



Application Guide for Siebel Communications Billing Manager (Business Edition)

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1 Introduction

1.1 Siebel Customer Self-Service

Siebel is the world's leading provider of customer self-service and e-billing software and services. Its solutions help service providers increase customer loyalty while reducing the overall cost to serve their customers. Service providers use the software to move customer service interactions from expensive paper and call center-based channels to lower-cost and more responsive self-service and assisted care channels like the web, e-mail and IVR.

Siebel software has been deployed in some of the most challenging business and technical environments in the world and has proven to be the industry's most scalable and reliable solution. The applications have been continuously developed and refined to deliver the most comprehensive functionality available. As a result, Siebel customers consistently gain the highest adoption and ROI in the communications industry – typically 5-10 times higher than companies using in-house or competing packaged solutions.

Self-Service for Consumers and Businesses

Many billing and customer care processes today are expensive, inefficient and unsatisfactory for both communication service providers (CSPs) and their customers. With Siebel's customer self--service and e-billing solutions, carriers empower their business and consumer customers to serve themselves and address all of their account and service-related activities online, instead of going through a call center, account rep, or retail outlet. For end customers, this makes doing business with a service provider more convenient, more efficient, and more satisfying. For service providers, it means improved competitive differentiation, significantly reduced customer care costs, increased customer loyalty and streamlined billing/payment processing.

Contact centers provide the key to unlocking the potential business benefits of customer self-service. Contact center statistics show that 60-80 percent of customer service issues relate to a customer's account. For this reason, Siebel customer self-service solutions provide direct access to detailed account information, and interface with complementary front-and back-office systems to provide access to a variety of account-related services.

1.2 Siebel Communications Billing Manager

Communications Billing Manager Features

Siebel Communications Billing Manager is the leading electronic bill presentment and payment (EBPP) solution for communications service providers.

Communications Billing Manager provides the mission-critical application platform required for securely managing customer account information such as bills, statements, and other data. With Communications Billing Manager, carriers can provide business and consumer customers with highly personalized online account information and self-service capabilities that can be served across multiple channels (Web, PDF, IVR, hand-held devices and e-mail). It serves as the foundation for managing recurring customer relationships.

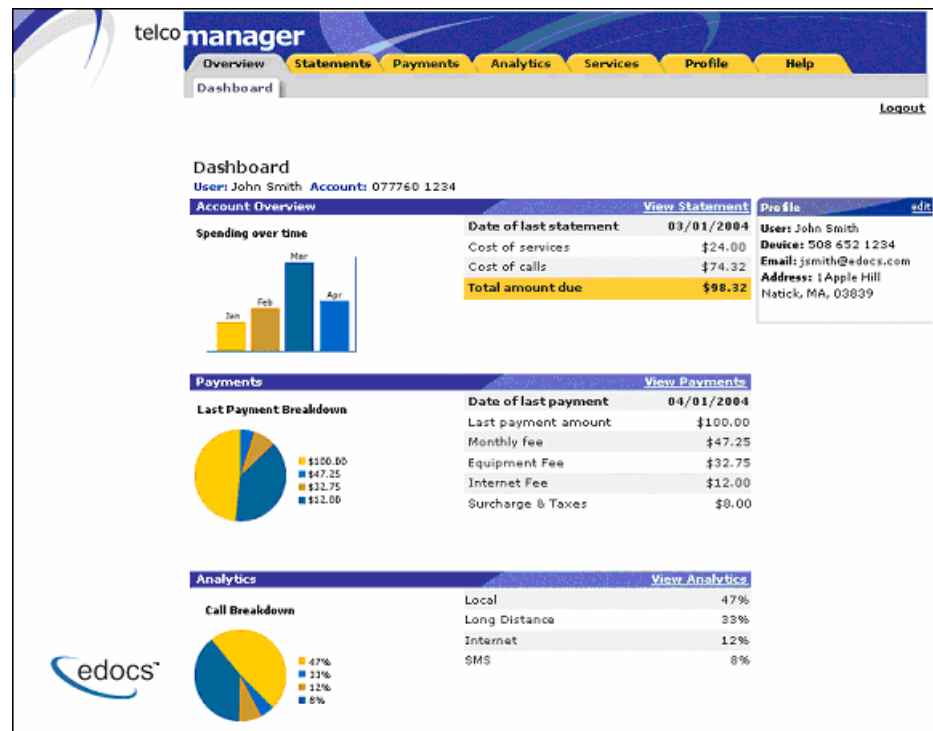
Communications Billing Manager is specifically designed for organizations with large numbers of customers, high data volumes and extensive integration with systems and business processes across the enterprise. With its sophisticated data access layer, platform services and data stores, Communications Billing Manager is uniquely capable of powering the most complex EBPP and Customer Self-Service solutions.

Realizing that consumer and business customers have very different service needs, Communications Billing Manager is available in a consumer edition and business edition with specific features and functionality designed for each user base.

The core capabilities of the Communications Billing Manager application editions are detailed below.

Communications Billing Manager Consumer Edition

Communications Billing Manager Consumer Edition dashboard



Communications Billing Manager Consumer Edition is focused on the self-service needs of a large consumer base. The core features of the application are described below.

Customer Account Dashboard

Bills or statement data is dynamically presented within the application dashboard. Once properly authenticated, users can easily and conveniently navigate and view their billing statements, account summaries and call details.

Electronic Bill Presentment and Consolidation

Consumer customers can access their bills or invoices online, including historical bills stored for as many years as the service provider prefers. Each monthly bill, for a single service or consolidated for multiple services, is presented in dynamic fashion using HTML and can include up-to-date account information such as current balance, bill details, unbilled-usage, last payment received, last payment date, etc. Customers can sort table columns, filter and drill-down into the call detail to further validate charges.

Electronic Bill Payment and Posting

Customers have the complete flexibility to control how and when payments are made. Payment is set up via bank and/or other credit accounts within Communications Billing Manager to execute instant payments or to schedule future automatic payments. Customers have the ability to view the status and record of previously made payments. Communications Billing Manager also provides an accounts-receivable settlement file for the service provider with the following information: payment amount, payment date, statement number, account number, payment account, payment type (one-time/recurring) and return status (yes or no with corresponding negative amount). Users can change their payment options and user preferences within the application. They can also establish multiple payment methods and payment notification preferences, make one-time payments, automate recurring payments, and set payment thresholds and reminders.

User Profile Management and Notifications

User information and settings are presented and modified within the application. Users may update their profile information, correct personal data, and manage password or notification options, email addresses, and other personal preferences.

Customer profiles may be updated on a real-time basis at anytime while the customer is properly authenticated. Profile information such as the customer's preference for account notifications can be set. Communications Billing Manager manages and sends e-mail and SMS messages concerning individual accounts or transaction events. A variety of conditions or circumstances can trigger email notifications. Service providers may wish to enable some common notifications:

- Current corporate statements are available
- Payment reminders
- Payment confirmations
- Payment rejections
- Threshold exceeded on recurring payments
- Credit card expiration pending

Users may establish multiple notification or alert options and modify their settings at any time.

Three-Tier Disputes

Users can contest a service change, call or surcharge within the application. Communications Billing Manager provides a flexible system for handling both invoice and transaction level disputes. The application manages individual transaction disputes, dispute reason codes, account annotations, dispute capture and submission to back-end systems for reconciliation. This lets users view statements and dispute account information at the summary level, service level, or call detail directly through the interface. This feature may be configured based on the provider's business requirements or back-office integration needs.

Unbilled Data Presentment

Unbilled account charges can be viewed online prior to bill cycle closing within the application. Users can view their charges as well as analyze to-date spending for the current billing period.

Personal Address Book (PAB)

Using Communications Billing Manager, customers can create a list of phone numbers and assign name pairs allowing them to view call detail with meaningful names exchanged for frequently called numbers. With this feature, users can associate bill detail with more familiar, meaningful identifiers. Once entered in the PAB, names may be toggled on to replace corresponding numbers on the bill, making online account management easier, more convenient and more valuable for users.

B2C Reporting

Specific reports come with the application whereby users may view summaries, analyze charts, and access their complete statement history using built-in reporting features. Furthermore, users may also drill-down through account information, bill or statement data within the application. Specifically, they can page through call details, sort across pages, subtotal and filter account information viewing dynamic reports.

Print Friendly Views, PDFs and Downloads

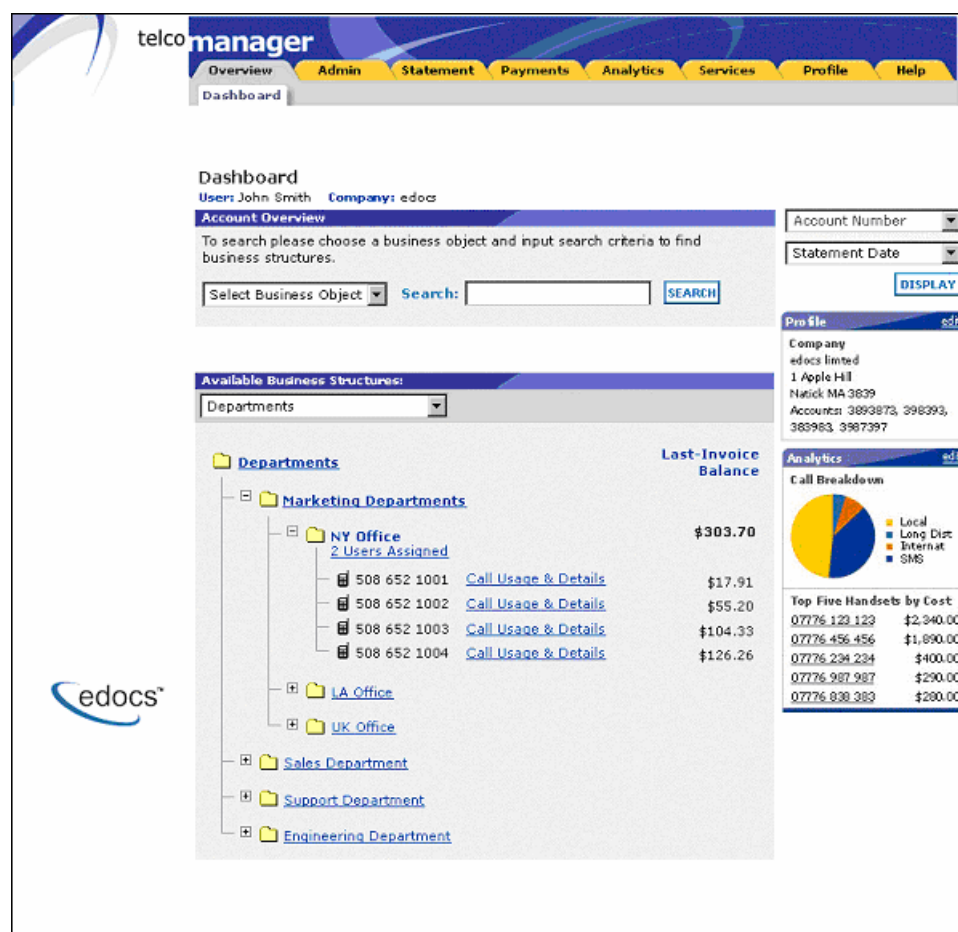
Users may access print friendly views, request a dynamic PDF of their statement, or select to download a dataset. These features are all available for key application views. Communications Billing Manager's versioned, disk-efficient and high performance bill archiving feature along with its print-friendly views makes generating hard-copy reprints simple and efficient.

Customer Service Representative (CSR) Views

Communications Billing Manager also provides a lightweight solution for customer service management. CSRs can also “impersonate” the user to facilitating the efficient servicing of online accounts. For example, representatives may have roles that provide application access to execute payments, reset passwords or simply search accounts to view the customer statement. The application may also be extended for complete case management with Siebel CSR Manager Application, providing additional case creation, routing and tracking, status views of cases, escalation workflows and queuing. Cases can either be completely automated without agent intervention based on predetermined business rules, or routed appropriately to engage an agent for resolution.

Communications Billing Manager Business Edition

Communications Billing Manager Business Edition Dashboard



Communications Billing Manager Business Edition is focused on the self-service needs of an enterprise customer base. The core features of the application are described below.

Corporate Account Dashboard

Account information, bills or statement data is dynamically presented within the application by the business billing structure. Once properly authenticated, managers, administrators and users may view consolidated account summaries, sub-accounts, individual statements or all call details based on their access permissions for the billing structure.

Hierarchical Billing and Business Structures

Billing structures are presented within the application as account hierarchies. Managers or administrators may search, view and update their billing structure by assigning other attributes to hierarchy nodes, such as, meaningful names or device IDs, etc. Users are assigned within the billing structure, defining navigation within the account and sub-accounts of billing data. Administrator assignment in the billing structure may provide access to the entire enterprise or limit a single user to viewing their individual statement only. By creating separate business structures within the application, users may maintain multiple hierarchies of their own. Billing structures and user created business structures offer different views of account information for segmentation, payment, analysis and reporting.

Electronic Bill Presentment and Consolidation

Business customers can access their bills or invoices online including historical bills stored for as many years as the service provider prefers. Each billing period, for a single service or consolidated for multiple services, is presented in dynamic fashion using HTML and can include up-to-date account information such as current balance, bill details, last payment received, last payment date, etc. Furthermore, accounts can be consolidated across disparate system using either full data consolidation via an external data store or summary consolation by dynamically linking the accounts. Customers can sort table columns, filter and drill-down into the call detail to further validate charges.

Cross Invoice/Sub-Invoice Payment

Payment options and enterprise preferences can be presented and modified within Communications Billing Manager. Administrators may establish multiple payment methods and payment notification preferences, make one-time payments, schedule automated recurring payments, and set payment thresholds and reminders. Administrators may also make a single payment across multiple invoices, defining the payment allocation, even allocating payment to sub-invoice charges. Administrators have the complete flexibility to control how and when payments are made. Payment is set-up via bank and/or other credit accounts within Communications Billing Manager to execute instant payments or to schedule future automatic payments. Administrators also have the ability to view the status and record of previously made payments. Communications Billing Manager integration provides an accounts receivable settlement file to the service provider with the following information: payment amount, payment date, statement number, account number, payment account, payment type (one-time/recurring) and return status (yes or no with corresponding negative amount).

User Roles and Permissions

User roles and permissions can also be presented and modified within the application. Administrators may update user role or access, establishing view only permissions, accounts receivable roles, managerial access, etc. This feature may be configured based on the provider business requirements or back-office integration needs.

Corporate and User Profile Management and Notifications

Corporate profiles are managed by designated administrators, whereas users may update their own profile information, correct personal data, and manage password or notification options, email addresses, and other personal preferences.

Corporate and user profiles may be updated on a real-time basis at anytime while properly authenticated. Profile information such as the corporate contact preferences for account notifications can be set. Communications Billing Manager manages and sends e-mail messages concerning accounts or transaction events. Notifications may be aggregated for account and sub-accounts events and limited to administrator or managerial roles. A variety of conditions or circumstances can trigger email notifications, so service providers may wish to enable some common notifications:

- Current corporate statements are available
- Payment reminders
- Payment confirmations
- Payment rejections
- Threshold exceeded on recurring payments
- Credit card expiration pending

Corporate administrators and users may establish multiple notification or alert options and modify their settings at any time.

Unbilled Data Presentment

With Communications Billing Manager, managers, administrators and users may view unbilled account charges prior to bill cycle closing. All users may view their charges and analyze to-date spending for the current billing period. This feature may be configured based on the provider business requirements or back-office integration needs.

Corporate and Personal Address Book

Administrators may create a global list of phone numbers and assigned name pairs within the application for their accounts. Individual users may also create and maintain a personal address of their own. Users may implement both address books and then view call detail with meaningful names exchanged for frequently called numbers.

Advanced Reporting

Specific reports come with the application whereby users may view summaries, analyze charts, and access their complete statement history using built-in reporting features. Additional business reports are also provided whereby administrators may view a set library of summarized call cost reports and charts. These “roll-up” reports provide for broad analysis of account activity for corporate managers. Furthermore, managers, administrators and users may drill-down through account information, bill or statement data within the application interface. Users can page through call details, sort across pages, sub-total and filter account information viewing dynamic reports. More complex reporting can be performed with Siebel Communications Analytics Manager including extensive call, cost, cost-center, and variance reporting.

Print Friendly, PDFs and Downloads

Users may access print friendly views, request a dynamic PDF of their invoice, or select to download a dataset. Managers and administrators have greater access to account summary PDFs and datasets for the accounts they supervise. Communications Billing Manager’s versioned, disk-efficient and high performance bill archiving feature along with its print-friendly views makes generating hardcopy reprints quick and easy.

Customer Service

CSRs may create corporate administrators for an organization, thereby enrolling a corporate account and establishing designated internal administrators. Service representatives and corporate administrators may create, manage and search the business organizations and accounts under their supervision. The designated administrators accessing corporate billing statements use Communications Billing Manager’s on-line self-service application features to manage their own organization and users.

Communications Billing Manager Edition Comparisons

Feature Comparison of Telco e-Billing Manager Editions	B2C	B2B
Bill Presentment	X	X
Unbilled Data Presentment	X	X
Service-level Consolidation	X	X
Account-level Consolidation/Linking		X
Hierarchical Navigation		X
Bill Payment	X	X
Cross and Sub-invoice Payment		X
Notifications	X	X
Consumer (Simple) Reporting	X	X
Advanced Reporting		X
CSR Access	X	X
User Profile Management	X	X
Roles Based Access Control		X
Personal Address Book	X	
Corporate Address Book		X
TSM Connector	X	X
TAM Connectors		X

1.3 Key Benefits of Communications Billing Manager

By combining comprehensive online account management functionality with the world's most scalable and reliable e-billing platform, Communications Billing Manager enables service providers to gain outstanding adoption and ROI typically 5-10 times higher than companies using in-house, customer or competing packaged solutions. Some of the primary benefits Communications Billing Manager enables include:

Business Benefits

Call Center Deflection

By enabling customers to serve themselves online, Communications Billing Manager moves expensive call center interactions (globally these costs translate to \$5-\$10 USD per consumer interaction; \$10-\$30 USD per business customer interaction) to the web site where costs run at less than \$1 USD per interaction.

Reduced Paper, Printing and Postage Costs

In countries where paper turn-off is a legal option, providers are saving enormous printing, post-age, reprint and logistical costs. Even when rules do apply, to guarantee postage revenues, paper may be reduced for reprints services and logistical savings realized.

Streamlined Payment Processing

Online payments are proven to reduce payment time as well as errors associated with them. In addition, it is less expensive for the carrier to process an electronic payment when compared to all the manual handling required to process a paper-based payment. Online payment eliminates lockbox fees, minimizes exception processing, and replaces the costly and time-consuming procedure of processing paper checks.

Case Example		
	Total customer base	19,700,000
×	Online adoption	12%
×	Pct paying	30%
×	Savings per payment	\$0.14
×	Payments per year	<u>12</u>
=	Annual Savings	\$1,191,456

Some recent metrics:

- Adoption: 5%-60%
- Percentage paying: 30%-85%
- Savings per transaction: \$0.11 - \$1.08 USD

Given these numbers, an attractive ROI can be rapidly achieved.

Improved Days Sales Outstanding (DSO)

By making statements easier to access and read, speeding approval cycles and automating disputes, Communications Billing Manager reduces the time it takes for customers to pay their bills. This improves cash flow and reduces DSO.

Increased Customer Satisfaction (Reduce Churn)

By providing the option for 24/7/365 online service, carriers make it more convenient and more satisfying for their customers. Although somewhat more difficult to measure, increased customer satisfaction may ultimately be the most critical differentiator. This is particularly true in the B2B world of electronic invoice presentment and payment (EIPP). As evidenced by an independent AMR Research report, “The ROI exercise that generally launches EIPP projects cites process automation and cash flow as key benefits, but the biggest appeal of electronic billing, as it is used today, is its account management and customer support functionality. In reference to calls we conducted, Siebel users remarked that the main benefit of implementing EIPP is the dramatic improvement in customer service they can provide. In some cases, where the supplier took the extra step of helping customers incorporate EIPP into A/P workflows, satisfaction went through the roof. Reduction in DSO and paper-based billing costs – the quantifiable benefits of EIPP – paled as suppliers basked in the warm glow of happy customers.” In today’s economy of high customer acquisition costs, providing a robust online account management and electronic payment experience is critical to doing business and keeping your existing customers satisfied.

Application Benefits

Communications Billing Manager is a packaged enterprise software application with support, training, and regularly scheduled product enhancements and upgrades. Standard deployments are predictable and deliver “quick wins” for the service provider.

Modularity

Communications Billing Manager may be deployed and additional Self-Service for Communications applications added to the deployment, all using the complementary Siebel platform services.

Open Standards Based

Communications Billing Manager is built on a Java 2 Enterprise Edition (J2EE™) architecture making it highly scalable and flexible. Based on leading Java standards like Enterprise Java Beans™ (EJB™), Java Server Pages™ (JSP™), and Java Servlet application programming interfaces (APIs), users of Communications Billing Manager can leverage all the sophisticated application management tools, enterprise-class performance, scalability, portability, and easy extensibility this environment provides. The Siebel applications presentation layer use struts and tiles standards and may be easily “re-skinned” for branding, internationalization, or customized look and feel.

Proven Scalability

Communications Billing Manager has a linearly scalable architecture that supports millions of complex accounts and thousands of concurrent users. Its flexible data access layer provides for truly massive scalability in a way no competing architecture can claim. In fact, data volumes do not impact the real-time performance of the core Siebel solution at all. This means organizations can retrieve, process, and archive tens of millions of accounts, but only need to scale the application server tier to handle the growing user adoption. These services scale linearly, meaning the platform can easily be extended to accommodate growth in volumes, users, or additional application services. Independent scalability reports from Sun Microsystems and IBM that demonstrate this power can be provided upon request.

Ease of Deployment

The off line authoring components of the Siebel Self-Service for Communications Suite visual development environment provide menus and wizards that dramatically reduce the time required to configure and deploy Communications Billing Manager Simulation capability is built-in allowing developers to test designs prior to deploying an application. Early testing lowers risks and costly late changes. Through the intuitive, easy-to-use graphical development environment, users can analyze the data sources, define the essential data, map the account data to presentation templates, and define business rules for one-to-one marketing and customer service messaging. Designers can create any aspect of account presentation for the Web, wireless, or other delivery devices.

Unmatched Data Access Flexibility

Siebel provides a flexible Business Services Layer (BSL) that can leverage a wide variety of data sources for account information/Tariff analysis. Extensible APIs provide a full suite of integration services for robust comprehensive functionality. Simply stated, Communications Billing Manager transforms account data for Internet consumption. But Communications Billing Manager is not a simple data translation application: it re-purposes available account data, dynamically retrieving only the information required for the new presentation media.

Simple Integration

Communications Billing Manager preserves investment in and extends capabilities of existing infrastructure through enterprise wide integration. The Siebel design environment allows designers to develop and integrate custom features with existing system processes into the Customer Self-Service solution. Integration of custom functionality or external legacy systems can be accomplished quickly and easily using standard tools and technologies. Siebel eXtensible Modular Architecture (XMA) and Platform Service's APIs are Java-based with XML-interfaces detailed in the Communications Billing Manager Software Developer's Kit (SDK). Integration is straightforward for linking existing enrollment and authentication systems, payment processing, online dispute processes, order management processes, accounts receivable systems, customer service and CRM systems, middleware infrastructure, and third-party operational tools.

Operational Oversight

The Command Center console provides a single production management browser application for the Siebel Self-Service for Communications Suite including scheduling of services, statement and account application configuration, customer statement notification configuration, auditing and event logging with general system administration and reporting.

Proven Performance

Communications Billing Manager delivers superior performance without regard to data volumes or user loads.

