Your Requirements
Customize the System to Meet Requirements
Set Up Control Tables
Set Up Security
Convert Data from Existing System
Train Operators

The topics in this section describe the order in which the control tables should be set up.

Contents

Control Table Setup Sequence

To implement the system, you must set up your organization's business rules in "control tables". Setting up these tables is time-consuming because we allow you to tailor many aspects of the system to meet your organization’s requirements. We strongly recommend that you take the time to document how you plan to set up all of these tables before you use the following roadmap to enter the control data. Time spent understanding the interrelationships between this data will reap the rewards of a clean system that meets your current and long term needs.

While we describe the transactions and options in more detail in other sections of this manual, use the following chart (and the remaining sections of this chapter) as your roadmap. Here we list the order in which you perform tasks and the pages you’ll use to set up your system. The order is important because some information must exist before other information can be defined (i.e., many dependencies exist).

Auto setup. The Auto Setup column in the following table contains suggestions to save you time. It also indicates if a control table contains information when the system is installed.

You don't have to set up every control table. You need only set up those control tables that govern functions that are applicable to your organization.

Function	Menu	Auto Setup
Global Context		
Algorithm	Admin Menu, Algorithm. You will need to set up an algorithm that populates global context values. The global context is used by various zones in the system to display relevant data. This algorithm is plugged-in on the installation record.	You can run the *CI_COPIN* DB process to copy many of the algorithms that support basic functionality from the demonstration database. Refer to How To Copy An Algorithm From The Demo Database for more information.
Accounting Environment		
Country & State	Admin Menu, Country	
Currency Codes	Admin Menu, Currency Code	*USD* is automatically populated
Accounting Calendar	Admin Menu, Accounting Calendar	

Function	Menu	Auto Setup
GL Division	Admin Menu, General Ledger Division	
Security Environment		
Application Service	Admin Menu, Application Service	All base package transactions are automatically populated
Security Type	Admin Menu, Security Type	
User Group	Admin Menu, User Group Note, you won't be able to set up users at this point	One user group, *ALL-SERVICES,* is automatically setup. It references all other application services and a single user called *SYSUSER*. Note, you may be able to import sample user groups from the demonstration database. Also, you may be able to import user groups if your organization has already defined them using LDAP.
Language	Admin Menu, Language	*ENG* is automatically populated
Display Profile	Admin Menu, Display Profile	Two display profiles are automatically setup: *NORTHAM* displays currencies and dates in a classic American format; *EURO* displays information in a classic European format
Data Access Role	Admin Menu, Data Access Role	
Access Group	Admin Menu, Access Group	
User	Admin Menu, User	*SYSUSER* is automatically set up. Note, you may be able to import your users if your organization has already defined them using LDAP.
Return to User Group	You must return to your user groups and define all of their users	
Customer Class Environment		
Customer Class	Admin Menu, Customer Class. At this point, you'll only be able to set up your customer class codes. You will return to these customer classes throughout the setup process to populate additional information.	
Financial Transaction Environment		
Work Calendar	Admin Menu, Work Calendar	
CIS Division	Admin Menu, CIS Division	
Revenue Class	Admin Menu Revenue Class	

Function	Menu	Auto Setup
Algorithm	Admin Menu, Algorithm. You will need to set up the algorithm that constructs a distribution code's corresponding GL account when it is interfaced to the general ledger	
Distribution Code	Admin Menu, Distribution Code	
Bank & Bank Accounts	Admin Menu, Bank	
Billable Charge Template	Admin Menu, Billable Charge Template. Note, if you want the system to default service quantities onto billable charges created using this template, you must setup the appropriate unit of measure code, time-of-use code and/or service quantity identifier.	
Billable Charge Upload Line Type	Admin Menu, Billable Charge Line Type	
Algorithm	Admin Menu, Algorithm. You will need to set up several algorithms. These algorithms: 1) retrieve a bill segment's consumption, 2) calculate a bill segment's bill lines, 3) construct a bill segment's financial transaction, 4) cancel previously estimated bill segments	Rather than setting these up manually, you can run the *CI_COPBI* DB process to copy many of these algorithms from the demonstration database. Please review the parameter values on these algorithms after they are copied. Refer to How To Copy An Algorithm From The Demo Database for more information.
Bill Segment Type	Admin Menu, Bill Segment Type	
Algorithm	Admin Menu, Algorithm. You may want to set up an algorithm that formats the Bill Segment information that is displayed throughout the system for a specific Bill Segment Type. This algorithm is plugged-in on the Bill Segment Type.	
Algorithm	Admin Menu, Algorithm. You will need to set up the algorithm that constructs a payment segment's financial transaction	Rather than setting these up manually, you can run the *CI_COPPY* DB process to copy many of these algorithms from the demonstration database. Please review the parameter values on these algorithms after they are copied. Refer to How To Copy An Algorithm From The Demo Database for more information.
Payment Segment Type	Admin Menu, Payment Segment Type	
Algorithm	Admin Menu, Algorithm. You will	Rather than setting these up

Function	Menu	Auto Setup
	need to set up the algorithm that constructs an adjustment's financial transaction	manually, you can run the *CI_COPAD* DB process to copy many of these algorithms from the demonstration database. Please review the parameter values on these algorithms after they are copied. Refer to How To Copy An Algorithm From The Demo Database for more information.
Algorithm	Admin Menu, Algorithm. Several plug-in spots are available to perform additional logic when processing adjustments. For example, if you have the system calculate adjustments, you must set up an adjustment generation algorithm. Refer to Adjustment Type for other available plug-in spots that may be used by your implementation.	
Algorithm	Admin Menu, Algorithm. You may want to set up an algorithm that formats the Adjustment information that is displayed throughout the system for a specific Adjustment Type. This algorithm is plugged-in on the Adjustment Type.	
Algorithm	Admin Menu, Algorithm. You may want to set up an algorithm that formats the Adjustment information that is displayed throughout the system. This algorithm is plugged-in on the installation record.	
Adjustment Type	Admin Menu, Adjustment Type	
Adjustment Type Profile	Admin Menu, Adjustment Type Profile	
Approval Profile	Admin Menu, Approval Profile. Note, an approval profile references a To Do type and one or more To Do Roles; these must be set up before you can set up the approval profile. After the approval profile(s) are set up, they must be referenced on the adjustment types that they govern.	
Cancel Reason – Bill	Admin Menu, Bill Cancel Reason	
Cancel Reason – Payment	Admin Menu, Payment Cancel Reason	

Function	Menu	Auto Setup
Cancel Reason – Adjustment	Admin Menu, Adjustment Cancel Reason	
Tender Type	Admin Menu, Tender Type	
Tender Source	Admin Menu, Tender Source	
A/P Request Type	Admin Menu, A/P Request Type	
Issuing Center	Admin Menu, Issuing Center. You will need to set up issuing centers if your organization assigns document numbers to bills.	
Installation	Admin Menu, Installation Options - Framework and Admin Menu, Installation Options. Many fields on the installation record impact the financial transaction environment. Refer to the description of the Billing and Financial Transaction tabs and the Messages tab in the Framework page for more information.	
Algorithm	Admin Menu, Algorithm. You will need to set up an algorithm that distributes payments.	If you ran the *CI_COPPY* DB process described above, this algorithm will have been set up for you.
Algorithm	Admin Menu, Algorithm. You will need to set up an algorithm that handles overpayment situations.	
Algorithm	Admin Menu, Algorithm. You may need to set up an algorithm if specific customers can have individual bill due dates.	
Algorithm	Admin Menu, Algorithm. You may need to set up an algorithm if you want the system to delete bills that contain only information about historical payments.	If you ran the *CI_COPBI* DB process described above, this algorithm will have been set up for you.
Algorithm	Admin Menu, Algorithm. You may need to set up an algorithm if you want the system to levy a non-sufficient funds charge if a payment is canceled due to non-sufficient funds.	
Algorithm	Admin Menu, Algorithm. You will need to set up an algorithm that formats the bill information that is displayed throughout the system. This algorithm is plugged-in on the installation record.	You can run the *CI_COPIN* DB process to copy many of the algorithms that format basic information from the demonstration database. Refer to How To Copy An Algorithm From The Demo Database for more information.

Function	Menu	Auto Setup
Algorithm	Admin Menu, Algorithm. You will need to set up an algorithm that formats the payment information that is displayed throughout the system. This algorithm is plugged-in on the installation record.	If you ran the *CI_COPIN* DB process described above, this algorithm will have been set up for you
Algorithm	Admin Menu, Algorithm. You will need to set up an algorithm that defaults the amount when a payment is manually added. This algorithm also calculates the amount of an automatic payment for a bill for an account with an active auto pay option. This algorithm is plugged-in on the installation record.	If you ran the *CI_COPIN* DB process described above, this algorithm will have been set up for you
Algorithm	Admin Menu, Algorithm. Refer to Customer Class for other available plug-in spots that may be used by your implementation to perform additional logic when processing payments and bills.	
Return to Customer Class	Admin Menu, Customer Class. You will need to plug-in the algorithms defined above on your customer classes.	
Budget Environment		
Algorithm	Admin Menu, Algorithm. You will need to set up several algorithms at this time: How To Calculated The Recommended Budget Amount, How To Periodically True Up A Customer's Budget Amount, The Circumstances When The System Should Highlight A Customer As Having An Anomalous Budget.	
Budget Plan	Admin Menu, Budget Plan	
Algorithm	Admin Menu, Algorithm. Budget eligibility is set at the SA type level. You will need to set up an override budget eligibility algorithm if some service agreements for an SA type are not eligible for budget based on certain conditions.	
Customer Environment		

Function	Menu	Auto Setup
Account Management Group	Admin Menu, Account Management Group. Note, you will probably have to set up To Do Type and To Do Roles before you can setup account management groups. Refer to Assigning A To Do Role for more information on how account management groups may be used to define an entry's role.	
Account Relationship	Admin Menu, Account Relationship Type	
Alert Type	Admin Menu, Alert Type	
Bill Message	Admin Menu, Bill Message	
Algorithm	Admin Menu, Algorithm. If you have software that's capable of reconstructing an image of a bill in a PDF (for the purpose of online display), you will need to create an algorithm that formats the extract records that are sent to your bill image software.	If you use the Doc 1 printing software, you can run the *CI_COPD1* DB process to copy ALL of the Doc 1 oriented algorithms from the demonstration database. Refer to How To Copy An Algorithm From The Demo Database for more information.
Bill Route Type	Admin Menu, Bill Route Type	
Contract Quantity Type	Admin Menu, Contract Quantity Type	
Algorithm	Admin Menu, Algorithm. If you have software that's capable of reconstructing an image of a letter in a PDF (for the purpose of online display), you will need to create an algorithm that formats the extract records that are sent to your letter image software.	If you ran the *CI_COPD1* DB process described above, these algorithms will have been set up for you.
Letter Template	Admin Menu, Letter Template	
Customer Contact Class	Admin Menu, Customer Contact Class	
Customer Contact Type	Admin Menu, Customer Contact Type	
Conservation Programs	Admin Menu, Conservation Program. You will need to set up conservation programs if your organization provides rebates to customers based on eligibility and verification of newly purchased appliances and hardware that are rated to conserve the demand for energy.	
Algorithm	Admin Menu, Algorithm. You may need to set up the algorithms that determine if person ID's are in a	

Function	Menu	Auto Setup
	predefined format.	
Identifier Type	Admin Menu, Identifier Type	
SICs	Admin Menu, SIC Code	
Tax Exempt Type	Admin Menu, Tax Exempt Type	
Algorithm	Admin Menu, Algorithm. You may need to set up the algorithms that determine if phone numbers are in a predefined format.	
Phone Type	Admin Menu, Phone Type.	
Person Relationship Type	Admin Menu, Person Relationship Type.	
Algorithm	Admin Menu, Algorithm. You will need to set up an algorithm that formats the person information that is displayed throughout the system. This algorithm is plugged-in on the installation record.	If you ran the *CI_COPIN* DB process described above, this algorithm will have been set up for you
Algorithm	Admin Menu, Algorithm. You will need to set up an algorithm to validate a person's name. This algorithm is plugged-in on the installation record.	If you ran the *CI_COPIN* DB process described above, this algorithm will have been set up for you
Algorithm	Admin Menu, Algorithm. You can override the system's standard account information string by setting up an algorithm that produces this string of information. This algorithm is plugged-in on the installation record.	
Algorithm	Admin Menu, Algorithm. If you have software that's capable of reconstructing an image of a letter in a PDF for the purpose of online display, you will need to create an algorithm that renders this PDF. This algorithm is plugged-in on the installation record.	If you ran the *CI_COPD1* DB process described above, this algorithm will have been set up for you
Algorithm	Admin Menu, Algorithm. If you have software that's capable of reconstructing an image of a bill in a PDF for the purpose of online display, you will need to create an algorithm that renders this PDF. This algorithm is plugged-in on the installation record.	If you ran the *CI_COPD1* DB process described above, this algorithm will have been set up for you

Function	Menu	Auto Setup
Installation	Admin Menu, Installation Options. Many fields on the installation record impact the Customer Environment. Refer to the description of the Main, Person, and Account tabs for more information.	
Statements		
Algorithm	Admin Menu, Algorithm. If you have software that's capable of reconstructing an image of a statement in a PDF (for the purpose of online display), you will need to create an algorithm that formats the extract records that are sent to your statement image software.	If you ran the *CI_COPD1* DB process described above, this algorithm will have been set up for you
Statement Route Type	Admin Menu, Statement Route Type	
Statement Cycle	Admin Menu, Statement Cycle	
Algorithm	Admin Menu, Algorithm. If you have software that's capable of reconstructing an image of a statement in a PDF for the purpose of online display, you will need to create an algorithm that renders this PDF. This algorithm is plugged-in on the installation record.	If you ran the *CI_COPD1* DB process described above, this algorithm will have been set up for you
Automatic Payment (EFT) Environment		
Algorithm	Admin Menu, Algorithm. You will need to set up an algorithm to create automatic payments. This algorithm is plugged-in on the installation record.	You can run the *CI_COPAP* DB process to copy this algorithm (and other autopay-oriented algorithms) from the demonstration database. Refer to How To Copy An Algorithm From The Demo Database for more information.
Tender Source	Admin Menu, Tender Source Note: earlier, you created tender sources for the remittance processor and your cash drawers. At this point, you'll need to add at least one tender source for automatic payments. Why? Because automatic payments get linked to a tender control (which, in turn, gets linked to a tender source) when they are interfaced out of the system.	
Algorithm	Admin Menu, Algorithm. You will	If you ran the *CI_COPAP* DB process

Function	Menu	Auto Setup
	need to set up the appropriate automatic payment date calculation algorithm to populate the extract, GL interface and payment dates on automatic payments.	described above, this algorithm will have been set up for you
Auto Pay Route Type	Admin Menu, Auto Pay Route Type	
Tender Type	Admin Menu, Tender Type Note: earlier, you created tender types for things like cash, checks, etc. At this point, you'll need to add a tender type for each type of automatic payments (e.g., direct debt, credit card, etc.).	
Work Calendar	Admin Menu, Work Calendar. You need only set up additional work calendars if the auto pay sources (i.e., the financial institutions) have different working days than does your organization	
Algorithm	Admin Menu, Algorithm. If you need to validate the customer's bank account or credit card number, you will need to set up the appropriate validation algorithms.	If you ran the *CI_COPAP* DB process described above, this algorithm will have been set up for you
Auto Pay Source Type	Admin Menu, Auto Pay Source Type	
Algorithm	Admin Menu, Algorithm. You may need to set up an algorithm if your customers can define a maximum withdrawal limit on their autopay options.	If you ran the *CI_COPAP* DB process described above, this algorithm will have been set up for you
Return to Customer Class	Admin Menu, Customer Class. You should plug-in the Autopay Over Limit Algorithm in each appropriate customer class.	
Deposit Environment		
Algorithm	Admin Menu, Algorithm. You will need to set up several algorithms at this time: The Definition Of A Good Customer, When To Refund A Deposit To A Customer, When To Recommend An Additional Deposit, How / When To Calculate Interest, How To Generate The Recommended Deposit Amount.	

Function	Menu	Auto Setup
Deposit Class	Admin Menu, Deposit Class	
Non Cash Deposit Type	Admin Menu, Non Cash Deposit Type	
Field Work Environment – Phase 1		
Representative	Admin Menu, Representative	
Operation Area	Admin Menu, Operation Area	
Field Service Class	Admin Menu, Field Service Class	
Algorithm	Admin Menu, Algorithm. You will need to set up the algorithms that execute special functions (if any) when a field activity is completed	
Field Activity Type & Steps	Admin Menu, Field Activity Type	
Field Activity & Field Order Cancellation Reason	Admin Menu, Fieldwork Cancel Reason	
Field Activity & Field Order Reschedule Reason	Admin Menu, Fieldwork Reschedule Reason	
Algorithm	Admin Menu, Algorithm. If you need anything special to happen when a remark is associated with a field activity (e.g., generate a To Do), you will need to set up an algorithm to do whatever you need to do and associate it with the respective Field Activity Remark.	
Field Activity Remarks	Admin Menu, Field Activity Remark	
Algorithm	Admin Menu, Algorithm. If you have software that's capable of reconstructing an image of a field order in a PDF (for the purpose of online display), you will need to create an algorithm that formats the extract records that are sent to your field order image software.	If you ran the *CI_COPD1* DB process described above, this algorithm will have been set up for you
Dispatch Group	Admin Menu, Dispatch Group	
Disconnect Location	Admin Menu, Disconnect Location	
Field Activity Type Profiles	Admin Menu, Field Activity Type Profile	
Algorithm	Field activities for Start / Stop will only be created if the SA Type linked to the service point has a SASP field work creation algorithm. Refer to the SA	

Function	Menu	Auto Setup
	Type section below.	
Algorithm	Admin Menu, Algorithm. If you have software that's capable of reconstructing an image of a field order in a PDF for the purpose of online display, you will need to create an algorithm that renders this PDF. This algorithm is plugged-in on the installation record.	If you ran the *CI_COPD1* DB process described above, this algorithm will have been set up for you
Credit & Collections Environment (if you collect on overdue bills (as opposed to overdue debt), you will NOT set up these tables; refer to Overdue Processing - Set Up Tasks for the list of control tables required to collect on overdue bills)		
Algorithm	Admin Menu, Algorithm. You may need to set up algorithms if you have non-standard collection events.	
Collection Event Type	Admin Menu, Collection Event Type	
Algorithm	Admin Menu, Algorithm. You may need to set up a collection process cancellation algorithm if your organization allows individual service agreements to be removed from a collection process if they are paid (rather than performing cancellation based on all SA's in a debt class).	
Collection Process Template	Admin Menu, Collection Process Template	
Collection Class	Admin Menu, Collection Class	
Algorithm	Admin Menu, Algorithm. You will need to set up several algorithms at this time: Collection process cancellation criteria, Severance process cancellation criteria, and Override arrears due to pay plans.	
Debt Class	Admin Menu, Debt Class	
Write Off Debt Class	Admin Menu, Write Off Debt Class	
Algorithm	Admin Menu, Algorithm. You will need to set up Collection Condition algorithms.	
Collection Class Control	Admin Menu, Collection Class Control	
Algorithm	Admin Menu, Algorithm. You may need to set up algorithms if you have non-standard severance events.	
Severance Event Type	Admin Menu, Severance Event Type	

Function	Menu	Auto Setup
Algorithm	Admin Menu, Algorithm. You may need to set up a severance process cancellation algorithm if your organization allows a severance process to be canceled when the related service agreement is paid (rather than performing cancellation based on all SA's in a debt class).	
Severance Process Template	Admin Menu, Severance Process Template	
Algorithm	Admin Menu, Algorithm. You will need to set up several algorithms at this time: How to refer debt to a collection agency, How to transfer debt to another active service agreement, How to write down small amounts of debt, and How to refund credit balances to a customer.	
Algorithm	Admin Menu, Algorithm. You may need to set up algorithms if you have non-standard write-off events.	
Write Off Event Type	Admin Menu, Write Off Event Type (Note, you'll have to wait until you have defined your SA Types before you can set up the Write Off Events because SA Type is a necessary parameter to write off debt).	
Write Off Process Template	Admin Menu, Write Off Process Template	
Write Off Control	Admin Menu, Write Off Control	
Collection Agency	Admin Menu, Collection Agency. Note, each collection agency references a person therefore you must set up a person for each agency before you can enter collection agency information.	
Algorithm	Admin Menu, Algorithm. You may need to set up algorithms if you have special logic that should be executed when a pay plan is canceled.	
Pay Plan Type	Admin Menu, Pay Plan Type	
Payment Method	Admin Menu, Payment Method	
Third Party Payor	Admin Menu, Third Party Payor. Note, you must create an account before you can create a third party	

Function	Menu	Auto Setup
	payor.	
Installation	Admin Menu, Installation. Several fields on the installation record impact the Credit & Collections Environment.	
Algorithm	Admin Menu, Algorithm. You will need to setup an algorithm that's called when a user write-off debt real time.	
Return to Customer Class	Admin Menu, Customer Class. You should plug-in the Autopay Over Limit Algorithm in each appropriate customer class.	
Services & Characteristics		
Service Type	Admin Menu, Service Type	
Algorithm	Admin Menu, Algorithm. If you have ad hoc characteristic types, you may need to set up the algorithms that control how they are validated	
Foreign Key Reference	Admin Menu, FK Reference. If you have foreign key characteristic types, you may need to set up foreign key references to control how the user selects the characteristic values (and how the foreign key values are validated).	All base package FK references are automatically populated
Characteristic Type & Values	Admin Menu, Characteristic Type	
Device Testing Environment		
Algorithm	Admin Menu, Algorithm. If you need to validate a specific device test component result, you will need to set up the appropriate validation algorithms.	
Device Test Component Type	Admin Menu, Device Test Component Type	
Algorithm	Admin Menu, Algorithm. If you need the system to determine if a device test's test results are considered "passing", you will need to set up an algorithm to perform this processing.	
Device Test Type	Admin Menu, Device Test Type	

Function	Menu	Auto Setup
Algorithm	Admin Menu, Algorithm. If you have the system select meters / items for testing, you will need to set up an algorithm to perform this processing.	
Meter & Item Environment		
Meter Type	Admin Menu, Meter Type [Note – you won't be able to define the collection of valid Equipment Types and Item Types until after you define the Item Types. You also will not be able to define the collection of Meter Configuration Types until after you define the Meter Configuration Types.]	
Meter ID Type	Admin Menu, Meter ID Type	
Manufacturer / Model	Admin Menu, Manufacturer	
Unit of Measure	Admin Menu, Unit of Measure	
Time of Use	Admin Menu, Time of Use	
Meter Configuration Type	Admin Menu, Meter Configuration Type	
Retirement Reason	Admin Menu, Retire Reason	
Protocol	Admin Menu, Protocol	
Read Out Type	Admin Menu, Read Out Type	
Algorithm	Admin Menu, Algorithm. You will need to set up an algorithm to generate estimated consumption.	
Trend Area	Admin Menu, Trend Area	
Trend Class	Admin Menu, Trend Class	
High / Low	Admin Menu, High Low Factor	
Algorithm	Admin Menu, Algorithm. You will need to set up an algorithm that calculates the high / low limits used on meter reads. This algorithm is plugged-in on the installation record.	You can run the *CI_COPIN* DB process to copy many of the algorithms that support basic functionality from the demonstration database. Refer to How To Copy An Algorithm From The Demo Database for more information.
Meter Location	Admin Menu Meter Location	
Meter Read Instructions	Admin Menu, Meter Read Instruction	
Algorithm	Admin Menu, Algorithm. If you need anything special to happen when a meter read with a given remark is uploaded (e.g., generate a field activity), you will need to set up an	

Function	Menu	Auto Setup
	algorithm to do whatever you need to do and associate it with the respective Meter Read Remark.	
Meter Reader Remarks	Admin Menu, Meter Reader Remark	
Meter Read Source	Admin Menu, Meter Read Source	
Meter Read Warning	Admin Menu, Meter Read Warning	
Item Type	Admin Menu, Item Type	
Algorithm	Admin Menu, Algorithm. You will need to set up an algorithm to format the standard meter info that appears throughout the system. This algorithm is plugged-in on the installation record.	If you ran the *CI_COPIN* DB process described above, this algorithm will have been set up for you
Algorithm	Admin Menu, Algorithm. You will need to set up an algorithm to format the standard item info that appears throughout the system. This algorithm is plugged-in on the installation record.	If you ran the *CI_COPIN* DB process described above, this algorithm will have been set up for you
Premise & Service Point Environment		
Premise Type	Admin Menu, Premise Type	
Algorithm	Admin Menu, Algorithm. You will need to set up an algorithm to format the standard premise info that appears throughout the system. This algorithm is plugged-in on the installation record.	If you ran the *CI_COPIN* DB process described above, this algorithm will have been set up for you
Algorithm	Admin Menu, Algorithm. You will need to set up an algorithm that formats the service point information that is displayed throughout the system. This algorithm is plugged-in on the installation record.	If you ran the *CI_COPIN* DB process described above, this algorithm will have been set up for you
Algorithm	Admin Menu, Algorithm. You may need to set up the algorithms that determine if geographic ID's are in a predefined format.	
Geographic Type	Admin Menu, Geographic Type	
Service Point Type	Admin Menu, SP Type. [Note – you won't be able to define the SP Type's SA Types until after you define the SA Types or the FA Type Profiles until after you define the Field Activity Type Profiles.]	

Function	Menu	Auto Setup
Facility Level 1 to 2	Admin Menu, Facility Level 1 to 2	
Facility Level 2 to 3	Admin Menu, Facility Level 2 to 3	
Field Work Environment – Phase 2		
Field Service Control	Admin Menu, Field Service Control	
Bill & Service Cycle Environment		
Bill Cycle, Bill Cycle Schedule	Admin Menu, Bill Cycle	
Bill Period, Bill Period Schedule	Admin Menu, Bill Period	
Route Type	Admin Menu, Route Type	
Service Cycle / Route	Admin Menu, Service Cycle	
Service Schedule	Admin Menu, Service Schedule	
Rate Environment		
Frequency	Admin Menu, Frequency	
Service Quantity Identifier	Admin Menu, Service Quantity Identifier	
Algorithm Type	Admin Menu, Algorithm Type. If you create new Service Quantity Rules you must set up an algorithm type for each such rule (the algorithm type defines the types of parameters that are passed to the SQ rule).	All base package algorithm types are automatically populated
Service Quantity Rule	Admin Menu, Service Quantity Rule	
Bill Factor	Main Menu, Rates, Bill Factor	
Algorithm Type	Admin Menu, Algorithm Type. If you create new Register Rules you must set up an algorithm type for each such rule (the algorithm type defines the types of parameters that are passed to the register rule).	All base package algorithm types are automatically populated
Register Rule	Admin Menu, Register Rule	
Rate	Main Menu, Rates, Rate Schedule	
Rate Version	Main Menu, Rates, Rate Version	
Algorithm	Admin Menu, Algorithm. If you use algorithms to dynamically change step boundaries, calculate prices, or implement rate component eligibility rules, you must set up these algorithms.	
Rate Component	Main Menu, Rates, Rate Component	
Bill Factor Value	Main Menu, Rates, Bill Factor Values	

Function	Menu	Auto Setup
Bill Factor Interval Values	Main Menu, Rates, BF Interval Values	
Item Type SQ Estimate	Admin Menu, Item Type SQ Estimate	
Degree Day	Admin Menu, Degree Days	
Late Payment Environment		
Algorithm	Admin Menu, Algorithm. You will need to set up the algorithm that determine if customers in a customer class are eligible for late payment charges	
Algorithm	Admin Menu, Algorithm. You will need to set up the algorithm that levies late payment charges for customers in a customer class	
Return to Customer Class	Admin Menu, Customer Class. You will need to plug-in the late payment charge algorithms set up above.	
SA Configuration		

Function	Menu	Auto Setup
Algorithm	Admin Menu, Algorithm. You will need to set up the algorithms that determine: • How to calculate the late payment charge amount for service agreements of a given type • Special criteria to be tested before a service agreement is severed. • How to create field activities for service agreements of a given type. • Special processing that should take place prior to the completion of a bill that references service agreements of a given type. • Special processing that should take place during completion of a bill that references service agreements of a given type. • Special processing that should take place when service agreements of a given type are created. • Special processing that should take place when a financial transaction is frozen for service agreements of a given type.	
Algorithm	Admin Menu, Algorithm. You may want to set up an algorithm that formats the SA information that is displayed throughout the system. This algorithm is plugged-in on the installation record.	
Algorithm	Admin Menu, Algorithm. You may want to set up an algorithm that formats the SA information that is displayed throughout the system for a specific SA Type. This algorithm is plugged-in on the SA Type.	
Algorithm	Admin Menu, Algorithm. If you want a Control Central alert to highlight when the current account has any ***stopped*** service agreement(s), you will need to	

Function	Menu	Auto Setup
	set up the algorithm that does this. This algorithm is plugged-in on the installation record.	
Service Agreement Type	Admin Menu, SA Type	
Terms and Conditions	Admin Menu, Terms and Conditions	
SA Type Start Options	Admin Menu, SA Type Start Option	
Update SP Types with initial SA types and with FA Type Profiles	Admin Menu, SP Type	
SA Relationships		
SA Relationship Type	Admin Menu, SA Relationship Type	
Service Provider	Admin Menu, Service Provider. Note, you must create a person before you can create a service provider. If you have financial relationships (you bill for them or they bill for you), you must also create an account and a financial settlement service agreement before you can create the service provider.	
SA Type / SA Relationship	Admin Menu, SA Type SA Relationship Type	
Notification and Workflow		
Workflow Event Type	Admin Menu, Workflow Event Type	
Workflow Process Template	Admin Menu, Workflow Process Template	
Notification Upload Type	Admin Menu, Notification Upload Type	
Workflow Process Profile	Admin Menu, Workflow Process Profile	
Notification External (Sender) ID's	Admin Menu, Notification External ID	
Notification Download Type	Admin Menu, Notification Download Type	
Service Provider.	Admin Menu, Service Provider. Note, you must create a person before you can create a service provider.	
Notification Download Profile	Admin Menu, Notification Download Profile	

Function	Menu	Auto Setup
Algorithm	Admin Menu, Algorithm. If you want a Control Central alert to highlight when the current account and/or premise has ***active*** workflow processes, you will need to set up the algorithm that does this. This algorithm is plugged-in on the installation record.	
Sales and Marketing		
Order Hold Reason	Admin Menu, Order Hold Reason	
Order Cancel Reason	Admin Menu, Order Cancel Reason	
And more…	Refer to Campaign and Package Setup Sequence for additional setup requirements	
Service Credit Membership		
Algorithm	Admin Menu, Algorithm. You may need to set up algorithms for the service credit membership type and service credit event type to control behavior for the service credit membership and its events.	
Credit Unit	Admin Menu, Credit Unit. If your service credits record non-monetary units.	
Service Credit Membership Type	Admin Menu, Service Credit Membership Type	
Service Credit Event Type	Admin Menu, Service Credit Event Type	
Membership Inactive Reasons	Admin Menu, SC Membership Inactive Reason	
Wrap Up		
Algorithm	Admin Menu, Algorithm. You will need to set up the algorithms that determine: • Special alerts on Control Central (assuming you have special alerts)	
Installation Options	Admin Menu, Installation Options - Framework and Admin Menu, Installation Options. At this point, it's a good idea to double-check everything on the installation record.	
Postal Default	Admin Menu, Postal Code Default	

If you have cash drawers you will also need to set up the following information:

- Create a person / account to which you will link your over / under service agreement. Refer How To Get An Unbalanced Tender Control In Balance (Fixing Over/Under) for more information.
- Create a service agreement to which your over/under payments will be linked. This service agreement will reference your over / under SA type. Refer to Over / Under Cash Drawer Segmentation for more information.

If you upload payments from an external source (e.g., a remittance processor or lock box), you must set up the following information:

- Create a person and account to which the system will link payments with invalid account. Refer to Phase 3 – Create Payment Events, Tenders, Payments and Payment Segments for information about the process that books invalid payments to this account. Refer to How To Transfer A Payment From One Account To Another for how a user transfers the payment from the invalid account to the correct account (once known).
- Create a service agreement for this account. This service agreement will reference your payment suspense SA type. The system needs this service agreement so that it can distribute the invalid account's payment (and this is necessary so that cash will reflect the payment). Refer to Payment Upload Error Segmentation for more information.
- Update the tender source associated with the respective source of payments to indicate the service agreement created in the previous step should be used for payments with invalid accounts. Refer to Setting Up Tender Sources for more information.
- Because the payment upload process simply books payments that reference invalid accounts to the account associated with the suspense service agreement on the payment's tender source, this account should belong to a customer class with the appropriate payment distribution algorithms. This may entail creating a new customer class that will only be used on suspense accounts. This customer class would need the following algorithms:
    - We'd recommend using a simple payment distribution algorithm like PYDIST-PPRTY (distribute payment based on SA type's payment priority).
    - We'd recommend using an overpayment distribution algorithm like OVRPY-PPRTY (distribute overpayment to highest priority SA type).

The remaining sections describe additional control tables that must be set up for specific functional areas.

Interval Billing Table Setup Sequence

The following table defines the table setup sequence required if your company has purchased the interval billing component.

Function	Path
General Environment	
Seasonal Time Shift	Admin Menu, Seasonal Time Shift
Time Zone	Admin Menu, Time Zone
Installation - Framework	Admin Menu, Installation Options - Framework Indicate whether Seasonal Time Shift is required.
Installation	Admin Menu, Installation Options

Function	Path
	Set Base Time and Start Day Option.
Interval Billing Environment	
Bill Factor	Main Menu, Rates, Bill Factor Note: earlier, you may have created bill factors for your general Rates environment. At this point, you may need to add more bill factors to satisfy your interval billing needs.
Interval Profile Relationship Type	Admin Menu, Interval Profile Relationship Type [Note – you won't be able to define the collection of valid Interval Profile Types until after you define the Interval Profile Types.]
Interval Profile Type	Admin Menu, Interval Profile Type [Note – you may need to define new algorithm types and algorithms if your interval profile type requires creation or validation algorithms.]
Algorithm	Admin Menu, Algorithm. You will need to set up the creation and validation algorithms needed for an Interval Profile Type.
Shared Profiles	Main Menu, Interval Billing, Interval Profile Note: this is needed at this time if you want to create Start Options, which reference shared profiles.
Interval Registers	
Interval Register Type	Admin Menu, Interval Register Type
Meter Configuration Type	Admin Menu, Meter Configuration Type Note: earlier, you may have created meter configuration types for your general meter environment. At this point, you may need to add more meter configuration types for registers, which are used for interval or index channels.
Meter Type	Admin Menu, Meter Type Note: earlier, you may have created meter types for your general meter environment. At this point, you may need to add more meter types for meters, which are used for interval or index channels.
Time of Use Billing	
Time of Use	Admin Menu, Time of Use Note: earlier, you may have created time of use codes for your meter environment. At this point, you may need to add more time of use codes to satisfy your time of use mapping.
TOU Group	Admin Menu, TOU Group
Bill Factor	Main Menu, Rates, Bill Factor

Function	Path
	At this point you may need to set up bill factors that are specifically for time of use pricing.
TOU Map Relationship Type	Admin Menu, TOU Map Relationship Type [Note – you won't be able to define the collection of valid TOU Map Types until after you define the TOU Map Types.]
TOU Map Type	Admin Menu, TOU Map Type
Algorithm	Admin Menu, Algorithm. You will need to set up any creation algorithms needed for your TOU map types.
TOU Map Templates	Admin Menu, TOU Map Template Note : this is not required, but will help to set up data for your TOU Maps.
Shared TOU Maps	Main Menu, Interval Billing, TOU Map Note: this is needed at this time if you want to create Start Options, which reference shared TOU maps.
Contract Options	
Contract Option Type	Admin Menu, Contract Option Type
Algorithm	Admin Menu, Algorithm. You will need to set up any validation algorithms needed for your contract option types.
Contract Option Event Type	Admin Menu, Contract Option Event Type
SA Interval Billing Rate Environment	
Rate	At this point, you are ready to set up your interval billing and time of use rates and rate components. Refer to the Rate Environment section in the Control Table Setup Sequence.
SA Interval Billing Controls	
SA Type	Admin Menu, SA Type Note: earlier you may have created your SA Types. At this point you may need to modify interval related SA Types to add valid interval information. Refer to the SA Type section in the Control Table Setup Sequence.
Start Options	Admin Menu, SA Type Start Option Note: earlier you may have created your SA Type Start Options. At this point you may need to modify interval related SA Type Start Options to add valid interval information. Refer to the SA Type section in the Control Table Setup Sequence.

Note. You may have customers with interval billing, time of use billing and contract options all required for their rate. For simplification of the table, these control tables were listed in separate sections.

Cross Reference To The Remaining Chapters

The table in the previous section describes the order in which you should enter your control tables. These tables are described at length in the following chapters.

- Refer to Defining General Options Addendum and Defining General Framework Options for a discussion of the control tables associated with general functionality (e.g., country codes, state codes, etc.).
- Refer to Defining Financial Transaction Options for a discussion of the tables affecting your financial transactions (e.g., bill segment types, payment segment types, etc.)
- Refer to Defining Customer Options for a discussion of the control tables affecting persons, accounts and service agreements.
- Refer to Defining Fieldwork Options for a discussion of the control tables affecting fieldwork.
- Refer to Defining Credit and Collections Options for a discussion of the control tables affecting your collection activities.
- Refer to Defining Meter and Item Options for a discussion of the control tables affecting your meters and items.
- Refer to Defining Premise and Service Point Options for a discussion of the control tables affecting your premises and service points.
- Refer to Defining Cycles and Schedules for a discussion of the control tables affecting your cyclical processes.
- Refer to Rates for a discussion of the control tables affecting your rates.
- Refer to Defining SA Type Options for a discussion of the control tables affecting your service agreement types.
- Refer to Defining Background Process for a discussion of the control tables affecting your background processes.
- Refer to Defining Algorithms for a discussion of the control tables affecting the algorithms referenced on many control tables.
- Refer to Defining SA Relationships for a discussion of the control tables affecting the relationships between service providers.
- Refer to Defining Workflow and Notification Options for a discussion of the control tables affecting the processing of notifications to and from service providers.
- Refer to Defining Interval Billing Options for a discussion of the control tables affecting the interval billing options for your customers.
- Refer to Statements for a discussion of the tables affecting the statement setup options for your customers.

- Refer to Defining Service Credit Options for a discussion of the tables affecting the service credit membership setup options for your customers.

Open-Item Accounting Table Setup Sequence

Open-item accounting tables need only be set up if your organization practices Open Item Accounting. Refer to Setting Up The System To Enable Open Item Accounting for a description of the tables that must be set up to enable this functionality.

Fund Accounting Table Setup Sequence

Fund accounting tables need only be set up if your organization practices Fund Accounting. Refer to Setting Up The System To Enable Fund Accounting for a description of the tables that must be set up to enable this functionality.

Payment Event Distribution Table Setup Sequence

Payment event distribution tables need only be set up if your organization opted to use the distribution rules method to create payment events. Refer to Setting Up The System To Use Distribution Rules for a description of the tables that must be set up to enable this functionality.

Loans Table Setup Sequence

Loans need only be set up if your organization offers loans to your customers. Refer to Setting Up The System To Enable Loans for a description of the tables that must be set up to enable this functionality.

Quotes Table Setup Sequence

Quotes need only be set up if your organization sends quotes to customers or prospects. Refer to Defining Quotation Options for a description of the tables that must be set up to enable this functionality.

Non-billed Budget Table Setup Sequence

Non-billed budgets need only be set up if your organization allows your customers to pay set amounts at specified intervals (e.g. every two weeks). Refer to Setting Up The System To Enable Non-billed Budgets for a description of the tables that must be set up to enable this functionality.

Appointments Table Setup Sequence

Appointments need only be set up if your organization allows your customers to make appointments for field activities. Refer to Enabling Appointments for a description of the tables that must be set up to enable this functionality.

Scripting Table Setup Sequence

Scripts need only be set up if your organization opts to create scripts to step your users through business processes. Refer to Defining Script Options for information about scripting and the tables that must be set up to enable this functionality.

Importing sample scripts. Refer to How To Copy A Script From The Demonstration Database if you want to import sample scripts from the demonstration database.

Reports Setup Sequence

In order to use the reporting tool, you will need to set up reporting options. Refer to Configuring The System To Enable Reports for more information.

Importing sample reports. Refer to How To Copy A Report From The Demonstration Database if you want to import sample report metadata from the demonstration database.

XML Application Integration Setup Sequence

In order to use the XAI tool for sending information between third parties, you will need to set up XAI control tables. Refer to XML Application Integration for more information.

Case Management Setup Sequence

Case management options need only be set up if your organization uses cases to manage issues. Refer to Setting Up Case Types for more information.

Workforce Management Setup Sequence

Workforce management options need only be set up if your organization interfaces with an external workforce management system. Refer to Setting Up The System To Enable FA Integration for more information.

Umbrella Agreement Management Setup Sequence

Umbrella agreement management options need only be set up if your organization uses umbrella agreements to manage contracts. Refer to the integration documentation for more information.

Outage Management Setup Sequence

Outage management options need only be set up if your organization interfaces with Oracle Utilities Network Management System. Refer to the integration documentation for more information.

Prepaid Metering Setup Sequence

Prepaid metering options need only be set up if your organization offers prepaid metering service to your customers. Refer to Defining Prepaid Metering Options for more information.

Batch Scheduler Setup Sequence

Batch scheduler options need only be set up if your organization uses the batch scheduling functionality provided by the system rather than a third party batch scheduling system. Refer to Setting Up The Batch Scheduler for more information.

Zone Set Up

Most zones are delivered with the base-package and do not require any configuration. However, some zones are only available if configured by your implementation. Refer to Configuring Zones for more information.

To Do Options Setup

Refer to Setting Up To Do Options for more information on how to configure the system to match your organization's To Do management needs.

How To Copy An Algorithm From The Demonstration Database

Warning! If you are not familiar with the concepts described in the ConfigLab chapter, this section will be difficult to understand. Specifically, you need to understand how a *Compare* database process is used to copy objects between two databases. Please take the time to familiarize yourself with this concept before attempting to copy an algorithm from the demonstration database.

The demonstration database contains many sample algorithms. The topics in this section describe how to copy a subset of the demonstration algorithms to your implementation's database.

Contents

If You Work In A Non-English Language

The demonstration database is installed in English only. If you work in a non-English language, you must execute the NEWLANG background process on the demonstration database before using it as a ***Compare Source*** supporting environment. If you work in a supported language, you should apply the language package to the demonstration database as well.

If you don't execute NEWLANG on the demonstration database, any objects copied from the demonstration database will not have language rows for the language in which you work and therefore you won't be able to see the information in the target environment.

One Time Only - Set Up A DB Process To Copy Algorithms

You need a "copy algorithm" database process (DB process) setup in the target database (i.e., your implementation's database). This DB process has a single instruction that references the algorithm maintenance object (MO). This instruction should have a table rule with an override condition that selects the algorithms in question. For example, the override condition, #CI_ALG.ALG_CD IN ('ADJT-AC', 'ADJT-AD', 'ADJT-GL', ADJT-NM', 'ADJT-RA', 'ADJT-TC'), is used on the DB process that copies specific adjustment type algorithms.

The demonstration database contains several such a DB processes, for example:

- ***CI_COPAD*** copies algorithms that control how adjustment financial transactions are created.
- ***CI_COPAP*** copies algorithms that control how automatic payments are created.
- ***CI_COPBI*** copies algorithms that control how bill segments and their financial transactions are created.
- ***CI_COPD1*** copies algorithms that control how Doc 1 creates images of numerous objects (e.g., bills, letters, statements, etc.).
- ***CI_COPIN*** copies various installation algorithms that control validation, formatting and other general functionality.

- ***CI_COPPY*** copies algorithms that control payment processing.
- …

In order to copy algorithms from the demonstration database, you must first copy these DB processes from the demonstration database.

Warning! The remainder of this section is confusing as it describes a DB process that copies other DB processes. Fortunately, you will only have to do the following once. This is because you only have to copy these DB processes once.

You can copy these DB processes from the demonstration database by submitting the ***CL-COPDB*** background process in your target database. When you submit this process, you must supply it with an environment reference that points to the demonstration database. If you don't have an environment reference setup in your target database that references the demonstration database, you must have your technical staff execute a registration script that sets up this environment reference. Refer to Registering ConfigLab Environments for more information.

CL-COPDB is initially delivered ready to copy every DB process that is prefixed with ***CI_*** from the source database (there are numerous sample DB processes in the demonstration database and this process copies them all). If you only want to copy only the DB processes described above, add a table rule to the primary instruction of the ***CL-COPDB*** database process to only copy the desired processes. If you don't add this rule, all DB processes in the demonstration will be copied to your target database (and this might be exactly what you want).

When the ***CL-COPDB*** process runs, it highlights differences between the DB processes in your source database and the target database. The first time you run this process, it creates a root object in the target database for each DB process that will be added to your target database. You can use the Difference Query to review these root objects and ***approve*** or ***reject*** them.

Automatic approval. When you submit ***CL-COPDB***, you can indicate that all root objects should be marked as ***approved*** (thus saving yourself the step of manually approving them using Difference Query).

After you've approved the root object(s), submit the ***CL-APPCH*** batch process to change your target database. You must supply the ***CL-APPCH*** process with two parameters:

- The DB Process used to create the root objects (***CL-COPDB***)
- The environment reference that identifies the source database (i.e., the demonstration database)

Run The Copy Algorithms DB Process

After you have populated the "copy algorithms" DB processes in your target database, you can override their table rules to edit the list of algorithms that will be copied. You need only do this if you don't need all of the algorithms that are defined in these DB processes (but it never hurts to have too many algorithms as they won't be used unless you plug them in on the appropriate object).

At this point, you're ready to submit the background process identified on your "copy algorithm" DB processes. These background processes highlight the differences between the algorithms in the demonstration database and the target database (the target database is the environment in which you submit the background process).

The background process you submit is typically named the same as the DB process that contains the rules. If you used the ***CL-COPDB*** background process to transfer the "copy algorithm" DB processes from the demo database, it will have also setup these batch controls and linked to each the appropriate "copy algorithms" DB process. These batch controls have the same name as their related DB process (this is just a naming convention, it's not a rule). This means, for example, that you'd submit a batch control called ***CI_COPAD*** in order to execute the ***CI_COPAD*** DB process.

When you submit one of the DB processes defined above, you must supply it with an environment reference that points to the source database (i.e., the demonstration database).

When the process runs, it simply highlights differences between the algorithms in the source database and the target database. It creates a root object in the target database for every algorithm that is not the same in the two environments (actually, it only concerns itself with algorithm that match the criteria on the DB process's table rule described above). You can use the Difference Query to review these root objects and ***approve*** or ***reject*** them.

Auto approval. When you submit the process, you can indicate that all root objects should be marked as ***approved*** (thus saving yourself the step of manually approving them).

After you've approved the root object(s) associated with the algorithms that you want copied, submit the ***CL-APPCH*** batch process to cause your target database to be changed. You must supply the ***CL-APPCH*** process with two parameters:

- The DB process of the "copy algorithms" DB process (e.g., ***CI_COPAD***)
- The environment reference that identifies the source database (i.e., the demonstration database)

Defining General Options Addendum

This section describes control tables that are used throughout Oracle Utilities Customer Care and Billing.

Contents

Defining Installation Options

The topics in this section describe the various installation options that control various aspects of the system that are specific to the Oracle Utilities Customer Care and Billing product.

Refer to Installation Options - Framework for options that are common to products on the same framework.

Contents

Installation Options - Main

Select **Admin Menu, Installation Options** and use the **Main** tab to define system-wide installation options.

Description of Page

Use **Quick Add Tender Type** to define the tender type defaulted on payments added using the Payment Quick Add transaction.

Use **Starting Balance Tender Type** to define the tender type of the starting balance recorded on your tender controls (this will almost always be the tender type associated with “cash”). This value is used during tender control balancing as a separate balance is required for each tender type in order to balance a tender control. Refer to The Lifecycle Of A Tender Control for more information.

For more information, refer to Setting Up Tender Types.

Turn on the **Create Field Activity Start Stop** if field activities should be created when a start or stop is recorded (as opposed to shortly before the start / stop date). You might want to turn this switch off if it's possible for the state of the service point (or its meter / item) to change between the time service is requested and the actual service date. Why? Because the state of the service point and the state of its meter / item affects the type of field activity that is created. For example, if a customer wants to start service and there is no meter at the metered service point, an "install meter" field activity is created. However, if by the time the install date comes around, a meter has been installed by some other means; this field activity is inappropriate. This is why you might want to setup the system to wait until shortly before the service date to create the field activity (i.e., it reduces the likelihood that an inappropriate field activity is created). Refer to Starting Service and Field Activities for more information.

Appointments require field activities. If you don't create field activities when service is started / stopped, you cannot use the appointment scheduling functions. Refer to The Big Picture of Appointments for more information.

If you use orders to create new customers, define the **Campaign** that should be defaulted on orders created when the order transaction is opened for a new customer. Refer to Real time Marketing of Services to a New Customer for more information.

Use the **Premise Geo Type** to indicate whether at least one geographic identifier (e.g., GPS coordinate) is ***Required*** or ***Optional*** on a premise. Refer to Defining Geographic Types for more information.

The **Alternate Representation** flag should be set to ***None*** unless your organization uses multiple character sets for a person's main name and / or a premise's address. Alternate representations are typically only used in countries where multiple character sets are used. For example,

- In Hong Kong, a person's name may be written in both Chinese characters and in English.
- In Japan, a person's name may be written in both Kanji and Katakana.

In both of the above situations, users need to be able to use both representations to find a customer or a premise.

Spouses. If your organization doesn't use multiple character sets, you might want to consider using this functionality for spousal relationships. For example, rather than setup a person for each party in a spousal relationship, you could simply define one party using the person's main name and the spouse using the alternate name. While this is a bit of a "hack", it might be sufficient for your implementation as it will be much easier for an end user to use.

Alerts that should appear adjacent to a person's name or address. If your organization doesn't use multiple character sets, you might want to consider using this functionality to implement critical person or premise alerts. For example, if you have a customer who's supported by a specific account representative, you could enter the account rep's name as the person's alternate name. If you do this, the account rep's name would appear in parenthesis following the customer's name. In addition, you can search for the customers supported by the account rep on Control Central by entering the account rep's name. This is a bit of a "hack", but it might prove useful for a variety of functions.

If your organization uses alternate representations of person name or address, set this flag to one of the following values:

- Use a value of ***Address*** if you only use alternate representations for premise addresses.
- Use a value of ***Name*** if you only use alternate representations for a person's primary names.
- Use a value of ***Name & Address*** if you use alternate representations for both premise addresses and person names.

The following points describe the ramifications of this flag in the system:

- If you support alternate representations of a person's primary name,
  - The name grid on Person - Main allows you to specify an ***Alternate*** name for the person.
  - If you use the base package name formatting algorithm, a person's name will be shown throughout most of the system in the format AAA (BBB), where AAA is the person's primary name and BBB is the person's alternate name. Note, this format does not apply to names that appear in search results (i.e., the alternate name is not concatenated to the main name in search results; however you can search for information using the alternate name).
  - Most of the system's person name-oriented searches will allow users to use both a person's primary and alternate names to search for information.
- If you support alternate representations of a premise's address,
  - A new tab is available on the Premise page that allows a user to define an alternate address for a premise.
  - If you use the base package address formatting algorithm, a premise's address will be shown throughout most of the system in the format AAA (BBB), where AAA is the premise's primary address and BBB is the premise's alternate address.
  - Most of the system's premise-oriented searches will allow users to use both a premise's primary and alternate addresses to search for information.

Set the **CTI Integration** flag to ***Yes*** if your organization integrates with an external computer telephony integration (CTI) system that supports a "get next caller in the queue" function. If this flag is set to ***Yes***, then Next Call button will appear in the action toolbar allowing customer service representatives to request the next customer waiting in the queue to speak to a CSR.

Warning! In order to improve response times, installation options are cached the first time they are used after a web server is started. If you change this field's option and you don't want to wait for the cache to rebuild, you must clear the cached information so it will be immediately rebuilt using current information. Refer to Caching Overview **for information** on how to clear the system login cache (this is the cache in which installation options are stored).

Installation Options - Person

Select **Admin Menu, Installation Options** and use the **Person** tab to define person-specific installation options.

Description of Page

Use the **Person ID Usage** to indicate whether or not at least one form of identification is ***Required*** or ***Optional*** when a new person is added.

Each form of identification has an identifier type. For persons that are humans (as defined by the person type), the system defaults the identifier type defined in **Identifier Type (Person)**. For persons that are businesses (as defined by the person type), the system defaults the identifier type defined in **Identifier Type (Business)**.

Installation Options - Account

Select **Admin Menu, Installation Options** and use the **Account** tab to define account-specific installation options.

Description of Page

When a new account is added, the system requires it have a customer class. If the main customer linked to the account is a human (as defined by the customer's person type), the system defaults the customer class defined in **Customer Class (Person)**. For persons that are businesses (as defined by the person type), the system defaults the customer class defined in **Customer Class (Business)**. For more information, refer to Setting Up Customer Classes.

In addition to requiring a customer class when a new customer is added, the system also requires a "main customer" (i.e., a reference to a person who is identified as the main customer for the account). Enter the default **Account Relationship Type Code** to be used to define the main customer relationship. For more information, refer to Setting Up Account Relationship Codes.

Enter the default **Bill Route Type** to be used to define how bills should be routed to a customer. For more information, refer to Setting Up Bill Route Types.

Enter the default **Quote Route Type** to be used to define how quotes should be routed to a customer. For more information, refer to Setting Up Quote Route Types.

If the number of pending start and pending stop service agreements exceeds the **Start Stop Detail Threshold** for an account, it is considered a large account for start stop purposes. Refer to Start/Stop Maintenance for more information.

Installation Options - Billing

Select **Admin Menu, Installation Options** and use the **Billing** tab to define billing-specific installation options.

Description of Page

The **Bill Segment Freeze Option** controls when a service agreement's balance and the general ledger is affected by bill segments and certain types of adjustments. Refer to Preventing SA Balances And The GL From Being Impacted Until Bill Completion to understand the significance of this option.

The **Accounting Date Freeze Option** controls how the accounting date defined on financial transactions is populated. Refer to Forcing The Freeze Date To Be Used As The Accounting Date to understand the significance of this option.

Define the **Rollover Threshold Factor** used by billing to determine if a register's consumption is sensible. This value is used as follows:

- Whenever billing calculates a meter's register's consumption, it compares it to a value equal to X times the register's maximum capacity (where X is the Rollover Threshold Factor).
- If consumption exceeds this value, a bill segment error is generated. If this consumptive value is correct, a user will need to override the consumption value billed on the bill segment (billing will never use such a read).

Define the **Minimum Amount for Final Bill**. If a final bill is less than this amount, the bill is still produced; it's just not printed.

Typically, the system sets a bill's Bill Date equal to the date on which it is completed. If you want to be able to specify a bill's Bill Date when you complete a bill, turn on **User Can Override Bill Date**. You would only want to override the bill date if you are setting up sample bills from historical period whose bill date needs to reflect the respective historical period.

Turn on **Use High Low Failures on Bill** if the system should mark meter reads that fail high / low checks as billable. Turn off this switch if such reads should not be used by billing. Users may override this default value on a specific read. Refer to Review High / Low for more information.

Base Time is used by interval billing algorithms to determine the effective start and end times for a given period. The **Start Day Option** further defines how to use the base time, indicating whether the base time is for the ***Current Day*** or for the ***Previous Day***. Refer to Start and End Times for Billing for more information.

Turn on **Use Alternative Bill ID** if your implementation uses assigned document numbers or sequential bill numbers. In the **Alternative Bill ID Option** list:

- Select **Document Numbers** if you require a system-assigned document number for each bill in addition to the Bill Id, which is a system-assigned random number used as the bill's primary identifier. Refer to Document Numbers for more information.
- Select **Sequential Bill Numbers** if you require a system-assigned unique sequential number for each bill in addition to the Bill Id, which is a system-assigned random number used as the bill's primary identifier. Refer to Sequential Bill Numbers for more information

Document Number Algorithms. In addition to turning on **Use Alternative Bill ID** and specifying the **Alternative Bill ID Option**, the Document Number and Document Number Details algorithms must be enabled on the Installation record. These algorithms contain the logic used by the system to assign a document number to a bill.

The **Bill Correction** option lets you control whether your implementation uses Credit Notes or Correction Notes. Select the **Credit Note** option if you require bill segment cancellation details to be presented to the customer on a separate bill (referred to as a credit note). Refer to Credit Notes for more information. Select the **Correction Note** option if you require bill segment cancellation details and bill segment rebill details to be presented to the customer on a separate bill (referred to as a correction note). Refer to Correction Notes for more information.

Credit Notes or Correction Notes. The Bill Correction option on the Installation table controls whether Credit Notes or Correction Notes are allowed. If your implementation uses Correction Notes, the override label on the following should be customized accordingly:

Lookup value ***CRNT*** on the customizable lookup field ***TXN_FLTR_TYPE_FLG*** (this lookup value is used on the Match Event Page and Account Bill History transactions)

Lookup value ***CR*** on the customizable lookup field ***PYCAN_SYS_DFLT_FLG*** (this lookup value is used on the Pay Cancel Reason transaction)

Metadata field ***CR_NOTE_FR_BILL_ID*** (this field is used on the Bill Search Page)

The **Autopay Creation Option** controls when automatic payments are created, distributed, and frozen. This option allows you to control when automatic payments will affect customer's balances and when their financial impact affects the general ledger. Refer to How And When Are Automatic Payments Created to understand the significance of this option.

Installation Options - C&C

Select **Admin Menu, Installation Options** and use the **C&C** tab to define credit and collections-specific installation options.

Description of Page

When you look at an account or service agreement's debt, the system shows the respective age of each piece of outstanding debt. The **Oldest Bucket Age (Days)** defines the debt age after which the system groups all outstanding debt together. For example, if this field is ***180***:

- The exact age of each element of debt that is less than 180 days old would be shown as a separate line item in the aged debt information.
- All debt older than 180 days would be amalgamated into a single "bucket".

Oldest Bucket Age (Days) also has another use – it defines the age of financial transactions that are considered by the background process that marks old debt as "redundant". This batch process is referred to by the batch code of ***REDSAAMT***. Please refer to Process What's Ready Background Processes for more information about this process.

Warning! If you change the value of **Oldest Bucket Age (Days)**after debt has been marked as "redundant" by ***REDSAAMT***, the system will NOT re-age the old debt (i.e., once a financial transaction has been marked as "redundant", it is "redundant" forever).

Enter what you consider to be an excellent credit rating in **Beginning Credit Rating**. Collection events can cause an account's credit rating to decrease. When an account's credit rating falls below a certain level, different collection processes may ensue.

Use **Beginning Cash-Only Score** to define the cash-only score for accounts with a perfect payment history (i.e., one without non-sufficient funds). When you cancel a payment tender and use a cancellation reason marked as NSF, the system will cause the account's cash-only score to increase by the value on the payment cancellation reason.

Use **Credit Rating Threshold** to define when an account's credit rating becomes risky. When an account's credit rating falls beneath the Credit Rating Threshold, the system will:

- Assuming you've enabled the Control Central alert algorithm, C1-CRRT-ACCT, an alert displays when an account's credit rating falls below the credit rating threshold on the CIS installation table. This algorithm is plugged-in on the installation record.
- Subject the account's debt to different collection criteria. For more information, refer to Designing Your Collection Class Control Overrides.

Use **Cash-Only Threshold** to define the number of cash-only points a customer must have before the system warns the CSR accepting payments that the account is cash-only.

Installation Options - Financial Transaction

Select **Admin Menu, Installation Options** and use the **Financial Transaction** tab to define financial transaction installation options.

Description of Page

Use **G/L Batch Code** to define the batch process that is used to interface your financial transactions to your general ledger. The process is snapped on FT download records by the GLS background process.

Use **A/P Batch Code** to define the batch process that is used to interface your check requests (initiated with adjustments with an adjustment type that reference an A/P request type) to you accounts payable system.

Use **Fund Accounting** to indicate if fund accounting is ***Practiced*** or ***Not Practiced*** at your organization.

Use **Alternate Currency** to indicate if your organization accepts customer payments in currencies other than the account's currency.

Refer to Alternate Currency Payments to understand the significance of this option.

Installation Options - Algorithms

The following table describes each **System Event**.

System Event	Optional / Required	Description
Account Information	Optional	We use the term "Account information" to describe the basic information that appears throughout the system to describe an account. The data that appears in "account information" is constructed using this algorithm. Plug an algorithm into this spot to override the system default "Account information". Click here to see the algorithm types available for this system event.
Adjustment Information	Optional	We use the term "Adjustment information" to describe the basic information that appears throughout the system to describe an adjustment. The data that appears in "Adjustment information" is constructed using this algorithm. Plug an algorithm into this spot to override the system default "Adjustment information". Note: This algorithm may be further overridden by an "Adjustment information" plug-in on the Adjustment Type. Refer to Adjustment Type for how algorithms of this type are used. Click here to see the algorithm types available for this system event.
Appointment Information	Required	We use the term "Appointment information" to describe the basic information that appears throughout the system to describe an appointment. The data that appears in "appointment information" is constructed using this algorithm. Click here to see the algorithm types available for this system event.
Automatic	Required if	This algorithm is executed to create automatic payments whenever the system

Payment Creation	you allow customers to pay automatically	creates automatic payments. Refer to How And When Are Automatic Payments Created for the details. Click here to see the algorithm types available for this system event.
Bill Information	Required	We use the term "Bill information" to describe the basic information that appears throughout the system to describe a bill. The data that appears in "bill information" is constructed using this algorithm. Click here to see the algorithm types available for this system event.
Bill Segment Information	Optional	We use the term "Bill segment information" to describe the basic information that appears throughout the system to describe a bill segment. The data that appears in "bill segment information" is constructed using this algorithm. Click here to see the algorithm types available for this system event.
Case Information	Optional	We use the term "Case information" to describe the basic information that appears throughout the system to describe a case. The data that appears in "case information" is constructed using this algorithm. Plug an algorithm into this spot to override the system default "Case information". Note: This algorithm may be further overridden by a "Case information" plug-in on the Case Type. Refer to Case Type for how algorithms of this type are used. Click here to see the algorithm types available for this system event.
Collection Agency Referral Information	Optional	We use the term "Collection Agency Referral information" to describe the basic information that appears throughout the system to describe a collection agency referral. Plug an algorithm into this spot to override the system default "collection agency referral information". Click here to see the algorithm types available for this system event.
Collection Process Additional Information	Optional	This algorithm displays additional information related to a collection process in a special field on the collection process main page. Click here to see the algorithm types available for this system event.
Control Central Alert	Optional	There are two types of alerts that appear in the Alert Zone and on Payment Event – Main: 1) hard-coded system alerts and 2) alerts constructed by plug-in algorithms. You cannot change the hard-coded alerts (see the Alert Zone for the complete list). However, by plugging in this type of algorithm you can introduce additional alerts. An error displays if more than 60 alerts are generated for an account by plug-in algorithms. Click here to see the algorithm types available for this system event.
Credit Rating "Created By" Information	Required	The data that appears in the credit rating "created by" information is constructed using this algorithm. Refer to Account - C&C for more information about the credit rating. Click here to see the algorithm types available for this system event.
Credit Rating	Optional	We use the term Credit Rating History information to describe the basic

Formatted: Not Highlight

History Information		information that appears throughout the system to describe a credit rating history entry. Plug an algorithm into this spot to override the system default “credit rating history information”. Click here to see the algorithm types available for this system event.
Document Number	Optional	If document numbers have been enabled on the installation record, this algorithm type assigns a document number to a bill or payment event. Click here to see the algorithm types available for this system event.
Document Number Details	Optional	If document numbers have been enabled on the installation record, this algorithm type is responsible for returning the details used to construct the document number. Click here to see the algorithm types available for this system event.
Determine Open Item Bill Amounts	Required if you use overdue functionality to collect on bills	This algorithm is responsible for determining the unpaid amount of an open-item bill. It can also be used to return the unpaid amount for a specific SA on a bill. Click here to see the algorithm types available for this system event.
FA Additional Information	Optional	This algorithm displays additional information related to a field activity in a special field called Additional Info on the field activity main page. For example, contact information linked to the field activity’s field order may be displayed. Click here to see the algorithm types available for this system event.
FA Information	Required	We use the term FA information to describe the basic information that appears throughout the system to describe a field activity. The data that appears in “FA information” is constructed using this algorithm. Click here to see the algorithm types available for this system event.
Item Information	Required if you have items	We use the term “Item info” to describe the basic information that appears throughout the system to describe an item. The data that appears in “Item info” is constructed using this algorithm. Click here to see the algorithm types available for this system event.
Meter Information	Required if you have meters	We use the term “Meter info” to describe the basic information that appears throughout the system to describe a meter. The data that appears in “Meter info” is constructed using this algorithm. Click here to see the algorithm types available for this system event.
Meter Read High Low Limits	Optional	This algorithm is executed to calculate high and low limits for high / low check when a meter read is added to the system (whether through a batch upload or online). Click here to see the algorithm types available for this system event.
Online Bill Display	Optional	This algorithm constructs a PDF that contains the image of a bill. This algorithm is executed when the Display Bill button is clicked on the Bill page. Refer to Technical Implementation of Online Bill Image for more information. Click here to see the algorithm types available for this system event.

Online Field Order Image	Optional	This algorithm constructs a PDF that contains the image of a field order. This algorithm is executed when the Display Field Order button is pressed on the Field Order page. Refer to Technical Implementation of Online Field Order Image for more information. Click here to see the algorithm types available for this system event.
Online Letter Image	Optional	This algorithm constructs a PDF that contains the image of a letter. This algorithm is executed when the Display Letter button is pressed on Customer Contact - Main. Refer to Technical Implementation of Online Letter Image for more information. Click here to see the algorithm types available for this system event.
Online Quote Image	Optional	This algorithm constructs a PDF that contains the image of a quote. This algorithm is executed when the Display Quote button is pressed on Quote - Main. Refer to Technical Implementation of Online Quote Image for more information. Click here to see the algorithm types available for this system event.
Online Statement Image	Optional	This algorithm constructs a PDF that contains the image of a statement. This algorithm is executed when the Display Statement button is pressed on Statement - Main. Refer to Technical Implementation of Online Statement Image for more information. Click here to see the algorithm types available for this system event.
Override Proration Factors	Optional	This algorithm is only used if your organization has unusual rate proration requirements that necessitate the overriding of the base package proration logic. For example, you may have certain rate components whose charges should never be prorated. Refer to Overriding Proration Factors for more information. Click here to see the algorithm types available for this system event.
Override Seasonal Proration	Optional	This algorithm is only used if your organization has unusual method of determining the seasons for your rate components. For example, you may determine the seasonal boundaries for a rate component based on the scheduled meter read date associated with the bill cycle. Refer to the description of the seasonal attributes for a rate component for more information. Click here to see the algorithm types available for this system event.
Payment Amount Calculation	Required	This algorithm is executed to calculate the amount of an automatic payment for a bill for an account with an active auto pay option. Refer to How And When Are Automatic Payments Created for more information on automatic payments. This algorithm is also executed to default the amount of a manually added payment. Refer to How To Add A New Payment Event for more information on adding a payment manually. Click here to see the algorithm types available for this system event.
Payment Information	Required	We use the term "payment information" to describe the basic information that appears throughout the system to describe a payment. The data that appears in "payment information" is constructed using this algorithm. Click here to see the algorithm types available for this system event.
Person Information	Required	In most parts of the system, a person's *Main* name is displayed to describe a person. However, several transactions do not use this method. Rather, these

		transactions call the algorithm that's plugged into this spot to construct the person's name. Refer to the description of the Alternate Representation flag on the Main tab for a list of these transactions and for the rationale behind this algorithm. Click here to see the algorithm types available for this system event.
Person Name Validation	Required	The format of names entered on Person - Main and Order - Main is validated using this algorithm. Click here to see the algorithm types available for this system event.
Premise Information	Required	We use the term "premise info" to describe the basic information that appears throughout the system to describe a premise. The data that appears in "premise info" is constructed using this algorithm. Click here to see the algorithm types available for this system event.
Reporting Tool	Optional	If your installation has integrated with a third party reporting tool, you may wish to allow your users to submit reports on-line using report submission or to review report history on-line. This algorithm is used by the two on-line reporting pages to properly invoke the reporting tool from within the system. Click here to see the algorithm types available for this system event.
SA Information	Optional	We use the term "SA information" to describe the basic information that appears throughout the system to describe a service agreement. The data that appears in "SA information" is constructed using this algorithm. Plug an algorithm into this spot to override the system default "SA information". Note: This algorithm may be further overridden by an "SA information" plug-in on the SA Type. Refer to SA Type – Algorithms for how algorithms of this type are used. Click here to see the algorithm types available for this system event.
Severance Process Cancellation	Optional	This algorithm is executed to perform additional processing when the system cancels a severance process. Note: This algorithm is executed before the Severance Process Template - Post Cancel Algorithm is executed. Canceling a severance process on-line manually does not execute this algorithm. Click here to see the algorithm types available for this system event.
SP Information	Required	We use the term "SP info" to describe the basic information that appears throughout the system to describe a service point. The data that appears in "SP info" is constructed using this algorithm. Click here to see the algorithm types available for this system event.

Defining Customer Languages

As described under Defining Languages, you define the language in which each user see the system. In addition to defining each user's language, the system allows you to define each customer's preferred language. For example, one customer can receive bills in English whereas another customer could receive their bills in Chinese.

Each customer's language is defined by the language code on their person record. Bills, adjustments and other system-generated records will then be done in the language of the main customer of the account. In addition, the language code is passed on to all customer-facing interfaces, such as letter requests and bill print.

Note. You can define Rates in multiple languages – when a bill is generated, the line-item descriptions are generated and stored in the account's main customer's language of choice. Any one who subsequently views these bills can only see the descriptions in that language.

Note. To support bills and other correspondence, you must also provide translations of standard bill stock and letters. This must be handled by your printing software vendor.

Defining Accounting Calendar

Accounting calendar determine the accounting period to which a financial transaction will be booked. The following points describe how the system determines a financial transaction's account period:

- Every financial transaction references an accounting date and its service agreement
- Every service agreement references a service agreement type
- Every service agreement type references a GL division
- Every GL division references an accounting calendar
- The accounting calendar contains the cross reference between the accounting date specified on the financial transaction and related accounting period in your general ledger

Warning! This information must be the same as the information in your financial database.

To add or review an accounting calendar, choose **Admin Menu, Accounting Calendar**.

Description of Page

Enter a unique **Calendar ID** and **Description** for the calendar.

Enter the **Number Of Periods** for the calendar. Don't count the adjustment period, if you use one, or any special "system" periods.

Specify the **Fiscal Year**, each **Accounting Period** in that year, a **Period Description**, the **Begin Date** and the **End Date**.

When you enter begin and end dates, you can define monthly calendar periods or any fiscal period that matches your accounting calendar (weekly, bimonthly) as long as the begin and end dates of successive periods do not overlap. Every day of the year must be included in a period; do not leave gaps between period dates.

For each fiscal period, enter the **Open From Date** and **Open To Date**. These dates define when that particular business dates are open for posting financial transactions to that fiscal period. For example, you might calculate a bill on Sept 1 for usage recorded on 31 August. To post this financial transaction in the August period, you must keep it open through Sept 1.

As time passes, you will need to return to this transaction to manually enter ensuing years. You can enter several years at a time or incorporate the task into end-of-year system maintenance.

Where Used

Follow this link to open the data dictionary where you can view the tables that reference CI_CAL_GL

Defining General Ledger Divisions

There are two types of Divisions referenced in the system: a CIS Division and a GL Division. This is a rather powerful structure, but it can be confusing.

- General Ledger divisions typically comprise individual entities (e.g., companies) in your general ledger. You must set up a GL division for each such entity. The GL division's sole purpose in the system is to define the accounting period associated with financial transactions linked to service agreements associated with the GL division (service agreements are associated with GL divisions via their SA type). The system cares about accounting periods in order to prevent a user from booking moneys to closed periods. It also uses accounting periods when it produces the flat file that contains the consolidated journal entry that is interfaced to your general ledger (refer to The GL Interface for more information).

> **Note.** When determining how many GL Divisions you need, be sure to consider your general ledger and how your chart-of-accounts is structured. You will typically have one GL division for each "company" in your general ledger.

- A CIS division is typically associated with a jurisdiction. The definition of a jurisdiction is a geographic-oriented entity with unique business rules. For example, if you conduct business in California and Nevada, and each state has different collection rules, you will need a separate jurisdiction for each state. You must set up a CIS division for each jurisdiction in which you conduct business.

> Refer to Setting Up CIS Divisions for information about CIS Divisions.

To define a general ledger division, select **Admin Menu, General Ledger Division**.

Description of Page

Enter a unique **GL Division** for the general ledger division.

Enter a **Description** of this general ledger division.

Define the accounting **Calendar ID** that controls how to convert an FT's accounting date into an accounting period. Refer to Defining Accounting Calendars for more information.

You may define a **Currency Code** for the GL division. Note that the system does not use this currency code.

Where Used

Follow this link to open the data dictionary where you can view the tables that reference CI_GL_DIVISION.

Defining Banks & Bank Accounts

The topics in this section describe how to maintain your implementation's bank accounts.

Contents

Bank - Main

To add or review Banks choose **Admin Menu, Bank**.

Description of Page

Enter a unique **Bank Code** and **Description** for the bank.

The **Bank Accounts** collection displays the bank accounts currently linked to this bank code. Use the drill down button to view more details or to modify the bank account details. Alternatively, you may navigate to the Bank Account tab and scroll to the desired bank account.

Bank - Bank Account

To add or review Bank Accounts for a Bank, choose **Admin Menu, Bank** and then navigate to the **Bank Account** tab.

Description of Page

Use the **Bank Accounts** tab to define the attributes of each bank account. For each account, enter the following information:

- Enter a **Bank Account Key** to identify an Account at a Bank. You may have more than one account at a given bank, and you may have accounts at more than one bank. This code will allow the system to easily identify a specific account.
- Enter a **Description** to appear on prompt lists, inquiries, and reports.
- Enter the **Account Number**, **Check Digit** and if needed, the **Branch ID** of the bank where the account is held.
- Enter the **Currency Code** for the currency in which the account is denominated.
- Use **DFI ID** to define the Depository Financial Institution ID that is interfaced to the automatic payment-processing agent as part of the automatic payment interface.
- Enter the **Distribution Code** to be used for cash GL distributions when a payment is frozen or canceled.

Where Used

Follow this link to open the data dictionary where you can view the tables that reference CI_BANK_ACCOUNT.

Defining Issuing Centers

This section provides information about defining issuing centers that are used to assign document numbers to bills and payment events. An issuing center should be configured for each location that issues bills. The installation record Document Number and Document Number Details algorithms contain the logic used by the system to assign a document number to a bill. To set up an issuing center, open **Admin Menu, Issuing Center**.

Refer to Document Numbers for information about document number assignment.

This section is only relevant for some organizations. The information in this section is only relevant if your organization indicated on the installation record that it uses document numbers as an alternative bill id. If your organization does not use document numbers as an alternative bill id, then no other setup is required.

The topics in this section describe the base-package zones that appear on the Issuing Center portal.

Contents

Actions

This is a standard actions zone.

If the issuing center is in a state that has valid next states, buttons to transition to each appropriate next state are displayed.

Issuing Center List

The Issuing Center List zone lists every issuing center. The following functions are available:

- Click a broadcast button to open other zones that contain more information about the adjacent issuing center.
- Click the ***Add*** link in the zone's title bar to add a new issuing center.

Issuing Center

The Issuing Center zone contains display-only information about an issuing center, including its current and historic branches. This zone appears when an issuing center has been broadcast from Issuing Center List zone or if this portal is opened via a drill down from another page.

Please see the zone's help text for information about this zone's fields.

Issuing Center Log

This is a standard log zone.

Setting Up Service Types

You will have one service type for each type of service you provide to your customers. If we assume that your organization sells electricity, gas and water, you will need three service types for these services. In addition, you will probably want a catch all service type of ***Other*** to put on SA types used for write-offs, payment arrangements and deposits.

Non Service Point-Oriented Service Types. You may require additional service types if you have non service point-oriented services, e.g., land leases and deposits. Refer to Service Segmentation for more information.

This page is also used to define valid facility levels for a service type. You may wonder, What is a facility level? Every type of service tends to use a different mapping philosophy to designate the facility hierarchy that supplies service to the service point. For example, electric service typically uses a substation / feeder / node facility hierarchy to define how electricity is supplied to a service point (the substation is the highest level in the hierarchy, the feeder comes next, and finally the node). On the other hand, gas service uses a city gate / main / feeder hierarchy.

If your organization maintains this type of information on service points, you will set up your facilities and their interrelationships. On this page you set up the number and type of facility levels used for every service and you define the valid values for each facility level. On the Facility Level 1 & 2 and Facility Level 2 & 3 pages, you define the values that may coexist in each level. After these set up tasks are complete, you're ready to enter facility levels on your service points.

Note. A service point's facility levels are used to help pinpoint problems and dispatch service crews during outages.

The topics in this section describe how to set up service types and facility levels.

Contents

Service Type - Main

To define service types and the types of facility levels, select **Admin Menu, Service Type**.

Description of Page

Enter a unique **Service Type** and **Description** for each service type.

Use the **Facility Level Names** collection to define the **Facility Level** and **Description** for each level in the service type's hierarchy. The description is used as the label prefixing the respective facility level on the Service Point Maintenance page.

Move to the **Level 1** tab to maintain the valid values for the highest facility level.

Where Used

Follow this link to open the data dictionary where you can view the tables that reference CI_SVC_TYPE.

Service Type - Level 1

Open **Admin Menu, Service Type** and navigate to the **Level 1** tab to define the various facilities classified at the highest level.

Description of Page

You can optionally start the grid at a given **Facility Level 1**.

Enter a **Facility Level 1** code and a **Description** for each facility in the highest level.

Service Type - Level 2

Open **Admin, Service Type** and navigate to the **Level 2** tab to define the various facilities classified at the second level.

Description of Page

You can optionally start the grid at a given **Facility Level 2**.

Enter a **Facility Level 2** code and a **Description** for each facility at the second level.

Service Type - Level 3

Open **Admin Menu, Service Type** and navigate to the **Level 3** tab to define the various facilities classified at the third level.

Description of Page

You can optionally start the grid at a given **Facility Level 3**.

Enter a **Facility Level 3** code and a **Description** for each facility at the third level.

To Do Lists Addendum

This section is an addendum to the general To Do Lists chapter. This addendum describes the To Do functionality that is specific to Oracle Utilities Customer Care and Billing.

Contents

Assigning A To Do Role

As described in To Do Entries Reference A Role, each To Do entry requires a role. To Do entries created in Oracle Utilities Customer Care and Billing may attempt to assign a role based on an account management group or division if it is applicable to the type of data related to the To Do entry.

As described in The Big Picture of To Do Lists, users are informed that something requires their attention by entries that appear in a To Do List. For example, consider what happens when billing can't find a reading (and it's not allowed to estimate):

- The billing process creates a bill segment that is in error (meter read cannot be found).
- This bill segment that's in error, in turn, triggers the creation of a To Do entry.
- The To Do entry is assigned a role. A role is one or more users who can look at / work on the entry.
- When users view a To Do List, they only see entries addressed to roles to which they belong.

You can optionally use account management groups (AMG) to define the respective role to be assigned to To Do entries that are associated with an account and To Do type. For example, you can create an AMG called ***Credit Risks*** and assign this to accounts with suspect credit. Then, whenever an account-oriented To Do entry is created for such an account, it will be assigned a role based on the ***Credit Risks*** AMG. Refer to Setting Up Account Management Groups for more information.

By assigning an AMG to an account, you are telling the system to address this account's To Do list entries to the roles defined on the AMG (note, each To Do type can have a different role defined for it on an AMG).

You can optionally use division to define the respective role to be assigned to To Do entries that are associated with an account and To Do type. For example, you may have a division called ***California Operations*** and assign this to accounts located in California. Then, whenever an account-oriented To Do entry is created for such an account, it will be assigned a role based on the ***California Operations*** division. Refer to Setting Up CIS Divisions for more information.

A ***To Do Pre-Creation*** installation options plug-in is provided to determine the appropriate To Do Role for an account based on AMG and division setup. If plugged in, the logic to determine To Do role for an account is performed whenever a To Do entry is created. Refer to C1-TDCR-DFRL for further details on how this plug-in works.

Refer to To Do Entries Reference A Role for the details of how an initial role is assigned to To Do entries.

System To Do Types

List of available To Do types. The To Do types available with the product may be viewed in the application viewer's To Do type viewer. In addition if your implementation adds To Do types, you may regenerate the application viewer to see your additions reflected there.

Defining Financial Transaction Options

Bills, payments and adjustments share one very important trait – they affect how much your customers owe. This section explains the financial design of the system and describes how to set up the tables that control the financial impact of these transactions.

Note. The tables in this section are the first of many that must be set up before you can create bills and apply payments. In this section, we limit the discussion to those tables that control the financial impact of bills, payments and adjustments. In later sections, we describe the tables that control other billing-related functions like meter reading and rates. It is only after all of these tables are set up that you will be able to generate the various financial transactions.

Contents

The Financial Big Picture

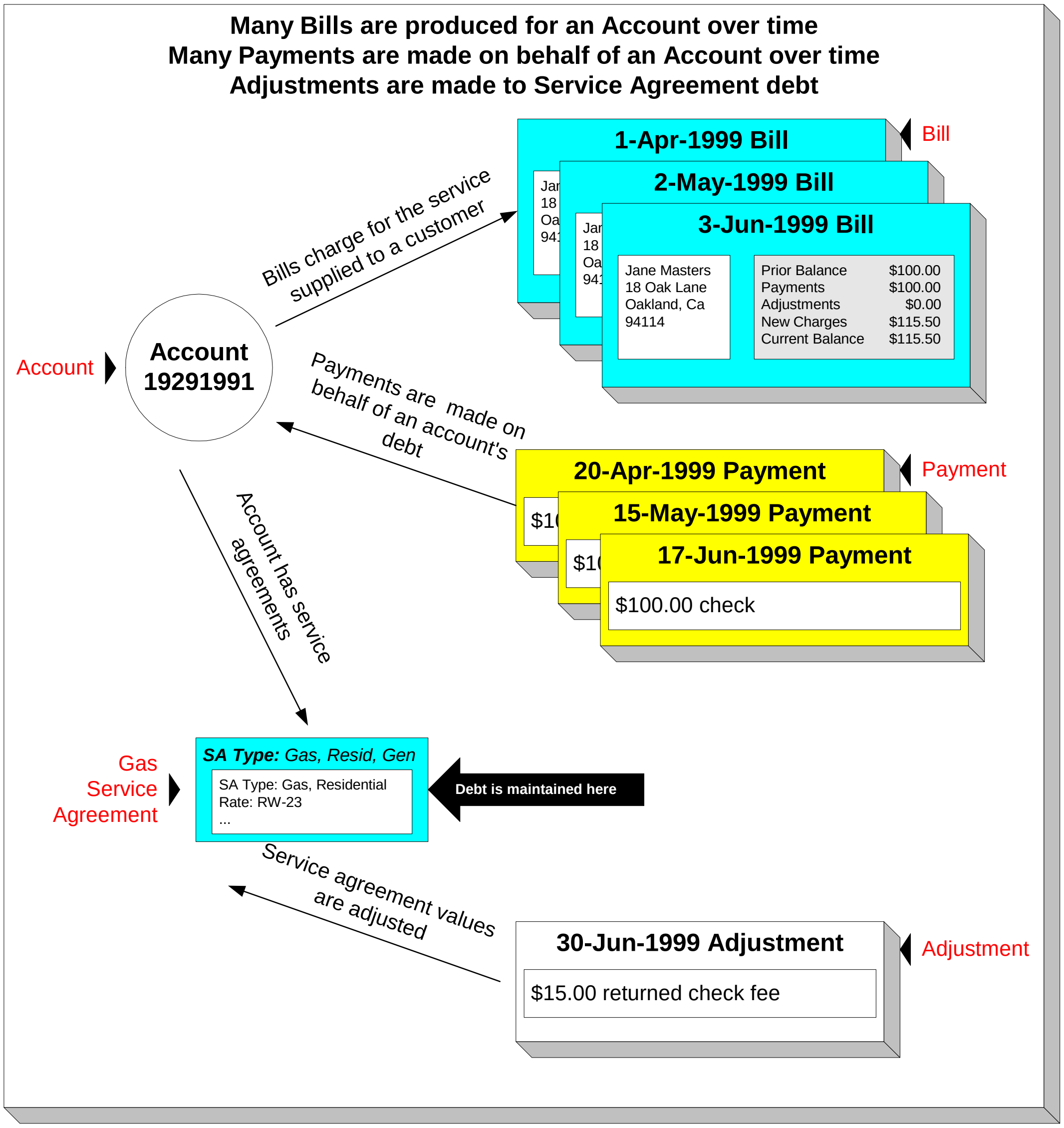
This section provides an overview of the relationship between an account and the various financial transactions that influence how much a customer owes.

Warning! If your organization practices cash accounting for payables (i.e., you only pay the taxing authority when you get paid), refer to Payables Cash Accounting. If you organization practices open-item accounting (i.e., payments must be matched to bills), refer to Open Item Accounting.

Contents

Bills, Payments & Adjustments

The following diagram illustrates the relationship between an account and its financial transactions:



The following concepts are illustrated above:

Bills are produced for accounts Over time, many bills may be produced for an account. For more information about a bill, see Bill Details.

Payments are made for accounts

Over time, many payments may be applied to an account’s debt. For more information about a payment, see Payment Details.