Multiple Communication Channels

Communications Billing Manager supports a multi-channel deployment paradigm for data delivery via, HTML, XML, IVR, PDF, Email, SMS and devices.

Personalization

Any Communications Billing Manager application view (or the entire template itself) can be replaced or modified based on business logic. By leveraging the account information contained in the data stream, Communications Billing Manager can present highly personalized and dynamic views of a customer's account. Designers define logical expressions based on actual account data that will modify the presentation to the customer. This means that all account data can be used as variables in the dynamic of the rendered account view. The mapping of data elements to logical expressions is encapsulated in an XML file used at run-time.

Architecture Benefits

Reduced Storage Requirements

Competing approaches generally only offer transforming and storing statement data as XML or as normalized rows and columns in a database. The XML tags, which need to be stored as part of the data file, can increase file sizes by 30-40% in most cases. Siebel solution may store data in native file formats, and convert it to delivery formats (including XML) only on-demand. This dramatically reduces storage requirements. Data compression may also be optionally provided to further reduce storage by a ratio of greater than 3:1.

A Tunable Application

Billing information is the corner stone of any Customer Self Service solution, it is the data held within the bill that affects the bottom line of a customer's business or a consumer's likelihood to delay payment or switch providers. Communications Billing Manager manages arriving bill data, processes it for storage, and archives the statement files into an extensible statement repository. A data store of account tables are also maintained in a relational database along with user management information, disputes pertaining to the statement files, and logging and tracking information. This data store may be "dialed down" using a lightweight metadata index to dynamically access statements, or "dialed up" creating a content repository of billing data. Communications Billing Manager offers this option of loading meter detail or account summary information into a content repository for sophisticated customer reporting and analysis. The Communications Billing Manager application and platform is therefore "tunable," providing a flexible approach to managing account-based communications for multi-channel delivery.

Reduced Database Licensing Requirements

Siebel data store generally comprises only 3% of the size of the raw statement data. Competing architectures, on the other hand, require a massive database deployment as the full content of each statement is stored as database rows. Database licensing implications can therefore add a significant cost load to competing solutions.

Enhanced Performance and Memory Management

Siebel utilizes dynamic data extraction and transformation for presentation of statement data. In addition, individual statements are decomposed into "views" such as summary, detail, sub-accounts, etc. Only the view being requested by the user is extracted and transformed. By carefully tuning view size, the developer retains complete control over the application's real time performance profile.

Improved Reliability and Data Quality

Competing architectures require batch data transformation to convert data formats. Any time data transformation occurs, there is a risk of user or system error where data will be "left on the cutting room floor," improperly truncated, or generally mis-mapped. Since transformation occurs in large-scale batch jobs, error recovery is very expensive. In the case of error, all of the errant data needs to be identified and purged from the database, the source data needs to be recreated, transformation rules corrected, and the batch jobs rerun. If the batch cycle is long, the correction may be impossible if several days have passed before the error was detected. Siebel utilizes "dynamic data transformation" whereby data is transformed on the fly by dynamically applying extraction and presentation rules. As such, if an error should occur, the rules can be fixed and re-published on the fly without having to rerun the batch process or drop data.

Reduced Batch Cycle

Siebel batch cycle consists of scanning and indexing arriving batch files. Depending on the file format, the batch process typically runs at 7.5 GB of source data per hour. The process may even be configured to run parallel across server clusters for greater throughput. Competing architectures are simply not able to achieve this load time, leading to consumption of additional system resources and higher stakes for error recovery.

Robust Version Management

Siebel realizes the frequency with which businesses change: new products are introduced, statements are redesigned, and old products are discontinued. As such, Siebel makes extensive use of a template-based architecture and provides robust capabilities for versioning templates. Essentially, rules for transforming and presenting data are versioned by date and stored with the source files they correspond to. As such, if a new service offering or bill format is introduced, a developer need only publish new templates which accommodate the changes and need not worry about affecting historical statements. Competing approaches to changing fixed relational database schemas are far more complicated to manage. These advantages translate in to a lower total cost of ownership, which offers returns every day that the system is in production.

1.4 Siebel Self-Service for Communications Suite

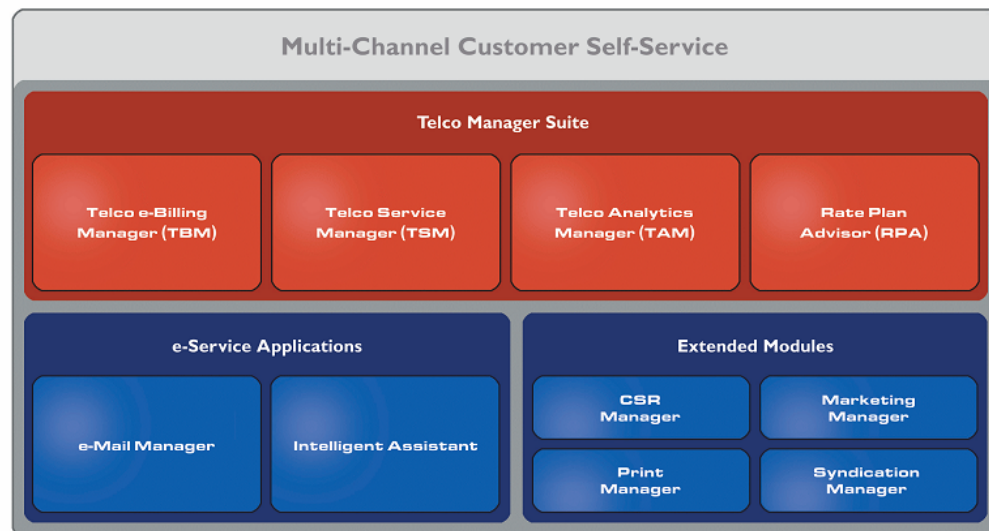
The Siebel Self-Service for Communications Suite is a set of packaged software solutions designed specifically for the communications industry. These applications enable service providers to realize the full benefits of customer self-service and e-Billing.

The suite includes a rich set of applications and functionality that give providers a complete multi-channel customer-self service capability. The suite includes packaged solutions for:

- e-Billing and Payment
- Service and Order Management
- Reporting and Analytics
- Rate Plan Advice

Siebel solutions are packaged applications with sophisticated out-of-the-box capabilities. They can be tailored to meet specific customer requirements and business concerns, while establishing a solid platform for future business development.

The Siebel Self-Service for Communications Suite



The Suite includes the products described below.

Communications Billing Manager – Business, Consumer, and Split Billing Editions

Siebel Communications Billing Manager is a complete e-billing application for communications service providers that gives business and consumer customers valuable and convenient access to their communications bills along with the ability to easily make online payments. Communications Billing Manager Split Billing Edition contains powerful rules engines that “split” business and personal calls or services allowing service providers to identify and recover personal usage charges by their employees.

Communications Self-Service Manager – Business and Consumer Editions

Siebel Communications Self-Service Manager enables business and consumer customers of communications service providers to manage every aspect of their service relationship online. From a single convenient interface, customers can easily activate and manage subscriptions, order new products and services, and report and resolve problems. Business customers are able to complete these activities for individual employees, as well as company departments and divisions, across the entire organization.

Communications Analytics Manager

Siebel Communications Analytics Manager is a reporting solution for business customers that empowers both individual employees and business managers to analyze and understand their communications costs and usage by investigating and identifying trends and patterns across multiple views of their own unique organization.

Rate Plan Advisor (RPA) – Business and Consumer Editions

Siebel Rate Plan Advisor is a web-based application that recommends the ideal rate plan for wireless subscribers in real-time. Individual consumers as well as large businesses can analyze their actual historical voice/mobile/data usage, find the best-fit rate plans, and compare the features offered by those plans. With its intuitive wizard user interface, RPA quickly guides end-customers or customer service representatives through the entire analysis process. In addition, a service provider's customer care and marketing groups can also use RPA to identify pre-churn subscribers, simulate new rate plans, and run predictive analytics.

1.5 Conclusion

Siebel Communications Billing Manager is the proven software platform for scalable, high-performance self-service and e-billing applications that enable organizations to manage account relationships with business and consumer customers online. Communications Billing Manager application solutions:

- Reduce support and processing costs
- Improve operational effectiveness
- Increase customer satisfaction
- Enhance marketing effectiveness

Communications Billing Manager's out of the box consumer and business applications for data access, online account composition, analytics, one-to-one messaging, and business hierarchy dramatically decrease time to market for deploying self-service solutions. Developed on J2EE technology, the Communications Billing Manager platform is flexible, extensible, and easy to manage, and is the proven platform for online consumer and business applications.

Communications Billing Manager leverages available data from transactional systems to dramatically reduce the costs associated with producing, delivering, and paying account communications, while simultaneously transforming accounts into dynamic, interactive self-service and marketing tools.

Communications Billing Manager goes far beyond bill presentment solutions providing packaged applications with many e-billing features, including online account and statement composition, payment, business logic, one-to-one marketing, hierarchy, customer service access, and service messaging with application management.

Communications Billing Manager's EJB platform architecture has been proven scalable in production and through independent testing. This is a key differentiator in comparing packaged solutions.

Finally, because of Communications Billing Manager's flexibility and methodology, time to market with a Siebel Self-Service for Communications Suite solution is extremely rapid, stable, and scalable resulting in a total cost of ownership lower than competing or home grown solutions.

2

Business Processes and Application Logic

2.1 Overview

Communications Billing Manager (Business Edition) provides online account management and customer self service for telecommunications provider's business customers.

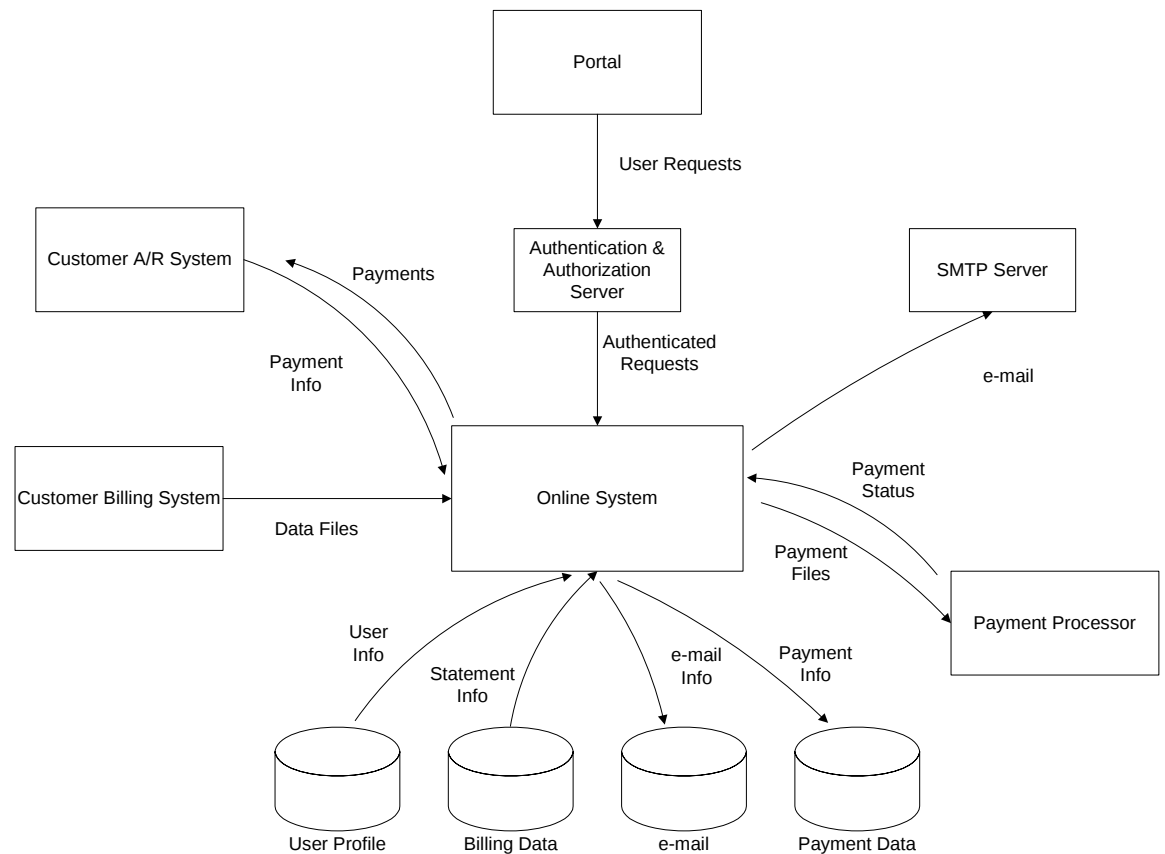
The main features of Communications Billing Manager B2B are:

- **My Account** – Individual and corporate settings shared across all of the Siebel applications.
- **Hierarchy** – Maintaining hierarchy structures and user access control.
- **Personal** – Users are able to manage personal profiles and address books, user names and passwords, and notifications.
- **Company** – Maintaining company profiles, company users, and the corporate address book.
- **Statements** – Communication customers can view summary and detailed statements on accounts, devices, and usage.
- **Reports** – Standard account, device and usage reporting functionality. Advanced reporting and report creation is available in a separate application (Siebel Communications Analytics Manager).
- **Payments** – Companies can set up payment accounts for recurring and one-time payments, which historical payment activity for a configurable period of time.
- **CSR Management** – Siebel standalone application for CSR management. Includes searching accounts and invoking impersonate company user functionality.

Details about individual use cases for the various tasks that users perform as part of these functional areas appear in the next chapter.

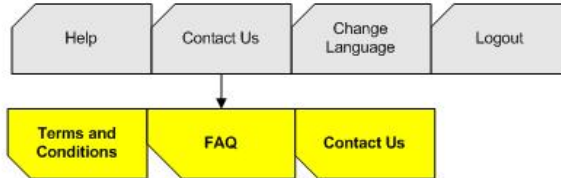
2.2 System Context Diagram

The following diagram shows the main Communications Billing Manager application functions in the context of the entire system:

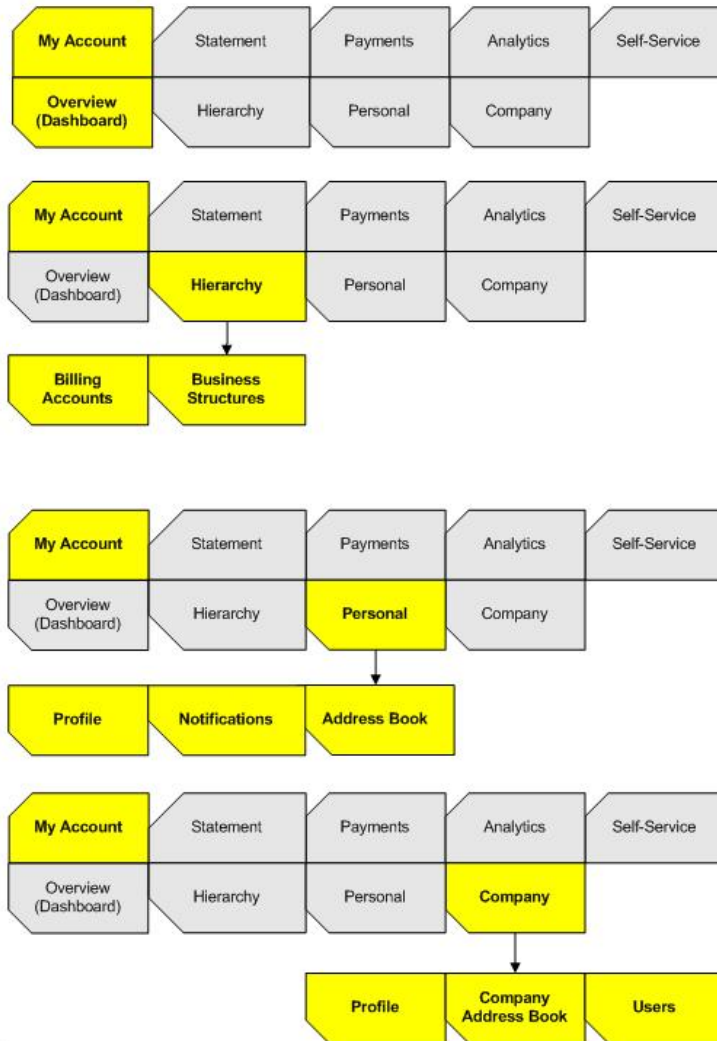


2.3 Menu Navigation

General Nav (Top Right Corner)



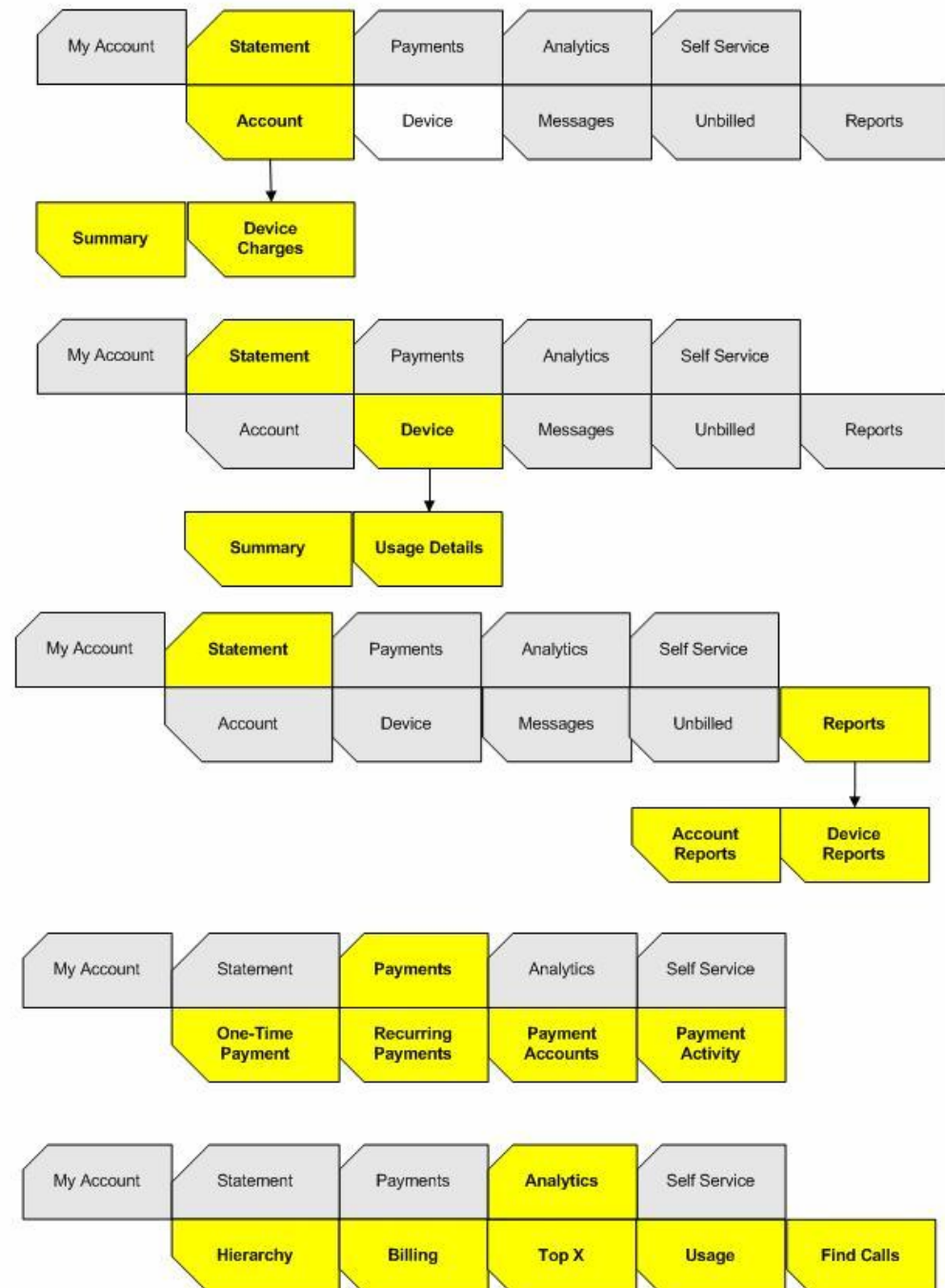
Main Nav



Key:

- * Down arrow indicates 3rd level in the menu navigation
- * Green Color indicates a placeholder for future products, but won't be initially implemented in the 4.5.1 Telco Suite foundation application

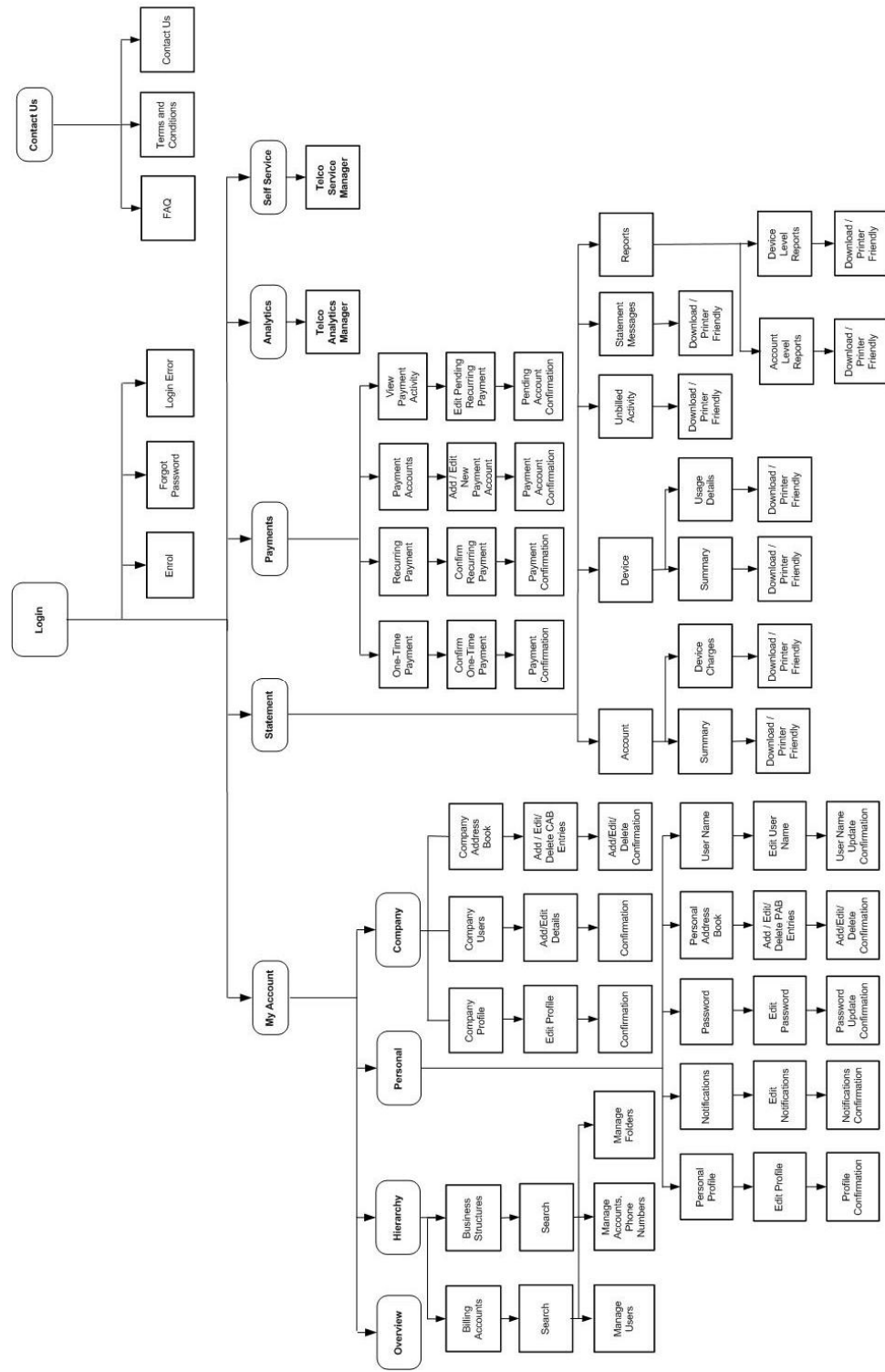
Main Nav (continued)



Key:

- * Down arrow indicates 3rd level in the menu navigation
- * Green Color indicates a placeholder for future products, but won't be initially implemented in the 4.5.1 Telco Suite foundation application

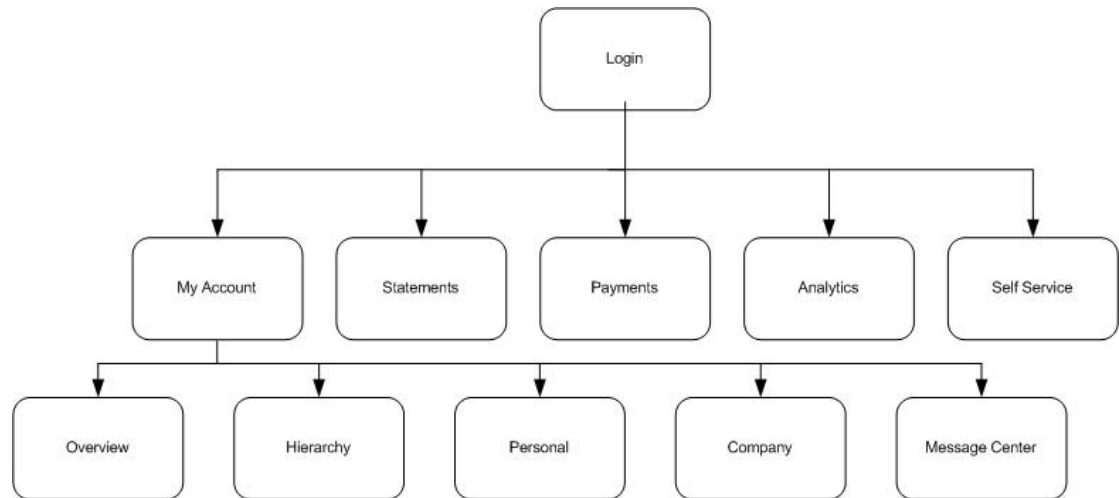
2.4 Site Map Overview



2.5 Site Map Blow-ups

The Communications Billing Manager uses a simple hierarchical navigation. The navigation flow diagrams show the top levels of navigation, which are implemented using a horizontal navigation bar with tabs for the top navigation level and sub-tabs for the next level of navigation, as well as the drilled-down functional areas.