Service agreements have debt

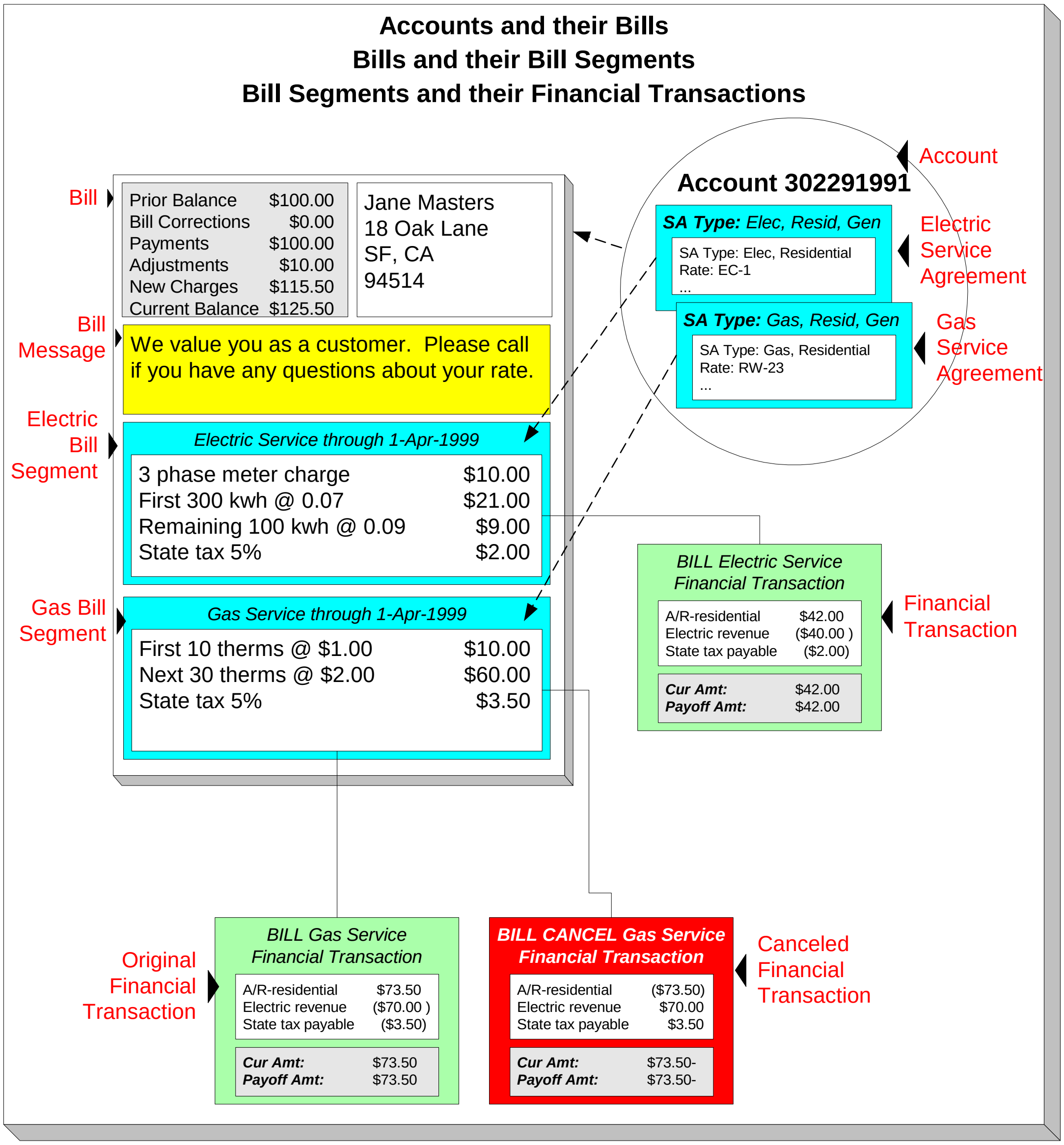
The system maintains debt on each individual service agreement. An account’s debt is the sum of its service agreements’ debt.

Service agreements are adjusted

Over time, the debt that is stored on an account’s service agreement(s) may be adjusted. For more information about an adjustment, see Adjustment Details.

Bill Details

The following diagram illustrates the relationship between an account and its bills:


Accounts and their Bills
Bills and their Bill Segments
Bill Segments and their Financial Transactions
Bill
Prior Balance $100.00
Bill Corrections $0.00
Payments $100.00
Adjustments $10.00
New Charges $115.50
Current Balance $125.50
Jane Masters
18 Oak Lane
SF, CA
94514
Bill Message
We value you as a customer. Please call if you have any questions about your rate.
Electric Bill Segment
Electric Service through 1-Apr-1999
3 phase meter charge $10.00
First 300 kwh @ 0.07 $21.00
Remaining 100 kwh @ 0.09 $9.00
State tax 5% $2.00
Gas Bill Segment
Gas Service through 1-Apr-1999
First 10 therms @ $1.00 $10.00
Next 30 therms @ $2.00 $60.00
State tax 5% $3.50
Account
Account 302291991
SA Type: Elec, Resid, Gen
SA Type: Elec, Residential
Rate: EC-1
...
Electric Service Agreement
SA Type: Gas, Resid, Gen
SA Type: Gas, Residential
Rate: RW-23
...
Gas Service Agreement
BILL Electric Service Financial Transaction
A/R-residential $42.00
Electric revenue ($40.00)
State tax payable ($2.00)
Cur Amt: $42.00
Payoff Amt: $42.00
Financial Transaction
Original Financial Transaction
BILL Gas Service Financial Transaction
A/R-residential $73.50
Electric revenue ($70.00)
State tax payable ($3.50)
Cur Amt: $73.50
Payoff Amt: $73.50
BILL CANCEL Gas Service Financial Transaction
A/R-residential ($73.50)
Electric revenue $70.00
State tax payable $3.50
Cur Amt: $73.50-
Payoff Amt: $73.50-
Canceled Financial Transaction

The following concepts are illustrated above:

A bill is produced for an account

Over time, many bills are produced for an account. A bill charges for the services supplied to a customer. The above illustration shows a single bill.

Bills contain bill segments

A bill typically contains one bill segment for every active service agreement linked to its account. The only time this is not true is when service agreements for different frequencies exist. For example, an account with a monthly and a quarterly service agreement will only have 4 bills a year that contain both bill segments; the other months' bills will contain a single bill segment for the monthly service agreement.

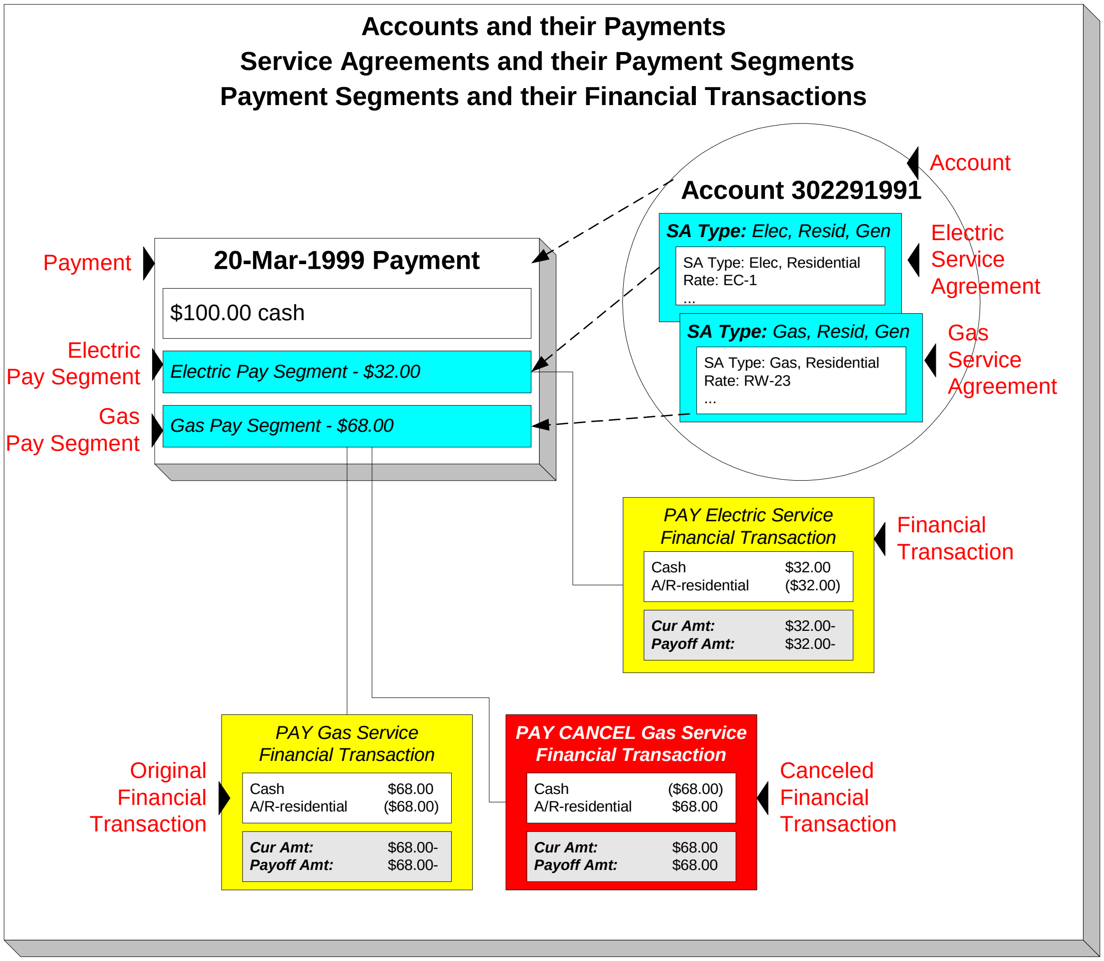
Bill segments contain calculation details A bill segment contains information showing how the segment was calculated and how it should be printed on the customer's bill.

A bill segment has a financial transaction A bill segment has a related financial transaction. A financial transaction contains the financial effects of the bill segment on the service agreement's current and payoff balances and on the general ledger.

Canceling a bill cancels the financial tran. If the bill segment is eventually cancelled, another financial transaction will be linked to the bill segment to reverse its original financial transaction. The cancellation financial transaction appears on the next bill produced for the account as a bill correction.

Payment Details

The following diagram illustrates the relationship between an account and its payments:


Accounts and their Payments
Service Agreements and their Payment Segments
Payment Segments and their Financial Transactions
Account
Account 302291991
SA Type: Elec, Resid, Gen
SA Type: Elec, Residential
Rate: EC-1
...
Electric Service Agreement
SA Type: Gas, Resid, Gen
SA Type: Gas, Residential
Rate: RW-23
...
Gas Service Agreement
Payment
20-Mar-1999 Payment
$100.00 cash
Electric Pay Segment
Electric Pay Segment - $32.00
Gas Pay Segment
Gas Pay Segment - $68.00
PAY Electric Service Financial Transaction
Cash $32.00
A/R-residential ($32.00)
Cur Amt: $32.00-
Payoff Amt: $32.00-
Financial Transaction
Original Financial Transaction
PAY Gas Service Financial Transaction
Cash $68.00
A/R-residential ($68.00)
Cur Amt: $68.00-
Payoff Amt: $68.00-
PAY CANCEL Gas Service Financial Transaction
Cash ($68.00)
A/R-residential $68.00
Cur Amt: $68.00
Payoff Amt: $68.00
Canceled Financial Transaction

The following concepts are illustrated above:

Payments are made for accounts Over time, many payments may be applied to an account's debt. The above illustration shows a single payment.

Payments contain payment segments A payment contains one payment segment for every service agreement to which the payment is distributed. For a customer who pays in full, the number of payment segments will coincide with the number of bill segments on the bill being paid.

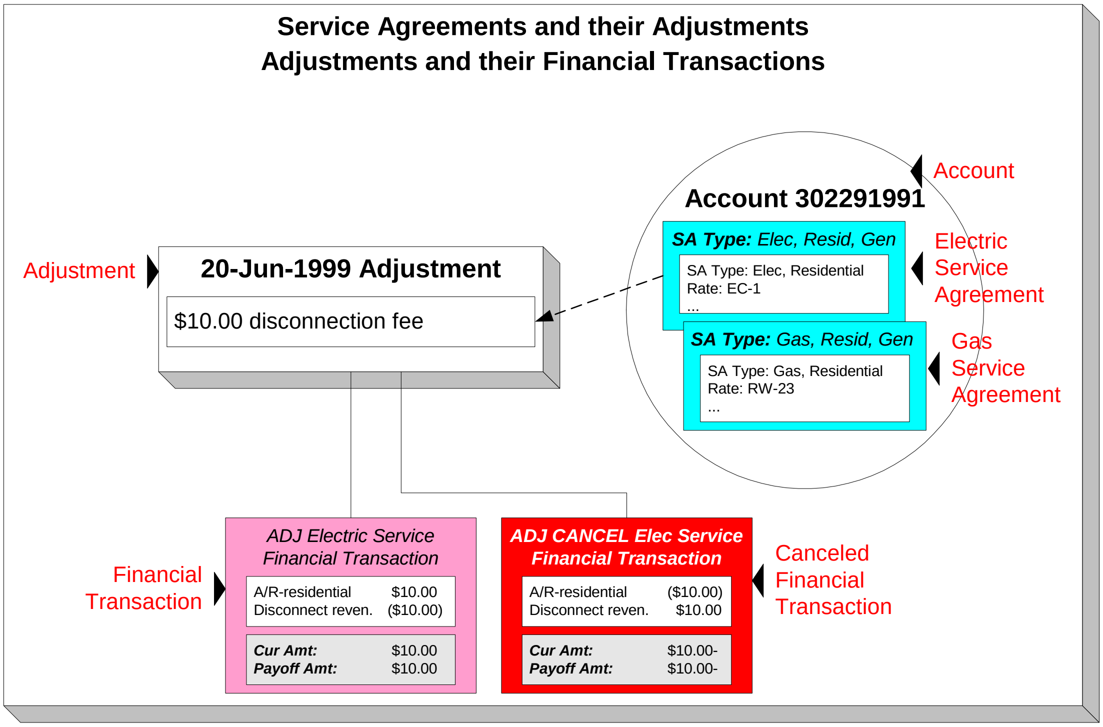
A pay. segment has a financial transaction A payment segment has a related financial transaction. A financial transaction contains the financial effects of the segment on the service agreement's current and payoff balances and on the general ledger.

Canceling a payment cancels the fin. tran. If the payment is eventually cancelled, another financial transaction will be linked to the related payment segment(s) to reverse their financial effect. The cancellation financial transaction appears on the next bill produced for the account as a negative payment.

A payment cannot be applied to an account's debt without an associated payment event. Refer to The Big Picture of Payments for more information.

Adjustment Details

The following diagram illustrates the relationship between an account and its adjustments:


Service Agreements and their Adjustments
Adjustments and their Financial Transactions
Account
Account 302291991
SA Type: Elec, Resid, Gen
SA Type: Elec, Residential
Rate: EC-1
...
Electric Service Agreement
SA Type: Gas, Resid, Gen
SA Type: Gas, Residential
Rate: RW-23
...
Gas Service Agreement
Adjustment
20-Jun-1999 Adjustment
$10.00 disconnection fee
Financial Transaction
ADJ Electric Service Financial Transaction
A/R-residential $10.00
Disconnect reven. ($10.00)
Cur Amt: $10.00
Payoff Amt: $10.00
ADJ CANCEL Elec Service Financial Transaction
A/R-residential ($10.00)
Disconnect reven. $10.00
Cur Amt: $10.00-
Payoff Amt: $10.00-
Canceled Financial Transaction

The following concepts are illustrated above:

Service agreements have adjustments Over time, a service agreement may have many adjustments. The above illustration shows a single adjustment to one of the account's service agreements.

An adjustment has a financial transaction An adjustment has a related financial transaction. The financial transaction contains the financial effects of the adjustment on the service agreement's debt and on the general ledger.

Canceling an adjust. cancels the fin. tran. If the adjustment is eventually canceled, another financial transaction will be linked to the adjustment to reverse its financial effect. The cancellation financial transaction appears on the next bill produced for the account as an adjustment.

Current Amount versus Payoff Amount

A financial transaction contains two very important attributes: payoff amount and current amount. These attributes contain the grand total of how much the customer owes.

- Current amount contains how much the customer THINKS THEY OWE.
- Payoff amount contains how much the customer REALLY OWES.

You may be wondering when these two values can be different? Well, for most financial transactions, these values are the same. These values differ under the following situations:

- When a bill segment charges a customer for a charitable contribution, payoff amount will be zero because the customer doesn't really owe anything (they don't have to contribute if they don't want to). Current amount will be equal to the agreed charitable contribution amount (the customer thinks they owe the contribution).
- When a bill segment charges a customer for a deposit, payoff amount will be zero because the customer doesn't really owe anything (billed deposits are typically not viewed as being a receivable). Current amount will be equal to the amount billed (the customer thinks they owe the deposit amount).
- When a bill segment charges a customer who participates in a levelized payment program (e.g., budget billing or non-billed budgets) the two "amounts due" will contain different values. Payoff amount is equal to how much the customer really owes for the service they consumed; current amount is equal to how much they think they owe in accordance with their monthly budget.

A perhaps easier way to view these two attributes is to consider payoff amount as the "cash out amount", i.e., the amount the customer would owe the utility if they wanted to clear up all debt. The current amount contains the amount the customer thinks they owe. If you're still struggling with the difference, think about your monthly Visa bill: it contains a monthly minimum payment and the total amount owed. The minimum payment is the current amount; the total amount owed is the payoff amount.

The topics in this section provide more information about these two fields.

Contents

What Controls What Gets Booked To Current And Payoff Amount?

As described in Bill Details, every bill segment has a sibling financial transaction. The financial transaction defines the bill segment's affect on current and payoff amounts due. The system populates these two fields as per the Financial Transaction Algorithm defined on the bill segment's bill segment type.

For more information, refer to Billing – Current Balance versus Payoff Balance and Designing and Defining Bill Segment Types.

As described in Payment Details, every payment segment has a sibling financial transaction. The financial transaction defines the payment segment's affect on current and payoff amounts due. The system populates these two fields as per the Financial Transaction Algorithm defined on the payment segment's payment segment type.

For more information, refer to Payment – Current Balance versus Payoff Balance and Setting Up Payment Segment Types.

As described in Adjustment Details, every adjustment has a sibling financial transaction. The financial transaction defines the adjustment's affect on current and payoff amounts due. The system populates these two fields as per the Financial Transaction Algorithm defined on the adjustment's adjustment type.

For more information, refer to Adjustments – Current Balance versus Payoff Balance and Setting Up Adjustment Types.

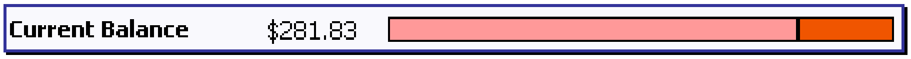
Arrears

The system keeps track of the age of each customer's debt to the day. For example, if a customer hasn't paid their last two bills, the customer's aged debt might look as follows:

- $124.50: 22 days old
- $213.41: 51 days old

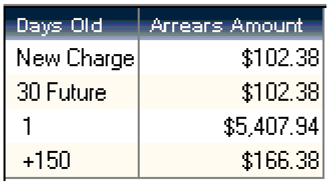
Please be aware that it is the current balance (i.e., what the customer thinks they owe) that is aged. Also keep in mind that the moment an FT is ***frozen***, it impacts a customer's current balance.

The system represents aged debt in a variety of ways of the various transactions in the system. On the Current Context Zone and the Financial Information Zone arrears are shown in a colorful bar (where each color corresponds to different aged buckets):



Current Balance $281.83

Whereas on Service Agreement - Main, aged debt is shown in a grid:



Days Old	Arrears Amount
New Charge	$102.38
30 Future	$102.38
1	$5,407.94
+150	$166.38

The grid method is used on many pages throughout the system. The following rows may appear in the grid:

- A row labeled ***New Charge*** highlights all debt that hasn't started aging yet. For example, if you've created a late payment charge and it hasn't appeared on one of the customer's bills, it will be classified as a New charge until the next bill is completed for the customer (unless a user overrides the late payment charge's arrears date by drilling into the financial transaction).
- A row with a label containing ***n Future*** (where n is the number of days) appears if there is "future debt". Future debt is very rare and can only exist if a debit financial transaction has a future arrears date. Financial transactions can receive a future arrears date if a bill is completed with a future date or if a user overrides a financial transaction's arrears date with a future date).
- A row that contains a number (and nothing else) represents debt that has started aging. The number is the age of the respective debt. In the above example, the customer has 1 day old debt, and debt that is more than 150 days old. Notice that the 150 day old debt is prefixed with a **+**. This means that the related debt is more than 150 days old. This age limit is controlled by a field on Installation Options - CC called "Oldest Bucket Age". This field limits the number of days the system will age debt. For example, if you set this field to 150, the system will never age an FT more than 150 days (and all debt that's older than 150 days will be classified as 150 day old debt). Also note, the aged debt bar that appears on Current Context Zone only ages debt a maximum of 60 days.

- A row with a label of ***Disputed*** appears if the account is an open-item customer and this customer has disputed financial transactions.

Refer to Financial Transactions And Aged Debt for more information.

GL Accounting Information

Be aware that if payoff amount is non-zero, the financial transaction has general ledger detail lines.

There are unusual financial transactions whose payoff amount is zero, but still affect the general ledger:

- Bill segments for company usage do not impact payoff amount (because your organization doesn't really owe itself anything). However, the GL is affected.
- Payment segments for charitable contributions (created when your customers contribute extra money to a charity) do not impact payoff amount. Why? Because payoff amount is never debited when a charitable contribution is billed (the customer doesn't truly owe you for this receivable). It's only when the customer pays the contribution that the GL is impacted (debit cash, credit charitable contribution payable).
- If the SA has a special role of ***Loan***, the financial transaction algorithms supplied with the base package transfer the current amount between the long-term receivables and the short-term receivables in the GL. This allows the general ledger to differentiate between unbilled loan receivables (long term) and billed loan receivables (short term). Refer to Payoff Balance and Current Balance for Loans for more information.

The effect on your GL is controlled by the financial transaction algorithm defined on your bill segment and payment segment types.

Refer to The GL Interface for how GL account information is interfaced to the general ledger.

A Complicated Example

The financial ramifications of a revolving charge account are predictable (if you're an accountant). The following table outlines the different financial events and their impact on the general ledger, arrearage history, and the amounts due (both current and payoff).

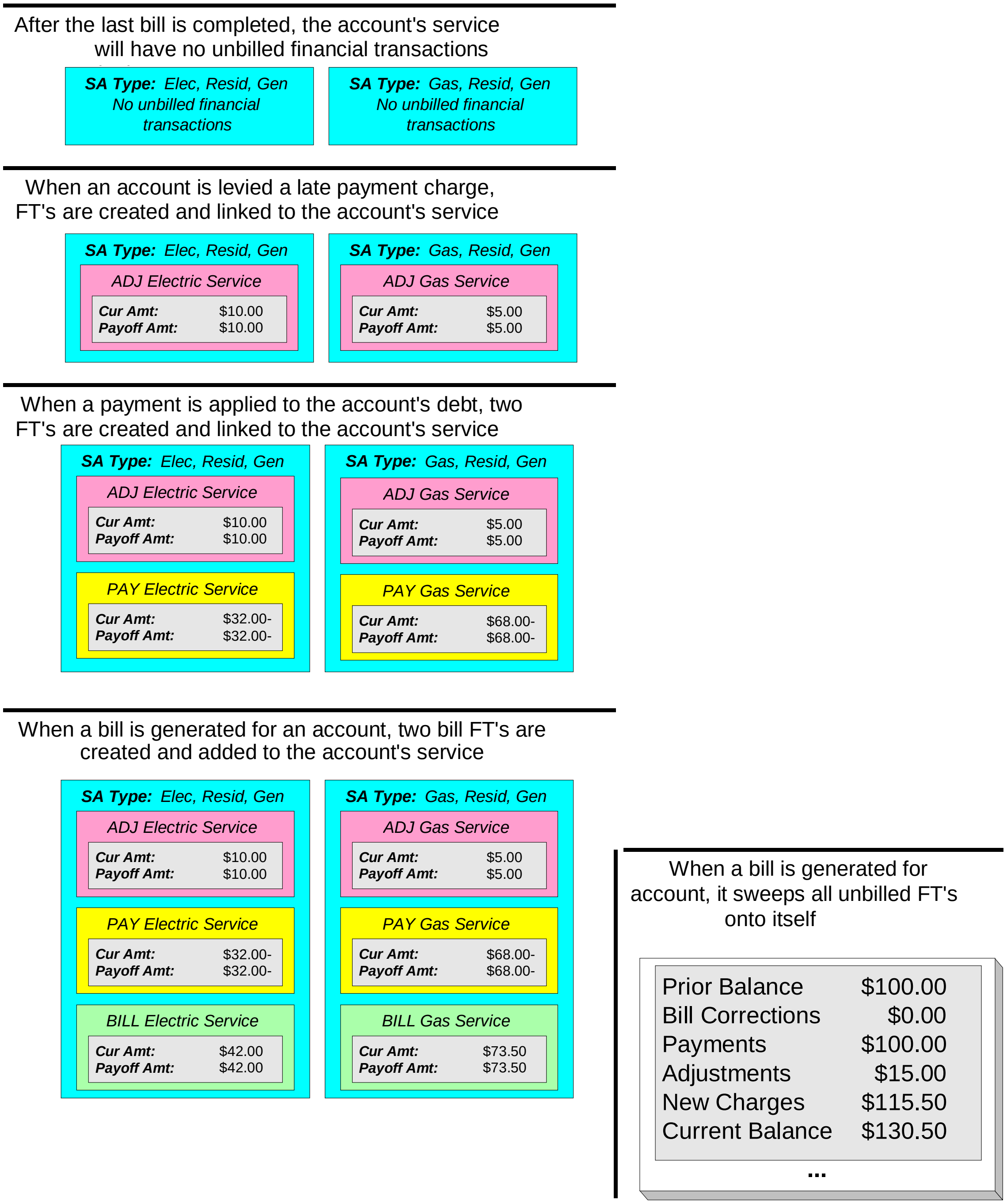
Event	GL Accounting	Arrearage Rule	Effect On Payoff Amt	Effect On Current Amt	Payoff Balance	Current Balance
Merchandise purchased	A/R 1000 Revenue <1000>	n/a (current amount is zero)	+1000	0	1000	0
Monthly bill	A/R 10 Int. Rev <10>	$120 aged accordingly	+10	+120	1010	120
Payment received	Cash 120 A/R <120>	$120 relieved accordingly	-120	-120	890	0

The following points describe the events in the above table:

- **Merchandise purchased.** When a customer purchases an air conditioner:
  - The system generates an adjustment to book the purchase.
  - The customer doesn't really think they owe the entire $1,000 (because they've purchased it on credit), therefore no moneys are booked to current amount. However, if the customer wanted to cash out, they would owe your organization $1,000, therefore the entire amount of the purchase is booked to payoff amount.
  - Because no money was booked to current amount, this event has no impact on the arrearage history.
- **Customer billed.** Monthly, the system calculates how much the client owes. In this example, interest is calculated to be $10 and the minimum monthly payment is set at $120.
  - The interest is posted to the GL, but principal isn't since it was booked when the merchandise was purchased.
  - The customer really thinks they owe the minimum payment amount, $120. Therefore, current amount is affected. However, if the customer were to cash out, they would owe your organization $1,000 + $10 (the interest); therefore payoff amount is affected by only $10.
  - Because current amount changed by $120, arrearage history is affected accordingly.
- **Payment received.** With any luck, the client will pay the $120 that was billed (note, they could obviously pay more).
  - The payment has a normal affect on the GL (debit cash, credit A/R).
  - The amount the customer thinks they owe decreases by $120, therefore current amount is affected by the payment amount. And, if the customer was to cash out, they would owe the utility $120 less, therefore payoff amount is affected by the payment amount.
  - Because current amount changed by $120, arrearage history is affected accordingly.

Financial Transactions Created Between Bills

The following diagram illustrates how ***frozen*** financial transactions (FT's) accumulate between bills and are swept onto the next bill produced for the account (when the bill is ***completed***). This example assumes



After the last bill is completed, the account's service will have no unbilled financial transactions

SA Type: Elec, Resid, Gen
No unbilled financial transactions
SA Type: Gas, Resid, Gen
No unbilled financial transactions

When an account is levied a late payment charge, FT's are created and linked to the account's service

When a payment is applied to the account's debt, two FT's are created and linked to the account's service

When a bill is generated for an account, two bill FT's are created and added to the account's service

When a bill is generated for account, it sweeps all unbilled FT's onto itself

Prior Balance	$100.00
Bill Corrections	$0.00
Payments	$100.00
Adjustments	$15.00
New Charges	$115.50
Current Balance	$130.50

...

When any type of financial transaction is ***frozen***, it impacts the related service agreement’s current and payoff balances. If you do not want adjustments and bill segments to affect the customer’s balance until they appear on the customer’s next bill, refer to Preventing SA Balances And The GL From Being Impacted Until Bill Completion.

Notice the balances in the financial summary of the above bill:

- The ***Prior Balance*** is the ending balance from the customer’s prior bill.

- The ***Bill Corrections*** portion is blank. It contains a value if you cancel / rebill a bill segment that appeared on an earlier bill.
- The ***Payments*** portion shows payment financial transactions (both new payments and cancellations) that have been created since the last bill.
- The ***Adjustments*** portion shows adjustment financial transactions (both new adjustments and cancellations) that have been created since the last bill.
- The ***New Charges*** portion shows bill financial transactions that were created when the bill was created.
- The ***Current Balance*** is the total amount owed.

If you practice Open Item Accounting, refer to Open Item Versus Balance Forward Accounting for more information about financial transactions and bills.

Financial Transactions And Aged Debt

The system keeps track of how old a service agreement's current balance is in order to determine if the customer is in arrears (and therefore credit and collections processing should start).

A financial transaction (FT) impacts the related service agreement's current and payoff balances the moment it is ***frozen***. However, some types of frozen FTs have no impact on a customer's aged debt until the next bill is completed for the account associated with the service agreement.

As described in the previous section, a ***frozen*** financial transaction (FT) waits in limbo until the customer's next bill is produced. This limbo period could be several weeks if the customer is billed infrequently. When the customer's next bill is completed, all such ***frozen*** FT's are linked to the bill. It is important to stress the following in respect of these FT's:

- If the FT decreases the amount of debt, the customer's aged debt is affected immediately regardless of whether the FT appears on a bill.
- If the FT increases the amount of debt, the amount the customer owes from an aged debt perspective may or may not be affected by the FT. There is a switch on an FT called ***New Charge*** that controls the arrears behavior.
  - If this switch is on, the amount of debt will be reflected as a "new charge" when you look at the customer's aged debt. This amount will remain classified as a "new charge" until the FT is swept onto a bill. The moment the FT is swept onto the customer's bill, the debt starts aging. This logic exists because you probably don't want to start aging an FT until the customer has actually seen it.
  - If this switch is off, the date on which the FT starts aging must be defined in the Arrears Date field. The Arrears Date is used to compute how many days old the debt is.

Aged debt limitations. It's important to be aware that there's a field on Installation Options - CC called "Oldest Bucket Age" that limits the number of days old the system will age debt. For example, if you set this field to 360, the system will never age an FT more than 360 days (and all debt that's older than 360 days will be classified as 360 day old debt). Also note, the aged debt bar that appears on Control Central - Account Information only ages debt a maximum of 60 days.

If you practice Open Item Accounting, refer to Open Item Versus Balance Forward Accounting for information about how open-item FT's affect aged debt.

Preventing SA Balances And The GL From Being Impacted Until Bill Completion

It's important to understand that when any type of financial transaction is ***frozen***, the related service agreement's balance is affected. For example:

- When a payment is ***frozen***, the customer's balance is reduced.
- When an adjustment is ***frozen***, the customer's balance is impacted.
- When a bill segment is ***frozen***, the customer's balance is increased (typically).

For payments, there is no issue. However, for bill segments and certain types of adjustments, you may NOT want the customer's balance to be impacted until the next bill is completed. Consider the following scenarios:

- Late payment charges:
  - You can setup the system to create a late payment charge (i.e., an adjustment) say 5 days after an unpaid bill is due.
  - If the related adjustment is frozen, the customer's balance will be impacted. However, its impact will not affect aged debt until the next bill is completed. In other words, the amount of the frozen adjustment segment will appear as a "New Charge" until the bill is completed.
- Batch billing:
  - If a customer has multiple service agreements, it's possible for one of the service agreements to have a bill segment that's in ***error*** and the other service agreement's bill segment to be error-free.
  - If this happens and you have setup the bill cycle schedule to freeze bill segments if they're error-free, then you could have one bill segment ***frozen*** and another in ***error***.
  - The ***frozen*** bill segment will impact the customer's balance. However, its impact will not affect aged debt until the bill is completed (and a bill cannot be completed until all of its bill segments are error-free). In other words, the amount of the ***frozen*** bill segment will appear as a "New Charge" until the bill is completed.

Aged debt is not impacted until the next bill is produced. We'd like to stress that while a frozen financial transaction impacts a customer's balance the moment it is frozen, the amount of the financial transaction appears as a "New Charge" when viewing a customer's aged-debt. This amount will remain classified as a "New Charge" until the next bill is completed (i.e., the customer's debt doesn't start aging until the next bill is sent to the customer).

While aged-debt isn't impacted by frozen FT's, the general ledger is. This is because a financial transaction is marked for interface to the general ledger when it is frozen. This can be problematic if you have a long period between FT freeze and bill completion (you could impact the general ledger but not impact the customer's balance). If this is unacceptable, you can setup the system to not allow certain types of FT's to be frozen until the next bill is completed. This means that neither the customer's balance nor the general ledger will be impacted until bill completion time. To do this:

- Choose the ***Freeze At Bill Completion*** option on Installation Options - Billing.
- Examine each of your adjustment types. Select ***Freeze At Bill Completion*** for those that should not impact the customer's balance or the general ledger until the next bill is completed. Select ***Freeze At Will*** for those that should impact the customer's balance and the GL when they are frozen. Typically, the only adjustment types for which you'd choose ***Freeze At Will*** option are those that cause a customer's balance to be reduced, those that are used to refund money to a customer, and those that are created at bill completion. Adjustment types for adjustments created during bill completion (e.g., by a bill completion algorithm) must have their adjustment freeze option set to ***Freeze At Will***. Otherwise (i.e., if the option is ***Freeze At Bill Completion***) they will not be frozen until a subsequent bill is completed.

Please be aware of the following in respect of the ***Freeze At Bill Completion*** options:

- If you turn on ***Freeze At Bill Completion*** on Installation Options - Billing:
  - Users will not be allowed to freeze bill segments online. This means that the freeze button will be disabled on Bill - Main, Bill – Bill Segments and Bill Segment – Main.
  - The ***Billing*** background process will not freeze bill segments until all segments on a bill are error free (and permission has been granted on the bill cycle schedule to complete bills).
  - Bill segments will exist in the ***freezable*** state until the bill is ***completed***.
- If you turn on ***Freeze At Bill Completion*** on Adjustment Type - Main:
  - Users will not be allowed to freeze adjustments of this type online. This means that the freeze button will be disabled on Adjustment - Main.
  - Background processes that create adjustments will not freeze this type of adjustment. Rather, the adjustments will be frozen when the next bill is completed.
  - Adjustments of this type will therefore exist in the ***freezable*** state until the next bill is ***completed***.

Alerts highlight freezable FT's. Please be aware that messages appear in the Account Information - Financial Information Zone and in the Dashboard - Financial Information Zone to highlight the existence of freezable financial transactions.

Please be aware of the following in respect of the ***Freeze At Will*** options:

- If you turn on ***Freeze At Will*** on Installation Options - Billing:
  - Users will be allowed to freeze bill segments online. This means that the freeze button will be enabled on Bill - Main, Bill – Bill Segments and Bill Segment – Main.
  - The ***Billing*** background process will freeze bill segments when the individual segment is error-free (and permission has been granted on the bill cycle schedule to freeze bill segments).
  - Bill segments will exist in the ***frozen*** state regardless of whether the bill is completed.
  - The ***frozen*** bill segment's FT will be interfaced to the GL when the interface next runs.
  - All adjustment types must be also be set to ***Freeze At Will*** (otherwise they wouldn't get frozen).
- If you turn on ***Freeze At Will*** on Adjustment Type - Main:

- Users will be allowed to freeze adjustments of this type online. This means that the freeze button will be enabled on Adjustment - Main.
- Background processes that create adjustments will freeze this type of adjustment.
- Adjustments of this type will exist in the ***frozen*** state prior to bill completion.
- The ***frozen*** adjustment's FT will be interfaced to the GL when the interface next runs.

Forcing The Freeze Date To Be Used As The Accounting Date

Every financial transaction references an accounting date. The accounting date controls the accounting period to which the financial transaction is booked as described below:

- Every financial transaction references an accounting date and a service agreement
- Every service agreement references a service agreement type
- Every service agreement type references a GL division
- Every GL division references an accounting calendar
- The accounting calendar contains the cross reference between the accounting date specified on the financial transaction and the related accounting period in your general ledger

The accounting date is populated on financial transactions when they are initially generated. The following points describe the source of the accounting date:

- The user who creates or cancels a bill segment online defines the accounting date as part of the generation / cancel dialog (note, the current date defaults).
- Bill segments that are produced by the BILLING background process have their accounting date defined on the bill cycle schedule that caused the bill to be created.
- The user who creates or cancels an adjustment online defines the accounting date as part of the generation / cancel dialog (note, the current date defaults).
- Payments are unusual in that their financial transaction is only created when they are frozen (rather than when the payment is first distributed amongst the account's service agreements). At payment freeze time, the accounting date is set to the current date.

For payments, there is no issue because the accounting date is only populated on the financial transaction when a payment is frozen. However, for bill segments and adjustments, your business practice may dictate that the freeze date should be used as the accounting date rather than the original accounting date. Alternatively, your business practice may dictate that the accounting date that's originally stamped on bill segments / adjustments should be used (unless this associated period is closed at freeze time). It's really a question of the interpretation of the local accounting rules. After you've decided on your approach, populate the **Accounting Date Freeze Option** on Installation Options - Billing with one of the following values:

- Choose ***Always change*** if the accounting date on your financial transactions should be populated with the freeze date (i.e., the current date when the financial transaction is frozen).
- Choose ***Change if period is closed*** if the accounting date defined when the financial transaction is generated should be used (unless the associated accounting period is closed).

Please be aware of the following in respect of your choice:

- If you choose ***Always change***:

  - When a user freezes a bill segment online, they will be prompted to supply an accounting date. The current date will default, but the user can override this value.
  - When a user freezes an adjustment online, they will be prompted to supply an accounting date. The current date will default, but the user can override this value.
  - The BILLING background process will use the current business date as the accounting date on bill segments that it freezes.
  - Also note, if you have chosen the ***Freeze At Bill Completion*** **Bill Segment Freeze Option** on the installation record, bill segments and certain types of adjustments are frozen when a bill is completed. This means that the accounting date on the related financial transactions will be set to the completion date (because the completion date is the freeze date with this setting). Refer to Preventing SA Balances And The GL From Being Impacted Until Completion for more information.
- If you choose ***Change if period is closed***:
  - When a user freezes a bill segment online, they will only be prompted to supply an accounting date if the related accounting period is closed (because the accounting period closes after the bill segment is generated but before it's frozen). The current date will default, but the user can override this date.
  - When a user freezes an adjustment online, they will only be prompted to supply an accounting date if the related accounting period is closed (because the accounting period closes after the adjustment is generated but before it's frozen). The current date will default, but the user can override this date.
  - The BILLING background process will use the accounting date defined on the related bill cycle schedule as the accounting date on the bill segments that it creates and freezes.

Note. The above installation option only controls the final accounting date for GL recording purposes. Rate and bill factor value selection based on accounting date uses the date as initially determined.

How Late Payment Charges Get Calculated

Late payment charges are system-generated adjustments used to penalize a customer for late (or no) payments. This section describes how to set up the tables that control how and when late payment charges are generated. The following points describe how and when late payment charges are calculated.

- When a bill is completed, the system marks it with the date on which late payment charges will be calculated if the bill is not paid.
  - This date is calculated by adding grace days to the bill's due date. Grace days are defined on the account's Customer Class / Division.
  - This date will be zero if the account's Customer Class / Division indicates the account is not eligible for late payment charge processing.
- The late payment charge background process (referred to by the batch ID of LATEPYMT) selects all bills on or after their late payment charge date.
  - For each such bill, the system determines if its account satisfies the late payment charge eligibility criteria defined on the account's Customer Class / Division. The eligibility criteria are defined in an algorithm and can therefore be as flexible as required.

- If an account is eligible for late payment charges, the system checks each of the account's service agreements to determine if it is eligible for late payment charges (as defined on the service agreement's SA Type).
- If a service agreement is eligible for late payment charges, the system calls the SA type's late payment charge calculation algorithm. This algorithm should calculate the late payment charge amount, if applicable and return the calculated amount and an appropriate adjustment type to use. If this algorithm returns this information, an adjustment is generated to levy the late payment charge.

Refer to Setting Up Customer Classes for more information about how to set up an account's due days and grace period. Refer to SA Type – Main Information for more information about enabling late payment charges calculations for your service agreements.

You can update the **Late Payment Charge Details** section on the Bill - Main Information page to indicate if and when late payment charges may be levied. For more information, see Bill – Main Information.

Service Agreement Type Controls Everything

The previous section illustrated three important concepts:

The true financial impact of the three financial events - bills, payments, adjustments - is at the service agreement level, not at the account level. This means that bills and payments are meaningless on their own. It's the service agreements' bill segments, payment segments and adjustments that affect how much a customer owes.

- Every bill segment, payment segment, and adjustment has a related financial transaction. These financial transactions contain the double-sided journal entries that will be interfaced to your general ledger. They also contain the information defining how the customer's debt is affected by the financial event (i.e., current amount and payoff amount).
- A single bill can contain many bill segments, each of which may have a different frequency. For example, a bill could contain future charges, monthly retroactive charges based on service cycle, quarterly charges that must end on a quarter-end boundary.

You control the financial effects of the various financial events using a single field on the service agreement. This field is called the service agreement (SA) Type. In this section, we describe many of the tables that must be set up before you can create a SA type.

Foreshadowing. You will notice that we don't explain how to set up SA types in this section. This is because SA type controls numerous aspects of a service agreement's behavior in addition to its financial behavior. The non-financial aspects are discussed in later chapters. It's only after you have set up all of the control tables in this manual that you'll be able to finally define your SA types. Refer to Setting Up SA Types for more information.

Warning! Take the time to define how you will record the various financial events in your general ledger before you attempt to set up these control tables. If you have simple accounting needs, this setup process will be straightforward. However, if you sell many services and use sophisticated accounting, this setup process will require careful analysis.

Contents

Setting Up CIS Divisions

There are two types of Divisions referenced on a SA type: a CIS Division and a GL Division. This is a rather powerful structure, but it can be confusing.

- General Ledger divisions typically comprise individual entities (e.g., companies) in your general ledger. You must set up a GL division for each such entity. The GL division's sole purpose in the system is to define the accounting period associated with financial transactions linked to service agreements associated with the GL division (service agreements are associated with GL divisions via their SA type). The system cares about accounting periods in order to prevent a user from booking moneys to closed periods. It also uses accounting periods when it produces the flat file that contains the consolidated journal entry that is interfaced to your general ledger (refer to The GL Interface for more information).

- A CIS division is associated with a jurisdiction. The definition of a jurisdiction is a geographic-oriented entity with unique business rules. For example, if you conduct business in California and Nevada, and each state has different collection rules, you will need a separate jurisdiction for each state. You must set up a CIS division for each jurisdiction in which you conduct business.

  CIS division is also referenced on service agreement, premise and account.

  - The CIS division on SA is actually part of the SA's SA type. Because SA type controls many business rules, all business rules that are on the SA type can be thought of as being defined for a given jurisdiction and SA type combination. For example, you could define your valid rates for electric residential service in California which differ from the valid rates for electric residential service in Nevada. Refer to Defining Service Agreement Types for more information. In addition to controlling the business rules defined on the SA's SA type, the SA's CIS division also controls the type of collection criteria used to determine if and how to collect overdue debt. Refer to Setting Up Collection Class Control for more information.

  - The CIS division on premise defines the jurisdiction in which the premise is located. This jurisdiction controls the types of service agreements that can be associated with the premise's service points (e.g., you can only link California-oriented service agreements to premises governed by the California jurisdiction). You can also set up your field activity types to execute special algorithms when a field activity is completed at a service point located in specific jurisdiction.

  - The CIS division on account when combined with the account's customer class defines the jurisdiction that governs financial business rules (e.g., the bill's due date, when and how late payment charges are calculated, etc.). Refer to Setting Up Customer Classes for more information about these rules. The CIS division on account can also play a part in the addressee of To Do entries associated with the account. To assign To Do entries to a role based on the division, simply link the To Do type to the division. Refer to To Do Entries Reference A Role for more information.

Note. Both CIS Division and GL Division are stored on the financial transactions associated with a service agreement. However, only GL Division plays a part in The GL Interface. Refer to Setting Up GL Divisions for information about GL Divisions.

The following topics describe the pages used to maintain a CIS division.

Contents

CIS Division - Main

To define a CIS division, choose **Admin Menu, CIS Division**.

Description of Page

Enter an easily recognizable **CIS Division** and **Description** for the CIS Division.

Enter the **Work Calendar** that defines the days on which this division operates. This calendar is used to ensure system-calculated dates (e.g., bill due date, credit and collection event dates, etc.) fall on a workday.

Use the **To Do Roles** scroll area if an account's division influences the role assigned to To Do entries associated with the account. In the collection, define the **To Do Role** to be assigned to entries of a given **To Do Type** that are associated with accounts that reference the **Division**. Refer to Assigning A To Do Role for more information.

Note. Only To Do entries that are account-oriented take advantage of the roles defined for a division.

Where Used

Follow this link to view the tables that reference CI_CIS_DIVISION in the data dictionary schema viewer.

CIS Division - Characteristics

You can define characteristics for a CIS division. You may need these for reporting purposes or in your algorithms. Refer to Characteristic Types for more information.

Open **Admin Menu, CIS Division** and navigate to the **Characteristics** tab to maintain a division's characteristics.

Description of Page

Select a **Characteristic Type** and **Characteristic Value** to be associated with this CIS division. Indicate the Effective Date of the characteristic type and value.

Note. You can only choose characteristic types defined as permissible on a CIS division record. Refer to Setting Up Characteristic Types & Their Values for more information.

Setting Up Revenue Classes

Every service agreement references a service agreement (SA) type. Amongst other things, the SA type defines a service agreement's revenue class. The revenue class is used when the service agreement's rate books revenue to different GL distribution codes based on the service agreement's revenue class.

See Rate Component – GL Distribution for more information about how revenue class is used to determine the GL revenue accounts referenced on a bill. See Revenue Segmentation for more information about how revenue class affects the number of SA types you will need.

To set up revenue classes, choose **Admin Menu, Revenue Class**.

Description of Page

Enter an easily recognizable **Revenue Class ID** and **Description** for every revenue class.

Where Used

Follow this link to open the data dictionary where you can view the tables that reference CI_REV_CL.

Setting Up Distribution Codes

Distribution codes simplify the process of generating accounting entries by defining valid combinations of chart of account field values.

Refer to The Source Of GL Accounts On Financial Transactions for more information about the accounting entries associated will bills, payments and adjustments.

To set up distribution codes, open **Admin Menu, Distribution Code**.

Description of Page

Enter a unique **Distribution Code** and **Description** for the distribution code.

If this distribution code is a holding account used for payables cash accounting, check the **Use For Non-Accrual Accounting** switch and select the accounting method from the **Accounting Method** list. Select the priority level for the distribution code from the **Accounting Priority** list and enter the actual payable **Accounting Code.** The system will transfer monies from the holding account to the distribution code when the cash event occurs. Transfers will occur based on priority and debt age. For more information, refer to Payables Cash Accounting and Deferred Accrual Accounting.

Define the **GL Account Algorithm** used by the system when it interfaces financial transactions that reference this distribution code to your general ledger (refer to GLDL - Create General Ledger Download for more information about the download process). The logic embedded in this algorithm constructs the actual GL account number. If you haven't done so already, you must set up this algorithm in the system. To do this:

- Create a new algorithm (refer to Setting Up Algorithms).
- On this algorithm, reference an Algorithm Type that constructs your general ledger account number. Click here to see the algorithm types available for this plug-in spot.

The **Write Off Controls** control how the system writes off debt associated with the distribution code. Refer to The Ramifications of Write Offs in the General Ledger for an explanation of how these fields are used at write-off time.

- Define the **Division** and **SA Type** of the service agreement to which bad debt associated with this distribution code should be transferred at write-off time. Note: only SA Types with a special role of ***Write Off*** may be selected.
- When the system transfers debt to the write-off service agreement defined above, the distribution code defined on this **Division / SA Type** will be debited unless you turn on the **Override Switch**. When this switch is turned on, the system overrides the distribution code of the transfer to side of the adjustment with the distribution code associated with the debt being written off. You'd typically turn this switch on for liability distribution codes because you want to debit the original liability account when the debt is written off. Note: if this switch is on the system also overrides the characteristic type / value with the respective value associated with the debt that is being written off.

Use the **GL Account Details** scroll to define how the system constructs the GL account associated with the distribution code when it interfaces the financial transaction to your general ledger. For each distribution code, enter the following information:

- Enter the **Effective Date** of the following information.
- Define whether, on the **Effective Date**, the following information is ***Active*** or ***Inactive***. The system will only use effective-dated information that is ***Active***.
- Enter the **GL Account** that the general ledger uses to process financial transactions tagged with this distribution code.
- Enter the **Statistics Code** that should be passed to the general ledger during the GL interface for this **GL Account**. For example, if this **Distribution Code** is used to record electric, residential revenue, the **Statistics Code** would be KWH if you record the number of KWH in you general ledger along with the dollar value of the revenue.
- If you have configured your installation options to indicate that fund accounting is ***practiced***, define the **Fund** associated with this distribution code. If your installation options indicate that fund accounting is ***not practiced***, the field is not visible.
- Use the grid to define characteristic values for the **Distribution Code**. To modify a characteristic, simply move to a field and change its value. The following fields display:
  - **Characteristic Type**. Indicate the type of characteristic.
  - **Characteristic Value**. Indicate the value of the characteristic.

Note. You can only choose characteristic types defined as permissible on the distribution code record. Refer to Setting Up Characteristic Types & Their Values for more information.

Where Used

Follow this link to open the data dictionary where you can view the tables that reference CI_GL_DIVISION.

Setting Up Billable Charge Templates

A user creates a billable charge whenever a customer should be levied an ad hoc charge. For example, you would create a billable charge to charge a contractor for the repair of a ruptured gas line.

Interfacing billable charges from an external system. In addition to being entered manually, billable charges can also be interfaced from an external system. You would interface billable charges if your organization provides "pass through" billing services for a service provider. Refer to Uploading Billable Charges for more information.

A billable charge must reference a service agreement. This service agreement behaves just like any other service agreement:

- **Bill segments are created for the service agreement.** Whenever billing is performed for an account with billable charge service agreements, the system creates a bill segment for each unbilled billable charge.
- **Payments are distributed to the service agreement.** Payments made by an account are distributed to its billable charge service agreements just like any other service agreement.
- **Overdue debt is monitored.** The credit and collections process monitors billable charge service agreements for overdue debt and responds accordingly when overdue debt is detected.

Rates can be applied to billable charges. Billable charges can be connected to a service agreement that also specifies a rate. The rate will be applied and lines added to the bill segment after the billable charge lines are added. For example, a rate can insert flat charges or be applied to service quantities associated with the billable charge.

Taxes on top of billable charges. Rates cannot be applied to billable charge lines. If you need to perform a calculation such as applying taxes on top of the existing lines, add a service quantity (SQ) that contains the taxable amount with an SQ identifier that describes it as a taxable amount. A rate component can apply the tax to this SQ.

Refer to How To Create A One-Time Invoice for instructions describing how to create a bill for a billable charge outside of the normal bill creation process.

Billable charge templates exist to minimize the effort required to create a billable charge for a customer. A billable charge template contains the default bill lines, amounts and distribution codes used to levy a one-off charge.

The information on the template may be overridden by a user when the billable charge is created. For example, you can create a billable charge template to levy tree-trimming charges. This template would contain the bill lines, amounts and distribution codes associated with a tree trimming activities. Then, when you trim a tree for a customer, a user can create a billable charge using the template and override the amount to reflect the actual amount (if it differs from the norm).

Templates aren't required. A billable charge can be created without a template for a truly unexpected charge.

After setting up the billable charge templates, you must indicate the SA types that can use each template. Obviously, only ***billable charge*** SA types (as defined on the SA type's special role) will reference billable charge templates.

Contents

Billable Charge Template - Main

Open **Admin, Billable Charge Template** to define your billable charge templates.

Description of Page

Enter a unique **Billable Charge Template** ID and **Description** for the billable charge template.

Use **Description on Bill** to define the verbiage that should print on the customer's bill above the billable charge's line item details.

Use **Currency Code** to define the currency in which the billable charge's amounts are expressed.

Use the grid to define the line item details associated with the billable charge (note, the **Total Line Amount** field is automatically calculated. It is the sum of the **Charge Amount** on each of the Line Sequence items). The following fields are required for each entry in the grid.

Sequence Line sequence controls the order in which the line items appear on the bill segment.

Description on Bill Specify the verbiage to print on the bill for the line item.

Charge Amount Specify the default amount to charge for the line item.

Show on Bill Turn this switch on if the line item should appear on the customer's printed bill. It would be very unusual for this switch to be off.

Appears in Summary Turn this switch on when the amount associated with this line also appears in a summary line.

Memo Only, No GL Turn this switch on when the amount associated with this line does not affect the GL (or the total amount owed by the customer).

Distribution Code Specify the default distribution code associated with this line item.

If you use the drill down button on the left most column in the grid, you will be taken to the Line Characteristics tab with the selected line displayed.

For more information about creating a billable charge, refer to Maintaining Billable Charges. For more information about billing billable charges, refer to How To Create A One-Time Invoice.

Billable Charge Template - Line Characteristics

Open **Admin, Billable Charge Template, Line Characteristics** to define your billable charge templates line characteristics.

Description of Page

The **Line Sequence** scroll defines the billable charge template line to which you wish to assign characteristic values.

To modify billable charge template line characteristics, simply move to a field and change its value. To add characteristics, press + to insert a row and then fill in the information for each field. The following fields display:

Characteristic Type	The type of characteristic.
Characteristic Value	The value of the characteristic.

Billable Charge Template - SQ Details

Open **Admin, Billable Charge Template, SQ Details** to define your billable charge templates service quantities.

Description of Page

To modify a template's service quantity, simply move to a field and change its value. To add a new service quantity to the billable charge template, press the + button to insert a row and fill in the information for each field. The following fields display:

Sequence	Specify the sequence number of the SQ.
UOM	Select the unit of measure of this SQ. One or more of UOM, TOU, or SQ identifier must be selected.
TOU	Select the time of use period.
SQ Identifier	Select the SQ identifier.
Service Quantity	Specify the number of units of this service quantity.

Where Used

Follow this link to open the data dictionary where you can view the tables that reference CI_B_CHG_TMPLT.

Designing and Defining Bill Segment Types

Every service agreement references a service agreement (SA) type. Amongst other things, the SA type references a bill segment type. The bill segment type controls how bill segments and their related financial transactions are created.

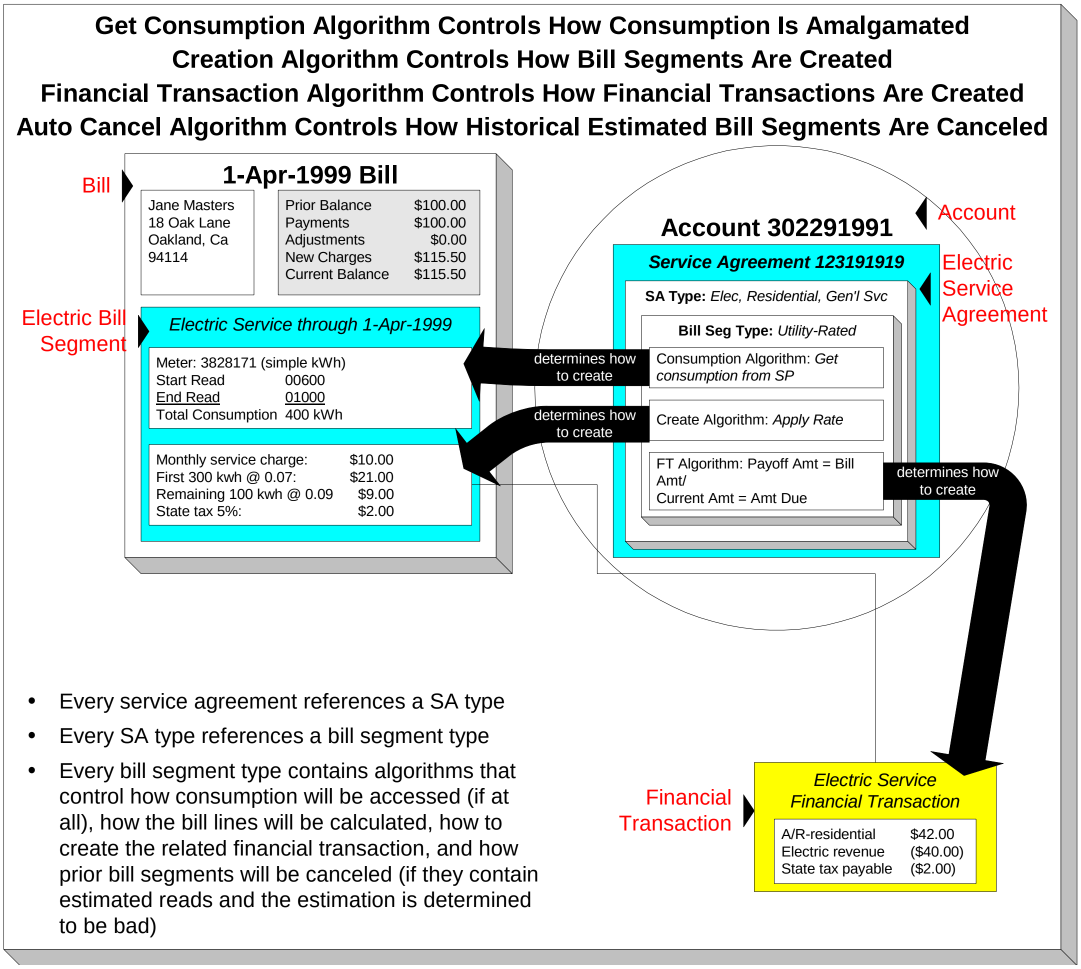
Warning! We strongly recommend understanding the concepts described in The Big Picture of Billing before setting up your bill segment types.

The topics in this section describe how to design and set up bill segment types.

Contents

What Do Bill Segment Types Do?

Bill segment types control how bill segments and their related financial transactions are created. The following illustration will help you understand how the system uses bill segment types during the bill segment creation process:



Get Consumption Algorithm Controls How Consumption Is Amalgamated
Creation Algorithm Controls How Bill Segments Are Created
Financial Transaction Algorithm Controls How Financial Transactions Are Created
Auto Cancel Algorithm Controls How Historical Estimated Bill Segments Are Canceled

- Every service agreement references a SA type
- Every SA type references a bill segment type
- Every bill segment type contains algorithms that control how consumption will be accessed (if at all), how the bill lines will be calculated, how to create the related financial transaction, and how prior bill segments will be canceled (if they contain estimated reads and the estimation is determined to be bad)

Bill
1-Apr-1999 Bill
Jane Masters
18 Oak Lane
Oakland, Ca
94114
Prior Balance $100.00
Payments $100.00
Adjustments $0.00
New Charges $115.50
Current Balance $115.50
Electric Bill Segment
Electric Service through 1-Apr-1999
Meter: 3828171 (simple kWh)
Start Read 00600
End Read 01000
Total Consumption 400 kWh
Monthly service charge: $10.00
First 300 kwh @ 0.07: $21.00
Remaining 100 kwh @ 0.09 $9.00
State tax 5%: $2.00
Account
Account 302291991
Electric Service Agreement
Service Agreement 123191919
SA Type: Elec, Residential, Gen'l Svc
Bill Seg Type: Utility-Rated
Consumption Algorithm: Get consumption from SP
Create Algorithm: Apply Rate
FT Algorithm: Payoff Amt = Bill Amt/
Current Amt = Amt Due
determines how to create
determines how to create
determines how to create
Financial Transaction
Electric Service Financial Transaction
A/R-residential $42.00
Electric revenue ($40.00)
State tax payable ($2.00)

Designing Your Bill Segment Types

The following table contains a subset of the SA types listed under Defining Service Agreement Types and Designing Your SA Types And Start Options For Sub SA's and Designing SA Types For Service Provider Financial Settlements. However, if your reading this document from top to bottom, you probably don't know what your SA types are (they are only designed much later) and will have to forestall this task until that time.

We're going to cheat and assume you know what your SA types are and fill in the algorithms necessary to create bill segments for each SA type. After this table is complete, we will look for unique combinations of the 4 algorithms and create a bill segment type for each one.

Note. Before you can fill in the columns for your own SA types, you should be comfortable with the descriptions of the algorithms described under Setting Up Bill Segment Types.

Div- SA Type	Calculation Algorithm	FT Algorithm	Consumption Algorithm	Auto Cancel Algorithm
CA/G-RES	Apply Rate	Payoff = Bill Amount / Current = Amount Due	Get Consumption From SP's	Auto cancel bad estimates
CA/G-COM	Apply Rate	Payoff = Bill Amount / Current = Amount Due	Get Consumption From SP's	N/A – can't estimate consumption
CA/G-IND	Apply Rate	Payoff = Bill Amount / Current = Amount Due	Get Consumption From SP's	N/A – can't estimate consumption
CA/CABLE	Apply Rate	Payoff = Bill Amount / Current = Amount Due	Get Consumption From SP's	N/A – can't estimate consumption
CA/E-COY	Apply Rate	Payoff = 0 / Current = 0	Get Consumption From SP's	N/A – can't estimate consumption
CA/E-RESU	Apply Rate To Usage Request	Payoff = Bill Amount / Current = Amount Due	Get Consumption Using Usage Request	N/A – can't estimate consumption
CA/E-COMU	Apply Rate To Usage Request	Payoff = Bill Amount / Current = Amount Due	Get Consumption Using Usage Request	N/A – can't estimate consumption
CA/WO-STD	N/A – non billable	N/A – non billable	N/A – non billable	N/A – non billable
CA/WO-LIA	N/A – non billable	N/A – non billable	N/A – non billable	N/A – non billable
CA/CHARITY	Recurring Charge	Payoff = 0 / Current = Bill Amount	N/A – no consumption is needed	N/A – no consumption
CA/PA-REGU	Recurring Charge With Auto Stop	Payoff = 0 / Current = Bill Amount	N/A – no consumption is needed	N/A – no consumption
CA/MERCH-I	Recurring Charge With Auto Stop	Payoff = 0 / Current = Bill Amount	N/A – no consumption is needed	N/A – no consumption
CA/DEP-I	Recurring Charge For Amount To Bill	Payoff = 0 / Current = Bill Amount	N/A – no consumption is needed	N/A – no consumption
CA/ONETIME	Billable Charge	Payoff = Bill Amount / Current = Amount Due	N/A – no consumption is needed	N/A – no consumption
CA/OVR UNDR	N/A – non billable	N/A – non billable	N/A – non billable	N/A – non billable

Div- SA Type	Calculation Algorithm	FT Algorithm	Consumption Algorithm	Auto Cancel Algorithm
CA/E-SUB ENR	Apply Rate	Payoff = Bill Amount / Current = Amount Due	Get Consumption From Master Bill Segment	N/A – rated sub service agreements are cancelled when there master is cancelled
CA/E-SUB BC	Billable Charge	Payoff = Bill Amount / Current = Amount Due	N/A – no consumption is needed	N/A – no consumption
CA/E-FIN SETTL	N/A – non billable	N/A – non billable	N/A – non billable	N/A – non billable

Now, we'll extract unique combinations of the 4 algorithms and create a bill segment type for each.

Bill Segment Type	Calculation Algorithm	FT Algorithm	Consumption Algorithm	Auto Cancel Algorithm
SP RATED	Apply Rate	Payoff = Bill Amount / Current = Amount Due	Get Consumption From SP's	Auto cancel bad estimates
BD RATED	Apply Rate To Usage Request	Payoff = Bill Amount / Current = Amount Due	Get Consumption Using Usage Request	N/A – can't estimate consumption
NOESTRAT	Apply Rate	Payoff = Bill Amount / Current = Amount Due	Get Consumption From SP's	N/A – can't estimate consumption
COMPUSAG	Apply Rate	Payoff = 0 / Current = 0	Get Consumption From SP's	N/A – can't estimate consumption
BILLCHRG	Billable Charge	Payoff = Bill Amount / Current = Amount Due	N/A – no consumption is needed	N/A – no consumption
RECUR	Recurring Charge	Payoff = 0 / Current = Bill Amount	N/A – no consumption is needed	N/A – no consumption
RECUR AS	Recurring Charge With Auto Stop	Payoff = 0 / Current = Bill Amount	N/A – no consumption is needed	N/A – no consumption
RECURATB	Recurring Charge For Amount To Bill	Payoff = 0 / Current = Bill Amount	N/A – no consumption is needed	N/A – no consumption
SUB RATE	Apply Rate	Payoff = Bill Amount / Current = Amount Due	Get Consumption From Master Bill Segment	N/A – rated sub service agreements are cancelled when there master is cancelled
SUB BC	Billable Charge	Payoff = Bill Amount / Current = Amount Due	N/A – no consumption is needed	N/A – no consumption

Just to make sure everything has been designed appropriately, we will return to our SA type samples and specify their respective bill segment types:

Div- SA Type	Calculation Algorithm	FT Algorithm	Consumption Algorithm	Auto Cancel Algorithm	Bill Segment Type
CA/G-RES	Apply Rate	Payoff = Bill Amount / Current = Amount Due	Get Consumption From SP's	Auto cancel bad estimates	SP-RATED
CA/G-COM	Apply Rate	Payoff = Bill Amount / Current = Amount Due	Get Consumption From SP's	N/A – can't estimate consumption	NOESTRAT
CA/E-RES	Apply Rate To Usage Request	Payoff = Bill Amount / Current = Amount Due	Get Consumption Using Usage Request	N/A – can't estimate consumption	BD RATED
CA/E-COM	Apply Rate To Usage Request	Payoff = Bill Amount / Current = Amount Due	Get Consumption Using Usage Request	N/A – can't estimate consumption	BD RATED
CA/G-IND	Apply Rate	Payoff = Bill Amount / Current = Amount Due	Get Consumption From SP's	N/A – can't estimate consumption	NOESTRAT
CA/CABLE	Apply Rate	Payoff = Bill Amount / Current = Amount Due	Get Consumption From SP's	N/A – can't estimate consumption	SP-RATED
CA/E-COY	Apply Rate	Payoff = 0 / Current = 0	Get Consumption From SP's	N/A – can't estimate consumption	COMPUSAG
CA/WO-STD	N/A – non billable	N/A – non billable	N/A – non billable	N/A – non billable	
CA/WO-LIA	N/A – non billable	N/A – non billable	N/A – non billable	N/A – non billable	
CA/CHARITY	Recurring Charge	Payoff = 0 / Current = Bill Amount	N/A – no consumption is needed	N/A – no consumption	RECUR
CA/PA-REGU	Recurring Charge With Auto Stop	Payoff = 0 / Current = Bill Amount	N/A – no consumption is needed	N/A – no consumption	RECUR-AS
CA/MERCH-I	Recurring Charge With Auto Stop	Payoff = 0 / Current = Bill Amount	N/A – no consumption is needed	N/A – no consumption	RECUR-AS
CA/DEP-I	Recurring Charge For Amount To Bill	Payoff = 0 / Current = Bill Amount	N/A – no consumption is needed	N/A – no consumption	RECURATB
CA/ONETIME	Billable Charge	Payoff = Bill Amount / Current = Amount Due	N/A – no consumption is needed	N/A – no consumption	BILLCHRG
CA/OVR UNDR	N/A – non billable	N/A – non billable	N/A – non billable	N/A – non billable	
CA/E-SUB ENR	Apply Rate	Payoff = Bill Amount / Current = Amount Due	Get Consumption From Master Bill Segment	N/A – rated sub service agreements are	SUB RATE

Div- SA Type	Calculation Algorithm	FT Algorithm	Consumption Algorithm	Auto Cancel Algorithm	Bill Segment Type
				cancelled when there master is cancelled	
CA/E-SUB BC	Billable Charge	Payoff = Bill Amount / Current = Amount Due	N/A – no consumption is needed	N/A – no consumption	SUB BC
CA/E-FIN SETTL	N/A – non billable	N/A – non billable	N/A – non billable	N/A – non billable	

And now you're ready to set up your bill segment types.

Setting Up Bill Segment Types

To set up bill segment types, open **Admin Menu, Bill Segment Type**.

Description of Page

Enter an easily recognizable **Bill Segment Type** and **Description** for every type of bill segment.

For each bill segment type, define the **Create Algorithm**. The logic embedded in this algorithm creates the bill segment. Refer to Designing Your Bill Segment Types for examples.

If you haven't done so already, you must set up this algorithm in the system. To do this:

- Create a new algorithm (refer to Setting Up Algorithms).
- On this algorithm, reference an Algorithm Type that creates a bill segment in the appropriate manner. Click here to see the algorithm types available for this plug-in spot.

Warning! The **BS Create Algorithm** is a very important field as it controls how the system creates bill segments. There are some restrictions in respect of the values of certain fields on the SA type and the bill segment algorithm used on a SA type. Refer to Require Total Amount Switch versus Bill Segment Creation Algorithm, Allow Recurring Charge Switch versus Bill Segment Creation Algorithm, and Rate Required Switch versus Bill Segment Creation Algorithm **for more information**.

For each bill segment type, define the **Financial Algorithm**. The logic embedded in this algorithm constructs the financial transaction associated with the bill segment. Refer to Designing Your Bill Segment Types for examples.

If you haven't done so already, you must set up this algorithm in the system. To do this:

- Create a new algorithm (refer to Setting Up Algorithms).
- On this algorithm, reference an Algorithm Type that constructs the bill segment financial transaction in the appropriate manner. Click here to see the algorithm types available for this plug-in spot.

For more information about current and payoff amounts, refer to Current Amount versus Payoff Amount.

If the bill segment requires consumption (e.g., meter reads) to be retrieved, define the **Get Consum Algorithm**. The logic embedded in this algorithm retrieves the consumption that is billed on the bill segment. Refer to Designing Your Bill Segment Types for examples.

If you haven't done so already, you must set up this algorithm in the system. To do this:

- Create a new algorithm (refer to Setting Up Algorithms).
- On this algorithm, reference an Algorithm Type that retrieves consumption in the appropriate manner. Click here to see the algorithm types available for this plug-in spot.

The **Auto Cancel Algorithm** is used by the system when it detects that the prior bill segment contains a bad estimated read (by "bad" we mean that the current bill has a non-estimated reading that is less than the estimated end read on the prior bill segment). If you haven't done so already, you must set up this algorithm in the system. To do this:

- Create a new algorithm (refer to Setting Up Algorithms).
- On this algorithm, reference an Algorithm Type that cancels bill segments that contain poorly estimated consumption. Click here to see the algorithm types available for this plug-in spot.

The **Bill Segment Information Algorithm** is used by the system to format the bill segment information that appears throughout the system. If the information you'd like displayed differs for bill segment types, you must set up this algorithm in the system. To do this:

- Create a new algorithm (refer to Setting Up Algorithms).
- On this algorithm, reference an Algorithm Type that constructs the bill segment information. Click here to see the algorithm types available for this plug-in spot

Where Used

Follow this link to open the data dictionary where you can view the tables that reference CI_BILL_SEG_TYP.

Designing and Defining Deposit Classes

If you bill for deposits, you must set up one or more deposit classes. If your company does not bill for deposits, you can skip this section.

> We strongly recommend familiarizing yourself with the concepts described in The Big Picture Of Deposits before tackling the information in this section.

The topics in this section describe how to design and set up deposit classes.

Contents

What Do Deposit Classes Do?

A deposit class contains the business rules that govern:

- How and when deposit interest is calculated.

- How the recommended deposit amount is calculated.
- When a deposit will be automatically refunded to a customer.
- When the system will recommend a new or additional deposit.

When you link a deposit class to a SA type, you are indicating that the SA type's service agreements are governed by the deposit class' business rules.

In addition to linking a deposit class to the SA types used to bill for a deposit, you must also define a deposit class on SA types whose debt is covered by a deposit. Consider the following examples:

- Assume your company sells electricity, gas, and water; but deposits are only held only for electric service. In this situation, you'd need one deposit class – ***Electric*** – and you'd associate it with both the electric deposit SA type and the electric usage SA type(s) (the gas and water SA types would NOT reference a deposit class).
- If your company can apply a deposit to any type of debt, then you'd have just one deposit class ***– General Deposit***. You'd link this deposit class to the deposit SA type, and to the other SA types whose debt is covered by the deposit.

Non-cash deposits. You can also use the system to manage non-cash deposits (e.g., letters of credit, surety bonds, 3rd party deposits). Non-cash deposits are held in respect of an account (and an account may have an unlimited number of non-cash deposits). Each non-cash deposit must reference a deposit class. Why? Because the system amalgamates cash and non-cash deposits when it determines if an account is holding an adequate deposit. Refer to 3rd Party Deposits for more information.

Designing Your Deposit Classes

A deposit class contains the business rules that govern:

- How and when deposit interest is calculated.
- How the recommended deposit amount is calculated.
- When a deposit will be automatically refunded to a customer.
- When the system will recommend a new or additional deposit.

You will need multiple deposit classes if any of the above rules / conditions differ for different types of customers. For example, if residential customers use a different recommended deposit algorithm as compared to commercial customers, you'd need one deposit class for residential and another for commercial.

You will need additional deposit classes if your customers can have multiple deposits where each deposit is restricted to a specific type of debt. For example, if separate deposits are held for regulated and unregulated debt (and a customer could hold a combination of regulated and unregulated debt), you'd need one deposit class for regulated debt and another for unregulated debt.

We'll design deposit classes to satisfy the needs of a theoretical company to help you understand how to design your deposit classes. The following points describe the deposit requirements of our theoretical company:

- The recommended deposit amount is 2 times the average bill (averaged over the last 12 months). This is true regardless of the type of customer or debt.
- The system should automatically refund a deposit to a customer after:
  - The deposit has been held for at least 6 months; and
  - The account's credit rating is greater than the credit rating threshold defined on the installation record (i.e., the credit rating is no longer considered bad)

  This is true regardless of the type of customer or debt.
- Interest is calculated every 6 months. The interest rate is defined using a bill factor (refer to Setting Up Bill Factors for more information). This is true regardless of the type of customer or debt.
- When it's time to refund a refund a deposit, all outstanding debt will be paid off first. If any moneys remain, a check should be sent to the customer for the remainder. This is true regardless of the type of customer or debt.
- A customer could have both regulated and unregulated debt under a single account. When this happens, separate deposits will be held for each type of debt (where the regulated deposit can only be used to satisfy regulated debt and the unregulated deposit can only be used to satisfy unregulated debt).

You'd need the following deposit classes to satisfy the above requirement:

Deposit Class	Recommended Amount Rule	Auto Refund Condition	Interest Rules	Deposit Refund Method
Regulated	2 x Average Bill	Held for 6 months and credit rating is good	Simple interest every 6 months	Apply to outstanding debt first, refund remainder with a check
Unregulated	2 x Average Bill	Held for 6 months and credit rating is good	Simple interest every 6 months	Apply to outstanding debt first, refund remainder with a check

You may wonder why two deposit classes are needed when the rules are the same for both? Well, besides defining the applicable business rules for a deposit service agreement, a deposit class is defined on the SA types whose debt is covered by the deposit class' deposit. So, if you have two different types of debt where each type of debt can have its own deposit, you'd need at two deposit classes. Each deposit class would be associated with the service agreements that are being secured by the deposit.

Refer to Setting Up Deposit Classes for a description of the various algorithms defined in respect of a deposit class.

Setting Up Deposit Classes

In the previous section, Designing Your Deposit Classes, we presented a case study that illustrated a mythical organization's deposit classes. In this section, we explain how to maintain your Deposit Classes.

Contents

Deposit Class - Main

To set up deposit classes, select **Admin Menu**, **Deposit Class**.

Description of Page

Enter an easily recognizable **Deposit Class** and **Description**.

Use **Refund Description on Bill** to define the information that appears on the bill segment produced when it's time to refund the customer's deposit.

The remaining information on this page is used by the various deposit-oriented processes.

Refer to Deposit Class – Good Customer for information about the **Good Customer Algorithm**.

Refer to Deposit Class – Recommendation for information about the **Recommendation Algorithm** and **Review Tolerance Percentage**.

Refer to Deposit Class – Refund Method for information about the **Refund Method Algorithm**.

Refer to Deposit Class – Refund Criteria for information about the **Refund Criteria Algorithm**.

Refer to Deposit Class – Refund Interest for information about the **Interest Refund Algorithm** and **Months Between Interest Refund**.

Refer to Deposit Class - Review Method for information about the **Review Method Algorithm**.

Where Used

Follow this link to open the data dictionary where you can view the tables that reference CI_DEP_CL.

Deposit Class - Good Customer

On Deposit Class – Main you must define the **Good Customer Algorithm** used by the system when it determines if a customer is considered good (the system recommends new / additional deposits for bad customers). Refer to Deposit Review for a description of the background process that reviews customers for adequate deposits.

If you haven't done so already, you must set up this algorithm in the system. To do this:

- Create a new algorithm (refer to Setting Up Algorithms).
- On this algorithm, reference an Algorithm Type that determines if a customer is considered good. Click here to see the algorithm types available for this plug-in spot.

Deposit Class - Recommendation

On Deposit Class – Main you must define the **Recommendation Algorithm** used by the system when it calculates a customer's recommended deposit amount.

If you haven't done so already, you must set up this algorithm in the system. To do this:

- Create a new algorithm (refer to Setting Up Algorithms).
- On this algorithm, reference an Algorithm Type that recommends deposits. Click here to see the algorithm types available for this plug-in spot.

The system uses the **Review Tolerance Percentage** to prevent the recommendation of small deposits by the Deposit Review background process. For example, if this field contains 10(%), the system would only recommend an additional deposit if the recommended amount was more than 10% of the existing deposit.

Deposit Class - Refund Method

On Deposit Class – Main you must define the **Refund Method Algorithm** used by the system when it refunds a deposit to the customer.

If you haven't done so already, you must set up this algorithm in the system. To do this:

- Create a new algorithm (refer to Setting Up Algorithms).
- On this algorithm, reference an Algorithm Type that refunds a deposit to a customer. Click here to see the algorithm types available for this plug-in spot.

Deposit Class - Refund Criteria

On Deposit Class – Main you must define the **Refund Criteria Algorithm** used by the system when it determines if it should automatically refund a deposit to a customer. Refer to Deposit Review for a description of the background process that reviews deposits for refunds.

If you haven't done so already, you must set up this algorithm in the system. To do this:

- Create a new algorithm (refer to Setting Up Algorithms).
- On this algorithm, reference an Algorithm Type that determines if a customer qualifies for a deposit refund. Click here to see the algorithm types available for this plug-in spot.

Deposit Class - Refund Interest

On Deposit Class – Main you must define the **Interest Refund Algorithm** to define how the system calculates interest and how it refunds the interest to the customer.

If you haven't done so already, you must set up this algorithm in the system. To do this:

- Create a new algorithm (refer to Setting Up Algorithms).
- On this algorithm, reference an Algorithm Type that calculates interest on a deposit. Click here to see the algorithm types available for this plug-in spot.

Interest will be automatically calculated every X months where X is defined in **Months Between Interest Refund**. Refer to Deposit Interest for a description of the background process that calculates interest on deposits. Also note that interest is calculated when a deposit service agreement is stopped.

Deposit Class - Review Method

On Deposit Class – Main you must define the **Review Method Algorithm** used by the system to determine what action to take if the system recommends a deposit (or additional deposit) amount for an account. Refer to Review Deposits for a description of the background process that reviews deposits for refunds. The algorithm supplied with the base product highlights new deposits and deposit amounts on the Deposit Review page.

If you haven't done so already, you must set up this algorithm in the system. To do this:

- Create a new algorithm (refer to Setting Up Algorithms).

- On this algorithm, reference an Algorithm Type that determines the review method the system uses if it recommends a deposit or additional deposit be applied to an account. Click here to see the algorithm types available for this plug-in spot.

Setting Up Non-Cash Deposit Types

Non-cash deposit types are used to indicate the type of monetary instrument used for non-cash deposits. Refer to Non-Cash Deposits for more information.

To define your non-cash deposit types, select **Admin Menu, Non-Cash Deposit Type**.

Description of Page

To modify a non-cash deposit type, move to a field and change its value.

To add a new non-cash deposit type, insert a row, then fill in the information for each field. The following fields display:

Non-Cash Deposit Type The unique identifier of the non-cash deposit type.

Description The description of the non-cash deposit type.

Review Before Expiration This switch indicates if the system will create a To Do entry when non-cash deposits of this type are close to expiration.

Third Party Deposit This switch indicates if the system requires a reference to a 3rd party's deposit service agreement for this type of non-cash deposit. Refer to 3rd Party Deposits for more information.

Where Used

Follow this link to open the data dictionary where you can view the tables that reference CI_NCD_TYPE.

Setting Up Payment Segment Types

Every service agreement references a service agreement (SA) type. Amongst other things, the SA type references a payment segment type. The payment segment type controls how payment segments and their related financial transactions are created. To set up payment segment types, open **Admin Menu, Payment Segment Type**.

Description of Page

Enter an easily recognizable **Payment Segment Type** and **Description** for every type of payment segment.

For more information about the source of the distribution codes on financial transactions, see The Source Of GL Accounts On Financial Transactions.

For each payment segment type, define the **Payment Segment Fin Algorithm**. The logic embedded in this algorithm constructs the actual financial transaction associated with the payment segment. Refer to Examples of Common Payment Segment Types for examples of how algorithms are used on common payment segment types.

If you haven't done so already, you must set up this algorithm in the system. To do this:

- Create a new algorithm (refer to Setting Up Algorithms).
- On this algorithm, reference an Algorithm Type that constructs the payment segment financial transaction in the appropriate manner. Click here to see the algorithm types available for this plug-in spot.

> For more information about current and payoff amount, see Current Amount versus Payoff Amount.

Examples of Common Payment Segment Types

The following table shows several classic payment segment types used by many organizations:

Payment Segment Type	Payment Segment Financial Transaction Algorithm
Normal payment (if you practice accrual accounting). Refer to Accrual versus Cash Accounting for more information.	Payoff = Pay Amount / Current = Pay Amount (no cash accounting)
Normal payment (if you practice cash accounting). Refer to Accrual versus Cash Accounting for more information.	Payoff = Pay Amount / Current = Pay Amount (plus Cash Accounting)
Charity payment	Payoff =0 / Current = Pay Amount (the GL is affected)
Non-CIS Payments (When the FT is created, the distribution code and GL account to credit is retrieved from the pay). Refer to Non CIS Payments for more information	Payoff = Pay Amount / Current = Pay Amount (no cash accounting)

Where Used

Follow this link to open the data dictionary where you can view the tables that reference CI_PAY_SEG_TYPE.

Designing And Defining Adjustment Types

A service agreement's debt may be changed with an adjustment. Every adjustment must reference an adjustment type. The adjustment type contains a great deal of information that is defaulted onto the adjustment, including whether the adjustment amount is calculated. It also controls many business processes associated with the adjustment. The topics in this section describe how to design and set up adjustment types.

Contents

What Do Adjustment Types Do?

An adjustment type contains the business rules that govern how its adjustments are managed by the system. Please refer to The Big Picture Of Adjustments for a complete description of how adjustment types impact the lifecycle of adjustments.

Setting Up Adjustment Types

The topics in this section describe how to set up adjustment types.

When a new adjustment type is added. When you introduce a new adjustment type, you must update one or more adjustment profiles with the new adjustment type. Why? Because adjustment profiles define the adjustment types that may be levied on service agreements (adjustment profiles are defined on SA types). If you don't put the adjustment type on an adjustment profile, the adjustment type can't be used on any adjustment.

Contents

Adjustment Type - Main

To set up adjustment types, open **Admin Menu, Adjustment Type**.

Description of Page

Enter a unique **Adjustment Type** ID and **Description** for the adjustment type.

The **Adjustment Amount Type** indicates whether the adjustment about is calculated or not. Select ***Calculated Amount*** when you want to use a rate to perform calculations to generate the adjustment amount otherwise select ***Non-Calculated Amount***. Refer to Setting Up Calculated Adjustment Types for more information about calculated adjustments.

Enter the **Distribution Code** that references the GL account associated with the adjustment. For example, if this adjustment type is used to levy a charge for a bad check, the distribution code would reference the revenue account to which you associate such revenue. Note, the offsetting distribution code is kept on the SA type.

Distribution Code for Calculated Adjustments. Depending on the algorithm used for the calculated adjustment, the distribution code may come from the adjustment type or the calculation lines of the algorithm. If the adjustment's calculation algorithm gets the distribution code from the calculation lines, you do not need to specify a distribution code on the adjustment type.

For more information about the source of the distribution codes on financial transactions, see The Source Of GL Accounts On Financial Transactions.

Enter the **Currency Code** for adjustments of this type.

Turn on **Sync. Current Amount** if adjustments of this type exist to force a service agreement's current balance to equal its payoff balance. These types of adjustments are issued before a service agreement's funds are transferred to a write-off service agreement. If this switch is on, choose an **Adjustment Fin Algorithm** that does not impact payoff balance or the GL, but does affect the SA's current balance (refer to ADJT-CA for an example of such an algorithm).

Enter a **Default Amount** if an amount should be defaulted onto adjustments of this type.

> For more information about current and payoff amounts, refer to Current Amount versus Payoff Amount.

If the AP Adjustment should be recorded in respect of the customer's 1099 amounts, indicate the **A/P 1099 Flag**. This would typically be used on the adjustment used to credit the deposit service agreement with accrued interest. The values of this field are ***Interest*** and ***Miscellaneous***. This type of adjustment would also have an **A/P Request Type Code** selected, as 1099 reporting is handled in A/P.

Turn on **Print By Default** if information about adjustments of this type should print on the account's next bill.

Choose an **A/P Request Type Code** if this adjustment is interfaced to accounts payable (i.e., it's used to send a refund check to a customer). Refer to A/P Check Request for more information.

The **Adjustment Freeze Option** defines when adjustments can be frozen and therefore when a service agreement's balance and the general ledger are affected by an adjustment. Refer to Preventing SA Balances And The GL From Being Impacted Until Bill Completion to understand the significance of this option. Also note, if the installation option's Bill Segment Freeze Option is ***Freeze At Will***, this field is defaulted to ***Freeze At Will*** and cannot be changed.

> Warning! Adjustment types for adjustments created during bill completion (e.g., by a bill completion algorithm) must have their adjustment freeze option set to *Freeze At Will*. Otherwise (i.e., if the option is *Freeze At Bill Completion*) they will not be frozen until a subsequent bill is completed.

If adjustments of this type require approval, define an **Approval Profile**. For more information, refer to The Big Picture of Adjustment Approvals.

Enter the verbiage to appear on the printed bill in **Description on Bill**.

Use the characteristics collection to define a **Characteristic Type** and **Characteristic Value** common to all adjustments of this type. These can be used for reporting purposes or in your algorithms.

Adjustment Type - Adjustment Characteristics

To define characteristics that can be defined for adjustments of a given type, open **Admin Menu, Adjustment Type** and navigate to the **Adjustment Characteristics** tab.

Description of Page

Use the **Adjustment Characteristics** collection to define characteristics that can be defined for adjustments of a given type. Turn on the **Required** switch if the **Characteristic Type** must be defined on adjustments of a given type. Enter a **Characteristic Value** to use as the default for a given **Characteristic Type** when the **Default** switch is turned on. Use **Sequence** to control the order in which characteristics are defaulted.

Adjustment Type - Algorithms

To define algorithms for adjustments, open **Admin Menu, Adjustment Type** and navigate to the **Algorithms** tab.