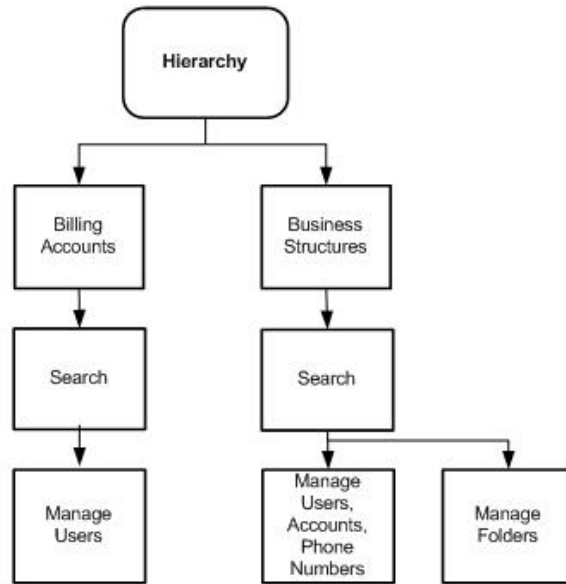
Top-Level



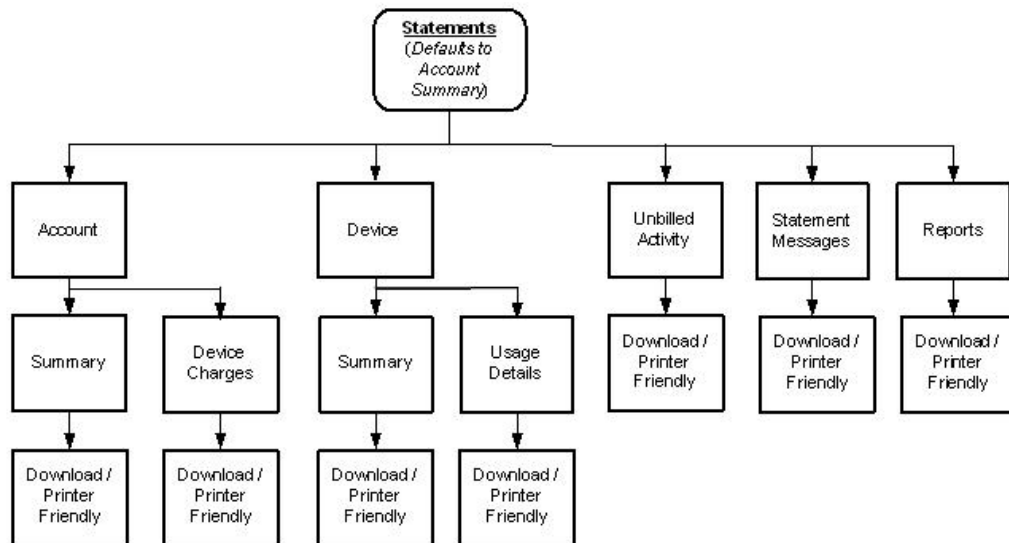
* Communications Self-Service Manager sub-tabs not shown

The following diagrams show each functional area drill-down menus.

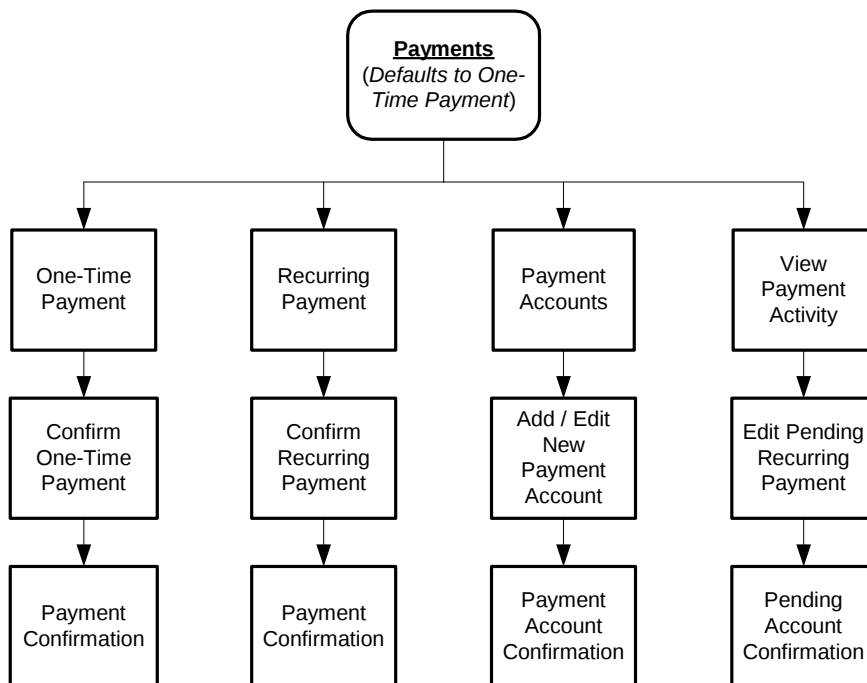
Hierarchy



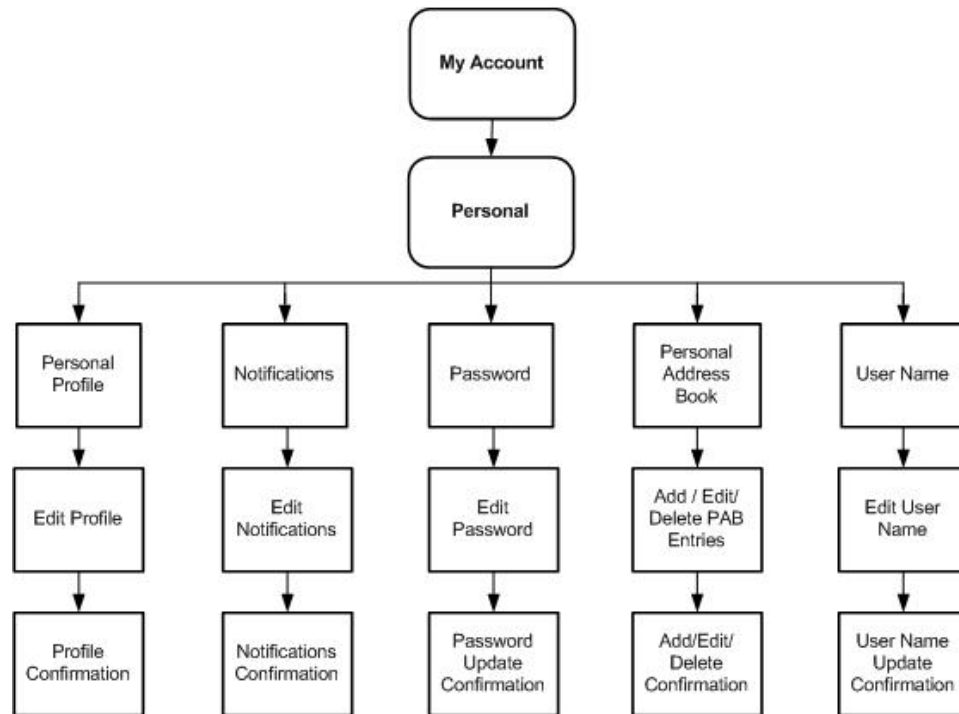
Statements



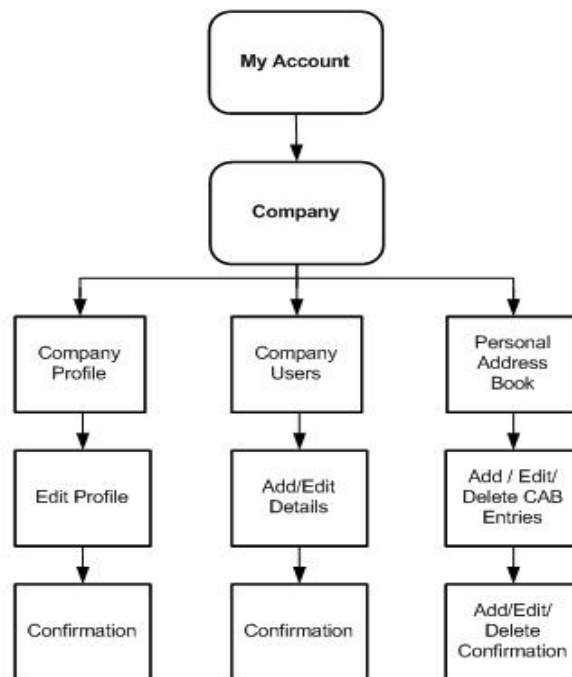
Payments



Personal Profile



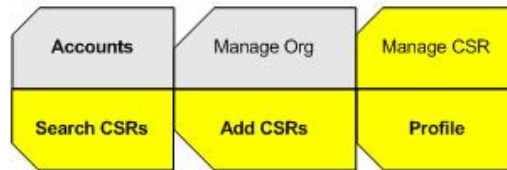
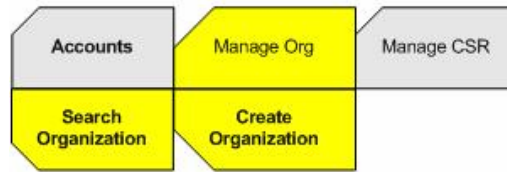
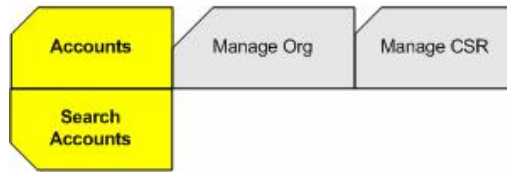
Company Profile



CSR

The CSR site map is accessed from the separate CSR application for service provider internal users.

CSR Nav



3 Application Use Cases

3.1 About Application Use Cases

The following use cases describe the functional specification for the application. Each use case defines a set of activities that can be performed by an actor (e.g., User) to achieve a desired goal. It also describes the set of interactions between the actor and the system to be implemented.

A use case may describe interactions with external systems, which are systems that are outside the boundary of the application under development.

There may be many possible paths through a use case:

- **The Main Path** – Describes the successful completion of the use case without encountering any exceptional conditions. The main path describes the most common flow through the use case.
- **Alternate Paths** – Describe other related paths through the use case that are not considered to be a part of the common flow. These are labeled using numbers in square brackets; [A1], [A2], [A3]...

The use cases in this document form the basis for functional test cases, defining how the screens, as well as the system as a whole, should function from a user perspective.

3.2 Actors

ACTOR	ROLES	NOTES
Business User	Administrator	A Communications business customer responsible for managing and administrating their organization, accounts and telecommunications devices.
Business User	View & Pay Only	A Communications business customer using the B2B application to view their accounts and telecommunications devices and provide payment when necessary.
Business User	View Only	A Communications business customer using the B2B application to view their accounts and/or telecommunications devices.
Internal User	CSR Administrator	A Communications Customer Service Representative Administrator, who has all access privileges and permissions. Also, can manage other CSRs.
Internal User	CSR	A Communications Customer Service Representative

3.3 Functionality Overview

The following table provides a complete list of the use cases that specify the functionality of the application:

Requirement Category	Description	Use Cases
Enrollment and Login	Enroll users and manage the login user session. The <i>Log In To Application</i> use cases is a pre-condition for all customer use cases.	Login to Application Logout of Application Enroll Company Users Enroll As Company User Forgot Password
Communications Billing Manager Overview	Business User views the dashboard that contains the account and device information they have access to	View Business Dashboard
Statement Presentment	Provide a place to perform functions related to presenting and accessing customer statements. Users can only view statement information for accounts and phone numbers to which they have been assigned access in a billing or non-billing hierarchy.	Account Summary Device Charges Device Summary Usage Details View Unbilled Activity View Statement Messages Print Invoice (PDF) Download Account Data Reports
Reports	Summarize data in a variety of reports	View Account Level Report View Device Level Report
Payment	Handle user payments.	Create One-Time Payment Manage Recurring Payment Manage Payment Accounts View Payment Activity
Hierarchy	Manage billing and non-billing hierarchies. Create non-billing hierarchies made up of folders which reflect companies' business structure and accounts and phone numbers assigned to folders. Assign users to specific nodes in billing and non-billing hierarchies in order to define to what accounts and phone numbers the user has access.	Manage Billing Accounts in Hierarchy Manage Billing Account Users in Hierarchy Manage Business Structures Manage Business Structure Users Manage Business Structure Folder Nodes Manage Business Structure Accounts Manage Business Structure Device

Requirement Category	Description	Use Cases
		Download Hierarchy
Personal Profile Management	Manage user account and profile information. Send e-mail notifications as appropriate to customer.	Manage Personal Profile Manage Password Manage Username Manage Personal Address Book (PAB) Manage Notifications
Company Profile	Manage company account and profile information.	Manage Corporate Address Book Manage Company Profile Manage Company Users
Customer Service (CSR)	The customer service use cases cover the functional requirements for allowing the service provider to effectively manage business users.	Search for Users Impersonate User Create organization and organization administrator Search for an Organization Manage Organization View Accounts for Organization Add Billing Accounts to an Organization View Administrators for Organization Edit Administrator Manage Internal User Add Internal Users Modify Personal Profile
System Use Cases	System functions managed by an administrator.	Create Billing Accounts Process Recurring Payments System Email Notification
Help		Communications-specific (FAQs, Contact Us, Terms & Conditions)

3.4 General User Interface

There are functions that appear on many pages throughout the Communications Billing Manager application. The following use cases detail common functionality that is applied to one or more pages:

- Print Current View
- Context Change Module
- Right Hand Navigation
- Page Through Data in a Table
- Display Error Message
- Sort Data in a Table

Print Current View (0010)

Name:	Print Current View
Brief Description:	Business user prints the current view.
Actors:	Business user
	1. This use case begins when the User selects the Printer-Friendly operation on a given screen. 2. System opens a new window and displays a printer friendly version of the current view. [A1] 3. User clicks the Print link. 4. System displays a print dialog box to the User. 5. User selects the print settings in the print dialog and submits the print request. [A1] 6. User closes the printer friendly version and returns to the application. 7. Use case ends.
Alternate Paths:	[A1] User closes the printer friendly view and returns to the original view 1. System does not send anything to the printer and leaves the user viewing the application. [A2] User closes the print dialog 1. System does not send anything to the printer and leaves the user viewing the printer friendly page.
Standard Features:	1. The following screens will have the Print Friendly option: a. All Individual Reports b. Invoice Summary

	c. Call Details d. Payment Activity e. All Payment Confirmation Screens
Notes:	1. Printer Friendly pages will not have any of the navigation information. 2. The page that is sent to the printer will be in grayscale. 3. The information that is presently shown to the user will be printed.

Print View Example:

Service Detail for (508) 615-1516 as of Feb 24, 2004

» » Print

» » Close

Monthly Service Charges from 1/20/04- 2/19/04	
Item	Amount
Service Plan	Plan Talk & Text
Service Charges	29.99
Adjustments	-
Usage Charges	665.45
One Time Charges	-
Taxes & Surcharges	46.23
Total Charges	
741.67	

Available Service						
Service Plan	Feature	Type	Whenever			Weekend
300 Text Messages	Free Txt Msg	Messages	300			-
Plan Talk & Text	Free Minutes	Minutes	200			-
	Use Them Or Lose Them	Minutes	-			Unlimited

Used Service						
Service Plan	Type	Whenever	Peak	Offpeak		Weekend
Included Plan Minutes	Minutes	-	839	145		-
Telco to Telco	Minutes	-	20	-		-

Context Change Module (0020)

Name:	Context Change Module
Brief Description:	The right navigation is dynamically updated with an Account selection field and date field with an optional Phone Number selection field based on the users navigation in certain sections of the application.
Actor:	System (Context Changing Module)
Main Path:	1. This use case begins when a user views a page that incorporates selecting of an account number and/or phone number and date. 2. System displays Account selection field, with Phone Number selection field dependent upon phone number details page being viewed. 3. User can select an account, date and/or a phone number in the right navigation that they have been assigned to in the hierarchy.

Application Use Cases

	4. User selects Display action. 5. System returns page results based on users selection criteria (Account or Phone number) 6. Selected account or phone number is persisted throughout the session or until it is next changed.
Alternate Paths:	None
Standard Features:	None
Business Rules:	System populates the dropdown for the date and phone number field based on the account selection. System uses the first phone number in the billing account to appear as a default selection value.
Notes:	1. Context Changing Module is configured based on user navigation. 2. Please see Side Navigation Use Case for additional information.

User selects an account and date:

CellTec

Business Structures: 1

Billing Accounts: 24

Wireless Numbers: 76

User Information

Username:

agreeen [Edit](#)

Password:

***** [Edit](#)

Role:

Administrator

Highest Wireless Users

Wireless No.	Last Bal.
545-803-9028	\$364.12
847-349-4100	\$245.90
447-483-9312	\$196.91
451-378-3743	\$159.82
397-894-2110	\$144.32

Quick Links

→ [View Last Statement](#)

→ [FAQs](#)

Context Change Module displays the selected account and number details:

telcomanager [Help](#) [Contact Us](#) [Change Language](#) [Logout](#)

My Account **Statement** **Payments**

Account [Device](#) [Messages](#) [Unbilled](#) [Reports](#)

Account Summary [Download](#) [Printer Friendly](#)

Company Name: CellTec **Hierarchy Name:** N/A
User Name: Anne Green **Position Name:** N/A

Account Number: 61362310 **Statement Date:** 05/04/04
[DISPLAY](#)

CellTec
 Business Structures: 1
 Billing Accounts: 24
 Wireless Numbers: 76

User Information
Username: agreeen [Edit](#)
Password: ***** [Edit](#)
Role: Administrator

Highest Wireless Users

Wireless No.	Last Bal.
545-803-9028	\$364.12
847-349-4100	\$245.90
447-483-9312	\$196.91
451-378-3743	\$159.82
397-894-2110	\$144.32

Quick Links
[View Last Statement](#)
[FAQs](#)

Statement Summary Costs

Monthly Service Charges	31.99
Usage Charges	0.00
Other Charges	2.15
Taxes	2.69
Total Current Charges	36.83

Previous Payments

Previous Balance	34.64
Payment by Visa posted on May 26, 2004	-34.64
Total Balance	\$0.00

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Right-Hand Navigation (0030)

Name:	Right-Hand Navigation
Brief Description:	Each screen in the application will display a right hand navigation bar with relevant information to the user
Actor:	System
Main Path:	- This use case begins when a user views a page of the application - System Displays up to 5 sections - Context Change Module – [UC 0020] - Company Information – company Name, Number of Accounts and Number of MTN's that the logged in user has access to. - User Information- User Name (with a link to update), password (with a link to update) , and User Role - Highest Phone Users – Top 5 MTN's and the most recent statement

Application Use Cases

	charges. This will show the top 5 devices across all accounts. e. Information section – Static text to be determined f. Quick Links section – Initial links are view statement, and FAQ's 3. Use case ends.
Alternate Paths:	None
Standard Features:	None
Notes:	None

Navigation Bar:

Account Number:

Statement Date:

CellTec
 Business Structures: 1
 Billing Accounts: 24
 Wireless Numbers: 76

User Information
Username:
 agreeen [Edit](#)
Password:
 ***** [Edit](#)
Role:
 Administrator

Highest Wireless Users

Wireless No.	Last Bal.
545-803-9028	\$364.12
847-349-4100	\$245.90
447-483-9312	\$196.91
451-378-3743	\$159.82
397-894-2110	\$144.32

Quick Links
 → [View Last Statement](#)
 → [FAQs](#)

Page Through Data in a Table (0040)

Name:	Page through data in a table
Brief Description:	Large amounts of data are divided into page sets and each page set is presented on a single view.
Main Path:	1. User selects single forward arrow. 2. System returns the next page of data. 3. User selects single backward arrow. 4. System returns the previous page of data. 5. User selects double forward arrow. 6. System returns the last page of data. 7. User selects double backward arrow. 8. System returns the first page of data. 9. Use Case Ends.
Alternate Paths:	[A1] User enters a number in the input box 1. System returns the data on the inputted page number.
Exception Paths:	[E1] User encounters a system error: 1. System invokes Error Message use case (UC 0050)
Business Rules:	[B1] For data set that is divided into two or more pages, page must display number of the current page and total number of pages, e.g., page 3 of 5. If the data set results to one page, page numbering is suppressed. [B2] Report Total line is always displayed at the bottom of the table on each page and is the total for the entire report (not the displayed page). [B3] The number of lines displayed on each page is configurable and will be set initially to 40. [B4] If the user enters a number greater than the number of pages in the report output the report displays the last page of the report.
Notes:	None

Paging Function:

Display Error Message (0050)

Name:	Display Error Message
Brief Description:	System redisplay page with an error message.
Main Path:	1. User performs an action that cannot be completed. 2. System determines required error actions. 3. System reads error message text from a configuration file. 4. System re-displays page with error message (displayed in Red) below navigational bars. 5. Use Case Ends.
Alternate Paths:	1. None
Exception Paths:	None
Business Rules:	None
Notes:	None

Display Error Message Screen:

The screenshot shows the 'telcomanager' web application interface. At the top, a blue header bar contains the 'telcomanager' logo. Below the header, a red error message is displayed: 'The Password and Confirm Password entered do not match. Please try again.' Below the error message, the section 'Set a New Password' is visible. This section contains a gray box with instructions: 'Please choose a password based on the following criteria and enter it twice to confirm.' The criteria listed are:

- Password is case-sensitive.
- Use letters and numbers only when creating your Password.
- Do not use special characters or spaces.

 Below the instructions, there are two input fields: 'New Password (4-12 characters):' and 'Confirm New Password :'. Both fields are currently empty and have a small 'x' icon in the top right corner. At the bottom right of the gray box, there are two buttons: 'CANCEL' and 'SAVE'. At the bottom left of the page, the 'edocs' logo is visible. At the bottom center, the copyright notice reads: '© 1996-2005 edocs®, Inc. All Rights Reserved.'

Sort Data in a Table (0060)

Name:	Sort data in a table
Brief Description:	User sorts the data in a specific table.
Main Path:	1. User selects a sorting link (a column header that supports sorting). 2. System sorts the data in the table by the selected column in ascending order. 3. User selects the same sorting link. 4. System sorts the data in the table by the selected column in descending order. 5. User selects a different sorting link. 6. System sorts the data in the table by the newly selected column in ascending order. 7. Use Case Ends.
Alternate Paths:	None
Exception Paths:	[E1] User encounters a system error: 1. System invokes Error Message use case.
Business Rules:	[B1] If the data set is large causing paging to be enabled, the sort will occur over the entire data set. [B2] When a column on the second page or beyond of a report with multiple pages is sorted, the sorted report returned will always be on the first page, regardless of what page the sorting was invoked on by the user.
Notes:	All tables that display details will have ability to sort on column headings.

3.5 Enrollment and Authentication Use Cases

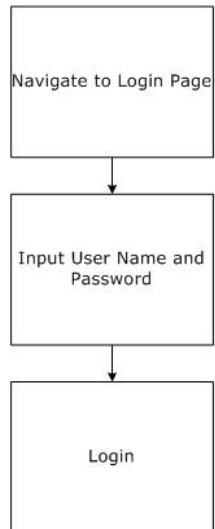
The enrollment and login use cases cover the business requirements for allowing businesses to:

- Login
- Logout
- Enroll Company Users
- Enroll As Company User
- Forgot Password

Login (1000)

Name:	Login to application
Brief Description:	Business User logs in to the application.
Actor:	Business User
Trigger	1. user navigates to the login page
Main Path:	1. System displays Login Screen displaying a form for entering user name and password. 2. User enters login information. 3. User submits data. 4. System validates data. [A1] 5. System displays the My Account Dashboard. 6. Use case ends.
Alternate Paths:	[A1] System determines that customer credentials are invalid: 1. System displays a message "Login incorrect: Please try again" [A2] User selects forgot password 1. Forgot Password use case initiated [A3] User selects Self-Enroll New User
Standard Features:	Forgot Password Link
Configuration Points	1. The system can be configured to force users to change their password at first login. 2. Additional fields can be added to the profile management page based on client requirements.
Notes:	None

Login to Application:



Login Screen:

telcomanager

Login

Please use the login area to login to your account.

User Id

Password

[Forgot Password](#)

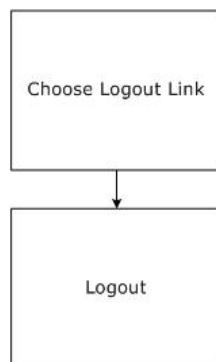
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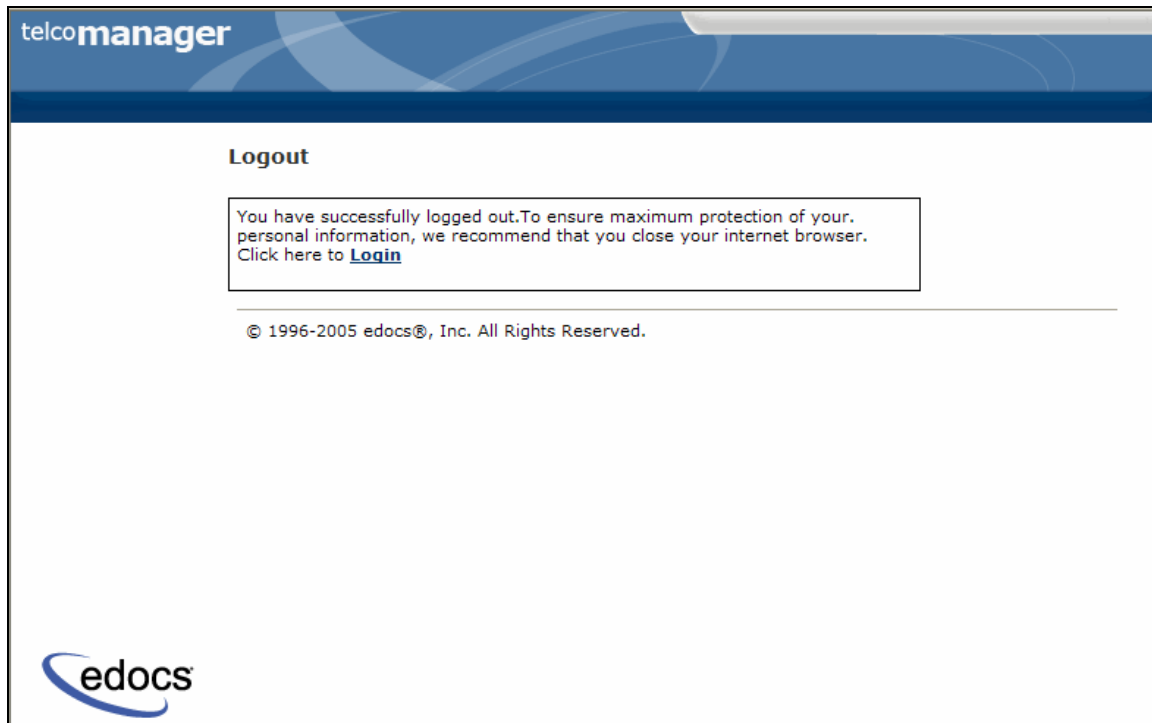
Logout (1100)

Name:	Logout of application
Brief Description:	Business User logs out.
Actor:	Business User
Trigger	1. User invokes the logout operation from the navigation menu
Main Path:	1. System ends the user's session 2. System displays a logout message and prompts the user to login to the application. 3. Use case ends.
Alternate Paths:	[A1] User is inactive on the site for 15 (user defined) minutes 1. System ends session
Standard Features:	Session timeout
Configuration Points:	Time period is configurable.
Notes:	None

Logout of Application:



Logout Screen:



Enroll Company Users (1200)

Name:	Enroll Company Users
Brief Description:	The process of enrolling a company user.
Actor:	Administrator
Trigger:	User clicks on the Administrator tab, clicks on Company users tab.
Preconditions	User logged in as administrator.
Main Path:	1. This use case begins when the User wished to enroll a company user and selects the Enroll Company User operation. 2. System requests User to provide the organization's details such as: a. First Name b. Last Name c. Email Address d. User Name e. Password f. Confirm Password g. Role 3. User enters this information and saves the form. 4. System displays a confirmation page with the new User details. 5. Use case ends.
Alternate Paths:	[A1] Invalid entry System displays message informing the User of the problem and allows them to correct it. [A2] User name already exists System displays message informing the User of the problem and allows them to correct it. [A3] Email Confirmation 1. After validating the enrolment is correct, the system sends an email to the user who was just enrolled.
Standard Features:	Form Validation
Configuration Points	1. Additional fields can be added to the profile management page based on client requirements.
Notes:	None

Enroll Company Users Screen:

telcomanager
[Help](#) | [Contact Us](#) | [Change Language](#) | [Logout](#)

My Account | Statement | Payments

Overview | Hierarchy | Personal | Company

Add User

Company Name: CellTec **Hierarchy Name:** N/A
User Name: Anne Green **Position Name:** N/A

Profile | Company Address Book | Users

*indicates required field.
Please enter new user profile information below.

*First Name:

*Last Name:

*Email Address:

*User Name:

*Password:

*Confirm Password:

*Role:

Security Question:

Security Answer:

CANCEL SAVE

CellTec

Business Structures: 1
Billing Accounts: 24
Wireless Numbers: 76

User Information

Username:
agreen [Edit](#)

Password:
***** [Edit](#)

Role:
Administrator

Highest Wireless Users

Wireless No.	Last Bal.
545-803-9028	\$364.12
847-349-4100	\$245.90
447-483-9312	\$196.91
451-378-3743	\$159.82
397-894-2110	\$144.32

Quick Links

→ [View Last Statement](#)

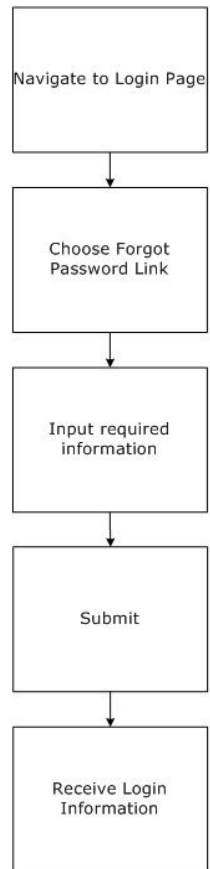
→ [FAQs](#)

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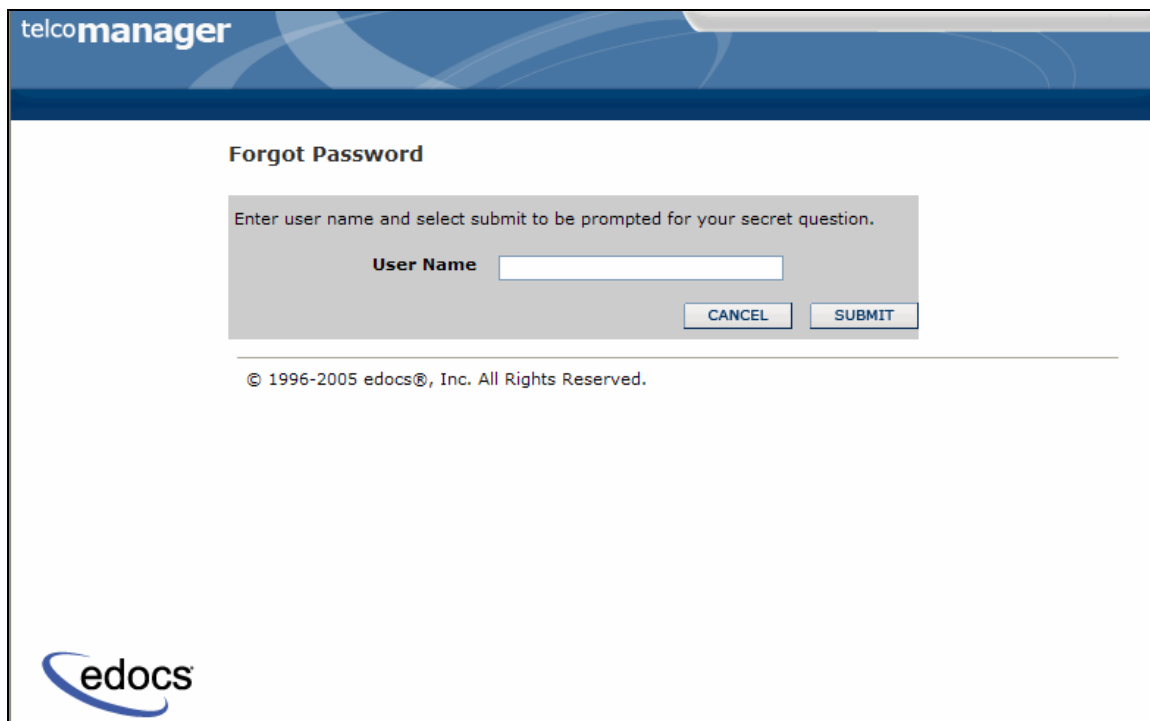
Forgot Password (1400)

Name:	Forgot password
Brief Description:	Business user forgets password and systems presents a password reminder.
Actor:	Business User
Trigger	User selects forgot password action from the login screen
Main Path:	1. System displays a page requesting the user to enter their username. 2. User provides username and submits. 3. System confirms the username exists. [A1] 4. System displays page requesting the user to answer the secret question associated with the username and number. 5. User answers the secret question and submits [A2] 6. System validates the secret question answer to be correct and displays Password Reset page containing: a. New password b. New password confirmation 7. User provides new password and saves. 8. System records new password and logs user in. 9. Use case ends.
Alternate Paths:	[A1] Username does not exist 1. System displays error message stating the username is not correct. [A2] System is unable to validate the secret question 1. System displays error message stating "This is no the answer we have on file, please try again" 2. User is given a system defined number of times to answer correctly.
Standard Features:	Form validation Cancel action
Notes:	None
Questions:	

Retrieve Forgotten Password:

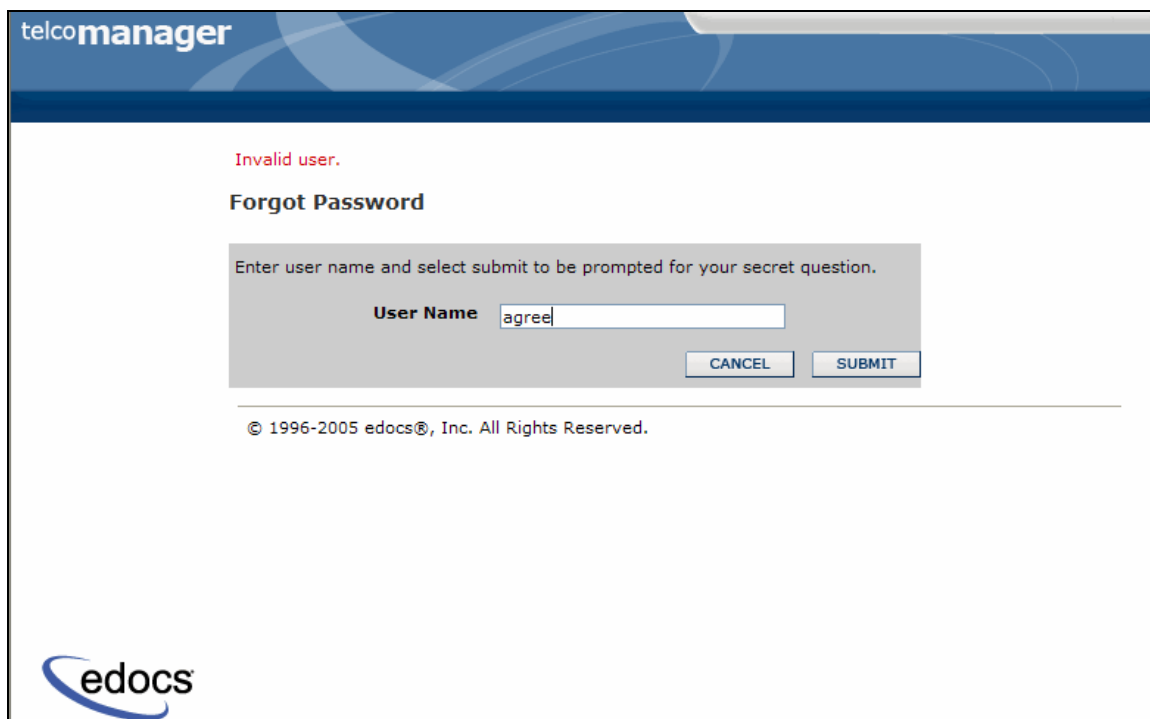


Forgot Password Screen:



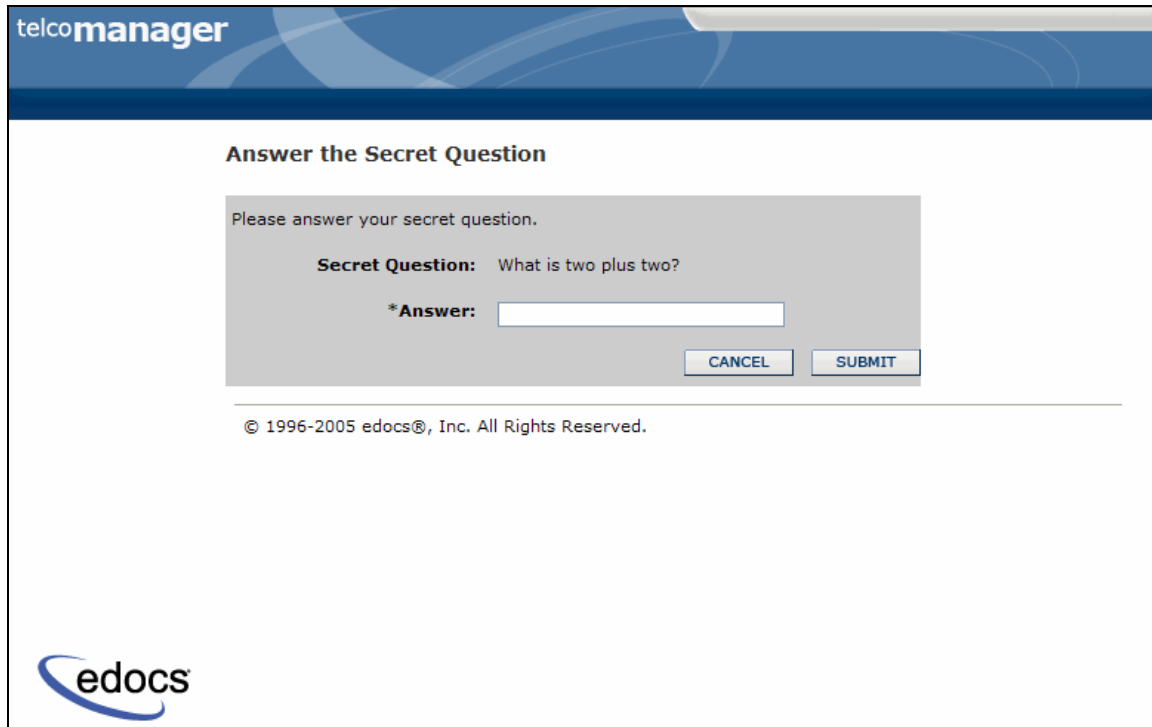
The screenshot shows the 'telcomanager' application interface. At the top is a blue header with the 'telcomanager' logo. Below the header, the title 'Forgot Password' is centered. A gray box contains the instruction 'Enter user name and select submit to be prompted for your secret question.' Below this is a 'User Name' label followed by a text input field. To the right of the input field are two buttons: 'CANCEL' and 'SUBMIT'. Below the gray box, the copyright notice '© 1996-2005 edocs®, Inc. All Rights Reserved.' is displayed. In the bottom left corner, the 'edocs' logo is visible.

Forgot Password Error Screen:



This screenshot shows the 'Forgot Password' screen with an error message. The 'telcomanager' header is at the top. Below it, the text 'Invalid user.' is displayed in red. The 'Forgot Password' title is centered. The gray instruction box is present, with the 'User Name' label and an input field containing the text 'agree'. The 'CANCEL' and 'SUBMIT' buttons are to the right of the input field. The copyright notice '© 1996-2005 edocs®, Inc. All Rights Reserved.' is below the gray box, and the 'edocs' logo is in the bottom left corner.

Secret Question Prompt:



The screenshot shows a web application interface for 'telcomanager'. The header is a dark blue bar with the 'telcomanager' logo in white. Below the header, the main content area has a light gray background. A central box contains the text 'Answer the Secret Question' and 'Please answer your secret question.' Below this, the 'Secret Question' is 'What is two plus two?'. There is an input field for the answer, preceded by an asterisk and the word 'Answer:'. At the bottom right of the input area are two buttons: 'CANCEL' and 'SUBMIT'. Below the input area, there is a copyright notice: '© 1996-2005 edocs®, Inc. All Rights Reserved.' In the bottom left corner of the page is the 'edocs' logo.

telcomanager

Answer the Secret Question

Please answer your secret question.

Secret Question: What is two plus two?

***Answer:**

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Secret Question Error Screen:

The screenshot shows the 'telcomanager' web interface. At the top, a blue header bar contains the 'telcomanager' logo. Below the header, a red error message reads: 'That is not the answer we have on file. Please try again.' The main heading is 'Answer the Secret Question'. Below this, a gray box contains the instruction 'Please answer your secret question.' followed by the 'Secret Question: What is two plus two?'. The '*Answer:' field contains the text 'for'. At the bottom right of the gray box are 'CANCEL' and 'SUBMIT' buttons. Below the gray box, a copyright notice reads: '© 1996-2005 edocs®, Inc. All Rights Reserved.' The 'edocs' logo is in the bottom left corner.

telcomanager

That is not the answer we have on file. Please try again.

Answer the Secret Question

Please answer your secret question.

Secret Question: What is two plus two?

***Answer:** for

CANCEL SUBMIT

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Reset Password Screen:

The screenshot shows the 'telcomanager' web interface. At the top, a blue header bar contains the 'telcomanager' logo. Below the header, the heading is 'Set a New Password'. Below this, a gray box contains the instruction 'Please choose a password based on the following criteria and enter it twice to confirm.' followed by a bulleted list of criteria: 'Password is case-sensitive.', 'Use letters and numbers only when creating your Password.', and 'Do not use special characters or spaces.' Below the list, the 'New Password (4-12 characters):' field is empty. The 'Confirm New Password :' field is also empty. At the bottom right of the gray box are 'CANCEL' and 'SAVE' buttons. Below the gray box, a copyright notice reads: '© 1996-2005 edocs®, Inc. All Rights Reserved.' The 'edocs' logo is in the bottom left corner.

telcomanager

Set a New Password

Please choose a password based on the following criteria and enter it twice to confirm.

- Password is case-sensitive.
- Use letters and numbers only when creating your Password.
- Do not use special characters or spaces.