Description of Page

The grid contains **Algorithms** that control important adjustment functions. If you haven't already done so, you must set up the appropriate algorithms in your system. You must define the following for each algorithm:

- Specify the **System Event** with which the algorithm is associated (see the table that follows for a description of all possible events).
- Specify the **Sequence Number** and **Algorithm** for each system event. You can set the **Sequence Number** to 10 unless you have a **System Event** that has multiple **Algorithms**. In this case, you need to tell the system the **Sequence** in which they should execute.

The following table describes each **System Event**.

System Event	Optional / Required	Description
Adjustment Cancellation	Optional	When an adjustment is canceled an algorithm of this type may be called to do additional work. Refer to The Lifecycle Of An Adjustment for more information about canceling an adjustment. Click here to see the algorithm types available for this system event.
Adjustment Freeze	Optional	When an adjustment is frozen an algorithm of this type may be called to do additional work. Refer to The Lifecycle Of An Adjustment for more information about freezing an adjustment. Click here to see the algorithm types available for this system event.
Adjustment Information	Optional	We use the term "Adjustment information" to describe the basic information that appears throughout the system to describe an adjustment. The data that appears in "Adjustment information" is constructed using this algorithm. Plug an algorithm into this spot to override the "Adjustment information" algorithm on installation options or the system default "Adjustment information" if no such algorithm is defined on installation options. Click here to see the algorithm types available for this system event.
Adj. Financial Transaction	Required	Algorithms of this type are used to construct the actual financial transaction associated with the adjustment. The financial transaction controls the adjustment's affect on the service agreement's payoff and current balances. It also constructs the information that is eventually interfaced to your general ledger. Refer to Examples of Common Adjustment Types for examples of how algorithms are used on common adjustment types. Click here to see the algorithm types available for this system event.
Default Adjustment Amount	Optional	Algorithms of this type are used to default the adjustment amount. Refer to Default the Adjustment Amount for more information. Click here to see the algorithm types available for this system event.
Determine SA	Optional	Algorithms of this type are used to find a service agreement for which the

		adjustment can be posted. This plug-in is used particularly during adjustment upload when a staging record does not identify the SA ID. Refer to Interfacing Adjustments From External Sources for more information. Click here to see the algorithm types available for this system event.
Resolve Suspense	Optional	Algorithms of this type are used to automatically resolve adjustments that are in suspense. Refer to Suspense Adjustments for more information Click here to see the algorithm types available for this system event.
Generate Adjustment	Optional	Algorithms of this type are used to calculate the adjustment amount if an adjustment type indicates that the adjustment amount is calculated. Refer to Setting Up Calculated Adjustment Types for more information. Click here to see the algorithm types available for this system event.
Validate Adjustment	Optional	Algorithms of this type are used to validate information for the adjustment after it is generated. Click here to see the algorithm types available for this system event.

Setting Up Calculated Adjustment Types

You can use an algorithm to calculate an adjustment amount for example if you need to calculate tax on a base amount or calculate a non-sufficient funds charge based on the customer's credit rating. Because the base package algorithm calculates adjustment amounts by calling the rate application, calculated adjustments are sometimes referred to as ratable adjustments.

Ratable Adjustments Appear Deceptively Simple. But, they are not. Calculated adjustments that use the base package algorithm have all the power and flexibility (and complexity) of the rate application. Anything that you can do with a rate can be applied to a calculated adjustment. For examples that illustrate the flexibility of the rate application (and therefore calculated adjustments), refer to Rate Examples.

Adjustment types that indicate they are calculated have a generate adjustment algorithm. The base package algorithm defines the rate schedule used to calculate the adjustment as well as any UOM, TOU or SQI parameters.

To set up calculated adjustment types using the base package generate adjustment algorithm type:

- Define the rate that performs the calculations, including the rate schedule, rate version and rate components. Refer to How To Create A New Rate for information.

Note. If you create your own Generate Adjustment algorithm type, you may not need to set up a rate that performs the calculations. It depends on the needs of your algorithm type.

- Create a Generate Adjustment algorithm (refer to Setting Up Algorithms) that references the base package algorithm type that generates calculated adjustments (see the table above).

- If you want the generation algorithm's calculation lines to provide the distribution codes when the adjustment is posted to the GL, create an Adjustment Financial Transaction algorithm (refer to Setting Up Algorithms) that references an algorithm type that creates the adjustment's financial transactions using the calculation lines. A parameter of the adjustment financial transaction algorithm determines whether the distribution codes are taken from the adjustment type (AT) or calculation lines (CL). The system comes supplied with several sample algorithm types that create adjustment financial transactions.
- Create an adjustment type where the **Adjustment Amount Type** is ***Calculated Amount***, the ***Generate Adjustment*** event references the generation algorithm created above, and the ***Adj. Financial Transaction*** event references the adjustment financial transaction algorithm created above.

Examples of Common Adjustment Types

The following table shows several classic adjustment types used by many organizations:

Adjustment Type	Typical Distribution Code	Default Amount	Financial Transaction Algorithm	Print On Bill	A/P Adjust-ment	1099
NSF	NSF revenue	Your NSF fee	Payoff = Current = Adj. Amt Refer to ADJT-NM for an example of such an algorithm type	Yes	No	No
LPC	Late payment charge revenue	N/A	Payoff = Current = Adj. Amt Refer to ADJT-NM for an example of such an algorithm type	Yes	No	No
CONNECT	Connection charge revenue	Your connection charge	Payoff = Current = Adj. Amt Refer to ADJT-NM for an example of such an algorithm type	Yes	No	No
CUSTREL	Customer relationship expense	N/A	Payoff = Current = Adj. Amt Refer to ADJT-NM for an example of such an algorithm type	Yes	No	No
ADDCHARG	Misc Revenue	N/A	Payoff = Current = Adj. Amt Refer to ADJT-NM for an example of such an algorithm type	Yes	No	No
XFER	Balance transfer clearing	N/A	Payoff = Current = Adj. Amt Refer to ADJT-NM for an example of such an algorithm type	Yes	No	No
WO SYNC	N/A	N/A	Payoff = 0 / Current = Adj. Amt Refer to ADJT-CA for an example of such an algorithm type	No	No	No

Adjustment Type	Typical Distribution Code	Default Amount	Financial Transaction Algorithm	Print On Bill	A/P Adjust-ment	1099
REFUNDAP	A/P clearing	N/A	Payoff = Current = Adj. Amt Refer to ADJT-NM for an example of such an algorithm type	Yes	Yes	No
DPA FIX	N/A	N/A	Payoff = 0 / Current = Adj. Amt Refer to ADJT-CA for an example of such an algorithm type	Yes	No	No
CHARITFX	N/A	N/A	Payoff = 0 / Current = Adj. Amt Refer to ADJT-CA for an example of such an algorithm type	Yes	No	No
BUDG ON	N/A	N/A	Payoff = 0 / Current = Adj. Amt Refer to ADJT-CA for an example of such an algorithm type	Yes	No	No
BUDG OFF	N/A	N/A	Payoff = 0 / Current = Adj. Amt Refer to ADJT-CA for an example of such an algorithm type	Yes	No	No
BUDG FIX	N/A	N/A	Payoff = 0 / Current = Adj. Amt Refer to ADJT-CA for an example of such an algorithm type	Yes	No	No
DEPOSREF	N/A	N/A	Payoff = 0 / Current = Adj. Amt Refer to ADJT-CA for an example of such an algorithm type	Yes	No	No
DEPOSINT	Interest expense	N/A	Payoff = Current = Adj. Amt. Refer to ADJT-NM for an example of such an algorithm type. Or Payoff Amt = Adj Amt / Current Amt = 0. Refer to ADJT-TA for an example of such an algorithm type. Use the first method if you want to have the interest reflected as a credit balance on the customer's bill. Use the second	Yes	No	Yes

Adjustment Type	Typical Distribution Code	Default Amount	Financial Transaction Algorithm	Print On Bill	A/P Adjust-ment	1099
			method if you roll the interest amount into the customer's existing deposit on hand.			
DEPFIXCR	N/A	N/A	Payoff = 0 / Current = Adj. Amt Refer to ADJT-CA for an example of such an algorithm type	No	No	No

Where Used

Follow this link to open the data dictionary where you can view the tables that reference CI_ADJ_TYPE.

Setting Up Adjustment Type Profiles

Adjustment type profiles categorize your adjustment types into logical groups. When you link a profile to a SA type, you limit the type of adjustments to be linked to the SA type's service agreements. The creation of adjustment profiles and their linkage to SA types prevents inappropriate adjustments from being linked to your service agreements. More than one adjustment type profile may be linked to a SA type.

For example, you can create an adjustment type profile called ***Miscellaneous Fees*** and link to it the miscellaneous fee adjustment types. Then, you would link this profile to those SA types that are allowed to levy such fees.

Bottom line. An adjustment can only be linked to a service agreement if its adjustment type is part of an adjustment type profile that is valid for the service agreement's SA type. If an adjustment type is not linked to a profile, it could never be levied.

To set up adjustment type profiles, open **Admin Menu, Adjustment Type Profile**.

Description of Page

Enter a unique **Adjustment Type Profile** and **Description** for the adjustment type profile.

Indicate the **Adjustment Types** that are part of the profile.

Examples Of Common Adjustment Profiles

The following table shows several classic adjustment profiles used by many organizations (we've displayed some attributes from the adjustment type in the following table to help make it more understandable):

Adjustment Profile	Adjustment Type	Typical Distribution Code	Default Amount	Financial Transaction Algorithm
FEES	NSF	NSF revenue	Your NSF fee	*Payoff Amt = Adj Amt / Current Amt = Adj Amt*
	LPC	Late payment charge revenue	Your LPC	*Payoff Amt = Adj Amt / Current Amt = Adj Amt*

Adjustment Profile	Adjustment Type	Typical Distribution Code	Default Amount	Financial Transaction Algorithm
	CONNECT	Connection charge revenue	Your connection charge	*Payoff Amt = Adj Amt / Current Amt = Adj Amt*
MISCEXP	CUSTREL	Customer relationship expense	N/A	*Payoff Amt = Adj Amt / Current Amt = Adj Amt*
XFER	TRANSBAL	Balance transfer clearing	N/A	*Payoff Amt = Adj Amt / Current Amt = Adj Amt*
REFUND	REFUND	A/P clearing	N/A	*Payoff Amt = Adj Amt / Current Amt = Adj Amt*
DPA	ADJCURR	N/A	N/A	*Payoff Amt = 0 / Current Amt = Adj Amt*
	SYNCCURR	N/A	N/A	*Payoff Amt = 0 / Current Amt = Adj Amt*
CHARITY	CHAR FIX	N/A	N/A	*Payoff Amt = 0 / Current Amt = Adj Amt*
BUDGET	BUDG ON	N/A	N/A	*Payoff Amt = 0 / Current Amt = Adj Amt*
	BUDG OFF	N/A	N/A	*Payoff Amt = 0 / Current Amt = Adj Amt*
	BUDG FIX	N/A	N/A	*Payoff Amt = 0 / Current Amt = Adj Amt*
	FIX PAY	Customer relationship expense	N/A	*Payoff Amt = Adj Amt / Current Amt = 0*
DEPOSIT	DEPOSBILL	N/A	Your standard deposit amount	*Payoff Amt = 0 / Current Amt = Adj Amt*
	DEPOSINT	Interest expense	N/A	*Payoff Amt = Adj Amt / Current Amt = Adj Amt*
	SYNCCURR	N/A	N/A	*Payoff Amt = 0 / Current Amt = Adj Amt*
	ADJCUR	N/A	N/A	*Payoff Amt = 0 / Current Amt = Adj Amt*

Where Used

Follow this link to open the data dictionary where you can view the tables that reference CI_ADJ_TYP_PROF.

The Big Picture Of Adjustment Approval

Some implementations require adjustments to be approved by one or more managers before they impact a customer's debt and the general ledger. For example, an adjustment used to rebate a credit balance may require managerial approval before the rebate is sent to the customer. The topics in this section describe how to set up the system to support the approval of adjustments.

Contents

Exploring Adjustment Approval Data Relationships
Implementing Other Approval Paradigms

Approval Is Controlled By Approval Profiles

An approval profile contains the rules that define if and how an adjustment is approved. If an adjustment type does not reference an approval profile, the related adjustments do not require third-party approval before they impact a customer's debt. If an adjustment type references an approval profile, the approval profile's approval hierarchy defines if the adjustment requires approval and who the authorized approvers are. For example, an approval profile can be configured with the following approval hierarchy:

- Adjustments < $0 require approval by the "credit approvers role"
- Adjustments >= $0 and <= $10 do not require approval
- Adjustments > $10 and <= $100 require the approval of a user that belongs to the "level 1 approvers role"
- Adjustments > $100 require two levels of approval: first a user that belongs to the "level 1 approvers role" must approve the adjustment; afterwards, the adjustment must be approved by a user that belongs to the "level 2 approvers role"

Transfer adjustments. The term "transfer adjustment" refers to two adjustments that are used to transfer moneys between two service agreements. The adjustment with the positive amount is considered to be the debit adjustment; the other adjustment is considered the credit adjustment. When a transfer adjustment requires approval, only one of the adjustments needs to be approved. You control whether the debit side or the credit side of a transfer adjustment is used to control the approval process when you set up the approval profile.

Approval Profiles Can Be Linked To Multiple Adjustment Types

Approval hierarchies are frequently the same for many adjustment types. The system allows an approval profile to be linked to multiple adjustment types to simplify the definition and maintenance of the rules over time.

Adjustments Created In Batch Are Not Approved

The system assumes that no approval is necessary for adjustments created by batch processes even those whose adjustment type references an approval profile.

Approval Inserts A Step Into An Adjustment's Lifecycle

The Lifecycle Of An Adjustment explains how an adjustment is transitioned from the ***Freezable*** state to the ***Frozen*** state when it should impact the general ledger and the customer's balance. If an adjustment's adjustment type references an approval profile, the user cannot freeze the adjustment directly. Rather, the user must submit the adjustment for approval when it's ready and only when the last applicable approver approves the adjustment will it become ***Frozen***.

Freeze during bill completion. You can configure the system to only freeze certain types of adjustments when the next bill is completed for the adjustment's account. When the last approver approves such adjustments, they remain in the ***Freezable***. When the next bill is completed for the account, these adjustment become ***Frozen***. Such adjustments that have not been approved at the time of bill completion will remain in the ***Freezable*** state. Refer to Preventing SA Balances And The GL From Being Impacted Until Bill Completion for more information.

Approval Requests Manage And Audit The Approval Process

Users submit an adjustment for approval using a dedicated button on the Adjustment page. When an adjustment is submitted for approval, the system creates an "approval request". The approval request determines if the adjustment requires approval and, if so, the list of approvers. If the adjustment does not require approval, the approval request is updated to indicate such and the adjustment is ***Frozen*** immediately (if freezing is allowed prior to bill completion). If the adjustment requires approval, the approval request's state becomes ***Approval In Progress*** and the approver(s) are notified.

Approval submission logic is customizable. The previous paragraph describes how the base-package works when an adjustment is submitted for approval. This logic resides in an algorithm that's plugged in on the ***C1-AdjustmentApprovalProfile*** business object in the ***Determine Approval Requirements*** system event. Your implementation can change this logic by developing a new algorithm and plugging it into this business object. If your logic is meant to supersede the base-package algorithm, remember to inactivate the base-package algorithm by adding an appropriate inactivation option to this business object.

To Do Entries Are Created To Notify Approvers

When an approval request detects an adjustment requires approval, it notifies the first approver by creating a To Do entry. The To Do entry is created using the To Do type and To Do role defined on the approval profile. All users who belong to the approving To Do role can see the entry. When a user drills down on an adjustment approval To Do entry, the Adjustments - Approval portal is opened. This portal contains summary information about the adjustment and the approval history of the adjustment. This portal is also where the user approves or rejects the adjustment.

When the first user in the To Do role approves an adjustment, the To Do entry is ***Completed*** and the approval request's audit log is updated. If there are no higher levels of approval required, the adjustment is ***Frozen*** (if freezing is allowed prior to bill completion) and the approval request is moved to the ***Approved*** state. If there are higher levels of approval required, a new To Do entry is created to the next To Do role in the approval hierarchy.

To Do entries can create email. A To Do entry can be configured to create an email message for every user in the To Do role to inform the user(s) of new adjustments requiring their attention. Refer to To Do Entries May Be Routed Out Of The System for the details.

Monitoring and Escalating Approval Requests

The base-package is supplied with an algorithm that your implementation can use to monitor approval requests that have been waiting too long for approval. This algorithm can complete the current To Do entry and create a new one for a different role when the timeout threshold defined on the algorithm's parameters is exceeded. If you've configured the system to send email for approval, this algorithm can also send x reminder emails (where x is defined on the algorithm's parameters) before the approval request is escalated to the new To Do role. Refer to C1-APR-TMOUT for more information about this algorithm. If you plan to enable this functionality, plug-in your configured algorithm on the ***Approval In Progress*** state on the ***C1-AdjustmentApprovalRequest*** business object.

Rejecting Deletes The Adjustment

When an adjustment is being approved, anyone with access to the adjustment can reject it by using the Adjustments - Approval portal. Users other than the current approver are allowed to reject an adjustment to allow an "in process" an adjustment to be withdrawn.

When an adjustment is rejected, the following takes place:

- The user is prompted for a reject reason.
- The approval request's audit log is updated with the reject reason and the approval request is moved to the ***Rejected*** state.
- The adjustment is deleted.

Designing Your Approval Profiles

The following points describe a recommended design process:

- Create logical groups of adjustment types where each group has the same monetary hierarchy and approvers. An approval profile will be required for each of these groups.
- The number of To Do types (if any) that need to be created is dependent on how the adjustment approval To Do entries should be organized on To Do lists. For example, if all approval request To Do entries can appear in the same To Do list, you can use the base-package adjustment approval To Do type. However, if your organization prefers each approval profile's To Do entries to appear in a distinct To Do list, a separate To Do type will be needed for each list. Note that the base-package is supplied with a To Do type called C1-ADAPP that should be used as the basis for any new approval request To Do type.
- The number of To Do roles is dependent on who approves your adjustments. At a minimum, you will require a separate To Do role for each level in your approval profiles. Remember that every user in a To Do role will see its entries (and receive email if you've configured the system to do such).
- Refer to Monitoring and Escalating Approval Requests for how to configure the system to escalate approval requests that have been waiting too long.
- If your implementation requires email notification when an adjustment requires approval, the following setup is required:
  - Set up an outbound message type, external system, and XAI sender. Refer to To Do Entries May Be Routed Out Of The System for the details.
  - Every To Do type referenced on your approval profiles should be configured as follows:
    - Define the F1-TDEER batch process as the To Do type's routing process

- Set up an algorithm that references the C1-ADJAREQEM algorithm type and plug it in the ***External Routing*** system event.

Exploring Adjustment Approval Data Relationships

Use the following links to open the application viewer where the physical tables and data relationships behind the approval functionality are documented:

- Click C1-APPR PROF to view the approval profile maintenance object's tables.
- Click C1-APPR REQ to view the approval request maintenance object's tables.

Implementing Other Approval Paradigms

The above sections describe how the base-package adjustment approval process works. Because adjustment approval has been implemented using the ***C1-AdjustmentApprovalProfile*** and the ***C1-AdjustmentApprovalRequest*** business objects, your implementation can add additional business rules and change the approval user interface as required. Alternatively, if your implementation has a radically different approval process, you can create a different business objects with their own business rules. To learn how to do this, please enroll in the Configuration Tools training class.

Setting Up Approval Profiles

Approval profiles contain the rules that control how adjustments are approved. To set up an approval profile, open **Admin Menu, Approval Profile**.

> Refer to The Big Picture Of Adjustment Approval for a detailed description of how approval profiles govern the adjustment approval process.

The topics in this section describe the base-package zones that appear on the Approval Profile portal.

Contents

Approval Profile List

The Approval Profile List zone lists every approval profile. The following functions are available:

- Click a broadcast button to open other zones that contain more information about the adjacent approval profile.
- Click the ***Add*** link in the zone's title bar to add a new approval profile.

Approval Profile

The Approval Profile zone contains display-only information about an approval profile. This zone appears when an approval profile has been broadcast from the Approval Profile List zone or if this portal is opened via a drill down from another page. The following functions are available:

- Click the **Edit** button to start a business process that updates the approval profile.
- Click the **Delete** button to start a business process that deletes the approval profile.

- Click the **Duplicate** button to start a business process that duplicates the approval profile.

Please see the zone's help text for information about this zone's fields.

Approval Profile's Adjustment Types

The Approval Profile's Adjustment Types zone lists every adjustment type that is governed by this approval profile. This zone appears when there is at least one adjustment type governed by the approval profile displayed in the Approval Profile zone:

To add an adjustment type to this list:

- Navigate to the Adjustment Type page and display the desired adjustment type.
- Specify the governing approval profile and update the adjustment type.

To remove an adjustment type from this list:

- Navigate to the Adjustment Type page and display the desired adjustment type.
- Change or remove its approval profile and update the adjustment type.

Designing and Defining Budget Plans

If you allow your customers to pay a budget amount each month (as opposed to their actual bill amount), you must set up one or more budget plans. If your company does not offer budget billing options, you can skip this section.

The topics in this section describe how to design and set up budget plans.

Contents

The Financial Impact Of Budget Plans

The only difference between a customer who participates in budget billing and one who doesn’t is that budget billing customer have bill segments where payoff amount differs from current amount. Why? Because the payoff amount is the actual amount of the bill. The current amount is the amount the customer is expected to pay (i.e., their budget amount).

Let’s run through an example of a customer on a budget to illustrate a service agreement where these two balances are not the same. The values in the payoff balance and current balance columns reflect the amount due after the financial transaction has been applied:

Date	Financial Transaction	Payoff Balance	Current Balance
1-Jan-99	Bill: $125, Budget $150	125	150
15-Jan-99	Payment: $150	-25	0
2-Feb-99	Bill: $175, Budget $150	150	150
14-Feb-99	Payment: $150	0	0

3-Mar-99	Bill: $200, Budget $150	200	150
15-Mar-99	Payment: $150	50	0

For more information about current and payoff amounts, refer to Current Amount versus Payoff Amount.

What Do Budget Plans Do?

A budget plan contains the business rules that govern:

- How the recommended budget amount is calculated.
- When and how a customer on an ongoing budget plan will have their budget amount periodically trued up.
- The conditions under which the system will highlight an existing budget amount as being anomalous with the customer's current use patterns.

You may have different budget plans for different customer segments. For example, customers with large bills may have their budget amount recalculated every month, whereas small customers may have their budget amount only recalculated annually. You define which budget plans govern a customer's bills via a **budget plan on the customers' accounts**. An account's initial budget plan is defaulted from its customer class. You may override an account's budget plan at will.

Designing Your Budget Plans

Refer to Budget Billing for background information about budget billing.

A budget plan contains the business rules that govern:

- How the recommended budget amount is calculated.
- When and how a customer on an ongoing budget plan will have their budget amount periodically trued up.
- The conditions under which the system will highlight an existing budget amount as being anomalous with the customer's current use patterns.

You will need multiple budget plans if any of the above rules / conditions differ for different types of customers. For example, if residential customers use a different recommended budget algorithm as compared to commercial customers, you'd need one budget plan for residential and another for commercial.

We'll design budget plans to satisfy the needs of a theoretical company to help you understand how to design your budget plans. The following points describe the budget requirements of our theoretical company:

- The recommended budget amount is the last year's real bill amounts plus any existing debit/credit balance divided by 12. This is true regardless of the type of customer.
- The frequency of budget true up is monthly for commercial customers and annually for residential customers.

- The system should highlight when a residential customer's budget is more than 30% out of whack with what their budget amount would be if it was recalculated.
- The system should highlight when a commercial customer's budget is more than 20% out of whack with what their budget amount would be if it was recalculated.

You'd need the following budget plans to satisfy the above requirement:

Budget plan	Recommended Amount Algorithm	True Up Algorithm	Monitor Algorithm
Residential	Average Bill	True up every 12 months	Highlight when more than 30% out
Commercial	Average Bill	True up every month	Highlight when more than 20% out

Refer to the Page Controls under Setting Up Budget Plans for a description of the various algorithms defined in respect of a budget plan.

Setting Up Budget Plans

In the previous section, Designing Your Budget Plans, we presented a case study that illustrated a mythical organization's budget plans. In this section, we explain how to maintain your Budget Plans.

Contents

Budget Plan - Main

To set up budget plans, select **Admin Menu, Budget Plan**.

Description of Page

Enter an easily recognizable **Budget Plan** and **Description**.

The remaining information on this page is used by the various budget-oriented processes.

Refer to Budget Plan – Calculation Algorithm for information about the **Calculation Algorithm**.

Refer to Budget Plan – Monitor Algorithm for information about the **Monitor Algorithm**.

Refer to Budget Plan – True Up Algorithm for information about the **True Up Algorithm** and **Months for True Up**.

Where Used

Follow this link to open the data dictionary where you can view the tables that reference CI_BUD_PLAN.

Budget Plan - Calculation Algorithm

On Budget Plan – Main you must define the **Calculation Algorithm** used by the system when it calculates a customer's recommended budget amount.

If you haven't done so already, you must set up this algorithm in the system. To do this:

- Create a new algorithm (refer to Setting Up Algorithms).
- On this algorithm, reference an Algorithm Type that calculates recommended budget amounts. Click here to see the algorithm types available for this plug-in spot.

Budget Plan - Monitor Algorithm

On Budget Plan – Main you must define the **Monitor Algorithm** used by the Budget Monitor background process when it determines if a customer's budget plan is out-of-sync with their consumption patterns.

What happens? If the algorithm determines that a customer's budget plan is out-of-sync with its current recommended amount, an entry is added to the Budget Review page.

If you haven't done so already, you must set up this algorithm in the system. To do this:

- Create a new algorithm (refer to Setting Up Algorithms).
- On this algorithm, reference an Algorithm Type that highlights if a customer's current budget amount is out-of-sync with their consumption patterns. Click here to see the algorithm types available for this plug-in spot.

Budget Plan - True Up Algorithm

On Budget Plan – Main you must define the **True Up Algorithm** used by the Budget True Up background process when it periodically trues up a customer's budget.

If you haven't done so already, you must set up this algorithm in the system. To do this:

- Create a new algorithm (refer to Setting Up Algorithms).
- On this algorithm, reference an Algorithm Type that trues up budget amounts. Click here to see the algorithm types available for this system event.

The system will automatically true up a customer's budget amount every X months (X is defined in **Months for True Up**).

Tender Management

When a payment is received, a tender is created to record what was remitted (e.g., cash, check, credit card). The topics in this section describe control tables that must be set up in order to remit tenders.

We strongly recommend Tender Management and Workstation Cashiering before setting up the control tables described in this section.

Contents

Setting Up Tender Types

Tender types are used to indicate the method in which the tender was made. A unique **Tender Type** must exist for every type of tender that can be remitted. For example, if you allow cash, checks, direct debits from a checking account, and direct debits from a credit card to be tendered, you'd need the following tender types:

Tender Type	Description	Like Cash	Generate Auto Pay	Require External Source ID	Require Expiration Date	External Type
CASH	Cash	Yes	No	N/A	N/A	N/A
CHEC	Check	No	No	N/A	N/A	N/A
OVUN	Cash drawer – over/under	No	No	N/A	N/A	N/A
DDCH	Direct debit - checking	No	Yes	Yes	No	*Checking withdrawal*
CRED	Direct debit – credit card	No	Yes	No	Yes	*Credit card withdrawal*

Go to **Admin Menu, Tender Type** to define your tender types.

Description of Page

Enter a unique **Tender Type** and **Description** for the tender type.

Turn on the **Like Cash** switch if this tender type is cash or the equivalent of cash. This indicator controls if the system generates a warning if a cash-only account remits a tender other than cash. It is also used to generate a warning for online cashiers to turn in their tenders when the cash-like amount exceeds the maximum amount balance defined for the tender source.

Turn on **Generate Auto Pay** if this type of tender causes an automatic payment request to be routed to a financial institution. For example, this switch will be on if this tender type is used for direct debits from a customer's checking account (because every tender of this type will have an automatic payment request created when the tender is created).

The following fields are only used for tender types associated with automatic payments:

External Type This field is used by the background process that creates the information that is interfaced to the automatic payment source. Specifically, it controls the record type associated with the different types of automatic payments that are routed to the automated clearinghouse (ACH).

Note. The values for this field are customizable using the Lookup table. This field name is EXT_TYPE_FLG.

Require Ext. Src. ID

This switch indicates if an Auto-Pay Source that references this type of tender must contain an External Source ID. The External Source ID is the unique identifier of the financial institution to which the automatic payment will be routed.

This switch is typically turned on for tender types associated with checking / saving direct debits. It is turned off for tender types associated with credit card debits (you don't need an external source for a credit card debit, you just need the credit card number).

Expiration Date Required

Turn this switch on if an Auto-Pay Option that references an auto-pay source that references this type of tender must also contain an expiration date (e.g., automatic debit / credit cards).

Turn this switch off for tender types associated with checking / saving direct debits.

Tender Authorization

Indicates that tenders of a particular type require authorization prior to being created.

Business Object

If **Tender Authorization** has a value of ***Required***, a **Business Object** must be specified for the tender type. The primary function of this **Business Object** is to manage the authorization of payment tenders.

For more information on authorizing credit card payments, refer to the ***Tender Type - Credit Card with Authorization*** business object.

Turn on **Allow Cash Back** if the system should automatically calculate a cash back amount when a tender is remitted for this tender type and the amount tender exceeds the amount being paid.

Where Used

Follow this link to open the data dictionary where you can view the tables that reference CI_TENDER_TYPE.

Setting Up Tender Sources

A unique **Tender Source** must exist for every potential source of funds. For example,

- Every cashiering station will have a unique tender source.

Default note. If your organization accepts alternate currency payments online, then a tender source must exist for each currency code accepted at the cashiering station.

- Every lock box will have a unique tender source.
- Your remittance processor will have a unique tender source.

- If you allow customers to pay bills automatically (e.g., via EFT), you'll need a tender source for each institution to which you route automatic payment requests. For example, if you route automatic payment requests to the automated clearinghouse (ACH), you'll need a tender source for the ACH.

For example, if you have 3 lock boxes, 2 cash drawers at an area office A, 2 cash drawers at area office B, and a single remittance processor, you'd need the following tender sources:

Tender Source	Type	External Source ID (Lockbox ID)	Default Starting Balance	Currency Code	Suspense Service Agreement
CASH-A01	Cashiering	N/A	150.00	USD	N/A
CASH-A02	Cashiering	N/A	150.00	USD	N/A
CASH-B01	Cashiering	N/A	150.00	USD	N/A
CASH-B02	Cashiering	N/A	150.00	USD	N/A
LB-INDUS	Lockbox	112910-A	N/A	USD	9291019281
LB-COMM	Lockbox	938219-C	N/A	USD	4739837372
LB-RESID	Lockbox	372829-B	N/A	USD	1912910192
REMIT	Lockbox	N/A	N/A	USD	1920038437
ACH	Auto Pay	N/A	N/A	USD	N/A

To set up a tender source, select **Admin Menu, Tender Source**.

Description of Page

Enter an easily recognizable **Tender Source** and **Description** for the tender source.

Define the **Tender Source Type**. Valid values are: ***Ad Hoc, Auto Pay***, ***Online Cashiering*** and ***Lockbox***. The system uses this information to prevent tender controls from different sources from being included under the same deposit control. In other words, you can't mix ad hoc, automatic payment, cashiering and lockbox tenders under the same deposit control.

For more information, refer to Maintaining Deposit Controls.

If the source is an external system (e.g., a lockbox or an automatic payment destination), use **External Source ID** to define the unique identifier of the source. The background process that interfaces tenders from this source uses this information to create the appropriate tender control when it interfaces payments from external sources.

If this source is a cash drawer, define the **Default Starting Balance**. This balance is defaulted onto new tender controls and may be overridden.

Note. The tender type of the **Start Balance** is defined on the installation record.

If this source is a cash drawer, define the **Max Amount Balance**. When the amount of cash-like tenders in a cash drawer exceeds this balance, a warning is issued to remind the cashier to turn in some of the funds to a tender control.

Define the **Currency Code** of tenders linked to this source. All tenders in a source must be of the same currency.

If this tender source is associated with payments that are interfaced from an external source (e.g., a lockbox or a remittance processor), use Suspense **Service Agreement** to define the service agreement whose account will hold uploaded payments with an invalid account. Refer to Payment Upload Error Segmentation for more information about suspense service agreements. Also note, because the payment upload process simply books payments that reference invalid accounts to the account associated with this service agreement, this account should belong to a customer class with the appropriate payment distribution algorithms. This may entail creating a new customer class that will only be used on these “suspense accounts”. This customer class would need the following algorithms:

- We’d recommend using a simple payment distribution algorithm like PYDIST-PPRTY (distribute payment based on SA type’s payment priority and the age of the debt).
- We’d recommend using an overpayment distribution algorithm like OVRPY-PPRTY (distribute overpayment to highest priority SA type).

Define the **Bank Code** and **Bank Account** into which the tender source’s moneys will be deposited. The bank account defines the distribution code used to build the GL details for the payment. Refer to The Source of GL Accounts on Financial Transactions for more information. Note that the bank code and bank account can later be overwritten when entering Tender Deposits on Deposit Control.

If this tender source is associated with payments that are interfaced from an external source, for example tender sources associated with ***Auto Pay*** and ***Lockbox*** **Tender Source Types**, the information is also used as follows:

- The payment upload process uses this information to populate the bank and bank account when it creates deposit control records for the tender controls it creates during the interface. Refer to Managing Payments Interfaced From External Sources for more information.
- The automatic payment interface uses this information to populate the bank and bank account when it creates deposit control records for the tender controls it creates during the interface.

Where Used

Follow this link to open the data dictionary where you can view the tables that reference CI_TNDR_SRCE.

Note. If your organization accepts alternate currency payments online, then a tender source must exist for each currency code accepted at the cashiering station. When a user adds a tender control the system attempts to default a tender source based on the currency of the deposit control and the tender source(s) define on the user’s record.

Refer to Alternate Currency Payments for more information.

Automatic Payment Options

If your customers can pay their bills automatically (via direct debit or credit card debits), you'll need to set up the various control tables described in this section.

Important! Besides the tables described in this section, additional values must also be added to control tables defined under Tender Management. Specifically, refer to Setting Up Tender Types and Setting Up Tender Sources.

Refer to Automatic Payments for more information about how automatic payments are handled in the system.

Contents

Setting Up Auto-Pay Route Types

Auto Pay Route Types are used to control when and how automatic payment requests are routed to a financial institution, and when the general ledger is impacted. Select **Admin Menu, Auto Pay Route Type** to define your route types.

Description of Page

To modify an auto pay route type, simply move to a field and change its value.

To add a new route type, press + to insert a row, then fill in the information for each field. The following fields display:

Route Type The unique identifier of the route type.

Description The description of the route type.

Tender Source The background process that routes automatic payment requests to a financial institution (e.g., the automated clearing house interface) will mark each automatic payment's associated tender with a tender control for audit and control purposes. The following points describe how this happens:

- When the system sees that it's time to send an automatic payment to a financial institution, it looks at the automatic payment's auto-pay source.
- Every auto-pay source references an auto-pay route type.
- Every auto-pay route type references a tender source.
- A **Tender Source** has a tender control for each group of tenders deposited / interfaced together one batch.

- The system marks each automatic payment's associated tender with the latest tender control for the **Tender Source**. The system will create a new tender control each time it routes automatic payments to the tender source. Refer to Managing Payments Interfaced From External Sources for more information about tender source and tender control.

Extract Batch Cd

This field defines the background process that interfaces the automatic payment requests to the financial institution.

Autopay Date Calculation Alg

This algorithm populates 3 dates associated with the automatic payment: 1) the date the automatic payment will be sent to the financial institution, 2) the date the general ledger will be impacted by the automatic payment, 3) the date of the payment.

If you haven't done so already, you must set up this algorithm in the system. To do this, create a new algorithm (refer to Setting Up Algorithms). On this algorithm, reference an Algorithm Type that populates automatic payment dates. Click here to see the algorithm types available for this plug-in spot.

Where Used

Follow this link to open the data dictionary where you can view the tables that reference CI_APAY_RT_TYPE.

Setting Up Auto-Pay Source Codes

A unique **Auto-Pay Source** must exist for every bank / credit card company / bill payment service that your customer's use as the source of the funds when they sign up for automatic payment. For example,

- Every bank will have a unique auto-pay source.
- Every credit card company will have a unique auto-pay source.

To set up an auto-pay source, select **Admin Menu, Auto Pay Source Type**.

Description of Page

Enter an easily recognizable **Auto Pay Source Code** and **Description** for the auto-pay source.

The **Source Name** is the name of the financial institution.

When the system creates an automatic payment request, it also creates an associated payment tender. This tender (like all tenders) must have a tender type. This field defines the **Tender Type** associated with this auto-pay source's tenders. Refer to Setting Up Tender Types for more information.

The **External Source ID** is the unique identifier of the financial institution to which the automatic payment will be routed (e.g., the bank routing ID of the bank). This field is typically blank on automatic payments routed to credit card companies because the credit card company doesn't have an external source ID (whereas direct debits from banks must have a bank routing number). Whether this field is required is controlled by the **Tender Type**.

The **Auto Pay Route Type** controls when and how automatic payment requests get routed to a financial institution. It also controls when the general ledger is impacted by the automatic payments financial transaction. Refer to Setting Up Auto-Pay Route Types for more information.

The **Work Calendar** defines the financial institution's workdays. This information is used to determine the date on which automatic payment requests will be sent to the financial institution. Refer to Setting Up External Workday Calendars for more information.

The **Validation Algorithm** defines how the system validates the customer's account ID at the financial institution. If you haven't done so already, you must set up this algorithm in the system. To do this:

- Create a new algorithm (refer to Setting Up Algorithms).
- On this algorithm, reference an Algorithm Type that validates the customer's account ID at the financial institution. Click here to see the algorithm types available for this plug-in spot.

Refer to Account – Auto Pay for more information.

Where Used

Follow this link to open the data dictionary where you can view the tables that reference CI_APAY_SRC.

Payment Advices

The topics in this section provide background information about payment advice functionality.

This section is only relevant for some organizations. The system configuration requirements described in this section are only relevant if your organization issues payment advices to the customer instead of initiating electronic funds transfer directly to the customer's bank.

Contents

What Is A Payment Advice?

Payment advice is a money order that is established at the initiative of the utility. When a bill is completed, the utility sends the customer a document that indicates a payment amount and the customer's bank details. If the customer agrees to the information on the payment advice, he/she signs it and returns it to the clearinghouse address that is indicated on the payment advice. The clearinghouse, in turn, sends the dated and signed payment advice to the customer's bank, which completes the payment.

Payment Advice vs. Direct Debit

The existing functionality that creates automatic payments is referred to as direct debit processing. Payment advice processing differs from direct debit processing in the way that automatic payments get initiated. With payment advice processing, the usual automatic payment records - i.e. payment event, payment, tender and auto pay clearinghouse staging – are not created. Instead, a payment advice is printed and sent to the customer. The customer sends the approved payment advice directly to the clearinghouse.

> **Note.** The system does not provide sample processes for extracting and printing payment advice information. Your implementation team would have to create these.

Setting Up The System To Enable Payment Advices

You must set up a ***Financial Transaction Options*** Feature Configuration to define parameters that control payment advice functionality.

The following points describe the various **Option Types** that must be defined:

- ***Payment Advice Functionality Supported.*** This option controls whether the system allows for payment advice processing.
  - Enter ***Y*** if the system should allow for both direct debit and payment advice processing.
  - Enter ***N*** if the system should only allow for direct debit processing.
- ***Default Auto Pay Method.*** This option is used for defaulting the auto pay method on new account auto pay records.

Refer to Account – Auto Pay for more information on auto pay method.

> **Note.** The system assumes direct debit processing if the above feature options are not defined.

Credit Card Payments

If your organization accepts credit card payments, you can configure the system to authorize customers' credit card charges in real-time, and perform an authorization reversal (also in real-time) when the credit card payment is canceled. When the authorization web service is not available, you can permit users to enter authorization codes manually so that they can continue processing payments.

Configuring the System for Tender Authorization

The following sections describe the setup required if your organization intends to use the base CyberSource integration tender authorization functionality.

Contents

Define the Outbound Message Type

An outbound message type is required for the CyberSource authorization outbound message. This outbound message type must reference the base ***CyberSource - Credit Card Authorization*** business object.

An outbound message type is required for the CyberSource reversal outbound message. This outbound message type must reference the base ***CyberSource - Credit Card Reversal*** business object.

Define the XAI Sender

An XAI Sender is required to define how to send messages to CyberSource. Use the context of the XAI Sender to define the web service interface.

Define the External System and Configure the Messages

Define an external system and configure the valid outbound message types and the method of communication for each (***XAI, Batch,*** or ***Real Time***; ***Real Time*** is generally the appropriate choice for credit card authorization). You will also need to select the appropriate XSLs to format both the request and response to the outbound message types for CyberSource.

Define a User

Add a user to hold details required for CyberSource communication. Security information (e.g. Merchant Id, Merchant Reference Code, CyberSource User Name and Password) needed to interface with CyberSource is stored as user characteristics.

Set up the Tender Authorization Algorithm

A ***Tender Type (BO) – Tender Authorization*** algorithm must be configured. This algorithm performs a tender authorization or a tender authorization reversal through CyberSource.

Define a Business Object

A business object (BO) must be created for the ***TENDER TYPE*** maintenance object. This BO must reference the tender authorization algorithm created.

Define Tender Types

Update the appropriate tender type(s) to denote that authorization is required. The new business object must be specified on the tender type(s).

Tender Authorization - Feature Configuration

If your implementation has a need to prevent users from overriding the automatic tender authorization, then you must set up the ***Allow Manual Tender Authorization Override*** option type on the ***Financial Transaction Options*** Feature Configuration. The ***Allow Manual Tender Authorization Override*** option must have a value of ***N*** in order to suppress the Authorization Override checkbox.

> For more information on credit card payment authorization refer to the ***Tender Type - Credit Card with Authorization*** business object.

Non CIS Payments

Payment Templates can be configured for common types of non CIS payment allocations. These templates are used to default the payment distribution and allow non CIS payments to be directly allocated to specific distribution codes.

Setting Up Payment Templates

Payment templates contain the rules that control how non CIS payments are created. You can use a payment template to default the payment distribution for common types of non CIS payments. To set up a payment template, open **Admin Menu, Payment Template**.The topics in this section describe the base-package zones that appear on the Payment Template portal.

Contents

Payment Template List

The Payment Template List zone lists every payment template. The following functions are available:

- Click a broadcast button to open other zones that contain more information about the adjacent payment template.
- Click the ***Add*** link in the zone's title bar to add a new payment template.

Payment Template

The Payment Template zone contains display-only information about a payment template. This zone appears when a payment template has been broadcast from the Payment Template List zone or if this portal is opened via a drill down from another page. The following functions are available:

- Click the **Edit** button to start a business process that updates the payment template.
- Click the **Delete** button to start a business process that deletes the payment template.
- Click the **Duplicate** button to start a business process that duplicates the payment template.
- Click the **Activate** or **Deactivate** button to start a business process that updates the status of the payment template.

Please see the zone's help text for information about this zone's fields.

Alternate Currency Payments

The topics in this section provide background information about alternate currency payments.

This section is only relevant for some organizations. The system configuration requirements described in this section are only relevant if your organization accepts payments tendered in a currency other than the customer's currency. If your organization does not accept alternate currency payments, you need only indicate such on the Installation Record; no other setup is required.

Contents

What Is An Alternate Currency Payment?

The currency code on the customer's account defines the currency in which the account's financial transactions are expressed. If the customer remits a payment in a different currency, this is referred to as an alternate currency payment. The system enables conversion of the tendered amount to the account's currency and captures the alternate currency and amount, as well as the exchange rate used in the conversion on the payment tender. The payment tender is linked to a tender control that references the alternate currency.

Configuring the System for Alternate Currency Payments

Contents

Allowing Alternate Currency Payments

You must set the **Alternate Currency** flag on the Installation Record to ***Allowed*** if your organization accepts alternate currency payments. This option controls whether the **Currency Converter** button is displayed when a payment is processed on the payment portal.

Payment Event Business Object

A business object (BO) must be created for the ***PAY EVENT*** maintenance object. You must specify this BO as the option value for the ***CIS Payment Event Add BO*** option type on the ***Financial Transaction Options*** Feature Configuration. This BO must have the ***Currency Conversion Script*** BO option defined. This BPA script is invoked when the user clicks on the **Currency Converter** button during CIS payment processing on the payment portal.

Currency conversion logic is customizable. The base product includes a script for currency conversion called ***C1-ConvCurr*** that's plugged in on the ***C1-CISPaymentEvent*** business object. This script converts an alternate currency amount to the account's currency using a bill factor value. The bill factor to use is derived by concatenating the alternate currency code and the account's currency code. For example, if converting US Dollars (USD) to Barbados Dollars (BBD) the bill factor code to use would be USDBBD. Your implementation can change this logic by developing a new script and plugging it into the payment event business object.

Define the User's Tender Sources

Define the tender source(s) for the location (e.g., the specific cash drawer) in which a user's payment tenders are stored during the day. A tender source should be specified for each currency that payments are accepted in. The tender source(s) on the user record are used by the system when a user adds a new tender control. The system attempts to default a tender source on a new tender control based on the deposit control's currency and the tender source(s) defined on the user's record.

Payment Event Distribution

The base-package, by default, creates a single payment for a payment event. If your business requires potentially many payments to be created when payment events are added, you'll need to set up the various control tables described in this section.

Refer to Distributing A Payment Event for more information about how payment event distribution is handled in the system.

Contents

Making Payments Using Distribution Rules

As part of this method, one or more distribution details are provided at payment time along with the usual payment and tender information. Each distribution detail record references a distribution rule and a corresponding value. The distribution rule encapsulates the business rules that govern the distribution of the payment amount into payments using the specified value.

The type of value being captured on the distribution detail and the logic that uses it to create payments are defined on the distribution rule.

Contents

Rule Value

The primary use of the rule value is to identify the business entity whose balance is to be relieved by creating payment(s). In most cases where the payor account is the same as the payee account it may also used to identify the tender account associated with the payment(s).

Determine Tender Account

The very first step in processing a distribution detail is to identify the tender account (i.e. the payor) associated with the payment. To do that the system calls the ***Determine Tender Account*** algorithm defined on the distribution rule providing it with the rule value and other tender information.

Creating Payment(s)

The business logic that distributes a payment amount into one or more payments(s) targeted towards the entity identified by a rule value is held in designated ***Create Payment*** algorithms defined on the distribution rule.

Rule Value Can Capture Additional Information

A rule value can also be used to capture additional information provided at payment time, like address information, comments, etc. Obviously payment distribution details with this type of rule value should have a zero payment amount, as they are not real payments. These distribution details end up being linked to a payment event, but unlike other distribution details they do not contribute any payments. You can think of these details as payment event characteristics.

You don't have to set up a ***Create Payment*** algorithm for distribution rules intended solely to capture additional payment information.

Setting Up The System To Use Distribution Rules

Contents

Setting Up Distribution Rules

Define a Distribution Rule for each payment event distribution method practiced by your business.

Contents

Distribution Rule - Main

To set up a distribution rule, navigate to **Admin Menu, Distribution Rule**.

Description of Page

Enter a unique **Distribution Rule** and **Description** for the distribution rule.

Provide a short and unique **Distribution Rule Label** to be used as rule's name throughout the system.

Characteristic Type defines the type of entity whose balance is relieved by the payment(s) this rule creates. For example, if this rule targets payments(s) towards a specific service agreement, you'd reference a characteristic that its value identifies a service agreement. We use the term "rule value" for the characteristic value.

Where Used

Follow this link to open the data dictionary where you can view the tables that reference CI_DST_RULE

Distribution Rule - Algorithms

Navigate to **Admin, Distribution Rule, Algorithms** to set up the algorithms appropriate for your distribution rule.

Description of Page

The **Algorithms** grid contains algorithms that control important functions. You must define the following for each algorithm:

- Specify the algorithm's **System Event** (see the following table for a description of all possible events).
- Specify the **Algorithm** to be executed when the System Event executes. Set the **Sequence** to ***10*** unless you have a **System Event** that has multiple **Algorithms**. In this case, you need to tell the system the **Sequence** in which they should execute.

The following table describes each **System Event** (note, all system event's are optional and you can define an unlimited number of algorithms for each event).

System Event	Optional / Required	Description
Create Payment	Optional	This algorithm is executed to distribute a payment distribution detail payment amount into one or more payments. Click here to see the algorithm types available for this system event.
Determine Tender Account	Optional	This algorithm is executed to determine the tender account associated with the payment distribution detail. Only one such algorithm may be specified. Click here to see the algorithm types available for this system event.

Feature Configuration

You must set up a ***Financial Transaction Options*** Feature Configuration to define parameters that control various payment event distribution options.

The following points describe the various **Option Types** that must be defined:

- ***Always Enable Distribution Rule.*** This option controls whether the system should only use the distribution rule method to add payment events or rather allow both the default method and the distribution rule method to coexist.
  - Enter ***Y*** if the system should always use distribution rules. With this setting, navigation to the Payment Event page in add mode opens up the Payment Event Quick Add page (defaulting it to the ***single*** payment event dialog). This dialog is designed to create a payment event using distribution rules

  - Enter ***N*** if the system should allow both methods. With this setting, navigation to the Payment Event page in add mode opens up the standard Payment Event - Add Dialog that uses the default method to create a payment event. If you want to use the distribution rule method, navigate to the Payment Event Quick Add page from the menu.

- ***Default Distribution Rule.*** This option states your default distribution rule that appears throughout the system.

Cancel Reasons

As described in The Financial Big Picture, the various types of financial transactions can be canceled if their financial impact needs to be reversed from the system. Whenever a financial transaction is canceled, a cancel reason must be specified. This section describes the control tables that contain the cancel reason codes.

Contents

Setting Up Bill (Segment) Cancellation Reasons

Open **Admin Menu, Bill Cancel Reason** to define your bill segment cancellation reason codes.

Description of Page

Enter an easily recognizable **Bill Cancel Reason** and **Description** for the bill cancellation reason.

Only use **System Default** on those reason codes that are placed on bill segments that are automatically canceled by the system. Valid values are: ***Turn off auto-cancel***, ***Bad estimated read auto-cancel***, and ***Mass Cancel***. The reason code identified as ***Turn off auto-cancel*** is placed on bill segments that are automatically canceled when the final bill segment ends before the prior bill (and therefore we have to cancel the prior bill). The reason code identified as ***Bad estimated read auto-cancel*** is placed on bill segments that are automatically canceled by the system when it detects that it used an estimated read whose consumption is greater than the next actual read (and therefore we have to cancel the estimated bill segment). The reason code identified as ***Mass Cancel*** is placed on bill segments that are canceled as a result of the execution of the Mass Cancellation background process. Refer to Mass Cancellation for more information.

Required values. You must have one reason code defined for each of the System Default values.

Setting Up Payment Cancellation Reasons

Open **Admin Menu, Pay Cancel Reason** to define your payment cancellation reason codes.

Description of Page

Enter an easily recognizable **Cancel Reason** and **Description** for the payment cancellation reason.

Turn on the **NSF Charge** switch if the system should invoke the non-sufficient funds (NSF) algorithm when a tender is cancelled using this reason code. Refer to NSF Cancellations for more information.

The next several fields are used to change an account's credit rating or cash-only points if a tender is canceled using the respective reason code.

- Use **Affect Cash-Only Score By** to define how tenders canceled using this reason will affect the account's cash-only score. This should be a positive number. When a customer's cash-only points exceed the cash-only threshold amount defined on the CIS installation record, the account is flagged as cash only during payment processing and on Control Central.
- Use **Affect Credit Rating By** to define how tenders canceled using this reason will affect the account's credit rating. This should be a negative number. A customer's credit rating is equal to the start credit rating amount defined on the CIS installation record plus the sum of credit rating demerits that are currently in effect.
- Use **Months Affecting Credit Rating** to define the length of time the demerit remains in effect. This information is used to define the effective period of the credit rating demerit record.

For more information, refer to Account – Credit Rating.

The payor gets the credit rating / cash only hit. When you cancel a tender you must specify a cancellation reason. If the cancellation reason indicates a credit rating / cash only demerit should be generated, the system levies the credit rating transaction on the PAYOR's account.

The **System Default Flag** is specified on those cancellation reasons that are placed on payment segments that are automatically cancelled by the system. Valid values are: ***Re-opened Bill***. The ***Re-opened Bill*** value is used as follows:

- Payments are automatically created for accounts who pay their bills automatically when their bills are completed.
- If such a bill is reopened before the automatic payment is interfaced to the paying authority, the system automatically cancels the payment. The ***Re-opened Bill*** cancellation reason is placed on such payments.

Setting Up Adjustment Cancellation Reasons

Open **Admin Menu, Adjustment Cancel Reason** to define your adjustment cancellation reason codes.

Description of Page

Enter an easily recognizable **Cancel Reason** and **Description** for each adjustment cancellation reason.

Miscellaneous Financial Controls

This section describes miscellaneous control tables.

Contents

A/P Check Request

Adjustments whose adjustment type is marked with an A/P check request code are interfaced to your A/P system. Your A/P system then cuts the checks.

> Refer to Controls The Interface To A/P for more information about the accounts payable interface.

You must set up at least one A/P check request code if you want A/P to cut checks.

To set up A/P check request types, open **Admin Menu, A/P Request Type**.

Description of Page

Enter an easily recognizable **A/P Request Type** for the accounts payable request type.

Use **Due Days** to define when the check is cut. The cut date is equal to the adjustment date plus due days.

Select a **Payment Method**. Choose from these options:

System Check	System check

Where Used

Follow this link to open the data dictionary where you can view the tables that reference CI_APREQ_TYPE.

Bill Charge Line Type

> **Background information.** Before using this page, you should be comfortable with the topics described under Setting Up Billable Charge Templates and Uploading Billable Charges.

Billable charge line types will simplify the effort required to interface billable charges from an external system. Each line type contains values that will be defaulted onto the line details associated with the uploaded billable charges. Obviously, this defaulting is possible only if you specify a billable charge line type on the billable charge upload staging lines.

To set up billable charge line types, select **Admin Menu, Bill Charge Line Type**.

Description of Page

Enter an easily recognizable **Bill Charge Line External Type** and **Description**.

Use **Currency Code** to define the currency to be defaulted onto billable charge upload lines that reference this line type.

Use **Show on Bill** to define the value to be defaulted into the Show on Bill indicator on billable charge upload lines that reference this line type.

Use **App in Summary** to define the value to be defaulted into the App in Summary indicator on billable charge upload lines that reference this line type.

Use **Memo Only, No GL** to define the value to be defaulted into the Memo Only, No GL indicator on billable charge upload lines that reference this line type.

Use **Distribution Code** to define the values to be defaulted into the Distribution Code field on billable charge upload lines that reference this line type.

Where Used

Follow this link to open the data dictionary where you can view the tables that reference CI_BCHG_UP_XTYP.

Payables Cash Accounting

In some areas, taxes and other 3rd party liabilities are not truly payable until the customer remits payment. We refer to this as "payables cash accounting". This practice should be contrasted with "payables accrual accounting" in which the liability is realized when the bill is created (as opposed to when it is paid).

Value Add Tax (VAT). VAT is a form of taxation common throughout the European Union. It is a common practice to only book the VAT payable when the customer remits payment. This means that most European implementations will use the functionality described in this section.

If your organization does not practice payable cash accounting, you may skip this section as accrual accounting is the system default. If you practice payables cash accounting, the contents of this section describe how to configure the system appropriately.

Contents

Accrual versus Cash Accounting Example

The following is an example of the financial events that transpire when a customer is billed and payment is received using accrual accounting.

Event	GL Accounting	Tax Payable Balance
Bill segment created	A/R 110 Revenue <100> Tax Payable <10>	(10)
Payment received	Cash 110 A/R <110>	(10)

In the above example, you'll notice that the payable is booked when the bill is created. Let's contrast this with what takes place if the payable is subject to payables cash accounting.

Event	GL Accounting	Tax Payable Balance	Tax Holding Balance
Bill segment created	A/R 110 Revenue <100> Tax Holding <10>	0	(10)
Payment received	Cash 110 A/R <110> Tax Holding 10 Tax Payable <10>	(10)	0

Notice that when the bill segment is produced, the liability is not booked, rather, the amount of the liability is placed in a "holding" GL account. When the customer pays, the moneys are transferred from the "holding" GL account to the true tax payable account.

Cash accounting is only applicable for liabilities. In the above example, you'll notice that only the tax payable account had cash accounting implications. This is because organizations that practice cash accounting only do it for liability accounts; they never do it for assets, revenue or expenses.

If the above seems simple, consider the following complications that must be considered:

- What happens if a partial payment is received?
- What happens if there are multiple taxes subject to cash accounting rules?
- What happens if the A/R is relieved via a deposit seizure (or transference of a credit balance from another SA)?
- What if, after payment, the original bill segment is cancel/rebilled resulting in a different amount of tax (keep in mind that the payable got booked when the payment was received)?
- What happens if the payment is cancelled?
- What if the payment isn't received and we have to write-off debt?
- What happens if the customer overpays?
- What happens if the customer is allowed to prepay their tax (this is a common practice in the United Kingdom) and then the tax rate changes at billing time?

The above points, and more, are discussed below.

Distribution Code Controls Cash Accounting For A GL Account

Note. If you do not understand the significance of distribution codes, please refer to Setting Up Distribution Codes.

Whether or not cash accounting is used for a specific GL account is defined on HOLDING GL account's distribution code (i.e., the holding GL account references the true payable account).

It is very important that unique payable and holding distribution codes be used for each type of tax subject to cash accounting rules. For example, if you have cash accounting requirements for both value-added tax (VAT) and a climate levy, you would need four distribution codes:

- VAT Payable.
- VAT Holding.
- Climate Levy Payable.
- Climate Levy Holding.

Without unique distribution codes for each payable and holding account, the system cannot keep track of how much of a given tax is being held, awaiting payment.

Bill Segments and Cash Accounting

The contents of this section describe how cash accounting is implemented when bill segments are created.

Contents

Rate Component Distribution Codes

The distribution codes on rate components that calculate tax must be your HOLDING payable distribution codes.

Bill Segment Financial Transactions Are Not Affected By Cash Accounting

There are NO changes to rate calculation associated with cash accounting. This is because the rate components that calculate tax reference the HOLDING payable distribution codes.

Prepaid taxes – future functionality. If your organization allows customers to prepay taxes in anticipation of a future tax increase (the customers receive the lower rate if they pay in advance), please speak to your account manager for information about when corresponding functionality will be available.

Payment Segments and Cash Accounting

The contents of this section describe how cash accounting is implemented when payment segments are created.

Contents

Payment Segment Financial Transaction Algorithms Transfer Holding Amounts to Payable GL Accounts

Logic exists in the pay segment's FT algorithm that transfers amounts from payable holding distribution codes to their respective payable real distribution codes.

Refer to Setting Up Payment Segment Types for how to define the appropriate FT algorithm.

The following table shows what happens to the financial transaction associated with the payment segment for a cash accounting customer.

Event	GL Accounting
Bill segment is created	A/R 110 Revenue <100> Tax Holding <10>
Payment segment relieves receivables	Cash 110 A/R <110>
Additional GL details created when the payment segment FT algorithm transfers the holding amount to a payable account	Tax Holding 10 Tax Payable <10>
Net affect of the above	Cash 110 A/R <110> Tax Holding 10 Tax Payable <10>

How Does The System Know What Amounts To Transfer From Holding To Payables?

When a payment segment is created for an account that is subject to cash accounting processing, the system determines if there is a CREDIT balance for any holding distribution code in respect of the service agreement. If so, it generates additional GL details to transfer moneys from the holding distribution code to the payable distribution code in proportion to the amount of receivables relieved by the payment. Therefore, if 100% of receivables are relieved by the payment segment, 100% of the holding amounts will be transferred to payable distribution codes. Refer to Partial Payments Result In Partial Payables for an example of what happens when a partial payment is created.

Partial Payments Result In Partial Payables

The previous example showed the entire tax holding amount being transferred to the tax payable account. The entire holding amount was transferred because the service agreement was paid in full. If a partial payment is received, only part of the holding amount will be transferred to the payable amount (proportional to the amount of receivables reduced by the payment). An example will help make the point.

Event	GL Accounting	Tax Payable Balance	Tax Holding Balance
Bill segment created	A/R 110 Revenue <100> Tax Holding <10>	0	(10)
Partial payment received	Cash 27.50 A/R <27.50> Tax Holding 2.50 Tax Payable <2.50>	(2.50)	(7.50)

The above example assumes the use of the base product payment segment FT creation algorithm PSEG-AC to transfer the holding amount to the tax payable account. If multiple holding accounts are used, you may want to specify which holding amounts are relieved first. The base product includes an additional payment segment FT creation algorithm C1-FTGL-PSAC that handles booking holding amounts based on a priority.

Partial Payments Using Accounting Priority

To book holding amounts based on a priority, each holding distribution code must be assigned an **Accounting Priority**. When a partial payment is posted, only part of the holding amount will be transferred to the payable amount (proportional to the amount of receivables reduced by the payment). When the holding amount consists of various holding distribution codes with different accounting priorities, the amount to transfer is allocated as follows:

- Holding distribution codes associated with the oldest debt are settled first
- Within the same debt age, holding distribution codes with a higher accounting priority are booked first. If more than one distribution code shares the same priority, the settlement is distributed among them in proportion to the holding account balance

The above logic is handled by the payment segment FT creation algorithm C1-FTGL-PSAC. As an example of how these rules apply, let’s assume an implementation practices cash accounting; i.e. revenue, taxes and other third party liabilities are not recognized until payment is received. Also assume the following distribution codes have been configured:

Holding Distribution Code	Description	Cash Accounting Distribution Code	Accounting Priority
HLD-LPC	Late Payment Charge	R-MISC	10
HLD-RGEN	Revenue – Generation Charge	R-GEN	20
HLD-RDIS	Revenue – Distribution Charge	R-DIST	30
HLD-RTRN	Revenue – Transmission Charge	R-TRAN	30
HLD-THRD	3rd Party Charges	R-THRD	40
HLD–VAT	VAT	A/P–VAT	90

Assume a customer has an outstanding third party charge with an arrears date of 2/Jan/2009:

Event	GL Accounting	SA’s Payoff Balance	Holding Balances					
			HLD-LPC	HLD-RGEN	HLD-RDIS	HLD-RTRN	HLD-THRD	HLD-VAT
Unpaid Amount	A/R 50 HLD-HRD <45> HLD-VAT <5>	50	0	0	0	0	(45)	(5)

A bill is created for a customer and the result of the bill’s financial transactions (an LPC adjustment in the amount of 10 and a bill segment in the amount of 127) include the following FT GL lines (both financial transactions have an arrears date of 15/Jan/2009):

Event	GL Accounting	SA’s Payoff Balance	Holding Balances					
			HLD-LPC	HLD-RGEN	HLD-RDIS	HLD-RTRN	HLD-THRD	HLD-VAT
Bill segment created	A/R 127 HLD-RGEN <15> HLD-RDIS <20> HLD-RTRN <55> HLD-THRD <10> HLD-VAT <27>	177	0	(15)	(20)	(55)	(55)	(32)
Adjustment created	A/R 10 HLD-LPC <10>	187	(10)	(15)	(20)	(55)	(55)	(32)

No payment is received prior to the next bill. The result of the next bill’s financial transaction (a bill segment in the amount of 100) includes the following FT GL lines (this financial transaction has an arrears date of 16/Feb/2009):

Event	GL	SA’s	Holding Balances

	Accounting	Payoff Balance	HLD-LPC	HLD-RGEN	HLD-RDIS	HLD-RTRN	HLD-THRD	HLD-VAT
Bill segment created	A/R 100 HLD-RGEN <15> HLD- RDIS <20> HLD- RTRN <45> HLD- THRD <10> HLD–VAT <10>	287	(10)	(30)	(40)	(100)	(65)	(42)

The following shows the result if a customer makes a payment on 20/Feb/2009. At payment time we'll build a table of holding amounts by accounting priority and debt age as follows:

Distribution Code & Priority	HLD-LPC	HLD-RGEN	HLD-RDIS	HLD-RTRN	HLD-THRD	HLD- VAT
Debt Age	(10)	(20)	(30)	(30)	(40)	(90)
4 days old		(15)	(20)	(45)	(10)	(10)
36 days old	(10)	(15)	(20)	(55)	(10)	(27)
49 days old					(45)	(5)

Examples of Partial Payments Using Accounting Priority

The examples below assume a customer has the financial history described above and attempts to illustrate the financial effect when a payment is made.

Contents

Example 1 - Customer Pays In Full

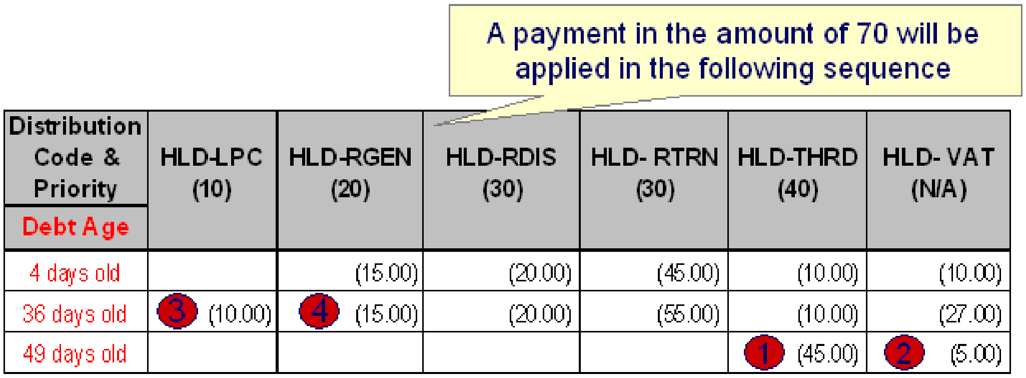
Assume the customer makes a payment in the amount of 287. This amount is sufficient to satisfy all holding amounts, so the payment will have the following financial effect:

Event	GL Accounting	SA's Payoff Balance	Holding Balances					
			HLD-LPC	HLD-RGEN	HLD-RDIS	HLD-RTRN	HLD-THRD	HLD-VAT
Payment received	Cash 287 A/R <287> HLD-LPC 10 R-MISC <10> HLD-RGEN 30 R-GEN <30> HLD- RDIS 40	0	0	0	0	0	0	0

	R-DIST <40> HLD- RTRN 100 R-TRAN <100> HLD- THRD 65 R-THRD <65> HLD–VAT 42 A/P-VAT <42>							

Example 2 - Customer Makes a Partial Payment

Assume the same financial history described above for a customer and a partial payment in the amount of 70 is made. This amount is not sufficient to satisfy the total holding amounts of 287, so the system will start settling held amounts starting with distribution codes with the oldest debt first from highest priority until the payment amount is exhausted.



A payment in the amount of 70 will be applied in the following sequence

Distribution Code & Priority Debt Age	HLD-LPC (10)	HLD-RGEN (20)	HLD-RDIS (30)	HLD- RTRN (30)	HLD-THRD (40)	HLD- VAT (N/A)
4 days old		(15.00)	(20.00)	(45.00)	(10.00)	(10.00)
36 days old	③ (10.00)	④ (15.00)	(20.00)	(55.00)	(10.00)	(27.00)
49 days old					① (45.00)	② (5.00)

The following describes how the holding amounts will be booked as a result of this partial payment:

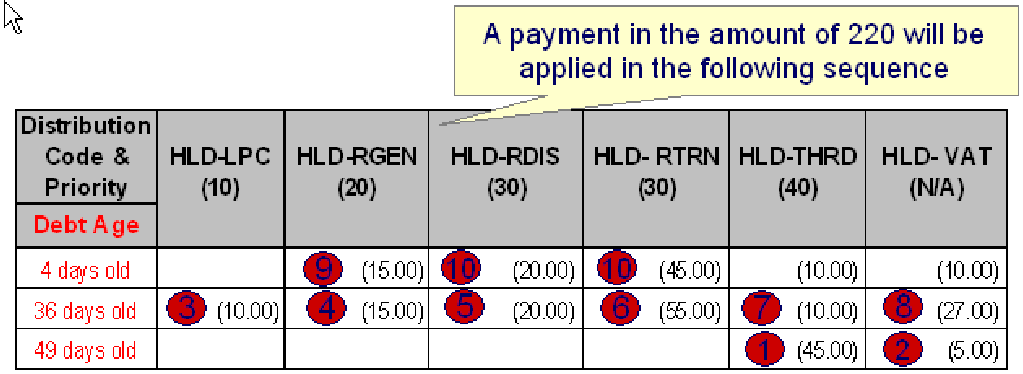
- Settle oldest debt first (49 days old), i.e. 3rd Party Charges (HLD-THRD) and VAT (HLD-VAT). Note that even though these holding accounts have the lower accounting priorities, they are booked first because they have the oldest debt. An amount of 20 now remains on the partial payment.
- Next, we'll settle the 36 days old debt from the highest priority:
  - Late Payment Charge (HLD-LPC) in the amount of 10. An amount of 10 now remains on the partial payment
  - Revenue - Generation Charge (HLD-RGEN) gets the remaining payment amount of 10
- So, this partial payment in the amount of 70 will result in the following financial effect:

Event	GL Accounting	SA Balance	Holding Balances					
			HLD-LPC	HLD-RGEN	HLD-RDIS	HLD-RTRN	HLD-THRD	HLD-VAT
Payment received	Cash 70 A/R <70> HLD-LPC 10	217	0	(20)	(40)	(100)	(20)	(37)

	R-MISC <10> HLD-RGEN 10 R-GEN <10> HLD- THRD 45 R-THRD <45> HLD–VAT 5 A/P-VAT <5>						

Example 3 - Customer Makes a Partial Payment

Assume the same financial history described above for a customer and a partial payment in the amount of 220 is made. This amount is not sufficient to satisfy the total holding amounts of 287, so the system will start settling held amounts starting with distribution codes with the oldest debt first from highest priority until the payment amount is exhausted.



A payment in the amount of 220 will be applied in the following sequence

Distribution Code & Priority Debt Age	HLD-LPC (10)	HLD-RGEN (20)	HLD-RDIS (30)	HLD- RTRN (30)	HLD-THRD (40)	HLD- VAT (N/A)
4 days old		9 (15.00)	10 (20.00)	10 (45.00)	(10.00)	(10.00)
36 days old	3 (10.00)	4 (15.00)	5 (20.00)	6 (55.00)	7 (10.00)	8 (27.00)
49 days old					1 (45.00)	2 (5.00)

The following describes how the holding amounts will be booked as a result of this partial payment:

- Settle oldest debt first (49 days old), i.e. 3rd Party Charges (HLD-THRD) and VAT (HLD-VAT). Note that even though these holding accounts have the lower accounting priorities they are booked first because they have the oldest debt. An amount of 170 now remains on the partial payment.
- Next, we'll settle the 36 days old debt from the highest priority, i.e. Late Payment Charge (HLD-LPC), Revenue - Generation Charge (HLD-RGEN), Revenue - Distribution Charge (HLD-RDIS), Revenue - Transmission Charge (HLD-RTRN), 3rd Party Charges (HLD-THRD) and VAT (HLD-VAT). An amount of 33 now remains on the partial payment.
- Next we'll settle the 4 day old debt from the highest priority:
  - Revenue - Generation Charge (HLD-RGEN) in the amount of 15. An amount of 18 now remains on the partial payment
  - The two holding accounts at the next priority have an outstanding amount of 65. Since the remainder of the payment is not enough to satisfy this amount, the remainder of the payment is prorated amongst HLD-RDIS and HLD-RTRN as follows:
    - (Remaining Pay Amount / Total Outstanding Holding Amount) * Holding Account Amount
    - So for the Revenue - Distribution Charge (HLD-RDIS) holding account the amount booked will be (18/65 * 20) = 5.54

- So, this partial payment in the amount of 220 will result in the following financial effect:

Event	GL Accounting	SA Balance	Holding Balances					
			HLD-LPC	HLD-RGEN	HLD-RDIS	HLD-RTRN	HLD-THRD	HLD-VAT
Payment received	Cash 220 A/R <220> HLD-LPC 10 R-MISC <10> HLD-RGEN 30 R-GEN <30> HLD- RDIS 25.54 R-DIST <25.54> HLD- RTRN 67.46 R-TRAN <67.46> HLD- THRD 55 R-THRD <55> HLD–VAT 32 A/P-VAT <32>	67	0	0	(14.46)	(32.54)	(10)	(10)

Adjustments That Behave Like Payments

There are several types of adjustments that behave just like payments (in respect of payables cash accounting). Consider the following events:

- Seizing a deposit (i.e., transferring a credit from a deposit service agreement to a regular service agreement)
- Overpayments transferred from one service agreement to another

The above events should cause the system to transfer holding amounts to true payable amounts (notice that the above examples are all transfer adjustments).

However, there are many other adjustments that should NOT behave like payments. You control how the adjustment works by selecting the appropriate FT algorithm when you set up adjustment types (refer to ADJT-AC and ADJT-TC for a description of the base package algorithms that cause the holding amounts to be manipulated in proportion to the amount of receivable being adjusted; and to C1-FTGL-ADAC and C1-FTGL-ADTC for the base package algorithms that take **Accounting Priority** into consideration). In other words, there are adjustment FT algorithms that cause the transference of holding payable amounts to real payable amounts when the A/R balance is decreased by the adjustment.

Cash refunds can behave like “anti-payments”. In addition to the above examples of transfer adjustments behaving like payments, you should be aware that cash refunds may impact your holding and true payable balances. Refer to Cash Refunds for more information.

Overpayment Of Taxes Due To Cancel/Rebills

Lets assume a cancel / rebill occurs after a payment is received and the net affect of the cancel / rebill is that the customer has overpaid their taxes.

Event	GL Accounting	Tax Payable Balance	Tax Holding Balance
Bill segment created	A/R 110 Revenue <100> Tax Holding <10>	0	(10)
Payment received	Cash 110 A/R <110> Tax Holding 10 Tax Payable <10>	(10)	0
Cancel	A/R <110> Revenue 100 Tax Holding 10	(10)	10
Rebill	A/R 27.50 Revenue <25> Tax Holding <2.50>	(10)	7.50

You'll notice that the amount payable to the taxing authority still indicates $10 (the amount of tax that was paid by the customer). However, you'll notice that the tax holding balance is 7.50 (debit). This looks a bit odd, but it's correct. Remember that at this point, the customer has a credit balance of $75 and this will be whittled down as successive bills are produced as shown below. Note: refer to Cash Refunds for an example of what happens if you refund the credit with a check rather than letting it whittle down.

Event	GL Accounting	Tax Payable Balance	Tax Holding Balance
		(10)	7.50
Bill segment created	A/R 55 Revenue <50> Tax Holding <5>	(10)	2.50
Bill segment created	A/R 110 Revenue <100> Tax Holding <10>	(10)	(7.50)

In the unlikely event of a payment being received while the tax holding has a debit balance, nothing will be done in respect of transferring funds from holding to payable (there is nothing to transfer).

Cash Refunds

If you refund moneys to a cash accounting customer, it's important to do the opposite of what was done when the payment was received (i.e., you need to transfer the payable back to the holding account). The following example should help clarify this situation (this example shows a refund due to a credit balance that occurred as a result of a cancel/rebill).

Event	GL Accounting	Tax Payable Balance	Tax Holding Balance	SA's Payoff Balance
Bill segment created	A/R 110 Revenue <100> Tax Holding <10>	0	(10)	110
Payment received	Cash 110 A/R <110> Tax Holding 10 Tax Payable <10>	(10)	0	0
Cancel	A/R <110> Revenue 100 Tax Holding 10	(10)	10	(110)
Rebill	A/R 27.50 Revenue <25> Tax Holding <2.50>	(10)	7.50	(82.50)
Payment refunded (via an A/P adjustment)	Cash <82.50> A/R 82.50 Tax Holding <7.50> Tax Payable 7.50	(2.50)	0	0

We understand this is tricky, but consider this – when a cash accounting customer makes a payment, the system transfers tax holding CREDIT balances to tax payable distribution codes in proportion to the amount of the receivable DEBIT amount that was reduced by the payment. Therefore, when cash is returned to the customer, the system should transfer tax holding DEBIT balances to tax payable distribution codes in proportion to the amount of the receivable CREDIT that was reduced by the refund.

Note. The above takes place when an A/P adjustment is created if the related adjustment type references the appropriate FT algorithm (refer to ADJT-AC and C1-FTGL-ADAC for a description of the adjustment FT algorithms used for adjustments that behave like payments).

Over Payments

If a customer overpays a bill (i.e., we receive more cash than receivables), we strongly recommend you set up the system to NOT keep the excess credit on the customer's regular service agreements. Rather, we recommend you segregate the receivable onto an "excess credit" service agreement. If you do this, the system will transfer any excess credits to the regular service agreements at bill completion time. When this transfer occurs, the same accounting described under Payments Segment Financial Transaction Algorithms Transfer Holding Amounts To Payable GL Accounts occurs as shown in the following example. Note: this example assumes an excess credit of $110 was transferred to a normal service agreement and the normal service agreement had $10 of held payables.

Refer to Overpayment Segmentation for how to set up the system to segregate overpayments on a separate service agreement.

Why not keep excess credits on a customer's regular service agreement? Because the system can't differentiate between a credit that exists as a result of an overpayment and a credit that exists because of cancel/rebills, it would be impossible for the system to know if payables should be realized as a result of the reduced credit balance. However, if you keep overpayments on an excess credit service agreement, the system knows to treat any transference of these credits as "payments" and therefore it can transfer holding balances to true payables.

Event	Normal SA GL Accounting	Excess Credit SA GL Accounting
Bill segment created	A/R 110 Revenue <100> Tax Holding <10>	
Payment of $300 is received	Cash 110 A/R <110> Tax Holding 10 Tax Payable <10>	Cash 190 Overpay <190>
Bill segment created	A/R 110 Revenue <100> Tax Holding <10>	
Transfer excess credit amount to normal service agreement (when bill is completed).	Xfer 110 A/R <110>	Overpay 110 Xfer <110>
Because the transfer adjustment is the equivalent of a cash relief outstanding tax holding is relieved in proportion to the amount of receivables that are reduced by the transfer	Tax Holding 10 Tax Payable <10>	
Net affect of the transfer	Xfer 110 A/R <110>	Overpay 110 Xfer <110>

	Tax Holding 10 Tax Payable <10>	

Prepaid taxes – future functionality. If your organization allows customers to prepay taxes in anticipation of a future tax increase (the customers receive the lower rate if they pay in advance), we do not consider this prepayment to be an overpayment. Rather, it is a payment of future taxes that will be remitted to the taxing authorities at payment time (due to cash accounting). Please speak to your account manager for when corresponding functionality will be available.

Write Down Adjustment

Writing down debt is very different from writing off debt. When you write down debt, you are removing the receivable with no expectation of it being paid. For example, most organizations write down small debit and credit balances as part of their write-off process (e.g., they don't send a very small amount to a collection agency).

Let's run through an example to illustrate this:

Event	GL Accounting	Tax Payable Balance	Tax Holding Balance	SA's Payoff Balance
Bill segment created	A/R 110 Revenue <100> Tax Holding <10>	0	(10)	110
Payment received	Cash 109.50 A/R <109.50> Tax Holding 9.95 Tax Payable <9.95>	(9.95)	.05	0.50
Write down cash accounting debt	Tax Holding 0.05 Write Down Expense 0.45 A/R <0.50>	(9.95)	0	0

In order to achieve the above, you must set up an adjustment type that references a special financial transaction algorithm (refer to non-accrual accounting write down algorithms ADJT-AD and C1-FTGL-AD for more information). This algorithm will reduce / increase the receivable balance accordingly AND cause any holding amounts to be set to zero. This adjustment type should be referenced on your write-down algorithm that is referenced on your write-off controls.

Write-Offs

At write-off time we may refund credit balances. The refunding of credit balances is handled by A/P adjustments and these have cash accounting processing as described under Cash Refunds.

If we have to write-off debt, holding balances are relieved in proportion to the amount of debt that is written off (as usual). It's important to understand that for this to work, you must set up the system as follows:

- The tax holding distribution codes must have their override distribution switch turned on.
- The distribution code on the SA type associated with the service agreement to which the written-off payables are transferred must be the REAL payable distribution codes. This is important so that if the customer pays after the payables are reversed, we will be able to debit cash and credit the REAL payable distribution code.

Let's run through an example to illustrate this.

Event	Normal SA GL Accounting	Write Off Revenue SA GL Accounting	Reverse Liabilities SA GL Accounting
Bill segment created	A/R 110 Revenue <100> Tax Holding <10>		
Write Off Time			
Reverse the held payables	Xfer 10 A/R <10>		Tax Holding 10 Xfer <10> Note, the tax holding only gets debited if you have turned on the override at write-off switch on its distribution code
Write off revenue	Xfer 100 A/R <100>	Write Off Expense 100 Xfer <100>	
If the customer subsequently pays		Cash 100 Write Off Exp <100>	Cash 10 Tax Payable <10> Note, the tax payable only gets credited if the SA type's distribution code has been defined as such

Deferred Accrual Accounting

Some implementations use a hybrid accounting method that combines cash and accrual accounting. In this case revenue, taxes, etc. are recognized on the earlier of the bill due date or the date payment is received. In this scenario, the cash accounting method is used up until the bill's due date, at which time the accrual method is enforced (let's call this "deferred accrual accounting"). A simpler flavor of deferred accrual accounting is when the revenue and liability recognition is done solely at bill due date regardless of when the payment is made.

Deferred accrual accounting affects distribution codes identified as **Use For Non-Accrual Accounting** with an associated **Accounting Method** of either ***Payable on Earlier of Payment or Due Date*** or ***Payable on Due Date***. The system accomplishes the holding amount settlement on the bill due date using a customer class post bill completion algorithm C1-CR-BLRVWS that creates a bill review record to be processed on the bill's due date. The bill review batch process then analyzes these bill review records on the bill due date. If a bill review record is due for processing, the algorithm checks the outstanding balance of the holding accounts on each SA linked to the bill and creates a settlement adjustment for each SA.

Contents

Deferred Accrual Accounting Examples

The examples below illustrate the financial transactions that transpire under these different scenarios.

Contents

Example 1 - Payable On Due Date, Customer Pays In Full

The following is an example of the financial events that transpire when a customer is billed and full payment is received prior to the bill due date. The accounting method in this case is ***Payable On Due Date***.

Event	GL Accounting	Tax Payable Balance	Tax Holding Balance
Bill segment created	A/R 110 Revenue <100> Tax Holding <10>	0	(10)
Payment received	Cash 110 A/R <110>	0	(10)
Adjustment created on bill due date	Tax Holding 10 Tax Payable <10>	(10)	0

Example 2 - Payable On Due Date, Customer Does Not Pay

In the following example a customer is billed and no payment is received prior to the bill due date. The bill review batch process is responsible for creating the settlement adjustment for any outstanding holding amounts on the bill's due date. The accounting method in this case is ***Payable On Due Date***.

Event	GL Accounting	Tax Payable	Tax Holding

		Balance	Balance
Bill segment created	A/R 110 Revenue <100> Tax Holding <10>	0	(10)
Adjustment created on bill due date	Tax Holding 10 Tax Payable <10>	(10)	0

Example 3 - Payable On Due Date, Customer Makes A Partial Payment

In the following example a customer is billed and a partial payment is received prior to the bill due date. The bill review batch process is responsible for creating the settlement adjustment for any outstanding holding amounts on the bill's due date. The accounting method in this case is ***Payable On Due Date***.

Event	GL Accounting	Tax Payable Balance	Tax Holding Balance
Bill segment created	A/R 110 Revenue <100> Tax Holding <10>	0	(10)
Payment received	Cash 27.50 A/R <27.50>	0	(10)
Adjustment created on bill due date	Tax Holding 10 Tax Payable <10>	(10)	0

Example 4 - Payable On Earlier Of Payment Or Due Date, Customer Pays In Full

In the following example a customer is billed and full payment is received prior to the bill due date. The accounting method in this case is ***Payable On Earlier Of Payment Or Due Date***.

Event	GL Accounting	Tax Payable Balance	Tax Holding Balance
Bill segment created	A/R 110 Revenue <100> Tax Holding <10>	0	(10)
Payment received	Cash 110 A/R <110> Tax Holding 10 Tax Payable <10>	(10)	0

Example 5 - Payable On Earlier Of Payment Or Due Date, Customer Does Not Pay

In the following example a customer is billed and no payment is received prior to the bill due date. The bill review batch process is responsible for creating the settlement adjustment for any outstanding holding amounts on the bill's due date. The accounting method in this case is ***Payable On Earlier Of Payment Or Due Date***. Note that if a payment is subsequently received after the settlement adjustment has been created, it's financial transaction(s) will not have any impact on the holding or liability accounts as these have already been booked.

Event	GL Accounting	Tax Payable Balance	Tax Holding Balance
Bill segment created	A/R 110 Revenue <100> Tax Holding <10>	0	(10)
Adjustment created on bill due date	Tax Holding 10 Tax Payable <10>	(10)	0

Example 6 - Payable On Earlier Of Payment Or Due Date, Customer Partially Pays

In the following example a customer is billed and a partial payment is received prior to the bill due date. The bill review batch process is responsible for creating the settlement adjustment for any outstanding holding amounts on the bill's due date. The accounting method in this case is ***Payable On Earlier Of Payment Or Due Date***. Note that if a payment is subsequently received after the settlement adjustment has been created, it's financial transaction(s) will not have any impact on the holding or liability accounts as these have already been booked.

Event	GL Accounting	Tax Payable Balance	Tax Holding Balance
Bill segment created	A/R 110 Revenue <100> Tax Holding <10>	0	(10)
Payment received	Cash 27.50 A/R <27.50> Tax Holding 2.50 Tax Payable <2.50>	(2.50)	(7.50)
Adjustment created on bill due date	Tax Holding 7.50 Tax Payable <7.50>	(10)	0

Payment Cancellations and Deferred Accrual Accounting

If a payment was responsible for transferring moneys from the holding distribution code to the payable distribution code, it stands to reason that if the payment is cancelled, it results in the reversal of this transfer from the holding distribution code to payable distribution code. If deferred accrual accounting is used and the payment is cancelled after the bill due date, the holding amounts that were transferred should remain booked.

Assume, for example, that the payment below was cancelled after the bill due date:

Event	GL Accounting
Payment received	Cash 110 A/R <110> Tax Holding 10 Tax Payable <10>

At cancellation, the above entry will be reversed, reinstating the balance in the holding account:

Event	GL Accounting
Payment cancelled after bill due date	Cash <110> A/R 110 Tax Holding <10> Tax Payable 10

However, since the bill's due date has passed, the holding account needs to be booked. For open item accounts, the system comes with a customer class FT freeze algorithm (C1-PR-CA-RVS) that creates a bill review schedule for the affected bill, if one does not already exist. When the bill review batch process next runs, it checks the outstanding balance of the holding accounts on each SA linked to the bill and creates a settlement adjustment for each SA.

Event	GL Accounting
Adjustment created	Tax Holding 10 Tax Payable <10>

Note that this solution is only applicable to open item accounting where the bill matched to the payment can be determined. If balance forward accounting is practiced, the bill or bills that the payment applied to cannot be determined. In this case, the next bill review record created for the account as part of billing will cause the balances of the holding accounts to be analyzed and the settlement will catch up at that point.

Open Item Accounting

The topics in this section provide background information about open-item accounting.

This section is only relevant for some organizations. The system configuration requirements described in this section are only relevant if your organization practices open-item accounting. If your organization practices balance-forward accounting, you need only indicate such on your customer classes; no other setup is required. Refer to Open Item Versus Balance Forward Accounting for more information about these two accounting practices.

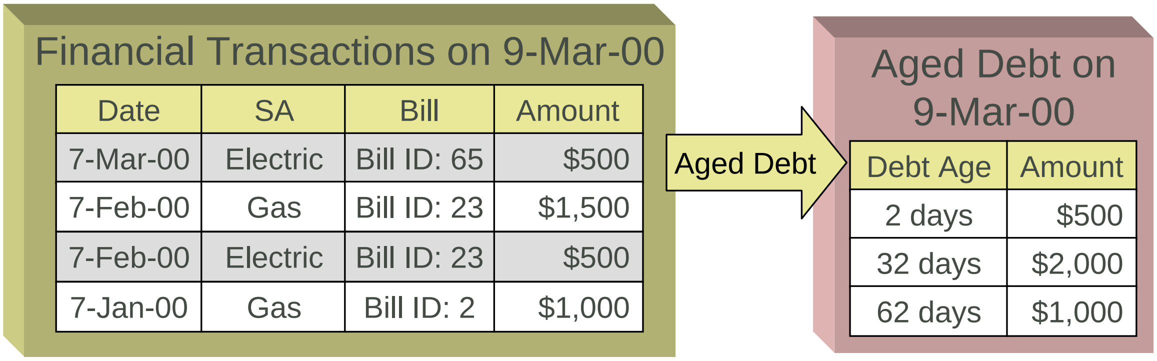
Contents

Open-Item Versus Balance-Forward Accounting

If you practice open-item accounting, you match payments against bills. The term “open-item accounting” is used to describe this accounting practice because:

- Payments are matched against “open items” (i.e., unpaid bills and adjustments)
- Only unmatched bills and adjustments (i.e., open items) affect aged debt.

Contrast open-item accounting with “balance-forward” accounting - in a balance-forward world, payments are not matched to bills. Rather, payments implicitly relieve a customer’s oldest debt. For example, consider the following unpaid financial transactions that exist for an account and the resultant aged debt.



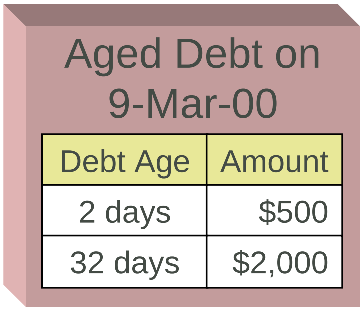
Financial Transactions on 9-Mar-00

Date	SA	Bill	Amount
7-Mar-00	Electric	Bill ID: 65	$500
7-Feb-00	Gas	Bill ID: 23	$1,500
7-Feb-00	Electric	Bill ID: 23	$500
7-Jan-00	Gas	Bill ID: 2	$1,000

Aged Debt on 9-Mar-00

Debt Age	Amount
2 days	$500
32 days	$2,000
62 days	$1,000

In a balance-forward world, if a $1,000 payment was made on 9-Mar-00, the customer’s aged debt would look as follows:

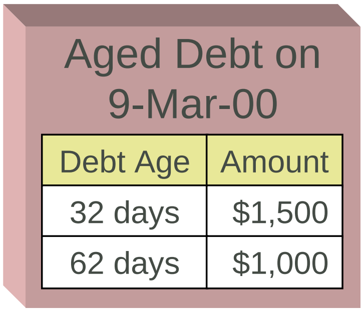


Aged Debt on 9-Mar-00

Debt Age	Amount
2 days	$500
32 days	$2,000

Notice how the $1,000 payment relieves the 62 day old debt – it does this because, in a balance-forward world, payments payoff oldest debt first.

However, let's assume the customer wants the payment to settle his electric debt (e.g., because he disagrees with the gas bills). If you could match the $1,000 payment to the two electric bills (i.e., open-item accounting exists), the customer's aged debt would look as follows:



Aged Debt on 9-Mar-00

Debt Age	Amount
32 days	$1,500
62 days	$1,000

In sum,

- In an open-item world, payments are matched to bills and only unpaid bills and adjustments (i.e., open items) affect aged debt.
- In a balance-forward world, payments are not matched to bills and therefore a customer's aged debt is computed by aging debits (bills and adjustments) and then relieving the oldest debits using credits (payments and adjustments).

Financial Transactions and Bills. In an open-item world, only bill segments and adjustments are presented on a bill. When a bill is completed, only those bill segments and adjustments to be presented are swept onto a bill. Payment and payment cancellation FTs, bill segment FTs canceled before bill completion together with their corresponding bill segment cancellation FTs, and adjustment FTs marked as do not show on bill are not swept onto a bill. An adjustment's adjustment type and its algorithms determine if its FT will show on a bill by default.

Accounting Method Defined On Your Customer Classes

You define the type of accounting method that is practiced (balance-forward versus open-item) on your customer classes. For example, residential customers can practice balance-forward accounting whereas industrial / commercial customers can practice open-item accounting.

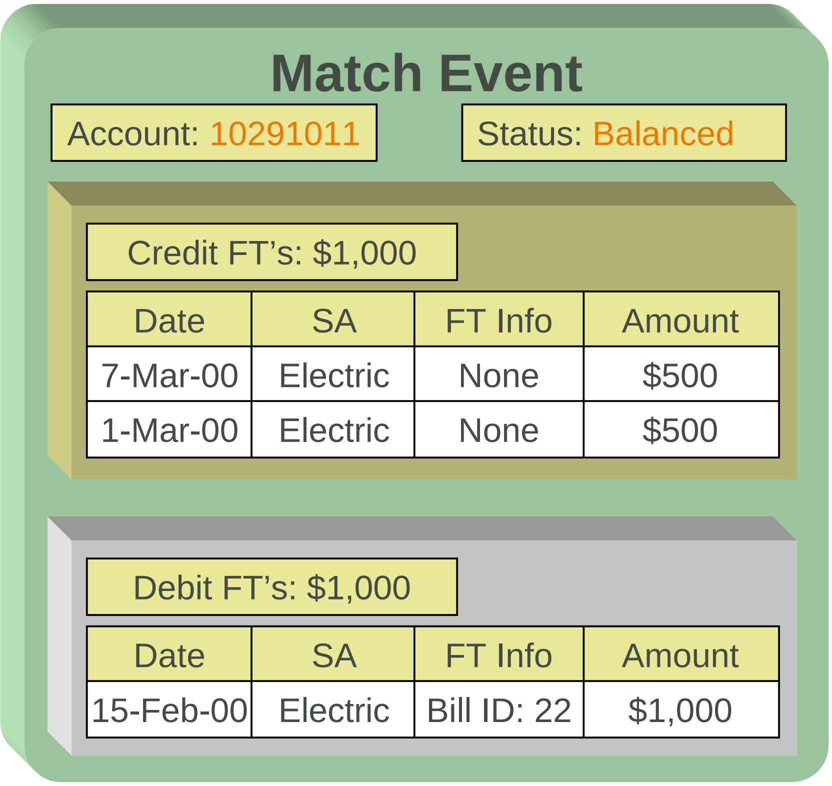
Match Events

Match events are used to match open-items (i.e., debit and credit financial transactions) together. The topics in this section provide an overview of match events.

Contents

Match Events Match Debit FTs To Credit FTs

For open-item customers, the system matches credit financial transactions (FT's) to debit FT's under a match event. The following is an example of a match event associated with two $500 payments that satisfy the debt associated with one bill (on February 2000).



Match Event

Account: 10291011

Status: Balanced

Credit FT's: $1,000

Date	SA	FT Info	Amount
7-Mar-00	Electric	None	$500
1-Mar-00	Electric	None	$500

Debit FT's: $1,000

Date	SA	FT Info	Amount
15-Feb-00	Electric	Bill ID: 22	$1,000

Notice the following:

- The match event matches 2 credit FT's against a single debit FT. A match event may contain an unlimited number of FT's.
- The match event contains FT's associated with a single account. While the FT's under a match event may belong to multiple service agreements, all FT's under a match event must belong to the same account.

- The match event only contains bill segments that belong to a single bill. If you mix multiple bills under a single match event, then an individual bill balance cannot be properly determined when partial payments exist.
- The status of the match event is ***balanced***. This is because the sum of the debits equals the sum of the credits. If debits do not equal credits, the status of the match event would be ***open*** and the various FT's would still affect the customer's aged debt. Refer to Match Event Lifecycle for more information.

Warning: It is strongly encouraged that you refrain from mixing multiple bills on a single match event. If you stick by the rule of "just one bill per match event" you will then be able to determine the outstanding balance of a partially paid bill (see the bill page, bill summary section). However, if you mix more than one bill under a match event, a particular bill's balance may become indeterminate. Algorithm types have been provided which help to enforce this rule of "one bill per match event", please refer to Match By Bill, Pay Oldest Bill First for an example of a matching algorithm that enforces this notion.

When Are Match Events Created?

The following points describe when match events are created for open-item accounts:

Note. Match events are only created for open-item accounts (i.e., those accounts with a customer class that indicates open-item accounting is practiced). Match events may not be created for balance-forward accounts.

- The system can create one or many match events when a payment is added. This match event matches the payment's credit FT's with the debit and credit FT's from bill segments and adjustments. The FT's that are linked to the match event are controlled by the payment's **match type** and **match value** (payments made by open-item customers must reference a match type and match value). Refer to Payments And Match Events for more information.
- The system may create a match event when any type of financial transaction is cancelled. This match event groups together the original FT with its cancellation FT. Refer to How Are Match Events Cancelled? for more information.
- The system creates a match event when a bill is completed for customers that pay automatically (i.e., direct debit customers). The match event groups together the bill's new charges against the automatic payment's payment segments.
- The system creates a match event when a bill is completed where the new charges are offset by other financial transactions. For example,
  - Consider a bill that contains a deposit refund. If the sum of the deposit refund equals or exceeds the amount of the bill, the bill's FT's can be matched against the debit refunds FT's. Refer to Refunding Deposits for more information about deposit refunds.
  - Consider a bill whose new charges are offset by a previous overpayment. Refer to Over Payments for more information about overpayments.

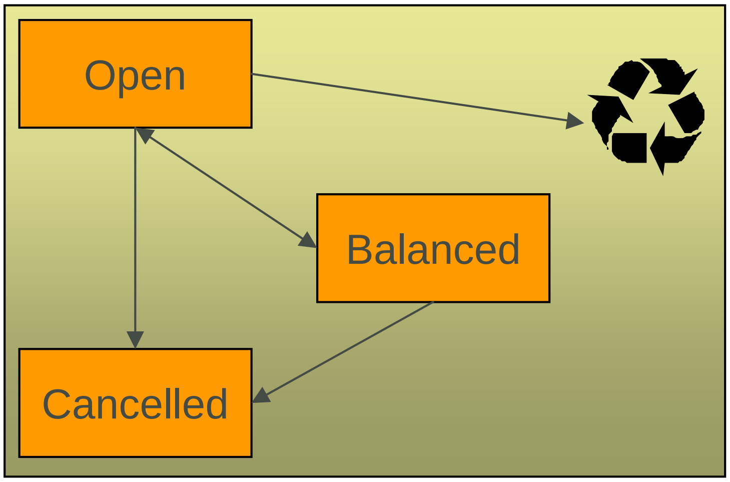
Refer to Bill Lifecycle for more information about what happens during bill completion.

- The system creates a match event when a service agreement closes and the service agreement has unmatched FT's. For example,

  - Consider a deposit service agreement that closes when the deposit is refunded to the customer. The system will create a match event with the deposit SA's FT's (the original credit and the debits used to refund the deposit) when the deposit SA closes (i.e., when its credit balance falls to zero). Refer to Refunding Deposits for more information about deposit refunds.
  - Consider a service agreement for utility debt that is written off. This service agreement closes when the system creates transfer adjustments to transfer the utility debt to a write-off service agreement (or writes down the debt). The system creates a match event to match the original debt to the transfer adjustments used to write-off the debt. Refer to How Is Debt Financially Written Off for more information about write-off processing.
- A user can create a match event manually at any time. Manual match events would be created under a variety of situations. For example:
  - If a customer disputes a charge. Refer to Disputing Items for more information about disputes.
  - To handle unusual situations when the system is unable to automatically match FT's together.

Match Event Lifecycle

The following diagram shows the possible lifecycle of a match event:



Match events are initially created in the ***open*** state. Financial transactions (FT's) linked to ***open*** match events affect arrears, but not in an open-item fashion. Rather, FT's linked to ***open*** match events affect arrears in a balance-forward fashion. Refer to Open Item Versus Balance Forward Accounting for more information about these two accounting methods.

A user may delete an ***open*** match event. When an ***open*** match event is deleted, its FT's may be linked to other match events.

The system automatically changes an ***open*** event's status to ***balanced*** when the sum of the debit financial transactions (FT's) equals the sum of the credit FT's for each SA on the match event. It's worth stressing that a match event may contain FT's from many SA's and each SA's FT's must sum to zero before the match event can become ***balanced***.

A user may re***open*** a ***balanced*** event (by adding / removing FT's so that the match event becomes unbalanced).

A user may ***cancel*** a ***balanced*** or ***open*** match event. Refer to How Are Match Events Cancelled? for more information about cancellation.

Payments And Match Events

As described under When Are Match Events Created?, the system creates a match event when a payment is added for an open-item account. The system uses the payment's **match type** and **match value** to determine the FT's (e.g., bill segments and adjustments) that will be matched with the payment's FT's (i.e., the payment segments).

Another way to think of this is as follows:

- When most payments are distributed, the system calls the payment distribution algorithm that is plugged-in on the account's customer class.
- However, a payment that is made in respect of a specific bill requires a different distribution algorithm because the payment should only be distributed amongst the debt associated with the specific bill being paid. This is accomplished by referencing a match type / match value on the payment. The match type references the appropriate payment distribution algorithm. This algorithm is used rather than the customer class distribution algorithm.

For example, if a payment were made in respect of bill ID ***192910192101***, this payment would reference a match type of ***bill ID*** and a match value of ***192910192101***. At payment distribution time, the system calls the override payment distribution algorithm associated with this match type. The base package bill ID distribution algorithm does several things:

- It distributes the payment amongst service agreements associated with the bill.
- It creates a match event and links the bill's bill segment and adjustment FT's to it.
- Refer to the Bill ID Match Type Algorithm for more information about this algorithm.

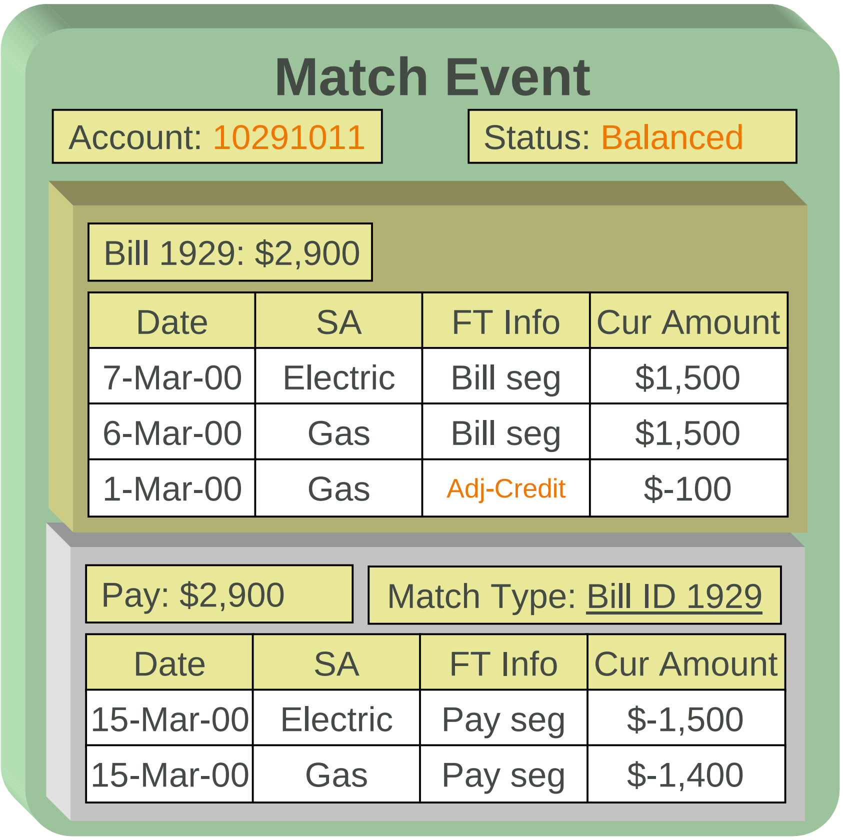
The match type's distribution logic is not "hard coded". Because the match type's payment distribution logic is embedded in a plug-in algorithm, you can introduce new algorithms as per your company's requirements.

It's worth noting that payment *distribution* and *freezing* are two separate steps that typically happen in quick succession. The system's standard match event algorithms create the match event during payment distribution. This match event exists in the ***open*** state (because the payment segment's FT's have not yet been linked to the match event and therefore debit FT's do not equal credit FT's). The ***open*** match event references the debit FT's (the bill segments and adjustments) for which it pays. It is only at payment freeze time that the credit FT's (the payment segments) are linked to the match event thus allowing the match event to be become ***balanced***.

If, at freeze time, the payment's credit FT's do not equal the debit FT's on the match event, the match event is left in the ***open*** state. An alert will appear on Control Central to highlight the existence of ***open*** match events (if the appropriate alert algorithm is plugged in the installation record). In addition, you can also set up a To Do entry to highlight the existence of open match events.

Payments Are Matched To Debit and Credit FTs

While the above discussion dealt with the typical situation where the payment's credit FT's are matched against a bill's debit FT's, we want to point out that a payment's FT's may be matched against debit and credit FT's. Consider the following example:



Match Event

Account: 10291011

Status: Balanced

Bill 1929: $2,900

Date	SA	FT Info	Cur Amount
7-Mar-00	Electric	Bill seg	$1,500
6-Mar-00	Gas	Bill seg	$1,500
1-Mar-00	Gas	Adj-Credit	$-100

Pay: $2,900

Match Type: Bill ID 1929

Date	SA	FT Info	Cur Amount
15-Mar-00	Electric	Pay seg	$-1,500
15-Mar-00	Gas	Pay seg	$-1,400

Notice that:

- The $2,900 payment is distributed amongst two service agreements (electricity and gas).
- The FT's to which the payment segments are matched are both debit and credit FT's. Notice that the debit FT's (the bill segments) and the credit FT (the adjustment) sum to $2,900.

Credits may result in a situation where the total amount on a bill for an SA is negative. This would be the case if in the above example the credit adjustment were for $-1600 resulting in the total amount for the Gas SA on this bill to be $-100 (credit). Assume a full payment of $1400 is made towards this bill. The Bill ID Match Type Algorithm first allocates negative payment amounts to any SA credit amount on the bill being paid. It then carries over the credit amount to pay off other bill amounts. In this example, a "negative" payment segment is created to match the $-100 credit of the Gas SA. Using the carried over credit a $1500 payment segment is created to match the $1500 debit of the Electric SA.

How Are Match Events Cancelled?

A user can cancel an ***open*** or ***balanced*** match event at any time. When a match event is ***cancelled***, the event's FT's again affect arrears (and they can be associated with new match events). In other words, when a match event is ***cancelled***, its FT's are released from the match event and become open-items.

In addition to manual cancellation, the system may automatically cancel a match event when the last of its payment FT's, if any, is cancelled (if you plug-in the appropriate FT freeze plug-in on your open-item customer classes).

For example, consider a match event that was created when a payment was made. If the payment is subsequently cancelled, the match event is also cancelled (thus releasing the match event's FT's) if no other payment FT's are linked to the match event. Please be aware that FT cancellation also causes a new match event to be created. This match event matches the original FT (the payment segment) and its cancellation FT. This means that the only "open items" that will exist after a payment is cancelled are the debit FT's that were originally paid.

Reopening bills associated with automatic payment customers. While many payments are cancelled due to non-sufficient funds, please be aware that if you reopen a bill for which an automatic payment was created, the system will cancel the associated payment. If this payment is associated with a match event (because the account is an open-item account), the match event will be cancelled and a new match event will be created to match the original automatic payment with its cancellation details. This is necessary because a new payment will be created with the bill is subsequently completed and this payment's FT's will be matched to the bill's FT's.

Canceling a payment can result in many match events being created. If a cancelled payment has multiple payment segments, a separate match event will be created for each payment segment.

While payment cancellation is the most common type of FT cancellation, be aware that bill segment or adjustment cancellation may also cause a new match event to be created. We don't necessarily want to always link the cancellation FT and its original FT to the same match event. For example, when the cancellation FT is swept on to the next bill it affects the next bill and not the original FT's bill. For cancellations that will not be swept on to the next bill (payment cancellation, cancellation of an adjustment that is not shown on bill, credit notes, and bill segment cancellation before the bill is completed) the system creates a new match event that matches the original FT and its cancellation FT. This way, neither FT affects aged debt. If the original FT was linked to an existing match event and no other FTs are left on this match event it is automatically canceled.

Current Amount Is Matched, Not Payoff

The system matches the current amount of financial transactions, not the payoff amount.

Please refer to Current Amount versus Payoff Amount for more information about current and payoff amounts.

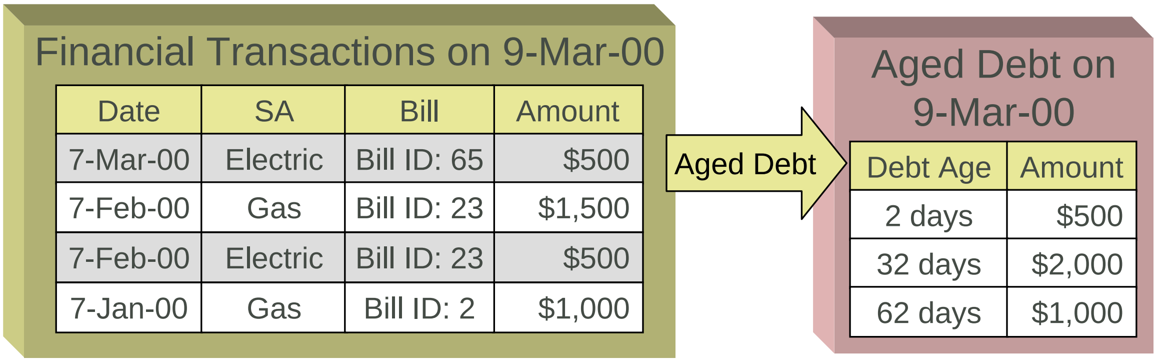
Disputing Items

Open-item customers may dispute FT's that they are not comfortable paying. For example, a customer who receives a bill with an anomalous charge may decide to dispute it.

When an open-item customer disputes a charge, a user creates a match event and links the disputed FT(s) to it. This match event will be in the ***open*** state (because it does not contain FT's that sum to zero). In addition, the match event's "disputed switch" is turned on.

Alerts. An alert is displayed on control central to highlight the existence of disputed match events (if the appropriate alert algorithm is plugged in). In addition, you can also set up a To Do entry to highlight the existence of disputed match events.

While the dispute is being researched, the disputed amount will not affect aged debt, but it still forms part of the customer's balance. For example, consider the following unpaid financial transactions that exist for an account:



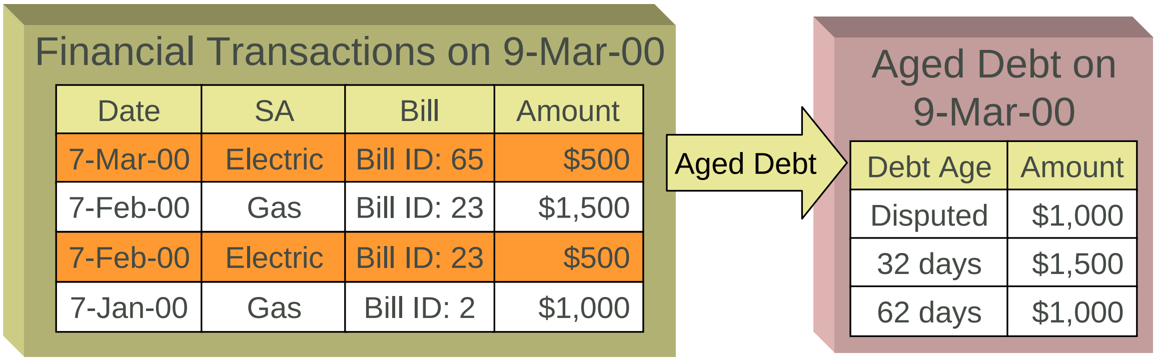
Financial Transactions on 9-Mar-00

Date	SA	Bill	Amount
7-Mar-00	Electric	Bill ID: 65	$500
7-Feb-00	Gas	Bill ID: 23	$1,500
7-Feb-00	Electric	Bill ID: 23	$500
7-Jan-00	Gas	Bill ID: 2	$1,000

Aged Debt on 9-Mar-00

Debt Age	Amount
2 days	$500
32 days	$2,000
62 days	$1,000

If the customer disputes the two electric bill segments, the customer's aged debt will look as follows:



Financial Transactions on 9-Mar-00

Date	SA	Bill	Amount
7-Mar-00	Electric	Bill ID: 65	$500
7-Feb-00	Gas	Bill ID: 23	$1,500
7-Feb-00	Electric	Bill ID: 23	$500
7-Jan-00	Gas	Bill ID: 2	$1,000

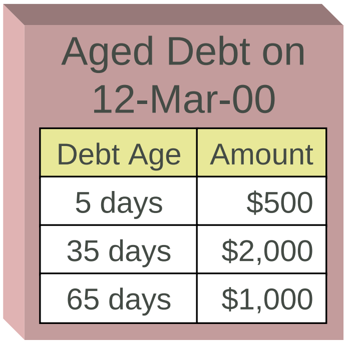
Aged Debt on 9-Mar-00

Debt Age	Amount
Disputed	$1,000
32 days	$1,500
62 days	$1,000

Notice how a new category of debt appears – ***Disputed***. Also notice how the 2 day old debt disappears and the 32 day old debt is reduced by the disputed amount.

The system shows disputed debt on Control Central. In addition, in all places where aged debt appears in the system, disputed debt is shown as a separate debt category.

If the dispute goes in your company's favor, the disputed match event should be ***cancelled*** (thus allowing the FT's to again impact aged debt). For example, if we assume 3 days have passed and the dispute match event is cancelled, the customer's aged debt will look as follows:



Aged Debt on 12-Mar-00

Debt Age	Amount
5 days	$500
35 days	$2,000
65 days	$1,000

If the dispute goes in the customer's favor:

- You may decide to issue a credit note to cancel the offending bill or bill segment(s). As described above, the system in this case will automatically create new match events that match the original FTs with their cancellation FTs and cancel the disputed match event when the last item is unlinked from it.
- You may decide to cancel the offending bill segment(s) / adjustment(s). As described above, these cancellations are going to be swept on to the next bill. The system therefore will not automatically cancel the disputed match event. Notice that the cancellation effect of the disputed items is carried over on to the next bill. This means that the previously disputed items still need to be paid.

Cancel / rebill. If you cancel / rebill an offending bill segment, both the cancel and the rebill will become open-items that will be matched when the next bill is paid.

- You may decide to issue an adjustment to counter the effect of the disputed FT's. In this situation, you would simply link the adjustment FT to the disputed FT's (thus allowing the match event to become ***balanced***). It is important to use in this case an adjustment that does not show on bill.

Pay Plans

You create a pay plan when a customer agrees to make one or more scheduled payments to satisfy past (or future) debt. These payments cannot be matched to open items because it is unlikely that debit FT's exist that equal the amount of each scheduled payment. However, you must specify a match type on all payments made by open-item customers. Therefore, a conundrum exists – the system requires a match type on payments made by open item accounts, but payments made for pay plans cannot be matched to existing FT's. This conundrum is solved by the fact that match types do not have to specify an override payment distribution algorithm. The customer class's standard distribution algorithm is used for payments that reference such a match type.

You may wonder how these payments will eventually get matched to open items? If ALL payments associated with a pay plan occur before the next bill is paid (or if the pay plan exists to satisfy future debt), these payments will be swept onto the match event that is created when the customer pays their next bill. However, if the pay plan exists to payoff historical debt and this debt has not been entirely paid by the time of the next bill, an unmatched event will exist when the customer pays their subsequent bills (if the payment amount doesn't match the amount of new charges on the bill). Why? Because, the customer is not paying the entire amount of the bill and therefore the system will not be able to match the payment to open items. If this occurs, we recommend canceling the match events that are created when the customer pays their subsequent bills. When the customer finally pays off all outstanding debt, the system will create a single match event that will contain all payments and bill segments.

Overpayments

An overpayment, by definition, does not "match" to open items. However, the match type algorithms supplied with the base package will result in a ***balanced*** match event if an overpayment is made. The following points explain how this is achieved:

- The base package's match type algorithms will distribute the payment until the customer's current debt is satisfied.
- The amount of the overpayment will be kept on a separate SA (this only happens if you plug-in the appropriate Overpayment Distribution algorithm on your customer classes). Refer to Overpayment Segmentation for more information.
- When the payment is frozen, the payment segments that satisfy current debt will be matched against their respective open-items. The payment segment used to book the overpayment (on the overpayment SA) will not be matched.
- When future bills are completed, the credit balance on this "overpayment SA" will be transferred to the "real SA's" when future bills are completed (if you have plugged in the appropriate bill completion algorithm on the overpayment SA's SA type). If the overpayment satisfies all newly calculated charges, a match event is created that matches the new charges against the funds transferred from the overpayment SA. Refer to When Are Match Events Created for information about how the system creates match events at bill completion time when the new charges on the bill are satisfied by other credits (overpayments, deposit refunds, etc.).
- At some point in the future, the overpayment will be exhausted (i.e., all funds will be transferred to "real SA's"). At that point in time, the overpayment SA will close (assuming you set up the overpayment SA's SA type as a "one time"). At close time, the system creates a match event that matches the original overpayment payment segment with the adjustments that were used to transfer funds to the "real SA's". Refer to When Are Match Events Created for information about how the system creates match events when a SA closes.

Setting Up The System To Enable Open Item Accounting

The following section provides an overview of how to enable open-item accounting.

Contents

Installation Record Setup
To Do Entry Setup

Match Type Setup

The number of match types that you will need is dependent on the number of ways you want payments to be matched to open items. At a minimum, you will probably need the following match types:

- **Bill ID.** This match type should reference an override payment distribution algorithm that distributes the payment based on the bill ID specified on the payment (in match value). Refer to Payments And Match Events for more information.
- **SA ID.** This match type should reference an override payment distribution algorithm that distributes the payment based on the SA ID specified on the payment (in match value). Refer to Payments And Match Events for more information.
- **Pay Plan.** This match type should NOT reference an override payment distribution algorithm (if this algorithm is blank, the customer class's payment distribution algorithm is used). Refer to Pay Plans for more information.

Match Event Cancellation Reason Setup

The number of match event cancellation reasons that you will need is dependent on the number of ways your organization can justify the cancellation of a match event. At a minimum, you will probably need the following match event cancellation reasons:

- **FT Cancellation.** This cancel reason should be referenced on the Customer Class FT Freeze algorithm that is responsible for canceling match events when one of its financial transactions is cancelled.
- **Incorrect Allocation.** This cancel reason should be specified by users when they cancel match events that were created by the system erroneously.

Customer Class Setup

The following points describe customer class oriented set up functions:

- Turn on the open-item accounting switch.
- Set up the following algorithms for each CIS division:
  - Specify a **payment freeze** algorithm that causes a payment's FT's to be linked to the match event that was created when the payment was distributed. Refer to Payments And Match Events for more information.
  - Specify a **FT freeze** algorithm that causes match events to be cancelled (and a new match event to be created) when a FT is cancelled. Refer to How Are Match Events Cancelled for more information about cancellation.
  - We strongly recommend specifying an **overpayment** algorithm that causes overpayments to be segregated onto an "excess credit / overpayment" SA. Refer to Overpayments for more information.

Overpayment SA Type Setup

Specify a **bill completion** algorithm that causes the credit amount on overpayment SA's to be transferred to newly create debt (created when the bill is created). This algorithm transfers an overpayment SA's balance to regular SA's and creates a match event if the overpayment covers the entire bill. Refer to Overpayments for more information.

Installation Record Setup

Specify an **automatic payment** algorithm that causes a match event to be created when automatic payments are created for open-item accounts. The base package algorithm will do this for you if you specify the appropriate parameter on the algorithm. Refer to APAY-CREATE for more information about this algorithm.

If you want a Control Central alert to highlight when the current account has any open match events, plug in the appropriate **control central alert** algorithm on your installation record. Refer to C1-OPN-MEVT for more information about this algorithm.

If you want to enable manual pay segment distribution for open item accounts, along with other functions, you will need to plug in an installation algorithm for bill balance calculation. Refer to C1-OI-BI-AMT for more information about this algorithm.

To Do Entry Setup

Two To Do types are supplied with the base package:

- **TD-MODTL**. This To Do type highlights the presence of open, disputed match events.
- **TD-MONTL**. This To Do type highlights the presence of open, non-disputed match events.

Each of the above To Do types should be configured with the roles that work on entries of each type.

In addition, the account management group and/or divisions from which the default roles are extracted should be updated to define the role that should be defaulted for each of the above To Do types.

Refer to The Big Picture Of To Do Lists for more information about To Do lists.

Setting Up Match Types

Most payments are distributed amongst service agreements using the payment distribution algorithm specified on the payment's account's customer class. This algorithm decides how to distribute a payment amongst an account's existing debt if the customer doesn't specify how the payment should be distributed.

A customer can specify how a payment is distributed by specifying a match type and match value on their payments. Consider the following examples:

- Customers that are subject to open-item accounting (this is defined on the account's customer class) tell the system exactly which debt is covered by their payments. For example, an open-item customer might make a payment in respect of bill ID ***123919101919***.

- Even non open-item customers can direct payments to specific SA's. For example, the system allows a balance-forward customer's payment to be directed to a specific service agreement (however, they cannot direct payments to specific bills as only open-item customers can do this).

Match types are used to define the specific type of debt that is covered by a payment. The match type contains the algorithm that effectively overrides the standard payment distribution algorithm defined on the account's customer class.

Background information. Please refer to Payments And Match Events and Match Type Setup for more information about how match types are used.

To set up match types, select **Admin Menu, Match Type**.

Description of Page

Enter an easily recognizable **Match Type** and **Description**.

Define the **Pay Dist Override Algorithm** used to distribute payments that reference this match type. If you haven't done so already, you must set up this algorithm in the system. To do this:

- Create a new algorithm (refer to Setting Up Algorithms).
- On this algorithm, reference an Algorithm Type that overrides the normal payment distribution algorithm.

Where Used

Follow this link to open the data dictionary where you can view the tables that reference CI_MATCH_TYPE.

Setting Up Match Event Cancellation Reasons

When a match event is canceled, a cancel reason must be supplied.

Background information. Refer to How Are Match Events Cancelled? and Setting Up Match Event Cancellation for more information about cancellation.

To set up match event cancellation reasons, select **Admin Menu, Match Event Cancel Reason**.

Description of Page

Enter an easily recognizable **Match Event Cancel Reason** and **Description**.

Where Used

Follow this link to open the data dictionary where you can view the tables that reference CI_MEVT_CAN_RSN.

Fund Accounting

The topics in this section provide background information about fund accounting.

This section is only relevant for some organizations. The system configuration requirements described in this section are only relevant if your organization practices fund accounting (this type of accounting is typically performed by municipal utilities). If your organization does not practice fund accounting, you need only indicate such on the Installation Record; no other setup is required.

Contents

Fund Accounting Overview

Municipal utilities, and not-for-profit organizations in general, often use a form of accounting different from that used by for-profit corporations. Municipal utilities typically practice fund accounting, whereas corporations practice corporate accounting.

Regulations or other restrictions may require a municipal utility to account for the finances of each of its departments as a separate entity. If a municipal utility provides both water and wastewater service, a municipal utility may need to track the receivables, revenue, and liabilities for water service separately from those of wastewater. In contrast, a corporation is free to co-mingle the moneys of the two services.

To track the services separately, the municipal utility sets up a fund for each department. A fund is an accounting entity with its own self-balancing set of accounts. Each fund has its own “sub general ledger” with its own chart of accounts, and within each fund, its debits equal its credits at all times. This allows the utility to report on the financial state of each fund independently.

In addition to having a fund for each department, there is also a general fund, which is used to handle inter-fund transfers as well as shared accounts.

Contents

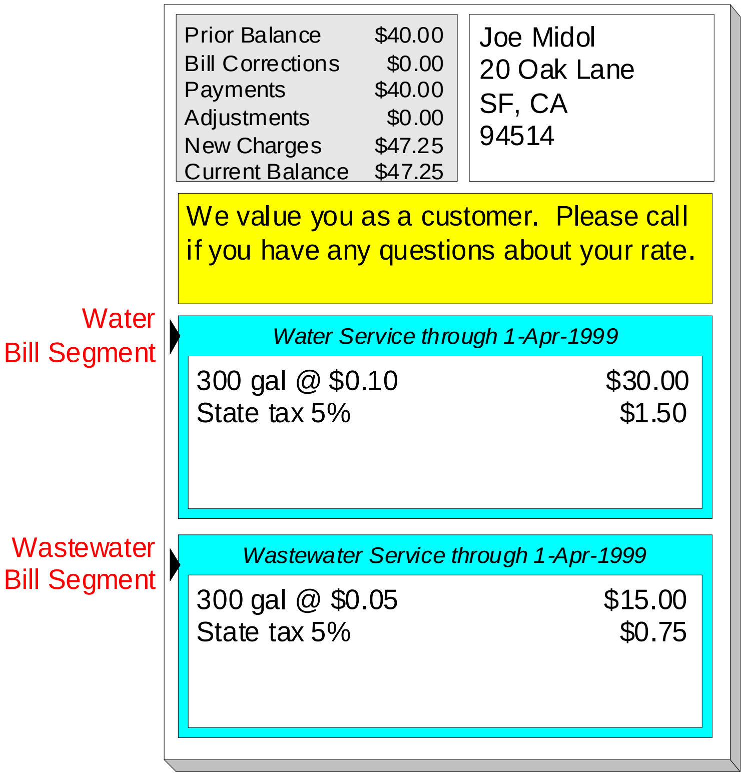
Fund Accounting Example

Consider a municipal utility which provides water and wastewater service. The utility has two departments: water and wastewater. Each department must track their finances separately therefore a fund is setup for each department:

- Water (fund 01).
- Wastewater (fund 02).

In addition, with fund accounting, there is always a general fund (fund 99).

Assume the following bill is generated.



Prior Balance	$40.00
Bill Corrections	$0.00
Payments	$40.00
Adjustments	$0.00
New Charges	$47.25
Current Balance	$47.25

Joe Midol
20 Oak Lane
SF, CA
94514

We value you as a customer. Please call if you have any questions about your rate.

Water Service through 1-Apr-1999

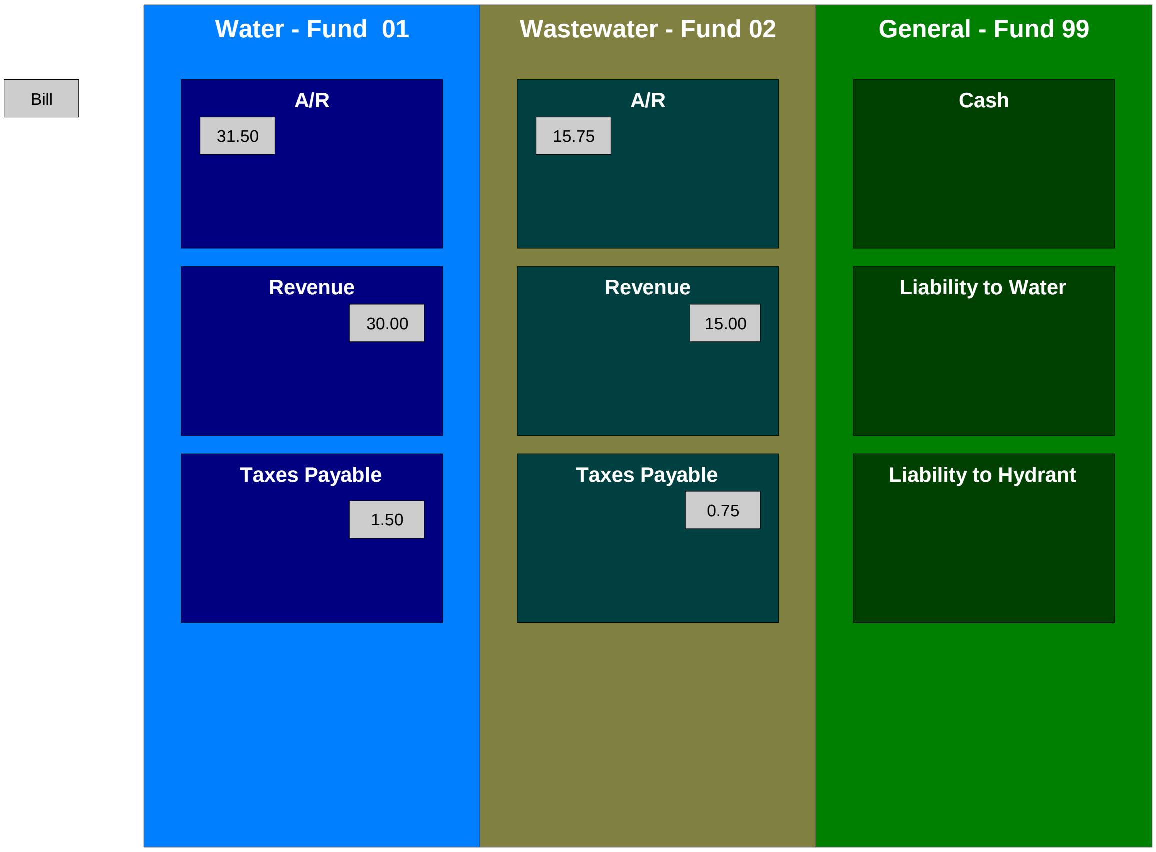
300 gal @ $0.10	$30.00
State tax 5%	$1.50

Wastewater Service through 1-Apr-1999

300 gal @ $0.05	$15.00
State tax 5%	$0.75

Water
Bill Segment
Wastewater
Bill Segment

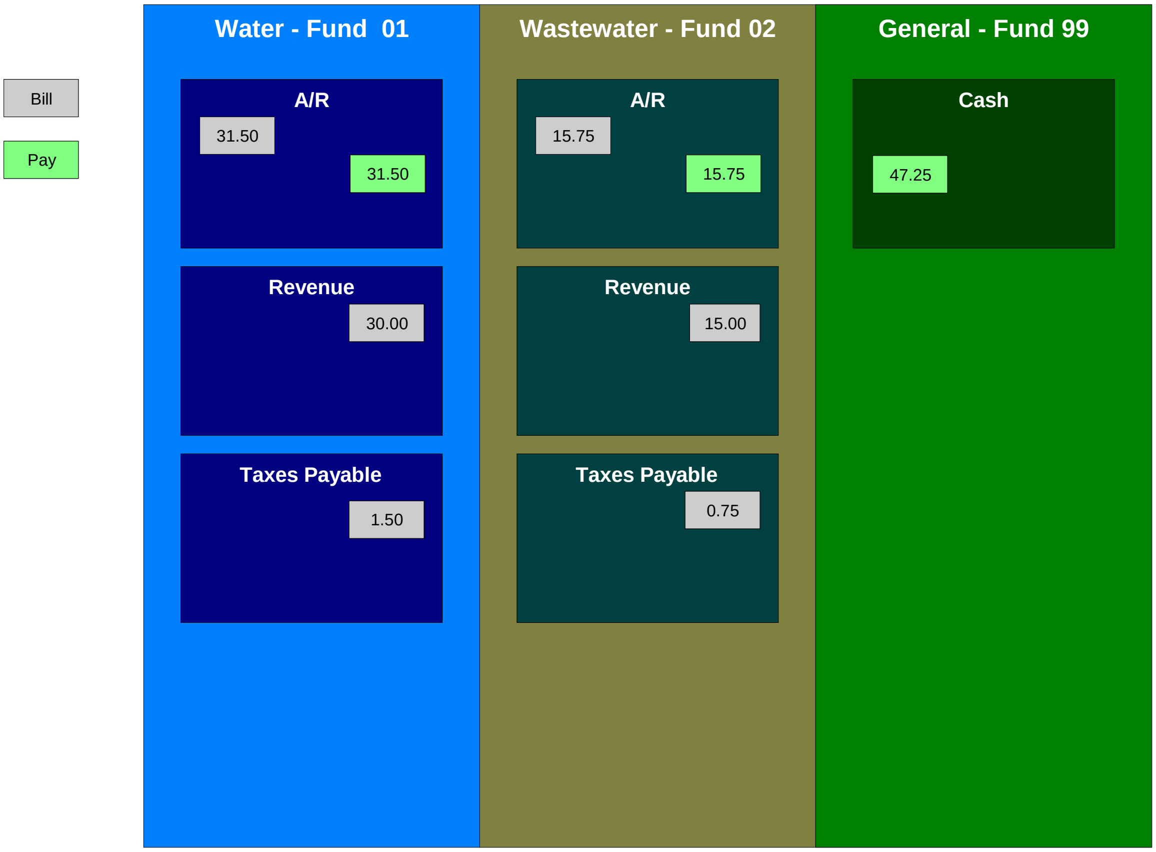
The bill would produce the following GL entries:



For each fund, the GL details of the bill will include a debit to the accounts receivable (A/R) account and credits to the revenue and taxes payable accounts. In organizational terms, each department is owed a portion of the overall bill by the customer, part of which is sales by the department and part of which is owed to the taxing authorities by the department. Each fund is balanced.

Note that the accounting could be identical under corporate accounting if each service is its own division with its own chart of accounts.

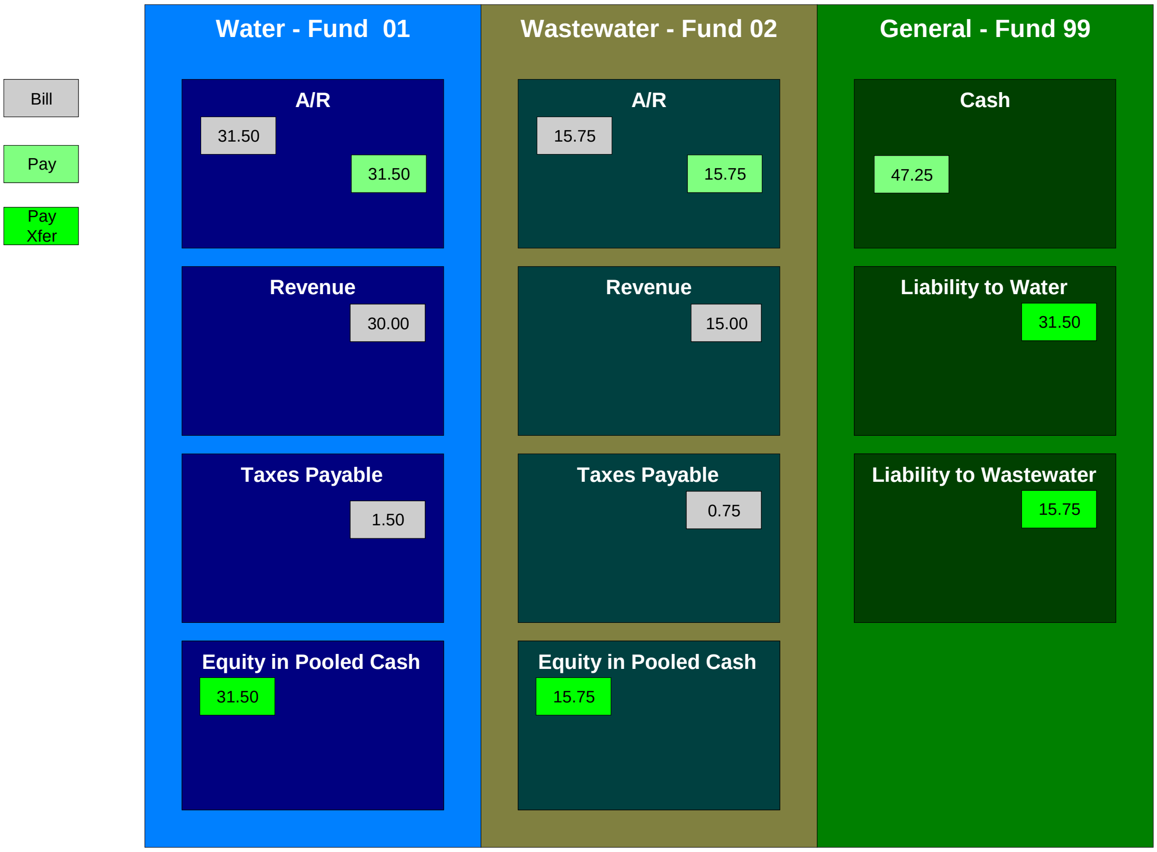
The following diagram illustrates the initial GL accounting that would occur when the payment arrives:



The utility's general cash account is debited, and the departmental funds' A/R accounts are credited. In other words, the cash is held by the utility as a whole but the receivables are reduced for the individual departments.

If the accounting were left in this state, the fund accounting principal – that each fund represents an independent entity with a self-balancing chart of accounts – would be violated. This violation is caused due to the fact that cash is recorded on the general fund, not the departmental funds, causing the general fund to have an excess debit and the departmental funds to have an excess credit.

From an organizational viewpoint, to make each department whole, the departments need to note what portion of the cash they own, and correspondingly, the utility needs to note what portion of the cash is owed to each department. The following diagram illustrates this point.



To maintain a balance of debits and credits within each fund, the departmental funds have an “equity in pooled cash” (EPC) account and the general fund has a liability account for each departmental fund. In addition to debiting the general fund’s cash account and crediting the departmental funds’ A/R accounts, the departmental funds’ EPC accounts are debited and the general funds liability accounts are credited.

And so, with the additional GL entries, all funds have matching debits and credits.

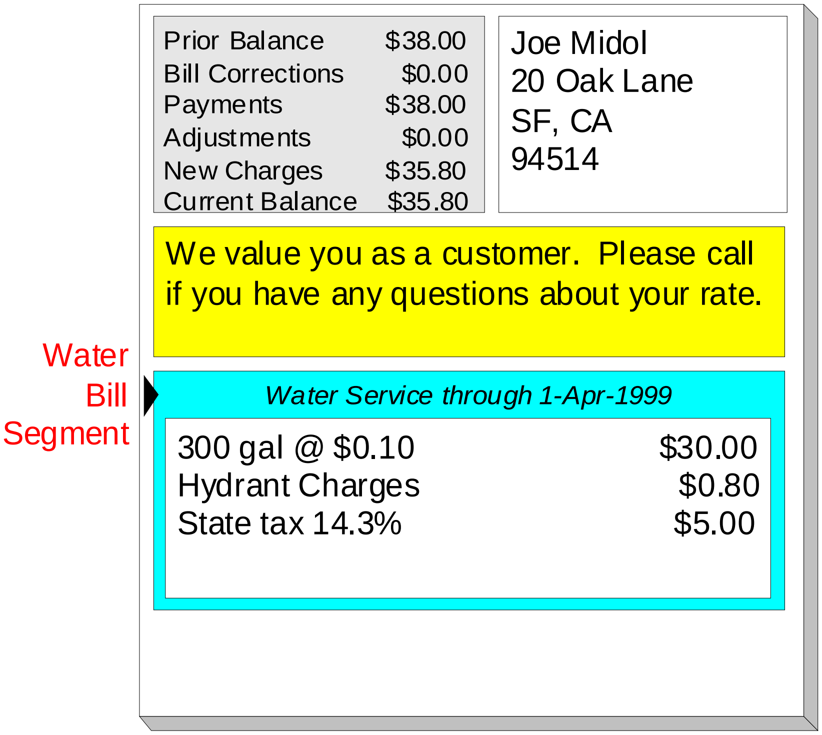
An Example Of A Bill Segment That References Multiple Funds

Consider a municipal utility that primarily supplies water service but is also responsible for maintaining the city’s fire hydrants. The costs for fire hydrant maintenance are borne by the water customers and make up just a small portion of the overall bill. These costs are simply added to the water bill as a line item. The utility has two departments:

- Water service (fund 01)
- Hydrant maintenance (fund 39).

In addition, there is a general fund (fund 99).

Assume the following bill is generated for water and hydrant services.



Prior Balance	$38.00
Bill Corrections	$0.00
Payments	$38.00
Adjustments	$0.00
New Charges	$35.80
Current Balance	$35.80

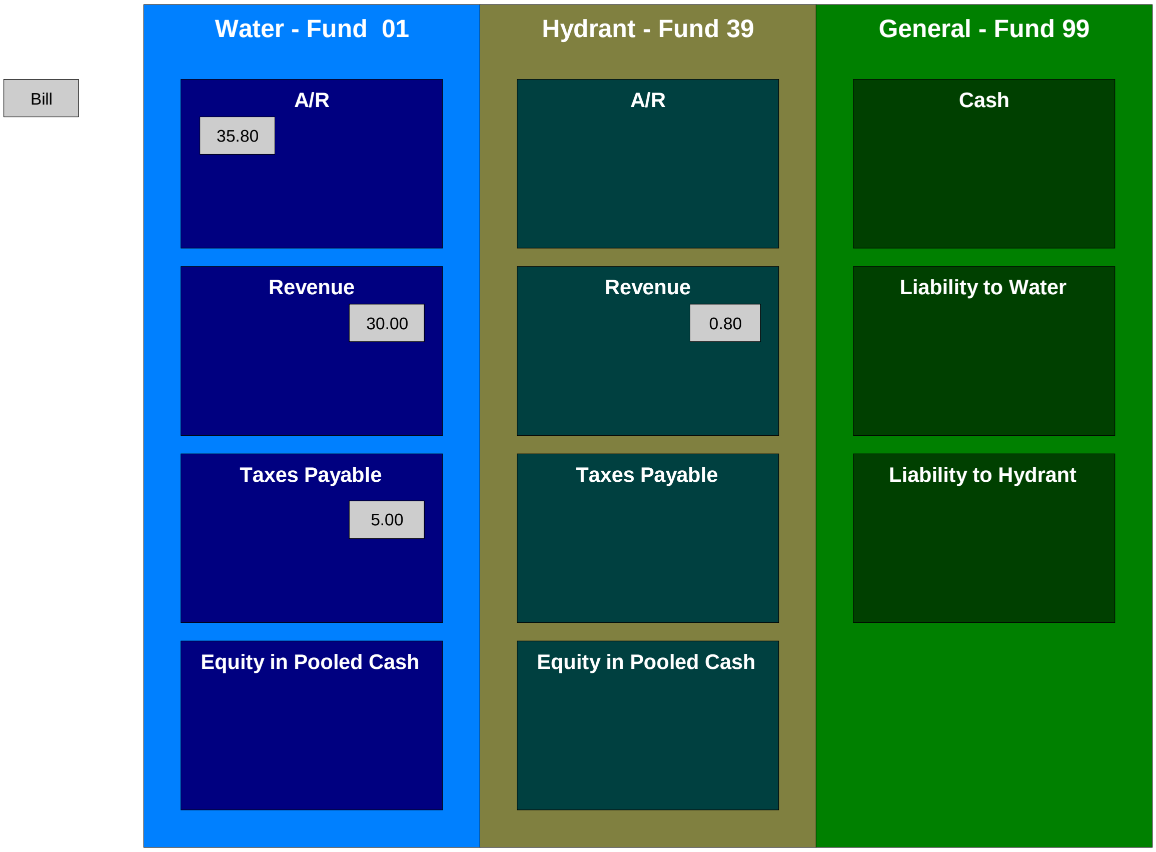
Joe Midol
20 Oak Lane
SF, CA
94514

We value you as a customer. Please call if you have any questions about your rate.

Water Service through 1-Apr-1999

300 gal @ $0.10	$30.00
Hydrant Charges	$0.80
State tax 14.3%	$5.00

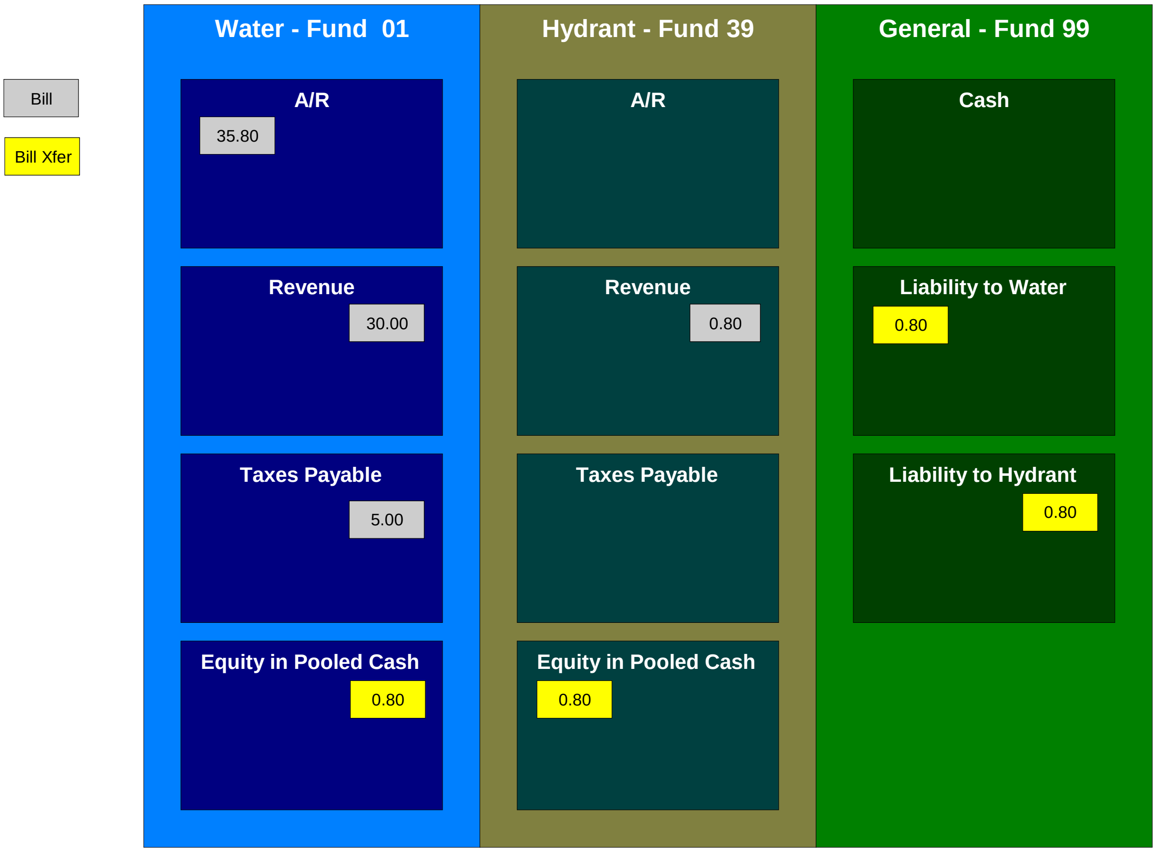
The following diagram illustrates the initial GL entries for the bill:



In accounting for the bill, the water fund’s A/R is debited, the water and hydrant funds’ revenue accounts are credited, and the water’s taxes payable account is credited.

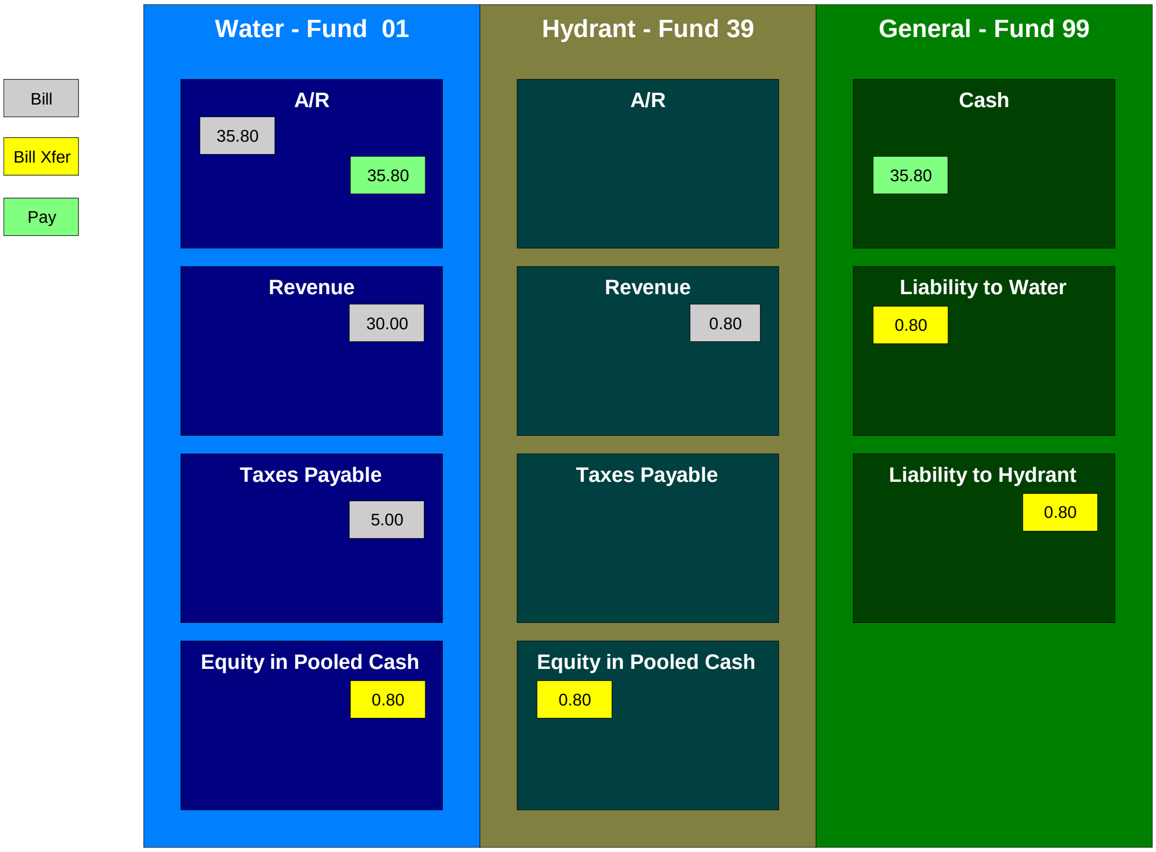
If left at this, the funds would be out of balance; the water fund would have an overall excess debit and the hydrant fund would have an equal excess credit. In organizational terms, the hydrant fund has recorded sales but that amount is recorded as being owed to the water department.

To balance each department, the water department accepts the responsibility for collecting the hydrant charges from the customer but immediately remunerates the charges to the hydrant fund.

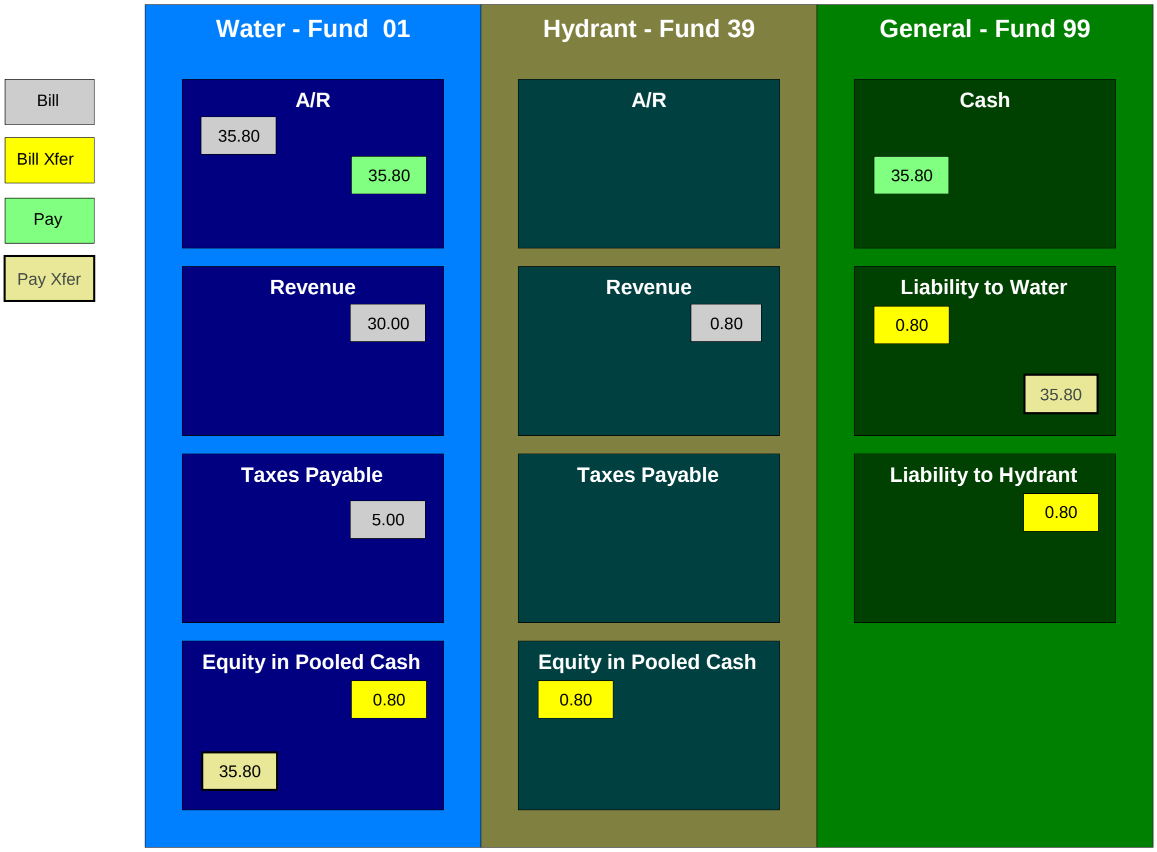


This transfer is done using the general fund. The water fund's EPC account is credited and the liability to water is debited with the amount of the hydrant revenue. Also, the hydrant fund's EPC account is debited and the general fund's liability to hydrant account is credited by the hydrant revenue. In effect, the water department owes the hydrant charges to the general fund, and the general fund owes the hydrant charges to the hydrant fund.

The following diagram illustrates the initial GL accounting that would occur when the payment arrives:



When the payment arrives, the cash is debited to the general fund’s cash account, and the water fund’s A/R is relieved. Again, the funds would be unbalanced if left in this condition; the water fund would have an excess of credits and the general fund would have an excess of debits.



To maintain each fund's balance of debits and credits, the general fund's liability to the water fund is credited by the amount of the department's share of the cash, and the water fund's EPC is debited. Note that the payment has no effect on hydrant fund's EPC and the general fund's liability to the hydrant fund. The hydrant department "received" its money from the water department when the bill was created.

And so, all funds have matching debits and credits.

Accounting Method Is Defined On The Installation Options

You must turn on a switch on the Installation Record to enable fund accounting.

Fund Controls Fund-Balancing Entries

There are two levels of debit and credit balancing in fund accounting. There is the balancing required by double entry accounting: the total debits in the entire GL must equal the total credits. This is required regardless of whether fund or corporate accounting is used. The distribution codes for these entries come from varying sources, depending on the type of financial event.

Refer to The Source Of GL Accounts On Financial Transactions for information on the sources of the distribution codes.

The second level of balancing is specific to fund accounting. Within each fund—not just across the GL—the total debits must equal the total credits. The original distribution code from the financial event has a fund specified. For example, a bill would cause a debit to a fund's A/R distribution code, and included in that A/R distribution code is the fund. It is the definition of the fund that specifies whether fund-balancing entries are required and provides the distribution codes for these entries.

For a departmental fund, the fund-balancing debit and credit would be specified. When a debit is applied to a departmental fund's GL account, an additional account (typically the general fund's liability to the departmental fund) is debited and an account (typically the departmental fund's EPC) is credited. When a credit is applied to a departmental fund's account, an additional account (typically the general fund's liability to the departmental fund) is credited and an account (typically the department's EPC) is debited.

For the general fund, no fund-balancing debits and credits are specified.

Building Fund-Balancing GL Details

Building the GL details for a financial event is a two-step process.

- First, the system generates the regular GL details for a financial transaction (FT). This is done regardless of whether corporate or fund accounting is used.
- Second, if fund accounting is activated (by turning on a switch on the Installation Record), the system analyzes the distribution code on each GL detail associated with the FT. If a fund is specified on a distribution code, the system checks the definition of the fund. If fund-balancing entries are specified on the fund, two additional GL entries are added to the FT:
    - An offsetting entry to the Equity in Pooled Cash account is created for the departmental fund (e.g., if the FT is debiting a given fund, an offsetting credit is created in the funds EPC account).
    - Another entry to the departments Liability account is created for the general fund.

The result is a consolidated set of GL entries for the FT, incorporating the regular entries as well as the fund-balancing entries.

The topics in this section illustrate the generation of the GL details for the earlier examples.

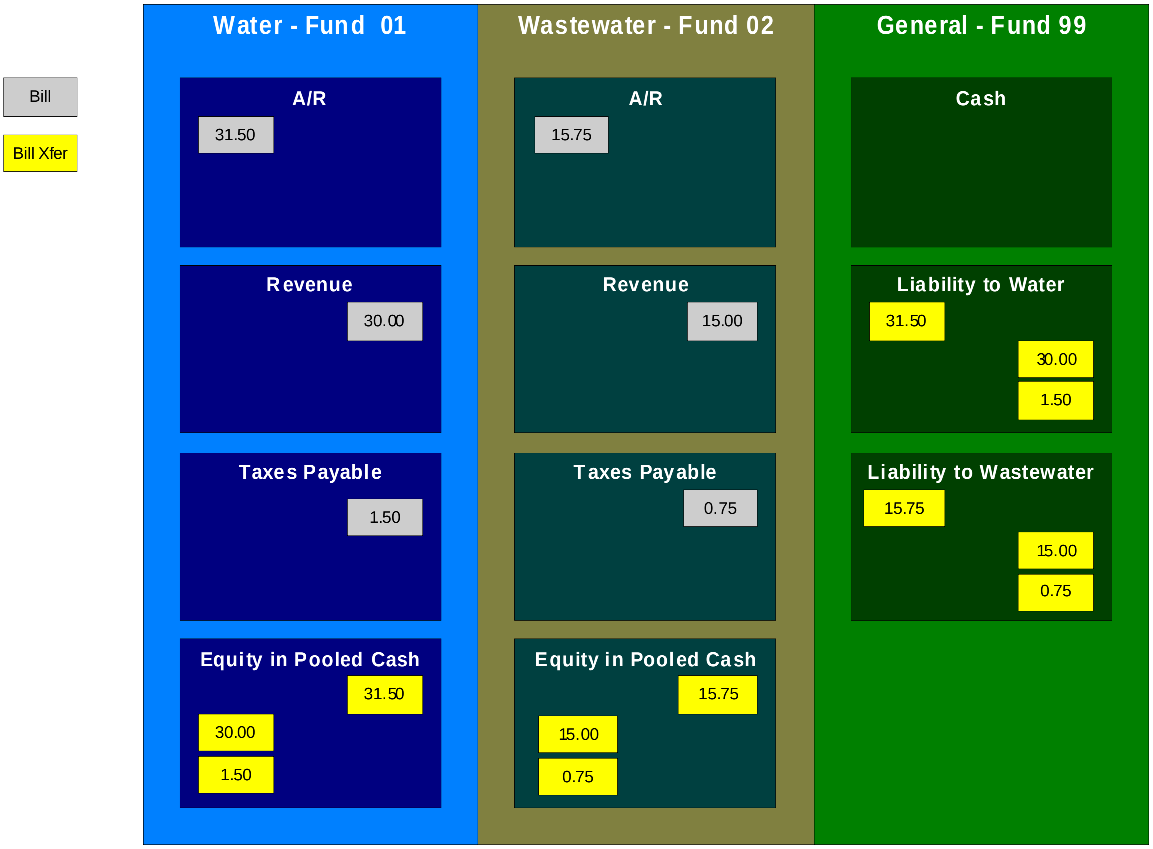
Contents

FTs Whose GL Details All Reference The Same Fund Do Not Impact the General Fund or EPC Accounts

In Fund Accounting Example, where the bill's bill segments reference a single fund, the system creates a fund-balancing GL entry for each GL entry applied to a departmental fund:

- A debit to a departmental GL account triggers a debit to the general fund's liability-to-departmental-fund account and a credit to the departmental fund's equity-in-pending-cash account.
- A credit to a departmental GL account triggers a credit to the general fund's liability-to-

departmental-fund account and a debit to the departmental fund's equity-in-cash account.

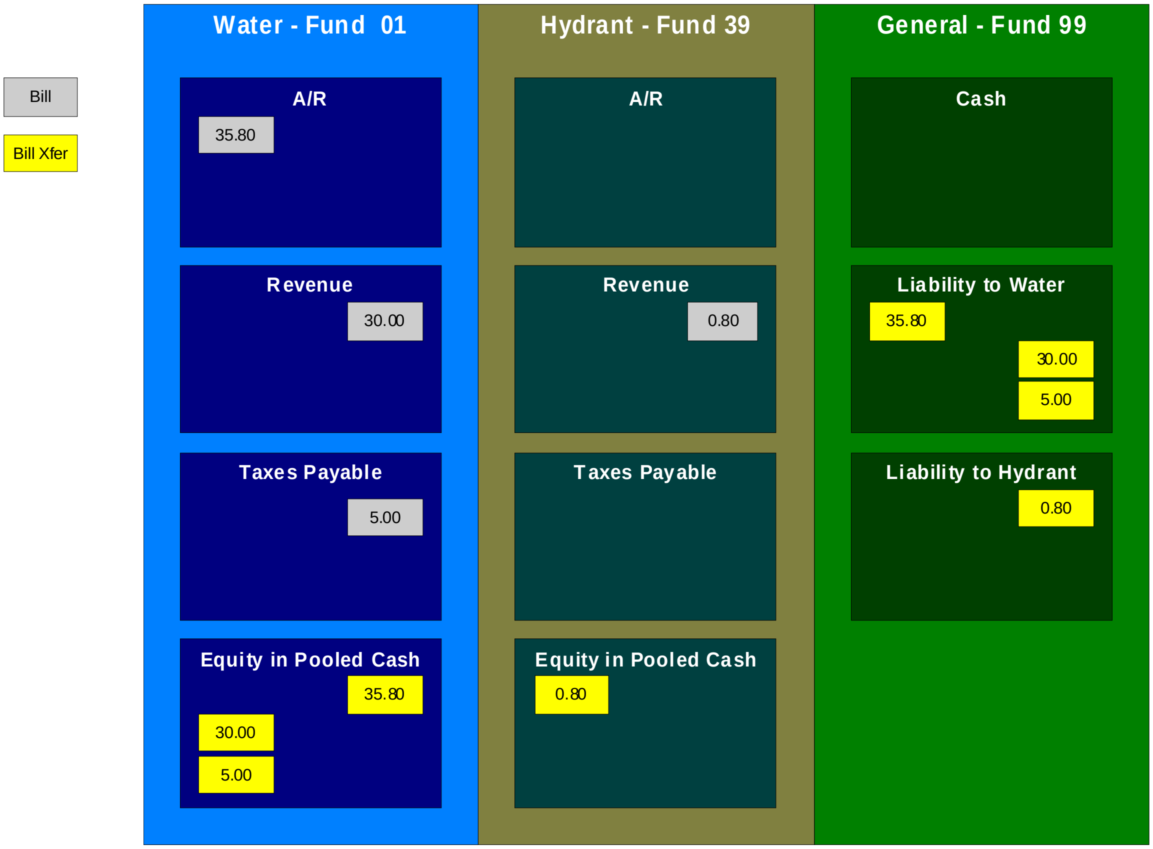


The net effect on the individual equity-in-cash and general fund's liability accounts is zero because the debits and credits net to zero for each GL account. In other words, the yellow boxes net to zero and therefore fund accounting does not impact the bill segment's financial transactions. Refer to Fund Accounting Example for the resulting consolidated GL entries.

An FT Whose GL Details Reference Multiple Funds

In An Example Of A Bill Segment That References Multiple Funds, where the bill's bill segments reference multiple funds (water and hydrant), the system also creates fund-balancing GL entries for the financial transaction:

- A debit to a departmental GL account triggers a debit to the general fund's liability-to-departmental-fund account and a credit to the departmental fund's equity-in-pending-cash account.
- A credit to a departmental GL account triggers a credit to the general fund's liability-to-departmental-fund account and a debit to the departmental fund's equity-in-cash account.



The net effect of the bill on the GL is that the water fund's EPC has a credit of $0.80, the hydrant fund's EPC has a debit of $0.80, the general fund's liability to the water fund has a debit of $0.80, and the general fund's liability to the hydrant fund has a credit of $0.80. Note that, overall, the general fund's overall liability to the departmental funds nets to zero. Refer to An Example Of A Bill Segment That References Multiple Funds for the resulting consolidated GL entries.

Setting Up The System To Enable Fund Accounting

The following section provides an overview of how to enable fund accounting.

Contents

Turn On Fund Accounting

On the Installation Record, indicate that fund accounting is ***Practiced***.

Defining Funds

A fund must be setup for each specific fund in your organization. Don't forget to also set up a fund for the general fund. Navigate using **Admin Menu, Fund**.

Description of Page

Enter a **Fund** and a **Description** to identify the fund.

If this fund is used to balance other funds or to hold cash, indicate a **Fund Type** of ***General***, otherwise indicate that it is ***Specific***.

If the fund type is ***Specific***, specify the **Equity Distribution Code** and **Liability Distribution Code**. These codes are used to balance financial transactions that span funds. The equity distribution code should belong to the same **Fund** as the one you are defining. The liability distribution code should belong to the general fund.

Distribution Codes Must Include Fund ID

All of your distribution codes must include their respective fund ID.

For more information, refer to Setting Up Distribution Codes.

Update Your Funds With Their Respective Equity and Liability Distribution Codes

After distribution codes have been setup, you must update your funds to indicate the equity and liability accounts used to balance inter-fund financial transactions.

United Kingdom VAT and CCL

The topics in this section provide information about value added tax (VAT) and climate change levy (CCL) charges that are specific to non-domestic customers in the United Kingdom market.

Applicable for UK market. This section is only relevant for the United Kingdom market. Other markets may disregard this section.

Contents

UK VAT Overview

Two rates of VAT, referred to as standard rate VAT and reduced rate VAT, are applicable to energy related charges in the UK. Domestic (i.e., residential) customers always pay VAT at the reduced rate. Non-domestic customers on the other hand normally pay standard rate VAT. However, part or all of the energy related charges for a non-domestic customer might be subject to reduced rate VAT. De minimis and VAT declarations affect the percentage of the energy related charges that is subject to each VAT rate:

- If average daily usage at a premise for a given service type does not exceed a certain threshold (the de minimis limit), all energy related charges at that premise / service type are taxed at the reduced rate.

- Some non-domestic customers, such as those with a mixed-use premise, may be eligible to pay reduced rate VAT on part or all of their energy related charges. Customers may file a VAT declaration specifying the percentage of their energy related charges that are eligible for reduced rate VAT - refer to Maintaining Declarations for more information. If the declared percentage exceeds a given threshold, the declared percentage is deemed to be 100% and the customer pays VAT at the reduced rate on all energy related charges at that premise. VAT declarations are non-transferable and must be filed for each account, premise, and service type combination.

In addition to the potential for different rates of VAT to be applicable on a bill, UK tax regulations require that excess credits are considered a prepayment of energy related charges together with VAT. Refer to Excess Credits and UK VAT for more information.

The system comes supplied with various algorithms types that can be used to perform the VAT calculations.

UK CCL Overview

The climate change levy (CCL) is based on the amount of energy used that is subject to standard rate VAT. Similarly to VAT declarations, customers may file for exemption from CCL. A CCL declaration specifies the percentage of the CCL charges that the customer is exempt from - refer to Maintaining Declarations for more information. CCL declarations are non-transferable and must be filed for each account, premise, and service type combination.

CCL charges themselves are subject to standard rate VAT.

UK VAT and CCL Bill Examples

The following examples show how a bill for a non-domestic customer is affected by de minimis, VAT declarations, and CCL declarations. In the examples, standard rate VAT of 17.5%, reduced rate VAT of 5%, a VAT declaration threshold of 60%, and a CCL charge of 0.43p per unit of energy are used.

Contents

Example 1 - Normal Account

This example shows the bill for a normal non-domestic account with no declarations and consumption above the de minimis limit. Standard rate VAT is applied to all energy related charges (the standing charge and the per unit charge) and to the CCL charge.

Bill Line	Amount
Standing Charge	10.00
2,000 units @ 10p	200.00
CCL on 2,000 units @ 0.43p	8.60
VAT @ 17.5% on 218.60	38.25
Total	256.85

Example 2 - Account with Consumption Under the De Minimis Limit

In this example, consumption does not exceed the de minimis limit and therefore reduced rate VAT is applied to all the energy related charges. There is no climate change levy because only units subject to standard rate VAT are subject to CCL.

Bill Line	Amount
Standing Charge	10.00
2,000 units @ 10p	200.00
VAT @ 5% on £210.00	10.05
Total	220.05

Example 3 - Account with VAT Declaration

This example is for a non-domestic account with a VAT declaration of 20%. Consumption is above the de minimis limit. CCL applies to only 80% of the total units as 20% is subject to reduced rate VAT and therefore exempt. 80% of the energy related charges (the standing charge and the per unit charge) and all of the CCL charge are subject to standard rate VAT. 20% of the energy related charges are subject to reduced rate VAT.

Bill Line	Amount
Standing Charge	10.00
2,000 units @ 10p	200.00
CCL on 1,600 units @ 0.43p	6.88
VAT @ 17.5% on £174.88	30.60
VAT @ 5% on £42.00	2.10
Total	249.58

Example 4 - Account with VAT Declaration and CCL Declaration

This example is for a non-domestic account with a VAT declaration of 20% and a CCL declaration of 10%. Consumption is above the de minimis limit. CCL applies to only 80% of the total units as 20% is subject to reduced rate VAT and therefore exempt. The customer gets a credit (CCL relief) for 10% of the CCL charges as a result of the CCL declaration. 80% of the energy related charges (the standing charge and the per unit charge) and all of the CCL charge less the CCL reliefs are subject to standard rate VAT. 20% of the energy related charges are subject to reduced rate VAT.

Bill Line	Amount
Standing Charge	10.00
2,000 units @ 10p	200.00
CCL on 1,600 units @ 0.43p	6.88
CCL relief	<0.68>
VAT @ 17.5% on £174.20	30.48
VAT @ 5% on £42.00	2.10
Total	248.78

Billing and UK VAT

The following sections describe how VAT rules are implemented when a bill is produced.

Contents

Application of De Minimis

The de minimis rule specifies that all energy related charges at a premise be subject to reduced rate VAT if the total usage at a premise does not exceed a certain threshold. To determine if de minimis applies, the total billed consumption for a premise must therefore be known. However, energy usage at a premise may be measured with several meters and billed by multiple service agreements. To ensure that the final billed consumption for the premise is used to determine if de minimis applies, all service agreements for an account of a given service type at a given premise should be billed together and de minimis should be checked after the bill segments have been generated. In addition, all bill segments on one bill for consumption at a given premise must be for the same bill period.

Bill segments from different periods may not appear on the same bill. If a bill segment is canceled, all bill segments associated with consumption at a given premise for the same service type must be canceled and re-billed together. You cannot re-bill the bill segment on a bill for a different period.

An algorithm type is supplied with the base package that checks for de minimis at bill completion time. The base bill completion algorithm type checks that for any service agreement that was billed, bill segments for all the account's service agreements with the same service type and characteristic premise exist on the bill. It then calculates the total consumption for the premise and determines if de minimis applies. If de minimis applies, it sets a bill characteristic whose value is the premise ID to indicate that de minimis applies and regenerates the bill segment. Refer to the algorithm type CPBC-DMCH for more information on how this type of algorithm operates.

The rate component calculation algorithm type that calculates standard and reduced rate VAT (RCAM-VAT) applies the de minimis rule if the bill characteristic for de minimis is found. Refer to Calculation of VAT for more information. Note that during the initial generation of each bill segment, the characteristic will not exist and standard rate VAT will be applied. This means that if you look at a bill before it is complete, VAT may not be accurately reflected.

Batch billing cannot regenerate re-billed bill segments. If you cancel and re-bill a bill segment, you should complete the bill on-line so that the re-billed bill segments can be regenerated if de minimis applies.

Calculation of VAT

To calculate VAT, the percentages of energy related charges subject to standard rate VAT and reduced rate VAT must be determined. As these percentages vary from customer to customer and even from one bill to the next for the same customer, their calculation must take place at billing time and is handled by a rate component calculation algorithm.

A rate component calculation algorithm type RCAM-VAT is provided to calculate the percentages of energy related charges subject to standard rate and reduced rate VAT, taking into account de minimis and any VAT declaration that is in effect for the service type, account, and premise. The percentages can then be applied to the appropriate charges that are cross-referenced.

Calculation of CCL

CCL is a charge per unit of energy subject to standard rate VAT. It is therefore dependent on the same percentage of energy related charges subject to standard rate VAT determined during the calculation of VAT. A rate component calculation algorithm handles calculation of CCL.

A rate component calculation algorithm type RCAM-CCL is provided to calculate CCL charges and CCL relief, taking into account any CCL declarations that are in effect for the service type, account, and premise.

Excess Credits and UK VAT

When a financial transaction that results in a credit balance for a service agreement is frozen, the amount of the excess credit must be accounted for as a prepayment of energy related charges and VAT. VAT is calculated at the reduced rate for domestic customers and at the standard rate for non-domestic customers. When the excess credit is used, the VAT liability is reversed.

A customer class FT freeze algorithm type CFTZ-VAT-GL is provided to create additional GL detail entries for unbilled revenue and VAT liability when the freezing of an FT results in a credit balance or a change to a service agreement's credit balance.

Excess Credit GL Accounting Example

The following example shows the additional GL details that are created when a service agreement's balance changes and the starting or ending balance is a credit. For this example, a single VAT rate of 10% is used simply to illustrate the principle.

The service agreement has a zero starting balance. Note the following:

- When the first payment is received, the overpayment results in a credit balance and additional GL entries are created to recognize the unbilled energy revenue and unbilled VAT liability.
- When the second bill segment is created, the credit balance is reduced and additional GL entries are created to back out the unbilled GL entries, up to the amount of the credit balance.
- When the bill segment is canceled, the service agreement again has a credit balance and additional GL entries are created to recognize the unbilled energy revenue and unbilled VAT liability.