New Password (4-12 characters):

Confirm New Password :

CANCEL SAVE

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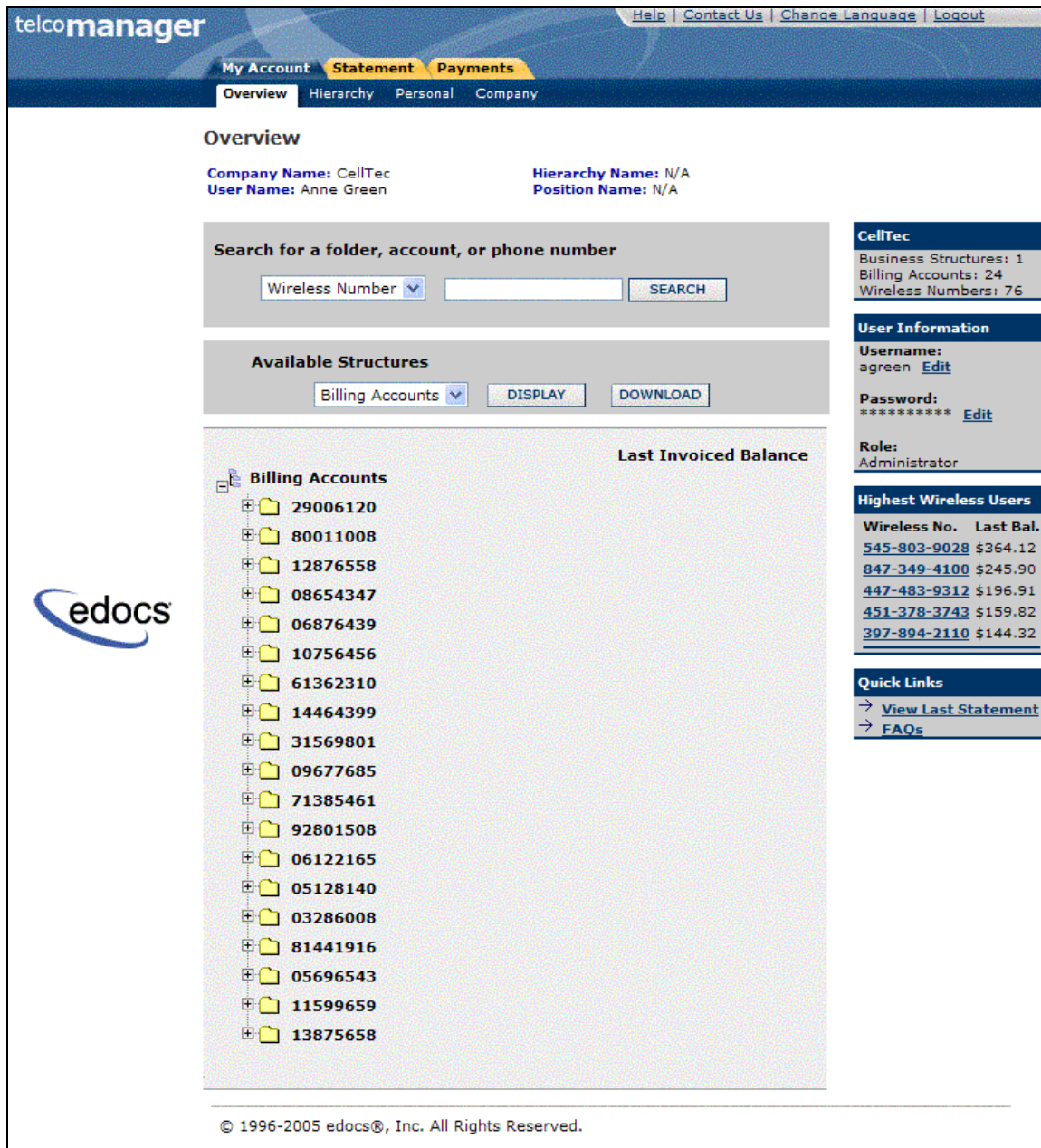
3.6 Siebel Communications Billing Manager - Overview Use Cases

View Business Dashboard(1500)

Name:	View Business Dashboard
Brief Description:	Business User views the dashboard that contains the account and device information they have access to.
Actor	Business User
Trigger	1. This is the landing page displayed to the user after logging in 2. This screen is displayed when the user selects the “My Account” \ “Overview” menu selection
Main Path:	1. System displays the Dashboard Screen including the following content: a. User’s hierarchy with assigned accounts and devices, with the balance from the most recent statement. b. User’s profile. c. Various images and quick links (all defined in the alternate paths) based on functionality available in other places in the applications 2. The user has the option to: a. Search for an available Business Structure [A1] b. View current outstanding charges for an account [A2] c. View charges associated with a selected device [A3] d. View unbilled charges associated with a selected device [A4] 3. System invokes the appropriate Use Case (see alternate paths). 4. Use case ends.
Alternate Paths:	[A1] Search a Billing Account or Business Structure Hierarchy 1. User enters search criteria. 1. System returns search results, if any [A2] View Statement 1. User expands hierarchy tree until an account is displayed. 2. User selects “Last Statement” action 3. System invokes View Statement Summary [A3] View Call Usage Detail 1. User expands hierarchy tree until a phone number is displayed. 2. User selects “Call Usage Detail” action 3. System invokes view Usage Details Use Case. [A4] View unbilled 1. User expands hierarchy tree until a phone number is displayed. 2. User selects “View Unbilled” action 3. System invokes view Unbilled Summary for Device Use Case

	[A5] Manage Users - User expands hierarchy tree until an account is displayed. - User selects “Manage Users” action - System invokes the “Manage Company Users” use case [A6] View Company Profile - User clicks on the company name hyperlink in the “company name” section - System invokes, Manage Company Profile (UC 5800) [A7] View User Profile - User clicks on the user name hyperlink under personal profile - System displays the Personal Profile screen (UC 5000) [A8] Change password - User selects the “change password action - System invokes, Manage Password (UC 5100) [A9] Email Notifications - User selects “email opt in” action - System displays Manage Notification (UC 5400) [A10] User selects a wireless number from the highest wireless users module - System invokes, Device Summary (UC 2200) [A11] View New Rate Plans - User selects specific rate play hyperlink in the “New Rate Plans” section. - Separate browser window displays service provider marketing information about the selected rate plan. [A12] User selects quick link option - System invokes the corresponding Communications Billing Manager use cases [A13] Landing page for a user with access to a single billing account. - System displays the ‘Account Summary’ page (UC 2000) for users who has access to a single billing account. [A14] Landing page for a user with access to a single subscription - System displays the ‘Device Summary’ page (UC 2200) for users who has access to a single subscription (phone)
Standard Features:	- Hierarchy - Search
Notes	- All nodes of the hierarchy will be collapsed upon entry into the application. - Accounts and mobile numbers are modeled separately in business structures. - For the foundation app, system retrieves and displays the unbilled data from a data file or dummy data table.

Communications Billing Manager Dashboard:



The screenshot shows the telcomanager dashboard. At the top, there's a navigation bar with 'My Account', 'Statement', and 'Payments' tabs. Below this, there's a sub-navigation bar with 'Overview', 'Hierarchy', 'Personal', and 'Company' tabs. The 'Overview' tab is selected.

Overview

Company Name: CellTec
User Name: Anne Green
Hierarchy Name: N/A
Position Name: N/A

Search for a folder, account, or phone number

Wireless Number

Available Structures

Billing Accounts

Billing Accounts

	Last Invoiced Balance
29006120	
80011008	
12876558	
08654347	
06876439	
10756456	
61362310	
14464399	
31569801	
09677685	
71385461	
92801508	
06122165	
05128140	
03286008	
81441916	
05696543	
11599659	
13875658	

CellTec

Business Structures: 1
Billing Accounts: 24
Wireless Numbers: 76

User Information

Username: agreeen [Edit](#)
Password: ***** [Edit](#)
Role: Administrator

Highest Wireless Users

Wireless No.	Last Bal.
545-803-9028	\$364.12
847-349-4100	\$245.90
447-483-9312	\$196.91
451-378-3743	\$159.82
397-894-2110	\$144.32

Quick Links

→ [View Last Statement](#)
→ [FAQs](#)

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3.7 Statements Use Cases

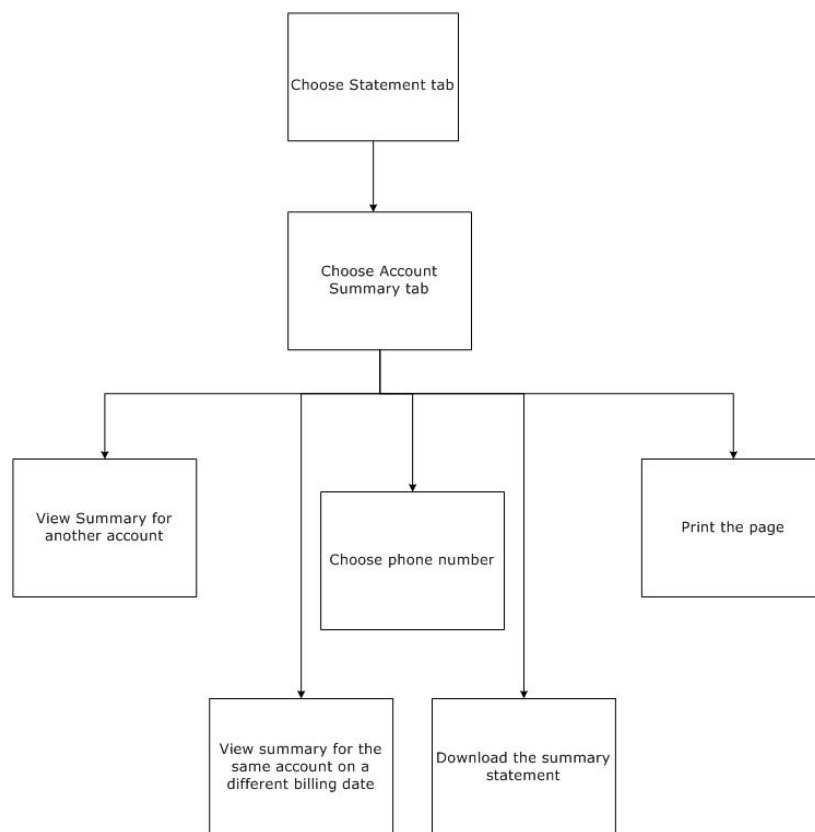
The statement presentment use cases allow users to view their account summary and detail information.

- Account Summary
- Device Charges
- Device Summary

- Usage Details
- View Unbilled Activity
- View Statement Messages
- Print Invoice (PDF)
- Download Account Data
- View Account Level Report
- View Device Level Report

Account Summary (2000)

View Account Summary in Statement:



Name:	Account Summary
Brief Description:	Business User views the summary of an account.
Actors:	Business User

Trigger:	1. User selects the "Statements" \ "Account" \ "Summary" menu options 2. User selects the "Last Statement" option next to an account displayed on the "My Accounts" \ "Overview" page
Main Path:	1. This use case begins when the User wishes to view the Statement Summary and invokes the view statement operation from the . 2. System displays Statement Summary Screen with summary information for the statement. [A1] 3. Use case ends.
Alternate Paths:	[A1] User selects an alternate billing date. 1. System displays the Statement Summary page for the selected billing date.
Standard Features:	Print Invoice (PDF)
Notes:	Download formats can vary Side Navigation – Context Change Module for Account

Account Summary Screen:

telcomanager [Help](#) [Contact Us](#) [Change Language](#) [Logout](#)

My Account **Statement** **Payments**

Account [Device](#) [Messages](#) [Unbilled](#) [Reports](#)

[Download](#) [Printer Friendly](#)

Account Summary

Company Name: CellTec **Hierarchy Name:** N/A
User Name: Anne Green **Position Name:** N/A

Account Number: 61362310
Statement Date: 05/04/04
[DISPLAY](#)

Summary **Device Charges**

Statement Summary Costs

Monthly Service Charges	31.99
Usage Charges	0.00
Other Charges	2.15
Taxes	2.69
Total Current Charges	36.83

Previous Payments

Previous Balance	34.64
Payment by Visa posted on May 26, 2004	-34.64
Total Balance	\$0.00

CellTec
 Business Structures: 1
 Billing Accounts: 24
 Wireless Numbers: 76

User Information
Username: agreen [Edit](#)
Password: ***** [Edit](#)
Role: Administrator

Highest Wireless Users

Wireless No.	Last Bal.
545-803-9028	\$364.12
847-349-4100	\$245.90
447-483-9312	\$196.91
451-378-3743	\$159.82
397-894-2110	\$144.32

Quick Links
[View Last Statement](#)
[FAQs](#)

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Device Charges (2100)

Name:	Device Charges
Brief Description:	Business user views the list of phones and their summary charges.
Actors:	Business User
Triggers	1. User selects the “Statements” \ “Account” \ “Device Charges” menu options
Main Path:	1. This use case begins when the user wishes to view the list of phones they have available and selects the View Phone List operation. 2. System displays a list of phones available within the invoice for the selected bill date with the following columns: a. Phone Number b. Summary Charges (columns can vary based on service provider bill data) c. Option to view Phone Detail d. Option to view Unbilled Activity 3. Use case ends.
Alternate Paths:	[A1] User selects to view a different statement date 1. System redisplayes the phone list for the selected statement date. [A2] User selects to view Unbilled Activity 1. System invokes View Unbilled Activity Use Case.
Standard Features:	1. Paging 2. Download 3. Sorting
Notes:	None
Questions:	

Device Charges Summary Screen:

telcomanager [Help](#) | [Contact Us](#) | [Change Language](#) | [Logout](#)

My Account | **Statement** | **Payments**

Account | Device | Messages | Unbilled | Reports

View Account Device Charges

Company Name: CellTec Hierarchy Name: N/A
User Name: Anne Green Position Name: N/A

Account Number: 00486590
Statement Date: 05/04/04
DISPLAY

Summary | **Device Charges**

Wireless Number	Monthly Service	Usage	Adjustments	Taxes	Other	Total
397-894-2100	49.99	0.00	3.65	2.65	0.00	56.29
397-894-2101	29.99	0.00	3.16	1.63	0.00	34.78
397-894-2105	49.99	0.00	3.65	2.65	0.00	56.29
397-894-2114	39.99	0.00	2.14	2.08	0.00	44.21
397-894-2102	49.99	0.00	3.65	2.65	0.00	56.29
397-894-2103	19.99	15.75	3.31	1.93	0.00	40.98
397-894-2104	39.99	0.00	3.41	2.14	0.00	45.54
397-894-2106	19.99	0.00	2.91	1.11	0.00	24.01
397-894-2114	19.99	0.00	1.64	1.05	0.00	22.68
397-894-2115	19.99	0.00	1.64	1.05	0.00	22.68
397-894-2107	29.99	0.00	1.89	1.57	0.00	33.45
397-894-2116	19.99	0.00	1.64	1.05	0.00	22.68
397-894-2108	19.99	7.00	3.09	1.48	0.00	31.56
397-894-2109	19.99	0.00	2.91	1.11	0.00	24.01
397-894-2110	19.99	111.30	5.90	7.13	0.00	144.32
397-894-2111	19.99	0.00	2.91	1.11	0.00	24.01
397-894-2112	29.99	0.00	3.16	1.63	0.00	34.78
397-894-2113	29.99	0.00	3.16	1.63	0.00	34.78
Total	529.82	134.05	53.82	35.65	0.00	753.34

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Print Friendly Version:

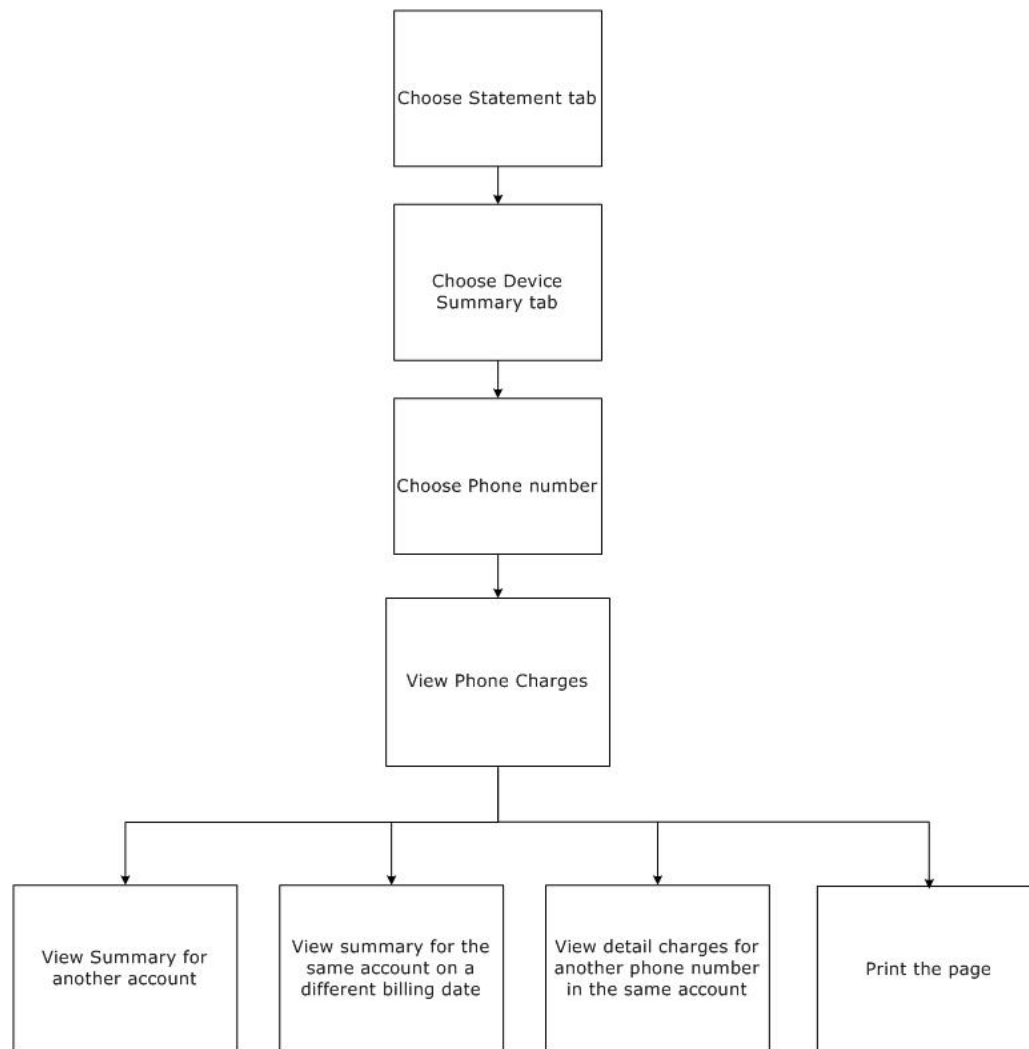
[CLOSE WINDOW](#)

Account Number: 00486590 Statement Date: 05/04/04

Wireless Number	Monthly Service	Usage	Adjustments	Taxes	Other	Total
397-894-2100	49.99	0.00	3.65	2.65	0.00	56.29
397-894-2101	29.99	0.00	3.16	1.63	0.00	34.78
397-894-2105	49.99	0.00	3.65	2.65	0.00	56.29
397-894-2114	39.99	0.00	2.14	2.08	0.00	44.21
397-894-2102	49.99	0.00	3.65	2.65	0.00	56.29
397-894-2103	19.99	15.75	3.31	1.93	0.00	40.98
397-894-2104	39.99	0.00	3.41	2.14	0.00	45.54
397-894-2106	19.99	0.00	2.91	1.11	0.00	24.01
397-894-2114	19.99	0.00	1.64	1.05	0.00	22.68
397-894-2115	19.99	0.00	1.64	1.05	0.00	22.68
397-894-2107	29.99	0.00	1.89	1.57	0.00	33.45
397-894-2116	19.99	0.00	1.64	1.05	0.00	22.68
397-894-2108	19.99	7.00	3.09	1.48	0.00	31.56
397-894-2109	19.99	0.00	2.91	1.11	0.00	24.01
397-894-2110	19.99	111.30	5.90	7.13	0.00	144.32
397-894-2111	19.99	0.00	2.91	1.11	0.00	24.01
397-894-2112	29.99	0.00	3.16	1.63	0.00	34.78
397-894-2113	29.99	0.00	3.16	1.63	0.00	34.78
Total	529.82	134.05	53.82	35.65	0.00	753.34

Device Summary (2200)

View Device Summary in Statement:



Name:	Device Summary
Brief Description:	Business User views summary charges for an individual phone number.
Primary Actor:	Business User
Triggers	1. User selects the "Statements" \ "Device" \ "Summary" menu options
Main Path:	1. This use case begins when the User wishes to view the summary charges for a phone number. 2. System displays charges for a specific phone number. 3. Use case ends.

Alternate Paths:	[A1] User selects an alternate billing date 1. System redisplay the Device Charges page for the selected billing date.
Standard Features:	Print Friendly
Notes:	Side Navigation for Account, Statement Date and Device Number

View Device Summary:

telcomanager [Home](#) [Contact Us](#) [Change Language](#) [Logout](#)

My Account **Statement** **Payments**

Account **Device** Messages Unbilled Reports

[Download](#) [Printer Friendly](#)

Device Summary

Company Name: CellTec Hierarchy Name: N/A
User Name: Anne Green Position Name: N/A

Account Number: 00486590
Statement Date: 05/04/04
[DISPLAY](#)

CellTec
Business Structures: 1
Billing Accounts: 24
Wireless Numbers: 76

User Information
Username: agreen [Edit](#)
Password: ***** [Edit](#)
Role: Administrator

Highest Wireless Users

Wireless No.	Last Bal.
545-803-9028	\$364.12
847-349-4100	\$245.90
447-483-9312	\$196.91
451-378-3743	\$159.82
397-894-2110	\$144.32

Quick Links
→ [View Last Statement](#)
→ [FAQs](#)

Summary **Usage Details**

Phone Number: 397-894-2100 [GO](#)

Summary for 397-894-2100

Total Charges For: 397-894-2100 \$56.29

Rate Plan

	Period	Prorated Charge	Monthly Total Charge
CellTec 700 Plus	05/04-06/03		49.99

Includes:
CALL WAITING
CALL HOLD
CLID PER CALL BLOCK

Usage Charge Details

Total Usage Charges \$0.00

Optional Services

	Period	Prorated Charge	Monthly Total Charge
BASIC VOICEMAIL	05/04-06/03		0.00
CALL FORWARDING	05/04-06/03		0.00
ROAMING \$.69/MIN	05/04-06/03		0.00
CONNXXN CHARGE MAY APPLY	05/04-06/03		0.00
VOICE MAIL ALERT	05/04-06/03		0.00
CALLER ID N/C	05/04-06/03		0.00
NATIONWIDE TOLL FREE	05/04-06/03		0.00
DETAILED BILLING N/C	05/04-06/03		0.00
LONG DISTANCE ACCESS	05/04-06/03		0.00
NETWORK ACCESS	05/04-06/03		0.00
NUMERIC PAGING	05/04-06/03		0.00

Credits, Adjustments & Other Charges

FED UNIVERSAL SVC CHARGE	1.27
CONNECTION CHARGE	1.24
911 MONTHLY	0.58
REGULATORY COST RECOVERY FEE	0.56
TELCOM RELAY SERVICE SURCHARGE	0.00
Total Other Charges	\$3.65

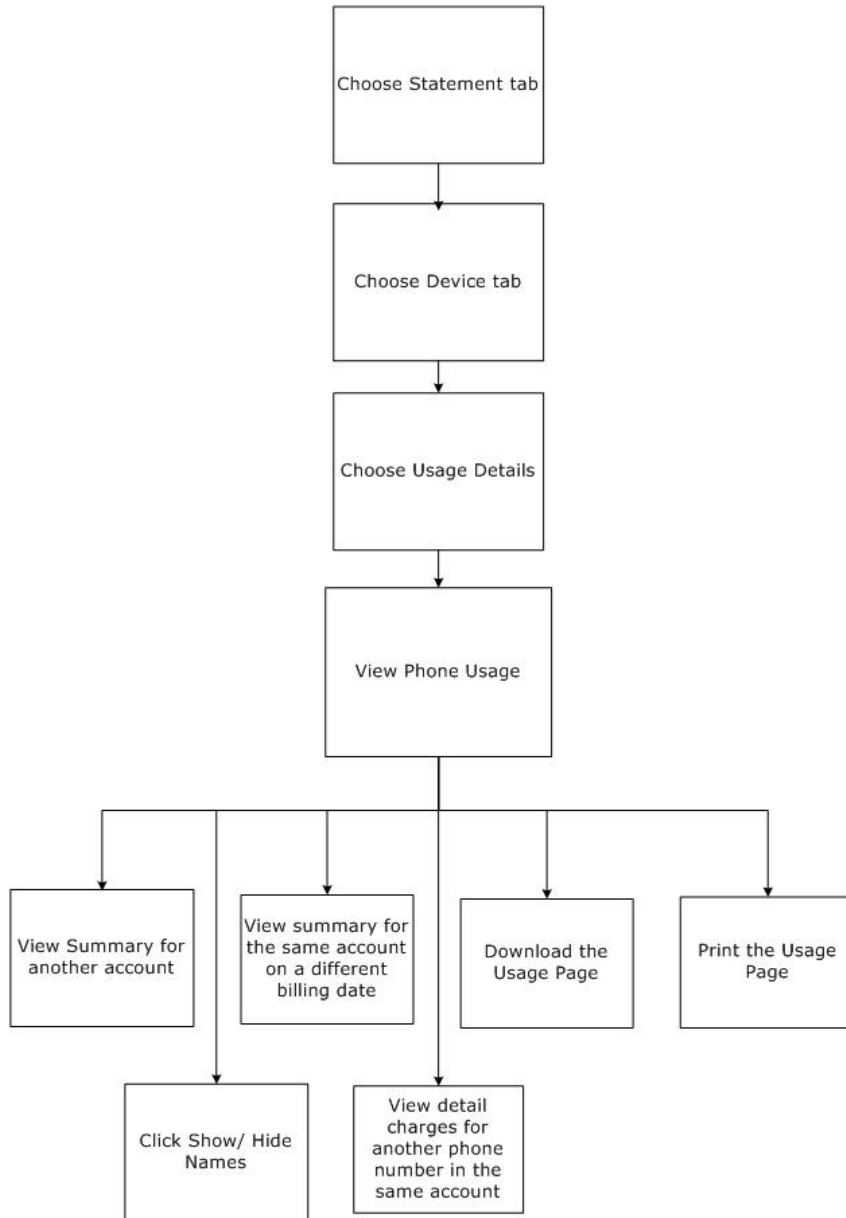
Taxes

STATE SALES TAX	2.65
Total Taxes	\$2.65

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Usage Details(2300)