Event	Normal GL Accounting	Additional GL Accounting	SA Balance
Bill segment for £110 created	A/R 110 Revenue <100> VAT <10>		110
Payment of £330 is received	Cash 330 A/R <330>	A/R 220 Unbilled Energy <200>	<220>

		Unbilled VAT <20>	
Bill segment for £275 created	A/R 275 Revenue <250> VAT <25>	A/R <220> Unbilled Energy 200 Unbilled VAT 20	55
Payment of £55 is received	Cash 55 A/R <55>		0
Bill segment for £275 is canceled	A/R <275> Revenue 250 VAT 25	A/R 275 Unbilled Energy <250> Unbilled VAT <25>	<275>

Setting Up The System For UK VAT and CCL

The following section provides an overview of how to configure the system to apply UK VAT and CCL charges for non-domestic customers.

Contents

Bill Segment Freeze Installation Option

Select ***Freeze at Bill Completion*** as the bill segment freeze option. The system determines if de minimis applies at bill completion time and has to regenerate the bill segments as necessary.

Customer Class

Create a separate customer classes for non-domestic customers.

Service Agreements

You must configure the system so that each service agreement that must be checked for de minimis is only linked to service points at a single premise. The service agreement must reference that premise as its characteristic premise. Refer to Application of De Minimis for more information.

Bill Factors for UK VAT and CCL

- Standard Rate VAT
- Reduced Rate VAT
- VAT Declaration Percentage Threshold. Set up a separate bill factor for each service type as the thresholds differ based on service type.

- De Minimis Average Daily Amount Threshold. Set up a separate bill factor for each service type as the de minimis amounts differ based on service type.
- Climate Change Levy (CCL) Per Unit Price. Set up a separate bill factor for each service type as the CCL per unit prices differ based on service type.

Characteristic Type for De Minimis Amounts

Set up a characteristic type to use for the bill characteristic that indicates when de minimis applies. Define the type of characteristic value as a ***Foreign Key Value*** and specify a foreign key reference that points to the premise table. Specify this characteristic type as parameters to the algorithms that apply the de minimis rule and that apply VAT.

You need to define a characteristic type for every service type that is subject to the de minimis rule, as the de minimis limit may apply for one service type but not another on the same bill.

Distribution Code

Define the following distribution codes:

- Unbilled Prepaid Energy Related Charges
- Unbilled Prepaid VAT

These distribution codes are required as parameters to the algorithms to create the GL details for excess credit.

UOM / TOU / SQI

The algorithm that calculates CCL requires the following service quantities:

- The percentage of energy related charges that is subject to standard rate VAT

  Define the SQI used to store this service quantity. You will specify this SQI as a parameter to the algorithm used to calculate VAT. Refer to the RCAM-VAT algorithm type for more information about the base package algorithm.
- The total consumption

  Define the UOM / TOU / SQI used to store these service quantities.

Service Quantities

The algorithms that calculate VAT and CCL require a service quantity containing the total consumption. Unless you have registers that measure the total consumption independent of time of use or interval, you will need to set up an SQ rule or rate calculation algorithm to aggregate the usage into one service quantity.

Algorithms for UK VAT and CCL

Add the following algorithms:

- Apply De Minimis Rule. Define an algorithm for each service type for which de minimis should be checked. Plug the algorithm(s) in on the customer class for the ***Pre Bill Completion*** system event. Refer to the CPBC-DMCH algorithm type for more information about the base package algorithm.

- Apply VAT to Cross-Referenced Rate Components. Define one algorithm to calculate VAT at the standard rate and one algorithm to calculate VAT at the reduced rate (specify whether to calculate standard rate or reduced rate VAT using the algorithm parameter). You will need to define a set of algorithms for each service type (the bill characteristic to store the premise when de minimis applies and the VAT Declaration percentage threshold bill factor referenced in the algorithm parameters are different for each service type). Plug these algorithms in on the rate components for the ***Calculation Algorithm*** system event. Refer to the RCAM-VAT algorithm type for more information about the base package algorithm.
- Create Excess Credit GL Details. Plug this algorithm in on the customer class for the ***FT Freeze*** system event. Refer to the CFTZ-VAT-GL algorithm type for more information about the base package algorithm.
- Calculate CCL. Plug this algorithm in on the rate component for the ***Calculation Algorithm*** system event. Refer to the RCAM-CCL algorithm type for more information about the base package algorithm.
- Highlight Effective Declarations for Account and Premise. Plug this algorithm in on the installation option for the ***Control Central Alert*** system event. Refer to the CCAL-DECL algorithm type for more information about the base package algorithm.

Rate Components to Charge VAT and CCL

Four additional rate components are required to charge for VAT and CCL on non-domestic rates:

- Calculate standard rate VAT
    - Rate component type = ***Calculation Algorithm***
    - Value type = ***Percentage***

      It is recommended that you use a value source of ***Bill Factor*** and reference the bill factor you set up for standard rate VAT.
    - Specify the UOM/TOU/SQI of the service quantity that holds the total consumption.
    - Turn on Derive SQ
    - Calculation algorithm = the algorithm you set up to calculate VAT at the standard rate
    - Cross-reference all rate components that contribute to the total bill amount for energy related charges
    - Note that the algorithm overrides description on bill
- Calculate reduced rate VAT
    - Rate component type = ***Calculation Algorithm***
    - Value type = ***Percentage***

      It is recommended that you use a value source of ***Bill Factor*** and reference the bill factor you set up for reduced rate VAT.
    - Specify the UOM/TOU/SQI of the service quantity that holds the total consumption.
    - Turn on Derive SQ
    - Calculation algorithm = the algorithm you set up to calculate VAT at the reduced rate
    - Cross-reference all rate components that contribute to the total bill amount for energy related charges

  - Note that the algorithm overrides description on bill
- Calculate CCL and CCL Relief
  - Rate component type = ***Calculation Algorithm***
  - Value type = ***Unit Rate***

    It is recommended that you use a value source of ***Bill Factor*** and reference the bill factor you set up for CCL per unit price.
  - UOM/TOU/SQI = the identifier of the service quantity containing the total units of energy consumed
  - Calculation algorithm = the algorithm you set up to calculate CCL
  - Note that the algorithm overrides description on bill
- VAT on CCL
  - Rate component type = ***Apply To***
  - Value type = ***Percentage***

    It is recommended that you use a value source of ***Bill Factor*** and reference the bill factor you set up for standard rate VAT.
  - Cross reference the rate component that calculates CCL and CCL Relief

Setting up the rate components as above produces separate lines for VAT on energy related charges and on CCL (i.e., lines will be created for standard rate VAT on energy related charges, reduced rate VAT on energy related charges, and standard rate VAT on CCL charges).

You can set up rates to calculate standard rate VAT on energy related charges and CCL together as follows:

- Calculate standard rate VAT charges
  - Rate component type = ***Calculation Algorithm***
  - Turn on For Calculation Purposes Only (Result Type = ***Charge***)
  - Value type = ***Percentage***

    Define a value source of ***Value*** and a value of 100.
  - Specify the UOM/TOU/SQI of the service quantity that holds the total consumption.
  - Turn on Derive SQ
  - Calculation algorithm = the algorithm you set up to calculate VAT at the standard rate
  - Cross-reference all rate components that contribute to the total bill amount for energy related charges.
- Calculate CCL and CCL Relief
  - Rate component type = ***Calculation Algorithm***
  - Value type = ***Unit Rate***

    It is recommended that you use a value source of ***Bill Factor*** and reference the bill factor you set up for CCL per unit price.
  - UOM/TOU/SQI = the identifier of the service quantity containing the total units of energy consumed

  - Calculation algorithm = the algorithm you set up to calculate CCL
  - Note that the algorithm overrides description on bill.
- Calculate standard rate VAT
  - Rate component type = ***Apply To***
  - Value type = ***Percentage***

    It is recommended that you use a value source of ***Bill Factor*** and reference the bill factor you set up for standard rate VAT.
  - Cross reference the rate component that calculates standard rate VAT charges and the rate component that calculates CCL and CCL Relief
- Calculate reduced rate VAT
  - Rate component type = ***Calculation Algorithm***
  - Value type = ***Percentage***

    It is recommended that you use a value source of ***Bill Factor*** and reference the bill factor you set up for reduced rate VAT.
  - Specify the UOM/TOU/SQI of the service quantity that holds the total consumption.
  - Turn on Derive SQ
  - Calculation algorithm = the algorithm you set up to calculate VAT at the reduced rate
  - Cross-reference all rate components that contribute to the total bill amount for energy related charges.
  - Note that the algorithm overrides description on bill.

Bill Taxation Threshold

Some implementations only apply taxes if the accumulated tax amount at the bill level exceeds some specified threshold amount.

Contents

Taxation Threshold Examples

The following examples show how taxation thresholds affect a customer’s bill. In the examples a tax rate of 5% and a threshold amount of $21.30 is used.

Contents

Example 1 - Account With Taxes Under Threshold

This example shows the bill for an account where the accumulated tax amount is less than the threshold amount. Since the accumulated tax amount of $10.50 is less than the threshold amount, taxes are not applicable and the account's bill should be adjusted to exclude the tax amount of $10.50.

Bill Line	Amount
Standing Charge	10.00
2,000 units @ $0.10	200.00
Tax @ 5% on $210.00	10.50
Total	220.50
Adjusted Total	*210.00*

Example 2 - Account With Taxes Above Threshold

This example shows the bill for an account where the accumulated tax amount is greater than the threshold amount. Since the accumulated tax amount of $27.92 is greater than the threshold amount, taxes are applicable and the account should be billed for the total amount.

Bill Line	Amount
Standing Charge	10.00
4,000 units @ $0.10	400.00
Additional Charge	148.45
Tax @ 5% on $558.45	27.92
Total	586.37

Example 3 - Account With Rounding Discrepancy

This example shows the resulting bill segment calc lines for an account with 3 service agreements. Here the accumulated tax amount at the bill level is $21.29 with taxes calculated and rounded for each SA's bill segment. However, if the same taxes were calculated for each SA's bill segment and then accumulated and rounded at the bill level, the accumulated tax amount would be $21.30 implying that taxes are applicable and the account should be billed for the tax amount of $21.30 accounting for the discrepancy of $0.01.

Bill Segment	Bill Line	Amount	Pre-rounding Amount
Bill segment for SA 1	964.70 units @ $0.10	96.47	96.47000
	Tax @ 5% on $96.70	4.82	4.82350
	Bill Segment Total	101.29	
Bill segment for SA 2	2222.90 units @ $0.10	222.29	222.29000
	Tax @ 5% on $222.29	11.11	11.11450
	Bill Segment Total	233.40	
Bill segment for SA 3	1072.40 units @ $0.10	107.24	107.24000
	Tax @ 5% on $107.24	5.36	5.36200
	Tax Discrepancy	*0.01*	

	Bill Segment Total	112.61	

Pre-rounding amount. Rate application captures two calculated amounts on the resulting bill segment calc lines. The first is the calculated amount rounded to two decimal places, and the second is a raw calculated amount with a five decimal precision. The base package algorithm that calculates taxation thresholds uses both amounts to account for any rounding discrepancy; however, only the raw calculated amount is used to compare against the taxation threshold.

Billing and Taxation Thresholds

The following sections describe how taxation threshold rules are implemented when a bill is produced.

Contents

Calculation of Taxation Thresholds

When taxation thresholds are applied at the account’s bill level, it means that the system must calculate taxes for each of the account’s service agreements, then sum these tax amounts and apply any applicable rounding rules. This accumulated tax amount is compared to a threshold amount and if the accumulated tax amount is less than the threshold amount, then taxes should not be applied to the customer‘s bill. To ensure the accumulated tax amount is accurate, all service agreements for an account whose tax amounts should be taken into consideration when comparing to the specified threshold should be billed together and the threshold comparison should take place after the bill segments have been generated. In addition, all bill segments whose tax amounts should be taken into consideration when comparing to the specified threshold must be for the same bill period.

Bill segments from different periods may not appear on the same bill. If a bill segment is canceled, all bill segments associated with that bill must be canceled and re-billed together. You cannot re-bill the bill segment on a bill for a different period.

An algorithm type is supplied with the base package that checks for taxation thresholds at bill completion time. The base bill completion algorithm type accumulates identified tax calc line amounts (accomplished using a bill segment calc line characteristic), and compares this to a specified threshold amount to determine if taxes apply for the account. If taxes do not apply, it sets a bill characteristic indicating this and regenerates the bill segment. Refer to the algorithm type C1-CPBC-TAXT for more information on how this type of algorithm operates.

Calculated adjustments are included in the evaluation against taxation thresholds. Adjustments that use a rate to calculate the adjustment amount may be included in the taxation threshold evaluation if their rate’s components are set up to do so. The base algorithm C1-CPBC-TAXT looks at adjustments that are about to be swept onto the bill and, if applicable, includes them in the calculation.

The rate component(s) that calculate taxes make use of rate component eligibility criteria to ensure that taxes are only computed if the bill does not have the characteristic indicating that taxes are not applicable. Note that during the initial generation of each bill segment, the characteristic will not exist and taxes will be applied. This means that if you look at a bill before it is complete, taxes may not be accurately reflected.

Tax Amount Discrepancies

Since tax rate components are calculated and rounded at the bill segment level, it's possible that rounding discrepancies may occur if rounding of these tax amounts occurs at the bill level instead as illustrated in the example above. To account for this, the system uses both the two decimal precision and the five decimal precision calculated amounts that rate application captures on bill segment calc lines; however, only the raw calculated amount is used to compare against the taxation threshold. If there is a discrepancy in the tax amount (as shown in example 3 above), the system captures this amount as an entry in one of the bill segment's SQ collections prior to regenerating the bill segments. This is depicted in example 3 above where the tax discrepancy SQ resulted in an additional bill segment calc line on one of the bill segments for the rounding amount of 0.01. Note that a rate component is configured to bill for this discrepancy amount SQI.

> **Pre-rounding amount.** Rate application captures two calculated amounts on the resulting bill segment calc lines. The first is the calculated amount rounded to two decimal places, and the second is a raw calculated amount with a five decimal precision. The base package algorithm that calculates taxation thresholds uses both amounts to account for any rounding discrepancy; however, only the raw calculated amount is used to compare against the taxation threshold.

Setting Up The System For Bill Taxation Thresholds

The following section provides an overview of how to configure the system to calculate taxes at the account's bill level.

Contents

Installation Option

Select ***Freeze at Bill Completion*** as the bill segment freeze option. The system compares tax amounts calculated to a specified threshold amount and based on this determines if taxes should apply at bill completion time. If taxes should not be applied for the account, the system has to regenerate the bill segments as necessary.

Adjustment Types

Select ***Freeze at Bill Completion*** as the adjustment freeze option. The system compares tax amounts calculated to a specified threshold amount and based on this determines if taxes should apply at bill completion time. If taxes should not be applied for the account, the system has to regenerate the adjustments as necessary.

Bill Factors

Tax Threshold. Set up a separate bill factor for each distinct tax threshold amount.

Characteristic Type

Set up a characteristic type and value to identify the tax rate components and bill segment calculation lines that the system will use to compare to the specified threshold amount. Specify this characteristic type and value as parameters to the algorithms that apply the taxation threshold. This characteristic type and value must also be specified on each of your tax rate components that should be included in the threshold comparison.

Set up a characteristic type and value to use for the bill characteristic that indicates when bill level taxes apply. Specify this characteristic type and value as parameters to the algorithms that apply the taxation threshold.

Service Quantity Identifiers

Optional service quantity identifiers may be configured to capture the following:

- Tax Amount. The system compares the accumulated bill's tax amount to the specified threshold amount to determine if taxes are applicable. If taxes should not be applied for the account, the system regenerates the bill segments as necessary. If you wish to capture the tax amount computed for informational purposes, then a tax amount SQI should be set up and specified as a parameter on the algorithms that apply the taxation threshold.

- Tax Discrepancy Amount. Since tax rate components are calculated and rounded at the bill segment level, it's possible that rounding discrepancies may occur if rounding of these tax amounts should take place at the bill level. If you wish to account for these rounding discrepancies, then a tax discrepancy amount SQI should be set up and specified as a parameter on the algorithms that apply the taxation threshold. Your rates should also be configured to cater for this rounding discrepancy. The system adds an entry for the discrepancy amount to one of the bill segment's SQ collections prior to regenerating the bill segments.

Algorithms

Apply Taxation Threshold. Define an algorithm for each distinct tax threshold amount. Plug the algorithm(s) in on the appropriate customer class for the ***Pre Bill Completion*** system event. Refer to the C1-CPBC-TAXT algorithm type for more information about the base package algorithm.

Adjustment Generation – Apply Rate. Define an algorithm for each rate to be used by calculated adjustment types that are to be included in the tax threshold evalution. Plug the algorithm(s) in on the appropriate adjustment type for the ***Generate Adjustment*** system event. Refer to the ADJG-RT algorithm type for more information about the base package algorithm.

Rate Components For Bill Taxation Thresholds

Your rate components that bill for taxes require the following:

- A characteristic that identifies them as rate components to include in taxation threshold comparisons

- Rate component eligibility criteria to ensure that taxes are not calculated if the taxation threshold algorithm dictates this

Only one eligibility group on the rate component is required. It would look as follows:

Group No.	Group Description	If Group is True	If Group is False
1	Tax applies if total accumulated tax amount at the account's bill level exceeds the threshold amount	*Apply rate component*	*Skip rate component*

The following criteria will be required for this group:

Seq	Field to Compare	Comparison Method	If True	If False	If Insufficient Data
10	Bill characteristic: Characteristic type = Tax Not Applicable indicator	= YES	*Group is false*	*Check next condition*	*Group is true*
20	Characteristic Collection: Characteristic type = Tax Not Applicable	= YES	*Group is false*	*Group is true*	*Group is true*

Note. The second criterion included above is used to evaluate the applicability of the tax on calculated adjustments. Since these adjustments are not yet linked to the bill, the first criterion cannot be used to evaluate the applicability of the tax threshold. The pre-bill completion algorithm C1-CPBC-TAXT instead adds the characteristic to the characteristic collection for use by the rate application when evaluating the adjustment's rate's eligibility rules. Refer to the ADJG-RT algorithm type for more information about the base package algorithm.

For more information about which method to use, refer to The Big Picture Of Rate Component Eligibility Rules.

An additional rate component is required to bill for the tax rounding discrepancy as follows

- Rate component type = ***Service Quantity***
- Value type = ***Unit Rate***
- Value type = 1
- UOM/TOU/SQI = the identifier of the service quantity containing the tax discrepancy amount

Other Financial Transaction Topics

Various topics about financial transactions are discussed in this section.

The Source Of GL Accounts On Financial Transactions

The following table lists the major financial events, their standard accounting, and the source of distribution codes used to derive the GL accounts sent to your general ledger.

Financial event	GL Accounting	Source Of Distribution Code
Create a normal utility bill segment. *Bill Segment FT Algorithm is Payoff Amt = Bill Amt / Current Amt = Amt Due*	Debit: A/R	SA Type
	Credit: Revenue / Taxes Payable	Rate Component
Create a bill for company usage. *Bill Segment FT Algorithm is Payoff Amt = 0 / Current Amt = 0*	Debit: Company Usage Expense	SA Type
	Credit: Revenue / Taxes Payable	Rate Component
Create a bill for charity. *Bill Segment FT Algorithm is Payoff Amt=0 / Current Amt = Bill Amt*	N/A – charity bills have no effect in the GL	N/A
	N/A	N/A
Create a payment segment for a normal utility service agreement	Debit: Cash	Bank Account on the Tender Source of the Tender Control for the Payment Segment's Tender.
	Credit: A/R	SA Type
Create a payment segment for a charitable contribution service agreement	Debit: Cash	Bank Account on the Tender Source of the Tender Control for the Payment Segment's Tender.
	Credit: Charity Payable	SA Type
Create a payment segment for auto-pay at bill completion time	Debit: Cash	Bank Account on the Tender Source on the Auto-pay Route Type of the Auto-pay Source.
	Credit: A/R	SA Type
Canceling a payment	Debit: A/R	SA Type
	Credit: Cash	Bank Account specified by the user on the cancel tender page. Note that this defaults to the original tender's bank account.
Create an adjustment to levy a charge	Debit: A/R	SA Type
	Credit: Revenue	Adjustment Type

The bottom line is as follows:

- If a bill segment has a financial effect, the distribution code to debit comes from the distribution code on the SA Type, the distribution code to credit comes from the rate component(s) used to calculate the bill segment.
- Payment segments always have a financial effect; the distribution code to debit comes from the bank account on the tender source of the tender control of the tender, the distribution code to credit comes from the SA type.

- If an adjustment has a financial effect, the distribution code to debit and credit comes from the SA type and adjustment type. If the adjustment is positive (i.e., the customer owes your organization more money), the distribution code to debit comes from the SA type; the distribution code to credit comes from the adjustment type. Vice versa if the adjustment is negative.

Defining Customer Options

The definition of a customer is someone (or something) with financial obligations with your company. These obligations ensue because the customer has agreed to purchase goods or services at an agreed price.

You may be surprised to learn that there is no “customer” record in the system. Rather, the system subdivides customer information into the following records:

- **Person.** The person record holds demographic information about your customers and every other individual or business with which your company has contact. For example, in addition to customers, person records also exist for landlords, contractors, accountants at corporate customers, guarantors of customers, energy distributors, collection agencies, etc.
- **Account.** Accounts are the entities for which bills are produced and therefore you must create at least one account for every person who has financial obligations with your company. The account record contains information that controls when the bills are created and how the bills are formatted.
- **Service Agreement.** Think of a service agreement as a contract between your company and the customer. The service agreement contains the terms and conditions controlling how the bill details are created. Every account will have at least one service agreement (otherwise, nothing will appear on the account’s bills).

Before you can define persons, accounts, and service agreements, you must set up the control tables defined in this section.

For more information about how persons, accounts and premises are used by your customer service reps, refer to Understanding The “V”.

Note. The tables in this section are only some of many tables that must be set up before you can bill your customers for the service(s) they consume. In this section, we limit the discussion to those tables that control basic demographic and financial information. In later sections, we describe the tables that control other billing-related functions like bill creation algorithms, meter reading and rates. It is only after all of these tables are set up that you will be able to generate bills and record payments.

Contents

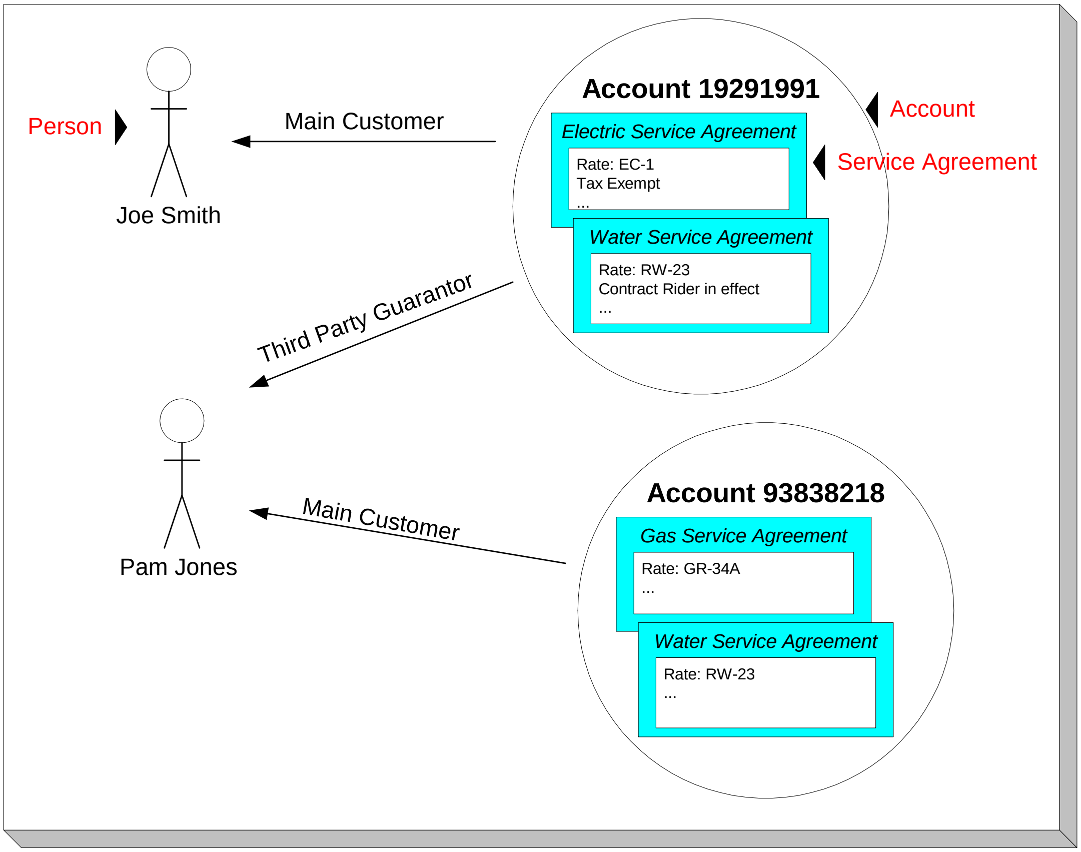
Customer Overview

This section describes how the person, account, and service agreement records are used to record your customers’ demographic and billing options.

Contents

A Simple Example Of Two Customers

The following picture illustrates two customers: Joe Smith and Pam Jones. Joe is the “main customer” on his account. Pam is the “main customer” on her account. Pam is also the “third party guarantor” on Joe’s account.



Persons

Person records hold demographic information about the individuals and businesses with whom your organization communicates. Demographic information includes phone number(s), names and aliases, identification numbers, life support equipment needs, employment information, etc.

In the above example, 2 person records would be needed; one for Pam Jones and another for Joe Smith.

A new person is added when you first have contact with a person; the person does not have to be a customer before it is added. So, for example, if your company is starting a new marketing campaign, you can add information about potential customers the moment they are identified.

Businesses are persons too. In addition to humans, you use person records to maintain basic information about the businesses with which your organization has contact.

For a description of the control tables that must be set up before you can define a person, refer to Setting Up Person Options.

Accounts

An account is analogous to an account at a bank:

- A person or business with no financial dealings with a bank will have no account (but the bank may choose to keep demographic information about the person as part of their marketing efforts). The exact analogy exists in this system.
- Individuals with financial dealings with a bank will have one or more accounts. The number of accounts is up to the customer. The exact analogy exists in this system.

A simple way to determine the number of accounts a customer will have is to ask “how many bills do they want each period?” because a customer receives one bill for each account. For example:

- A residential customer who also owns a small business may choose to receive two bills each month; one for the residence, the other for the business. This way, the charges for their business would be segregated from their personal charges. This customer would have two accounts.
- A conglomerate that owns several factories may want their transportation gas charges to appear on a single bill rather than have a separate bill for each factory. This customer would have a single account.

Contents

Account ID Is Non-Intelligent

The unique number of an account is referred to as the “account ID”. You are probably very comfortable with this concept. You may, however, have difficulty dealing with the fact that the account id in this system has no intelligence built into it (e.g., many systems include the bill cycle and geographic location in the account id). In this system, the account ID is a random, system-assigned value.

Because the account ID contains no meaning, it can remain with a customer for life, regardless of where they live, when they are billed, the type of service they receive, etc. This is important because it means that all of the financial history linked to the account remains with the customer for life.

Technical note. The non-intelligence of the account ID is also important from the perspective of the parallel processing that takes place when the system creates bills. Because the collection of accounts to be billed in any given bill cycle will be randomly distributed through the number spectrum, the system can distribute account number ranges to parallel threads and each thread will process roughly the same number of accounts.

Account / Person Cross Reference

A person may be linked to zero or more accounts. A person won't be linked to an account when they have no financial relationship with your organization. A person will be linked to multiple accounts when they have financial relationships with more than one account.

An account must reference at least one person (i.e., the main customer), but may reference an unlimited number of individuals. Multiple persons are linked to an account when several parties have some type of financial relationship with the account (e.g., third party guarantors, account contact, bill copy recipients, etc.).

When Is An Account Created?

A person can exist without an account until such time as the person formally requests the commencement of service. The moment the customer requests service, an account must be created (and the person must be linked to the account).

When Is An Account Expired?

Accounts never expire. Once a customer has an account, the account remains in the system forever. Linked to the account are service agreements that define the price and conditions of a service supplied to the customer. When an account has active service agreements, the system produces bills for it. If the account doesn't have active service agreements, the system will not produce a bill for it. You can think of an account without active service agreements as being "dormant", waiting for the day when the customer again starts service. If the customer never restarts, the account (along with its financial history) remains dormant forever.

Service Agreements

A service agreement is a contract (either formal or implied) between your organization and a customer. Every service agreement contains the price and conditions of a service supplied to a customer.

A service agreement is linked to an account. There is no limit to the number of service agreements that may be linked to an account.

Contents

When Is A Service Agreement Created?

A service agreement is created when the customer requests service (not when service commences). Typically, service agreements are created in the pending state and field activities are generated to connect service. When the field activities are complete, the service agreement becomes active and the billing process starts generating bill segments for the service agreement.

For more information about starting service, refer to The Big Picture Of Starting Service. For more information about bill segments, refer to Bill Details.

Financial Transactions Are Linked To Service Agreements

For more information about how financial transactions are linked to service agreements, refer to The Financial Big Picture.

When Is A Service Agreement Expired?

A service agreement is expired when the customer requests service be stopped. At that time, the service agreement is transitioned to the ***pending stop*** state and field activities are generated to stop service (these activities might involve simply reading the meter or they could involve disconnecting or removing the meter). When the field activities are complete, the system transitions the service agreement to the ***stopped*** state and the billing process generates a final bill for the service agreement. When the customer pays the final bill, the system transitions the service agreement to the ***closed*** state

For more information about stopping service, refer to The Big Picture Of Stopping Service.

Setting Up Person Options

This section describes tables that must be set up before you can define persons.

Contents

Defining Identifier Types

When you set up a person, you may define the various types of identification associated with the person, e.g., their driver's license number, their tax identity, etc. Every piece of identification associated with a person has an identification type. These identifier type codes are defined using **Admin Menu, Identifier Type**.

How are person identifiers used? The reason why identifiers are defined on a person is so that users you can look for a customer using one of their person identifiers (see Control Central - Search Facilities for more information). In addition, person identifiers help prevent duplicate persons from being added to the database. This is because the system warns a user before they add a new person when a person exists with the same identifier.

Person identifier types are optional. An installation option controls whether at least one identifier type is required on every person.

Description of Page

Enter an easily recognizable **ID Type** and **Description** for the Identifier Type.

If the identifier type has a format against which validation can be performed, use **Identifier Format** to define the algorithm. To do this:

- Create a new algorithm (refer to Setting Up Algorithms).
- On this algorithm, reference an Algorithm Type that validates identifier types. Click here to see the algorithm types available for this plug-in spot.

Where Used

Follow this link to open the data dictionary where you can view the tables that reference CI_ID_TYPE.

Defining Person Relationship Types

It is possible to associate persons to other person. For example,

- You might want to define the subsidiaries of a parent corporation
- You might want to define spouses as separate persons and then link each person to another person

When you link a person to another person, you must define in what way the person is related to the other person by using a person relationship type code. These codes are defined using **Admin Menu, Person Relationship Type**.

Description of Page

Enter the following for each relationship type:

- Enter an easily recognizable **Relationship Type** code.
- Use **Description (Person1=>Person2)** to describe how the first person is related to the second person.
- Use **Description (Person2=>Person1)** to describe how the second person is related to the first person.

Person1 versus Person 2. When you link persons together, you do it in respect of one of the persons (which we call Person 1). For example, if you want to link the subsidiaries to a parent company, you do this in respect of the parent company (i.e., you define the parent company's subsidiaries using the Person - Persons transaction.

Where Used

Follow this link to open the data dictionary where you can view the tables that reference CI_PER_REL_TYPE.

Setting Up Statement Construct Options

This section describes tables that must be set up before a statement construct can be set up for a person to begin receiving financial statements.

For more information, refer to The Big Picture of Complex Statements.

Setting Up Statement Route Types

Statement route types define the method used to route statements to persons. To define a statement route type, open **Admin Menu, Statement Route Type**.

Description of Page

Enter a unique **Statement Route Type, Description** and **Statement Routing Method** for every statement route type.

Note. The values for Statement Routing Method are customizable using the Lookup table. This field name is STM_RTG_METH_FLG.

The next two fields control how statements that are routed using this route type are printed (both in batch and online). Refer to Technical Implementation Of Batch Statement Production for more information about producing statements in batch. Refer to Technical Implementation Of Online Statement Production for more information about online statement production.

- Use **Batch Control** to define the process that creates the flat file that is passed to your statement printing software. If you use an **Extract Algorithm** to construct the downloaded information, you can use the ***STMDWLD*** process.
- Use **Extract Algorithm** to define the plug-in component that constructs the “flat file records” that contain the information to be merged onto statements routed using this route type. This algorithm is called when a user requests an online image of a statement on Statement - Main and it may also be called by the batch statement extraction process defined above. Click here to see the algorithm types available for this plug-in spot.

Where Used

Follow this link to open the data dictionary where you can view the tables that reference CI_STM_RTE_TY.

Setting Up Account Options

This section describes tables that must be set up before an account can receive a bill.

Contents

Setting Up Account Management Groups

Users are informed that something requires their attention by entries that appear in To Do lists. For example, consider what happens when billing can't find a reading (and it's not allowed to estimate):

- The billing process creates a bill segment that is in ***error*** - meter read cannot be found.
- This ***error*** bill segment, in turn, triggers the creation of a To Do entry.
- The To Do entry is addressed to a role. A role is one or more users who can "action" the To Do entry.
- When a user views their To Do entries, they see all entries addressed to all roles of which they are part.

You can optionally use account management groups (AMG) to define the respective role to be assigned to To Do entries that are associated with an account and a given To Do type. For example, you can create an AMG called ***Credit Risks*** and assign this to accounts with suspect credit. Then, whenever an account-oriented To Do entry is created for such an account, it will be assigned a role based on the ***Credit Risks*** AMG. Refer to Assigning A To Do Role for more information..

Account management groups are optional. You need only set up account management groups (and link them to accounts) if you wish to address specific To Do entries associated with specific accounts to specific roles.

Account management groups are defined using **Admin Menu, Account Management Group**.

Description of Page

Enter an easily recognizable **Account Management Group** code and **Description** for each account management group. Use the grid to define the **To Do Role** to be assigned to entries of a given **To Do Type** that are associated with accounts that reference the **Account Management Group**.

Note. Only To Do entries that are account-oriented take advantage of the roles defined for an account management group (because only accounts reference an account management group).

Where Used

Follow this link to view the tables that reference CI_ACCT_MGMT_GR in the data dictionary schema viewer.

Setting Up Account Relationship Codes

When you link a person to an account, you must define in what way the person is related to the account by using an account relationship code. These codes are defined using **Admin Menu, Account Relationship Type**.

Description of Page

Enter an easily recognizable **Relationship Type** and **Description** for each relationship type.

Where Used

Follow this link to open the data dictionary where you can view the tables that reference CI_ACCT_REL_TYP.

Setting Up Alert Types

Account based alerts that appear in control central have an **Alert Type**. To define valid alert types, navigate to **Admin Menu, Alert Type.**

Description of Page

Enter an easily recognizable **Alert Type Code** and **Description** for each alert type. Specify the **Alert Days** to indicate the amount of time that alerts of this type will be effective by default. Specify a value of zero to indicate that alerts of this type will be effective indefinitely by default.

Where Used

Follow this link to open the data dictionary where you can view the tables that reference CI_ALERT_TYPE.

Setting Up Bill Messages

There are various informational and warning messages that may appear on an account's bills. Each message is identified with a bill message code. To define a bill message code, open **Admin Menu, Bill Message**.

Description of Page

Enter a unique **Message Code** and **Description** for every bill message.

The following attributes control how and where the bill message appears on the customer's bill:

Priority controls the order in which the message appears when multiple messages appear on a bill.

> **Note**. The values for this field are customizable using the Lookup table. This field name is MSG_PRIORITY_FLG.

Insert Code controls whether a document should be inserted into the bill envelope when the bill message appears on a bill.

Message on Bill is the actual verbiage that appears on the customer's bill. If the message text is not static (e.g., field values need to be substituted into the body of the message), you can use the %*n* notation within the **Message on Bill** to cause field values to be substituted into a message. Refer to Substituting Field Values Into A Bill Message for more information.

Where Used

Follow this link to open the data dictionary where you can view the tables that reference CI_BILL_MSG.

Setting Up Bill Route Types

Bill route types define the method used to route bills to accounts. To define a bill route type, open **Admin Menu, Bill Route Type**.

Description of Page

Enter a unique **Bill Route Type** and **Description** for every bill route type.

Bill Routing Method controls the type of information that may be defined when the respective **Bill Route Type** is selected on Account - Person Information. The following options are available:

- ***Postal***. Use this method if the routing is via the postal service.
- ***Fax***. Use this method if the routing is via fax.
- ***Email***. Use this method if the routing is via email.

Note. The values for **Bill Routing Method** are customizable using the Lookup table. This field name is BILL_RTG_METH_FLG.

The next two fields control how bills that are routed using this method are printed (both in batch and online).

- Use **Batch Control** to define the background process that performs the actual download of the billing information. Refer to Technical Implementation of Printing Bills In Batch for more information about these processes.
- Use **Extract Algorithm** to define the algorithm that constructs the records that contain the information that appears on a printed bill. Refer to Printing Bills for more information.

Where Used

Follow this link to open the data dictionary where you can view the tables that reference CI_BILL_RT_TYPE.

Setting Up Bill Cycles

Refer to Defining Bill & Service Cycles for a description of how to set up bill cycles.

Setting Up Customer Classes

When you set up an account, you must assign it a customer class. The topics in this section describe the customer class control table.

Contents

Customer Class - Main

To set up customer classes, navigate to **Admin Menu, Customer Class - Main**.

Description of Page

Enter a unique **Customer Class** code and **Description** for every customer class.

Use **Collection Class** to define the collection class that defaults onto new accounts that belong to this customer class. An account's collection class may be subsequently modified if the account has special collection problems or needs.

For more information about the significance of collection class, refer to Designing Your Collection Classes.

Turn on **Business Activity Required** if service agreements linked to accounts with this customer class require a Business Activity description to be entered.

Turn on **Open Item Accounting** if accounts belonging to this customer class are subject to open-item account. Refer to Open Item Accounting for a complete explanation of the significance of this switch.

Turn on **Non CIS Payment** if accounts belonging to this customer class are used for payments made to reduce non-CIS debt. For example, assume your company accepts payments for a county assessor and you don't want to set up a separate account for each person who pays their assessment bill. You should set up the following information to accept such payments:

- Create a new customer class called "Non CIS Customer".
- Create a SA type for each type of non-CIS payment that customers can make. Make sure to enter a distribution code on each SA type that references the appropriate revenue (or payable) account. Don't forget to indicate that each SA type is not billed.

Note. Payment Templates can be used for common types of non-CIS payment allocations. These templates are used to default the payment distribution and allow non-CIS payments to be directly allocated to specific distribution codes.

For more information about using Payment Templates to process non-CIS payments, refer to Non-CIS Payments Payments.

- Create an account to which you'll book such payments. Have this account reference the new customer class. We recommend creating a separate account for each SA type that you created in the previous step.
- Create and activate a service agreement for the new account(s).

When someone pays for non-CIS debt, the operator will add a payment for the above account. On the payment, the operator should record reference information in order to know exactly why the payment was made. Refer to Payment Event - Main for more information.

You must define a variety of business rules for every division in which a customer class has customers. For example, if you operate in both California and Nevada AND you have CIS divisions for each state AND you have residential customers in each state, you must define **Customer Class Controls** for each CIS division. You do this on the Customer Class - Controls page. The grid that follows simply shows the CIS divisions for which business rules have been set up.

Where Used

Follow this link to open the data dictionary where you can view the tables that reference CI_CUST_CL.

Customer Class - Bill Messages

When a customer class has bill messages, the system will sweep these messages onto bills created for accounts belonging to the customer class. Use this page to define a customer class's bill messages. Navigate to **Admin Menu, Customer Class, Bill Messages** tab to maintain this information.

Description of Page

Use the bill messages collection to define **Bill Message** codes that should appear on bills that created for accounts that belong to a given customer class. For each message, also specify the **Start Date** and **End Date** when such a message should appear on the bill (leave **End Date** blank if the message should appear indefinitely).

Where Used

The system snaps customer class bill messages on a bill during bill completion. For more information about bill messages, refer to The Source Of Bill Messages.

Customer Class - Controls

You must define a variety of business rules for every division in which a customer class has customers. For example, if you operate in both California and Nevada AND you have CIS divisions for each state AND you have residential customers in each state, you must define **Customer Class Controls** for each CIS division in respect of the residential customer class. Open **Admin Menu, Customer Class, Controls** tab to maintain this information.

Description of Page

The **Customer Class Controls** scroll contains business rules governing accounts that belong to a **CIS Division** and **Customer Class**. The following fields should be defined for each **CIS Division**:

- Use **Days Till Bill Due** to define the number of days after the bill date that the customer's bill is due. If the due date is a weekend or company holiday, the system will move the due date forward to the next workday (using the workday calendar defined on the account's CIS division).
- Specify the **Budget Plan** that defaults onto new accounts belonging to this customer class. Please note that an account's budget plan may be subsequently modified if the account has special budget processing needs. Refer to Setting Up Budget Plans for more information.
- Use **Min Credit Review Freq (Days)** to define the maximum number of days that can elapse between the reviews of an account's debt by the account debt monitor. Note, a value of zero (***0***) means that accounts in this customer class will be reviewed every day.

- Use **Credit Review Grace Days** to define the number of days after the bill due date that an account should be reviewed by the account debt monitor.
- Turn on the **Late Payment Charge** if customers in the class / division combination are eligible for late payment charges.
- Use **LPC Grace Days** to define the number of days after a bill's due date that a late payment charge will be generated (if the various LPC algorithms allow such – refer to How Late Payment Charges Get Calculated for the details). If the grace date falls on a weekend or holiday, the system moves the grace date to the next available workday (using the workday calendar defined on the account's CIS division).

The grid that follows contains **Algorithms** that control important functions in the system. You must define the following for each algorithm:

- Specify the **System Event** with which the algorithm is associated (see the table that follows for a description of all possible events).
- Specify the **Sequence** and **Algorithm** for each system event. You can set the **Sequence** to 10 unless you have a **System Event** that has multiple **Algorithms**. In this case, you need to tell the system the **Sequence** in which they should execute.

Warning! These algorithms are typically significant system processes. The absence of an algorithm may prevent the system from operating correctly.

You can define algorithms for the following **System Events**:

System Event	Optional / Required	Description
Autopay Amount Over Limit	Optional	This algorithm is called to handle the situation when a system-initiated automatic payment is created that exceeds the customer's maximum withdrawal limit. Specifically, this algorithm is called when: - The account has a maximum withdrawal limit on their automatic payment options - The system attempts to create an automatic payment that exceeds this amount - The automatic payment algorithm that's plugged into the installation record has logic that invokes this algorithm when the above conditions are true If you do not plug-in this type of algorithm and the above situation is detected, the automatic payment will be created and no error will be issued. Refer to How To Implement Maximum Withdrawal Limits for more information. Click here to see the algorithm types available for this system event.
Bill Cancel	Optional	This algorithm provides the ability to include additional cancel logic when canceling online. Algorithms of this type can be called in two modes: D (Determine Bill Page Buttons) and X (Cancel Bill). Mode 'D' governs whether an action button to cancel the bill will appear on the Bill page and mode 'X' performs the actual cancellation logic. Click here to see the algorithm types available for this system event.

Bill Completion	Optional	When a bill for an account is completed, bill completion algorithms are called to do additional work. Refer to the description of the Complete button under Bill Lifecycle for a description of when this algorithm is called during the completion process. Click here to see the algorithm types available for this system event.
Bill Eligibility	Optional	Algorithms for this plug-in spot are called when generating a bill in batch billing. It provides the ability to determine if an account is ineligible for billing and should therefore be skipped from further processing. If an eligibility algorithm is not used, a bill is created for any account in the open bill cycle and is later deleted by the billing process if it detects that there in no information linked to the bill. Click here to see the algorithm types available for this system event.
Bill Segment Freeze / Cancel	Optional	When a bill segment for an account in this customer class / division is frozen or canceled, an algorithm of this type may be called to do additional work. Refer to Bill Segment Lifecycle for more information about freezing and canceling bill segments. Click here to see the algorithm types available for this system event.
FT Freeze	Optional	When an FT is frozen, this algorithm is called to do additional work. For example, if you practice Open Item Accounting, you will need such an algorithm to handle the cancellation of match events when a financial transaction is canceled that appears on a match event. Refer to How Are Match Events Cancelled? for more information about cancellation. Click here to see the algorithm types available for this system event.
Late Payment Charge Eligibility	Required if the customer class / division is eligible for late payment charges	This algorithm is called by the late payment process to determine eligibility for late payments. Warning! Just because an account's customer class allows late payment charges to be calculated doesn't mean the account's delinquent service agreements will be levied late payment charges. In addition, a delinquent service agreement's SA type must reference a late payment charge algorithm. Refer to SA Type – Main for more information about SA type late payment charge issues. Refer to How Late Payment Charges Get Calculated for more information about late payment charges in general. **Only One Algorithm**. Only one late payment charge eligibility algorithm may be defined for a customer class / CIS division combination. Click here to see the algorithm types available for this system event.
Levy an NSF Charge	Optional	This algorithm is called when a payment is canceled with a cancellation reason that indicates an NSF. Refer to NSF Cancellations for more information about what happens when a payment is canceled due to non-sufficient funds.

		Only One Algorithm. Only one algorithm to levy an NSF charge may be defined for a customer class / CIS division combination. Click here to see the algorithm types available for this system event.
Order Completion	Optional	When an order is completed for a customer linked to this customer class, this algorithm is called to do additional work (e.g., create a customer contact). You need only specify this type of algorithm if you require additional work to be performed when an order is completed for customers who belong to this customer class. Click here to see the algorithm types available for this system event.
Overpayment Distribution	Required	When a customer pays more than they owe, this algorithm is called to determine what to do with the excess funds. Refer to Overpayment Segmentation for a description on how to configure the system to handle your overpayment requirements. **Only One Algorithm**. Only one overpayment distribution algorithm may be defined for a customer class / CIS division combination. Click here to see the algorithm types available for this system event.
Override Due Date	Optional	An account's bill due date will be equal to the bill date plus its customer class' Days Till Due. If you need to override this method for accounts in a specific customer class, specify the appropriate algorithm here. **Only One Algorithm**. Only one due date override algorithm may be defined for a customer class / CIS division combination. Click here to see the algorithm types available for this system event.
Payment Cancellation	Optional	Algorithms of this type are called when a payment is canceled. Click here to see the algorithm types available for this system event.
Payment Distribution	Required	This algorithm is called to distribute a payment amongst an account's service agreements. Refer to Payment Distribution for more information about how payment distribution works. **Only One Algorithm**. Only one payment distribution algorithm may be defined for a customer class / CIS division combination. Click here to see the algorithm types available for this system event.

Payment Freeze	Optional	When a payment is frozen, this algorithm is called to do additional work. If you practice Open Item Accounting, you will need such an algorithm to link the payment's financial transactions to the match event that was originally created when the payment was distributed. Refer to Payments and Match Events for more information. Click here to see the algorithm types available for this system event.
Post Bill Completion	Optional	When a customer class has algorithms of this type, they are called after the completion of a bill for an account linked to this customer class. Refer to the description of the Complete button under Bill Lifecycle for a description of when this algorithm is called during the completion process. Click here to see the algorithm types available for this system event.
Pre Bill Completion	Optional	When a customer class has algorithms of this type, they are called immediately before completion starts for an account linked to this customer class. These algorithms have the potential of: • Deleting a bill. You might want a pre completion algorithm to delete a bill if a condition is detected that should inhibit the sending of a bill to a customer (e.g., the bill just contains information about recent payments). • Aborting the completion process and creating a bill exception. If the algorithm indicates this should be done, the bill is left in the ***pending*** state and a bill exception is created describing why completion was aborted. You might want a pre completion algorithm to do this if, for example, integrity checks detect there is something wrong with the account or its service agreements. If the integrity check fails, the bill can be left in the ***pending*** state and a bill exception created describing why. Refer to the description of the Complete button under Bill Lifecycle for a description of when this algorithm is called during the completion process. Click here to see the algorithm types available for this system event.
Quote Completion	Optional	When a quote is completed for a customer linked to this customer class, this algorithm is called to do additional work (e.g., create a customer contact). You need only specify this type of algorithm if you require additional work to be performed when a quote is completed for customers who belong to this customer class. Click here to see the algorithm types available for this system event.
Write Off Method	Required if you allow users to write-off debt real time using the write off transaction	When a user presses the create button on the write off transaction, this algorithm is executed to write-off the selected debt. Refer to The Ramifications of Write Offs in the General Ledger for more information. Click here to see the algorithm types available for this system event.

Setting Up Collection Classes

Refer to Setting Up Collection Classes for a description of how to set up collection classes.

Setting Up Customer Contact Options

This section describes tables that must be set up before you can define customer contacts.

Refer to The Big Picture Of Customer Contacts for more information about customer contacts.

Contents

Setting Up Letter Templates

You can set up a customer contact type to generate a form letter whenever a customer contact of this type is added. In fact, this is the only way to generate a letter in the system.

Refer to Printing Letters for more information about how letters are produced.

Every customer contact that causes a letter to be sent must reference a unique letter template. To define a letter template, open **Admin Menu, Letter Template**.

Doc 1 users. If you use the Doc 1 software to produce letters, there will be a template in the Doc 1 software associated with each letter. The name of the Doc 1 template must be the same as the code associated with the letter template set up in the system.

Description of Page

The following fields are required for each letter template:

- **Letter Template** is the unique identifier of the letter template.
- Use **Description** to enter a brief description of the letter.
- Turn on **Special Extract** if this type of letter should only be created via a system generated event such as a collection letter. Turning on this switch is what prevents a user from adding a customer contact that references this type of letter template (because you don't want a user to be able to request a letter associated with a system generate event by adding a customer contact, rather, they must execute the appropriate process and it will generate the customer contact).
- The next two fields control how letters of this type are printed (both in batch and online). Refer to Technical Implementation Of Batch Letter Production for more information about producing letters in batch. Refer to Technical Implementation Of Online Letter Production for more information about online letter production.
  - Use **Batch Control** to define the process that creates the flat file that is passed to your letter printing software. If you use an **Extract Algorithm** to construct the downloaded information, you can use the ***LTRPRT*** process.

- Use **Extract Algorithm** to define the plug-in component that constructs the “flat file records” that contain the information to be merged onto letters of this type. This algorithm is called when a user requests an online image of a letter on Customer Contact - Main and it may also be called by the batch letter extraction process defined above. Click here to see the algorithm types available for this plug-in spot.

Where Used

Follow this link to open the data dictionary where you can view the tables that reference CI_LETTER_TMPL.

Setting Up Customer Contact Classes

Every customer contact record has a contact type that classifies the record for reporting purposes. And every contact type, in turn, references a customer contact “class”. The class categorizes customer contacts into larger groupings for reporting purposes.

Open **Admin Menu, Customer Contact Class** to define your customer contact classes.

Description of Page

Enter a unique **Contact Class** and **Description** for each customer contact class.

After you have created your customer contact classes, you’ll be ready to setup your customer contact types.

Where Used

Follow this link to open the data dictionary where you can view the tables that reference CI_CC_CL.

Setting Up Customer Contact Types

Every customer contact record has a contact type that controls the behavior of the customer contact.

Refer to The Big Picture Of Customer Contacts for more information about customer contacts.

Open **Admin Menu, Customer Contact Type** to define your customer contact types.

Description of Page

Every customer contact type is identified by a unique combination of **Contact Class** and **Contact Type**.

Enter a brief **Description** of the customer contact type.

Only specify a **Contact Shorthand** if customer contacts of this type can be added in the Customer Contact Zone. The value you specify in this field is what the user selects to add a customer contact in this zone.

Use **Contact Action** if something should be triggered when customer contacts of this type are added. The only valid value in this release is ***Send Letter***. If you select this option, you must also specify a **Letter Template**. Refer to Printing Letters for more information about how letters are produced.

Use the **Customer Contact Type Characteristics** collection to define characteristics that can be defined for contacts of a given type. Use **Sequence** to control the order in which characteristics are defaulted. Turn on the **Required** switch if the **Characteristic Type** must be defined on customer contacts of a given type. Turn on the **Default** switch to default the **Characteristic Type** when customer contacts of the given type are created. Enter a **Characteristic Value** to use as the default for a given **Characteristic Type** when the **Default** switch is turned on.

Where Used

Follow this link to open the data dictionary where you can view the tables that reference CI_CC_TYPE.

Setting Up Service Agreement Options

This section describes tables that must be set up before you can define service agreements.

Contents

Setting Up Standard Industry Codes (SIC)

A service agreement for non-residential service should reference a standard industry code (SIC). This code is used to categorize service agreements for reporting purposes. To define a SIC, open **Admin Menu, SIC Code**.

Description of Page

Enter a unique **SIC Code** and **Description** for the SIC.

Where Used

Follow this link to open the data dictionary where you can view the tables that reference CI_SIC.

Setting Up Tax Exempt Types

Your rates will probably have provisions for the calculation of taxes of one type or another. Frequently you will have customers who are completely or partially exempt from these taxes. The service agreements for these customers will need to have tax exemption information in order for them to be billed properly. Tax Exempt Type is used to define the precise nature of the applicable exemption. To define the Tax Exempt Types you will use, open **Admin Menu, Tax Exempt Type.**

Description of Page

Enter a unique **Tax Exempt Type** and **Description** for each type of tax exemption.

Where Used

Follow this link to open the data dictionary where you can view the tables that reference CI_TAX_EX_TYPE.

Setting Up Contract Quantity Types

You may have customers whose contracts (service agreements) have contractual consumption limits. The service agreements for these customers must have information regarding this quantity in order to be billed properly. Contract Quantity Type is used to precisely define the nature of the quantity. To define the Contract Quantity Types, open **Admin Menu, Contract Quantity Type.**

Description of Page

Enter a unique **Contract Quantity Type** and **Description** for each type of contract quantity.

Where Used

Follow this link to open the data dictionary where you can view the tables that reference CI_CONT_QTY_TYP.

SA Type Controls Everything

Every service agreement references a SA type. The SA type controls all aspects of a service agreement's behavior including how service is started, how bills are created, how its financial transactions are booked in the general ledger, and much more. We don't explain how to set up SA types in this section because it's only after you have set up all of the control tables in this manual that you'll be able to finally define your SA types.

For more information about SA types, refer to Defining Service Agreement Types.

Financial Controls

There are also a number of control tables that must be set up to control the bills, payments, and adjustments that are linked to a service agreement. For more information about these tables, please refer to Defining Financial Transaction Options.

Setting Up Order Options

This section describes tables that must be set up before orders can be used to start service.

For more information, refer to The Big Picture of Campaigns, Packages and Orders.

Contents

Setting Up Column References

A column reference must be created for each miscellaneous field that's captured on an order that doesn't reside in a characteristic. Refer to Determine The Properties Of Every Miscellaneous Field for more information.

Open **Admin Menu, Column Reference** to define your column references.

Description of Page

Enter an easily recognizable **Column Reference** code and **Description** for each column reference.

Specify the **FK Reference** to use if this column reference uses field values from another table. Use **Long Description** to describe the data that fields using this column reference capture.

The grid contains **Algorithms** that control important functions in the system. You must define the following for each algorithm:

- Specify the **System Event** with which the algorithm is associated. You can define algorithms for the following system events: ***Post when order completed***, ***Retrieve current value***, ***Validate field value***. Refer to Extract Column References for a description of these events.
- Specify the **Sequence** and **Algorithm** for each system event. You can set the **Sequence** to 10 unless you have a **System Event** that has multiple **Algorithms**. In this case, you need to tell the system the **Sequence** in which they should execute.

Warning! These algorithms are typically significant processes. The absence of an algorithm may prevent the system from operating correctly.

Where Used

Follow this link to open the data dictionary where you can view the tables that reference CI_COL_REF.

Setting Up Order Cancellation Reasons

An order cancellation reason must be supplied when an order is cancelled. Open **Admin Menu, Order Cancel Reason** to define your reason codes.

Description of Page

Enter an easily recognizable **Order Cancel Reason** and **Description** for each order cancellation reason.

Where Used

Cancellation reasons are used when an order is canceled.

Setting Up Order Hold Reasons

An order hold reason must be supplied when an order is held. Open **Admin Menu, Order Hold Reason** to define your reason codes.

Description of Page

Enter an easily recognizable **Order Hold Reason** and **Description** for each order hold reason.

Where Used

Hold reasons are used when an order is held.

Setting Up Order Feature Configurations

Defining a feature configuration with a feature type of ***Order Configuration*** can increase performance of the Order page when campaigns have a large number of packages or criteria. Open **Admin Menu, Feature Configuration** to define a configuration for the feature type ***Order Configuration***.

Only one. The system expects only one ***order configuration*** feature configuration to be defined.

Description of Page

The following points describe the various **Option Types** that may be defined:

- ***Eligibility Tree - Suppress Error Packages node.*** Select this option type and define a value if you would like the Order Eligibility Tree to suppress the node that contains packages with errors in their eligibility criteria. This is an optional setting. If the option type is not defined, the error packages node is displayed, if applicable.
- ***Eligibility Tree - Suppress Ineligible Packages node.*** Select this option type and define a value if you would like the Order Eligibility Tree to suppress the node that contains packages that are not applicable to the customer based on the eligibility criteria. This is an optional setting. If the option type is not defined, the ineligible packages node is displayed, if applicable.
- ***Eligibility Tree - Suppress Other Campaigns node.*** Select this option type and define a value if you would like the Order Eligibility Tree to suppress the node that contains other eligible campaigns. This is an optional setting. If the option type is not defined, the other campaigns node is displayed, if applicable.

Defining Field Order Options

A field order is a group of field activities that take place at a premise's service point(s). These activities can range from the simple (e.g., read a meter) to the complex (e.g., install both the power line and a new meter). Before you can issue field orders, you must establish the control data defined in this section.

Appointments. Refer to The Big Picture of Appointments for information about how appointments can be scheduled for field activities.

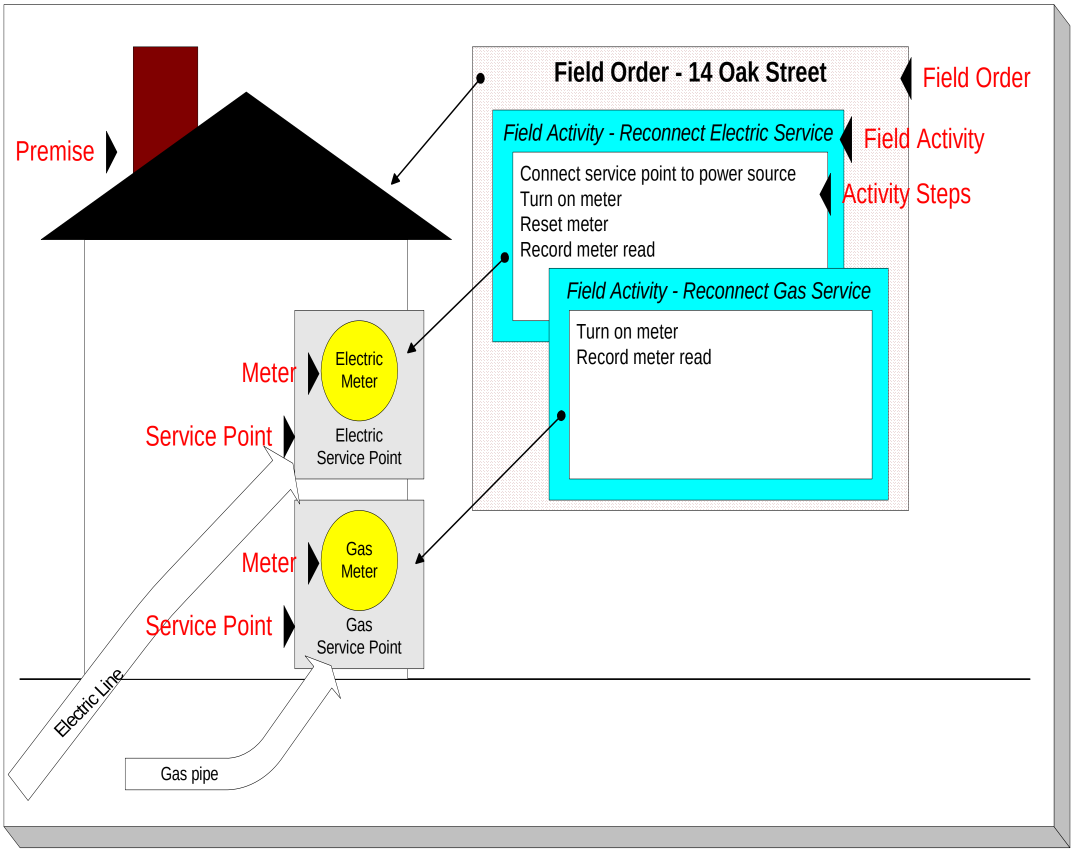
Warning! Setting up the tables that control your field activities will be as complicated as the fieldwork your organization performs. If your company doesn't do fieldwork, then you won't have to set up any of these tables. If your company has a single service and the fieldwork you perform is straightforward, this setup process will be straightforward. If your company performs sophisticated fieldwork (e.g., utilizing multiple crews and multiple dispatch locations), this setup process will require careful analysis.

For more information about field orders and how they use the information described in this chapter, refer to The Big Picture Of Field Orders.

Contents

An Example Of A Field Order

The following picture illustrates a field order that controls the work to be performed at a premise with 2 service points.



The following field order-related concepts are illustrated above:

Field Order

A field order is a group of field activities performed by one person (or crew) at a premise. Refer to How Are Field Orders Created And Dispatched for information about how field orders are created.

Field Activity

A field activity is a task that takes place at a service point. Examples of field activities include reconnect service, exchange meter, disconnect service, cut for nonpayment, investigate trouble order.

The system automatically creates field activities when specific events happen. Refer to Designing Your Field Activity Profiles for a discussion of how the system does this.

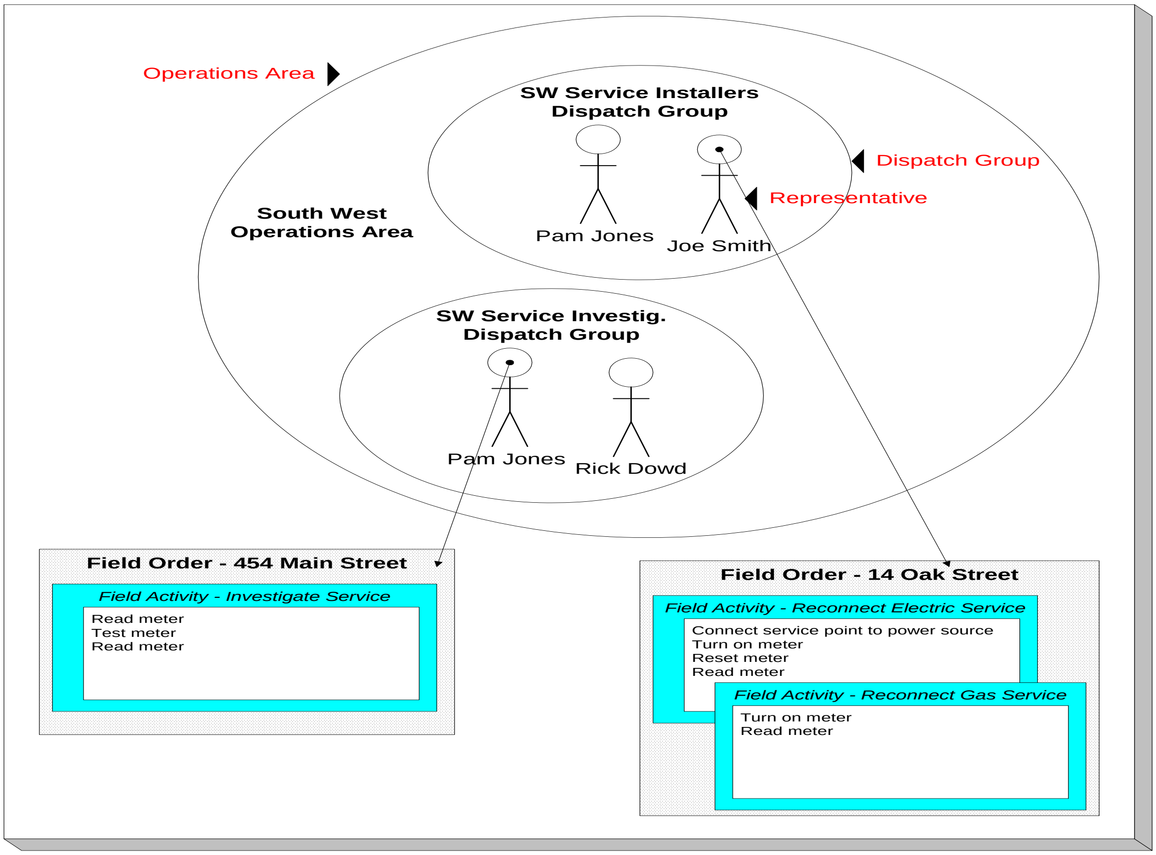
When a field activity is first added, its state is ***pending***. If the activity is not done (for whatever reason), the activity is ***canceled***. After the activity is done, the results of the activity are recorded in the system and its state becomes ***complete***.

Activity Step	A field activity has one or more steps. For example, the field activity to exchange a meter would have the following activity steps: Remove existing meter, Test meter, Install new meter. The number and types of steps involved with a field activity are controlled by the activity's activity type. Refer to Setting Up Field Activity Types for more information.
Premise	See An Illustration Of A Premise for a description.
Service Point	See An Illustration Of A Premise for a description.
Meter	See An Illustration Of A Premise for a description.

More than just meters. While the above diagram illustrates field order concepts in respect of meters, the field orders system has been designed to handle meters, lamps, and any other type of device located at a service point (e.g., a cable box).

An Example Of The Entities Involved In Field Order Dispatch

The following picture illustrates two field orders that are dispatched from the same operations area where each field order is assigned to a different representative.


Operations Area
SW Service Installers Dispatch Group
Dispatch Group
Representative
South West Operations Area
Pam Jones
Joe Smith
SW Service Investig. Dispatch Group
Pam Jones
Rick Dowd
Field Order - 454 Main Street
Field Activity - Investigate Service
Read meter
Test meter
Read meter
Field Order - 14 Oak Street
Field Activity - Reconnect Electric Service
Connect service point to power source
Turn on meter
Reset meter
Read meter
Field Activity - Reconnect Gas Service
Turn on meter
Read meter

The following dispatch-related concepts are illustrated above:

Representative

A representative is the individual (or crew) that performs a field order's activities. A representative may work in any number of dispatch groups. Refer to Setting Up Representatives for more information.

Operations Area

An operation area is a physical or logical location from which field orders are dispatched. Every service point references the operation area(s) responsible for its service. Refer to Setting Up Operations Areas for more information.

Dispatch Group

A dispatch group is a logical group of representatives located at an operations area. For example, in the South West Operations Area you may have the dispatch groups of SW Service Installers, SW Service Investigators, SW Meter Exchangers, etc. Within each dispatch group are representatives with interchangeable skills (i.e., you can assign a field activity to any representative within a dispatch group). Refer to Setting Up Dispatch Groups for more information.

The system automatically assigns a field activity a dispatch group when it's first created. It does this based on: 1) the type of field activity, 2) the service point's SP type, and 3) the operation area on the service point that's linked to the field activity type's field service classification. Refer to Designing Who Does Your Field Activities for more information.

Setting Up Representatives

A representative is the individual (or equipment) that performs a field order's activities. At dispatch time, a representative may be assigned to a field order. To define your organization's representatives, open **Admin Menu, Representative**.

Description of Page

Enter an easily recognizable **Representative** and **Description** for each representative.

Where Used

Follow this link to open the data dictionary where you can view the tables that reference CI_REP.

Setting Up Operations Areas

When you set up a service point, you must define the operation areas that manage its fieldwork.

How a service point gets its operation area(s). A service point's operation areas default based on its service type and its premise's postal code. See Setting Up Premise & Service Point Postal Defaults for more information.

To define your organization's operation areas, open **Admin Menu, Operations Area**.

A service point may have multiple operation areas. For example, a service point may have one operations area for installs and removals, a separate operation area for trouble orders, and yet a third operation area for meter exchanges. Refer to Setting Up Field Service Classifications for more information about how different types of fieldwork can be classified.

Description of Page

Enter an easily recognizable **Operations Area** and **Description** for each operation area.

Where Used

Follow this link to open the data dictionary where you can view the tables that reference CI_OP_AREA.

Setting Up Dispatch Groups

A dispatch group is a logical group of representatives located at an operations area. When a field activity is created, the system assigns it to a dispatch group based on the type of activity, the type of service point, and the operations area that manages the service point. The topics in this section describe the pages used to maintain a dispatch group.

Contents

Dispatch Group - Main

To define your organization's dispatch groups, open **Admin Menu, Dispatch Group**.

Description of Page

Enter an easily recognizable **Dispatch Group** ID and **Description** for each dispatch group.

Turn on **Allow Dispatch** if orders allocated to this dispatch group are "dispatchable".

Trouble orders without a premise. The only example we can think of where Allow Dispatch is off would be for the dispatch group associated with trouble orders without a premise. These trouble orders are associated with a "dummy" service point, and the dummy service point's operations area should reference the ***unknown*** dispatch group. Someone would need to periodically look at the ***unknown*** dispatch group and associate its field activities with the appropriate service point and dispatch group.

If this dispatch group is "dispatchable" and work for this dispatch group is interfaced to an external system, indicate the appropriate external system feature configuration or outage management feature configuration for the dispatch group.

Separate module. Please note that functionality related to integrating with an external system or an outage system is associated with separate function modules. The feature configuration field is not available if these modules are turned off.

Batch Control along with the ***Field Order Extract*** algorithm defined on the **Algorithms** tab control how field orders that reference this dispatch group are printed (both in batch and online). Refer to Technical Implementation Of Batch Field Order Production for more information about producing field orders in batch. Refer to Technical Implementation Of Online Field Order Production for more information about online field order production.

- Use **Batch Control** to define the process that creates the flat file that is passed to your field order printing software. If you use an **Extract Algorithm** to construct the downloaded information, you can use the either the FODL or the DSGPFODL.

- Use the ***Field Order Extract*** algorithm defined on the **Algorithms** tab to define the plug-in component that constructs the "flat file records" that contain the information to be merged onto field orders that reference this dispatch group. This algorithm is called when a user requests an online image of a field order on Field Order - Main and it may also be called by the batch field order extraction process defined above. Please be aware that the system comes with a sample algorithm type - FOEX-OX - that should be used as a sample if you have to write a new plug-in algorithm.

Use **Alternative Dispatch Group** to define the dispatch group that can do everything that this dispatch group can do. This field is used when the system attempts to find a common dispatch group for all field activities associated with a premise (when such field activities don't have the same dispatch group) during the appointment scheduling process. Refer to Using Alternate Dispatch Groups To Find The Lowest Common Denominator for more information.

The **Representative** collection shows the representatives who may be assigned to field orders performed by a dispatch group.

Where Used

Follow this link to open the data dictionary where you can view the tables that reference CI_DISP_GRP.

Dispatch Group - Field Activity Type Review

Open **Admin Menu, Dispatch Group** and choose the **FA Type Review** tab to review the field activities that can be performed by the dispatch group. For each field activity in the tree, you can view the SP types associated with the activity.

> **Four dimensions.** For every **field activity type**, you define the **dispatch group** that performs the activity at every **SP type** located in every **operations area**. This information is maintained on the Field Activity Type page. This is a rather complex relationship because it involves the four dimensions highlighted in bold. Due to this complexity, we have provided review trees on the SP Type, Dispatch Group, and Field Activity Type pages to help you understand what you've set up.

Description of Page

This page is dedicated to a tree that shows the field activity types performed by the dispatch group. And for each field activity and operations area, you can view the applicable SP types.

Dispatch Group - Algorithm

Open **Admin Menu, Dispatch Group** and navigate to the **Algorithm** tab to define the algorithms that should be executed for field activities / field orders associated with a given dispatch group.

Description of Page

The grid contains **Algorithms** that control important functions in the system. You must define the following for each algorithm:

- Specify the **System Event** with which the algorithm is associated (descriptions of all possible events are provided below).

- Specify the **Sequence** and **Algorithm** for each system event. You can set the **Sequence** to 10 unless you have a **System Event** that has multiple **Algorithms**. In this case, you need to tell the system the **Sequence** in which they should execute.

Warning! These algorithms are typically significant processes. The absence of an algorithm may prevent the system from operating correctly.

The following table describes each **System Event**.

System Event	Optional / Required	Description
Available Appointments	Required if you use base appointment scheduling functions (and not external system integration)	The algorithm plugged into this spot is responsible for determining which appointment periods may be linked to a field activity. Refer to Appointment Maintenance for a description of the transaction that's used to setup an appointment. Refer to The Big Picture Of Appointments for general information about appointments. Click here to see the algorithm types available for this system event.
FA Integration	Required if dispatch group interfaces with an external system.	The algorithm plugged into this spot is responsible for creating appropriate notification download staging records used to interface field activity information to an external system. This algorithm is not allowed if the dispatch group does not interface with an external system. Refer to Algorithms Control FA Integration for more information. Click here to see the algorithm types available for this system event.
Field Order Extract	Required if dispatch group is "dispatchable" (refer to the description of Allow Dispatch on the Main page for more information)	Refer to the description of Batch Control on the Main tab for a description of this system event. Click here to see the algorithm types available for this system event.
Validate Appointments	Optional if you use base appointment scheduling functions	The algorithm plugged into this spot is responsible for determining if a field activity can be linked to an appointment period. If you don't plug-in a Validate Appointments algorithm, the system will allow any appointment period that's displayed on the Appointment Maintenance transaction to be linked to a field activity. Refer to Appointment Maintenance for a description of the transaction that's used to setup an appointment. Refer to The Big Picture Of Appointments for general information about appointments. Click here to see the algorithm types available for this system event.

Defining Disconnect Locations

When a service point is disconnected from the supply source, a disconnect location must be specified. This location defines where service was severed. It also controls the type of field activity generated to reconnect service.

Note. A service point's disconnect location is updated as part of the service disconnection process. This location is used to determine the appropriate crew to send out when it's time to reconnect service.

To define disconnect location codes, open **Admin Menu, Disconnect Location**.

Description of Page

Enter a **Disconnect Location** and **Description** for every disconnect location.

Where Used

Follow this link to open the data dictionary where you can view the tables that reference CI_DISCON_LOC.

Designing Your Field Activity Profiles & Types

A field activity is a task that takes place at a service point. Every field activity references a field activity type. The field activity type defines the steps involved in the execution of the activity.

Most field activities are created:

- When a customer service representative starts or stops service at a premise, the system automatically creates field activities to perform the necessary fieldwork based on the type and state of the service point.
- When service is cut due to lack of payment.

If you set the system up correctly, your CSR's won't have to create these field activities. Rather, the system creates field activities based on the information you set up in your field activity type profiles. You typically have a different field activity profile for every major category of service point. We recommend that you familiarize yourself with the following documentation before you set up your field activity type profiles:

- Refer to Starting Service & Field Activities for a description of how field activities are created to start service.
- Refer to Stopping Service & Field Activities for a description of how field activities are created to stop service.
- Field activities used to cut service due to non-payment are created by two modules:
  - If you use severance process to stop a service agreement due to nonpayment, refer to Field Events And Their Activities for a description of how these field activities are created.

- If you use cut processes to stop a service agreement due to nonpayment, refer to Field Activities To Cut and Reconnect Service for a description of how these field activities are created.

The topics in this section describe how to design your field activity profiles and field activity types.

Contents

How Does A Field Activity Type Profile Get Used?

A field activity type profile contains:

- A list of field activity types that can be performed at service points.
- Matrices defining the specific activity type(s) to generate in order to start service, stop service, or disconnect due to non-payment.

You may wonder how field activity type profiles get related to your service points. It's a little indirect, but the indirection provides a great deal of flexibility:

- Every service point references an SP type.
- Every SP type references the specific field activity type profile used by the start/stop and credit and collections process to generate field activities.

An example will help illustrate how this works:

- When you start service at a specific service point, the system extracts the service point's SP type.
- Then, the system determines the field activity type profile that is to be used on this SP type.
- Then, the system determines the state of the service point (e.g., connected, no meter).
- And finally, it generates the appropriate field activity.

Designing Field Activity Type Profiles

The number of field activity type profiles is dependent on a variety of factors:

- If your field crews (i.e., dispatch groups) are highly specialized, you'll need more profiles than when your crews can perform a variety of activities. For example, if you have electric installers who just install electric service and gas installers who just install gas service, you'll need a different profile for electricity versus gas.
- If the field activities you perform differ based on the type of service point, you'll need more profiles than if you have standard activities. For example, if you turn off residential service differently than you turn off commercial service, you'll need a profile for each type of customer.
- If you have meters and item-based service, you'll need a separate profile to distinguish the field activities for these two types of service.

- If more than one of the above points applies to your organization, you'll need a separate profile for the superset.

The easiest way to design your profiles is to pick an SP type and design its profile by filling in matrices similar to those defined below (choose either meter or item-based as per the SP type). After you've designed the profile, determine how many other SP types on which it can be used. Then design the next SP type's profile and determine where it can be reused. Repeat this process until all your SP types have a profile.

In order to design your field activity type matrices, you must have a good understanding of field activity types and how they control the actions performed by your field crews. Refer to Setting Up Field Activity Types **for more information**.

Contents

Typical Metered Service Matrix

In this section, we provide a sample of how the activity type matrix would look for metered service. The topics show two matrices; one for start/stop field activities, the other for credit & collections activities. In reality, there is a separate matrix for every column in the matrices.

Contents

Starting and Stopping Metered Service Matrix

The following matrix is representative of how a metered SP type's field activity type profile would look. The following points describe the rows, columns and cells in the matrix:

- The customer events represent the three start and stop events that may take place at the service point.
  - Start service is the event that takes place when a service point is to be started and the system has no knowledge of a related stop event.
  - Stop service is the event that takes place when a service point is to be stopped and the system has no knowledge of a related start event.
  - Start/stop service is the event that takes place when a service point is to be stopped for one customer and started for another at the same time.
- The SP conditions represent the state of service at a service point. The following conditions are represented:
  - A device (the meter) is either installed or not installed.
  - The installed device is either turned on or off.
  - The source of service (the line or pipe) is either connected to the service point or disconnected.

    - If the source is disconnected, define a field activity for each potential disconnect location.

- Each cell in the matrix represents a field activity to be created by the system for the combination of customer event and service point condition.

Customer Event ➔ SP Condition ↓	Start Service	Stop Service	Start/Stop Service
No Device / SP Disconnected at meter	Install meter and connect line	N/A – no field work is necessary because the meter should have been read when it was removed	N/A
No Device / SP Disconnected at pole	Install meter and connect line	N/A – no field work is necessary because the meter should have been read when it was removed	N/A
No Device / SP Connected	Install meter	N/A – no field work is necessary because the meter should have been read when it was removed	N/A
Device Installed / Device Off / SP Disconnected at meter	Connect line and turn on meter	N/A – no field work is necessary because the meter should have been read when the service was severed	N/A
Device Installed / Device Off / SP Disconnected at pole	Connect line and turn on meter	N/A – no field work is necessary because the meter should have been read when the service was severed	N/A
Device Installed / Device Off / SP Connected	Turn on meter	N/A – no field work is necessary because the meter should have been read when the meter was turned off	N/A
Device Installed / Device On / SP Connected	Read meter	Turn off meter	Read meter
Device Installed / Device On / SP Disconnected at meter	Connect line and read meter	N/A – no field work is necessary because the meter should have been read when the line was disconnected	N/A
Device Installed / Device On / SP Disconnected at pole	Connect line and read meter	N/A – no field work is necessary because the meter should have been read when the line was disconnected	N/A

Cutting Metered Service Due To Nonpayment

The following matrix is representative of how a metered SP type's field activity type profile might look. The following points describe the rows, columns and cells in the matrix:

- The customer events represent the three C&C-oriented field activities that may take place at the service point.
    - Disconnect warning is the event that warns the customer of imminent severance if payment is not received.
    - Cut for non-payment is the event that causes service to be severed due to non-payment.
    - Reconnect is the event that takes place when a service point is reconnected because payment was received after service was cut.

- The SP conditions represent the state of service at a service point. The following conditions are represented:
  - A device (the meter) is either installed or not installed.
  - The installed device is either turned on or off.
  - The source of service (the line or pipe) is either connected to the service point or disconnected.
  - If the source is disconnected, define a field activity for each potential disconnect location.
- Each cell in the matrix represents a field activity to be created by the system for the combination of customer event and service point condition.

Customer Event ➔ SP Condition ↓	Disconnect Warning	Cut For Non-Payment	Reconnect
Device Installed / Device On / SP Connected	Leave disconnection warning	Cut metered serviced	N/A
Device Installed / Device Off / SP Connected	N/A – service is off	N/A – service is off	Turn on meter
Device Installed / Device On / SP Disconnected at pole	N/A – service is off	N/A – service is off	Connect line
Device Installed / Device Off / SP Disconnected at pole	N/A – service is off	N/A – service is off	Connect line and turn on meter
No Device / SP Connected	N/A – service is off	N/A – service is off	Install meter
No Device / SP Disconnected at pole	N/A – service is off	N/A – service is off	Install meter and connect line

Meter Testing Activities

While the field activity types associated with meter testing should not appear in the above matrixes, these field activity types must be defined in the metered service points' field activity type profiles (under Valid Activity Types). Refer to Examples of Device Testing Activity Types and their Steps for example of these field activity types.

Typical Badged Item Service Matrix

In this section, we provide a sample of how the activity type matrix would look for BADGED item-based service (e.g., badged lamps). The topics show two matrices; one for start/stop field activities, the other for credit & collections activities. In reality, there is a separate matrix for every column in the matrices.

Refer to Service Points (SPs) **for more information** about the difference between badged and non-badged items.

Contents

Item Testing Activities

Starting and Stopping Badged Item Service Matrix

The following matrix is representative of how a lamp SP type's field activity type profile would look. The following points describe the rows, columns and cells in the matrix:

- The customer events represent the three start and stop events that may take place at the service point.
  - Start service is the event that takes place when a service point is to be started and the system has no knowledge of a related stop event.
  - Stop service is the event that takes place when a service point is to be stopped and the system has no knowledge of a related start event.
  - Start/stop service is the event that takes place when a service point is to be stopped for one customer and started for another at the same time.
- The SP conditions represent the state of service at a service point. The following conditions are represented:
  - A device (the item) is either installed or not installed.
  - The installed device is either turned on or off.
  - The source of service (the line or pipe) is either connected to the service point or disconnected.
  - If the source is disconnected, define a field activity for each potential disconnect location.
- Each cell in the matrix represents a field activity to be created by the system for the combination of customer event and service point condition.

Customer Event ➔ SP Condition ↓	Start Service	Stop Service	Start/Stop Service
No Device / SP Disconnected at pole	Install lamp and connect line	N/A – no field work is necessary because there is no lamp	N/A
No Device / SP Connected	Install lamp	N/A – no field work is necessary because there is no lamp	N/A
Device Installed / Device Off / SP Disconnected at pole	Connect line and install eye	N/A – no field work is necessary because the lamp is off	N/A
Device Installed / Device Off / SP Connected	Install eye	N/A – no field work is necessary because the lamp is off	N/A
Device Installed / Device On / SP Disconnected at pole	Connect line	N/A – no field work is necessary because the lamp is off	N/A
Device Installed / Device On / SP Connected	No field work necessary	Turn off lamp	No field work necessary

Cutting Badged Item Service Due To Nonpayment

The following matrix is representative of how an item-based SP type's field activity type profile would look. The following points describe the rows, columns and cells in the matrix:

- The customer events represent the three C&C-oriented field activities that may take place at the service point.
  - Disconnect warning is the event that warns the customer of imminent severance if payment is not received.
  - Cut for non-payment is the event that causes service to be severed due to non-payment.
  - Reconnect is the event that takes place when a service point is reconnected because payment was received after service was cut.
- The SP conditions represent the state of service at a service point. The following conditions are represented:
  - A device (the item) is either installed or not installed.
  - The installed device is either turned on or off.
  - The source of service (the line or pipe) is either connected to the service point or disconnected.
  - If the source is disconnected, define a field activity for each potential disconnect location.
- Each cell in the matrix represents a field activity to be created by the system for the combination of customer event and service point condition.

Customer Event ➔ SP Condition ↓	Disconnect Warning	Cut For Non-Payment	Reconnect
Device Installed / Device On / SP Connected	Leave disconnect warning	Cut lamp service	N/A
Device Installed / Device Off / SP Connected	N/A – service is off	N/A – service is off	Turn on item
Device Installed / Device On / SP Disconnected at pole	N/A – service is off	N/A – service is off	Connect line
Device Installed / Device Off / SP Disconnected at pole	N/A – service is off	N/A – service is off	Connect line and turn on item
No Device / SP Connected	N/A – service is off	N/A – service is off	Install item
No Device / SP Disconnected at pole	N/A – service is off	N/A – service is off	Install item and connect line

Item Testing Activities

While the field activity types associated with item testing should not appear in the above matrixes, these field activity types must be defined in the item-based service points' field activity type profiles (under Valid Activity Types).

Typical Unbadged Item Service Matrix

In this section, we provide a sample of how the activity type matrix would look for UNBADGED item-based service (e.g., parking lots, sewage service). The topics show two matrices; one for start/stop field activities, the other for credit & collections activities. In reality, there is a separate matrix for every column in the matrices.

Contents

Starting and Stopping Unbadged Item Service Matrix

The following matrix is representative of how a field activity type profile would look for a parking lot's SP type. The following points describe the rows, columns and cells in the matrix:

- The customer events represent the three start and stop events that may take place at the service point.
  - Start service is the event that takes place when a service point is to be started and the system has no knowledge of a related stop event.
  - Stop service is the event that takes place when a service point is to be stopped and the system has no knowledge of a related start event.
  - Start/stop service is the event that takes place when a service point is to be stopped for one customer and started for another at the same time.
- The SP conditions represent the state of service at a service point. The following conditions are represented:
  - The source of service (the line or pipe) is either connected to the service point or disconnected.
  - If the source is disconnected, define a field activity for each potential disconnect location.
  - Notice that the SP Conditions always indicate "No Device". This is because a device (i.e., a meter or badged item) cannot be installed at this type of service point.
- Each cell in the matrix represents a field activity to be created by the system for the combination of customer event and service point condition.

Customer Event ➔ SP Condition ↓	Start Service	Stop Service	Start/Stop Service
No Device / SP Disconnected at pole	Connect service in parking lot	N/A – no field work is necessary because there is no lamp	N/A
No Device / SP Connected	No field activity necessary	Disconnect service in parking lot	No field activity necessary

Cutting Unbadged Item Service Due To Nonpayment

The following matrix is representative of how an item-based SP type's field activity type profile would look. The following points describe the rows, columns and cells in the matrix:

- The customer events represent the three C&C-oriented field activities that may take place at the service point.
  - Disconnect warning is the event that warns the customer of imminent severance if payment is not received.
  - Cut for non-payment is the event that causes service to be severed due to non-payment.
  - Reconnect is the event that takes place when a service point is reconnected because payment was received after service was cut.
- The SP conditions represent the state of service at a service point. The following conditions are represented:

  - Notice that the SP Conditions always indicate “No Device”. This is because a device (i.e., a meter or badged item) cannot be installed at this type of service point.
  - The source of service (the line or pipe) is either connected to the service point or disconnected.
  - If the source is disconnected, define a field activity for each potential disconnect location.
- Each cell in the matrix represents a field activity to be created by the system for the combination of customer event and service point condition.

Customer Event ➔ SP Condition ↓	Disconnect Warning	Cut For Non-Payment	Reconnect
No Device / SP Connected	Parking lot disconnect warning	Cut parking lot service	Reconnect parking lot service
No Device / SP Disconnected at pole	N/A – service is off	N/A – service is off	Reconnect parking lot service

Designing Field Activity Types

The number of activity types you need is related to the different field activities your company performs at your service points. For example, if your company installs and maintains meters, you will set up field activity types for every conceivable meter-related task you assign to your field staff.   If your company installs and maintains lamps, you will set up field activity types for every conceivable lamp-related task you assign to your field staff.

The topics in this section describe how to design your field activity types.

Contents

Designing Field Activity Types From Your Field Activity Type Profiles

After designing your field activity type profiles, the resulting matrices will reference every field activity type needed to:

- Start service
- Stop service
- Leave disconnect warnings
- Cut service due to non-payment
- Reconnect service after cut

The topics in this section illustrate every field activity type that would be needed to satisfy the needs of the field activity type profiles illustrated above.

Contents

Examples of Meter-Oriented Activity Types and their Steps

The following table shows several classic meter-oriented activity types and their respective steps:

Activity Type	Step	Step Type Action
Connect SP and install meter	Connect SP to power source	*Connect Service Point*
	Install meter	*Install Meter*
	Attempt to notify owner - optional	*Contact Customer*
Connect SP	Connect SP to power source	*Connect Service Point*
Disconnect SP	Disconnect SP from power source	*Disconnect Service Point*
Install meter	Install meter	*Install Meter*
Remove meter	Remove meter	*Remove Meter*
Read meter	Read meter	*Read Meter*
Turn on meter	Turn meter on	*Turn On Meter*
Turn off meter	Turn meter off	*Turn Off Meter*
Reconnect meter after payment	Turn meter on - optional	*Turn On Meter*
	Install meter - optional	*Install Meter*
Disconnect warning	Place disconnect warning	*Contact Customer*
Cut meter for non payment	Turn meter off - optional	*Turn Off Meter*
	Remove meter - optional	*Remove Meter*
Remove and disconnect meter	Verify premise is vacant – optional	*Contact Customer*
	Remove meter	*Remove Meter*
	Disconnect SP from power source	*Disconnect Service Point*

Examples of Badged Lamp-Oriented Activity Types and their Steps

The following table shows several classic lamp-oriented activity types and their respective steps:

Activity Type	Step	Step Type Action
Connect SP and install lamp	Connect SP to power source	*Connect Service Point*
	Install lamp	*Install Item*
	Attempt to notify owner – optional	*Contact Customer*
Connect SP	Connect SP to power source	*Connect Service Point*
Disconnect SP	Disconnect SP from power source	*Disconnect Service Point*
Install lamp	Install lamp	*Install Item*
Remove lamp and leave connected	Remove lamp	*Remove Item*
Install eye	Install eye	*Turn On Item*
Remove eye	Remove eye	*Turn Off Item*
Remove and disconnect lamp	Verify premise is vacant – optional	*Contact Customer*
	Remove lamp	*Remove Item*
	Disconnect SP from power source	*Disconnect Service Point*

Disconnect warning	Place disconnect warning	*Contact Customer*
Reconnect lamp	Install eye - optional	*Turn On Item*
	Install lamp - optional	*Install Item*
Cut lamp for non payment	Remove eye - optional	*Turn Off Item*
	Remove lamp - optional	*Remove Item*

Examples of Unbadged Service Point Activity Types and their Steps

The following table shows several classic lamp-oriented activity types and their respective steps:

Activity Type	Step	Step Type Action
Connect lamps in lot	Connect lamps	*Reconfigure Multi-Item*
Disconnect lamps in lot	Disconnect lamps	*Reconfigure Multi-Item*
Reconnect after pay	Reconnect lamps	*Reconfigure Multi-Item*
Disconnect warning	Place disconnect warning	*Contact Customer*
Cut lamps for non payment	Disconnect lamps	*Reconfigure Multi-Item*

Designing Other Field Activity Types

Besides those activity types that are needed to start / stop / cut service, you'll also need some field activity types for ad hoc service investigations and trouble orders.

The topics in this section illustrate these additional field activity types.

Contents

Examples of Meter-Oriented Service Investigation Activity Types and their Steps

The following table shows several classic meter-oriented activity types and their respective steps:

Activity Type	Step	Step Type Action
Meter exchange	Remove meter	*Remove Meter*
	Define meter's retirement date	*Change Meter*
	Install meter	*Install Meter*
Investigate meter accuracy	Read meter	*Read Meter*
	Verify constant – optional	*Change Meter's Configuration*
	Read meter – optional	*Read Meter*
Meter service investigation order	Read meter - optional	*Read Meter*
	Check service point – optional	*Change Service Point*
	Remove meter – optional	*Remove Meter*
	Check meter attributes – optional	*Change Meter*
	Check constant – optional	*Change Meter's Configuration*

	Install meter – optional	*Install Meter*
	Contact customer – optional	*Contact Customer*

Examples of Lamp-Oriented Service Investigation Activity Types and their Steps

The following table shows several classic lamp-oriented activity types and their respective steps:

Activity Type	Step	Step Type Action
Retire lamp and install another	Remove lamp	*Remove Item*
	Define lamp's retirement date	*Change Item*
	Install lamp	*Install Item*
Lamp service investigation order	Check service point – optional	*Change Service Point*
	Remove lamp – optional	*Remove Item*
	Check lamp attributes – optional	*Change Item*
	Install lamp – optional	*Install Item*
	Contact customer – optional	*Contact Customer*

Examples of Trouble Order Activity Types and their Steps

The following table shows trouble order-oriented activity types and their respective steps:

Activity Type	Step	Step Type Action
Contact customer	Contact customer	*Contact Customer*

Examples of Device Testing Activity Types and their Steps

The following table shows device test-oriented activity types and their respective steps:

Activity Type	Step	Step Type Action
Bench test meter	Remove existing meter	*Remove Meter*
	Install new meter	*Install Meter*
	Test meter	*Test Device*
Field test meter	Remove existing meter	*Remove Meter*
	Test meter	*Test Device*
	Install new or existing meter	*Install Meter*
Bench test current transformer	Remove existing CT	*Remove Item*
	Install new CT	*Install Item*
	Test CT	*Test Device*

Field Activity Completion Considerations

The Field Activity Step Upload Staging table provided by the system supports the completion of the following "standard" step types:

- Connect Service Point
- Disconnect Service Point
- Install Meter

- Turn On Meter
- Turn Off Meter
- Read Meter
- Remove Meter
- Install Item
- Turn On Item
- Turn Off Item
- Remove Item

These step types are supported because the amount of information required to complete the step type is limited and is always the same for every step of that type. For example, to install a meter, the system must know the badge number and the effective date/time and a reading must exist for that date/time. Every ***Install Meter*** step requires the same information.

However, there are other step types whose completion information depends on what specifically occurred in the field. For example, if the meter configuration changed, there are several possible fields whose value may have changed such as dial format, read out type, full scale, etc. Because of the large number of possible fields that would need to be available to support completion of these “generic” step types, the field activity step upload staging table does not support capturing this information. The step types included in this category are the following:

- Change Item
- Change Meter
- Change Meter’s Configuration
- Change Service Point
- Contact Customer
- Reconfigure Multi-Item
- Test Device

To complete field activities with one of the above step types, the recommendation is to use XAI to upload field activity completion information rather than using the field order completion upload background processes. Using XAI, you can design a service to update the appropriate data in the system for the above step types and complete the field activity and all its steps.

Remove Meter. The system only allows meter reads marked as **Use on Bill** to be specified as removal reads. If your implementation wants to relax this validation and use reads that are not useable on bill as removal reads during FA completion, set the ***Removal MR Always Useable on Bill*** **Option Type** on the ***Meter Management Options*** Feature Configuration to ***Y***.

Refer to Field Activity Completion for a sample service provided with the system to support completion for all step types.

Designing Field Service Classifications

When you set up a service point, you must define the operation area(s) that manage its fieldwork. If you have service points whose operation area differs based on the type of field activity, you will need multiple field service classifications (otherwise you'll just need 1 – call it ***All***). For example, a service point may have one operation area for turn on / off field activities, a different operation area for trouble orders, and yet a third operation area for meter exchanges. We refer to each major category of service for which operation area differs as a Field Service Classification. In this example, you would need to define 3 field service classifications - ***On/Offs***, ***Trouble Order***, and ***Meter Exchanges***.

Bottom line: if all types of activities at a given service point are dispatched from the same field office (i.e., operation area), you will only need one field service classification. If the field office of dispatch differs based on the type of field activity, you will need a field service classification for each category of field activity.

After you define your field service classifications, you need to associate them with your field activities (each field activity references a field service classification). You also need to define the field offices (i.e., operation areas) that perform work for each classification. For example,

- If trouble orders are dispatched from a central location, the ***Trouble Order*** service classification would have a single operation area linked to it.
- If turn ons / offs are dispatched from 4 separate operations area, you have the four operation areas linked to the ***On / Off*** field service classification.
- Etc.

If you're struggling with this concept, consider why the system needs to know about field service classifications:

- When a field activity is created, the system must associate it with an operation area. Why? Because operation area is one of the elements that controls the dispatch group to be associated with a field activity.
- The system finds the operation area by: a) extracting the field service classification from the field activity's activity type, and b) extracting the operation area for this classification defined on the service point.
- And finally, once the operation area is known, the system can allocate the dispatch group to the field activity. The other components that dictate the dispatch group are field activity type and service point type.
- Each service classification, in turn, would have its operations area defined.

How a service point gets its field service classifications and operation areas. A service point's field service classifications / operation areas will default based on its service type and its premise's postal code. See Setting Up Premise & Service Point Postal Defaults **for more information**.

Designing Who Does Your Field Activities

At this point, you have designed the following:

- Field activity types. These define what you do to your service points.
- SP types. These define the various services that exist at your premises.
- Operations areas. These define the locations from which you dispatch field activities.
- Dispatch groups. These define crews who do your field activities.

Now you have to pull it all together and define which dispatch group performs each field activity at every SP type in every area office. This is a four dimensional matrix that is easier to represent in two dimensions. We'll fill in this matrix for one of our many activity types. You'll need to do this for EVERY activity type:

Activity Type	SP Type	Operations Area	Dispatch Group
Connect SP and install meter	GAS – RESIDENTIAL	North Area	North – Gas&Water Crew
		South Area	South – Gas&Water Crew
	GAS – COMMERCIAL	North Area	North – Gas&Water Crew
		South Area	South – Gas&Water Crew
	WATER – RESIDENTIAL	North Area	North – Gas&Water Crew
		South Area	South – Gas&Water Crew
	WATER – COMMERCIAL	North Area	North – Gas&Water Crew
		South Area	South – Gas&Water Crew
	ELECTRIC – RESIDENTIAL	North Area	North – Electric Res Crew
		South Area	South – Electric Res Crew
	ELECTRIC – COMMERCIAL	North Area	North – Electric HV Crew
		South Area	South – Electric HV Crew

We made the following assumptions when filling in the above table:

- You have two operations areas: North Area and South Area.
  - The North Area handles all service requests in the northern part of your service territory.
  - The South Area handles all service requests in the southern part of your service territory.
- You have the following dispatch groups in the South Area.
  - North – Gas&Water Crew. This crew performs all field activities associated with ALL gas and water service points in the northern area regardless of SP type (i.e., residential and commercial installs are handled by the same group).
  - South – Gas&Water Crew. This crew performs all field activities associated with ALL gas and water service points in the southern area regardless of SP type (i.e., residential and commercial installs are handled by the same group).
  - North – Electric Res Crew. This crew performs all field activities associated with electric residential service points in the northern area.
  - South – Electric Res Crew. This crew performs all field activities associated with electric residential service points in the southern area.

- North – Electric HV Crew. This crew performs all field activities associated with electric commercial service points in the northern area (the HV stands for high voltage).
- South – Electric HV Crew. This crew performs all field activities associated with electric commercial service points in the southern area (the HV stands for high voltage).

You must fill in the above matrix for EVERY activity type. We'll give you one more example to show how to set up this information if you have centralized dispatching of some types of field activities. Our example assumes that all cuts for non-payment are handled by a single crew located at the North office.

Activity Type	SP Type	Operations Area	Dispatch Group
Cut metered service due to nonpayment	GAS – RESIDENTIAL	North Area	All - C&C crew
		South Area	All - C&C crew
	GAS – COMMERCIAL	North Area	All - C&C crew
		South Area	All - C&C crew
	WATER – RESIDENTIAL	North Area	All - C&C crew
		South Area	All - C&C crew
	WATER – COMMERCIAL	North Area	All - C&C crew
		South Area	All - C&C crew
	ELECTRIC – RESIDENTIAL	North Area	All - C&C crew
		South Area	All - C&C crew
	ELECTRIC – COMMERCIAL	North Area	All - C&C crew
		South Area	All - C&C crew

We understand if you have the above situation, there is some redundancy. But this is the price of the flexible design.

At this point, you're ready to set up your field activity types and field activity type profiles. We recommend first setting up your field activity types. Then set up your field activity type profiles designed earlier.

Don't forget. A field activity type profile contains a list of ALL field activity types that can be performed at service points that use the profile. This list must include all of the field activity types needed to: start and stop service, cut and reconnect service, investigate service, and record trouble orders for the service. Refer to Designing Your Field Activity Profiles & Types for more information.

Setting Up Field Service Classification

To define your organization's service classifications and the locations at which each classification of service can be performed, open **Admin Menu, Field Service Class**.

For more information about field service classifications, refer to Designing Field Service Classifications.

Description of Page

Enter an easily recognizable **Field Service Class** and **Description** for each service classification.

The **Operation Area** collection shows the operation areas in which field activities associated with a service classification are dispatched.

Where Used

Follow this link to open the data dictionary where you can view the tables that reference CI_FS_CL.

Setting Up Field Activity Types

The topics in this section describe how to set up field activity types.

When a new activity type is added. When you introduce a new field activity type, you must define the field activity type profiles on which the activity can be performed. Refer to Setting Up Field Activity Type Profiles for more information. If the field activity type is “dispatchable”, you must set up the rules used by the system to default the dispatch group onto field activities of this type. You do this on Field Service Control.

For more information about field activity types, refer to Designing Your Field Activity Profiles & Types.

Contents

Field Activity Type - Main

You begin to define a field activity type by opening **Admin Menu, Field Activity Type** and choosing the **Main** tab.

Description of Page

Enter an easily recognizable **Activity Type** and **Description** for each field activity type.

Use **Field Activity Priority** to define the priority associated with field activities of a given type. This priority affects the order in which field activities appear on the dispatching inquiries. Important activities (e.g., trouble orders) should have a higher priority than less important activities.

Note. The values for this field are customizable using the Lookup table. This field name is FA_PRIORITY_FLG.

Use **Field Service Class** to define the field activity's category of service. Refer to Designing Field Service Classifications for information about the significance of this field.

Turn on **Eligible for Dispatch** if this type of field activity is dispatched to a field crew. This switch will be on for all field activities except the one used to indicate the system should use the next scheduled meter read as the initial or final read on a service agreement. If this switch is on you must set up the rules used by the system to default the dispatch group onto field activities of this type. You do this on Field Service Classification.

If your FA type is eligible for dispatch and the Appointments module is not turned off, indicate if **Appointment Booking** for field activities of this type is ***Required for Dispatch***, ***Optional*** or ***Not Applicable***. If eligible for dispatch is checked, this value is defaulted to ***optional***; otherwise it is defaulted to ***not applicable***.

Turn on **Display as Alert** if Control Central should display an alert if its premise has a completed field activity of this type. If this switch is on,

- Use **Nbr Days Alert Active** to define the number of days the alert should appear on Control Central. The field activity's scheduled date is used as the start date for the alert period.
- Enter the **Alert Information** to appear on Control Central.

Recommendation. We recommend only using this feature on unusual field activity types (e.g., disconnect warnings, cut for non-payments) so that a CSR is not presented with an alert for every field activity type.

Use the **Field Activity Step** collection to define the discreet actions involved in the execution of the activity. Keep in mind that an activity type's steps are used to:

- Provide guidance to the field staff in respect of the expected steps involved in the execution of the activity.
- Simplify navigation to the page groups used to record what actually took place in the field.

The **Step Sequence** is system-assigned and may not be modified.

Enter the step's **Description**. This information is printed on the field order.

Indicate whether the step is **Optional**. This indicator is used when the user attempts to complete the field activity (after the fieldwork is complete). If an activity contains required steps, the system will not allow the activity to be completed unless every required step has an indication of what happened. For example, if an activity contains a step indicating the meter must be read, the activity cannot be completed until the meter read is referenced on the activity.

Use **FA Step Type Action** to define the activity associated with the step. The action determines the foreign key that must be referenced on the step in order to complete it. For example, the ***Read Meter*** action requires a meter read id to be linked to the step in order to complete the activity. The permissible values are defined in the following table.

Step Type Action	What it's used for
Change Item	Used when the activity changes attributes on an item (e.g., the date retired).
Change Meter	Used when the activity changes attributes on a meter (e.g., the date retired)

Change Meter's Configuration	Used when the activity changes attributes on a meter's registers (e.g., the constant)
Change Service Point	Used when the activity changes attributes on service point (e.g., the location)
Connect Service Point	Used when the activity connects a service point to its source (e.g., connecting an electric service point to the source of electricity)
Contact Customer	Used when the activity involves contact with a customer
Disconnect Service Point	Used when the activity disconnects a service point from its source (e.g., disconnecting an electric service point from the source of electricity)
Install Item	Used when the activity installs a badged item at a service point
Install Meter	Used when the activity installs a meter at a service point
Read Meter	Used when the activity reads a meter
Reconfigure Multi-Item	Used when the activity changes the number / type of unbadged items at a service point
Remove Item	Used when the activity removes a badged item from a service point
Remove Meter	Used when the activity removes a meter from a service point
Test Device	Used when the activity tests a meter or item.
Turn Off Item	Used when the activity turns off a badged item at a service point
Turn Off Meter	Used when the activity turns off a meter at a service point
Turn On Item	Used when the activity turns on a badged item at a service point
Turn On Meter	Used when the activity turns on a meter at a service point

Use the **Characteristic** collection to define **Characteristic Type**s and their respective **Characteristic Value**s to describe characteristics that are common to all field activities of this type.

Note. You can only choose characteristic types defined as permissible on the field activity type record.

Where Used

Follow this link to open the data dictionary where you can view the tables that reference CI_FA_TYPE.

Field Activity Type - FA Characteristics

To define characteristics that can be defined for field activities of a given type, open **Admin Menu, Field Activity Type** and choose the **FA Characteristics** tab.

Description of Page

Use the **Characteristics** collection to define characteristics that can be defined for field activities of a given type. Use **Sequence** to control the order in which characteristics are defaulted. Turn on the **Required** switch if the **Characteristic Type** must be defined on field activities of a given type. Turn on the **Default** switch to default the **Characteristic Type** when field activities of the given type are created. Enter a **Characteristic Value** to use as the default for a given **Characteristic Type** when the **Default** switch is turned on.

Field activities created by the system. When setting the Required switch, remember that most field activities are created by the system. Only turn on the required switch for these types of activities if a default characteristic value can also be indicated

Field Activity Type - FA Completion Control

Open **Admin Menu, Field Activity Type** and choose the **FA Completion Control** tab to define special functions that should be executed when a field activity is completed.

Description of Page

These algorithms are optional. The use of completion algorithms on a field activity type is optional. You would only use them if you have special functions that should be executed when a given field activity type is completed. Read the information below for examples.

The **Field Activity Completion Controls** tab is used when an algorithm should be executed when a field activity is completed. For example, if a charge should be levied when a certain type of activity is completed, you would indicate the "levy adjustment" algorithm should be executed. The type of algorithm may differ based on the CIS division in which the service point's premise is located. The following fields must be defined:

CIS Division Defines the division associated for which the algorithm will be executed. The system will only execute the algorithm when a field activity is performed at a service point whose premise is governed by the division.

FA Completion Algorithm Defines the algorithm that will be executed when a field activity is performed at a service point whose premise is governed by the associated division. Click here to see the algorithm types available for this plug-in spot.

Field Activity Type - SP Type Review

Open **Admin Menu, Field Activity Type** and choose the **SP Type Review** to review the SP types at which the field activity can be performed. And for each SP type, you can view the dispatch group that will perform the activity at every operations area.

Four dimensions. For every **field activity type**, you define the **dispatch group** that performs the activity at every **SP type** located in every **operations area**. This information is maintained on the Field Activity Type page group. This is a rather complex relationship because it involves the four dimensions highlighted in bold. Due to this complexity, we have provided review trees on the SP Type, Dispatch Group, and Field Activity Type pages to help you understand what you've set up.

Description of Page

This page is dedicated to a tree that shows the SP types at which the field activity can be performed. And for each SP type, you can view the dispatch group that will perform the activity at your operations areas.

Setting Up Field Service Control

Open **Admin Menu, Field Service Control** to define the dispatch group responsible for performing a field activity in each operation area for each SP type.

Description of Page

Eligible for dispatch. You would only define this information for field activity types that are eligible for dispatch because these are the only ones that need dispatch groups.

If a field activity type is **Eligible for Dispatch**, you must define the **Default Dispatch Group** that will be assigned to field activities. You do this in respect of the **Field Activity Type**, the field activity's service point's **SP Type**, and the service point's **Operation Area.** In addition you must define the following for every combination of **Activity Type**, **SP Type** and **Operation Area** you define the following:

Priority

The priority controls the order in which the system calls the algorithms that determine the **Dispatch Group** to be assigned to field activities associated with a given **Activity Type**, **SP Type** and **Operation Area**. Higher priorities are used before lower priorities.

Dispatch Algorithm

Select the algorithm that determines the dispatch group to be assigned to the field activity.

If you haven't done so already, you must set up this algorithm in the system. To do this:

- Create a new algorithm (refer to Setting Up Algorithms).
- On this algorithm, reference an Algorithm Type that assigns a dispatch group. Click here to see the algorithm types available for this plug-in spot.

Important! You must have at least one entry in this collection otherwise the system will not assign a dispatch group to a field activity. This entry should have the lowest priority code and should reference a **Dispatch Algorithm** that references the OFSDGRP DFLT algorithm type.

Where Used

This information is used to default the appropriate dispatch group on new field activities.

Setting Up Field Activity Type Profiles

The topics in this section describe the pages used to define a field activity type profile.

When a new profile is added. When you introduce a new field activity type profile, you must define the SP types that use it. Refer to SP Type – Main for more information.

For more information about field activity type profiles, refer to Designing Your Field Activity Profiles & Types.

Contents

Field Activity Type Profile - Main

Open **Admin Menu, Field Activity Type Profile** to maintain a field activity type profile.

Description of Page

Enter a unique **Field Activity Type Profile** and **Description** for the activity type profile.

The **FA Type Profile Templates** indicate the templates that exist for this field activity type profile. Use the drill down button to go directly to the desired template. Alternatively, you can go to the **Template** tab and scroll until you find the correct template.

Field Activity Type Profile - Template

Open **Admin Menu, Field Activity Type Profile** and choose the **Template** tab to define the field activity(s) used for various situations in the system.

Description of Page

The information in the **Field Activity Profile Template** collection defines the field activity(s) created for each situation identified by the **Customer Event**. The possible customer events are ***Cut for Non-payment***, ***Disconnect Warning***, ***Reconnect for Payment***, ***Reread***, ***Stop Service***, ***Start Service*** and ***Start/Stop***. Other customer events can be defined on the Look Up page (search for the CUST_EVT_FLG field name). Refer to the following sections for more detail about customer events included with the base product.

The fields defined for each event are common. You define the field activity(s) to be generated given the condition of the service point and the location at which service was disconnected (when applicable). The following fields display:

SP Field Condition Define the condition of the service point associated with the field activity. Valid values correspond to those described under Typical Metered Service Matrix, Typical Badged Item Service Matrix and Typical Unbadged Item Service Matrix.

Sequence You will typically have a single field activity for any specific combination of SP Field Condition and Disconnect Location. Therefore you'll just have a single sequence (say 10) for each combination. If you need to generate multiple field activities based on a given combination, use a unique sequence number for each activity.

No Activity Turn on this switch if no field activity should be generated for the condition. This is typically off for non-metered (e.g., lamp) starts when the service is already started.

Disconnect Location The type of field activity can differ based on where the service point was disconnected from the source of service. For example, if it the SP is disconnected at the pole, you would have a different field activity than if it is disconnected at the meter.

Activity Type Define the type of activity to be generated. You should take care to use activity types defined as valid for the SP type (on the last page).

Where Used

Refer to the following sections for information about where each template is used.

Field Activities Initiated To Start Service

Use the customer event ***Start*** to define the field activity(s) used to start service at a service point whose SP type references this profile.

Description of Page

See Field Activity Type Profile - Template for a description of the fields.

Where Used

The start service process uses this information to determine the type of field activities to create to start service at a service point.

Warning. Field activities will only be created for starts if you have defined the appropriate field work creation algorithm on the service agreement's SA type. Refer to SA Type - Algorithms for more information.

Field Activities Initiated To Stop Service

Use the customer event ***Stop*** to define the field activity(s) used to stop service at a service point whose SP type uses this profile.

Description of Page

See Field Activity Type Profile - Template for a description of the fields.

Where Used

The stop service process uses this information to determine the type of field activities to create to stop service at a service point.

Warning. Field activities will only be created for stops if you have defined the appropriate field work creation algorithm on the service agreement's SA type. Refer to SA Type - Algorithms for more information.

Field Activities Initiated For Back-to-Back Service

Use the customer event ***Start/Stop*** to define the field activity(s) used to stop service for one customer and start service for another at a service point whose SP type uses this profile.

Terminology. We use the term ***back-to-back*** to describe the situation when a single field activity supports both the stop and start service requests. The system sets up a back-to-back situation by default when it is aware of both the start and stop customers at a premise.

Description of Page

See Field Activity Type Profile - Template for a description of the fields.

Where Used

The start/stop service process uses this information to determine the type of field activities to create to start service at a service point.

Field Activities Initiated To Cut Service Due To Non-Payment

Use the customer event ***Cut for Non-Payment*** to define the field activity(s) used to cut service at a service point whose SP type uses this profile.

Description of Page

See Field Activity Type Profile - Template for a description of the fields.

Where Used

Severance and cut events use this information to determine the type of field activities to create to cut service at a service point.

Field Activities Initiated To Place A Disconnect Warning At A Service Point

Use the customer event ***Disconnect Warning*** to define the field activity(s) used to place a disconnect warning at a service point whose SP type uses this profile.

Description of Page

See Field Activity Type Profile - Template for a description of the fields.

Where Used

Severance and cut events use this information to determine the type of field activities to create to leave a disconnect warning at a service point.

Field Activities Initiated To Reconnect Service At A Service Point

Use the customer event ***Reconnect for Payment*** to define the field activity(s) used to reconnect service (after being cut) at a service point whose SP type uses this profile.

Description of Page

See Field Activity Type Profile - Template for a description of the fields.

Where Used

Severance and cut events use this information to determine the type of field activities to create to reconnect service at a service point.

Field Activities Initiated To Reread A Meter At A Service Point

Use the customer event ***Reread*** to define the field activity(s) used to reread a meter located at a service point whose SP type uses this profile.

The field activity type, M-REREAD, is used by the meter read page to create a field activity when a user requests a meter to be reread.

Description of Page

See Field Activity Type Profile - Template for a description of the fields.

Where Used

The meter read page uses this information to determine the type of field activity to create to reread a meter.

Defining A Profile's Valid Field Activity Types

Open **Admin Menu, Field Activity Type Profile** and choose the **Type** tab to define the superset of field activity types that may be performed on service points whose SP type uses this profile.

Description of Page

The **Field Activity Type** collection shows the field activities that may be performed at service points whose SP type references the field activity type profile.

Where Used

This information is used to control the types of field activities that may be performed at a service point.

Setting Up Fieldwork Cancellation Reasons

When you cancel a field activity, you must supply a cancellation reason. To define fieldwork cancellation reasons, open **Admin Menu, Fieldwork Cancel Reason**.

Description of Page

Enter a **Cancel Reason** and **Description** for every field activity/field order cancellation reason.

Only use **System Default** on those reason codes that are placed on field activities that are automatically canceled by the system. The following table lists the valid values and the condition where this cancel reason is used.

System Default	System Condition
Cut Process canceled	Placed on field activities that are canceled when a Cut Process is canceled.
Device Test Selection canceled	Placed on field activities that are canceled when a Device Test Selection is canceled.
Near MR FA Completion canceled	Placed on field activities that use a scheduled meter read to start / stop service when they are canceled. Refer to How To Start Service Using A Scheduled Meter Read for more information about these special field activities and how they may be canceled.
SA Start/Stop canceled	Placed on field activities that are canceled when a pending start / stop is canceled.
Severance Process canceled	Placed on field activities that are canceled when a severance process is canceled.

Required values. You must have one reason code defined for each of the System Default values that corresponds to an event that may occur in your implementation.

Feature Configuration. Some organizations require a cancel reason to be specified when a field order is cancelled. To achieve this, you must set up a ***fieldwork options*** feature configuration and ensure that the ***Cancel Reason Required*** option is set to ***Y***.

Where Used
Follow this link to open the data dictionary where you can view the tables that reference CI_FA_CAN_RSN.

Fieldwork Reschedule Reason

Some organizations require a reschedule reason to be specified when a field activity or field order's schedule date/time is changed. To achieve this, you must set up a ***fieldwork options*** feature configuration and ensure that the ***Reschedule Reason Required*** option is set to ***Y***. The ***Default Reschedule Reason*** option should also be specified. This option value will be used when the system updates a field activity's schedule date/time behind the scenes. To define reschedule reasons, open **Admin Menu, Fieldwork Reschedule Reason**.

Description of Page

Enter a **Reschedule Reason** and **Description** for every field activity/field order reschedule reason.

For more information on how to audit changes to a field activity or field order's schedule date/time, refer to the ***Field Activity Rescheduling - Audit*** and ***Field Order Rescheduling - Audit*** business objects.

Where Used
Follow this link to open the data dictionary where you can view the tables that reference CI_FA_RESCHED_RSN.

Setting Up Field Activity Remarks

You may link remarks to a field activity using remark codes. To define field activity remark codes, open **Admin Menu, Field Activity Remark**.

Description of Page

Enter a unique **Field Activity Remark** and a **Description** for every field activity remark.

Turn on **Eligible for Processing** if field activities marked with a given remark code should cause one or more algorithm to execute.

The grid contains **Algorithms** associated with the field activity remark. You must define the following for each algorithm:

- Specify the **System Event** with which the algorithm is associated (see the table that follows for a description of all possible events).
- Specify the **Sequence Number** and **Algorithm** for each system event. You can set the **Sequence Number** to ***10*** unless you have a **System Event** that has multiple **Algorithms**. In this case, you need to tell the system the **Sequence** in which they should execute.

The following table describes each **System Event**.

System Event	Optional / Required	Description

Field Activity Remark Activation	Optional	These algorithms are executed when there are pending FA remarks linked to a field activity and the FACT (Field activity remark activation) background process runs. Refer to Field Activity - Characteristics/Remarks for more information. Click here to see the algorithm types available for this system event.

Where Used

Follow this link to open the data dictionary where you can view the tables that reference CI_FA_REM_CD.

Setting Up Outage Call Types

When you create an outage call, you must supply an outage call type. Outage call types contain a great deal of information that is defaulted onto the outage call, including the outage category group codes or trouble codes. To set up outage call types, open **Admin Menu, Outage Call Type**.

Refer to The Big Picture of Outage System Integration for a detailed description of how trouble calls are created and sent to NMS.

The topics in this section describe the base-package zones that appear on the Outage Call Type portal.

Contents

Outage Call Type List

The Outage Call Type List zone lists every outage call type, i.e. every service task type that has a service task type class of ***Outage Call***. The following functions are available:

- Click a broadcast button to open other zones that contain more information about the adjacent outage call type.
- Click the ***Add*** link in the zone's title bar to add a new outage call type.

Outage Call Type

The Outage Call Type zone contains display-only information about an outage call type. This zone appears when an outage call type has been broadcast from the Outage Call Type List zone or if this portal is opened via a drill down from another page. The following functions are available:

- Click the **Edit** button to start a business process that updates the outage call type.
- Click the **Delete** button to start a business process that deletes the outage call type.
- Click the **Duplicate** button to start a business process that duplicates the outage call type.

Please see the zone's help text for information about this zone's fields.

External System Integration

The following section describes functionality provided for integrating your field activities with an external system.

Separate module. Please note that field activity integration functionality is associated with separate ***Field Activity Integration*** module. If this module is not applicable to your business you may turn it off. Refer to Turn Off A Function Module for more information.

Contents

The Big Picture of External System Integration

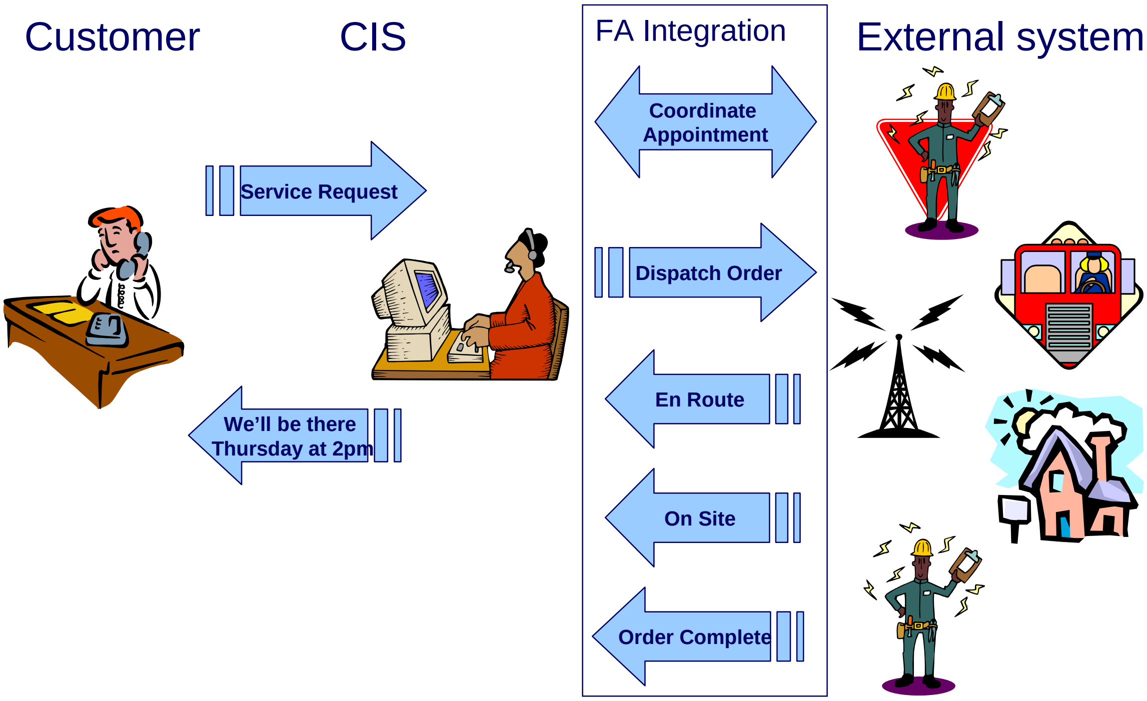
Many utilities use other systems to coordinate work that goes out to the field. The following are examples of functionality provided by fieldwork management systems:

- Defining crews, skills, availability for work
- Scheduling appointments
- Tracking individual field activities, usually utilizing handheld devices to get up-to-the-minute status
- Balancing the workload

Since Oracle Utilities Customer Care and Billing can generate many work orders, you can integrate it with your external systems. The most common type of external system used to coordinate fieldwork is a Workforce Management (WFM) system. However, some companies may set up their business such that certain field activities should be sent to other types of systems. For example,

- Maybe new meter installations are the responsibility of the Asset Management system. A field activity of this type originated in Oracle Utilities Customer Care and Billing should be sent to the asset management system. That type of system may support its own crew dispatching logic or perhaps it performs some simple processing for the field activity and then interfaces the field activity to the WFM system.
- Outage related field activities are typically sent to an outage management system. The outage management system uses information from several outage calls to determine the source of the outage problem. The outage system may support its own crew dispatching logic or it may integrate with a WFM system to dispatch a crew.

The following diagram illustrates the typical integration with an external system:



The following points describe the diagram:

- While speaking with the customer and entering information into the system, information about available appointments may be accessed from an external system and displayed on an Oracle Utilities Customer Care and Billing user interface. Information about the appointment that is booked with the customer is sent to the external system.
- Information about new field activities created in Oracle Utilities Customer Care and Billing is sent to the appropriate external system using XAI. The external system performs the dispatching and tracking for the field activity.
- Intermediate field activity states may be interfaced from the external system to Oracle Utilities Customer Care and Billing.
- Completion information is interfaced from the external system to Oracle Utilities Customer Care and Billing.

Contents

Mapping Field Activity Types to an External System

When integrating with an external system, you must determine how to map your field activity types in Oracle Utilities Customer Care and Billing to your related task identifier in the external system.

Decide whether Oracle Utilities Customer Care and Billing provides information on its field activity types that map to the task in the external system. For more information, see Designing Your Field Activity Profiles & Types. You can leverage Oracle Utilities Customer Care and Billing field activity types and the messages sent from Oracle Utilities Customer Care and Billing to indicate the appropriate task in the external system. If tasks in the external system already have the information that maps to the field activity types in Oracle Utilities Customer Care and Billing, then the messages in Oracle Utilities Customer Care and Billing can pass the field activity types to the external system. You need to determine where your mappings will exist to decide how to map the field activity types and where.

In the sample integrations provided, it is assumed that the Oracle Utilities Customer Care and Billing field activity types map to the external system tasks using characteristics on the field activity type. You can use one or more characteristics on the field activity type to map it to the task in the external system.

Cancelling a Field Activity

Various business processes in the system create field activities (for example, start/stop, severance or cut process, device test selection). If the process that creates a field activity is canceled, the system attempts to automatically cancel the related field activity. If an implementation integrates with an external system, typically messages can be sent real-time to the external system AND to a field worker dispatched to work on the field activity to indicate that an FA is being canceled.

However, it's possible that there are situations where it is known ahead of time that a message cannot be successfully sent real-time. (For example, some field workers do not have real time communication with the dispatcher while in the field).

If this situation exists, you may configure the external system feature configuration to identify intermediate status values that should prevent a field activity from automatically completing.   All processes that attempt to automatically cancel a field activity whose dispatch group references an external system will first check to see if it's in an intermediate status that should prevent auto-cancellation.

Note, each business process must define what should occur when a field activity is not allowed to be auto-canceled.

Field Activities Not Related to a Premise

There are often field activities generated that do not relate to a specific premise. Because Oracle Utilities Customer Care and Billing requires a service point for every field activity, implementations must define one or more premises to represent the "no address premise" to use for one of these field activities. The decision as to whether to use one premise or more than one premise depends on how you plan to interface this information to an external system. For example

- Maybe the external system expects the user to use the field activity instructions to describe the location of the problem. In this case only one "no address" premise is needed
- You may decide that the operations area on a field activity's service point is interfaced to the external system and that you want to create a different "no address" premise for each of your operations areas.

Regardless of how many "no address" premises you decide to define, you must create at least one service point to be able to create a field activity. You may choose to create a service point for each service type you support. You must also be sure that your users know how to find the correct premise and service point in the search when creating the field activity.

We recommend that you create a special premise type to use for these premises and reference that premise type in the ***No Address Premise Type*** option on the feature configuration. The base product Extract FA Information service resets the Address fields if the premise linked to the field activity's service point is a "no address" premise type.

Override Phone Number

When entering field activity information for a customer, you may want to capture a specific contact phone number to interface to the external system. We recommend that you create a field activity characteristic type to capture the contact phone number and reference that characteristic type in the ***Phone Number Characteristic Type*** option on the feature configuration. The base product Extract FA Information service overrides the Account's phone number if it finds a characteristic on the field activity with this characteristic type.

Integration Through XAI

The integration between Oracle Utilities Customer Care and Billing and the various external systems is through XAI.

- The XAI real time outgoing message engine is used to retrieve appointment information and book appointments.
- Information about field activities is interfaced to the external system using near real time NDS messages.
- When the system receives messages from the external system, records are received as inbound messages.

External System Feature Configuration Refers to a Service Provider

In order to communicate to the external system using XAI, the system must be able to identify a service provider related to the external system. The service provider associated with an external system is defined as an option on the external system's feature configuration.

Dispatching Field Activities

When your implementation integrates with an external system, field activities are created in Oracle Utilities Customer Care and Billing and interfaced to the external system. The external system manages the assigning and dispatching of work associated with this field activity.

If your external system can supply interim status information, this can be passed to our system and logged with the field activity. For example, if the external system can indicate that the field worker is en route or on site, this can be logged for the field activity so that if the customer calls to inquire about the status, the user is able to communicate the information.

When work is completed, full completion information related to the field activities is interfaced from the external system back to the system.

Note that field activities are interfaced to the external system, not field orders. Field orders are not necessary because they are used to bundle field activities together, an activity now managed by the external system. You may still choose to create field orders for these types of field activities if you want to group field activities for your own purposes.

Contents

Integration with Multiple External Systems

Some organizations use more than one external system to manage different types of field activities. For example, line work may be handled in one system and meter service work in another. To achieve this the external system's feature configuration is defined at the dispatch group level. Field activities are interfaced to an external system based on their dispatch group information.

Algorithms Control FA Integration

The interaction between Oracle Utilities Customer Care and Billing and your external systems is handled entirely via algorithms that are plugged into the appropriate dispatch group. If your dispatch group indicates that it should interface with an external system, then you must specify one or more ***FA Integration*** algorithms. These algorithms are called when the following system events occur

- A field activity linked to the dispatch group is created, whether online or in batch
- A field activity linked to the dispatch group is canceled, whether online or in batch
- The "header" information for a field activity linked to the dispatch group is changed, whether online or in batch

Header information. "Header" information for a field activity refers to information on the field activity record. It does NOT include steps, characteristics, remarks or log records.

- The characteristics collection for a field activity changes online. Changing the characteristics via a batch routine will not trigger the FA integration algorithms.

Sample FA Integration Algorithm

The system provides a sample algorithm for FA integration called FWFM-FA-INT. This algorithm creates XAI outbound messages (by creating NDS records) to notify an external system if any field activities are created or if any changes are made to existing FAs so that their corresponding orders are created or updated respectively. Refer to the algorithm type description for more detail about the algorithm's logic.

Alert For Problems With Message. The base product provides an alert algorithm (CCAL-FAERMSG) that may be plugged in to the installation options. This algorithm displays an alert if there is an error associated with an outbound message for the field activity or if a response has not been received within a specified time limit.

Extract FA Information

When XAI processes the outgoing messages generated by the sample FA integration algorithm, it builds the XML request by calling the service referenced on the NDS type's XAI inbound service.

The base product provides a service, called CIPOEFIP, which extracts field activity information along with information related to the service point, meter, item, premise and account for the field activity (if applicable). If this service does not provide the functionality required by your implementation, you may create your own version using this one as a basis.

Note that this service defines an input parameter to exclude Financial Information. You can set this to Yes to avoid the account financial information (see below).

The following tables list the data that is extracted.

FA Type information
All fields in the main FA Type table and the corresponding language table
FA Type Characteristics
FA Information
All fields in the main Field Activity table
Status description
Cancellation Reason description
FA Steps collection
FA Characteristics. Note the service limits the number of field activity characteristics that it extracts. It only extracts the first 100.
Appointment information
SP Type information
All fields in the main SP Type table and the corresponding language table
SP Type Characteristics
SP Information
All fields in the main Service Point table
Status description
Source Status description
Disconnect Location description
SP Location description
Facility Level 1, 2 and 3 descriptions
SP Operation Area and Description for the FA type's field service class
SP Multi-Item collection
SP Equipment collection

SP Characteristics
SP Geographic Data
SP Operation Area collection
Premise Information
All fields in the main Premise table
Premise Type description
MR Warning description
MR Instructions description
Life Support/Sensitive Load flag description
Alternate Address collection
Landlord Agreement Description
Name of Landlord's main person
Phone Number collection of Landlord's main person
Premise Characteristics
Premise Geographic Data
Meter Information for the meter currently installed at the Service Point (if applicable)
All fields in the main Meter table
Meter Type description
Meter Status description
Manufacturer description
Model description
Meter Id collection
Meter Characteristics
Meter Equipment collection
Meter Configuration Information for the meter currently installed at the Service Point (if applicable)
All fields in the main Meter Configuration table
Meter Installation Date/Time
Calculated High / Low limit for the meter on the FA schedule date
Item Information for the badged item currently installed at the Service Point (if applicable)
All fields in the main Item table
Item Type description
Item Status description
Manufacturer description
Model description
Item Characteristics
Item Equipment collection

SA Information for the first two Service Agreements found for the service point
SA ID
CIS Division / SA Type
Account ID
SA Status
Start Date / End Date
Customer Read Flag
Rate Schedule
SA / SP collection
Customer Information for the account(s) linked to the above service agreements
All fields in the main Account table
Person ID of the main person
Name of the main person
Person / Business flag for the main person
Life Support / Sensitive Load flag, flag Description and Description for the main person
Phone Number collection for main person. Note, this information may be overridden if a phone number is entered on the field activity.
The following financial information is not extracted if the input Exclude Financial Information is set to Yes.
Credit Rating Points. Calculated from the Credit Rating Base Score on the Installation Table and CR_RATING_PTS from CI_ACCT_CR_R_VW
Cash Only Points. Calculated from the Cash Only Base Score on the Installation Table and CASH_ONLY_PTS from CI_ACCT_CR_R_VW
Current Amount (calculated from FT information)
Payoff Amount (calculated from FT information)
Disputed Amount (calculated from FT information)
Arrears Information: Disputed Amount, New Charges, 30 days old, 60 days old, 90 days old
Count of the number of bills generated in the last 6 Months
For each bill:
Bill ID
Bill Date
Bill Amount
Meter Read information for the last Bill
All fields in the main Meter Read table
Register Read collection
Count of the number of payments generated in the last 6 Months
For each payment:
Payment ID
Payment Event ID

	Payment Date
	Payment Amount
	Cancel Reason and its Description

Incoming Messages from the External System

If your implementation requires general updates to the field activity from your external system, for example, updating the priority based on a change to the priority in the external system, the XAI Inbound Service that processes this message may reference the standard field activity service.

The base product supplies two additional services to handle special incoming messages from your external system.

- One service processes responses to outgoing messages initiated by Oracle Utilities Customer Care and Billing.
- One service processes field activity completion information.

Contents

FA Response

The sample integration is designed to expect a response, whether positive or negative, from the external system when an outgoing message is sent.

The base product provides a service, called CIPORFAP, which processes this response. Note that we also provide an XAI Inbound Service, ***FAResponse***, defined to invoke this service. This service provides the ability to do the following for positive responses:

- Update information about the field activity (refer to Populating FA Response for details)
- Create a field activity log entry

If the incoming message is a negative response to a message originally sent by Oracle Utilities Customer Care and Billing, the service supports the following functionality:

- Create a field activity log entry.
- Create a To Do Entry

For both the log entry and the To Do entry, if the external system has provided an external message category and code in the message that have been mapped to an internal message category and code on the feature configuration table, the system looks up the message text and includes it in the log message. Refer to FA Log Entry Events for more information.

The following topics provide some additional information.

Contents

Create a Log Entry

In order to create a log entry, the system needs to know the log type to use. The service accepts a log type as input and your XSL that maps data to this service may assign an appropriate log type.

If a log type is not provided, the system can try to default one of the base sample log types if information is provided about the type of base sample message that this is a response to. To do this, the service needs to identify the notification download condition of the original message.

Refer to Sample FA Integration Algorithm for information about the notification download conditions used for the sample integration.

Your XSL may provide

- The notification download condition flag.
- The notification download type. Using the NDS type, the system can find the appropriate notification download condition flag.
- The external system and the message id that the system generated and sent to the external system. Using that information, the original outbound (NDS) message can be retrieved and the NDS type and its corresponding notification download condition flag can be determined.

Refer to Sample FA Integration Algorithm for more information about creating the message id.

Refer to Field Activity Log for a list of the base sample log types and the type of message they are generated for.

Create a To Do Entry

In order to create a To Do entry, the system needs to know the To Do type to use. The service accepts a To Do type as input and your XSL that maps data to this service may assign an appropriate To Do type. If you don't pass in a To Do type the system looks up the **To Do Type for FA Response** indicated on your external system's feature configuration.

Populating FA Response

The following table lists the fields to populate for an FA response message.

General information
FA ID
Positive Switch (Y if response is positive, N if response is negative)
Outbound Message Information (used to identify the original outgoing message that this is a response to)
External System
Message ID
Notification Download Condition flag
NDS Type
Error Message Information Refer to FA Response for more information

Message Category
Message Number
FA Log Information
Create Log Switch (Y, N)
FA Log Type (Refer to Create a Log Entry for more information)
To Do Information
Create To Do Switch (Y, N)
To Do Type (Refer to Create a To Do Entry for more information)
FA Information
Schedule Date/Time
Dispatch Group
Instructions
Comments
External ID
FA Intermediate Status
Appointment Information
Field Activity Characteristics

Intermediate Status Updates

Oracle Utilities Customer Care and Billing supports receipt of intermediate status updates for a field activity from an external system. To process messages from the external system regarding status update changes, the system call the standard Field Activity service with a change action updating the intermediate status as provided.

If your organization's external system supports different intermediate status values for a field activity, your implementers must customize the lookup value that defines the list of valid intermediate status values.

Field Activity Completion

The system provides a staging table to use to upload and complete field activities. However, this staging table has limitations as described in field activity completion considerations. For these reasons and to enable to support integration through XAI, the base product provides a sample service (called CIPOASTP) that can be invoked by XAI to support completion of the all step types, including the “generic” step types and the “standard” step types. We provide an XAI Inbound Service, ***C1FACompletionWithSteps***, defined to invoke this service. The sample service:

- Creates field activity upload staging and FA step upload staging records
- If meter read information has been provided, it creates a meter read record and its corresponding register reads.

- For any of the “generic” steps, the process updates or creates the appropriate record(s) and populates the id of the record updated as the foreign key for the FA step record. For example, for the ***Change Meter*** step type, the process updates the meter record with the information provided through XAI and links the meter id to the FA step record.
- The process then performs the standard “complete step” logic. For the “generic” step types, the FA step should simply be marked as complete because the foreign key is already linked. For the “standard” step types, the completion logic described in FACOMPL - Upload and Complete Field Activities is performed.

> Refer to Field Activity Completion Considerations for the list of "generic" and "standard" step types.

- Creates an FA log entry with a log type of ***Order Completion*** to indicate that the field activity has been completed by an external system.
- Standard FA completion logic is also performed. For example, completion algorithms are executed, etc.

> **Note**. The sample service provided by the system may not provide all the functionality your implementation requires for completing every “generic” step. For example, not all service point, meter or item fields are included in the list of fields that may be updated. If the sample process does not satisfy your needs, your implementers should copy the sample process and modify the new process as needed.
>
> **Characteristic limitation**. The sample service limits the number of field activity characteristics that may be uploaded to 100.
>
> **Error Handling**. If any error is found during step completion, this sample service backs out all changes and issues an error indicating the problem.

Populating Field Activity Completion

The following table lists the fields to populate for a Field Activity Completion.

FA Upload Staging Information
FA ID
All fields in the FA Upload Staging table, FA upload characteristics, FA upload remarks and FA upload staging steps
"Generic" Step Type Information
Step Sequence Number
Customer Contact Info
Customer Contact Date / Time
Customer Contact Class
Customer Contact Type

Customer Contact Comments
Meter Information
Meter Type
Meter Status
Manufacturer
Model
Serial Number
Receive Date
Retirement Date
Comments
Retire Reason Code
Meter ID Collection
Meter Characteristics
Meter Configuration Information
Effective Date / Time
Meter Configuration Type
Register Collection
Item Information
Item Type
Item Status
Manufacturer
Model
Serial Number
Receive Date
Retirement Date
Comments
Retire Reason Code
Item Characteristics
SP Information
SP Type
SP Status
Installation Date
Abolish Date
SP Source Status
Disconnect Location Code
Service cycle

Service Route
Service cycle / Route Sequence
Meter Location Code
Meter Location Details
Comments
SP Characteristics
SP Multi-Item Information
Effective Date for new collection
Count of Items
Item Type Code
Item Count
Item Difference. Used to indicate only changes to the existing item count collection.
Device Test Information
All fields for main Device Test table
External System. Used to record a test done by a third party.
Device Test Component / Result Extra Information. This additional information is used to identify the meter readings that should be associated with component test results that are meter readings. Note. This FA completion service supports providing information for a single meter reading (in the FA upload staging info above). If your device test produces multiple readings, the assumption is that the readings are entered separately prior to this upload of completion information.
Component sequence. Indicate the sequence of the Device Test Component
Read Sequence for the register for that component. This should correspond to the register's relative sequence within the meter configuration.
Component Result sequence. Indicate the sequence of the Component Result
Read Date/Time. For each result that is related to a meter read, indicate the read date / time so that the system can find the associated meter read for this result.

Booking Appointments Via An External System

If your field activity requires an appointment, the user navigates to the appointment page to book the appointment. If the dispatch group for your field activity is associated with an external system's feature configuration, the appointment page includes a user exit to provide the ability to communicate with the external system for the following actions:

- Display available appointments
- Book an appointment
- Cancel an appointment

Implementation specific behavior. The actual behavior of your appointment integration is dependent on your external system behavior. For example, some systems store appointment booking, which may be done real time, independently from storing field activities, which are interfaced in near real time. Other systems may display available appointments real time but may book appointments as part of storing the field activity, which is near real time.

This section describes the tools provided to interface with your external system along with a description of sample integration of real time appointment interaction provided with the system.

Oracle Utilities Mobile Workforce Management integration. In addition to general FA integration logic, the system provides integration with Oracle Utilities Mobile Workforce Management. Refer to the documentation for integration for more information.

Contents

Configuring Appointment Options

There are several configuration options available to customize the interaction with your external system for appointments.

Contents

Manual Appointments

If your external system books appointment in real time, it's possible that there is a problem with the communication to the external system while the user is attempting to book an appointment. You may configure your external system's feature configuration options to allow manual booking of appointments so that the user is able to book appointments even if the system is down. If you set the option ***Allow Manual Appointments*** to ***Y***,

- If the communication is available to show appointments, but the connection is down when you attempt to book one of the displayed appointments, you can click OK to book the appointment using a "near real time" message. This is applicable for systems that book appointments real-time via the appointment page.

- If the communication is unavailable while you are attempting to show appointments, you may add your own appointment period. When you click OK, a "near real time" message is created.

Refer to Book Appointment for more information about the creation of "near real time" messages.

Note. If the user has created an appointment or has chosen an appointment that is not available in the external system, it is possible that the manual appointment is not accepted and a negative response is received. You may configure your system to allow forced appointments to force the external system to accept the chosen appointment.

If there is a problem with the communication to your external system while attempting to cancel an appointment, you may configure your external system's feature configuration options to ***Allow Manual Appointment Cancellation***. If this option is set to ***Y*** and the communication is unavailable while you are attempting to cancel an appointment, you can click OK to cancel the appointment using a "near real time" message.

Narrowing Appointment Window

If you have set the external system's feature configuration option ***Allow Narrowing Of Appointment Window*** to ***Y***, then your users are able to enter a more granular appointment time than what is displayed. For example, if the list of available appointments shows an appointment period of 1pm to 4pm and this option is turned on, the user could enter an appointment period of 2pm to 2:30pm.

Forced Appointments

If your external system allows the user to choose appointment periods that are not available in the system, set the external system's feature configuration option ***Allow Forced Appointments*** to ***Y***. When this option is turned on a Forced checkbox is visible on the search for an appointment page. The user should check this if the desired appointment is not available.

Forcing manual appointments. If your system allows manual appointments and allows forced appointments, the book appointment logic provided with the system automatically flags manual appointments as forced to ensure that they are accepted by the external system.

If an appointment is forced, the system populates a field activity characteristic indicating this. The characteristic type to use is defined as a feature configuration option.

User Defined Search and Result Fields

It is possible that your external system allows the user to provide additional information prior to searching for available appointments. For example, imagine that your customer wants the appointment to be in the afternoon and your external system allows you to request "afternoon" appointments only. To enable this functionality, you define a ***User Defined Search Criteria*** field on the external system's feature configuration options.

You may define up to 10 user defined search criteria fields. The information is passed to the message engine to get available appointments. It is assumed that your XSL scripts correctly map the information into a format understood by the external system to determine the desired appointment periods.

The result grid for the available appointments displays the start date / time and end date / time. If your external system provides additional information for each appointment period that would help the user choose the best appointment, you may define a ***User Defined Result Field*** on the external system's feature configuration options.

You may define up to 10 user defined result fields. If you have configured the external system to define extra result fields, it is assumed that your response XSL correctly maps the information from the external system to the appropriate column in the available appointments collection so that it can be displayed to the user.

For any custom field that you want to include in the search or the results, you must define a field in the system to indicate the type of data and the label for this field.

Appointment Periods vs Reservations

When an external system is used for appointments, it is not necessary to set up appointment period records in Oracle Utilities Customer Care and Billing ahead of time. The external system is responsible for providing the available appointment periods. When a user books an appointment with an external system, Oracle Utilities Customer Care and Billing creates an appointment period as an audit. This enables the user to view the appointment information when viewing the field activity in the system.

If the external system creates a reservation record for the appointment in its system, the unique identifier of that reservation may be stored with the field activity in Oracle Utilities Customer Care and Billing as a characteristic. The characteristic type to use is defined as a feature configuration option. The sample integration provided with the system populates the field activity characteristic with a reservation number received.

Real Time Appointment Interaction

The appointment page communicates with the external system for appointments via the XAI real time outgoing message engine. This section describes some technical information related to the logic delivered with the system.

Contents

Appointment Page User Exit

The base product appointment page provides java user exit code that is invoked when the dispatch group is associated with an external system (i.e., it references a feature configuration). The user exit code does the following:

- It determines the service provider
- It finds the NDS types that are associated with the following notification download condition flags:
  - ***Get Available Appointments***. This is passed to the engine to retrieve the available appointments
  - ***Appointment Book***. This is passed to the engine to book an appointment real time.
  - ***Appointment Book – Near Real Time***. This is passed to the engine to book an appointment in near real time.
  - ***Appointment Cancel***. This is passed to the engine to cancel an appointment real time.
  - ***Appointment Cancel – Near Real Time***. This is passed to the engine to cancel an appointment in near real time.

- It invokes the ***Appointment Java Class Interface*** defined on the external system's feature configuration options passing all the data available on the page service.

Implementation specific business logic. The intention is that any unique business logic required to interact with your implementation's external system is encapsulated in the appointment java class interface plugged in on your feature configuration options. However, if your implementation has unique logic that must be coded in the java user exit on the appointment page, that code may also be replaced by implementation specific appointment page user exit code.

Sample Appointment Java Class

The ***Appointment Java Class Interface*** referenced on your external system's feature configuration is responsible for interaction with the XAI real time outbound message engine to communicate with the external system for appointment logic.

The base product provides a default java class (called com.splwg.wfmi.workforce.DefaultWFMSystem) for appointment integration that may be used if it provides the logic your implementation needs.

Oracle Utilities Mobile Workforce Management. Refer to documentation on ntegration for information about the java class provided for integration with Oracle Utilities Mobile Workforce Management.

The default java class provided with the base product does the following:

- Extracts additional field activity information not provided by the appointment page service
- Converts the data in the page service and the additional FA information into an XML document
- Invokes the real time outgoing message engine.

Responses received from the engine are in the form of an XML document. The java class transforms the information into a format recognized by the page data model and sends it back to the user exit.

Technical Note. The CILOAPTP.xml found on the xmlMetaInfo directory describes the base structure of the Show Appointment, Book Appointment and Cancel Appointment request XML. The selected field activity to be booked or canceled has an additional faExtraInfo element. The faExtraInfo element follows the structure described by CILOEFIP.xml.

The following sections describe more detail about the logic provided by the sample base product appointment java class interface.

Contents

Get Available Appointments

For obtaining available appointments, the user exit passes the NDS type that references the ***Get Available Appointments*** condition flag. All the data available on the page service is passed to the engine as an XML document including any user defined search fields.

The user exit expects a response to this message to return a collection of records to display in the available appointments grid on the appointment page, including any user defined result fields. Any errors received are communicated to the user.

Translate Message. Any error message received from the external system is translated from an external message to an appropriate system error message using the message information on the external system's feature configuration.

Book Appointment

Once the user has confirmed the desired appointment with the customer, the user attempts to book the appointment. The generic appointment integration java class provided with the system sends a message to books appointments real time. The user exit passes the NDS type that references the ***Appointment Book*** condition flag.

One FA at a time. Note that the sample user exit provided by the system only supports booking appointments for one field activity at a time. As a result, if you want to use the sample user exit, your external systems should be configured with the option ***Allow Multiple Reservations*** set to ***N***. If your organization would like to support booking appointments for multiple field activities at once, you may create your own user exit to provide this capability.

The sample user exit provided with the product expects either a positive or negative response to this message.

- If a positive response is received, the user exit expects to be passed a reservation number and an indication of whether or not the appointment was forced. It populates the field activity characteristics collection with these values using the **Reservation Characteristic Type** and **Appointment Forced Characteristic Type** defined as options on the external system's feature configuration.
- If a negative response is received, an error message is displayed to the user.

Translate Message. Any error message received from the external system is translated from an external message to an appropriate system error message using the message information on the external system's feature configuration.

If the message engine cannot communicate with the external system, it returns an indication to the user exit. The user exit proceeds as follows:

- If the external system indicates that ***Allow Manual Appointments*** is set to false an error is displayed to the user.
- If manual appointments are allowed, the user exit issues a warning to the user asking if the message should be logged and sent when the communication is up again. If the user agrees, the user exit invokes the java class asking it to post a near real time message.

- The user exit calculates a unique outgoing message ID for the external system. The message id is calculated using a database sequence whose name is referenced in the option **Message ID Database Sequence Name** on the external system's feature configuration. This message id is passed to the real time message engine to be populated as an NDS context entry to support an asynchronous response to the message.
- The user exit passes the NDS type that references the ***Appointment Book – Near Real Time*** condition flag. The FA Id is also passed to the real time message engine to be posted as an NDS context entry.   The system expects that the response to this message will create an XAI upload staging record and that this record will update the field activity's characteristics with the reservation and forced appointment information (if applicable). Refer to Near Real Time NDS Messages for more information about responses to near real time messages and XAI upload staging.
- If the external system's configuration indicates that forced appointments are allowed, the message is sent to the external system with the forced indication set. If the external system does not allow forced appointments, it's possible that this manual appointment could be rejected by the external system.

If no error is received, the appointment page continues with the "change" action. An appointment period is created for the chosen appointment time if one doesn't already exist and the appointment period is linked to the field activity.

Note that the appointment period is created and linked to the field activity even if the message is sent to the external system in near real time and no confirmation has been received. This was done to record the requested appointment in our system to cater for the situations when the customer wants to change or cancel the appointment prior to receiving the acknowledgement from the external system.

Cancel Appointment

If the customer wants to cancel the appointment, the user navigates to the appointment page. The generic appointment integration java class provided with the system sends a message to cancel an appointment real time. The user exit passes the NDS type that references the ***Appointment Cancel*** condition flag. The user exit expects either a positive or negative response to this message.

- If a positive response is received, the appointment page continues with the change action. (See below).
- If a negative response is received, an error message is displayed to the user.

Translate Message. Any error message received from the external system is translated from an external message to an appropriate system error message using the message information on the external system's feature configuration.

If the message engine cannot communicate with the external system, it returns an indication to the user exit. The user exit proceeds as follows:

- If the external system indicates that ***Allow Manual Appointment Cancellation*** is set to false an error is displayed to the user.

- If manual appointments are allowed, the user exit issues a warning to the user asking if the message should be logged and sent when the communication is up again. If the user agrees, the user exit invokes the java class asking it to post a near real time message.
  - The user exit calculates a unique outgoing message ID for the external system. The message id is calculated using a database sequence whose name is referenced in the external option **Message ID Database Sequence Name** on the external system table. This message id is passed to the real time message engine to be populated as an NDS context entry to support an asynchronous response to the message.
  - The user exit passes the NDS type that references the ***Appointment Cancel – Near Real Time*** condition flag. The FA Id is also passed to the real time message engine to be posted as an NDS context entry. A response to this message will be an acknowledgement. No further updates to field activity data are expected.

If no error is received, the appointment page continues with the "change" action. The appointment period is unlinked from the field activity and if no other field activities are linked to this appointment period, the appointment period is deleted. In addition, the field activity characteristics for the reservation number and forced appointments are removed from the FA.

Note that the above updates are performed even if the message is sent near real time and no response has been received. This was done to cancel the appointment in our system to cater for the situations when the customer wants to rebook the appointment prior to receiving the acknowledgement from the external system.

Validating Meter / Item Installations

Contents

Incoming Validate Meter / Item Message

When Oracle Utilities Customer Care and Billing receives the incoming message to validate a meter or item, the service, called CIPOVMIP, which processes the message, creates a pending notification download staging record (using the NDS type whose notification download condition is ***Validate Meter/Item***). It creates context records for the Badge Number being validated along with an indication of whether the badge number is for a Meter or an Item.

For more information about NDS types available in product integrations, refer to Oracle Utilities Mobile Workforce Management NDS Types and Oracle Utilities Work and Asset Management NDS Types listed in the documentation on integration.

The system provides an XAI Inbound Service, ***ValidateMeterItemRequest***, defined to invoke this service. The following table lists the fields to populate for this service.

General Information
Message ID
FA ID

FA External ID
Meter / Item Flag (M or I)
Badge Number

Outgoing Validate Meter / Item Message

The service provided with the product that processes the Validate Meter / Item notification download staging record does the work of validating the badge number. The service, called CIPOVRSP, does the following:

- Finds a unique device (meter or item) corresponding to the badge number provided.

> **Note**. The validation is only possible if the badge number is unique for a meter or item. If multiple values are found, a negative acknowledgement is returned.

- Verifies that the device is not retired
- Verifies that the Meter type or Item type of the device being verified is defined as valid for the SP Type associated with the field activity's service point.
- It verifies that the device is not already installed somewhere else.
- If the device is a meter, it verifies that there is an effective Meter Configuration for the meter on or before the message date/time.

> **Return Meter Configuration Type**. The meter configuration type and the collection of the meter's registers are included in the output record returned to Oracle Utilities Mobile Workforce Management/Oracle Utilities Work and Asset Management.

- If the device is an item, it verifies that the item's receive date is on or before the message date.

The system provides an XAI Inbound Service, ***ValidateMeterItemResponse***, defined to invoke this service. The following table lists the fields populated by this service.

General Information
Message ID
FA ID
FA External ID
Meter / Item Flag (M or I)
Badge Number
StatusFlag (Y - positive acknowledgement, F - negative acknowledgement.)
Meter Config Type (populated only for meters)
Collection of registers (populated only for meters)
ErrorCode (populated only for negative acknowledgement)
Error Message (populated only for negative acknowledgement)

Setting Up The System To Enable FA Integration

The following section provides an overview of how to enable FA integration with an external system.

Contents

Service Provider Setup

In order to use XAI to interface with an external system, you must define a service provider. Once the service provider is defined, you must design your outbound messages.

Defining Characteristic Types For FA Integration

The following characteristic types must be defined to facilitate FA integration.

External System Task Characteristic Type

If you have decided to map the tasks on your external system to the Oracle Utilities Customer Care and Billing field activity types, then you need to define the characteristic types based on your decisions. It is possible to map a combination of fields from the external system to a field activity type in Oracle Utilities Customer Care and Billing.

- Refer to the following topics in the documentation on integration for more information about how you should define characteristics in product integrations:
  - Oracle Utilities Mobile Workforce Management Characteristic Types
  - Oracle Utilities Work and Asset Management Characteristic Types
- Include ***Field Activity Type*** in the characteristic entity collection

Forced Appointments Characteristic Type

If your implementation supports forced appointments, the appointment booking logic attempts to store a characteristic on a field activity with a forced appointment.

- Create an ad hoc characteristic type.
- Include ***Field Activity*** in the characteristic entity collection

Reservation Characteristic Type

If your external system defines a separate reservation ID for appointments, the appointment booking logic attempts to store a characteristic on a field activity with the appointment reservation number.

- Create an ad hoc characteristic type.
- Include ***Field Activity*** in the characteristic entity collection

Override Phone Characteristic Type

Create a characteristic type for override phone if your implementation supports capturing a contact phone number on the field activity.

- Create an ad hoc characteristic type.
- Include ***Field Activity*** in the characteristic entity collection

Field Activity ID Characteristic Type

The sample FA integration algorithm may be configured to populate the field activity ID as a characteristic on any NDS records it creates. This facilitate in drilling down from the NDS record to the field activity. To support this logic,

- Create a foreign key characteristic type (if you don't already have one defined for Field Activity Id).
- Include ***Notification Download Staging*** in the characteristic entity collection

Setting Up Outbound Messages

The sample integration provided with the base product includes a predefined list of messages that are sent to an external system under various conditions. The messages are generated either from the sample FA integration algorithm or the sample real time appointment interaction. In each case, an NDS type is required to define properties of the message. Rather than hard-coding an NDS type, the integration algorithm and the user exit that manages the real time appointment interaction use a Notification Download Condition to reference the NDS type.

At implementation time, you should define an appropriate NDS type for each notification download condition listed below if it is applicable to your business.

The following download conditions are used in the sample FA integration algorithm:

- ***FA Cancellation***
- ***FA Creation***
- ***FA Changed***
- ***FA Rescheduled***
- ***Appointment Cancel via FA Cancel***

For each of the above NDS types, you must reference the following context types: ***Field Activity ID***, ***Message ID***. They should also reference an XAI inbound service that has been defined for the Extract FA Info service. The system provides an XAI inbound service called ***ExtractFAInfo***, which you may use.

Note. You can refer to the demonstration data provided with the system to view samples for preconfigured NDS types and their condition flags.

The following download conditions are used in the sample real time appointment interaction:

- ***Get Available Appointments***
- ***Appointment Book***
- ***Appointment Cancel***

The above NDS types do not need to reference a real XAI inbound service because the real time appointment interface is responsible for building the XML request.

> **Note.** You can refer to the demonstration data provided with the system to view samples for preconfigured NDS types and their associated XAI inbound services.

The following download conditions are used to send real time appointment messages in near real time.

- ***Appointment Book – Near Real Time***
- ***Appointment Cancel – Near Real Time***

Because the XML request is built by the appointment interface prior to the creation of the NDS, these NDS types should reference a special XAI inbound service called ***CDxProcessXDS***. This service basically tells the download staging sender that the XDS already exists and doesn't need to be created.

Designing Your External System Feature Configuration

For each external system, you must define a feature configuration with a feature type of ***FA Integration***.

Note that it is also possible for you to define multiple entries in the feature configuration table for a single external system. You would do this if your external system may be configured in multiples ways for different dispatch groups. For example, maybe your service territory includes urban areas and rural areas. Perhaps your rules for scheduling appointments differ based on the location of the premise. You could define two separate feature configurations and define the appropriate appointment options for each one. When defining your dispatch groups, be sure to define separate dispatch groups based on the operations area and link the appropriate feature configuration accordingly.

If you define multiple feature configurations, consider whether they should all reference the same service provider. One consideration is whether or not the method of communication with the external system is the same for all feature configurations.

Configure the options for your external system interaction.

> **Note**. Your implementation may define additional options types. You do this by add new lookup values to the lookup field ***WFM_OPT_TYP_FLG***.

Option	Description
Account Rel. Type - Company Contact	Identify the account relationship type used to define a company's contact person.
Allow Forced Appointments	Use this option to indicate if forced appointments are supported. Possible values are *Y* and *N*.
Allow Manual Appointment	Use this option to indicate if a user is allowed to manually set up an appointment. Possible values are *Y* and *N*.
Allow Manual Appointment Cancellation	Use this option to indicate if a user is allowed to manually cancel an appointment. Possible values are *Y* and *N*.

Allow Multiple Reservations	Use this option to indicate if booking appointments for multiple field activities is allowed. Possible values are *Y* and *N*.
Allow Narrowing Of Appointment Window	Use this option to indicate if the user is allowed to further narrow down a selected appointment window. Possible values are *Y* and *N*.
Appointment Forced Characteristic Type	When an appointment reservation is forced, a characteristic of this type is added to the field activity. Note that the field activity's FA type must also define this as a valid characteristic type.
Appointment Java Class Interface	This is the java class implementation used to interface with the external system to support real time appointment interaction.
Default Days of Available Appointment	This option is used to determine the end date of the search period when choosing a dispatch group on the appointment page.
Hi-Low Review	Use this option to indicate if meter reads coming from the external system should be reviewed for Hi-Low failures and trended. Possible values are *Y* and *N*.
Intermediate Status to Prevent FA Cancel	This option is used to identify Intermediate Status values that should prevent the system from automatically canceling a Field Activity. The value entered here should correspond to a valid lookup value for the field *FA_INT_STATUS_FLG*.
Intermediate Status to Skip Message	This option is used to identify FA Intermediate Status value used when a Field Activity is created by an external system or when other information for a field activity is updated by an external system. The base FA integration algorithm uses this information to ensure that messages sent to the external system to highlight new field activities or changes to field activities are only triggered when additions / changes are initiated in our system. The value entered here should correspond to a valid lookup value for the field *FA_INT_STATUS_FLG*.
Message ID Database Sequence Name	The name of the database sequence to be used to get the next unique message ID for this external system. This is used to facilitate an asynchronous response to the message. If you interface with more than one external system, you may choose to use the same sequence name for all external systems or to define a separate sequence name for each external system. If you choose to define multiple feature configuration records for the same service provider, be sure that each feature configuration references the same sequence name because generated message IDs must be unique for the service provider. The base product provides the database sequence *CI_WFM_MSGID_SEQ*, which may be referenced here.
No Address Premise Type	Indicate the premise type used to identify a premise that is used for field activities that are not related to a specific premise.
Phone Number Characteristic Type	Indicate the characteristic type used to identify an override phone number on the field activity.
Phone Type - Business	Indicate the phone type used to identify a business phone number.

Phone Type - Fax	Indicate the phone type used to identify a fax number.
Phone Type - Home	Indicate the phone type used to identify a home phone number.
Plant Source	Some external systems require a reference to a Plant in our system. There are several options for where an implementation may define this value. This option is used to identify where the Plant is defined. - enter *FECO* if the plant field is defined in Feature Configuration - enter *OPAR* if the plant field is defined in the SP Operations Area - enter *SPCH* if the plant field is defined in the SP Characteristic
Plant Value	If the Plant Source is *FECO* enter the value of the Plant. If the Plant Source is *OPAR* enter the field service class used to identify the plant value on the SP operations area. If the Plant Source is *SPCH* enter the characteristic type used to identify the plant value on SP characteristic. Only one option value may be defined for a given feature configuration.
Reservation Characteristic Type	When an appointment is successfully booked for the field activity, the external system often assigns a unique reservation number to the appointment. This reservation number is linked to the field activity as a characteristic using this characteristic type. Note that the field activity's FA type must also define this as a valid characteristic type.
Service Provider	This is the service provider defined for your external system.
To Do Type for FA Response	Indicate the To Do type to use to create a To Do entry. The system supplies the To Do type TD-FARSP that may be plugged-in here. The program populates the To Do Entry with the sort keys, drill keys and message parameters as shown in this base package To Do. If you want to create your own To Do Type, you must set up the values to match those in the base To Do Type.
User Defined Criteria Field	This is used on the appointment page to add specific appointment selection criteria. The value of this option should reference a Field defined in the system metadata. The appointment page allows up to 10 user defined criteria fields.
User Defined Result Field	This is used on the appointment page to add specific appointment selection result information. The value of this option should reference a Field defined in the system metadata. The appointment page allows up to 10 user defined result fields.

For each message that may be received from an external system, map the external system message to an internal system message. Refer to Feature Configuration - Messages for more information.

Designing Your External System Field Activity Types

For each type of field activity that is interfaced to an external system, create an appropriate FA type.

- Indicate that the FA type is ***eligible for dispatch***.

- Configure the appropriate value for ***Appointment Booking*** based on your business requirements.
    - If you have decided to map your external system tasks to the Oracle Utilities Customer Care and Billing field activity type, then for each field activity type, create one or more characteristics to identify how it is mapped to the equivalent task in the external system.
- Indicate the FA characteristics that are valid for field activities of this type
    - If your external system allows forced appointments, define the forced appointment characteristic type created above and referenced on your external system feature configuration.
    - If your external system defines a separate reservation ID for appointments and this FA type allows appointments, define the reservation characteristic type created above and referenced on your external system feature configuration.

Refer to the following topics in the documentation on integration for more information about how you should use characteristics in product integrations:

- Oracle Utilities Mobile Workforce Management Characteristic Types
- Oracle Utilities Work and Asset Management Characteristic Types

Designing Your Dispatch Groups

When a field activity is created, the system uses the Field Service Control to assign the field activity to a dispatch group based on the type of activity, the type of service point and the operations area that manages the service point. If the dispatching for this service point is managed by an external system, the dispatch group should be configured to interface with the external system:

- The dispatch group references the appropriate external system feature configuration.
- You must indicate an appropriate FA integration algorithm.

Considerations When Switching To External System Integration

If your implementation is currently using the field order functionality and is planning to switch to interface field activities to an external system, here are some considerations.

Field orders are not required when integrating field activities to an external system. As a result you may choose to disable the field order related functionality:

- The automatic dispatch background process (***FOD***) and download field order background processes (***FDS***) no longer need to be scheduled. In addition, the printing processes ***FODL*** and ***DSGPFODL*** no longer need to be scheduled.
- The menu items Field Order, Group Premise FAs and Field Order Search are no longer applicable. Consider disabling security for these pages.

When switching over to begin using an external system, you will undoubtedly have ***pending*** field activities that need to be interfaced to the external system. If you change the field activity's dispatch group from one that does not reference an external system to one that does, the sample field activity integration algorithm will generate an ***FA Creation*** message to the external system.

It is possible that your ***pending*** field activities are already linked to field orders. If that is the case, you will not be able to change the dispatch group on the field activity. The recommendation for switching to an external system for dispatching is to change your pending field activities to remove the link between the field activity and the field order. As mentioned above, the field order is no longer needed. Once you remove the link then you are able to change the dispatch group on the field activity.

If you prefer to leave the field order / field activity link in place then you must change the dispatch group on your field order to one that references the new external system.

System Integration

The following section describes functionality provided for the integration between Oracle Utilities Customer Care and Billing and Oracle Utilities Network Management System.

Contents

The Big Picture of Outage System Integration

Oracle Utilities Customer Care and Billing is the central repository for customer information; for example, name, address, phone number, etc. Oracle Utilities Network Management System is the central repository for outage information; for example, outage calls, affected supply nodes, expected restoration time, etc.

In an integrated environment, each system provides information to the other system so that they can operate together seamlessly.

- The outage system uses the set of current customers to determine and manage outages to minimize their impact
- The outage system is informed of outages captured in Oracle Utilities Customer Care and Billing
- Oracle Utilities Customer Care and Billing uses the current status of an outage at a given premise for customer service

Contents

Customer Information Integration

The outage system needs information about current customers to determine and manage outages to minimize their impact. The current customer information in Oracle Utilities Customer Care and Billing must be made available in Oracle Utilities Network Management System. This can be done via data synchronization.

Refer to The Big Picture of Sync Requests for more information about synchronizing data.

Interfacing Outage Calls

The following points describe the integration:

- Oracle Utilities Customer Care and Billing is able to record trouble calls for a particular service point that exists in the system, as well as for an unknown service point, i.e. a fuzzy call. For a fuzzy call, the caller must provide either a street intersection, or a street segment.
- When an outage call is created and sent to the external system, an algorithm on the outage call business object is responsible for creating an outbound message that's sent to the external system. This is a real-time synchronous interface between Oracle Utilities Customer Care and Billing and Oracle Utilities Network Management System.
- Oracle Utilities Network Management System processes the Calls table and creates Incidents.

Refer to the *Oracle Utilities Customer Care and Billing - Network Management System Integration Implementation Guide* for information about outage call integration.

Outage Inquiry

Oracle Utilities Customer Care and Billing provides query transactions that can be used to make real-time synchronous calls to NMS and inquire on one of the following:

- Job History for a particular customer, service point, location or call identifier
- Call History for a particular customer, service point, location or call identifier
- Planned Outage Jobs for a particular service point

Refer to the *Oracle Utilities Customer Care and Billing - Network Management System Integration Implementation Guide* for information about outage query integration.

Setting Up The System To Enable Outage Integration

The following section provides an overview of how to enable the integration between Oracle Utilities Customer Care and Billing and Oracle Utilities Network Management System.

Contents

External System Setup

An external system must be setup in order integrate Oracle Utilities Network Management System. Once the external system is defined, specify this on the one ***NMS Integration*** feature configuration so the system knows which external system to use for outage queries.

Define Outbound Message Types

The following outbound message types are required for the integration:

- An outbound message type is required for each of the outage queries available
  - Job History
  - Call History
  - Planned Outages
- Once the outbound message types are defined, specify this on the one ***NMS Integration*** feature configuration so the system knows which outbound message types to use for outage queries.
- In addition, an outage call outbound message type is required for sending outage calls to Oracle Utilities Network Management System. This outbound message type must be referenced on your outage call types.

Define Characteristic Types

The following characteristic types must be defined to facilitate Outage integration:

Outage Group Code Characteristic Type

These characteristics are used to describe the outage problem.

- Create at least one pre-defined characteristic type
- For each characteristic type, define its list of valid values
- Include ***Service Task Type*** in the characteristic entity collection

Characteristic Type Prefix. The system attempts to build a dropdown list of your valid outage group codes when maintaining outage group types. To achieve this, all outage group code characteristic types must use the same prefix. This prefix must be defined on the ***NMS Integration*** feature configuration.

Integration with Outage Management. The outage codes must be defined in both Oracle Utilities Customer Care and Billing and the outage management system. Refer to your Oracle Utilities Network Management System documentation for information about defining the outage codes there.

Contact Name Characteristic Type

This is used to link the contact name of the caller associated with an outage call as a characteristic on the outage call.

- Create an ad-hoc characteristic type
- Include ***Service Task Type*** in the characteristic entity collection
- Specify this characteristic type on the one ***NMS Integration*** feature configuration using the ***Outage Call Contact Name Characteristic Type*** feature option

Contact Number Characteristic Type

This is used to link the contact number of the caller associated with an outage call as a characteristic on the outage call.

- Create an ad-hoc characteristic type
- Include ***Service Task Type*** in the characteristic entity collection
- Specify this characteristic type on the one ***NMS Integration*** feature configuration using the ***Outage Call Contact Number Characteristic Type*** feature option

Call Identifier Characteristic Type

This is used to link the call identifier supplied by the caller associated with an outage call as a characteristic on the outage call.

- Create an ad-hoc characteristic type
- Include ***Service Task Type*** in the characteristic entity collection
- Specify this characteristic type on the one ***NMS Integration*** feature configuration using the ***Outage Call Identifier Characteristic Type*** feature option

Street Name Characteristic Type

This is used to link location information supplied by the caller associated with a fuzzy trouble call as a characteristic on the outage call.

- Create an ad-hoc characteristic type
- Include ***Service Task Type*** in the characteristic entity collection
- Specify this characteristic type on the one ***NMS Integration*** feature configuration using the ***Outage Call Street Name Characteristic Type*** feature option

Cross Street Name Characteristic Type

This is used to link location information supplied by the caller associated with a fuzzy trouble call as a characteristic on the outage call.

- Create an ad-hoc characteristic type
- Include ***Service Task Type*** in the characteristic entity collection
- Specify this characteristic type on the one ***NMS Integration*** feature configuration using the ***Outage Call Cross Street Name Characteristic Type*** feature option

Block Number Characteristic Type

This is used to link location information supplied by the caller associated with a fuzzy trouble call as a characteristic on the outage call.

- Create an ad-hoc characteristic type
- Include ***Service Task Type*** in the characteristic entity collection
- Specify this characteristic type on the one ***NMS Integration*** feature configuration using the ***Outage Call Block Number Characteristic Type*** feature option

City Characteristic Type

This is used to link location information supplied by the caller associated with a fuzzy trouble call as a characteristic on the outage call.

- Create an ad-hoc characteristic type
- Include ***Service Task Type*** in the characteristic entity collection
- Specify this characteristic type on the one ***NMS Integration*** feature configuration using the ***Outage Call City Characteristic Type*** feature option

State Characteristic Type

This is used to link location information supplied by the caller associated with a fuzzy trouble call as a characteristic on the outage call.

- Create an ad-hoc characteristic type
- Include ***Service Task Type*** in the characteristic entity collection
- Specify this characteristic type on the one ***NMS Integration*** feature configuration using the ***Outage Call State Characteristic Type*** feature option

NMS Integration - Feature Configuration

Create a feature configuration with the type ***NMS Integration***. Populate entries for all the options.

Only one. The system expects only one ***NMS Integration*** feature configuration to be defined.

Configure the options for your interaction with the outage system.

Note. Your implementation may define additional options types. You do this by adding new lookup values to the lookup field ***NMS_OPT_TYP_FLG***.

Option	Description
External System	This defines the external system used on outbound messages created when querying outage information in NMS from the outage management information portal page. Refer to External System Setup for more information. Only one value is allowed for this option.
Outbound Message Type - Call History	This defines the outbound message type used on outbound messages created when querying outage call history in NMS from the outage management information portal page. Refer to Define Outbound Message Types for more information. Only one value is allowed for this option.

Outbound Message Type - Job History	This defines the outbound message type used on outbound messages created when querying outage job history in NMS from the outage management information portal page. Refer to Define Outbound Message Types for more information. Only one value is allowed for this option.
Outbound Message Type - Planned Outages	This defines the outbound message type used on outbound messages created when querying planned outages in NMS from the outage management information portal page. Refer to Define Outbound Message Types for more information. Only one value is allowed for this option.
Outage Group Code Characteristic Type Prefix	The system uses this prefix to populate the outage group code dropdown list during trouble call processing. Refer to Define Characteristic Types for more information. Only one value is allowed for this option.

Schema Constants - Feature Configuration

Create a feature configuration with the type ***Schema Constants***. Populate entries for all the options listed below.