View Device Usage Details:



Name:	Usage Details
Brief Description:	Business User views the detail associated with a single phone number.
Actors:	Business User
Triggers	1. User selects the “Statements” \ “Device” \ “Usage Details” menu options 2. User selects the “Call Usage Detail” option next to phone number displayed on the “My Accounts” \ “Overview” page
Main Path:	1. This use case begins when the User selects the view call detail operation for a specific phone number. 2. System displays the Statement Detail information for the selected phone number. 3. Use case ends.
Alternate Paths:	[A1] Customer selects an alternate billing date. 1. System displays the Statement Detail page for the selected billing date. [A2] Show Detail View 1. User Selects the Go To Detail / Summary View action to switch between showing additional columns or not. [A3] Show/Hide Names 1. User selects the show/hide names action to switch between displaying phone numbers and names from the Personal or Corporate Address Book [A4] Edit Personal Address Book 1. User selects “Edit Personal Address Book” action to modify any PAB field except for the phone number which defaults to the selected call detail record number.
Standard Features:	1. CSV Download 2. Paging 3. Personal Address Book 4. Printer Friendly 5. Sorting
Notes:	None

Usage Details Screen:

telcomanager
[Help](#) | [Contact Us](#) | [Change Language](#) | [Logout](#)

My Account | Statement | Payments

Account | Device | Messages | Unbilled | Reports

Download | Printer Friendly

View Device Usage Details

Company Name: CellTec
User Name: Anne Green

Hierarchy Name: N/A
Position Name: N/A

Account Number: 00486590
Statement Date: 05/04/04
DISPLAY

Summary | Usage Details

Phone Number: 397-894-2100 GO

Page 1 of 6

Details for 397-894-2100 SHOW/HIDE NAMES

Date , Time	Number Called	Call To	Rate Code	Rate Period	Call Type	Min	Billed Amount
05/04, 08:39AM	testddd	COLUMBIA SC	C700	Weekdays	Unrated	2	0.00
05/04, 08:41AM	Chris	COLUMBIA SC	C700	Weekdays	Unrated	12	0.00
05/04, 09:56AM	397-894-2107	COLUMBIA SC	C700	Weekdays	Unrated	1	0.00
05/04, 10:45AM	803-737-2222	COLUMBIA SC	C700	Weekdays	Unrated	1	0.00
05/04, 10:46AM	803-285-4368	LANCASTER SC	C700	Weekdays	Unrated	12	0.00
05/04, 11:33AM	704-451-8989	VOICEMAIL L	C700	Weekdays	Voicemail	2	0.00
05/04, 12:05PM	803-935-7412	COLUMBIA SC	C700	Weekdays	Unrated	2	0.00
05/04, 12:07PM	803-935-7502	COLUMBIA SC	C700	Weekdays	Unrated	2	0.00
05/04, 12:28PM	704-451-8989	VOICEMAIL L	C700	Weekdays	Voicemail	1	0.00
05/04, 12:47PM	397-894-2107	COLUMBIA SC	C700	Weekdays	Unrated	14	0.00
05/04, 01:01PM	803-446-1821	INCOMING CL	C700	Weekdays	Incoming call	5	0.00
05/04, 01:22PM	803-738-7300	INCOMING CL	C700	Weekdays	Incoming call	3	0.00
05/04, 02:38PM	704-451-8989	VOICEMAIL L	C700	Weekdays	Voicemail	1	0.00
05/04, 02:39PM	803-737-2222	COLUMBIA SC	C700	Weekdays	Unrated	1	0.00
05/04, 03:33PM	803-446-1821	COLUMBIA SC	C700	Weekdays	Unrated	1	0.00
05/04, 03:49PM	803-737-2222	COLUMBIA SC	C700	Weekdays	Unrated	1	0.00
05/04, 03:50PM	803-935-7502	COLUMBIA SC	C700	Weekdays	Unrated	4	0.00
05/04, 03:53PM	803-434-4090	COLUMBIA SC	C700	Weekdays	Unrated	4	0.00
05/04, 03:57PM	803-446-1821	COLUMBIA SC	C700	Weekdays	Unrated	1	0.00
05/05, 08:43AM	803-434-8232	INCOMING CL	C700	Weekdays	Incoming call	1	0.00
05/05, 09:07AM	803-434-8232	INCOMING CL	C700	Weekdays	Incoming call	1	0.00
05/05, 09:26AM	803-434-8232	INCOMING CL	C700	Weekdays	Incoming call	4	0.00
05/05, 09:41AM	803-772-1795	COLUMBIA SC	C700	Weekdays	Unrated	1	0.00
05/05, 09:42AM	803-434-8232	INCOMING CL	C700	Weekdays	Incoming call	1	0.00
05/05, 09:43AM	803-935-7502	COLUMBIA SC	C700	Weekdays	Unrated	4	0.00
05/05, 09:48AM	803-935-7525	COLUMBIA SC	C700	Weekdays	Unrated	1	0.00
05/05, 09:50AM	803-935-7527	COLUMBIA SC	C700	Weekdays	Unrated	1	0.00
05/05, 10:36AM	803-935-7250	COLUMBIA SC	C700	Weekdays	Unrated	4	0.00
05/05, 10:40AM	704-451-8989	VOICEMAIL L	C700	Weekdays	Voicemail	2	0.00
05/05, 12:47PM	864-938-3422	CLINTON SC	C700	Weekdays	Unrated	2	0.00
05/05, 12:51PM	803-935-6881	COLUMBIA SC	C700	Weekdays	Unrated	5	0.00
05/05, 01:56PM	803-935-7412	COLUMBIA SC	C700	Weekdays	Unrated	1	0.00
05/05, 02:02PM	864-938-3422	CLINTON SC	C700	Weekdays	Unrated	1	0.00
05/05, 02:04PM	803-935-6892	COLUMBIA SC	C700	Weekdays	Unrated	2	0.00
05/05, 02:06PM	397-894-2107	COLUMBIA SC	C700	Weekdays	Unrated	3	0.00
05/05, 02:36PM	803-935-7304	COLUMBIA SC	C700	Weekdays	Unrated	7	0.00
Totals						661	0.00

Page 1 of 6

Rate Code: C700=CellTec 700 Plus

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View Unbilled Activity (2400)

Name:	View Unbilled Activity
Brief Description:	Business user views activity that has been generated since their most recent billing statement.
Triggers	1. User selects the “Statements” \ “Unbilled” menu options 2. User selects the “View Unbilled” option next to phone number displayed on the “My Accounts” \ “Overview” page
Actors:	Business User
Main Path:	1. This use case begins when the user selects the View Unbilled Activity operation. 2. System displays the Unbilled Activity page including the following information: a. Summary of Unbilled Activity [A1] b. Detail generated since the most recent billing statement.[A2] 3. Use case ends.
Alternate Paths:	[A1] User has access to more than one device and selects to view a different device. 1. System redisplay the Unbilled Activity page. [A2] System is unable to retrieve Unbilled Activity 1. System will display a message informing the user that the unbilled data is unavailable at this time.
Standard Features:	1. Paging 2. Personal Address Book 3. Printer Friendly 4. Sorting
Notes:	All data on this page is generated and provided by the billing system in real-time. However, in order to demonstrate the foundation application, sample “unbilled data” should be included in the sample data set.

Screen Displays Unbilled Activity:



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My Account **Statement** **Payments**

Account Device Messages **Unbilled** Reports

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View Unbilled Usage

Company Name: CellTec **Hierarchy Name:** N/A
User Name: Anne Green **Position Name:** N/A

Account Number: 61362310
Statement Date: 05/04/04
[DISPLAY](#)

CellTec
 Business Structures: 1
 Billing Accounts: 24
 Wireless Numbers: 76

User Information
Username: agreen [Edit](#)
Password: ***** [Edit](#)
Role: Administrator

Highest Wireless Users

Wireless No.	Last Bal.
545-803-9028	\$364.12
847-349-4100	\$245.90
447-483-9312	\$196.91
451-378-3743	\$159.82
397-894-2110	\$144.32

Quick Links
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Summary

Peak Minutes	42
Weekend Minutes	0
Total Minutes:	42

Call Details [SHOW/HIDE NAMES](#)

Date, Time	Called Number	Destination	Call Type	Min
2004-10-10 00:00	123-457-1111		local	42

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View Statement Messages (2500)

Name:	View Bill Messages
Brief Description:	Business User views the bill messages that are shown on their statement.
Actors:	Business User
Triggers	1. User selects the "Statements" \ "Statement Messages" menu options
Main Path:	1. This use case begins when the user wants to view the bill messages that are associated to a chosen statement. 2. System displays the bill messages that are associated to the selected statement. [A1] 3. Use case ends.
Alternate Paths:	[A1] User has access to more than one statement and selects to view a different statement's messages 1. System redisplay the Bill Messages screen.
Standard Features:	None
Notes:	1. All data on this page is generated and provided by the billing file and all formatting will be shown in accordance with that file. 2. Source for bill messages data is from the billing statement.

View Bill Messages:

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My Account | Statement | Payments

Account | Device | Messages | Unbilled | Reports

Messages

Company Name: CellTec
User Name: Anne Green

Hierarchy Name: N/A
Position Name: N/A

Account Number: 61362310 Statement Date: 05/04/04

Service Provider Message

[Service Providers Text Here]

Account Number: 61362310
Statement Date: 05/04/04

DISPLAY

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Print Invoice - PDF (2700)

Name:	Print Invoice
Brief Description:	Business User prints a selected invoice in PDF format.
Actors:	Business User
Triggers	1. User selects the “download PDF” action on any screen where PDF is available.
Main Path:	1. This use case begins when the User selects the Print Invoice operation from the navigation menu. 2. System opens a new window and displays a PDF version of the selected invoice. 3. User saves or prints the invoice using Adobe Acrobat functionality [A1] 4. Use case ends.
Alternate Paths:	[A1] User closes the PDF version of the invoice 1. System shows the original web application to the user.
Standard Features:	1. The following screens will have the PDF option: a. Invoice b. Tax Invoice (if applicable)
Notes:	1. The PDF can be saved or printed via the Adobe Acrobat interface and will not have any of the navigation information specific to the web application. 2. For business users this would only be invoice summary and not the entire invoice on the fly. Generating an entire business invoice would have performance issues and may need to be created in batch if necessary. 3. PDF size threshold is dependent on customer data and is often decided based on client data sample and proposed architecture.

User Downloads Invoice in PDF Format to Print:

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[Account](#) | [Device](#) | [Messages](#) | [Unbilled](#) | [Reports](#)

Download Format: PDF GO Printer Friendly

Account Summary

Company Name: CellTec
User Name: Anne Green
Hierarchy Name: N/A
Position Name: N/A

Account Number: 61362310
Statement Date: 05/04/04
[DISPLAY](#)

CellTec

Business Structures: 1
 Billing Accounts: 24
 Wireless Numbers: 76

User Information

Username: agreen [Edit](#)
Password: ***** [Edit](#)
Role: Administrator

Highest Wireless Users

Wireless No.	Last Bal.
545-803-9028	\$364.12
847-349-4100	\$245.90
447-483-9312	\$196.91
451-378-3743	\$159.82
397-894-2110	\$144.32

Quick Links

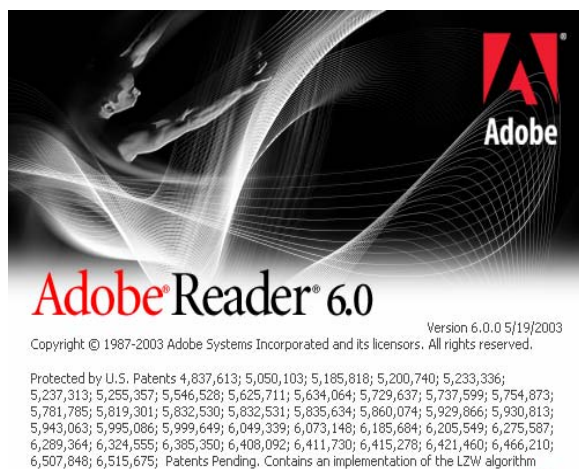
[View Last Statement](#)
[FAQs](#)

Summary | **Device Charges**

Statement Summary Costs	
Monthly Service Charges	31.99
Usage Charges	0.00
Other Charges	2.15
Taxes	2.69
Total Current Charges	36.83

Previous Payments	
Previous Balance	34.64
Payment by Visa posted on May 26, 2004	-34.64
Total Balance	\$0.00

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Download Account Data (2800)

Name:	Download Account Data
Brief Description:	A Business User downloads account data.
Actors:	Business User
Triggers	1. User selects the “download” action on any screen where download is available.
Main Path:	1. This use case begins when User wishes to download account data and selects the download function. 2. System requests user to select data type. 3. User selects the appropriate data type. 4. Systems display the standard file save or open dialog box. User enters file name and folder to save file. 5. Records displayed on the screen are saved to the specified file 6. Use case ends.
Alternate Paths:	None
Standard Features:	1. XML data format 2. CSV data format 3. Cancel action
Notes:	1. Downloads are available within: a. All Individual Reports b. Call Detail c. Account Summary 2. Side Navigation CCM for Account and Phone Number search.

View Account Level Report (2900)

Name:	View Account Level Report
Brief Description:	Business User views a report for a specific account.
Actors:	Business User
Main Path:	1. This use case begins when the User selects an account level report to view. 2. System displays the report. [A1-A2] 3. User changes the statement date. 4. System redisplay the previously selected report for the newly selected statement date. 5. User selects a different report and selects display action. [A3-A9] 6. System redisplay the selected report for the previously selected statement date. 7. Use case ends.
Alternate Paths:	[A1] User has access to multiple accounts and selects a different account. System redisplay the previously selected report for the newly selected account. [A2] There is no report data available for the selected report/statement date. System displays a message stating that there is no data available. [A3] Batch Report System generates and displays account level reports in batch. <i>Rationale:</i> Reports that would normally involve long user latency can be run in batch at night and only the report results are presented when the user selects the report. [A4] Show/Hide Names For those reports with a PAB hyperlink (see screen shots), the user will have the ability to toggle between displaying the called phone number or the alias in the PAB/CAB. [A5] Report: 20 longest calls account report. Need to display the phone number making the call ("A number") [A6] Report: 20 most expensive calls Need to display the phone number making the call ("A number") [A7] Report: 20 most called numbers report [A8] Report: 20 most expensive called numbers report [A9] Report: 20 most called destinations report [A10] Report: 'Cost summary by call type' report [A11] Report: 'Cost summary by month' report [A12] Report: 'Cost summary by time period' report

Application Use Cases

Standard Features:

1. CSV & XML Download options
2. Print Friendly

Display 20 Most Expensive Calls Report:

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My Account | Statement | Payments

Account | Device | Messages | Unbilled | Reports

Download
Printer Friendly

View Account Reports
Company Name: CellTec
User Name: Anne Green
Hierarchy Name: N/A
Position Name: N/A

Account Number:
61362310
Statement Date:
05/04/04
DISPLAY

Account Reports | Device Reports

To view a report, select from the following options and click Display.

Select Report: Top 20 most expensive calls DISPLAY

Top 20 Most Expensive Calls								SHOW/HIDE NAMES
Date	Time	Calling Number		Number Called	Destination	Type	Mins	Usage
05/05	04:46PM	318-473-2174		803-782-7779	COLUMBIA SC	Unrated	1	.00
05/07	12:46PM	318-473-2174		704-451-8989	VOICEMAIL L	Voicemail	1	.00
05/09	07:06PM	318-473-2174		803-604-1019	BATESBURG SC	Unrated	1	.00
05/09	07:07PM	318-473-2174		615-790-9650	FRANKLIN TN	Unrated	7	.00
05/11	10:18AM	318-473-2174		803-256-6302	COLUMBIA SC	Unrated	1	.00
05/11	11:28AM	318-473-2174		803-787-7429	COLUMBIA SC	Unrated	1	.00
05/13	08:11AM	318-473-2174		843-768-9323	CHARLESTO SC	Unrated	11	.00
05/13	11:10AM	318-473-2174		843-364-4382	CHARLESTO SC	Unrated	2	.00
05/13	04:08PM	318-473-2174		318-473-2174	INCOMING CL	Incoming call	3	.00
05/13	04:16PM	318-473-2174		318-473-2174	INCOMING CL	Incoming call	2	.00
05/20	09:47AM	318-473-2174		803-359-0046	INCOMING CL	Incoming call	1	.00
05/21	01:17PM	318-473-2174		704-451-8989	VOICEMAIL L	Voicemail	1	.00
05/22	12:09PM	318-473-2174		704-451-8989	VOICEMAIL L	Voicemail	1	.00
05/22	12:10PM	318-473-2174		803-926-7549	COLUMBIA SC	Unrated	2	.00
05/22	12:17PM	318-473-2174		803-926-7549	COLUMBIA SC	Unrated	1	.00
05/22	12:19PM	318-473-2174		803-799-1244	COLUMBIA SC	Unrated	3	.00
05/22	12:24PM	318-473-2174		803-926-7549	COLUMBIA SC	Unrated	1	.00
05/22	12:31PM	318-473-2174		803-926-7549	COLUMBIA SC	Unrated	1	.00
05/24	11:29AM	318-473-2174		803-787-7429	COLUMBIA SC	Unrated	1	.00
05/24	04:25PM	318-473-2174		864-503-0545	SPARTANBG SC	Unrated	1	.00
Summary of Top 20 Most Expensive Calls							43	.00

Summary of Statement Totals		
Total Count	Total Duration	Total Amount
26	51	.00

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Display 20 Longest Calls Report:

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Account | Device | Messages | Unbilled | **Reports**

View Account Reports [Download](#) [Printer Friendly](#)

Company Name: CellTec **Hierarchy Name:** N/A
User Name: Anne Green **Position Name:** N/A

Account Number: 61362310
Statement Date: 05/04/04
[DISPLAY](#)

Account Reports | **Device Reports**

To view a report, select from the following options and click Display.

Select Report: Top 20 longest calls [DISPLAY](#)

Top 20 Longest Calls [SHOW/HIDE NAMES](#)

Date	Time	Calling Number	Number Called	Destination	Type	Mins	Usage
05/13	08:11AM	318-473-2174	843-768-9323	CHARLESTO SC	Unrated	11	.00
05/09	07:07PM	318-473-2174	615-790-9650	FRANKLIN TN	Unrated	7	.00
05/13	04:08PM	318-473-2174	318-473-2174	INCOMING CL	Incoming call	3	.00
05/22	12:19PM	318-473-2174	803-799-1244	COLUMBIA SC	Unrated	3	.00
05/30	02:47PM	318-473-2174	803-748-3027	COLUMBIA SC	Unrated	3	.00
05/13	11:10AM	318-473-2174	843-364-4382	CHARLESTO SC	Unrated	2	.00
05/13	04:16PM	318-473-2174	318-473-2174	INCOMING CL	Incoming call	2	.00
05/22	12:10PM	318-473-2174	803-926-7549	COLUMBIA SC	Unrated	2	.00
05/05	04:46PM	318-473-2174	803-782-7779	COLUMBIA SC	Unrated	1	.00
05/07	12:46PM	318-473-2174	704-451-8989	VOICEMAIL L	Voicemail	1	.00
05/09	07:06PM	318-473-2174	803-604-1019	BATESBURG SC	Unrated	1	.00
05/11	10:18AM	318-473-2174	803-256-6302	COLUMBIA SC	Unrated	1	.00
05/11	11:28AM	318-473-2174	803-787-7429	COLUMBIA SC	Unrated	1	.00
05/20	09:47AM	318-473-2174	803-359-0046	INCOMING CL	Incoming call	1	.00
05/21	01:17PM	318-473-2174	704-451-8989	VOICEMAIL L	Voicemail	1	.00
05/22	12:09PM	318-473-2174	704-451-8989	VOICEMAIL L	Voicemail	1	.00
05/22	12:17PM	318-473-2174	803-926-7549	COLUMBIA SC	Unrated	1	.00
05/22	12:24PM	318-473-2174	803-926-7549	COLUMBIA SC	Unrated	1	.00
05/22	12:31PM	318-473-2174	803-926-7549	COLUMBIA SC	Unrated	1	.00
05/24	11:29AM	318-473-2174	803-787-7429	COLUMBIA SC	Unrated	1	.00

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Display the 20 Most Called Numbers Report:



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My Account **Statement** **Payments**

Account Device Messages Unbilled **Reports**

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Company Name: CellTec **Hierarchy Name:** N/A
User Name: Anne Green **Position Name:** N/A

Account Number: 61362310
Statement Date: 05/04/04
[DISPLAY](#)

Account Reports **Device Reports**

To view a report, select from the following options and click Display.

Select Report: Top 20 most called numbers [DISPLAY](#)

Top 20 Most Called Numbers [SHOW/HIDE NAMES](#)

Number Called	Total Count	Total Duration	Total Amount
803-926-7549	4	5	.00
803-787-7429	4	4	.00
704-451-8989	3	3	.00
318-473-2174	2	5	.00
803-782-7442	1	1	.00
803-799-1244	1	3	.00
615-790-9650	1	7	.00
843-768-9323	1	11	.00
803-782-7779	1	1	.00
803-790-9172	1	1	.00
803-691-8811	1	1	.00
864-503-0545	1	1	.00
803-359-0046	1	1	.00
843-364-4382	1	2	.00
803-256-6302	1	1	.00
803-748-3027	1	3	.00
803-604-1019	1	1	.00

CellTec
 Business Structures: 1
 Billing Accounts: 24
 Wireless Numbers: 76

User Information
Username: agreen [Edit](#)
Password: ***** [Edit](#)
Role: Administrator

Highest Wireless Users

Wireless No.	Last Bal.
545-803-9028	\$364.12
847-349-4100	\$245.90
447-483-9312	\$196.91
451-378-3743	\$159.82
397-894-2110	\$144.32

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Display the 20 Most Expensive Called Numbers:



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My Account **Statement** **Payments**

Account Device Messages Unbilled **Reports**

View Account Reports [Download](#) [Printer Friendly](#)

Company Name: CellTec Hierarchy Name: N/A
User Name: Anne Green Position Name: N/A

Account Number: 61362310
Statement Date: 05/04/04
DISPLAY

Account Reports **Device Reports**

To view a report, select from the following options and click Display.

Select Report: Top 20 most expensive numbers called **DISPLAY**

Top 20 Most Expensive Numbers Called				SHOW/HIDE NAMES
Number Called	Total Count	Total Duration	Total Amount	
803-748-3027	1	3	.00	
803-256-6302	1	1	.00	
803-691-8811	1	1	.00	
704-451-8989	3	3	.00	
803-787-7429	4	4	.00	
615-790-9650	1	7	.00	
803-790-9172	1	1	.00	
843-364-4382	1	2	.00	
803-926-7549	4	5	.00	
803-782-7442	1	1	.00	
864-503-0545	1	1	.00	
803-799-1244	1	3	.00	
803-359-0046	1	1	.00	
318-473-2174	2	5	.00	
803-782-7779	1	1	.00	
803-604-1019	1	1	.00	
843-768-9323	1	11	.00	

CellTec
Business Structures: 1
Billing Accounts: 24
Wireless Numbers: 76

User Information
Username: agreen [Edit](#)
Password: ***** [Edit](#)
Role: Administrator

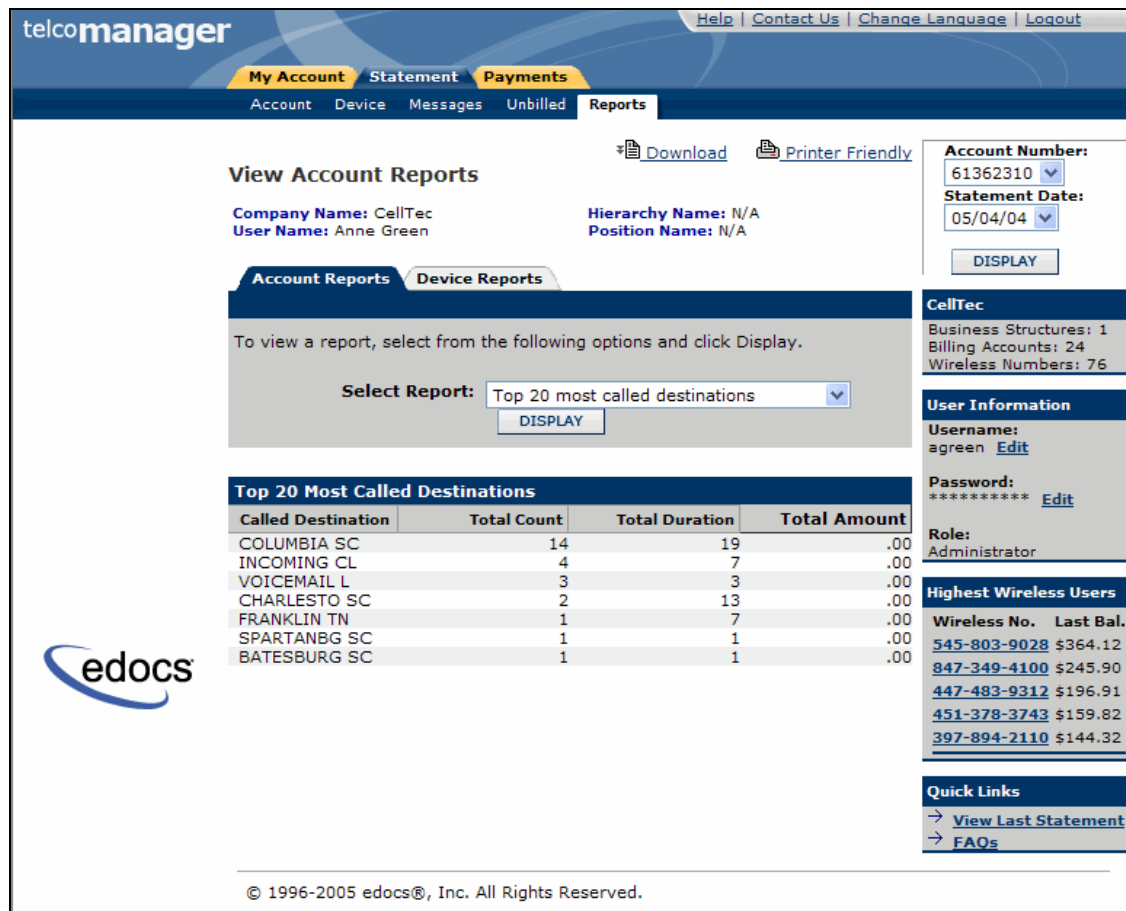
Highest Wireless Users

Wireless No.	Last Bal.
545-803-9028	\$364.12
847-349-4100	\$245.90
447-483-9312	\$196.91
451-378-3743	\$159.82
397-894-2110	\$144.32

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Display 20 Most Called Destinations:



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My Account **Statement** **Payments**

Account Device Messages Unbilled **Reports**

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Company Name: CellTec **Hierarchy Name:** N/A
User Name: Anne Green **Position Name:** N/A

Account Number: 61362310
Statement Date: 05/04/04
[DISPLAY](#)

CellTec
 Business Structures: 1
 Billing Accounts: 24
 Wireless Numbers: 76

User Information
Username: agreen [Edit](#)
Password: ***** [Edit](#)
Role: Administrator

Highest Wireless Users

Wireless No.	Last Bal.
545-803-9028	\$364.12
847-349-4100	\$245.90
447-483-9312	\$196.91
451-378-3743	\$159.82
397-894-2110	\$144.32

Quick Links
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Account Reports **Device Reports**

To view a report, select from the following options and click Display.

Select Report: Top 20 most called destinations [DISPLAY](#)

Top 20 Most Called Destinations

Called Destination	Total Count	Total Duration	Total Amount
COLUMBIA SC	14	19	.00
INCOMING CL	4	7	.00
VOICEMAIL L	3	3	.00
CHARLESTO SC	2	13	.00
FRANKLIN TN	1	7	.00
SPARTANBG SC	1	1	.00
BATESBURG SC	1	1	.00

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Display Cost Summary by Call Type Report:



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Account | Device | Messages | Unbilled | **Reports**

View Account Reports

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Company Name: CellTec
User Name: Anne Green

Hierarchy Name: N/A
Position Name: N/A

Account Number: 61362310
Statement Date: 05/04/04

DISPLAY

Account Reports | **Device Reports**

To view a report, select from the following options and click Display.

Select Report: Cost summary by call type
DISPLAY

Cost Summary by Call Type

Call Type	Total Count	Total Duration	Total Amount
Incoming call	4	7	.00
Unrated	19	41	.00
Voicemail	3	3	.00

CellTec
Business Structures: 1
Billing Accounts: 24
Wireless Numbers: 76

User Information
Username: agreen [Edit](#)
Password: ***** [Edit](#)
Role: Administrator

Highest Wireless Users

Wireless No.	Last Bal.
545-803-9028	\$364.12
847-349-4100	\$245.90
447-483-9312	\$196.91
451-378-3743	\$159.82
397-894-2110	\$144.32

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Display Cost Summary by Month:

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My Account | Statement | Payments

Account | Device | Messages | Unbilled | Reports

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Printer Friendly

View Account Reports
Company Name: CellTec
User Name: Anne Green
Hierarchy Name: N/A
Position Name: N/A

Account Number: 61362310
Statement Date: 05/04/04
DISPLAY

Account Reports | Device Reports

To view a report, select from the following options and click Display.

Select Report: Cost summary by month
DISPLAY

Cost Summary by Month

Month	Total Count	Total Duration	Total Amount
Jun	3	3	.00
May	23	48	.00

CellTec
Business Structures: 1
Billing Accounts: 24
Wireless Numbers: 76

User Information
Username: agreen [Edit](#)
Password: ***** [Edit](#)
Role: Administrator

Highest Wireless Users

Wireless No.	Last Bal.
545-803-9028	\$364.12
847-349-4100	\$245.90
447-483-9312	\$196.91
451-378-3743	\$159.82
397-894-2110	\$144.32

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Display Cost Summary by Time Period:

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My Account | **Statement** | **Payments**

Account | Device | Messages | Unbilled | **Reports**

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Company Name: CellTec **Hierarchy Name:** N/A
User Name: Anne Green **Position Name:** N/A

Account Number: 61362310
Statement Date: 05/04/04
DISPLAY

Account Reports | **Device Reports**

To view a report, select from the following options and click Display.

Select Report: Cost summary by time period **DISPLAY**

Cost Summary by Time Period

Call Type	12-8	8-9	9-10	10-11	11-12	12-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-12	Amt
Incoming call	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Unrated	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Voicemail	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Total	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00

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View Device Report (2920)

Name:	View Device Level Report
Brief Description:	Business User views a report for a specific device within their account.
Actors:	Business User
Main Path:	1. This use case begins when the user selects a device report to view. 2. System displays the report. [A1] 3. User changes the statement date. 4. System redisplay the previously selected report for the newly selected statement date. 5. User selects a different report and selects display action. [A2-A13] 6. System redisplay the selected report for the previously selected statement date. 7. Use case ends.
Alternate Paths:	[A1] There is no report data available for the selected report/statement date. 1. System displays a message stating that there is no data available. [A2] Report: Top 10 most expensive calls [A3] Report: 'Minutes by Destination' report [A4] Report: 'Minutes by Rate Period' report [A5] Report: 'Minutes by Call Type' report [A6] Report: 'Charges by Destination' report [A7] Report: 'Charges by Rate Period' report [A8] Report: 'Charges by Call Type' report [A9] Report: 'Calls by Destination' report [A10] Report: 'Calls by Rate Period' report [A11] Report: 'Call by Call Type' report [A12] Report: 'Calls by Called Number' report [A13] Report: 'Charges by Called Number' report [A14] Report: 'Minutes by Called Number' report [A15] Report: Top 10 longest call
Standard Features:	1. CSV & XML Download options 2. Print Friendly 3. Cancel action
Notes:	

Display Top 10 Most Expensive Calls:



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My Account | **Statement** | **Payments**

Account | Device | Messages | Unbilled | **Reports**

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View Device Reports

Company Name: CellTec
User Name: Anne Green

Hierarchy Name: N/A
Position Name: N/A

Account Number: 61362310
Statement Date: 05/04/04
[DISPLAY](#)

CellTec
Business Structures: 1
Billing Accounts: 24
Wireless Numbers: 76

User Information
Username: agreen [Edit](#)
Password: ***** [Edit](#)
Role: Administrator

Highest Wireless Users

Wireless No.	Last Bal.
545-803-9028	\$364.12
847-349-4100	\$245.90
447-483-9312	\$196.91
451-378-3743	\$159.82
397-894-2110	\$144.32

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To view a report, select from the following options and click Display.

Phone Number: 318-473-2174

Select Report: Top 10 Most Expensive Calls [DISPLAY](#)

Top Ten Most Expensive Calls

Top Ten Numbers	Destination	Charges
803-782-7779	COLUMBIA SC	0.00
704-451-8989	VOICEMAIL L	0.00
803-604-1019	BATESBURG SC	0.00
615-790-9650	FRANKLIN TN	0.00
803-256-6302	COLUMBIA SC	0.00
803-787-7429	COLUMBIA SC	0.00
843-768-9323	CHARLESTO SC	0.00
843-364-4382	CHARLESTO SC	0.00
318-473-2174	INCOMING CL	0.00
318-473-2174	INCOMING CL	0.00

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Display Minutes by Destination Report:

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View Device Reports

Company Name: CellTec
User Name: Anne Green

Hierarchy Name: N/A
Position Name: N/A

Account Reports | Device Reports

To view a report, select from the following options and click Display.

Phone Number: 397-894-2100

Select Report: Minutes by Destination

DISPLAY

Account Number: 00486590
Statement Date: 05/04/04
DISPLAY

CellTec
Business Structures: 1
Billing Accounts: 24
Wireless Numbers: 76

User Information
Username: agreeen [Edit](#)
Password: ***** [Edit](#)
Role: Administrator

Highest Wireless Users

Wireless No.	Last Bal.
545-803-9028	\$364.12
847-349-4100	\$245.90
447-483-9312	\$196.91
451-378-3743	\$159.82
397-894-2110	\$144.32

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COLUMBIA SC LANCASTER SC VOICEMAIL L INCOMING CL
CLINTON SC NO AUGUST SC LAURENS SC EASTOVER SC
FLORENCE SC SUMMERVL SC

Minutes By Destination

Destination	Minutes
CLINTON SC	38
COLUMBIA SC	432
EASTOVER SC	5
FLORENCE SC	31
INCOMING CL	118
LANCASTER SC	12
LAURENS SC	3
NO AUGUST SC	4
SUMMERVL SC	6
VOICEMAIL L	12
Total	661

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View Device Reports

Company Name: CellTec
User Name: Anne Green

Hierarchy Name: N/A
Position Name: N/A

Account Number: 61362310
Statement Date: 05/04/04
[DISPLAY](#)

CellTec
Business Structures: 1
Billing Accounts: 24
Wireless Numbers: 76

User Information
Username: agreen [Edit](#)
Password: ***** [Edit](#)
Role: Administrator

Highest Wireless Users

Wireless No.	Last Bal.
545-803-9028	\$364.12
847-349-4100	\$245.90
447-483-9312	\$196.91
451-378-3743	\$159.82
397-894-2110	\$144.32

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To view a report, select from the following options and click Display.

Phone Number: 318-473-2174

Select Report: Minutes by Rate Period [DISPLAY](#)

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■ Weeknights and Weekends
■ Weekdays

Minutes by Rate Period	
Rate Period	Minutes
Weekdays	30
Weeknights and Weekends	20
Total	50

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Display Minutes by Call Type:

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View Device Reports
Company Name: CellTec
User Name: Anne Green
Hierarchy Name: N/A
Position Name: N/A

Account Number: 61362310
Statement Date: 05/04/04
DISPLAY

Account Reports | Device Reports

To view a report, select from the following options and click Display.
Phone Number: 318-473-2174
Select Report: Minutes by Call Type
DISPLAY

82% 12% 6%

- Incoming call
- Unrated
- Voicemail

Minutes By Call Type

Usage Type	Minutes
Unrated	41
Voicemail	3
Incoming call	6
Total	50

CellTec
Business Structures: 1
Billing Accounts: 24
Wireless Numbers: 76

User Information
Username: agreen [Edit](#)
Password: ***** [Edit](#)
Role: Administrator

Highest Wireless Users

Wireless No.	Last Bal.
545-803-9028	\$364.12
847-349-4100	\$245.90
447-483-9312	\$196.91
451-378-3743	\$159.82
397-894-2110	\$144.32

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Display Top 10 Longest Calls:



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Company Name: CellTec Hierarchy Name: N/A
User Name: Anne Green Position Name: N/A

Account Number: 61362310
Statement Date: 05/04/04
[DISPLAY](#)

Account Reports **Device Reports**

To view a report, select from the following options and click Display.

Phone Number: 318-473-2174

Select Report: Top 10 Longest Calls [DISPLAY](#)

Top Ten Longest Calls

Top Ten Numbers	Destination	Minutes
843-768-9323	CHARLESTO SC	11
615-790-9650	FRANKLIN TN	7
318-473-2174	INCOMING CL	3
803-799-1244	COLUMBIA SC	3
803-748-3027	COLUMBIA SC	3
843-364-4382	CHARLESTO SC	2
318-473-2174	INCOMING CL	2
803-926-7549	COLUMBIA SC	2
803-782-7779	COLUMBIA SC	1
704-451-8989	VOICEMAIL L	1

CellTec
Business Structures: 1
Billing Accounts: 24
Wireless Numbers: 76

User Information
Username: agreen [Edit](#)
Password: ***** [Edit](#)
Role: Administrator

Highest Wireless Users

Wireless No.	Last Bal.
545-803-9028	\$364.12
847-349-4100	\$245.90
447-483-9312	\$196.91
451-378-3743	\$159.82
397-894-2110	\$144.32

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View Device Reports

Company Name: CellTec Hierarchy Name: N/A
User Name: Anne Green Position Name: N/A

Account Number: 61362310
Statement Date: 05/04/04
[DISPLAY](#)

CellTec
Business Structures: 1
Billing Accounts: 24
Wireless Numbers: 76

User Information
Username: agreen [Edit](#)
Password: ***** [Edit](#)
Role: Administrator

Highest Wireless Users

Wireless No.	Last Bal.
545-803-9028	\$364.12
847-349-4100	\$245.90
447-483-9312	\$196.91
451-378-3743	\$159.82
397-894-2110	\$144.32

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Account Reports **Device Reports**

To view a report, select from the following options and click Display.

Phone Number: 318-473-2174

Select Report: Charges by Destination [DISPLAY](#)

Usage By Destination

Destination	Charges
BATESBURG SC	\$0.00
CHARLESTO SC	\$0.00
COLUMBIA SC	\$0.00
FRANKLIN TN	\$0.00
INCOMING CL	\$0.00
SPARTANBG SC	\$0.00
VOICEMAIL L	\$0.00
Total	\$0.00

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Display Charges by Rate Period:



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View Device Reports

Company Name: CellTec
User Name: Anne Green

Hierarchy Name: N/A
Position Name: N/A

Account Number: 00486590
Statement Date: 05/04/04
[DISPLAY](#)

CellTec
Business Structures: 1
Billing Accounts: 24
Wireless Numbers: 76

User Information
Username: agreen [Edit](#)
Password: ***** [Edit](#)
Role: Administrator

Highest Wireless Users

Wireless No.	Last Bal.
545-803-9028	\$364.12
847-349-4100	\$245.90
447-483-9312	\$196.91
451-378-3743	\$159.82
397-894-2110	\$144.32

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Account Reports | **Device Reports**

To view a report, select from the following options and click Display.

Phone Number: 397-894-2100

Select Report: Charges by Rate Period [DISPLAY](#)

Rate Period	Charges
Weekdays	\$0.00
Total	\$0.00



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View Device Reports
Company Name: CellTec
User Name: Anne Green
Hierarchy Name: N/A
Position Name: N/A

Account Number: 61362310
Statement Date: 05/04/04
DISPLAY

Account Reports | **Device Reports**

To view a report, select from the following options and click Display.
Phone Number: 318-473-2174
Select Report: Charges by Call Type
DISPLAY

Charges By Call Type

Usage Type	Charges
Incoming call	\$0.00
Unrated	\$0.00
Voicemail	\$0.00
Total	\$0.00

CellTec
Business Structures: 1
Billing Accounts: 24
Wireless Numbers: 76

User Information
Username: agreen [Edit](#)
Password: ***** [Edit](#)
Role: Administrator

Highest Wireless Users

Wireless No.	Last Bal.
545-803-9028	\$364.12
847-349-4100	\$245.90
447-483-9312	\$196.91
451-378-3743	\$159.82
397-894-2110	\$144.32

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Display Charges by Called Numbers:



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Account Device Messages Unbilled **Reports**

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Company Name: CellTec Hierarchy Name: N/A
User Name: Anne Green Position Name: N/A

Account Number: 61362310
Statement Date: 05/04/04
DISPLAY

Account Reports **Device Reports**

To view a report, select from the following options and click Display.

Phone Number: 318-473-2174

Select Report: Charges by Called Number **DISPLAY**

Called Number	Charges
318-473-2174	\$0.00
615-790-9650	\$0.00
704-451-8989	\$0.00
803-256-6302	\$0.00
803-359-0046	\$0.00
803-604-1019	\$0.00
803-691-8811	\$0.00
803-748-3027	\$0.00
803-782-7442	\$0.00
803-782-7779	\$0.00
803-787-7429	\$0.00
803-799-1244	\$0.00
803-926-7549	\$0.00
843-364-4382	\$0.00
843-768-9323	\$0.00
864-503-0545	\$0.00
Total	\$0.00

CellTec
Business Structures: 1
Billing Accounts: 24
Wireless Numbers: 76

User Information
Username: agreen [Edit](#)
Password: ***** [Edit](#)
Role: Administrator

Highest Wireless Users

Wireless No.	Last Bal.
545-803-9028	\$364.12
847-349-4100	\$245.90
447-483-9312	\$196.91
451-378-3743	\$159.82
397-894-2110	\$144.32

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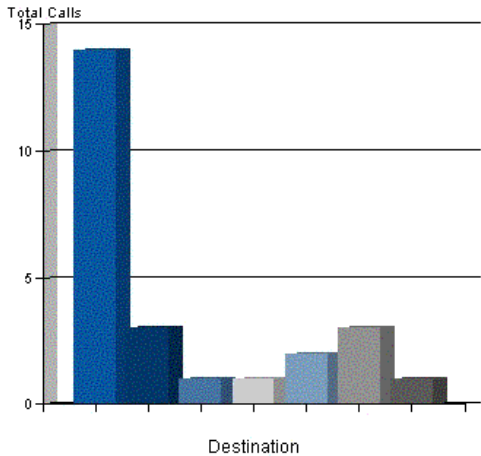
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View Device Reports
 Company Name: CellTec
 User Name: Anne Green
 Hierarchy Name: N/A
 Position Name: N/A

Account Number: 61362310
 Statement Date: 05/04/04
[DISPLAY](#)

Account Reports | **Device Reports**

To view a report, select from the following options and click Display.
 Phone Number: 318-473-2174
 Select Report: Calls by Destination [DISPLAY](#)





■ COLUMBIA SC ■ VOICEMAIL L ■ BATESBURG SC ■ FRANKLIN TN
 ■ CHARLESTO SC ■ INCOMING CL ■ SPARTANBG SC

Destination	Calls
BATESBURG SC	1
CHARLESTO SC	2
COLUMBIA SC	14
FRANKLIN TN	1
INCOMING CL	3
SPARTANBG SC	1
VOICEMAIL L	3
Total	25

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CellTec
 Business Structures: 1
 Billing Accounts: 24
 Wireless Numbers: 76

User Information
 Username: agreen [Edit](#)
 Password: ***** [Edit](#)
 Role: Administrator

Highest Wireless Users

Wireless No.	Last Bal.
545-803-9028	\$364.12
847-349-4100	\$245.90
447-483-9312	\$196.91
451-378-3743	\$159.82
397-894-2110	\$144.32

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Account | Device | Messages | Unbilled | **Reports**

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View Device Reports

Company Name: CellTec
User Name: Anne Green

Hierarchy Name: N/A
Position Name: N/A

Account Number: 61362310
Statement Date: 05/04/04
[DISPLAY](#)

CellTec
Business Structures: 1
Billing Accounts: 24
Wireless Numbers: 76

User Information
Username: agreen [Edit](#)
Password: ***** [Edit](#)
Role: Administrator

Highest Wireless Users

Wireless No.	Last Bal.
545-803-9028	\$364.12
847-349-4100	\$245.90
447-483-9312	\$196.91
451-378-3743	\$159.82
397-894-2110	\$144.32

Quick Links
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Account Reports | **Device Reports**

To view a report, select from the following options and click Display.

Phone Number: 318-473-2174

Select Report: Calls by Rate Period [DISPLAY](#)

64%
36%

■ Weeknights and Weekends
■ Weekdays

Calls by Rate Period

Rate Period	Calls
Weekdays	16
Weeknights and Weekends	9
Total	25

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Display Calls by Call Type:

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View Device Reports

Company Name: CellTec
User Name: Anne Green

Hierarchy Name: N/A
Position Name: N/A

Account ReportsDevice Reports

To view a report, select from the following options and click Display.