Only one. The system expects only one ***Schema Constants*** feature configuration to be defined.

Configure the options for your interaction with the outage system.

Note. Your implementation may define additional options types. You do this by adding new lookup values to the lookup field ***F1CN_OPT_TYP_FLG***.

Option	Description
Outage Call Contact Name Characteristic Type	This is used to link the contact name of the caller associated with an outage call as a characteristic on the outage call. Refer to Define Characteristic Types for more information. Only one value is allowed for this option.
Outage Call Contact Number Characteristic Type	This is used to link the contact number of the caller associated with an outage call as a characteristic on the outage call. Refer to Define Characteristic Types for more information. Only one value is allowed for this option.
Outage Call Identifier Characteristic Type	This is used to link the call identifier supplied by the caller associated with an outage call as a characteristic on the outage call. Refer to Define Characteristic Types for more information. Only one value is allowed for this option.
Outage Call Street Name Characteristic Type	This is used to link the street name supplied by the caller associated with a fuzzy trouble call as a characteristic on the outage call. Refer to Define Characteristic Types for more information. Only one value is allowed for this option.

Outage Call Cross Street Name Characteristic Type	This is used to link the cross street name supplied by the caller associated with a fuzzy trouble call as a characteristic on the outage call. Refer to Define Characteristic Types for more information. Only one value is allowed for this option.
Outage Call Block Number Characteristic Type	This is used to link the block number supplied by the caller associated with a fuzzy trouble call as a characteristic on the outage call. Refer to Define Characteristic Types for more information. Only one value is allowed for this option.
Outage Call City Characteristic Type	This is used to link the city supplied by the caller associated with a fuzzy trouble call as a characteristic on the outage call. Refer to Define Characteristic Types for more information. Only one value is allowed for this option.
Outage Call State Characteristic Type	This is used to link the state supplied by the caller associated with a fuzzy trouble call as a characteristic on the outage call. Refer to Define Characteristic Types for more information. Only one value is allowed for this option.

Defining Credit & Collections Options

Collecting on unpaid balances. The functionality described in this section is meant to handle the collection of unpaid balances. If your organization practices open-item accounting and collects on unpaid bills, you will not use this functionality. Rather, you will use the functionality described under Defining Overdue Processing Options.

The system periodically monitors how much your customers owe to ensure they haven't violated your collection criteria. When a violation is detected, the system generates the appropriate responses (e.g., letters, disconnect notices, collection agency referrals, and eventually write off). This section describes how to set up the tables that control your credit & collections processing.

Warning! Setting up the credit & collections control tables is as challenging as your organization's collection rules. If you have simple rules then your setup process will be straightforward. If your collection rules are complicated (e.g., they differ based on the type of customer, the type of debt, the age of debt, the type of service, etc.), then your setup process will be more challenging.

Contents

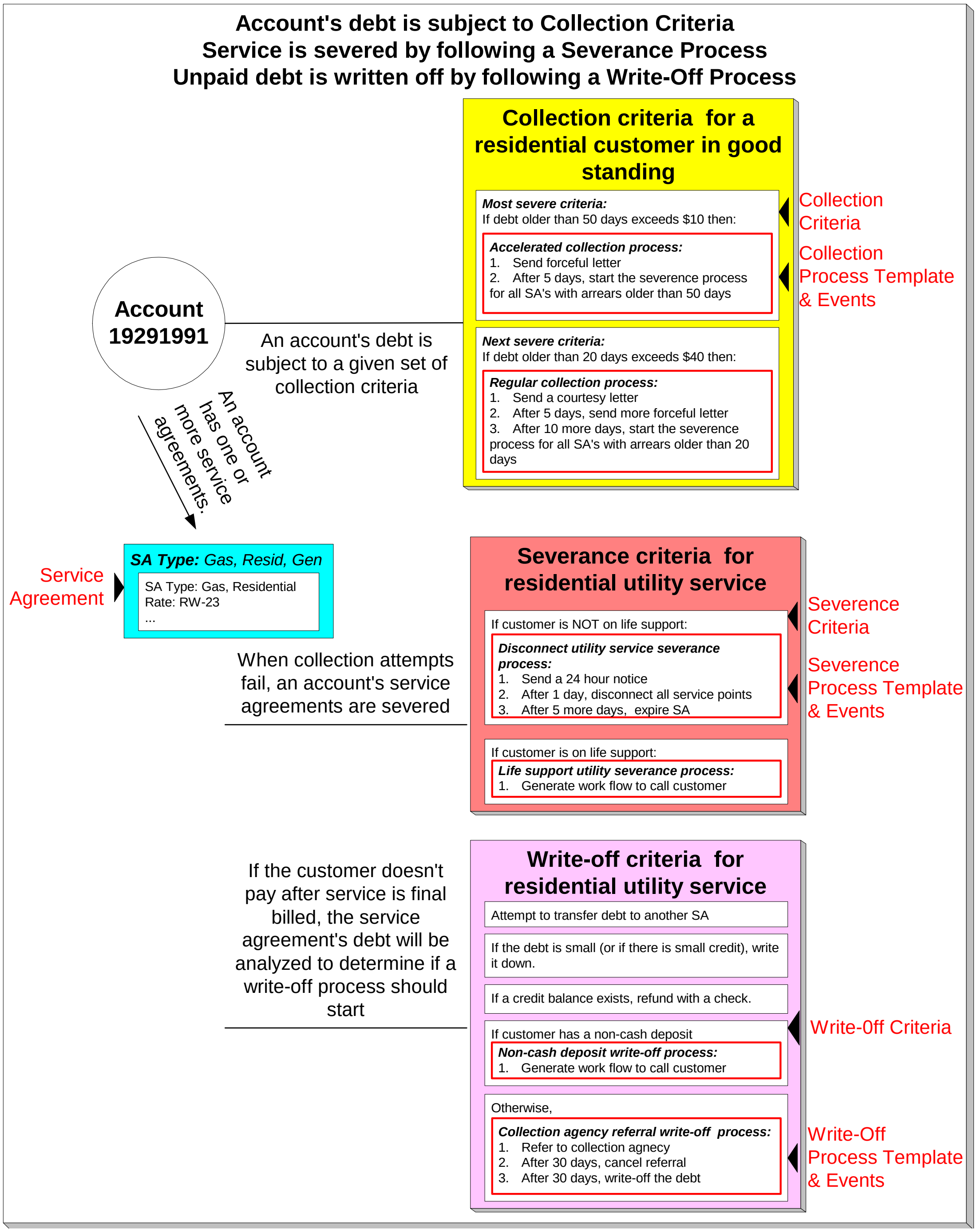
The Big Picture Of Credit & Collections (C&C)

This section provides an overview of important C&C concepts with which you should be familiar before you set up your C&C control tables.

Contents

Collection Criteria vs. Severance Criteria vs. Write Off Criteria

The following diagram introduces important concepts related to the C&C processes:



Account's debt is subject to Collection Criteria
Service is severed by following a Severance Process
Unpaid debt is written off by following a Write-Off Process

Account 19291991
An account's debt is subject to a given set of collection criteria
An account has one or more service agreements.
Service Agreement
Collection Criteria
Collection Process Template & Events
Severence Criteria
Severence Process Template & Events
Write-0ff Criteria
Write-Off Process Template & Events

Collection criteria for a residential customer in good standing

Most severe criteria:
If debt older than 50 days exceeds $10 then:

Accelerated collection process:
1. Send forceful letter
2. After 5 days, start the severence process for all SA's with arrears older than 50 days

Next severe criteria:
If debt older than 20 days exceeds $40 then:

Regular collection process:
1. Send a courtesy letter
2. After 5 days, send more forceful letter
3. After 10 more days, start the severence process for all SA's with arrears older than 20 days

SA Type: *Gas, Resid, Gen*

SA Type: Gas, Residential
Rate: RW-23
...

When collection attempts fail, an account's service agreements are severed

Severance criteria for residential utility service

If customer is NOT on life support:

Disconnect utility service severance process:
1. Send a 24 hour notice
2. After 1 day, disconnect all service points
3. After 5 more days, expire SA

If customer is on life support:

Life support utility severance process:
1. Generate work flow to call customer

If the customer doesn't pay after service is final billed, the service agreement's debt will be analyzed to determine if a write-off process should start

Write-off criteria for residential utility service

Attempt to transfer debt to another SA

If the debt is small (or if there is small credit), write it down.

If a credit balance exists, refund with a check.

If customer has a non-cash deposit

Non-cash deposit write-off process:
1. Generate work flow to call customer

Otherwise,

Collection agency referral write-off process:
1. Refer to collection agnecy
2. After 30 days, cancel referral
3. After 30 days, write-off the debt

There are many important concepts illustrated above:

An account's debt comes from its service agreements

An account's debt is managed at the service agreement level, i.e., the system keeps track of how much a customer owes in respect of each service agreement. In order to determine an account's balance, the system must add up the debt on each of the account's service agreements.

Collection criteria define intolerable debt

Collection criteria are control data that define intolerable debt. Most criteria are defined using a combination of number of days in arrears and a dollar amount.

Collection criteria may be compared to an account’s total debt or to subsets of debt

If your organization has simple collection procedures, you will probably target collection criteria at an account’s total debt. However, you have the option of segregating an account’s debt into debt classes and targeting the collection criteria at each class. For more information about debt classes, see Different Collection Criteria For Different Customers And Different Debt.

Collection criteria also define what to do when the level of intolerable debt is exceeded

When you define collection criteria, you also define how the system should respond if an account violates your criteria. These collection events are defined in respect of a “collection process template”.

There are usually several collection events that take place when criteria are violated

A collection process template usually has several collection events. Each event is meant to prod the customer to pay. The initial collection events are typically letters. If payment is not received after several such attempts, the last collection event typically starts a severance process for each service agreement in arrears.

A severance process template defines how to sever a service agreement

A “severance process template” defines how to sever a given type of service agreement. A severance process template usually contains several severance events. These events are a series of letters and / or disconnection field activities that eventually result in the expiration of a service agreement if payment is not received.

Severance criteria define how to sever service agreements

Severance criteria define the severance process to be executed for service agreements of a given SA type. The severance process may differ depending on some attribute of the customer (or premise). For example, you may have a different severance process if the customer has life support equipment.

After a service agreement is severed, it will be final billed

When the last active service agreement linked to an account is stopped, the system changes the account’s bill cycle to bill that evening. If only one of many SA’s is stopped, the SA will only be final billed as per the account’s original bill cycle schedule.

If a customer doesn’t pay their final bill, the account’s debt will be analyzed to

The system will look at an account’s finaled debt on its next scheduled credit review date

determine if the system can reduce the debt to zero using a variety of mechanisms

(typically a few days after the bill's due date). The system will attempt to reduce the service agreement's debt to zero using all of the following methods:

- If the account has active service agreements, it will transfer the finaled debt to an active service agreement.
- If the debt or credit amount on the service agreement is small, the system will generate an adjustment to 'write it down' (or up in the case of a small credit).
- If the service agreement has a large credit amount, the system will generate an A/P adjustment (resulting in a check being sent to the customer).

If a customer's finaled debt cannot be reduced via any of the previous methods, the system creates a write-off process

A write-off process contains one or more write-off events. These events can generate a letter, send a To Do entry to a CSR, send a referral to a collection agency, etc.

When you set up the system, you define the type of write-off process to use for every collection class / write-off debt class combination. In addition, you can also indicate when the type of write-off process should differ depending on some attribute of the customer (or premise). For example, you may have a different write-off process if the customer has a non-cash deposit.

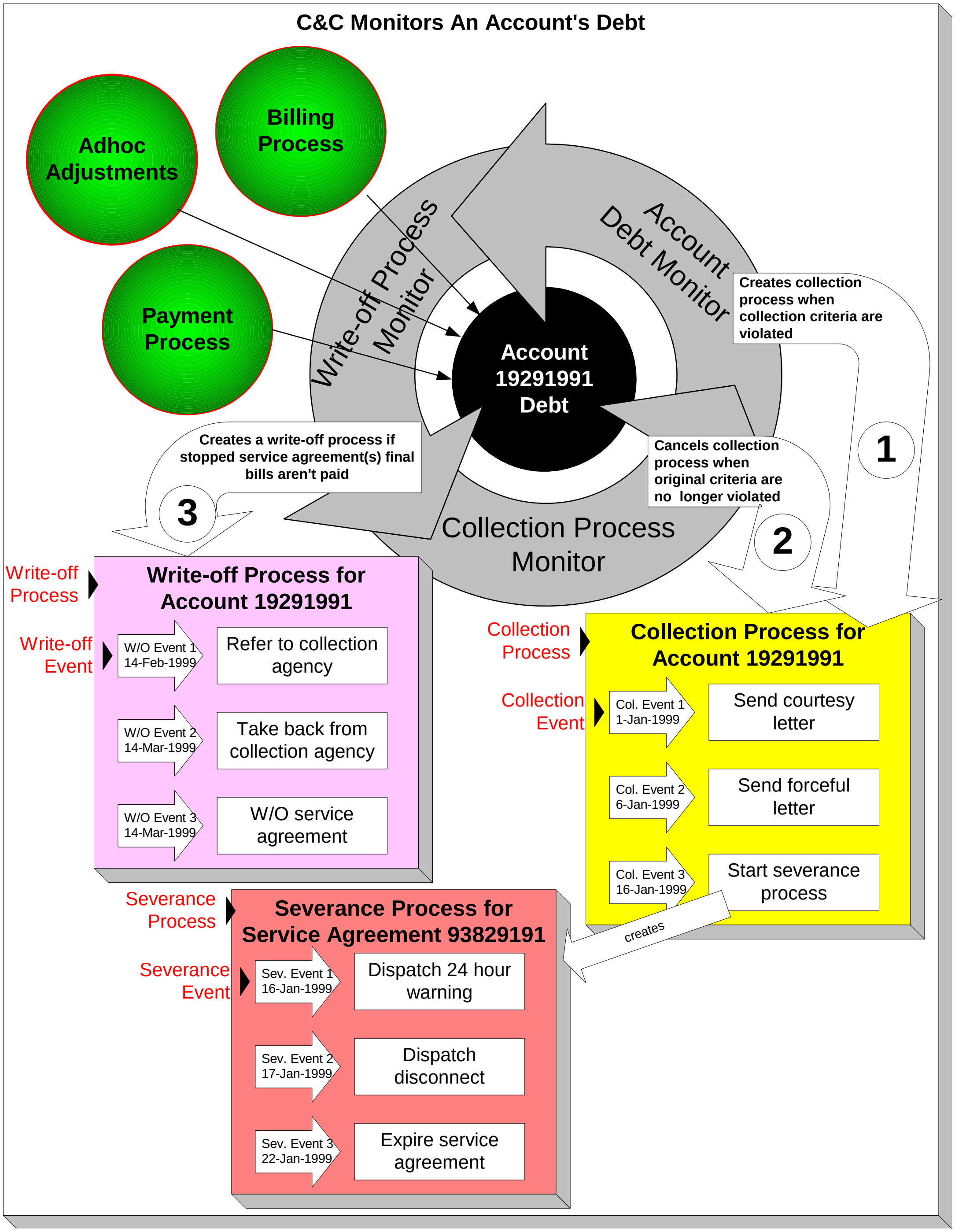
The last write-off event typically causes the debt to be written off

Ultimately, if the write-off events fail, the debt will have to be written off. When debt is written-off, the system creates a write-off service agreement and transfers the outstanding debt to it. This means the debt stays with the account for life and will have to be paid off if the customer ever returns.

Checkpoint. At this point, you should be familiar with the concept that an account's debt is compared to user-defined collection criteria. If the account violates the criteria, a series of events will ensue that prod the customer to pay. If the customer doesn't respond, every service agreement in arrears will be severed (i.e., disconnected). If lack of service doesn't inspire payment, the service agreement will be expired and a write-off process will be created to manage the write-off activities.

The C&C Monitors

Your collection, severance and write-off criteria described in the previous section exist to support the processes that manage the collection activities. The following diagram illustrates, at a high level, the major processes that manage the collection of overdue debt:



There are many important concepts illustrated above:

Bills, payments and adjustments affect an account's debt

An account's debt is the accumulation of all bills, payments and adjustments.

The Account Debt Monitor creates a collection process when an account violates collection criteria

Periodically, a background process referred to as the Account Debt Monitor (ADM and ADM2) determines if an account's debt violates your collection criteria. If so, a collection process is created using the violated criteria's collection process template. Refer to When Is An Account's Debt Monitored? for a description of when an account's debt is compared against collection criteria.

A collection process contains one or more collection events

The collection process contains a series of collection events. These events correspond with the collection event types associated with the collection process template. The initial collection events are typically letters. If payment is not received after several such communications, the last collection event typically starts a severance process for each service agreement in arrears.

The Collection Process Monitor cancels a collection process when warranted

The Collection Process Monitor cancels a collection process when its service agreements satisfy your cancellation criteria (e.g., when the service agreements have less than $10 of debt older than 20 days). Refer to How Are Collection Processes Cancelled for more information about the cancellation process.

The last collection event starts one or more severance processes

The last collection event typically starts one or more severance processes. A severance process contains the activities necessary to sever a service agreement. The service agreement(s) that are severed may be all SA's that are associated with the collection process. Alternatively, you can nominate a service agreement to act as the primary service to cut (you'd do this if you cut electricity when the customer doesn't pay for their gas). The algorithm on the collection event that starts severance will control which service agreement(s) are severed. Refer to How To Nominate A Single Service Agreement To Sever for more information.

Each service agreement has its own severance process

Every service agreement that is severed has a severance process. The type of process is dependent on the severance criteria linked to the service agreement's SA type.

A severance process contains one or more severance events

The severance process contains a series of severance events. The events correspond with the severance process template's severance events.

The system cancels a severance process when warranted

The system cancels a severance process when its service agreement satisfies your cancellation criteria (note, it is possible to set up the system so that all service agreements in the debt class must satisfy your cancellation criteria before a severance process is cancelled).

It’s important to point out that the cancellation is real time (as opposed to the cancellation of collection processes, which happens in a background process). Refer to How Are Severance Events Canceled? for more information.

The last severance event should expire the service agreement

The last severance event typically expires its service agreement. When the last service agreement linked to an account is expired, the system will schedule the account for billing (outside of its normal bill cycle schedule).

If you nominate a single SA to sever when multiple SA’s are in arrears…

Earlier we indicated that you can nominate a service agreement to act as the primary service to cut (you’d do this if you cut electricity when the customer doesn’t pay for their gas). If you do this, you also need a severance event that will sever all other service agreements in the debt class if the severance of the nominated service agreement doesn’t inspire payment. A severance event algorithm to do such is supplied with the base package. Refer to How To Nominate A Single Service Agreement To Sever for more information.

The Write-Off Monitor creates a write off process to collect stopped, unpaid debt

The Write-Off Monitor reviews stopped and reactivated service agreements after their closing bill’s due date (plus grace period). The Write-Off Monitor attempts to reduce the service agreement’s debt to zero using all of the following methods:

- If the account has active service agreements, it will transfer the finaled debt to an active service agreement.
- If the debt or credit amount on the service agreement is small, the system will generate an adjustment to ‘write it down’ (or up in the case of a small credit).
- If the service agreement has a large credit amount, the system will generate an A/P adjustment (resulting in a check being sent to the customer).

If the system is unsuccessful in reducing the account’s debt to zero, a write-off process will be created using the appropriate write-off process template. Refer to The Big Picture Of Write Off Processing for more information about the write-off process.

A write-off process contains one or more write-off events	The write-off process contains a series of write-off events. These events correspond with the write-off event types associated with the write-off process template. The initial write-off events are typically collection agency referrals and/or letters. If payment is not received as a result of such efforts, the last write-off event typically writes off the customer's debt.
The system cancels a write-off process when warranted	The system cancels a write-off process when its service agreements no longer have debt (i.e., they become closed).
Another write-off process will be created if a closed service agreement ever reactivates	If a service agreement becomes reactivated (e.g., because the final payment bounces), the service agreement will be processed by the Write-Off Monitor and the whole write-off process starts again.

Checkpoint. At this point, you should be familiar with the concept that a collection process will be created for an account that violates collection criteria. The collection process consists of a series of events that typically generate letters and / or To Do entries. If the customer doesn't respond, a severance process will be started for one or more service agreements. A severance process consists of a series of events that typically generate letters and/or disconnection field activities. If lack of service doesn't inspire payment, the last severance event expires the service agreement (and a final bill will be scheduled when the last service agreement is expired). If the customer doesn't pay the final bill, a write-off process will be created for each type of unpaid debt. The write-off process consists of a series of events that ultimately result in the write-off of the customer's debt. When debt is written-off, the system creates a write-off service agreement and transfers the outstanding debt to it. This means the debt stays with the account for life (because the write-off service agreement is linked to the account) and will have to be paid off if the customer ever returns.

The Big Picture Of Collection Processes

The topics in this section describe how collection processes are created and cancelled.

For more information refer to The Lifecycle Of A Collection Process And Its Events.

Contents

How Does The Account Debt Monitor Work?

This section describes how the Account Debt Monitor uses your collection criteria and collection process templates to collect overdue debt.

Contents

Different Collection Criteria For Different Customers And Different Debt

Consider the following:

- You probably have different collection criteria for different jurisdictions (i.e., CIS Divisions). For example, if you have customers in different states / provinces, you may have different regulator-imposed criteria applied to each state's debt. You differentiate your debt in respect of the collection process via the **CIS division code on each customer's account**.
- You probably have different collection criteria for different customer segments. For example, customers with large bills probably have strict criteria, whereas you're probably more lenient with small customers (or vice versa). You differentiate your customers in respect of the collection process via a **collection class code on the customers' accounts**. An account's initial collection class is defaulted from its customer class. You may override an account's collection class at will.
- You probably have different collection criteria for different classes of debt. For example, if a single customer has both regulated and unregulated debt, you probably have commission-imposed criteria to be applied to the regulated debt, but you have the freedom to apply stricter criteria to the unregulated debt. You differentiate your debt in respect of the collection process via a **debt class code on the customers' service agreements** (note: the debt class is actually defined on the service agreement's SA type).
- You will have different criteria for every currency in which you work because the monitoring process always compares a customer's debt against some value and this value must be denominated in the customer's currency. A customer's currency is defined using a **currency code on the account**.

Given the above, you should understand that different collection criteria will exist for every combination of CIS division, collection class, debt class, and currency code. If you're confused, consider the following matrix (where we assume you have a single currency and division and therefore avoid the third and fourth dimensions):

Account's Collection Class ➔ SA's Debt Class ↓	Commercial Customer	Residential Customer
Regulated	N/A – there is no regulated, commercial customer debt.	Highest Priority: If > $5 in arrears by more than 50 days, create the accelerated collection process for residential customers. Lower Priority: If > $25 in arrears by more than 25 days, create the courtesy reminder collection process for residential customers.
Unregulated	Highest Priority: If > $10 in arrears by more than 50 days, create the accelerated collection process for commercial	Highest Priority: If > $10 in arrears by more than 25 days, create the normal collection process for residential customers.

	customers. Lower Priority: If > $1000 in arrears by more than 25 days, create the normal collection process for commercial customers.	
Charitable Contribution	Highest Priority: If > $10 in arrears by more than 50 days, create the charitable collection process.	Highest Priority: If > $10 in arrears by more than 50 days, create the charitable collection process.

Also, notice that there can be multiple criteria for each cell in the matrix. What differentiates one collection criteria from another is its priority. The higher priority criteria will be compared first. If the debt meets the criteria, the collection process is initiated and no further comparisons are performed.

For more information about maintaining this matrix, refer to Setting Up Collection Class Controls. For more information about how the system handles an element in this matrix that has multiple criteria, see How Is An Account's Debt Monitored?.

Override Conditions

Warning! Your credit & collection requirements may not require any overrides and therefore this section may not be relevant for your organization.

The matrix presented in the previous section showed:

- You can have different collection criteria for different categories of debt and customers.
- When a collection criteria is violated, the system generates a specific collection process.

This works great for many organizations, but if your organization has other factors that affect either the collection criteria OR the collection process that is initiated when the criteria is violated, you may need to use override collection criteria. For example,

- If you have a different collection process for regulated, residential debt during the winter months, you'll need to use override collection criteria (where the override criteria is "if it's winter").
- If you have different collection criteria for customers with a poor credit score, you'll need to use override collection criteria (where the override criteria is "if the customer's credit rating is poor").

Refer to Designing Your Collection Class Control Overrides for more information.

This section describes how and when the Account Debt Monitor analyzes an account's debt.

When Is An Account's Debt Monitored?

The account debt monitor (ADM) analyzes an account's debt at least every X days, where X is defined on the customer class control associated with the account's customer class and division (in the field Min Credit Review Freq (Days)).

In addition, an account's debt will also be monitored as follows:

- The ADM looks at an account's debt X days after an account's bill due date (X is defined on the account's customer class in the field Collection Grace Days).
- The ADM looks at an account's debt after a payment is canceled when the cancellation reason indicates NSF (non-sufficient funds).
- The ADM looks at an account's debt after a payment arrangement is broken (assuming you use the base package's break payment arrangement plug-in). Refer to Monitoring Payment Arrangements for more information.
- The ADM looks at an account's debt after a pay plan is broken. Refer to The Pay Plan Monitor for more information.

How Is An Account's Debt Monitored?

Assume the following collection control matrix exists for your organization:

Account's Collection Class ➔ SA's Debt Class ↓	Commercial Customer	Residential Customer
Regulated	N/A – there is no regulated, large customer debt	Highest Priority: If > $5 in arrears by more than 50 days, create the accelerated collection process for residential customers. Lower Priority: If > $25 in arrears by more than 25 days, create the courtesy reminder collection process for residential customers.
Unregulated	Highest Priority: If > $10 in arrears by more than 50 days, create the accelerated collection process for commercial customers. Lower Priority: If > $1000 in arrears by more than 25 days, create the normal collection process for commercial customers.	Highest Priority: If > $10 in arrears by more than 25 days, create the normal collection process for residential customers.

This matrix contains the information used by the Account Debt Monitor.

For more information about the information in this matrix, refer to Different Collection Criteria For Different Customers And Different Debt.

This matrix can be overwhelming when viewed as a whole. So let's consider how to use it for a specific account's debt and things will become clearer.

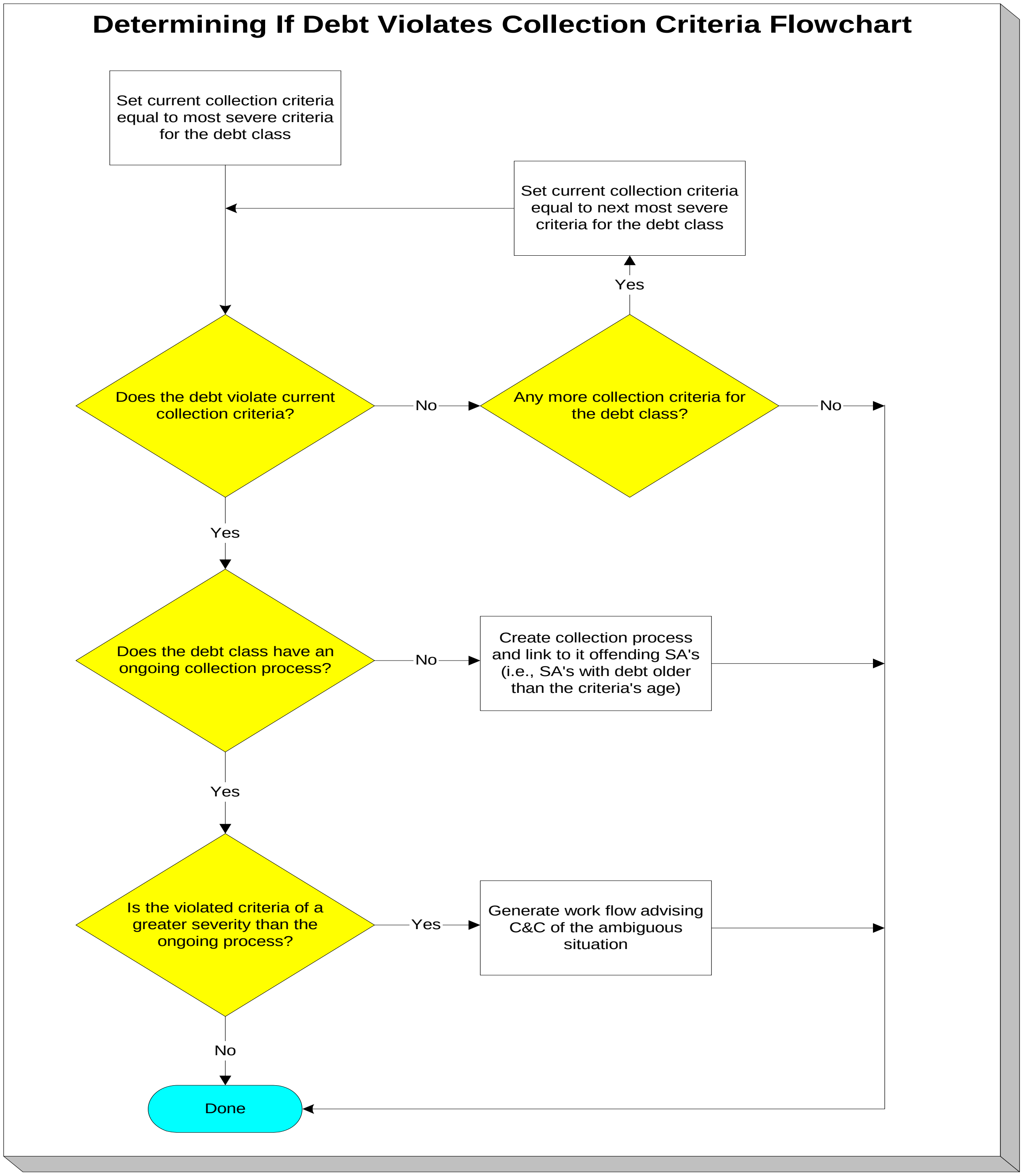
First, because an account belongs to a unique collection class, we only have to worry about a single column in the matrix when monitoring an account's debt.

Next, we accumulate the total amount of aged debt for each unique debt class associated with the account's service agreements.

Next, we subject the accumulated aged debt to the override aged debt algorithm (plugged in on the debt class). This algorithm can cause aged debt to be reduced. This is an optional algorithm and is only used if you set up pay plans for customers. Refer to How Pay Plans Affect The ADM for more information.

Next, we determine if the debt for the debt class violates the collection criteria in the respective matrix element. If so, we kick off a collection process and link the offending service agreements to it. The logic associated with the determination of whether to kick off a collection process is rather sophisticated. The following flowchart explains the exact details.

Important. If a service agreement is part of an ongoing severance process, it will NOT be considered by the Account Debt Monitor (it's already being severed). If a service agreement is stopped, closed, or reactivated, it also will NOT be considered by the Account Debt Monitor (it's already severed).


Determining If Debt Violates Collection Criteria Flowchart
Set current collection criteria equal to most severe criteria for the debt class
Set current collection criteria equal to next most severe criteria for the debt class
Yes
Does the debt violate current collection criteria?
No
Any more collection criteria for the debt class?
No
Yes
Does the debt class have an ongoing collection process?
No
Create collection process and link to it offending SA's (i.e., SA's with debt older than the criteria's age)
Yes
Is the violated criteria of a greater severity than the ongoing process?
Yes
Generate work flow advising C&C of the ambiguous situation
No
Done

Multiple collection processes may be kicked off. It's important to be aware that if an account's service agreements reference multiple debt classes, a collection process will be started for each offending debt class.

One collection process per debt class. A given debt class for an account may only have one ongoing collection process at any point in time.

What Happens When A Collection Process Is Started?

When you define collection criteria, you must define the collection process template to use if the criteria are violated. The system uses this template to create the account-specific collection process.

Every service agreement that is part of the offending debt class that has debt older than X days will be linked to the collection process (where X is the debt age on the collection criteria).

Also linked to the collection process will be one or more collection events. These events are typically a series of letters meant to prod the customer (you can also create an event that sends a To Do entry to a user to highlight the offensive debt). You define exactly which letters are generated and when they are generated when you set up the events on your collection process templates.

It's important to note that all of the collection events will be created when the collection process is created. Each of these collection events contains a trigger date. The trigger date of the first event(s) will typically be the current date. The trigger date of the other events will be in the future. Refer to Calendar vs Work Days for information that describes how the trigger date is set.

A separate process, Activate Collection Events, is responsible for activating collection events whose date is on or before the current date. Activation of an event causes the system to do whatever the event indicates (e.g., send a letter, send a To Do entry to a user, start a severance processes, etc.)

If adequate payments / credits are recorded in the system, the collection process will be cancelled.

> For more information about collection process templates, see Setting Up Collection Process Templates. For more information about collection events, see The Big Picture Of Collection Events. For more information about how a collection process is cancelled, see How Are Collection Processes Cancelled.

Experimenting With Alternative Collection Process Templates

The system allows you to determine the efficacy of proposed collection process templates using a small subset of customers before implementing the templates on the entire customer base. We use the term "champion / challenger" to reference this functionality.

We'll use an example to explain. Let's assume your prevailing collection process template for residential customers starts with a "gentle reminder" letter followed 10 days later by a letter threatening collection agency referral if payment is not received. You may want to experiment with the impact of a change to this template. For example, you may want to change the "gentle reminder" to something more assertive and follow this up 5 days later with an even sterner warning. You can use the "champion / challenger" functionality to perform this experiment.

The following points describe how to implement "champion / challenger" functionality:

- Set up a "challenger" collection process template for each template that you want to experiment with.
- Insert a new **Champion/Challenger** option on the ***Collection Processing*** Feature Configuration for every champion template. Each option's value defines:
    - the "champion" collection process template code
    - the "challenger" collection process template code

- the percentage of the time the system should use the "challenger" template

  Keep in mind that you can only experiment with one challenger template per champion template. For example, let's assume you have two prevailing collection process templates - one for residential customers and another for commercial customers. You can experiment with different challenger templates for the residential and commercial templates. However, you cannot experiment with two different challenger templates for the residential champion template (i.e., a champion template can have 0 or 1 challenger template).

After setting up the above, the Account Debt Monitor will use the challenger template X% of the time rather than the champion template.

If you are using the Oracle Utilities Business Intelligence product, you can configure analytic zones in innumerable ways to compare the efficacy of the champion versus the challenger. For example,

- You can set up a graph to show the average duration of each type of process.
- You can set up a graph to show the average dollars that were successfully collected.
- You can set up a dimensional scorecard to show how each template performed in different regions (or customer classes or …).
- Etc (the list is limited by your imagination)

How Are Collection Processes Cancelled?

A collection process may be cancelled via the mechanisms described in this section.

Contents

The Collection Process Monitor Can Cancel A Collection Process

The Collection Process Monitor (CPM) is a background process that reviews a collection process when the debt associated with one of its service agreements is reduced. Financial events that can cause service agreement debt to be reduced are:

- The cancellation of a bill segment.
- The creation of a payment segment.
- The creation of an adjustment that credits a service agreement.

The review performed by the CPM occurs as follows:

- **Debt class cancel criteria.** In general, the sum of all debt associated with the collection process's debt class must be less than a given threshold amount for a collection process to be cancelled. If so, the collection process is cancelled.

  Please be aware that, if a Pay Plan exists for the account and debt class, the customer's debt will be temporarily reduced by the amount of the pay plan's scheduled payments before it is compared to the threshold amount. Please be aware that this temporary reduction will only occur if you have plugged in the appropriate pay plan debt reduction algorithm on the debt class.

The above logic is not "hard coded". The CPM calls the Collection Process Cancel Criteria Algorithm defined on the debt class that is associated with the collection process. This algorithm will cancel a collection process if the sum of ALL service agreements in the debt class have debt less than a given threshold amount. However, because it's an algorithm, you can introduce whatever cancellation criteria you please.

- **Service agreement cancel criteria.** You can optionally introduce a special quirk to the cancellation logic. This quirk is a bit difficult to understand. To understand it, you should recall:
  - All service agreements that are in arrears in a given debt class are linked to the collection process.
  - The collection event called ***Start Severance*** creates a severance process for every service agreement that is in arrears on the collection process (the alternative is to Nominate A Single Service Agreement To Sever).
  - If you use the ***Start Severance*** collection event, you would want to remove a service agreement from a collection process when it no longer has intolerable debt (regardless of the state of the debt class's entire debt). You'd want to do this because, if you don't, the system would start a severance process for the paid up service agreement and if it's paid up, you wouldn't want a severance process created for it.

  To "remove" service agreements from a collection process when they no longer have intolerable debt, you should plug-in a Service Agreement-Oriented Cancel Criteria Algorithm on your collection process templates. The CPM will call this algorithm if you've plugged it in.

Note. When all service agreements are "removed" from a collection process, the CPM cancels all pending collection events and cancels the collection process.

Checking if individual service agreements should be removed from a collection process is optional (meaning that you don't have to plug one in on the collection process template).

A New Payment Plan Can Cancel A Collection Process

Refer to Collection Process / Severance Process Cancellation When A Pay Plan Is Created for the details.

Real time cancellation. Please be aware that the system will cancel a collection process real time when a pay plan is created (if the pay plan's scheduled payments are enough to pay-off the customer's outstanding debt).

A User May Cancel A Collection Process At Their Discretion

A user may cancel a collection process at their discretion.

Stopping A Service Agreement May Cancel A Collection Process

The system will "remove" a service agreement from a collection process when it is stopped (i.e., when the service agreement's status becomes ***Stopped***). When the last service agreement is "removed" from the collection process, the collection process will be cancelled.

The Big Picture Of Collection Events

This section describes the various types of collection events and their lifecycle.

Contents

How Are Collection Events Created?

Collection events may be created as follows:

- The Account Debt Monitor creates a collection process when an account violates collection criteria. The collection process has one or more collection event(s). The number and type of events is controlled by the collection process template associated with the collection process.
- Collection events are created when a user creates an ad hoc collection process. The number and type of events is controlled by the collection process template defined when the collection process is created.
- An ad hoc collection event may be created and linked to an existing collection process by a user at their discretion.

Bottom line. Most collection events are created by the system when it creates a collection process for delinquent accounts. If you need to create an ad hoc collection event, you can either create a collection process whose template contains the desired event OR link the desired event to an existing collection process.

For more information about the creation of events by the Account Debt Monitor refer to What Happens When A Collection Process Is Started?. For more information about creating ad hoc collection processes, refer to Collection Process Maintenance. For more information about creating ad hoc events, refer to Collection Process – Events.

Types Of Collection Events

The following table describes the various types of collection events and what happens when they are completed:

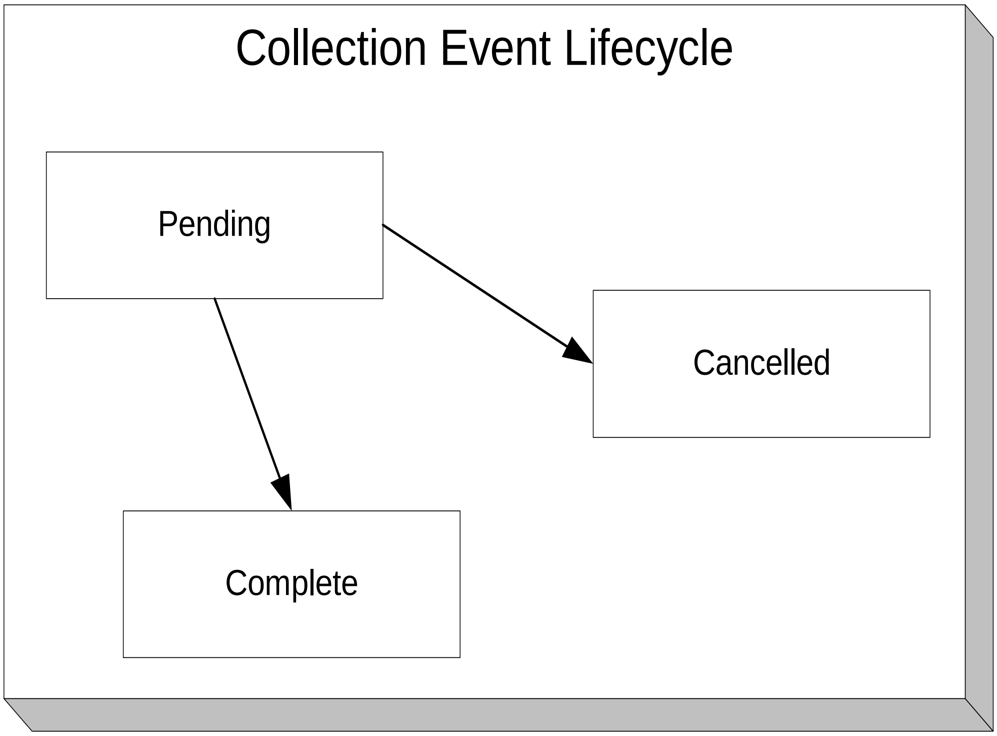
Type Of Collection Event	What Happens In The System
Send Letter	A customer contact is created for every financially responsible person linked to the account. The customer contact causes a letter to be produced. The type of letter is defined on the customer contact's contact type. The recipient of each letter is defined on Account / Person (those persons marked as **Receiving Notifications**).
Create To Do Entry	A To Do entry is created. Refer to The Big Picture of To Do Entries for more

	information about To Do entries.
Affect Credit Rating/Cash-Only	An account credit rating demerit record is created. The number of demerits is defined on the collection event type.
Cancel Budget	Every service agreement linked to the account that is on a budget is "removed" from the budget (i.e., the recurring charge amount for the service agreement is set to zero). In addition, a syncing adjustment is issued to cause each SA's current balance to be set equal to their payoff balance (the adjustment type is defined on the SA's SA type). Also, the Budget Plan field on the Account – Budget page is cleared.
Generic Algorithm	The algorithm defined on the event's event type is executed.
Start Severance Process	A severance process is created for every service agreement linked to the collection process. The type of severance process is defined on the SA type table (every service agreement references an SA type).

Refer to Setting Up Collection Event Types for more information.

Collection Event Lifecycle

The following diagram shows the possible lifecycle of a collection event:



Collection events are initially created in the ***pending*** state.

When the system sees a ***pending*** event with a trigger date on or before the current date, the system executes the event's activity and ***completes*** the event.

For more information about a collection event's trigger date, see Collection Event Trigger Date.

A ***pending*** event will be ***cancelled*** automatically by the system when the account's debt no longer violates the collection criteria that sparked the event's collection process. A ***pending*** event may also be ***cancelled*** by a user at their discretion. Refer to How Are Collection Processes Cancelled for more information about how the system will cancel a collection process (and its events).

Collection Event Trigger Date

When a collection event is created by the system, its trigger date is set in accordance with your date arithmetic preferences. Refer to Calendar vs. Work Days for more information.

How Are Collection Events Completed

A background process runs periodically (at least daily) that looks for collection events with a trigger date on or before the current date. For each triggered event, the system executes its activity and then completes it. Refer to Collection Event Activator for more information.

The Last Collection Event Should Kick Off Severance Process(es)

The last collection event will typically kick off the severance process for every service agreement linked to the collection process. This will only happen if you set up the collection process template accordingly (i.e., the last event type in the process template is the kind that starts a severance process for every service agreement linked to the collection process).

> **Nominating a service agreement to sever.** Many organizations that have multiple services in arrears will NOT sever every service agreement that's in arrears. Rather, they will nominate one service agreement and use it to encourage the customer to pay for the other services. If your organization works this way, then your last collection event should call the Nominate A Service Agreement To Sever Algorithm.

How Are Collection Events Canceled?

Users can cancel a collection event at their discretion. In addition, the system can cancel a collection event when it automatically cancels a collection process. Refer to How Are Collection Processes Cancelled for the details.

The Big Picture Of Severance Process Cancellation

The topics in this section provide high level information about the cancellation of severance processes.

> For more information refer to The Lifecycle Of A Severance Process And Its Events.

Contents

How Are Severance Processes Cancelled?

A severance process may be cancelled via the mechanisms described in this section.

Refer to What Happens When A Severance Process Is Cancelled? for what happens when a severance process is cancelled.

Contents

The Freezing Of Certain Financial Transactions Can Cancel A Severance Process

Note. The system will only cancel a severance process if its severance process template indicates that **Auto Cancel** is allowed. Typically, this switch is set on all severance process templates except for the odd ones that are used to reconnect service.

The system reviews a severance process real-time whenever its service agreement's debt is reduced. Financial events that can cause service agreement debt to be reduced are:

- The cancellation of a bill segment.
- The creation of a payment segment.
- The creation of an adjustment that credits a service agreement.

Real time cancellation. Unlike collection processes, the system cancels severance processes real time (i.e., there is no background process that monitors severance processes). Why are severance processes canceled real time? Because a severance process may have events that create field activities to sever service. These events need to be canceled the moment the FT is frozen, we can't wait until a background process runs. This means that if a customer pays in person for a service agreement that is pending severance, the system will cancel the process and its field activities (if any) the moment the payment is entered.

The review takes place as follows:

- **Debt class cancel criteria.** In general, the sum of all debt associated with the severance process's debt class must be less than or equal to a given threshold amount for a severance process to be cancelled. If so, the severance process is cancelled.

  Please be aware that, if a Pay Plan exists for the account and debt class, the actual debt will be temporarily reduced by the amount of the pay plan's scheduled payments before it is compared to the threshold amount. Note: this temporary reduction will only occur if you have plugged in the appropriate pay plan debt reduction algorithm on the debt class.

The above logic is not "hard coded". The system calls the ***Severance Process Cancel Criteria Algorithm*** defined on the debt class that is associated with the severance process. This algorithm cancels a severance process if the sum of ALL service agreements in the debt class have debt less than or equal to a given threshold amount. However, because it's an algorithm, you can introduce whatever cancellation criteria you please.

- **Service agreement cancel criteria.** You can optionally introduce a special quirk to the cancellation logic. This quirk is a bit difficult to understand. To understand it, you should recall:

  - The collection event called ***Start Severance*** creates a severance process for every service agreement that is in arrears. Note: you would only use this type of collection event if you do not Nominate A Single Service Agreement To Sever.
  - If you use the ***Start Severance*** collection event, then you would want to cancel a severance process when its service agreement no longer has intolerable debt (regardless of the state of the debt class's entire debt).

  To cancel a severance process when its related service agreement no longer has intolerable debt, you should plug-in a ***Cancel Criteria Algorithm*** on your severance process templates. The system will call this algorithm if you've plugged it in.

  Checking if a severance process should be cancelled because its service agreement has its debt reduced is optional (meaning that you don't have to plug-in such an algorithm on the severance process template).

Manual Creation. A user can create a severance process for an account that does not qualify to be on severance according to the cancel criteria algorithm. For example, perhaps your cancel criteria algorithm cancels a severance process when the account's debt falls below a threshold amount. A user can create a severance process for an account whose debt is already below this threshold. Because cancellation is real time, there is no action that will cause this severance process to be canceled. When a manual severance process is created, the system executes the appropriate cancellation criteria algorithm. If the algorithm indicates that the system would have canceled this severance process, a warning is issued.

A New Payment Plan Can Cancel A Severance Process

Refer to Collection Process / Severance Process Cancellation When A Pay Plan Is Created for the details.

Real time cancellation. Please be aware that the system will cancel a severance process real time when a pay plan is created that pays off enough debt.

A User May Cancel A Severance Process At Their Discretion

A user may cancel a severance process at their discretion.

Stopping A Service Agreement Will Cancel A Severance Process

The system will cancel a severance process if its service agreement is stopped (i.e., when the service agreement's status becomes ***Stopped***).

What Happens When A Severance Process Is Cancelled?

The following takes place when a severance process is canceled by the system:

- The system cancels all pending severance events and deactivates the severance process.

- If there are any field activities linked to the severance process, an optional plug-in spot defined on the installation record allows you to plug in an algorithm to cancel these field activities.
    - The base package Severance Process Cancellation Algorithm will cancel all pending field activities that were created as a result of the severance process that are not linked to a ***dispatched*** field order.
- If there are any pending field activities left associated with the severance process, it is marked to trigger the creation of a To Do entry to highlight that field activities exist for a canceled severance process. (This happens if you have not plugged in an algorithm to perform the cancellation or if the algorithm detected a condition that prevented cancellation.) To create the To Do entry, you must run the background process TD-SPRO.
- There is an optional plug-in spot defined on the severance process' template. If an algorithm is plugged-in, it is called. The base package algorithm will create a reconnect process if there are completed field activities for a cut for nonpayment severance event associated with the severance process. Refer to Severance Post Cancellation Algorithm for more information about this algorithm.

The Big Picture Of Severance Events

This section describes the various types of severance events and their lifecycle:

Contents

How Are Severance Events Created?

Severance events may be created as follows:

- The process that completes (i.e., executes) collection events creates a severance process when it completes a “start severance process” collection event. The severance process has one or more severance event(s). The number and type of events is controlled by the severance process template associated with the severance process. Refer to The Collection Event Activator for more information about this process.
- Severance events will be created when a user creates an ad hoc severance process. The number and type of severance events is controlled by the severance process template associated with the severance process.
- An ad hoc severance event may be created and linked to an existing severance process by a user at their discretion.

Bottom line. Most severance events are created by the system when it creates a severance process for delinquent service agreements. If you need to create an ad hoc severance event, you can either create a severance process whose template contains the desired event OR link the desired event to an existing severance process.

For more information about creating ad hoc severance processes and events, refer to How To Perform Common Severance Process Functions.

Types Of Severance Events

The following table describes the various types of severance events and what happens when they are completed:

Type Of Severance Event	What Happens In The System
Send Letter	A customer contact is created for every financially responsible person linked to the service agreement's account. It is the customer contact that causes a letter to be produced. The type of letter is defined on the customer contact's contact type. The recipient of each letter is defined on Account / Person (those persons marked as **Receiving Notifications**).
Create To Do Entry	A To Do entry is created. Refer to The Big Picture of To Do Entries for more information about To Do entries.
Create Field Activities	A field activity is created for each service point associated with the service agreement being severed. The type of activity is defined on the service point's SP type's field activity type profile.
Generic Algorithm	The algorithm defined on the event's event type is executed.
Expire Service Agreement	The service agreement is expired and, if earlier severance events created "cut for non-payment" field activities, these field activities will be used as the basis for stopping service. Refer to Finalizing Pending Stops for how the system use the meter reads on these field activities as the "stop reads" on the service agreement. Note, you can see the field activities that are used to "cut" and "stop" service by viewing the Field Activities grid on Service Agreement - Service Point.
Affect Credit Rating/Cash-Only	An account credit rating demerit record is created. The number of demerits is defined on the collection event type.

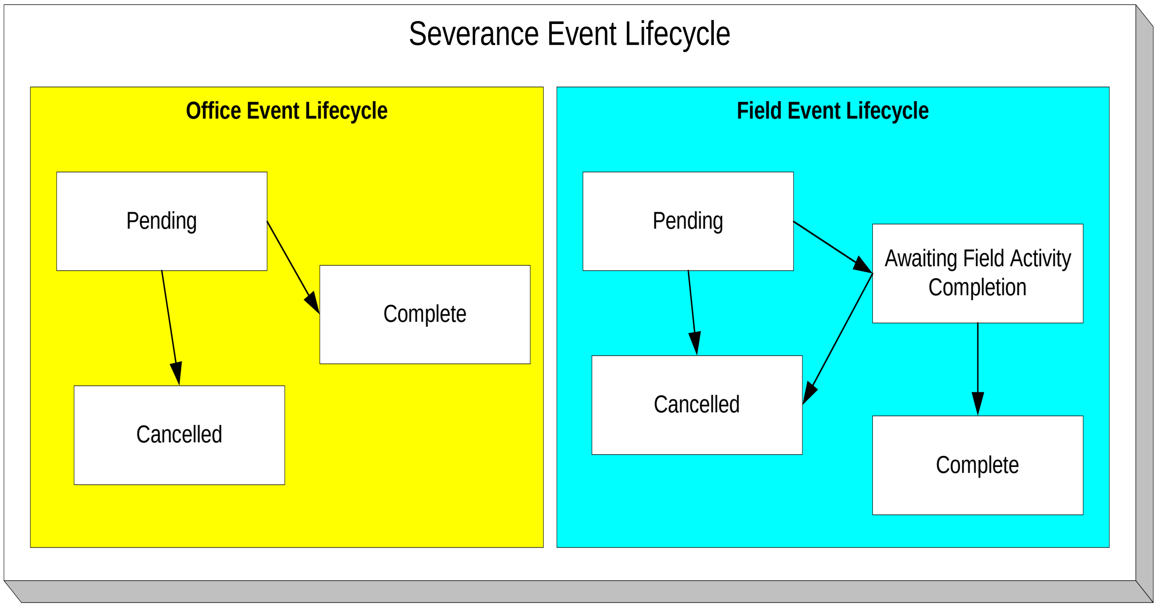
Refer to Setting Up Severance Event Types for more information.

Field Events Versus Office Events

Severance events are considered either field or office events. Office events are just like collection events in that they don't involve any type of field activity in their completion. Field events, however, are not like collection events because they create one or more field activities. These activities cause these events to have a different lifecycle. Refer to Severance Event Lifecycle for more information.

Severance Event Lifecycle

The following diagram shows the possible lifecycle of a severance event:



The following points explain the lifecycle of severance events of the office variety:

- Office events are initially created in the ***pending*** state.
- A ***pending*** office event becomes ***complete*** when the system sees that its trigger date is on or before the current date. At this time, the system executes the event's activity (e.g., create a letter, create To Do entry).

For more information about a severance event's trigger date, see Severance Event Dependencies & Trigger Date.

- A ***pending*** office event will be ***cancelled*** automatically by the system when the debt associated with the severance process's service agreement is sufficiently reduced. A ***pending*** office event may also be ***cancelled*** by a user at their discretion. Refer to How Are Severance Processes Cancelled for more information about how the system will cancel a severance process (and its events).

The following points explain the lifecycle of severance events of the field variety:

- Field events are initially created in the ***pending*** state.
- A ***pending*** field event becomes ***awaiting field activity completion*** when the system sees that its trigger date is on or before the current date. At this time, the system creates the field activities associated with the given event (e.g., disconnection warning, disconnect for nonpayment, etc.).

For more information about a severance event's trigger date, refer to Severance Event Dependencies & Trigger Date. For more information about the field activities that are created for a field severance event, refer to Field Events And Their Activities.

- An ***awaiting field activity completion*** field event becomes ***complete*** when the system sees that its field activities are all ***complete*** or ***cancelled***.

- A ***pending*** field event will be ***cancelled*** automatically by the system when the service agreement associated with the severance event's severance process has sufficient credits. A ***pending*** field event may also be ***cancelled*** by a user at their discretion.
- An ***awaiting field activity completion*** field event will be ***cancelled*** automatically by the system when the service agreement associated with the severance event's severance process has sufficient credits if the field activity has not been dispatched (refer to Designing Your Reconnection Procedures for information on how the system handles the situation if the field activity is completed or dispatched). An ***awaiting field activity completion*** event may also be ***cancelled*** by a user at their discretion.

Severance Event Dependencies & Trigger Date

When a severance event is created by the system, its trigger date cannot be set. This is because, unlike collection events, the trigger date on severance events can only be set when ALL of the preceding severance events on which it depends are complete. An example will help explain why this design is necessary. Consider the following example that shows a standard severance process and its events:

Event Number	Severance Event	Dependent On Event(s)	Trigger Date Set To X Days After Completion Of Preceding Events
10	Field activity – Disconnect for non-payment warning	N/A – first event	0
20	Field activity – Disconnect for non-payment	10	2
30	Create To Do entry	20	0
40	Send letter to customer	20	0
50	Expire service agreement	20	10

This severance process is meant to execute as follows:

- On the first day, generate a 48-hour warning of impending disconnection. This is a field event as most organizations deliver this warning in person.
- After 2 days (i.e., 48 hours) have passed, create a field activity to disconnect for non-payment.
- When this is completed, generate a To Do entry to let a CSR know about the cutoff. Also, send a letter to the customer.
- If after 10 days from the cutoff, we still don't have payment, expire the service agreement.

As can be seen from the above example, the later events are dependent on the completion of the field activities in the earlier events. This means that when you set up a severance event, you must indicate the events on which it depends (and the number of days after their completion that the event should be triggered).

Bottom line. The system sets the trigger date on severance events when it detects that all of its dependent events are complete (this is the responsibility of the ***SED*** background process). Refer to Calendar vs Work Days for a description of your choices in respect of how the trigger date is calculated.

Field Events And Their Activities

When the system is told to start a severance event that creates field activities (e.g., disconnect for non-payment), it will generate a field activity for every service point linked to the service agreement.

The question is, where does it get the field activity type associated with the field activities? The answer is explained below:

- Every service point has an SP type.
- Every SP type references a field activity type profile.
- A field activity type profile contains a matrix defining activity types to generate under various situations. Some of these situations are those associated with severance.

For more information, refer to Setting Up Field Activity Type Profiles.

Severance Event Activation & Completion

A background process runs periodically (at least daily) that looks for severance events with a trigger date on or before the current date. This process executes the activity associated with each event. If the event is an office event, the event then becomes complete. If the event is a field event, the event becomes “awaiting field activity completion” until the field activities are complete. At this time, the severance event is completed. Refer to Severance Event Activator for more information.

How Are Severance Events Canceled?

Users can cancel a severance event at their discretion. In addition, the system can cancel a severance event when it automatically cancels a severance process. Refer to How Are Severance Processes Cancelled for the details.

The Big Picture Of Write Off Processing

Before you financially write-off debt, most companies go to some effort to collect the past due funds. You control exactly what happens by setting up the various write-off control tables. The topics in this section provide background information that will help you understand how the information in these control tables is used.

Contents

How Is Debt Financially Written-Off?

Before debt can be written-off, a write-off service agreement must exist for the account. Why? Because when you write-off a normal service agreement’s debt, you are actually transferring its debt to a write-off service agreement.

A write-off service agreement is just like other service agreements in that:

- It holds debt.
- When a payment is received, the service agreement's debt is reduced.

Debt is transferred to a write-off service agreement (WO SA) from the customer's uncollectable service agreements (SAs). The following points highlight important characteristics about the uncollectable SAs and the WO SA:

- The WO SA and the uncollectable SAs should be linked to the same account (note: this isn't a strict rule, it just makes sense because an account's written off funds should be linked to the account).
- Debt may be transferred to a WO SA from any type of service agreement regardless of debt class, i.e., a WO SA can contain debt that originated in any debt class.
- When you transfer debt from the uncollectable SAs to the WO SA, the debt is removed from the uncollectable SAs (and their status becomes ***closed*** – assuming their balance becomes zero).
- If you use the system's automated write-off processing, the system will create WO SAs for you. The system's automated write-off processing can write-off revenue in a different manner than is used to write-off liabilities. Refer to The Ramifications of Write Offs in the General Ledger for more information.
- WO SAs are immune from the account debt monitor (assuming their debt class is marked as not being subject to collection activities).
- WO SAs are not billed (assuming their SA type is marked as being not billable).
- WO SAs start their life with a non-zero payoff and current balances (i.e., they have debt when first started). This debt is transferred from the normal service agreement(s) whose uncollectable debt necessitated the creation of the WO SA.
- If the customer pays off the write-off debt, the WO SA remains active in case you ever need to write-off debt in the future. If you don't like the WO SA remaining active after it's paid off, you can indicate on the WO SA's SA Type that it is a "one time charge", this will cause the WO SA to be automatically closed when it's paid off.
- You can transfer additional uncollectable debt to the WO SA.

Bankruptcy write-offs. If you have to write-off debt because a customer declares bankruptcy, everything stated above is true. The only thing you have to do is use a different SA type for bankruptcy write-offs as compared to "normal" write-offs. On the bankruptcy write-off SA type, simply leave the payment segment type blank – this way the system will never distribute a payment to the bankrupt debt (because bankrupt debt is legally uncollectable).

The Ramifications of Write Offs in the General Ledger

Warning! If you practice cash accounting, refer to Cash Accounting and Write-Offs.

When you write-off unpaid debt, you shouldn't book it all to a write-off expense account. Why? Because the debt that you're writing off typically contains both revenue and liabilities. At write-off time, you typically want to:

- Book the written off revenue to a write-off expense account, and

- Reduce the liabilities (you don't owe the liability if you don't get paid).

Consider the following example of a simple electric service agreement with two financial transactions:

Event	GL Accounting
Customer is billed	A/R 1000 Revenue <900> State Tax Payable – Taxing State – California <80> City Tax Payable – Taxing City – San Francisco <20>
Customer is levied a late payment charge	A/R 50 Late Payment Revenue <50>

After these two financial transactions are booked, the customer has debt of $1050. Of this $1,050; $950 is revenue and $100 is liability (money you owe the taxing authorities).

If the customer doesn't pay, you will eventually have to write-off this debt. Most organizations would issue the following types of financial transactions to do this:

Event	GL Accounting
Write-off the bill	Write-off Expense 900 State Tax Payable – Taxing State – California 80 City Tax Payable – Taxing City – San Francisco 20 A/R <1000>
Write-off the late payment charge	Write-off Expense 50 A/R <50>

Notice in the above transactions, the two separate revenue accounts are written off by booking to an expense account. However, the liability accounts are reversed. Why is revenue treated differently from liabilities at write-off time? There's a good reason for it (if you're an accountant), for the time being, just accept that this is how it works.

And finally, we need to worry about what happens if the customer eventually pays off his written off debt. If this happens, most organizations would pay off the write-off first, and, if there was still money left, they'd reimburse the taxing authorities. If we assume the customer pays off the entire written off debt, the following financial transactions would be issued:

Event	GL Accounting
Pay off the written off debt	Cash 900 Write-off Expense <900>
Reinstate the liabilities	Cash 100 State Tax Payable – Taxing State – California <80> City Tax Payable – Taxing City – San Francisco <20>

While the reinstatement of liabilities at payment time is possible in the system, the ramifications of doing such make this approach impracticable (the ramifications are a) if the check bounces, we would not be able to reduce the liabilities, and b) if there was a partial payment of the liabilities, the remaining unpaid amount could get written down). Therefore, when a write-off is paid the following financial transactions should be issued:

Event	GL Accounting
Pay off the written off debt	Cash 900 Write-off Expense <900>
Reinstate the liabilities	Cash 100 Reinstated liabilities <100>

Notice that rather than reinstating the individual liabilities, we simply reinstate all liabilities into a single account. This means your accountants will have to distribute this money to the appropriate liabilities manually.

So, how do we achieve the above in the system? This explanation is a little complicated, but it'll make sense if you keep the above financial transactions in mind:

- First of all, you'll need two different SA types – one to hold the written off revenue and another to hold the reduced liabilities.
  - On the SA type that holds written off revenue, indicate that it is not billable, indicate that it cannot have excess credits, and give it a high payment distribution priority. The distribution code on this SA type should reference your Write-off Expense account.
  - On the SA type that holds the reduced liabilities, indicate that it is not billable, indicate that it cannot have excess credits, and give it a high payment distribution priority. The distribution code on this SA type should reference a the "reinstated liabilities" GL account.

Next, you need to understand how the system's standard write-off logic works:

- The system accumulates the distribution codes from GL details associated with recent financial transactions linked to the service agreement being written-off.
- When the system has accumulated enough distribution codes (i.e., where the amount associated with the distribution code equals or exceeds the amount to write off), the debt will be transferred to a new or existing write-off service agreement(s). The number and type of service agreements to which the bad debt is transferred is defined on the distribution codes. Refer to Setting Up Distribution Codes for how to define the type of write-off service agreement associated with a distribution code. In our example, we'd need the two SA types described above – one for the revenue accounts, the other for the liability accounts.
- At write-off time, for those distribution codes associated with revenue, the system will create a transfer adjustment from the normal service agreement to the write-off revenue service agreement. This will reduce (credit) the receivable on the normal service agreement and increase (debit) the expense account defined on the write-off revenue service agreement.

- However, if we do the above for the distribution codes associated with liabilities, we have a problem. The problem is a bit hard to explain unless you understand tax accounting, but it basically comes down to this – if we simply transfer the portion of the receivable balance associated with the liabilities to the write-off liability SA, we will always be debiting the distribution code defined on the SA type. This isn't correct because we really want to debit the liability account (and reference the characteristic type and value from the original credit) when we reduce the liability. So how do we do this? For those distribution codes associated with liabilities, you need to indicate that you want to override the distribution code on the "transfer to" side of the transfer adjustment with the distribution code / characteristic type / characteristic value that was originally booked. Refer to Setting Up Distribution Codes for how to indicate you want to override the distribution code at write-off time. If you do the above, then at write-off time the transfer adjustment will reduce (credit) the receivable on the normal service agreement and increase (debit) the original liability accounts from the original financial transactions.

If you followed the above, you'll see that we now have everything debited and credited appropriately. And, if a payment materializes for the written off debt, we will simply debit cash and credit the distribution code on the respective SA (either Write Off Expense or Reinstated Liabilities).

Batch and real-time write-offs may use the above processing. The above logic is executed real time when a user writes off debt using the write-off transaction (assuming the base package write off algorithm is plugged into the account's customer class). The above logic is executed in batch when a write-off event that references a ***Write Off Using Distribution Codes*** event type is executed. Write-off events are described in detail below.

Automated versus Manual Write Offs

The system will automatically create write-off SAs and transfer uncollectable debt to them during the automated write-off processing described below.

If necessary, you can write-off debt outside of the automated write-off process using either of the following methods:

- You can transfer bad debt from any service agreement to a write-off service agreement using a transfer adjustment.
- You can use the write-off transaction to write-off debt real-time. When this transaction is used, the system executes the logic embedded in the ***Write Off Method*** algorithm that's plugged in on the account's customer class.

How Does The Write-Off Monitor Work?

This section describes how the Write Off Monitor uses your write-off criteria and write-off process templates to collect overdue debt.

Contents

Different Write-Off Criteria For Different Customers And Different Debt

Consider the following:

- You probably have different write-off criteria for different customer segments. For example, customers with large bills probably have strict criteria, whereas you're probably more lenient with small customers (or vice versa). You differentiate your customers in respect of the collection process via a **collection class code on the customers' accounts**. An account's initial collection class is defaulted from its customer class. You may override an account's collection class at will.
- You probably have different write-off criteria for different classes of debt. For example, if a customer has both regulated and unregulated debt, you probably have commission-imposed criteria to be applied to the regulated debt, but you have control over how to write-off unregulated debt. You differentiate your debt in respect of the collection process via a **write-off debt class on the customers' service agreements** (note the write-off debt class is actually defined on the SA type and every service agreement has a SA type).

Write Off Debt Class vs. Regular Debt Class. It's important to be aware that a SA type references both a regular debt class and a write-off debt class. The regular debt class controls the collection criteria applied against an account's service agreements. The regular debt class is also used to segregate an account's outstanding balance on several queries in the system. The write-off debt class controls the write-off criteria applied against an account's stopped service agreements. The reason the system supports two different debt classes is because you may categorize your service agreements differently when you try to collect overdue debt versus when you write-off debt.

Given the above, you should understand that different write-off criteria will exist for every combination of collection class and write-off debt class. If you're confused, then consider the following matrix:

Account's Collection Class SA's Write-Off Debt Class	Commercial Customer	Residential Customer
Regulated	N/A – there is no regulated, commercial customer debt.	Attempt to reduce the SA's balance to zero using the following methods: Synchronize current balance with payoff balance. Attempt to transfer debt to another active service agreement linked to the account. If the debt is < $10 and > $-1, write down the debt using a write-down adjustment. If the debt is <= $-1, create an A/P adjustment to refund the credit to the customer. If debt remains, create the default write-off process for regulated debt.
Unregulated	Attempt to reduce the SA's balance to zero using the following methods:	Attempt to reduce the SA's balance to zero using the following methods:

	Synchronize current balance with payoff balance. Attempt to transfer debt to another active service agreement linked to the account. If the debt / credit is < $10 and > $-10, write down the debt using a write-down adjustment. If the debt / credit is <= $-10, create an A/P adjustment to refund the credit to the customer. If debt still remains: Highest priority: If customer has a non-cash deposit, create the non-cash deposit write-off process. Otherwise, create the default write-off process for unregulated commercial debt.	Synchronize current balance with payoff balance. Attempt to transfer debt to another active service agreement linked to the account. If the debt is < $10 and > $-1, write down the debt using a write-down adjustment. If the debt is <= $-1, create an A/P adjustment to refund the credit to the customer. If debt remains, create the default write-off process for unregulated residential debt.

Notice that each cell in the matrix has the same pattern:

- The system first attempts to reduce the SA's current and payoff balances to zero using the following methods (assuming you have set up the write-off control appropriately):
  - Sync the current balance with the payoff balance. If the SA's payoff balance is zero, this will cause the current balance to become zero and therefore close the SA.
  - If there's a debit balance, transfer the debt to any ***pending start*** or ***active*** SA in the same write-off debt class.
  - If there's a credit balance, transfer the debt to any ***non-closed***/***non-cancelled*** SA in the same write-off debt class
  - If the remaining debit / credit balance is within a user-defined tolerance (this is defined on the respective algorithm on the write-off control), create an adjustment to write-down the small balance.
  - If a credit balance remains, create an A/P adjustment to refund the balance with a check (the adjustment type is defined on the respective algorithm on the write-off control).
- All of the above points will cause the SA to close. If debt remains, the system starts some type of write-off process. The type of process is dependent on the respective criteria. What differentiates one write-off criteria from another is its priority. The higher priority criteria will be compared first. If the customer / debt meets the criteria, the write-off process is initiated; no further comparisons are performed.

For more information about maintaining this matrix, refer to Setting Up Write-off Control.

When Is Debt Monitored For Write Off Purposes?

The write-off monitor only reviews a service agreement when the following conditions are true:

- The service agreement is ***stopped*** and ***reactivated***.

- If the service agreement is a "billable charge" SA (as identified on its SA type), all of its billable charges must appear on a bill segment AND the bill segment's bill's due date plus grace period must be on or before the business date.
- If the service agreement is not a "billable charge" SA AND it is billable (as identified on its SA type), the SA must have a closing bill segment (i.e., it must be final billed) and the bill segment's bill's due date plus grace period must be on or before the business date.
- If the service agreement is a sub SA, its master SA must abide by the above conditions.
- If the service agreement is not billable, it is possible that adjustments, which affect the SA's debt, exist. The write-off monitor will only review a non-billable SA if all FTs for this SA that have been marked to include on a bill have been swept onto a bill and the bill for any of these FTs has a bill due date plus grace period on or before the business date.

Postponing write-off processing. You can prevent the write-off process from processing an eligible service agreement by populating the account's C&C Postpone Date with a future date.

Attempt To Close The SA Before Creating A Write Off Process

Before the write-off monitor creates a write-off process for a ***stopped*** and ***reactivated*** service agreement, it attempts to reduce the service agreement's debt to zero using all of the following methods:

- If the account has active service agreements, it will transfer the finaled debt to a pending start or active service agreement.
- If the debt or credit amount on the service agreement is small, the system will generate an adjustment to 'write it down' (or up in the case of a small credit).
- If the service agreement has a large credit amount, the system will generate an A/P adjustment (resulting in a check being sent to the customer).

Plug-in algorithms do the work. Algorithms that are plugged-in on the write-off control responsible for managing the service agreement's debt actually perform the above effort. You can customize these algorithms to behave exactly how your collections staff desires.

If the algorithms responsible for the above effort are successful in reducing the service agreement's debt to zero, then the service agreement ***closes*** and will not be subject to write-off processing. If the above algorithms don't result in the service agreement's debt being reduced to zero, a write-off process will be started (as describe below).

What Happens When A Write-Off Process Is Started?

When you define write-off criteria, you must define the write-off process template to use if the criteria are violated. The system uses this template to create the account-specific write-off process.

Every ***stopped*** or ***reactivated*** service agreement that is part of the offending write-off debt class will be linked to the write-off process.

Also linked to the write-off process will be one or more write-off events. These events are meant to prod the customer. You define the types of events and when they are generated when you set up your write-off process templates.

It's important to note that all of the write-off events will be created when the write-off process is created. Each of these write-off events contains a trigger date. The trigger date of the first event(s) will typically be the current date. The trigger date of the other events will be in the future. Refer to Calendar vs Work Days for a description of how the trigger date is calculated.

A separate process, Activate Write-off events, is responsible for activating write-off events whose date is on or before the current date. Activation of an event causes the system to do whatever the event indicates (e.g., send a letter, send a To Do to an operator, refer debt to a collection agency, etc.)

Multiple write-off processes may be kicked off. It's important to be aware that if an account's service agreements reference multiple write off debt classes, a write-off process will be started for each offending write off debt class that has ***stopped*** or ***reactivated*** service agreements.

For more information about write-off process templates, see Setting Up Write Off Process Templates. For more information about write-off events, see The Big Picture Of Write-off Events. For more information about how a write-off process is cancelled, see How Does A Write-Off Process Get Cancelled?.

How Does A Write-Off Process Get Cancelled?

The system "removes" a service agreement from a write-off process when its status becomes ***closed*** (i.e., when its balance is zero). When all service agreements are removed, the system cancels all pending write-off events and deactivates the write-off process. When the write-off process is deactivated, all collection agency referrals associated with the write-off process are cancelled.

Removing closed service agreements from a write-off process. Service agreements aren't actually removed from the process. Rather, they are inactivated so a proper audit exists.

How Do Collection Agency Referrals Work?

The following points describe how collection agency referrals work.

- A write-off process has one or more events. One type of event causes overdue debt to be referred to a collection agency.
- When a referral write-off event is activated, the system marks the event for processing by the event's Collection Agency Referral Algorithm (refer to Setting Up Write Off Event Types for more information).
- The next time the Collection Agency Referral process executes (the frequency is dependent on your background process schedule), it will refer the process' debt to a collection agency. The specific agency to which the debt is referred is controlled by the event type's Collection Agency Referral Algorithm. The sample algorithm supplied with the system simply refers debt to the collection agency with the least amount of referred debt. If you prefer different logic, you must write your own algorithm.
- Regardless of the manner in which a collection agency is selected for an account's debt, the referral involves the creation of a collection agency referral history record. Refer to Collection Referral for more information.

- A collection agency referral history record is linked to an account. It contains the amount of debt referred to the collection agency. It is the creation of this record that, in turn, triggers the interface of information to the collection agency. The method used to interface the information to the agency is defined on the collection agency's record. Refer to Setting Up Collection Agencies for more information.
- If the collection agency is successful in obtaining the funds, simply add a payment. If the payment causes the SA's balance to become zero, the system will automatically ***close*** the service agreement. When the system closes a service agreement, it is "removed" from the write-off process. When a write-off process no longer contains active service agreements, the system cancels the write-off process. When a write off process is cancelled, all collection agency referrals are automatically cancelled.
- Collection agency referrals get cancelled by the creation of a new collection agency referral history record (with a type of ***cancel***). This record will be interfaced to the agency in the same manner used to interface a new referral (see above).
- If the collection agency is not successful in obtaining your funds after a given amount of time, you probably want to cancel the referral and write-off the debt. The cancellation of the referral will happen automatically if you design your write-off process to generate a collection agency cancellation X days after the referral. Refer to Setting Up Write Off Process Templates for how to do this. You can cancel a referral manually by simply creating a new collection agency referral history record (with a type of ***cancel***).

When you enable the Control Central alert algorithm, C1-COLL-REF, an alert displays when an account has an active collection agency referral. This algorithm is plugged-in on the installation record.

The Big Picture Of Write-off Events

This section describes the various types of write-off events and their lifecycle.

Contents

How Are Write-off Events Created?

Write-off events may be created as follows:

- The Write-Off Monitor creates a write-off process when an account has unpaid, final billed service agreements. The write-off process has one or more write-off event(s). Refer to How Does The Write-Off Monitor Work? for more information about how the system creates write-off processes and their events.
- Write-off events are created when an operator creates an ad hoc write-off process. The number and type of events is controlled by the write-off process template defined when the write-off process is created.

- An ad hoc write-off event may be created and linked to an existing write-off process by an operator at their discretion.

Bottom line. Most write-off events are created by the system when it creates a write-off process for unpaid, finaled service agreements. If you need to create an ad hoc write-off event, you can either create a write-off process using a template that contains the desired event OR link the desired event to an existing write-off process.

For more information about creating ad hoc write-off processes and events, refer to How To Perform Common Write-off Maintenance Functions.

Types Of Write-off Events

The following table describes the various types of write-off events and what happens when they are completed:

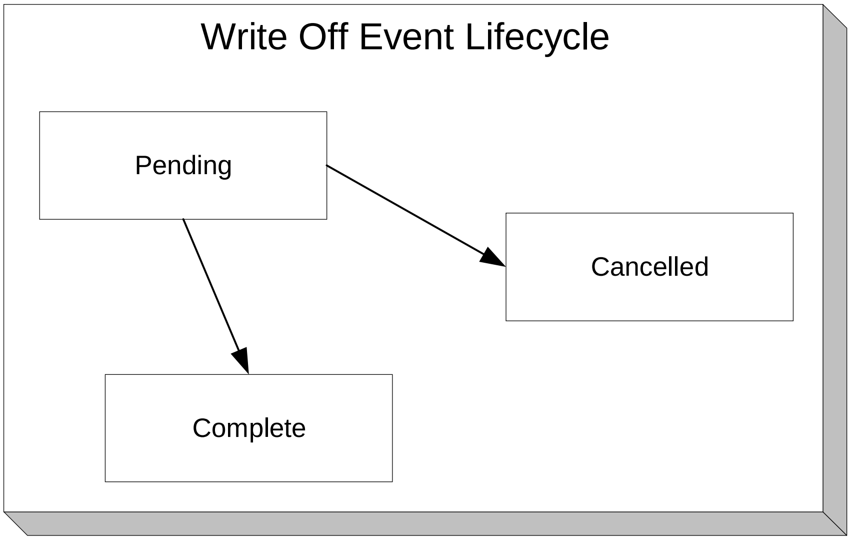
Type Of Write-off Event	What Happens In The System
Affect Credit Rating/Cash-Only	An account credit rating demerit record is created. The number of demerits is defined on the write-off event type.
Cancel Agency Referral	All collection agency referrals associated with the write-off process will be cancelled.
Refer to Agency	The debt associated with the SA's linked to the write-off process will be referred to a collection agency.
Send Letter	A customer contact is created for every financially responsible person linked to the account. The customer contact causes a letter to be produced. The type of letter is defined on the customer contact type control table. The recipient of each letter is defined on Account / Person (those persons marked as **Receiving Notifications**).
Send To Do	A To Do entry is created. Refer to The Big Picture of To Do Entries for more information about To Do entries.
Write Off using Distrib Code	This type of event is used to write-off bad debt in accordance with the distribution codes associated with the financial transactions that caused the debt in the first place. You'd use this method for example if you want to write-off revenue differently than you write-off liabilities. The system accumulates the distribution codes from GL details associated with recent financial transactions linked to each write-off service agreement. When the system has accumulated enough distribution codes (i.e., where the amount associated with the distribution code equals or exceeds the amount to write off), the debt will be transferred to a new or existing write-off service

	agreement. The type of service agreements to which the debt is transferred is defined on the distribution codes.
Write Off using SA Type	The service agreements linked to the process will be written-off by transferring their debt to a new or existing write-off service agreement. Note: the SA type of the write-off service agreement is defined on the algorithm defined on events of this type.
Generic Algorithm	The system calls the algorithm defined on the write-off event type. This type of event is used when what you need to do isn't handled by one of the above event types.

Refer to Setting Up Write Off Event Types for more information.

Write-off Event Lifecycle

The following diagram shows the possible lifecycle of a write-off event:



Write-off events are initially created in the ***pending*** state.

When the system sees a ***pending*** event with a trigger date on or before the current date, the system executes the event's activity and ***completes*** the event.

For more information about a write-off event's trigger date, see Write-off Event Trigger Date.

A ***pending*** event will be ***cancelled*** automatically by the system when the service agreements linked to the process are all ***closed*** (i.e., they no longer have debt – either because it was paid or transferred to a write-off service agreement). A ***pending*** event may be ***cancelled*** by an operator at their discretion.

Write-off Event Trigger Date

When a write-off event is created by the system, its trigger date is set in accordance with your date arithmetic preferences. Refer to Calendar vs. Work Days for more information.

How Are Write-off Events Completed

A background process runs periodically (at least daily) that looks for write-off events with a trigger date on or before the current date. For each triggered event, the system executes its activity and then completes it. Refer to Write Off Event Activator for more information.

The Last Write-off Event Should Write Off All Debt Associated With All SA's

The last write-off event will typically transfer all debt from the service agreement's linked to the process to a write off service agreement (linked to the account). This will only happen if you set up the write-off process template accordingly (i.e., the last event in the write-off process template is the kind that writes off debt for every service agreement linked to the write-off process).

How Are Write-off Events Canceled?

The system removes a service agreement from a write-off process when its status becomes ***closed*** (i.e., when its balance is zero). Be aware that any type of financial event could cause an SA's balance to fall to zero (e.g., the creation of an adjustment, the application or cancellation of a payment, the cancellation of a bill, …). When all service agreements are removed, the system cancels all pending write-off events and deactivates the write-off process.

Real time cancellation. Unlike collection processes, the system cancels write-off processes real time when the service agreement becomes ***closed*** (i.e., there is no background process that monitors write-off processes).

Besides the automated cancellation process, an operator may cancel a write-off event at will.

Removing *closed* service agreements from a write-off process. Service agreements aren't actually removed from the process. Rather, they are inactivated so a proper audit exists.

Calendar vs. Work Days

When you set up your collection, severance and write-off process templates, you supply information that controls how the system determines the trigger date of each event in the related process. There are two different mechanisms for doing this:

- When you set up your severance process templates, you must define the number of days between each event. For example, the 2nd event (send cutoff warning) may need to be triggered 7 days after the 1st event (send reminder letter).
- When you set up your collection and write-off process templates, you must define the number of days after the start of the process when each event should be triggered. For example, the 2nd event (send cutoff warning) may need to be triggered 7 days after the start of the collection process.

The system uses this information in conjunction with the account's division's work calendar when it allocates a trigger date to the various collection, severance, and write-off events in your processes. The system offers you the following choices in respect of how it calculates an event's trigger date:

- You can indicate that the trigger date should be set to the next possible workday. For example, if you indicate that the 2nd event is triggered 7 days after the 1st event, the system will add 7 days to the 1st event's completion date. It then checks if this is a workday (and not a holiday), if so, this is the trigger date of the event; if not, it assigns the trigger date to the next workday.
- You can indicate that the trigger date should be calculated by counting workdays. For example, if you indicate that the 2nd event is triggered 7 days after the 1st event, the system will count 7 workdays (using the account's division's work calendar), and set the trigger date accordingly.

You must define which of the above methods is used in the following processes:

- Account Debt Monitor (ADM and ADM2). Refer to The Account Debt Monitor for more information.
- Collection Event Trigger (CET). Refer to The Collection Event Activator for more information.
- Severance Event Set Trigger Date (SED). Refer to Set Trigger Date for more information.
- Write-off Monitor (WPM). Refer to The Write Off Monitor for more information.

The Big Picture Of Payment Arrangements and Pay Plans

The topics in this section describe two different mechanisms that allow a customer to payoff overdue debt in installments.

Contents

The Big Picture Of Pay Arrangements

A payment arrangement is an agreement with a customer to payoff severely overdue debt in **billed** installments. Bills sent to customers with payment arrangements contain charges for both their current services and their payment arrangement installment amount.

Nomenclature. Some people refer to payment arrangements as "current bill plus" agreements because the customer's bills contain charges for both their current debt plus their installment amount. After the customer has paid off their overdue debt, the customer's bill only contains charges for their current debt.

The topics in this section describe how to set up a payment arrangement and how the system monitors the ongoing arrangements.

Contents

Creating Payment Arrangements

When you create a payment arrangement, you are actually creating a service agreement. This service agreement is just like other service agreements in that:

- It holds debt.
- It is periodically billed.
- When a payment is received, the service agreement's debt is reduced.
- If the service agreement becomes delinquent, a collection process is initiated to collect the overdue debt.

Debt is transferred to a payment arrangement service agreement (PA SA) from the customer's delinquent service agreements (SAs) at the inception of the payment arrangement.

When you transfer delinquent debt from the delinquent SAs to the PA SA, the debt is removed from the delinquent SAs. If you transfer all debt from the delinquent SAs, the customer will no longer be in arrears in a given debt class (and if the customer is no longer in arrears, active collection and severance processes will be cancelled).

Use the Payment Arrangement Transaction. You could do the above functions by adding a new service agreement and creating transfer adjustments. However, this is tedious. Rather, use the Payment Arrangement transaction. This transaction creates the PA SA, transfers debt to it, and sets up the installment amount. This transaction is also used if you need to break or cancel the payment arrangement.

Installment, Payoff and Current Amounts

Warning! If you do not understand the difference between payoff balance and current balance, refer to Current Amount versus Payoff Amount.

When you set up a payment arrangement service agreement (PA SA), you transfer delinquent debt to the PA SA using transfer adjustments. After moneys are transferred, the system sets the PA SA's current balance to zero. At this point, neither the original service agreements nor the PA SA have delinquent debt. If the customer neglects to pay their payment arrangement, the PA SA will fall into arrears and a collection process will ensue. If the customer neglects to pay their previously delinquent SA's, they will again fall into arrears and a collection process will ensue.

PA SA's start their life with a non-zero payoff balance (i.e., they have debt when first started). This debt is transferred from the normal service agreement(s) whose outstanding debt necessitated the creation of the PA SA.

The installment amount that the customer is billed is determined by the number of installments used to payoff the debt. For example, if the customer owes $500 on their electric and water service agreements and they want to pay this off in 10 installments, you'd set up the installment amount to be $50. The installment amount is saved on the PA SA's recurring charge amount. If the customer again falls into arrears on their normal service agreements, you can transfer additional delinquent debt to the PA SA. You can also change the installment amount as needed.

A PA SA's payoff balance typically differs from its current balance. The payoff balance is the amount of debt remaining to be paid off under the terms of the payment arrangement. The current balance is the installment amount that has been billed but not paid. For example, a customer who is paying off $500 with 10 installments of $50 would have an initial payoff balance of $500 and a current balance of $0. After the first bill, the PA SA would still have a payoff balance of $500, but its current balance would be $50. When the customer pays, the PA SA's payoff balance would fall to $450 and its current balance would return to $0.

The following table contains a financial example of a customer who sets up a payment arrangement to payoff $1,000 of debt in $10 installments.

Event	Normal SA's GL Accounting	PA SA's GL Accounting	Normal SA's Current Balance	Normal SA's Payoff Balance	PA SA's Current Balance	PA SA's Payoff Balance
Prior to creation of payment arrangement	N/A	N/A	1000	1000	N/A	N/A
Transfer debt from normal SA(s) to PA SA	Xfer 1000 A/R <1000>	PA A/R 1000 Xfer <1000>	0	0	1000	1000
Set current balance to zero on PA SA	N/A	N/A	0	0	0	1000
Customer is billed ($50 for new debt and $10 of payment arrangement debt)	A/R 50 Revenue <50>	N/A	50	50	10	1000
Customer pays $60	Cash 50 A/R <50>	Cash 10 PA A/R <10>	0	0	0	990

When the customer pays off the payment arrangement debt, the system automatically closes the PA SA after it final bills (assuming the PA SA's SA type references a bill segment type that has a bill segment creation algorithm of ***Recurring Charge With Auto Stop***).

Monitoring Payment Arrangements

The PA SA should belong to its own debt class (let's call it Payment Arrangement Debt) so that you can have stricter collection criteria for payment arrangement debt (as compared to normal SA's). Because there will be a new debt class, there will be a unique collection class control (CCC) for payment arrangements. This CCC will have debt criteria associated with payment arrangement debt. If these criteria are violated, we will kick off a collection process that should have 1 collection event - Start Severance.

The severance process template for PA SA's will have 1 severance event that calls the Break Payment Arrangement Event algorithm. This algorithm does the following:

- Cancels ALL adjustments that were used to transfer the debt to the payment arrangement (identified by the XFER adjustment type on the PA SA's SA type). When these are cancelled, the original arrearage will be reinstated under the original SA's - this debt should be rather old by this point.

- Syncs up current balance with payoff balance on the PA SA.
- Makes the PA SA ***pending stop*** (SA activation will stop the SA when it next runs).
- If there is a credit left on the PA SA (because payments were made against the arrangement), the credit will be distributed amongst the account's debt using the standard distribution algorithm. Because the payment arrangement debt that was reinstated should be rather old, it should get relieved first. This relief will occur via transfer adjustments from the PA SA to the original SA's.
- If there is a debit left (e.g., because LPC were issued or some other type of adjustment was created by an operator), the debt will be transferred back to one of the SA's from which the arrangement was originally created.
- Inserts a characteristic under the PA SA to indicate that it has been broken (we need this for the account debt monitor (ADM) a few steps down).
- Inserts a row on the account debt monitor trigger. This trigger will cause the account to be reviewed by the ADM when the ADM next runs.

The PA SA must final bill before it closes. It's important to note that the PA SA will only close after the PA SA is final billed. This is OK as it won't have any money left on it.

When the ADM next runs, it will analyze the account's reinstated debt. We recommend creating a new override collection criteria for the normal debt class that will return a value of true if the account has a closed payment arrangement that has been broken in the last X days (where X is a parameter of the override collection criteria's algorithm). If this algorithm returns a true, kick off a unique collection process template (that has nasty events). A sample algorithm of this type is supplied in the base package – ***COLL COND PA***.

To complete this discussion, we have to worry about the situation when the final bill of a payment arrangement goes unpaid. In this situation, the payment arrangement is stopped and will therefore not be processed by the ADM. In this case, the write off monitor will process the PA SA after its final bill's due date and a write-off process will start. This write off process will have a single event that calls the Break Payment Arrangement algorithm (described above). After the FT's are issued in this event, the SA will close (because it's been final billed and it's balance will go to zero).

The Big Picture Of Pay Plans

A pay plan (PP) is an agreement with a customer to make payments on specific dates. Pay plans differ from payment arrangements in that pay plans have user-defined scheduled payment dates, which are independent from the customer's billing dates. In other words, payment arrangements appear on the customer's bills, pay plan scheduled payments do not.

If a customer is in arrears and you want to receive payments on specific dates (as opposed to with the customer's regular bills), you would set up a pay plan and define the dates on which you expect the payments.

The topics in this section describe how pay plans work.

Contents

A Pay Plan Has One Or More Scheduled Payments

When you create a pay plan for an account, you must define the number of scheduled payments and their respective amounts. There is no limit to the number of scheduled payments that may be set up under a pay plan.

Automatic Payments Can Be Created On The Scheduled Payment Dates

The system will create automatic payments on a pay plan's scheduled payment dates if:

- The account is set up for automatic payment (as described under How To Set Up A Customer To Pay Automatically), and
- The payment method defined on the pay plan indicates automatic payment is being used

The background process called ***PPAPAY*** is responsible for creating these automatic payments. It does this by calling the automatic payment creation algorithm plugged in on the installation record.

Please note, if the **Autopay Creation Option** on the installation record is set to ***Create On Extract Date***, the automatic payment is NOT distributed and frozen when the automatic payment is initially created. Rather, a separate background process (APAYDSFR) distributes and freezes the automatic payment on the automatic payment GL distribution date (refer to Automatic Payment Dates for more information on how this date is calculated). Refer to Automatic Payments for more information.

A Pay Plan Insulates Overdue Debt From The Account Debt Monitor (ADM)

A pay plan's scheduled payments are used by the account debt monitor as "pseudo payments" that relieve the account's debt before it is subjected to the collection criteria (refer to How Does The Account Debt Monitor Work for more information about collection criteria).

It's important to understand that a pay plan only insulates the account's debt that belongs to the pay plan's debt class. Therefore, if a customer has debt that belongs to two debt classes (e.g., normal debt and 3rd party pass through debt), you would need to set up a separate pay plan for each debt class (assuming both types of debt are covered by a pay plan). Refer to Different Collection Criteria For Different Customers and Different Debt for more information about debt classes.

A Pay Plan Must Reference A Pay Plan Type

When you create a pay plan, you must define its pay plan type. The pay plan type controls the following functions:

- The debt class whose debt is insulated by the pay plan.

- The type of algorithm (if any) that is executed when the pay plan is broken. You might use such an algorithm to affect the customer's credit rating when the pay plan is broken.

A Pay Plan May Reference A 3rd Party Payor

In addition to referencing the account whose debt is insulated by the pay plan, the pay plan must also reference the account that is responsible for making the payments. We refer to this second account as the pay plan's "payor".

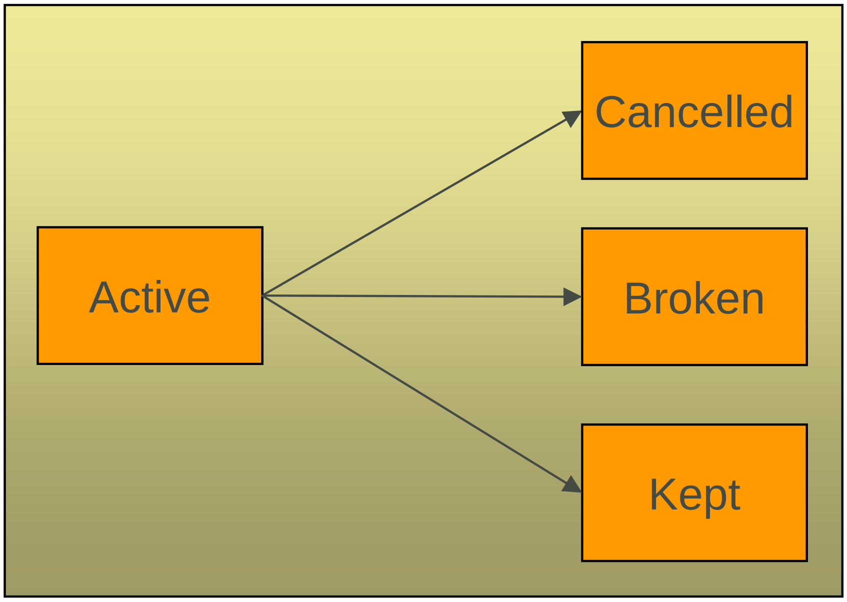
While the payor's account is typically the same as the account whose debt is insulated by the pay plan, you can indicate a third-party payor (e.g., a social service agency) is responsible for making the pay plan's scheduled payments.

If your organization allows third-party payors, you can define each on the third-party payor control table. This control table exists to simplify the data-entry effort when you create a pay plan (as it defines the account associated with the third-party payor).

Note. If a pay plan does not reference a third-party payor, any non-third-party payors (i.e., any account that is not defined in the third-party payor control table) can make payments on behalf of the customer. If a pay plan references a third-party payor, only payments made by the third party on behalf of the customer are counted towards the fulfillment of the pay plan.

The Lifecycle Of A Pay Plan

The following diagram shows the possible lifecycle of a pay plan:



The following points explain this lifecycle:

- Pay plans are initially created in the ***active*** state. ***Active*** pay plans are monitored for compliance by The Pay Plan Monitor.
- A pay plan may be ***cancelled*** as follows:
  - A user can cancel a pay plan at will.

  - When a SA is stopped AND there are no other active SAs in the same debt class, all ***active*** pay plans associated with the account and debt class will be will be ***cancelled***.
  - The activation of a collection event that calls the “cancel pay plan” algorithm will cancel all ***active*** pay plans associated with the collection process’s debt class. You may want to use such a collection event if your organization cancels ***active*** pay plans when new debt causes a collection process to kick-off. Note, the base package algorithm that performs this function will not cancel the pay plan if it’s associated with a 3rd party payor.

- The Pay Plan Monitor causes ***active*** pay plans to become ***broken*** if sufficient payments have not been made to satisfy the pay plan’s scheduled payments.
- The Pay Plan Monitor causes ***active*** pay plans to become ***kept*** when it detects that sufficient payments have been made to satisfy the pay plan’s scheduled payments.

Highlighting The Existence Of Broken / Kept / Active and Denied Pay Plans

You can define on the installation record plug-in algorithms that format alert messages. (Refer to Installation Options - Algorithms for additional information.) We recommend that you take advantage of the following algorithms to highlight pay plans:

- Highlight pay plans in a given status. This algorithm is used to highlight pay plans in a given state (broken, kept, cancelled) that were started within the last X days.
- Highlight customer contacts of a given type. This algorithm would be used to highlight customer contacts of a given type that were created within the last X days. This would be useful if you create a specific type of customer contact when you deny a pay plan. Some utilities do this to prevent customers from shopping around.

In addition, you can define account-specific alerts to highlight customers that should never be allowed to have a pay plan (for whatever reason).

A Pay Plan Must Reference A Payment Method

When you create a pay plan, you must define how the customer will make the payments be referencing a payment method. Examples of payment methods include: ***In Person***, ***Wire Transfer***, ***By Post***, ***Express Mail***, etc.

The payment method is more than just documentation as it defines the number of grace days the customer has to make the pay plan’s scheduled payments. For example, if you set up the payment method control table to indicate that payments made ***By Post*** have 3 grace days, then the customer has up to 3 days after each scheduled payment date to make the payment. If payment is not received by the scheduled payment date plus the grace days, the pay plan will be marked as ***broken*** (and the ADM will be triggered).

The Pay Plan Monitor

Please understand the concepts described in The Lifecycle Of A Pay Plan and The Tendering Account May Differ From The Account Whose Debt Is Relieved before reading this section.

The Pay Plan Monitor background process (referred to as ***PPM***) is responsible for monitoring ***active*** payment plans. This process can cause a pay plan (PP) to become ***kept*** or ***broken*** (or being left as ***active***).

When is a pay plan marked as broken / kept? It's important to understand that only the ***PPM*** can cause a pay plan to become ***kept*** or ***broken***. This means that if a customer makes a payment that satisfies a pay plan, the pay plan will only be marked as ***kept*** when the pay plan monitor next runs. Analogously, if a payment is ***cancelled***, nothing will happen to an ***active*** pay plan until the ***PPM*** next runs. When the ***PPM*** next runs, it will see that the scheduled payment was not kept and it will break the pay plan and schedule the ADM to be executed. When the ADM next executes, it will create a collection process (because the customer's debt will no longer be insulated by the pay plan's scheduled payments).

NSF Cancellations After A Pay Plan Is Kept. If a payment is ***cancelled*** due to non-sufficient funds (NSF) after a pay plan is marked as ***kept***, the pay plan will remain ***kept***. But keep in mind that the pay plan's account is scheduled for review by the ADM when a payment is ***cancelled*** due to NSF. When the ADM reviews the account's debt, it will no longer have an ***active*** pay plan to insulate it and the account's debt will likely trigger a new collection process. Refer to How Pay Plans Affect The ADM for more information.

The following points describe, at a high level, how the ***PPM*** monitors a pay plan (PP) for compliance.

- The system selects all ***frozen***, non-cancelled payment segments associated with the PP's account and debt class where:
  - The payment date is after the start date of the pay plan, and
  - The payment's pay event has at least one tender that references the pay plan's payor.
- The system logically reduces / removes past and current scheduled payments (starting with the earliest scheduled payment) until the total amount of payment segments is exhausted (or there are no more historical / current scheduled payments).

Paying pay plans in advance. Scheduled payments with a future date are not logically removed / reduced. This means that if a customer makes advance payments on a pay plan, it will not be marked as ***kept*** until all scheduled payment dates are in the past.

- If all scheduled payments have been logically removed, the pay plan is marked as ***kept***.
- If there exist scheduled payments where the pay date + grace days (grace days are defined on the pay plan's payment method) is before the current date (i.e., a payment doesn't exist for a scheduled payment):
  - The pay plan is marked as ***broken***.
  - The PP's break algorithm (if any) is called (note, for European / Australian pay plans, there are scenarios where the break algorithm can cause the pay plan to become unbroken – when there aren't at least two missed, historical scheduled payments).
  - An ADM trigger is stored for the PP's account. This will cause the account to be reviewed by the ADM the next time it runs. And because the pay plan is broken, its scheduled payments will no longer insulate the account's arrearage.

Important! It's important that you schedule the PPM to run before the ADM so that it can break unpaid payment plans prior to the ADM subjecting the account's debt to collection criteria. Refer to How Pay Plans Affect The ADM for more information.

How Pay Plans Affect The ADM

As described under A Pay Plan Insulates Overdue Debt, a pay plan's scheduled payments insulate an account's debt from the ADM. This section describes how this is accomplished.

Important! You should understand the concepts in How Does The Account Debt Monitor Work and The Tendering Account May Differ From The Account Whose Debt Is Relieved before reading the following.

The ADM will be triggered when a pay plan is broken. Refer to The Pay Plan Monitor for an explanation of how the ADM is triggered when a pay plan is broken.

Before the ADM (and ADM2) subjects an account's debt to the collection criteria, it calls the debt's debt class's Override Arrears Algorithm (this is an optional plug-in spot on Debt Class). This algorithm is passed the debt class's aged debt and manipulates it as follows:

- First, a list of all past, present and future scheduled payments associated with the account and debt class's ***active*** pay plans is constructed.
    - If multiple payors are encountered (because the customer has multiple pay plans and these have different payors), a separate list of scheduled payments is maintained for each payor.
- Next, for each payor, retrieve the total amount of ***frozen***, non-cancelled payment segments made on behalf of the pay plan's account and debt class.
    - Select all ***frozen,*** non-cancelled payment segments associated with the pay plan's account and debt class whose pay date is >= pay plan's start date and the pay segment's event has at least one tendering account associated with the pay plan's payor.
- Next, logically reduce / remove past and current scheduled payments (starting with the earliest scheduled payment) until the payor's payment amount is exhausted (or there are no more historical / current scheduled payments). Future scheduled payments cannot be remove / reduced.
- Finally, reduce the passed in aged debt with any unpaid scheduled payments.

This logic is not "hard coded". Rather, the mechanism used to use a pay plan's scheduled payments to reduce debt is defined in an algorithm defined on the pay plan's debt class. The contents in this section describe how a base package algorithm works. Because it's an algorithm, you can introduce whatever logic you please.

The following is an example of how pay plans affect aged debt.

Date	Event	SA's Arrears	SA's Balances	Scheduled Payments
Prior to creation of		$1,000 – 90 days old $1,600 – 60 days old	Current: $4,500 Payoff: $4,500	

the PP 1/18/2000		$1,900 – 30 days old		
1/18/2000	Pay Plan created. The $4,500 in future scheduled payments offsets the existing $4,500 of aged debt.	$1,000 – 90 days old $1,600 – 60 days old $1,900 – 30 days old De facto ADM debt: $0	Current: $4,500 Payoff: $4,500	1/20/2001 $1,500 2/01/2001 $1,500 2/07/2001 $1,500
1/20/2001	The customer pays $1,500. There exists $3,000 of future scheduled payments that offset the arrears	$1,100 – 62 days old $1,900 – 32 days old De facto ADM debt: $0	Current: $3,000 Payoff: $3,000	1/20/2001 $1,500 "Paid" 2/01/2001 $1,500 Future 2/07/2001 $1,500 Future
1/20/2001	ADM runs. The $3000 in future scheduled payments offsets the Current Balance of $3000, so CC events not created.	$1,100 – 62 days old $1,900 – 32 days old De facto ADM debt: $0	Current: $3,000 Payoff: $3,000	1/20/2001 $1,500 "Paid" 2/01/2001 $1,500 Future 2/07/2001 $1,500 Future
1/24/2001	A new bill is created for $400	$1,100 – 62 days old $1,900 – 32 days old $400 – 1 day old De facto ADM debt: $400 - 1 day old	Current: $3,400 Payoff: $3,400	1/20/2001 $1,500 "Paid" 2/01/2001 $1,500 Future 2/07/2001 $1,500 Future
2/2/2001	Pay Plan Monitor runs. PP marked as ***Broken*** because the 2/1/2001 scheduled payment has not been paid (assuming no grace period on the pay plan's payment method)	$1,100 – 74 days old $1,900 – 44 days old $400 – 8 days old	Current: $3,400 Payoff: $3,400	1/20/2001 $1,500 "Paid" 2/01/2001 $1,500 "Late" 2/07/2001 $1,500 Future
2/2/2001	ADM runs. There are no active pay plans and therefore there is nothing to insulate the customer's debt. Therefore the aged debt will be subjected to the collection criteria and an appropriate collection process will be created.	$1,100 – 74 days old $1,900 – 44 days old $400 – 8 days old De facto ADM debt is the same as above (i.e., rather old)	Current: $3,400 Payoff: $3,400	Pay plan is broken and therefore its scheduled payments cannot be used.

Collection Process / Severance Process Cancellation

When a pay plan (PP) is created, the system determines if it can cancel ***active*** collection and severance processes associated with the pay plan's account and debt class. It does this because a pay plan's scheduled payments act as "pseudo payments" that relieve the account's debt (temporarily). The following points describe how this works:

- The system attempts to cancel collection processes by calling the Collection Process Cancel Criteria Algorithm defined on the debt class that is associated with the collection process. This algorithm is meant to cancel a collection process if the sum of ALL service agreements in the debt class have debt less than a given threshold amount. Because of the existence of the pay plan, the actual debt will be temporarily reduced by the amount of the pay plan's scheduled payments before it is compared to the threshold amount (see How Pay Plans Affect The ADM for more information about how debt is reduced). Note: this temporary reduction will only occur if you have plugged in the appropriate pay plan debt reduction algorithm on the debt class.
- It attempts to cancel severance processes by calling the Severance Process Cancel Criteria Algorithm defined on the debt class that is associated with the severance process. This algorithm is meant to cancel a severance process if the sum of ALL service agreements in the debt class have debt less than a given threshold amount. Because of the existence of the pay plan, the actual debt will be temporarily reduced by the amount of the pay plan's scheduled payments before it is compared to the threshold amount (see How Pay Plans Affect The ADM for more information about how debt is reduced). Note: this temporary reduction will only occur if you have plugged in the appropriate pay plan debt reduction algorithm on the debt class.

If collection / severance processes still exist for the account / debt class associated with the pay plan, a warning is issued.

Interesting Pay Plan Facts

The following points describe a variety of interesting facts about pay plans (PP):

- An account may have many active pay plans. However, only 1 pay plan may be active for a given account / debt class / payor at any point in time.
- The existence of a pay plan has no impact on payment distribution.
- When a SA is stopped, if the SA's debt class has an active PP AND there are no other active SA's in the same debt class, the PP will be cancelled
  - The cancel reason will be "cancelled by system" (as opposed to "cancelled by user")
- If necessary, different collection / severance processes can be triggered if a broken PP is detected (via the override algorithms on CCC and write-off control - we do NOT provide such algorithms).

Setting Up Pay Plan Control Tables

This section describes the control tables needed to set up pay plans.

Contents

Setting Up Pay Plan Types

Pay plan types control what is done by a given pay plan. Open **Admin, Pay Plan Type** to define your pay plan types.

For more information refer to The Big Picture Of Pay Plans for more information.

Description of Page

To modify a pay plan type, simply move to a field and change its value. To add a new pay plan type, press + to insert a row, then fill in the information for each field. The following fields display:

Pay Plan Type The name of the pay plan type.

Description A meaningful description of the pay plan type.

Broken Algorithm This algorithm is called when a pay plan is broken. Refer to The Pay Plan Monitor for more information about how pay plans are broken.

If you haven't done so already, you must set up this algorithm in the system. To do this, create a new algorithm (refer to Setting Up Algorithms). On this algorithm, reference an Algorithm Type that breaks a pay plan. Click here to see the algorithm types available for this plug-in spot.

Debt Class The debt class covered by pay plans of this type. Refer to Setting Up Debt Classes for more information.

Where Used

Follow this link to open the data dictionary where you can view the tables that reference CI_PP_TYPE.

Setting Up Payment Methods

Payment methods are used to describe how a customer intends to make their pay plan's scheduled payments. Open **Admin, Pay Method** to define your payment methods.

> For more information refer to A Pay Plan Must Reference A Payment Method for more information.

Description of Page

To modify a pay method, simply move to a field and change its value. To add a new pay method, press + to insert a row, then fill in the information for each field. The following fields display:

Pay Method The name of the payment method.

Description A meaningful description of the payment method.

Grace Days The number of days added to the scheduled payment date. The ADM will consider the pay plan to be broken if payment is not made by the scheduled date plus the grace days.

Auto Pay If the pay method is marked as being for **Auto Pay**, the ***PPAPAY*** background process will automatically create an automatic payment on the pay plan's scheduled payment dates IF the account has been set up for automatic payment.

Where Used

Follow this link to open the data dictionary where you can view the tables that reference CI_PAY_METH.

Setting Up Third Party Payors

Pay plans support optional third-party payors. Open **Admin Menu, Third Party Payor** to define your third-party payors.

Note. A third-party payor refers to an account. You must set up the account before you can create a third-party payor.

Refer to A Pay Plan May Reference A 3rd Party Payor for more information.

Description of Page

The following fields display for each third party payor:

Third Party Payor Provide a meaning id for the third-party payor that can be easily recognized when setting up a pay plan.

Description A meaningful description of the payor.

Account ID The account that is used for this payor. It is this account that is tracked as the "payee" of any payments made towards a third party payor's pay plan.

Active Check this box if the payor is currently available to participate in pay plans.

Where Used

Follow this link to open the data dictionary where you can view the tables that reference CI_THRD_PTY.

Creating Collection, Severance & Write-Off Procedures

Your collection procedures define how your organization collects overdue debt. Your severance procedures define how your organization severs service agreements when collection attempts fail. Your write-off procedures define how your organization writes off finaled debt. In this section, we describe how to set up the data that controls these procedures.

For more information about collection, severance and write-off procedures, see The Big Picture Of Credit & Collections (C&C).

Warning! There are innumerable ways to design your collection, severance and write-off procedures. Some designs will result in easy long-term maintenance, others will result in maintenance headaches. In this section, we provide information to help you understand the ramifications of the various options. Before you set up your production collection, severance and write-off procedures, we encourage you to gain an intuitive understanding of these options by using the system to prototype the alternatives.

Contents

Designing Your Collection Procedures

The design of your collection procedures is an iterative process. Over time, you will develop intuitive skills that will allow you to skip some iterations. However, when you're starting out, we recommend you use the following matrix as your guide. When the matrix is complete, you're ready to set up the collection process control tables.

Account's Collection Class ➔ SA's Debt Class ↓		

The topics discussed below will gradually complete this matrix using a simple case study.

For more information about how the information in this matrix is used to monitor your customers' debt, refer to Different Collection Criteria For Different Customers And Different Debt.

Contents

Designing Your Debt Classes

Multiple debt classes are needed when you have different collection procedures for different types of service agreements. If all service agreement debt is collected the same way, then you'll have just one debt class (call it ***Generic***). However, if you're like many organizations, you will have multiple debt classes. The following points will help you understand why:

- If you have both regulated and unregulated service, you probably have different debt classes for each type of service. Why? Because your local regulators control how you collect and cutoff overdue, regulated debt. For unregulated debt, your organization controls how overdue debt is collected.
- If your customers make charitable donations, you will have a charitable contribution debt class. Why? Because you probably send a different type of letter when the customer falls into arrears on their charitable contributions. You also can't cut off their water service if they don't make their charitable contributions.
- If you levy deposits, you will probably have a deposit debt class. Why? Because you probably respond differently if the customer doesn't pay their deposit (e.g., you may decide to cut off their electric service until the deposit is paid).
- If you allow customers to make payments on non-billed budgets, you will probably have a non-billed budget debt class. Why? Because you probably respond differently if the customer doesn't pay their non-billed budget (e.g., you may decide to expire the non-billed budget but not affect their other service since the non-billed budget is a way for customers to prepay for upcoming bills).
- If you write-off uncollectable debt, you will need another debt class for write-off service agreements. Why? Because when you write-off debt in the system, you transfer the uncollectable debt from the original service agreement(s) to a write-off service agreement. The write-off service agreement holds this debt forever (or until it is paid). You need to use a different debt class for the write-off service agreements because they aren't subject to collection criteria.
- If you use the system to charge your organization's company usage, you'll need another debt class (we refer to it as the "N/A" debt class below). Why? Because all service agreements must have a debt class, even those that will never have debt.

Account's Collection Class ➔ SA's Debt Class ↓		
Regulated		
Unregulated		
Charitable Contribution		
Deposit		
Non-Billed Budget		
Write Off		
N/A		

Designing Your Collection Classes

Multiple collection classes are needed when any debt class has different collection rules depending on the type of customer. If all customers within all debt classes are collected the same way, then you'll just have a single collection class (call it ***Generic***). However, if you're like many organizations, you will have multiple collection classes.

Consider unregulated debt. For commercial/industrial customers, you probably don't worry until they owe you more than, say, $100 after 20 days. For residential customers, you probably don't worry until they owe you more than, say, $5 after 20 days. In this situation, you will have at least two collection classes: one for large customers, the other for residential customers.

In our example, we are assuming you have two collection classes: Residential and Commercial/Industrial.

Account's Collection Class ➔ SA's Debt Class ↓	Residential	Commercial/Industrial
Charitable Contribution		
Regulated		
Unregulated		
Write Off		
Company Usage		

Designing Collection Class Controls

At this point we have the rows and columns defined in our matrix. Now it's time to work on the individual cells.

Each cell should have a "collection class control" that defines its collection criteria and what to do if the criteria are violated. If a cell doesn't have a collection class control, this means you don't have any debt associated with that combination of collection class and debt class. So, we'll mark each cell without debt with "N/A".

Account's Collection Class ➔ SA's Debt Class ↓	Residential	Commercial/Industrial
Regulated		N/A
Unregulated		
Charitable Contribution		N/A
Deposit		
Write Off		
N/A		

Next, we'll mark each cell for debt classes whose debt isn't collectable (i.e., the write-off and N/A debt classes).

Account's Collection Class ➔ SA's Debt Class ↓	Residential	Commercial/Industrial
Regulated		N/A
Unregulated		

Charitable Contribution		N/A
Deposit		
Write Off	N/A	N/A
N/A	N/A	N/A

Note. If the Account Debt Monitor encounters debt associated with a non-existent collection class control, it will issue an error.

Determining the collection criteria in each remaining cell can be straightforward or complicated; it depends on how your organization works. Our case study assumes the following:

- For charitable debt, if the customer is more than $0 in arrears by more than 20 days, kick off the "charity reminder" collection process. We'll talk more about this collection process later.
- For regulated / residential debt, if the customer is more than $15 in arrears by more than 20 days, kick off the Normal Regulated collection process. We'll talk more about this collection process later.
- For unregulated / residential debt, if the customer is more than $5 in arrears by more than 20 days, kick off the Normal Unregulated collection process. We'll talk more about this collection process later.
- For unregulated / commercial-industrial debt we have multiple criteria:
  - Highest priority. If the customer is more than $10,000 in arrears by more than 20 days, kick off the Large Overdue Debt collection process. We'll talk more about this collection process later.
  - Lower priority. If the customer is more than $100 in arrears by more than 20 days, kick off the Normal Unregulated collection process. We'll talk more about this collection process later.
- For deposit debt (regardless of collection class) we have multiple criteria:
  - Highest priority. If the customer is more than $5 in arrears by more than 50 days, kick off the Deposit Severely Overdue collection process. We'll talk more about this collection process later.
  - Lower priority. If the customer is more than $15 in arrears by more than 20 days, kick off the Deposit collection process. We'll talk more about this collection process later.

Given the above, our matrix will look as follows:

Account's Collection Class ➔ SA's Debt Class ↓	Residential	Commercial/Industrial
Charitable Contribution	If > $0 is older than 20 days, start Charity Reminder collection process.	N/A
Regulated	If > $15 is older than 20 days, start Normal Regulated collection process.	N/A
Unregulated	If > $5 is older than 20 days, start Normal Unregulated collection process.	Highest priority: If > $10,000 is older than 20 days, start Large Overdue Debt

	Override: If Credit Rating is lower than the installation threshold: If > $5 is older than 15 days, start Risky Unregulated collection process.	collection process. Lower priority: If > $100 is older than 20 days, start Normal Unregulated collection process.
Deposit	Highest priority: If > $5 is older than 50 days, start Deposit Severely Overdue collection process. Lower priority: If > $15 is older than 20 days, start Deposit collection process.	Highest priority: If > $5 is older than 50 days, start Deposit Severely Overdue collection process. Lower priority: If > $15 is older than 20 days, start Deposit collection process.
Write Off	N/A	N/A
N/A	N/A	N/A

Designing Your Collection Class Control Overrides

Warning! Your collection needs may not require any overrides for your collection class control matrix and therefore this section may not be relevant.

The following matrix will help you design your collection class overrides. When the matrix is complete, you're ready to set up the collection class control tables.

Notice that the matrix has two dimensions: one is dependent on collection condition algorithms; the other is dependent on the collection class controls designed in the previous section. Collection condition algorithms are confusing. Think of them as optional conditions that, if met, will subject the collection class control's debt to different collection criteria.

Each cell in the matrix contains the collection criteria that will be applied to the account's debt when the collection condition is met (i.e., the same type of criteria – dollars and days and collection process – are defined in each cell).

We label the first collection condition as the ***Default***. The collection criteria associated with this column will be used to analyze an account's debt when none of the other conditions applies. We'll start by indicating the ***Default*** collection criteria (this was defined in the previous section).

Account's Collection Class ➔ SA's Debt Class ↓	Default	Credit Rating < Threshold
Residential Charitable Contribution	See default collection criteria defined in previous section.	
Residential Regulated	See default collection criteria defined in previous section.	
Residential Unregulated	See default collection criteria defined in previous section.	
Commercial-Industrial Unregulated	See default collection criteria defined in previous section.	
Residential Deposit	See default collection criteria defined in previous section.	
Commercial-Industrial Deposit	See default collection criteria defined in previous section.	

If a different collection process OR criteria should be used when other conditions are met, you should indicate such by defining the collection criteria in the cell. For example, if we assume that all unregulated residential debt has a different collection process when the account's credit score is less than the threshold credit rating on the installation record, our matrix will look as follows:

Account's Collection Class ➔ SA's Debt Class ↓	Default	Credit Rating < Threshold
Residential Charitable Contribution	See default collection criteria defined in previous section.	
Residential Regulated	See default collection criteria defined in previous section.	
Residential Unregulated	See default collection criteria defined in previous section.	Override: If Credit Rating is lower than the installation threshold: If > $5 is older than 15 days, start Risky Unregulated collection process.
Commercial-Industrial Unregulated	See default collection criteria defined in previous section.	
Residential Deposit	See default collection criteria defined in previous section.	
Commercial-Industrial Deposit	See default collection criteria defined in previous section.	

Once the matrix is complete, you're ready to design your collection process and collection event types.

The collection conditions are limited by your imagination (and business requirements). We have provided the collection conditions you see above as an example; we don't expect you'll be able to use the exact conditions we supply. Your conditions will be based on any number of factors. For example, if you have different collection criteria that apply during winter months, you should add a new collection condition (called ***Winter Season***). Or if you have different criteria based on years of service, you could have another condition.

New collection conditions may require programming. See How To Add A New Algorithm for more information.

Designing Collection Process Templates & Collection Event Types

The following table shows the collection process templates referenced in the previous section's matrix. Adjacent to each process are its events and an indication of when they are triggered.

Collection Process Template	Collection Event Template	Triggered X Days From Start Of Collection Process
Charitable Contribution Reminder	Charity courtesy reminder letter	0
	Start severance	15

Collection Process Template	Collection Event Template	Triggered X Days From Start Of Collection Process
Normal Regulated	Regulated courtesy reminder letter	0
	Regulated 2nd notice letter	10
	Start severance	15
Large Overdue Debt	Large debt courtesy reminder letter	0
	To Do for large overdue debt	3
	Large debt 2nd notice letter	10
	Start severance	15
Normal Unregulated	Unregulated courtesy reminder letter	0
	Unregulated 2nd notice letter	5
	Start severance	10
Risky Customer Unregulated	Unregulated risky letter	0
	Start severance	5
Deposit	Deposit reminder	0
Deposit Severely Overdue	Create To Do entry	0

If we extract each unique event type from the above table, we end up with the following:

Collection Event Type	Event Type
Charity courtesy reminder letter	Send Letter – CHARIT REMIN
Start severance	Start Severance Process
Regulated courtesy reminder letter	Send Letter – REGUL REMIN
Regulated 2nd notice letter	Send Letter – REGUL 2nd
Large debt courtesy reminder	Send Letter – LARGE REMIN
Risky debt courtesy reminder	Send Letter – RISKY REMIN
To Do for large overdue debt	Issue To Do
Large debt 2nd notice letter	Send Letter – LARGE 2nd
Unregulated courtesy reminder letter	Send Letter – UNREG REMIN
Unregulated 2nd notice letter	Send Letter – UNREG 2nd
Deposit reminder	Send Letter – DEPOS REMIN
To Do for deposit severely overdue	Issue To Do

Now you're (almost) ready to set up your collection procedures.

Defining Cancellation Process Auto Cancellation Criteria

The topics in the section How Are Collection Processes Cancelled describe the two algorithms that play a part in the cancellation of a collection process. It also describes when to use what type of algorithm. Please read this section and then set up the appropriate cancellation criteria on your Debt Classes, and optionally, on your Collection Process Templates.

Setting Up Collection Procedures

In the previous section, Designing Your Collection Procedures, we presented a case study that illustrated a mythical organization's collection procedures. In this section, we'll explain how to set up the control tables to implement these procedures:

Contents

Setting Up Collection Event Types

Collection event types control what is done by a given collection event. Open **Admin Menu, Collection Event Type** to define your collection event types.

Description of Page

Enter a unique **Collection Event Type** and **Description** for the collection event type.

Enter the **Collection Event Type**. Permissible values are: ***Affect Credit Rating/Cash-Only***, ***Cancel Budget***, ***Generic Algorithm***, ***Send Letter***, ***Create To Do Entry***, ***Start Severance Process***. The following discussion describes the parameters that must be defined for each type of collection event.

The ***Affect Credit Rating/Cash-Only*** collection event type causes a credit rating demerit record to be linked to the account. This record is constructed using the following **Parameters**:

- Use **Credit Rating Points** to define this event's affect on the account's credit rating. This should be a negative number. An account's credit rating is equal to the start credit rating amount defined on the installation record plus the sum of credit rating demerits that are currently in effect. When an account's credit rating is less than the credit rating threshold defined on the installation record, the account's credit rating is displayed as an alert on Control Central.

- Use **Cash-Only Points** to define this event's affect on the account's cash-only score. This should be a positive number. When an account's cash-only score exceeds the cash-only threshold score defined on the installation record, the account is flagged as cash-only during payment processing and on Control Central.

- Use **Credit Rating Months** to define the length of time the demerit remains in effect. This information is used to define the effective period of the credit rating demerit record.

For more information, refer to Account – Credit Rating.

The ***Send Letter*** collection event type causes a customer contact to be generated that, in turn, generates a letter. Enter the following **Parameters** for this type of event:

- Select the **Contact Class** used to categorize the customer contact.

- Use **Contact Type** to define the type of customer contact to create. The type of customer contact controls the type of letter that is generated.

Letter creation is triggered via a customer contact. You must set up a customer contact type for each type of letter you generate. You specify the necessary customer contact type on the collection event. Refer to Setting Up Letter Templates for more information.

The ***Cancel Budget*** collection event type cancel an account's budget plan (if the account is on such a plan). When a budget plan is cancelled, adjustments are issued to synchronize every service agreement's current balance with its payoff balance and each applicable SA's recurring charge amount (i.e., budget amount) is set to zero.

The ***Generic Algorithm*** collection event type causes the algorithm defined in the **Collection Event Alg** to be executed. You use this type of algorithm when the standard types of collection events won't do what you need done. If you haven't done so already, you must set up this algorithm in the system. To do this:

- Create a new algorithm (refer to Setting Up Algorithms).
- On this algorithm, reference an Algorithm Type that determines the algorithm that will be called when events of this type of activated. Click here to see the algorithm types available for this plug-in spot.

The ***Create To Do Entry*** collection event type causes a To Do entry to be issued. A good example of where this is used is when the collection event requires that the customer be called on the phone. Refer to The Big Picture of To Do Entries for more information about To Do entries (refer to the To Do type ***TD-CEVT*** for the type of To Do entry that's created).

The ***Start Severance Process*** type will start a severance process for every service agreement linked to the collection process. No parameters are needed for this type of event.

Enter a **Long Description** to fully describe the collection event type.

Where Used
Follow this link to open the data dictionary where you can view the tables that reference CI_COLL_EVT_TYP.

Setting Up Collection Process Templates

Collection process templates define the collection events that will be executed when a collection criteria rule is violated. Open **Admin Menu, Collection Process Template** to define your collection process templates.

Description of Page

Enter a unique **Collection Process Template** and **Description** for the collection process template.

Select a **Cancel Criteria Algorithm** if your organization allows individual service agreements to be “removed” from a collection process regardless of the debt associated with all service agreements in the debt class. In other words, if your cancel criteria are based on the debt associated with ALL service agreements in a debt class DO NOT SPECIFY THIS ALGORITHM. If this algorithm is specified, it is executed by the collection process monitor when it detects that a credit has been applied to a service agreement linked to an active collection process. This algorithm will indicate if the specific service agreement that has been credited no longer has debt that warrants a collection process. Refer to How Are Collection Processes Cancelled for more information. If you haven’t done so already, you must set up this algorithm in the system. To do this, create a new algorithm (refer to Setting Up Algorithms). On this algorithm, reference an Algorithm Type that “removes” a service agreement from a collection processes if the service agreement’s debt so warrants. Click here to see the algorithm types available for this system event.

The **Response** grid contains an entry for every collection event that will be created when a collection process that references this template is created. The following information must be defined for each event:

Event Sequence

Sequence controls the order in which the collection event types appear under the collection process template. The sequence number is system-assigned and cannot be changed. If you have to insert a collection event type between two existing templates, you’ll have to remove the latter events, insert the new event, and then re-specify the removed events.

Collection Event Type

Specify the type of collection event to be generated.

Days After Process Creation

Specify the number of days after the creation of the collection process that the related collection event will be triggered. Refer to Calendar vs Work Days for a description of how this system uses this information to set the trigger date on the respective collection events.

For more information about collection event types, see Setting Up Collection Event Types. For more information about trigger dates, see Collection Event Trigger Date.

Where Used

Follow this link to open the data dictionary where you can view the tables that reference CI_COLL_PROC_TM.

Setting Up Collection Classes

Every account has a collection class. This class is one of several fields that control the collection method applied to the account’s debt. Open **Admin Menu, Collection Class** to define your collection classes.

For more information about collection classes, see Designing Your Collection Classes.

Description of Page

Enter a unique **Collection Class** code and **Description** for each collection class.

Indicate which method is used to monitor the member accounts' unpaid debt:

- If you practice balance-forward accounting for accounts belonging to this collection class, select ***Collection, Severance & Write-Off***. This method of collection is described throughout this chapter.
- If you practice open-item accounting for accounts belonging to this collection class, select ***Overdue***. This method of collection is described under Defining Overdue Processing Options.
- If accounts belonging to this collection class are not subject to either of the above collection methods, select ***Not Eligible For Collection***. Please be aware that these accounts will NOT be reviewed for overdue debt.

Where Used

Follow this link to open the data dictionary where you can view the tables that reference CI_COLL_CL.

Setting Up Debt Classes

Every SA type has a debt class. This class is one of several fields that control the collection criteria applied to the service agreement's debt. Open **Admin Menu, Debt Class** to define your debt classes.

For more information about debt classes, see Designing Your Debt Classes.

Description of Page

Enter a unique **Debt Class** and **Description** for the debt class.

Turn on **Eligible for Collection** if service agreements belonging to this debt class have their debt monitored by the collection process. This should only be turned off if this debt cannot be collected, e.g., write-off debt.

The grid that follows contains **Algorithms** that control important functions in the system. You must define the following for each algorithm:

- Specify the **System Event** with which the algorithm is associated (see the table that follows for a description of all possible events).
- Specify the **Sequence** and **Algorithm** for each system event. You can set the **Sequence** to an arbitrary number as only one algorithm for each system event is allowed in this case.

Warning! These algorithms are typically significant system processes. The absence of an algorithm may prevent the system from operating correctly.

You can define algorithms for the following **System Events**:

System Event	Optional / Required	Description
Collection Process Cancellation Rule	Required if debt class is eligible for collection	This algorithm determines if a collection process can be canceled, and if so, it cancels it. Refer to How Are Collection Processes Cancelled for more information. Click here to see the algorithm types available for this system event.
Severance Process Cancellation Rule	Required if debt class is eligible for collection	This algorithm determines if a severance process can be canceled, and if so, it cancels it. Refer to How Are Severance Processes Cancelled for more information. Click here to see the algorithm types available for this system event.
Override Arrears Due To Pay Plan	Required if you use Pay Plans	This algorithm is called to temporarily override a customer's arrears using a pay plan's scheduled payments when the system looks at an account's debt from a credit & collections perspective (i.e., the ADM calls this algorithm before it subjects a customer's debt to the collection criteria and when a pay plan is created). It does not actually change any data, but overlays the current arrears with the pay plan scheduled payments. This algorithm is also called by the above algorithms when a pay plan is created in order to evaluate if the scheduled payments actually cover the arrears (if so, the collection / severance processes are cancelled). It is also called periodically by the ADM in order to establish if the current state of the pay plan still covers the arrears. Refer to How Pay Plans Affect The ADM. Click here to see the algorithm types available for this system event.

Where Used

Follow this link to open the data dictionary where you can view the tables that reference CI_DEBT_CL.

Setting Up Collection Class Controls

The topics in this section describe the windows on which you set up your collection class control information.

Warning! The information in this page is what controls how the system analyzes your customer's debt. The flexibility of this control information provides you with almost unlimited options. This is very powerful, but it requires careful analysis. Refer to Designing Your Collection Procedures **for more information**.

Contents

Collection Class Control - Main Information

The information on this transaction defines the conditions that will be checked by the Account Debt Monitor when it checks if an account has violated your debt criteria.

Open **Admin Menu, Collection Class Control** to define this information.

For more information about collection class control, refer to Designing Collection Class Controls.

Description of Page

Enter a unique **Collection Class Control** code and **Description** for the collection class control (CCC).

Enter the **CIS Division** to which the CCC's criteria applies.

Enter the **Collection Class** to which the CCC's criteria applies.

Enter the **Debt Class** to which the CCC's criteria applies.

Enter the **Currency Code** in which the CCC's criteria are denominated.

Use **Long Description** to further describe the CCC.

The information in the following grid is not intuitively obvious. Refer to Designing Collection Class Controls and Designing Your Collection Class Control Overrides for more information.

The grid which follows contains the conditions that are checked by the Account Debt Monitor (ADM) to determine the type of criteria (defined on the next tab) that will be applied against an account's debt. In other words – the ADM will check each condition (from highest to lowest **Priority**). The first condition that returns a value of true will cause the system to compare the account's debt against the debt criteria defined on the next tab.

Multiple conditions may be defined if different conditions result in a different type of debt thresholds (or a different type of collection process). The following fields are required for each condition:

Collection Condition Priority The priority controls the order in which the ADM checks if a collection condition applies (the lower the number, the higher the priority). Higher priorities are checked before lower priorities.

Note. The values for this field are customizable using the Lookup table. This field name is COLL_CAT_PRIO_FLG.

Condition Algorithm Define the algorithm used to check if an account should be subject to the collection criteria defined on the next tab. If the algorithm returns a value of true (i.e., the condition is met), the ADM will compare the account's debt against the **Debt Criteria** (defined on the next tab) and start a collection process if the account has debt that violates these criteria.

You must have at least one collection condition; otherwise the system will not have criteria against which to compare the account's debt. This entry should have the lowest priority code and reference the "default" algorithm. If you haven't done so already, you must set up this algorithm in the system. To do this, create a new algorithm (refer to Setting Up Algorithms). On this algorithm, reference an Algorithm Type that references the "default" collection condition algorithm type (COLL COND DF).

If you have other conditions that should be checked before the default condition, you must create an entry for each in this grid. Each entry should have a priority consistent with your business requirements (and this priority should be higher than the default condition's priority). In addition, you should reference an algorithm that contains the conditions that will be checked to determine if the account should be subject to the debt criteria (defined on the next tab). The system is supplied with many additional algorithm types. In order to take advantage of them, you will need to create an algorithm (refer to Setting Up Algorithms). On this algorithm, reference an Algorithm Type that references one of the collection condition algorithm types. Click here to see the algorithm types available for this system event.

Where Used

Collection class controls contain the data that controls the Account Debt Monitor. Refer to How Does The Account Debt Monitor Work? for more information.

Collection Class Control - Debt Criteria

The information on this page defines the debt and age thresholds used by the Account Debt Monitor when it checks if an account has violated your acceptable levels of debt. Open **Admin Menu, Collection Class Control** and use the **Debt Criteria** tab to define this information.

The information on this page is not intuitively obvious. Refer to Designing Collection Class Controls and Designing Your Collection Class Control Overrides for more information.

Description of Page

The **Debt Criteria** scroll contains an entry for each collection criteria algorithm defined on the **Main** tab. The following information appears

The **Collection Condition Priority** controls the order in which the Account Debt Monitor (ADM) checks if a collection condition applies. Higher priorities are checked before lower priorities.

The **Condition Algorithm** is called by the ADM to determine which collection criteria should be applied to the account's debt. If this algorithm returns a value of true (i.e., the condition is met), the ADM will compare the account's debt against the **Debt Criteria** defined below. If the account violates any criteria, a collection process will be started (using the respective **Collection Process Template**).

The grid that follows contains the debt age and amount of debt that must be violated by the account in order for the ADM to create a collection process template. The following fields should be defined:

Arrears Priority Priority controls the order in which the arrears criteria will be checked by the Account Debt Monitor (the lower the number, the higher the priority). The first criteria, if any, that is met will cause a collection process to be created (using the **Collection Process Template**).

Note. The values for this field are customizable using the Lookup table. This field name is CRIT_PRIO_FLG. Be aware that this field is used for multiple tables: Collection Class Control, Severance Criteria, Write Off Control and Workflow Process Profiles.

Collection Process Template If the Account Debt Monitor determines that the account's debt violates the corresponding criteria, it creates a collection process using the specified collection process template.

Arrears Amount When the Account Debt Monitor checks an account's debt, it determines if the account has debt older than "> Number of Days" (the next field) AND the debt exceeds "> Arrears Amount". If so, a collection process is started.

Days When the Account Debt Monitor checks an account's debt, it determines if the account has debt older than **Days** AND the debt exceeds **Arrears Amount**. If so, a collection process is started.

Where Used
Collection class controls contains the data that controls the Account Debt Monitor.

Designing Your Severance Procedures

The following matrix will help you design your severance procedures. When the matrix is complete, you're ready to set up the severance process control tables.

Notice that the matrix has two dimensions: one is dependent on severance criteria algorithms; the other is dependent on the SA type of the service agreement being severed. The number and type of SA types is dependent on how your organization sets up the SA type table (the SA types shown below are characteristic of those used by a simple utility).

Severance Criteria Algorithm ➔	Default	Customer On Life Support

SA Type ↓		
Electric Residential		
Electric Commercial		
Gas Residential		
Gas Commercial		
Charitable Contribution		

Once you know the values of each dimension, you fill in each cell with its respective severance events. We've completed the sample matrix with some characteristic events.

Severance Criteria Algorithm ➔ SA Type ↓	Default	Customer On Life Support
Electric Residential	Create a 48-hour warning field activity. 2 days after completion, create a disconnect service field activity. Immediately after completion of the disconnect field activity, send a letter to the customer. 10 days after completion of disconnection, expire the service agreement.	Create a To Do entry asking a collection rep to call the customer. 5 days later, create a 72-hour warning field activity. 2 days after completion, create a To Do entry telling collection rep of impending life support cutoff. 3 days after completion of warning, create a disconnect service field activity AND generate a To Do entry informing a collection agent of such. Immediately after completion of the disconnect field activity, send a letter to the customer. 10 days after completion of disconnection expire the service agreement.
Electric Commercial	Create a 48-hour warning field activity. 2 days after completion, create a disconnect service field activity. Immediately after completion of the disconnect field activity, send a letter to the customer. 10 days after completion of disconnection, expire the service agreement.	N/A
Gas Residential	Create a 48-hour warning field activity. 2 days after completion, create a disconnect service field activity. Immediately after completion of the disconnect field activity, send a letter to	Create a 48-hour warning field activity. 2 days after completion, create a disconnect service field activity. Immediately after completion of the disconnect field activity, send a letter to

	the customer. 10 days after completion of disconnection, expire the service agreement.	the customer. 10 days after completion of disconnection, expire the service agreement.
Gas Commercial	Create a 48-hour warning field activity. 2 days after completion, create a disconnect service field activity. Immediately after completion of the disconnect field activity, send a letter to the customer. 10 days after completion of disconnection, expire the service agreement.	N/A
Charitable Contribution	Expire service agreement	Expire service agreement

Once the matrix is complete, you determine the severance process templates needed to implement your severance procedures. The following table shows the severance process templates referenced in the previous section's matrix. Adjacent to each process are its events and an indication of when they are triggered.

Severance Process Template	Event Number	Severance Event Template	Dependent On Event(s)	Trigger Date Set To X Days After Completion Of Dependent Events
Utility severance - default	10	Field activity - 48 hour disconnect for non-payment warning	N/A – first event	0
	20	Field activity – disconnect for non-payment	10	2
	30	'Service has been disconnected' letter	20	0
	40	Expire service agreement	20	10
Electric life support residential severance	10	Generate delinquent life support customer To Do entry	N/A – first event	0
	20	Field activity - 72 hour disconnect for non-payment warning	10	5
	30	Generate impending life support cutoff To Do entry to C&C rep	20	2
	40	Field activity – cut for non-payment	20	3
	50	Service has been disconnected letter	40	0
	60	Expire service agreement	40	10
Just expire severance	10	Expire service agreement	N/A – first event	

If we extract each unique severance event type from the above table, we end up with the following:

Severance Event	Event

Template	Type
48-hour warning	*Generate Field Activity – Disconnect Warning*
72-hour warning	*Generate Field Activity – Disconnect Warning*
Disconnect for non payment	*Generate Field Activity – Cut For Non-Payment*
Delinquent life support customer	*Create To Do Entry – C&C Rep Role*
Impending life support cutoff	*Create To Do Entry – C&C Rep Role*
Service has been disconnected letter	*Send Letter – Customer Contact Type is Disconnect Letter*
Expire service agreement	*Expire Service Agreement*

Warning! The field activity types are NOT specified directly on the severance event type. Why? Because each service point linked to the service agreement being severed could necessitate a different type of field activity. Therefore, the system uses the type of service point, its state (e.g., connected, meter is off.) and the desired customer event (e.g., Disconnect Warning, Cut For Non-Payment) to determine which field activity type(s) to generate. Refer to Setting Up Field Activity Type Profiles for how to set up the specific disconnect field activity types for your various types of service points.

Now you're (almost) ready to set up your severance procedures.

Defining Severance Process Auto Cancellation Criteria

The topics in the section How Are Severance Processes Cancelled describe the two algorithms that play a part in the cancellation of a collection process. It also describes when to use what type of algorithm. Please read this section and then set up the appropriate cancellation criteria on your Debt Classes, and optionally, on your Severance Process Templates.

Designing Your Reconnection Procedures

If a customer pays for a service agreement after the service has been cut for non-payment AND BEFORE THE SA HAS BEEN EXPIRED, they need to be reconnected. Counter-intuitively, you must set up a severance process to initiate the field activities to reconnect service.

Why do you use a severance process to reconnect service? Because a severance process is nothing more than a series of events that take place one after another. Some of the events create field activities, others send letters, others create To Do entries. So, why not use a severance process? You just have to send different letters and perform different field activities.

Warning! The system will automatically create a reconnection process if a severance process is cancelled as a result of a payment (or other credits). Please note that this will only happen if you plug-in the appropriate post cancellation algorithm on your severance process templates. Refer to What Happens When A Severance Process Is Cancelled? **for more information**.

While you don't define the reconnect procedures for an SA type, we recommend you think about the reconnection steps for each of your SA types that can be disconnected for nonpayment. We've completed the sample matrix with some characteristic events.

SA Type	Steps
Electric Residential	Create a reconnect service field activity.

	Immediately after completion of the reconnect, send a letter to the customer.
Electric Commercial	Create a reconnect service field activity. Immediately after completion of the reconnect, send a letter to the customer.
Gas Residential	Create a reconnect service field activity. Immediately after completion of the reconnect, send a letter to the customer.
Gas Commercial	Create a reconnect service field activity. Immediately after completion of the reconnect, send a letter to the customer.

Once the matrix is complete, you determine the severance process templates needed to implement your reconnection procedures. Notice each SA type has the same reconnection steps. This means you just need one severance process. The following table shows this severance process template and its events.

Severance Process Template	Event Number	Severance Event Template	Dependent On Event(s)	Trigger Date Set To X Days After Completion Of Dependent Events
Reconnect	10	Field activity – reconnect service	N/A – first event	0
	20	Service has been reconnected letter	10	0

If we extract each unique severance event type from the above table, we end up with the following:

Severance Event Template	Event Type
Reconnect	*Generate Field Activity – Reconnect*
Service has been reconnected letter	*Send Letter*

Warning! The field activity types are NOT specified directly on the severance event type. Why? Because each service point linked to the service agreement being severed could necessitate a different type of field activity. Therefore, the system uses the type of service point, its state (e.g., connected, meter is off.) and the desired customer event (e.g., Disconnect Warning, Cut For Non-Payment) to determine which field activity type(s) to generate. Refer to Setting Up Field Activity Type Profiles for how to set up the specific disconnect field activity types for your various types of service points.

Important! If you want the system to automatically create a reconnection process if a customers pays after they have been cut, you must specify the appropriate post cancellation algorithm on your severance process templates.

And now you're ready to set up your severance (and reconnection) procedures.

Setting Up Severance Procedures

In the previous section, Designing Your Severance Procedures, we presented a case study that illustrated a mythical organization's severance procedures. In this section, we'll explain how to set up the control tables to implement these procedures:

Contents

Setting Up Severance Event Types

Severance event types control what is done by a given severance event. Open **Admin Menu, Severance Event Type** to define your severance event types.

For more information refer to Designing Your Severance Procedures.

Description of Page

Enter a unique **Severance Event Type** code and **Description** for the severance event type.

Enter the Severance **Event Type**. Permissible values are: ***Affect Credit Rating/Cash-Only***, ***Send Letter***, ***Generic Algorithm***, ***Create To Do Entry***, ***Create Field Activities***, ***Expire Service Agreement***. The following discussion describes the parameters that must be defined for each type of severance event.

The ***Affect Credit Rating/Cash-Only*** collection event type causes a credit rating demerit record to be linked to the account. This record is constructed using the following **Parameters**:

- Use **Credit Rating Points** to define this event's affect on the account's credit rating. This should be a negative number. A customer's credit rating is equal to the start credit rating amount defined on the installation record plus the sum of credit rating demerits that are currently in effect. When an account's credit rating is less than the credit rating threshold defined on the installation record, the account's credit rating is displayed as an alert on Control Central.
- Use **Cash-Only Points** to define this event's affect on the account's cash-only score. This should be a positive number. When an account's cash-only score exceeds the cash-only threshold score defined on the installation record, the account is flagged as cash-only during payment processing and on Control Central.
- Use **Credit Rating Months** to define the length of time the demerit remains in affect. This information is used to define the effective period of the credit rating demerit record.

The ***Send Letter*** severance event type causes a customer contact to be generated that, in turn, generates a letter. Enter the following **Parameters** for this type of event:

- Select the **Contact Class** used to categorize the customer contact.
- Use **Contact Type** to define the type of customer contact to create. The type of customer contact controls the type of letter that is generated.

The ***Generic Algorithm*** severance event type causes the algorithm defined in the **Sev. Event Algorithm** to be executed. You use this type of algorithm when the standard types of severance events won't do what you need done.

The ***Create To Do Entry*** severance event type causes a To Do entry to be created. Refer to The Big Picture of To Do Entries for more information about To Do entries (refer to the To Do type ***TD-SEVT*** for the type of To Do entry that's created).

The ***Generate Field Activities*** severance event type causes one or more field activities to be generated. Enter the following **Parameters** for this type of event:

- Select the **Customer Event** associated with the field activity. Valid values are: ***Cut For Non-Payment (CNP)***, ***Disconnect Warning (Disc Warn)***, ***Reconnect for Payment (Recon)***, ***Start Service (Start)***, ***Start/Stop Service (Start/Stop)***, ***Stop Service (Stop)***, ***Reread (Reread)***.
- The system uses the **Customer Event** to select the appropriate field activity type(s) from the field activity type profile associated with the service points linked to the service agreement.

Warning! The field activity types are NOT specified directly on the severance event type. Why? Because each service point linked to the service agreement being severed could necessitate a different type of field activity. Therefore, the system uses the type of service point, its state (e.g., connected, meter off) and the desired customer event (e.g., Disconnect Warning, Cut For Non-Payment) to determine which field activity type(s) to generate. Refer to Setting Up Field Activity Type Profiles for how to set up the specific disconnect field activity types for your various types of service points.

The ***Expire Service Agreement*** severance event type causes the service agreement to be moved to the ***pending stop*** state (it also populates the service agreement's stop date). Refer to Finalizing Pending Stops for how the system will eventually ***stop*** the service agreement (and then final bill it). There are no parameters for this type of event.

Cut for non-payment field activities are special. The ***Expire Service Agreement*** severance event type also makes any "cut for non-payment" field activities created by earlier severance events available to stop service. Specifically, it changes the linkage type of the field activities from ***Severance Activity*** to ***Stop Activity***. You can see a service agreement's service points' field activities and their respective linkage type on Service Agreement - Service Point.

Enter a **Long Description** to fully describe the severance event type.

Where Used

Follow this link to open the data dictionary where you can view the tables that reference CI_SEV_EVT_TYPE.

Setting Up Severance Process Templates

Severance process templates define the severance events that will be executed when a service agreement is severed. Open **Admin Menu, Severance Process Template** to define your severance process templates.

Description of Page

Enter a unique **Severance Process Template** and **Description** for the severance process template.

If severance processes of this type should be automatically canceled when the customer pays the collection amount on the severance, turn on **Auto Cancel**. This switch would typically only be turned off for severance processes used to reconnect a cut service because you don't want such a reconnection process to be canceled when a payment is made. Refer to Designing Your Reconnection Procedures for more information.

In addition to turning on the **Auto Cancel** switch, specify a **Cancel Criteria Algorithm** if your organization allows a severance process to be cancelled regardless of the debt associated with all service agreements in the debt class. In other words, if your cancel criteria are based on the debt associated with ALL service agreements in a debt class DO NOT SPECIFY THIS ALGORITHM.

If the **Cancel Criteria Algorithm** is specified, it is executed when a credit is posted to the service agreement associated with a severance process. This algorithm will indicate if the service agreement no longer has debt that warrants a severance process. Refer to How Are Severance Processes Cancelled for more information. If you haven't done so already, you must set up this algorithm in the system. To do this, create a new algorithm (refer to Setting Up Algorithms). On this algorithm, reference an Algorithm Type that cancels a severance process if the service agreement's debt so warrants. Click here to see the algorithm types available for this plug-in spot.

If you wish to perform any special processes after a severance process is canceled, specify a **Post Cancel Algorithm**. This can be used to start a reconnection in case the severance process was canceled too late to stop the disconnection. If you haven't done so already, you must set up this algorithm in the system. To do this, create a new algorithm (refer to Setting Up Algorithms). On this algorithm, reference an Algorithm Type that cancels a severance process if the service agreement's debt so warrants. Click here to see the algorithm types available for this plug-in spot.

When a service agreement is to be severed due to non-payment, the system creates a severance process and links to it one or more severance events based on the **Event Types** entered here. The information in the scroll defines these events and the date on which they will be triggered. The following fields are required for each event:

Event Sequence

Sequence controls the order in which the severance event types appear under the severance process template. The sequence number is system-assigned and cannot be changed. If you have to insert a severance event type between two existing templates, you'll have to remove the latter events, insert the new event, and then re-specify the removed events.

Severance Event Type

Specify the type of severance event to be generated.

Dependent On Other Events

Turn this indicator on if the trigger date of the event can only be determined after earlier events are complete. For example, you would turn this switch on for the event that initiates the field activity to disconnect service. Why? Because you only want to disconnect service after the preceding event that warned the client of impending disconnection is complete.

Days After Prev Response

Specify the number of days after the completion / cancellation of the dependent events on which the severance event will be triggered. If this event is not dependent on the completion of other events, this field contains the number of days after the creation of the severance process that the related severance event will be triggered. Refer to Severance Event Dependencies and Trigger Date and Calendar vs Work Days for a description of how the system uses this information to set the trigger date on the respective severance events.

When the **Dependent On Other Events** switch is on, use the grid to define the events on which this event is dependent. If multiple events are specified in the grid, all such events must be completed or cancelled before the event will be triggered.

Sequence

Sequence is system-assigned and cannot be specified or changed.

Dependent On Sequence

Specify the sequence number of the severance event on which the above severance event depends.

For more information about severance event types, see Setting Up Severance Event Types. For more information about trigger dates, see Severance Event Dependencies & Trigger Date.

Where Used

Follow this link to open the data dictionary where you can view the tables that reference CI_SEV_PROC_TMP.

Designing Your Write-Off Procedures

The design of your write-off procedures is relatively straightforward. Simply follow the instructions in the following topics.

Contents

Designing Your Write-Off Debt Classes

Multiple write-off debt classes are needed when you have different write-off procedures for different types of service agreements. If all service agreement debt is written-off the same way, then you'll have just one write-off debt class (call it ***Generic***). However, if you're like many organizations, you will have multiple write-off debt classes. The following points will help you understand why:

- If you bill for 3rd parties, you probably have different write-off debt classes for the 3rd party service agreements. Why? Because you probably treat 3rd party uncollectable debt differently from your own debt.

- You will need a separate write-off debt class for service agreements whose debt cannot be written off. Why? Because there is a switch on the write-off debt class control table that controls if service agreements in the write-off debt class are eligible for write-off processing. Given that you will have some service agreements that hold debt that aren't eligible for write-off processing (e.g., service agreements that hold written-off debt and service agreements that overpayments), you will need at least one other write-off debt class.
- If you use the system to calculate charges for your organization's company usage, you'll need another write-off debt class (we refer to it as the "N/A" write-off debt class below). Why? Because all service agreements must have a write-off debt class, even those that will never have debt.

Account's Collection Class SA's Write-Off Debt Class		
Normal W/O		
N/A		

Designing Write-Off Controls

Set up a matrix using the collection classes you designed when you were designing your collection procedures (Designing Your Collection Procedures).

Account's Collection Class SA's Write-Off Debt Class	Residential	Commercial/Industrial
Normal Write Off		
N/A		

Each cell should have a "write-off control" that defines what to do when the system detects finaled debt that hasn't been paid. This is true even of the "N/A" write-off debt class. Why? Because you may want the system to write-down these stopped SA's when they have a small balance. For example, if you have a write-off service agreement that subsequently receives a partial payment that leaves a small amount owing, you probably want the system to generate a write-down adjustment (so that the write-off service agreement will close). We'll initially fill in the matrix for the "N/A' write-off debt class.

Account's Collection Class SA's Write-Off Debt Class	Residential	Commercial/Industrial
Normal Write Off		
N/A	Attempt to reduce the SA's balance to zero using the following methods: Synchronize current balance with payoff balance. If the debt is < $10 and > $-1, write down the debt using a write-down adjustment.	Attempt to reduce the SA's balance to zero using the following methods: Synchronize current balance with payoff balance. If the debt is < $10 and > $-1, write down the debt using a write-down adjustment.

Note. If the Write Off Monitor encounters debt associated with a non-defined collection class and write-off debt class, it will issue an error.

For each cell that isn't designated as N/A, you need to answer the following questions:

- Are you allowed to transfer debt to other non-closed service agreements linked to the account? If so, you need to define the algorithm used to do such. Refer to Setting Up Write-off Control for more information about this algorithm.
- Are you allowed to write-down small amounts of debt (or small credits)? If so, you need to define the algorithm used to do such. Refer to Setting Up Write-off Control for more information about this algorithm.
- Should you refund credit balances with a check? If so, you need to define the algorithm to do such. Refer to Setting Up Write-off Control for more information about this algorithm.
- If debt remains after doing the above, how do you write it off (e.g., do you first refer the debt to a collection agency and only write it off after waiting 30 days)?

We'll fill in the above matrix with our assumptions:

Account's Collection Class SA's Write-Off Debt Class	Residential	Commercial/Industrial
Normal Write-Off	Attempt to reduce the SA's balance to zero using the following methods: Attempt to transfer debt to another active service agreement linked to the account. If the debt is < $10 and > $-1, write down the debt using a write-down adjustment. If the debt is <= $-1, create an A/P adjustment to refund the credit to the customer. If debt remains: Highest priority: If customer has a non-cash deposit, create the non-cash deposit write-off process. Otherwise, create the default write-off process for residential debt.	Attempt to reduce the SA's balance to zero using the following methods: Attempt to transfer debt to another active service agreement linked to the account. If the debt / credit is < $10 and > $-10, write down the debt using a write-down adjustment. If the debt / credit is <= $-10, create an A/P adjustment to refund the credit to the customer. If debt remains: Highest priority: If customer has a non-cash deposit, create the non-cash deposit write-off process. Otherwise, create the default write-off process for commercial debt.
N/A	Attempt to reduce the SA's balance to zero using the following methods: Synchronize current balance with payoff balance. If the debt is < $10 and > $-1, write down the debt using a write-down adjustment. Because this debt class isn't eligible for further write-off processing, criteria used to	Attempt to reduce the SA's balance to zero using the following methods: Synchronize current balance with payoff balance. If the debt is < $10 and > $-1, write down the debt using a write-down adjustment. Because this debt class isn't eligible for further write-off processing, criteria used

	process debt are not necessary.	to process debt are not necessary.

We can now use the information in the above matrix to design the necessary Write Off Process Templates and Write Off Event Types.

Designing Write Off Process Templates & Write Off Event Types

The following table shows the write-off process templates referenced in the previous section's matrix. Adjacent to each process are its events and an indication of when they are triggered.

Write Off Process Template	Write Off Event Type	Triggered X Days From Start Of Write Off Process
Residential	Refer to collection agency	0
	Letter notifying customer of referral	0
	Cancel collection agency referral	60
	Write off	60
Non-Cash Deposit Exists	To Do for non-cash deposit redemption	0
	To Do to highlight unpaid SA(s) still exist (and they will be reconsidered for write-off processing)	10
Commercial	Refer to collection agency	0
	Letter notifying customer of referral	0
	To Do to check up on collection agency's efforts	30
	Cancel collection agency referral	60
	Write off	60

If we extract each unique event type from the above table, we end up with the following:

Write Off Event Type	Event Type
Notification of write-off referral	Send letter – Debt referred to a collection agency
Refer to collection agency	Refer to collection agency
Cancel collection agency referral	Cancel collection agency referral
Write off	Write off
To Do for non-cash deposit redemption	Generate To Do – Redeem non-cash deposit
To Do to highlight unpaid SA(s) still exist	Generate To Do – SA(s) linked to a non-cash deposit remain unpaid (and will be reconsidered for write-off processing)
To Do to check up on collection agency's efforts	Generate To Do – Check up on collection agency's efforts

And now you're ready to set up your write-off procedures.

Setting Up Write-Off Procedures

In the previous section, Designing Your Write-Off Procedures, we presented a case study that illustrated a mythical organization's write off procedures. In this section, we'll explain how to set up the control tables to implement these procedures:

Contents

Setting Up Write Off Debt Classes

Every SA type has a write-off debt class. This class is one of several fields that control the write off criteria applied to the service agreement's debt. Select **Admin Menu**, **Write Off Debt Class** to define your debt classes.

For more information about debt classes, see Designing Your Write-Off Debt Classes.

Panel controls

To modify a write-off debt class, simply move to a field and change its value. To add a new write-off debt class, click + to insert a row, then fill in the information for each field. The following fields display:

Write Off Debt Class Code The unique identifier of the write off debt class.

Eligible for Write Off Indicates if service agreements belonging to this write off debt class are eligible for write-off processing. This should only be turned off if this debt cannot be written off, e.g., write off debt.

Description The description of the write off debt class.

Where Used

Follow this link to open the data dictionary where you can view the tables that reference CI_WO_DEBT_CL.

Setting Up Write Off Event Types

Write-off event types control what is done by a given write-off event. Select **Admin Menu, Write Off Event Type** to define your write-off event types.

Description of Page

Enter a unique **Write Off Event Type Code** and **Description** for the write-off event type.

Enter the **Write Off Event Type**. Permissible values are: ***Affect Credit Rating/Cash-Only***, ***Cancel Agency Referral***, ***Generic Algorithm***, ***Refer to Agency***, ***Send Letter***, ***Create To Do Entry***, ***Write Off using Distrib Code***, ***Write Off using SA Type***. The following discussion describes the parameters that must be defined for each type of write-off event.

The ***Affect Credit Rating/Cash-Only*** write-off event type causes a credit rating demerit record to be linked to the account. This record is constructed using the following **Parameters**:

- Use **Affect Credit Rating By** to define this event's affect on the account's credit rating. This should be a negative number. An account's credit rating is equal to the start credit rating amount defined on the installation record plus the sum of credit rating demerits that are currently in effect. When an account's credit rating is less than the credit rating threshold defined on the installation record, the account's credit rating is displayed as an alert on Control Central.
- Use **Affect Cash-Only Score By** to define this event's affect on the account's cash-only score. This should be a positive number. When an account's cash-only score exceeds the cash-only threshold score defined on the installation record, the account is flagged as cash-only during payment processing and on Control Central.
- Use **Months Affecting Credit Rating** to define the length of time the demerit remains in affect. This information is used to define the effective period of the credit rating demerit record.

For more information, refer to Account – Credit Rating.

The ***Cancel Agency Referral*** event type will cancel previous collection agency referrals. No parameters are needed for this type of event.

The ***Generic Algorithm*** write-off event type causes the algorithm defined in the **Generic Algorithm** to be executed. You use this type of algorithm when the standard types of write off events won't do what you need done. If you haven't done so already, you must set up this algorithm in the system. To do this:

- Create a new algorithm (refer to Setting Up Algorithms).
- On this algorithm, reference an Algorithm Type that determines the algorithm that will be called when events of this type are activated. Click here to see the algorithm types available for this plug-in spot.

The ***Refer to Agency*** event type will refer the debt associated with the process' SA's to a collection agency. You must supply the **Agency Selection Algorithm** that is used to determine the collection agency associated with the referral. If you haven't done so already, you must set up this algorithm in the system. To do this:

- Create a new algorithm (refer to Setting Up Algorithms).
- On this algorithm, reference an Algorithm Type that determines the collection agency to which bad debt should be referred. Click here to see the algorithm types available for this plug-in spot.

Letters. You must set up a customer contact type for each type of letter you generate. You specify the necessary customer contact type on the write off event type. Refer to Setting Up Letter Templates for more information.

The ***Send Letter*** write-off event type causes a customer contact to be generated that, in turn, generates a letter. Enter the following parameters for this type of event:

- Select the **Contact Class** used to categorize the customer contact.
- Use **Contact Type** to define the type of customer contact to create. The type of customer contact controls the type of letter that is generated.

The ***Create To Do Entry*** write-off event type causes a To Do entry to be issued. Refer to The Big Picture of To Do Entries for more information about To Do entries (refer to the To Do type ***TD-WOEVT*** for the type of To Do entry that's created).

The ***Write Off using Distrib Code*** event type causes bad debt to be written off in accordance with the distribution codes associated with the financial transactions that caused the debt in the first place. Use this method if, for example, you want to write-off revenue differently than you write-off liabilities. When this type of event is activated, the system accumulates the distribution codes from GL details associated with recent financial transactions linked to each write-off service agreement. When the system has accumulated enough distribution codes (i.e., where the amount associated with the distribution code equals or exceeds the amount to write off), the debt will be transferred to a new or existing write-off service agreements. The type of service agreements to which the debt is transferred is defined on the distribution codes. Refer to Setting Up Distribution Codes for more information.

The ***Write Off using SA Type*** event type causes all debt associated with the process's SA's to be transferred to a write-off service agreement linked to the account. Enter the following **Parameters** for this type of event:

- **CIS Division / SA Type** is the type of write-off service agreement to which the debt will be transferred. Note well,
  - The system will reuse an existing service agreement if an active SA of this type is already linked to the account; otherwise the system will create a new service agreement of this type.
  - The adjustment type used to set the offending service agreement's current balance equal to its payoff balance is defined on the write-offable SA Type. Refer to SA Type – Main Information for more information.
  - The adjustment type used to transfer the delinquent debt to the write-off service agreement is defined on the write off SA type. Refer to SA Type – Detail for more information.

Enter a **Comment** to fully describe the write-off event type.

Where Used

Follow this link to open the data dictionary where you can view the tables that reference CI_WO_EVT_TYP.

Setting Up Write Off Process Templates

Write-off process templates define the write-off events that will be executed when a write-off criteria rule is violated. Select **Admin Menu, Write Off Process Template** to define your write-off process templates.

Description of Page

Enter a unique **Write Off Process Template** code and **Description** for the write-off process template.

The rows in the following grid define the events that will be created when a write off process is created using this template. The following fields display:

Event Sequence Sequence controls the order in which the write-off event is executed. The sequence number is system assigned and cannot be changed. If you need to insert a write-off event between two existing events, you must remove the latter events, insert the new event, and then re-enter the removed events.

Write-off Event Type Code Specify the type of write-off event to be generated. The event type's description is displayed adjacent.

Days After Process Creation Specify the number of days after the creation of the write-off process that the related write-off event will be triggered. Refer to Calendar vs Work Days for a description of how this system uses this information to set the trigger date on the respective write-off events.

For more information about write-off event types, see Setting Up Write Off Event Types. For more information about trigger dates, see Write-off Event Trigger Date.

Where Used

Follow this link to open the data dictionary where you can view the tables that reference CI_WO_PROC_TMPL.

Setting Up Write Off Control

Write-off controls define how the system handles finaled, unpaid debt belonging to a given collection class and write off debt class.

Contents

Write Off Control - Main

Select **Admin Menu, Write Off Control, Main** to define basic information about a write-off control. After entering basic information, navigate to the **Criteria** tab to define the type of write-off process to start when given criteria are met.

For more information about write-off control, refer to Designing Write-Off Controls.

Panel controls

Enter a **Write Off Control** code and **Description** for the write-off control (WOC).

Enter the **Collection Class** to which the WOC applies.

Enter the **Write Off Debt Class Code** to which the WOC applies.

Enter general **Comments** to further describe the WOC.

Define the **Synch All Algorithm** used by the system to generate adjustments that cause current balance to equal payoff balance on the service agreements to be written off. This type of algorithm is typically issued before you actually start a write-off process as current balance is meaningless at write-off time (the customer owes you the payoff balance). If you haven't done so already, you must set up this algorithm in the system. To do this:

- Create a new algorithm (refer to Setting Up Algorithms).
- On this algorithm, reference an Algorithm Type that synchronizes current and payoff balances. Click here to see the algorithm types available for this plug-in spot.

Define the **Debt Transfer Algorithm** used by the system when it attempts to transfer the unpaid debt to another active service agreement linked to the ***stopped*** SA's account. If you haven't done so already, you must set up this algorithm in the system. To do this:

- Create a new algorithm (refer to Setting Up Algorithms).
- On this algorithm, reference an Algorithm Type that transfers unpaid balances. Click here to see the algorithm types available for this plug-in spot.

Define the **Write Down Algorithm** used by the system when it attempts to write-down small debt and/or credit balances. If you haven't done so already, you must set up this algorithm in the system. To do this:

- Create a new algorithm (refer to Setting Up Algorithms).
- On this algorithm, reference an Algorithm Type that writes down small amounts. Click here to see the algorithm types available for this plug-in spot.

Define the **Credit Refund Algorithm** used by the system when it refunds a credit balance to a customer. If you haven't done so already, you must set up this algorithm in the system. To do this:

- Create a new algorithm (refer to Setting Up Algorithms).
- On this algorithm, reference an Algorithm Type that refunds credit balances. Click here to see the algorithm types available for this plug-in spot.

Write Off Control - Criteria

Select **Admin Menu, Write Off Control, Criteria** to define the type of write-off process to start when given criteria are met.

> The following information is not intuitively obvious. Refer to Designing Write-Off Controls for more information.

Panel controls

The information in the grid defines the write-off process to be executed for debt belonging to the previously defined collection class and write off debt class. The type of write-off process may differ depending on some condition. For example, you may have a different write-off process if the customer has a non-cash deposit. You must have at least one entry in this collection otherwise the system will not start a write-off process. This entry should have the lowest priority code and should reference a **Write Off Criteria Algorithm** that references the ***WO CRIT DFLT*** the algorithm type.

The following fields display:

Priority Priority controls the order in which the criteria will be checked by the Write Off Monitor (higher priorities are checked before lower priorities). The first criteria algorithm that is met (i.e., returns a value of *True*) will cause the associated write-off process to be initiated.

Note. The values for this field are customizable using the Lookup table. This field name is CRIT_PRIO_FLG. Be aware that this field is used for multiple tables: Collection Class Control, Severance Criteria, Write Off Control and Workflow Process Profiles.

Write Off Criteria Algorithm The Write Off Monitor checks if the condition defined by the W/O Condition Algorithm applies to the account whose debt is being analyzed. If a condition is met, a write-off process is created using the associated write-off process template.

If you haven't done so already, you must set up this algorithm in the system. To do this:

- Create a new algorithm (refer to Setting Up Algorithms).
- On this algorithm, reference an Algorithm Type that determines if a customer's bad debt should be processed using the associated **Write Off Process Template**. Click here to see the algorithm types available for this plug-in spot.

Important! You must have at least one entry in this grid otherwise the system will not start a write-off process. This entry should have the lowest priority code and should reference a **W/O Criteria Algorithm** that references the WO CRIT DFLT algorithm type.

Write Off Process Template If the Write Off Monitor determines the condition defined by the w/o condition algorithm applies, a write-off process is created using the associated write-off process template.

Where Used

Write-off controls contain the data that controls the Write Off Monitor. Refer to How Does The Write-Off Monitor Work? for more information.

Setting Up Collection Agencies

You must set up a collection agency for each such organization to which you refer delinquent debt. To define a collection agency, select **Admin Menu, Collection Agency**.

Description of Page

Enter an easily recognizable **Collection Agency** code and **Description** for each collection agency.

A collection agency must be associated with a Person. Choose the **Person ID** of the organization from the prompt.

Information about how to set up persons is discussed in Maintaining Persons.

Turn on the **Active** switch if the collection agency is actively receiving referrals.

Specify the **Batch Control** that's used to route new and cancelled referrals to the collection agency. The batch control's description is displayed adjacent.

Where Used

Collection agencies get assigned to collection agency referrals when the collection agency referral background process executes. Refer to How Do Collection Agency Referrals Work? for more information.

Setting Up Feature Configuration

You must set up a Feature Configuration if you use the champion / challenger functionality.

The following describes the various **Option Types** that must be defined:

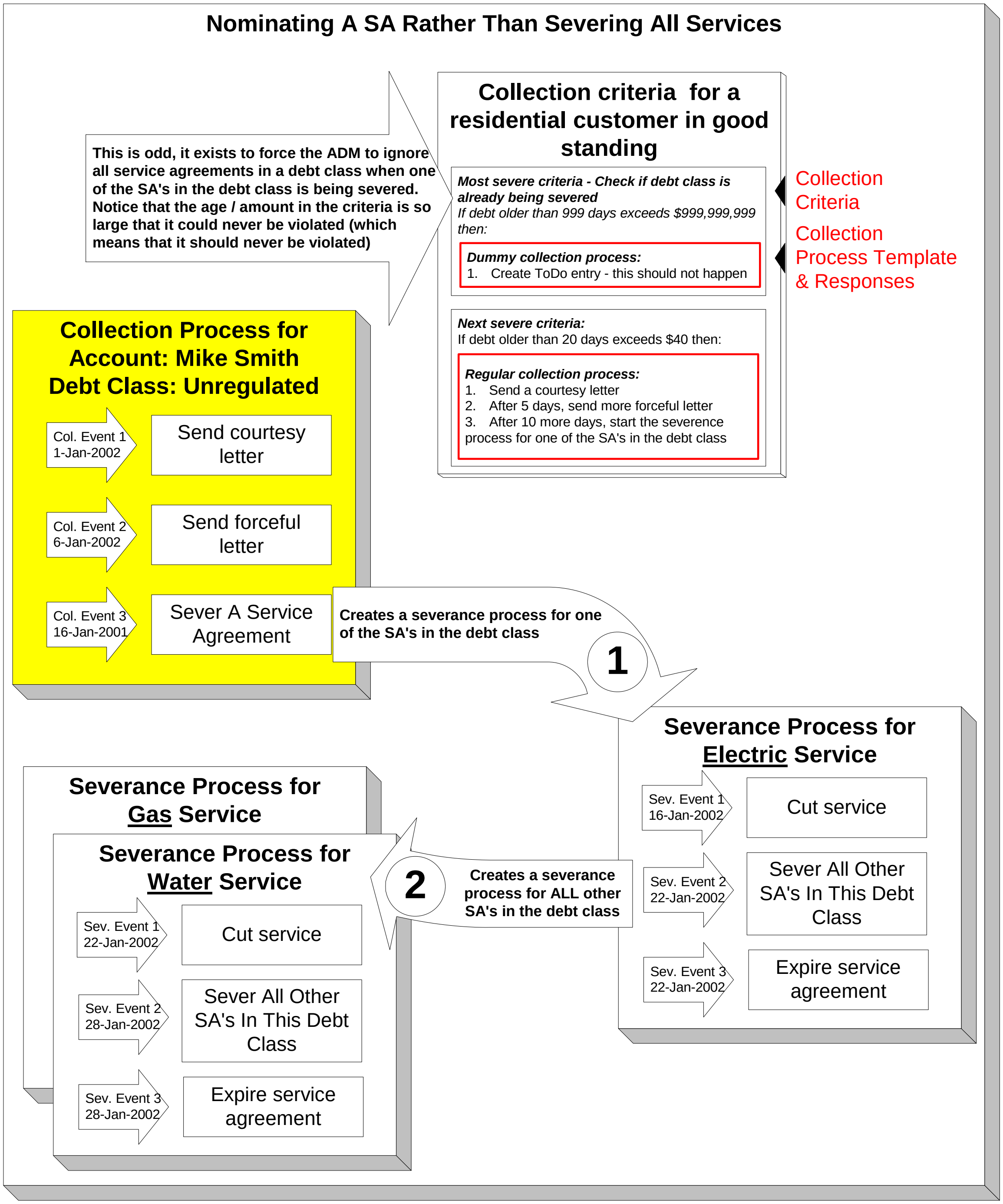
Champion Template$Challenger Template$Percentage(1-100). You need only set up options of this type if your implementation implements Champion / Challenger functionality. Options of this type are entered in the format ***A$B$nnn*** where A is the collection process template of the champion template, B is the collection process template of the challenger template, and C is the percent of the time that the system should create the challenger template. The collection monitor uses this option to override the champion collection process template X% of the time with the challenger template. You may enter any number of these options (but only one per Champion Template).

How To

The contents of this section describe how to set up various credit and collections scenarios.

How To Nominate A Single Service To Sever (Rather Than Sever Everything That's In Arrears)

Some organizations that offer multiple services do not sever all services when the customer falls into arrears. Rather, they nominate a single service agreement to sever in the hopes that the lack of service will cause the customer to remit payment. The following diagram illustrates the control tables values required to implement this type of requirement.


Nominating A SA Rather Than Severing All Services
This is odd, it exists to force the ADM to ignore all service agreements in a debt class when one of the SA's in the debt class is being severed. Notice that the age / amount in the criteria is so large that it could never be violated (which means that it should never be violated)
Collection criteria for a residential customer in good standing
Most severe criteria - Check if debt class is already being severed
If debt older than 999 days exceeds $999,999,999 then:
Dummy collection process:
1. Create ToDo entry - this should not happen
Next severe criteria:
If debt older than 20 days exceeds $40 then:
Regular collection process:
1. Send a courtesy letter
2. After 5 days, send more forceful letter
3. After 10 more days, start the severence process for one of the SA's in the debt class
Collection Criteria
Collection Process Template & Responses
Collection Process for Account: Mike Smith Debt Class: Unregulated
Col. Event 1 1-Jan-2002
Send courtesy letter
Col. Event 2 6-Jan-2002
Send forceful letter
Col. Event 3 16-Jan-2001
Sever A Service Agreement
Creates a severance process for one of the SA's in the debt class
1
Severance Process for Electric Service
Sev. Event 1 16-Jan-2002
Cut service
Sev. Event 2 22-Jan-2002
Sever All Other SA's In This Debt Class
Sev. Event 3 22-Jan-2002
Expire service agreement
Creates a severance process for ALL other SA's in the debt class
2
Severance Process for Gas Service
Severance Process for Water Service
Sev. Event 1 22-Jan-2002
Cut service
Sev. Event 2 28-Jan-2002
Sever All Other SA's In This Debt Class
Sev. Event 3 28-Jan-2002
Expire service agreement

The following important concepts are illustrated above:

- The collection process’s last event does NOT sever all services. Rather, it calls an algorithm that selects a single service to sever. A base package algorithm allows you to define the primary service to sever and a secondary service to sever (if the customer does not have the primary service). If you sold electricity and gas, you would probably define the primary service as electricity and the secondary as gas (because electricity is easier to cutoff than gas).

- The severance process that is started for the primary service cuts service. If the customer doesn't remit what is owed, the second severance event calls an algorithm that severs all other service agreements in the debt class.
- Because you are nominating a single service to sever, you must set up a special value in collection class control to force the ADM to ignore all service agreements in a debt class when one of the SA's in the debt class is being severed. Notice that the age / amount in the criteria is so large that it could never be violated.
- In addition, because the entire debt class must no longer be in arrears to stop the collection and severance processes, you must plug-in the appropriate collection process and severance process cancellation criteria on the debt class. Refer to How Are Collection Processes Cancelled and How Are Severance Processes Cancelled for more information about how these algorithms are used. Also note, you do not need service agreement cancellation criteria defined on your collection process templates and severance process templates (because cancellation is controlled at the debt class level).