Phone Number: 318-473-2174

Select Report: Calls by Call Type
DISPLAY

Account Number: 61362310

Statement Date: 05/04/04

DISPLAY

CellTec

Business Structures: 1
Billing Accounts: 24
Wireless Numbers: 76

User Information

Username: agreen [Edit](#)

Password: ***** [Edit](#)

Role: Administrator

Highest Wireless Users

Wireless No.	Last Bal.
545-803-9028	\$364.12
847-349-4100	\$245.90
447-483-9312	\$196.91
451-378-3743	\$159.82
397-894-2110	\$144.32

Quick Links

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Incoming call

Voicemail

Unrated

Calls By Call Type

Usage Type	Calls
Incoming call	3
Unrated	19
Voicemail	3
Total	25

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View Device Reports

Company Name: CellTec **Hierarchy Name:** N/A
User Name: Anne Green **Position Name:** N/A

Account Number: 61362310
Statement Date: 05/04/04
[DISPLAY](#)

CellTec
 Business Structures: 1
 Billing Accounts: 24
 Wireless Numbers: 76

User Information
Username: agreeen [Edit](#)
Password: ***** [Edit](#)
Role: Administrator

Highest Wireless Users

Wireless No.	Last Bal.
545-803-9028	\$364.12
847-349-4100	\$245.90
447-483-9312	\$196.91
451-378-3743	\$159.82
397-894-2110	\$144.32

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Account Reports **Device Reports**

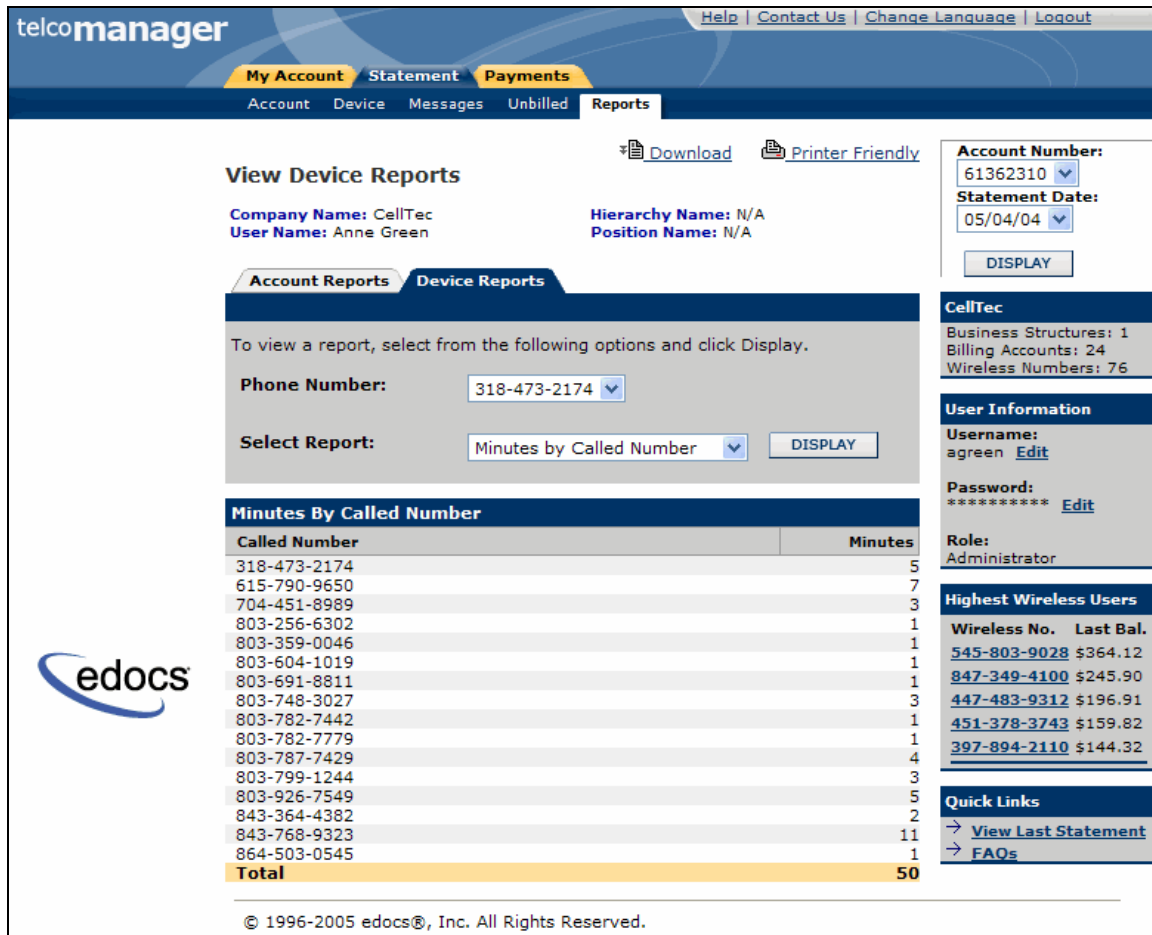
To view a report, select from the following options and click Display.

Phone Number: 318-473-2174
Select Report: Calls by Called Number [DISPLAY](#)

Called Number	Calls
318-473-2174	2
615-790-9650	1
704-451-8989	3
803-256-6302	1
803-359-0046	1
803-604-1019	1
803-691-8811	1
803-748-3027	1
803-782-7442	1
803-782-7779	1
803-787-7429	4
803-799-1244	1
803-926-7549	4
843-364-4382	1
843-768-9323	1
864-503-0545	1
Total	25

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Display Minutes by Called Numbers:



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My Account **Statement** **Payments**

Account Device Messages Unbilled **Reports**

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View Device Reports

Company Name: CellTec Hierarchy Name: N/A
User Name: Anne Green Position Name: N/A

Account Number: 61362310
Statement Date: 05/04/04
[DISPLAY](#)

Account Reports **Device Reports**

To view a report, select from the following options and click Display.

Phone Number: 318-473-2174

Select Report: Minutes by Called Number [DISPLAY](#)

Minutes By Called Number

Called Number	Minutes
318-473-2174	5
615-790-9650	7
704-451-8989	3
803-256-6302	1
803-359-0046	1
803-604-1019	1
803-691-8811	1
803-748-3027	3
803-782-7442	1
803-782-7779	1
803-787-7429	4
803-799-1244	3
803-926-7549	5
843-364-4382	2
843-768-9323	11
864-503-0545	1
Total	50

CellTec
Business Structures: 1
Billing Accounts: 24
Wireless Numbers: 76

User Information
Username: agreen [Edit](#)
Password: ***** [Edit](#)
Role: Administrator

Highest Wireless Users

Wireless No.	Last Bal.
545-803-9028	\$364.12
847-349-4100	\$245.90
447-483-9312	\$196.91
451-378-3743	\$159.82
397-894-2110	\$144.32

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3.8 Payment Use Cases

A user can create a payment account (credit card or bank account) and then use that payment account to make a one-time payment or to setup a recurring payment. Users can only view or edit payment accounts and payment instructions which they previously created.

- Create One-Time Payment – Business user makes a one-time payment.
- Manage Recurring Payments - Business user configures rules to pay charges automatically on a monthly basis.
- Manage Payment Accounts – Business user can set up and manage multiple payment accounts for use in account/statement payments.
- View Payment Activity - Business user views their payment activity.

Create One-Time Payment (3000)

Name:	Create One-Time Payment
Brief Description:	Business User completes a single online payment for one or more billing accounts. If the payment is for multiple billing accounts, the UI displays it as a single action with one MTID (master transaction ID), but actually submits the payment for each billing account as separate payments to the billing system to ease reconciliation.
Primary Actor:	Business User
Triggers	User selects the "Payments" \ "One Time Payment" menu options
Main Path:	<u>Display</u> 1. System retrieves list of available billing accounts based on user's assignments in the billing hierarchy and business structure hierarchies. 2. System (API) calls data store for balance due and due date and displays for each billing account. <u>Select & Confirm</u> 3. Step 1: Select Payment Account (dropdown field of payment accounts previously created by the user [payment accounts created by other users are not displayed]) 4. Step 2: Select Pay Date (text field with optional calendar popup) 5. Step 3: Select Billing Accounts The following fields are displayed: Billing Account, Amount Due, Due Date, and Pay Amount (defaults to amount due). Clicking any of the column headings (except pay amount) will sort the billing accounts on the value in that column. a. User selects each billing account on which to make a payment b. User optionally edits the pay amount. c. User selects the "add to list" action d. Selected billing accounts, pay amounts, and payment accounts are displayed in a separate table. 6. Step 4: Confirm Selected Billing Accounts For each selected billing account the billing account number, pay amount, and payment account is displayed in a separate table. a. User removes any payments incorrectly added to the list b. User selects "Make Payment" action c. System displays confirmation request page with summary One-Time Payment data <u>Payment</u> 7. System calls ACH (ATM Verify) to verify payment account and receives successful response file [E2] 8. System displays a <i>Payment Confirmation</i> screen with the message of the form "Thank you for your payment. It is currently being processed. Please

	review the Payment Activity screen for an updated status in the next 24 hours.” [E3] - System splits each account into a separate payment transactions - System calls API to ensure the account is registered for payment, if not, indicator is updated in billing system - System creates a Master Transaction ID (MTID) as a primary key for all individual payment calls and stores the information. - System sends individual transaction(s) to the billing system by account (Save ACH API).
Alternate Path:	[A1] User selects New Payment Account - User is taken to the Payment Accounts page into the New Payment Account functionality. [A2] Select all - User selects to Pay all with this account (selects all and adds to list) and submits - A warning message is displayed, “Attention – you are selecting to pay all of your accounts with a One-Time Payment. If correct, please select Continue. If incorrect, please enter Cancel. NOTICE: At this time, accounts are limited to \$25,000 payments per day.” - User selects continue (or cancel to return to One-Time Payment screen). - System returns to Step 6 in the main path. [A3] User enters amount greater than current amount due The system limits the transaction to the total amount due [A4] User or System enters payment amount greater than \$25k - System displays confirmation request and highlights accounts that are more than \$25k (configurable). A message is displayed, “At this time, accounts are limited to \$25,000 payments per billing account per day. The affected accounts will apply a \$25,000 transaction limit.” System limits transactions to \$25k per account. [A5] Duplicate Payment, Same Day - User attempts to make duplicate payment on an account that has already had an exact payment processed for that day. System displays message, “The system cannot accept duplicate payments on the same day. Please try again tomorrow.” [A6] System receives ACH failure System displays payment failure message, “The ACH account could not be verified. Please review ACH payment account information and try again.” [A7] System cannot submit payment / transaction fails System does not perform transaction. [A8] Recurring Payment Window If a recurring payment has previously been scheduled between the current date and the one-time payment date for any of the selected accounts, the user is presented with the following warning message: “Recurring payments are scheduled for the following accounts on the following dates. By confirming payment on this screen, a double

	payment could be made.” {list accounts and dates below with a recurring payment between the current date and the one-time payment date} [A9] Select All During step 3 of the main path, the user chooses the “Select All” action to select all payment accounts. User then selects “Add to List” action and continues with the main path.
Exception Path	[E1] User cancels transaction 1. System returns user to initial One-Time Payment screen. [E2] System cannot find billing account 1. System displays “Billing account not found” in the selection area
Standard Features:	1. Dynamic Subtotaling (page view only) 2. Total accounts per company < or = 999 3. Paging will include 15 billing accounts at a time (Configurable) 4. Confirmation summary totaling of payment transaction 5. Cancel action 6. Sorting
Configuration Points:	1. Max pay thresholds are configurable by company
Business Rules	1. Pay Amount defaults to Current Balance 2. Users cannot pay more than the current balance due. 3. Payments at the account level are limited to \$25,000.00 If the amount is more than the limit, the max amount limit will be populated in the payment amount section. 4. Duplicate payments are not allowed for same day - same funding/payment account, payment amount and account number. Solution should address a user clicking submit in sub-seconds.
Notes:	1. One-time Payments can take place immediately (no date). 2. Process/Failed payments will display on the Payment Status screen after payment has been processed by the billing system.

Create One-Time Payment Screen:



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My Account **Statement** **Payments**

One-Time Payment [Recurring Payments](#) [Payment Accounts](#) [Payment Activity](#)

One-Time Payment

Company Name: CellTec **Hierarchy Name:** N/A
User Name: Anne Green **Position Name:** N/A

Step 1: Select Payment Account

Payment Account [New Payment Account](#)

Step 2: Select Pay Date

Pay Date (MM/dd/yyyy)

Step 3: Select Billing Accounts

Page 1 of 2 > >>

☐	Account Number	Amount Due	Due Date	Pay Amount
☐	00486590	1509.84	06/03/04	1509.84
☐	03286008	379.13	06/03/04	379.13
☐	05128140	501.72	06/03/04	501.72
☐	05696543	15.11	06/03/04	15.11
☐	06122165	49.31	06/03/04	49.31
☐	06876439	12.35	06/03/04	12.35
☐	07655448	41.93	06/03/04	41.93
☐	08654347	206.83	06/03/04	206.83
☐	09677685	838.19	06/03/04	838.19
☐	10756456	235.42	06/03/04	235.42
☐	11599659	49.92	06/03/04	49.92
☐	12876558	210.70	06/03/04	210.70
☐	13875658	17.05	06/03/04	17.05
☐	14464399	3.82	06/03/04	3.82
☐	29006120	364.12	06/03/04	364.12

[ADD TO LIST](#)

Step 4: Confirm Selected Billing Accounts

☐	Account Number	Pay Amount	Payment Account
This is an empty table			

[REMOVE FROM LIST](#)

Step 5: Complete Payment

[CANCEL](#) [MAKE PAYMENT](#)

CellTec

Business Structures: 1
Billing Accounts: 24
Wireless Numbers: 76

User Information

Username: agreen [Edit](#)

Password: ***** [Edit](#)

Role: Administrator

Highest Wireless Users

Wireless No.	Last Bal.
545-803-9028	\$364.12
847-349-4100	\$245.90
447-483-9312	\$196.91
451-378-3743	\$159.82
397-894-2110	\$144.32

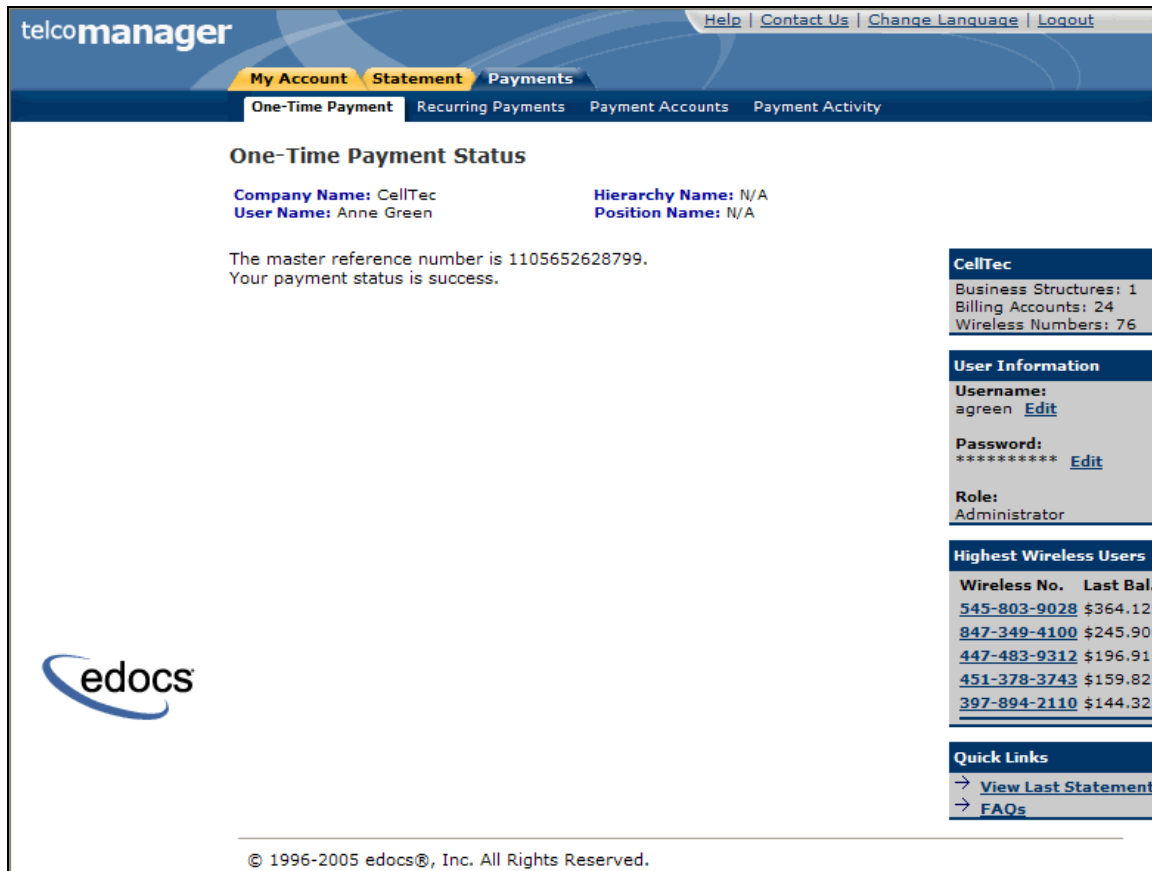
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One-Time Payment Status:



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My Account | **Statement** | **Payments**

One-Time Payment | [Recurring Payments](#) | [Payment Accounts](#) | [Payment Activity](#)

One-Time Payment Status

Company Name: CellTec **Hierarchy Name:** N/A
User Name: Anne Green **Position Name:** N/A

The master reference number is 1105652628799.
 Your payment status is success.

CellTec
 Business Structures: 1
 Billing Accounts: 24
 Wireless Numbers: 76

User Information
Username:
 agreen [Edit](#)
Password:
 ***** [Edit](#)
Role:
 Administrator

Highest Wireless Users

Wireless No.	Last Bal.
545-803-9028	\$364.12
847-349-4100	\$245.90
447-483-9312	\$196.91
451-378-3743	\$159.82
397-894-2110	\$144.32

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Manage Recurring Payments (3100)

Name:	Manage Recurring Payments
Brief Description:	Business user intends to pay charges automatically on a monthly basis and sets-up a recurring payment.
Actors:	Business user
Triggers	1. User selects Payments \ Recurring Payment menu option 2. User selects "Setup Automatic Payment" action from the My Account \ Overview (dashboard) page
Main Path:	<u>MAINTAIN RECURRING PAYMENT SCREEN</u> 1. The "Maintain Recurring Payment" page is displayed 2. Display Recurring Payments The recurring payments previously created by the user are displayed with the following column headings: a. Billing Account Number b. Amount Type (Total amount due, Total amount within X threshold, Fixed amount) c. Pay Interval (x days before due date, x day of the month [x is replaced with the value entered when the recurring payment was created]) d. Effective Period (Until canceled, X number of payments, Until x date) 3. User has the following options a. Delete selected recurring payment (for one billing account at a time) b. Edit selected recurring payment (for one billing account at a time) c. Setup recurring payment [continue with use case main path] 4. User selects the "New Recurring Payment" action <u>SETUP RECURRING PAYMENT SCREEN</u> 5. Select Payment Account (dropdown field of payment accounts previously created by the user [payment accounts created by other users are not displayed]) 6. Select Billing Accounts The user selects the billing accounts to which the recurring payment will be applied. All billing accounts without existing recurring payments are displayed with checkboxes. 7. Select Pay Amount Options a. Total Amount Due b. Total Amount Within Threshold (user enters threshold amount and receives a notification if

	amount due exceeds threshold) c. Fixed Amount (user enters a fixed amount) 8. Payment Transfer Date User selects on an option below and enters a value for X a. X business days before due date b. On the X day of every month 9. Effective Period User defined the effective duration of the recurring payment, defining a value for X where specified. a. Until Canceled b. For X payments c. Until date X (text box and popup calendar) 10. User selects saves. 11. Confirmation Recurring Payment Confirmation page is displayed User can ◆ Modify the selected accounts ◆ Select cancel to return to the Maintain Recurring Payment screen without saving the recurring payment ◆ Select Confirm to save the recurring payment 12. After selecting confirm, the system validates information and stores the recurring payment details.[A2-A3] 13. System provides the User with a confirmation message and adds recurring payment to list of scheduled recurring payments. 14. Use case ends
--	---

Alternate Paths:	[A1] New Payment Account 1. System takes user to Payment Accounts page and New Payment Account functionality [A2] User enters a recurring payment that conflicts with an earlier scheduled recurring payment. 1. When the user selects the save action, the system displays a notification that a conflict exists with the new payment and a scheduled recurring payment and notifies the user that if the payment is scheduled, a double payment could occur. 2. User selects option to confirm or cancel payment. [A3] User enters invalid information 1. System prompts the user to review the information and does not accept the transaction. [A4] View, edit scheduled recurring payments This is identical to the main path except 1. Instead of displaying the billing accounts without recurring payments, only the billing accounts selected on the previous page are displayed. 2. If the recurring payments have different parameters selected, the parameters for the first selected billing account are displayed. [A5] Delete scheduled recurring payments 1. User selects a billing account and the delete action. 2. System updates display with billing account removed. 3. User confirms.
Standard Features:	1. Multiple payment accounts. 2. Email notification of payment event 3. Paging 4. Sorting
Notes:	1. <i>View Payment Activity Limitation:</i> The current payment functionality is only able to display payments created by the current user. <i>Preferred Solution:</i> If configured with a company setting, any user with permission to view payment activity will be able to view any payment made against any billing account to which the user has access. (At this writing that was not possible) 2. Both bank and credit card accounts are permitted for recurring payments. 3. Payment Account and Cycle Date could come from Siebel or service provider data store. 4. All edits / updates are split into separate transactions as with recurring payment setup. 5. Digital signature can be configured to be last 4 of fed tax id and user's password. Service provider can confirm last four of the fed tax id against data store at the organization level and password from Internet Services to process payment. If digital signature and password do not match, error page is displayed.

Maintain Recurring Payments Screen:

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My Account | **Statement** | **Payments**

One-Time Payment | **Recurring Payments** | Payment Accounts | Payment Activity

Manage Recurring Payments

Company Name: CellTec **Hierarchy Name:** N/A
User Name: Anne Green **Position Name:** N/A

Payment Details				
NEW RECURRING PAYMENT				
☐	Account Number	Amount Type	Pay Interval	Effective Period
☐	00486590	Total Amount Due	On day 1 of the month	For 6 payments
☐	05696543	Total Amount Due	On day 1 of the month	For 6 payments
☐	07655448	Total Amount Due	On day 1 of the month	For 6 payments
☐	10756456	Total Amount Due	On day 1 of the month	For 6 payments
☐	13875658	Total Amount Due	On day 1 of the month	For 6 payments
☐	31569801	Total Amount Due	On day 1 of the month	For 6 payments
☐	71385461	Total Amount Due	On day 1 of the month	For 6 payments
☐	91459771	Total Amount Due	On day 1 of the month	For 6 payments

 [DELETE](#) [EDIT](#)

CellTec

Business Structures: 1
Billing Accounts: 24
Wireless Numbers: 76

User Information

Username:
agreen [Edit](#)

Password:
***** [Edit](#)

Role:
Administrator

Highest Wireless Users

Wireless No.	Last Bal.
545-803-9028	\$364.12
847-349-4100	\$245.90
447-483-9312	\$196.91
451-378-3743	\$159.82
397-894-2110	\$144.32

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Setup a Recurring Payment Screen:


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[My Account](#) | [Statement](#) | [Payments](#)

[One-Time Payment](#) | [Recurring Payments](#) | [Payment Accounts](#) | [Payment Activity](#)

Setup Recurring Payments

Company Name: CellTec **Hierarchy Name:** N/A
User Name: Anne Green **Position Name:** N/A

Recurring Payment

*** From Payment Account** ING [New Payment Account](#)

Billing Accounts
☒ 03286008
 ☒ 05128140
 ☒ 06122165
☒ 06876439
 ☒ 08654347
 ☒ 09677685
☒ 11599659
 ☒ 12876558
 ☒ 14464399
☒ 29006120
 ☒ 41251761
 ☒ 61362310
☒ 80011008
 ☒ 81441916
 ☒ 92156901
☒ 92801508

***Amount**
☐ Total amount
☐ Total amount with a threshold of \$
 (you will be notified by e-mail if amount exceeds desired threshold)
☐ Fixed Amount of \$

***Payment Transfer Date**
☐ business days before due date
☐ On day of every month

***Effective Period**
☐ Until Cancelled
☐ For payments
☐ Until Date MM/dd/yyyy

CellTec

Business Structures: 1
 Billing Accounts: 24
 Wireless Numbers: 76

User Information

Username:
 agreeen [Edit](#)

Password:
 ***** [Edit](#)

Role:
 Administrator

Highest Wireless Users

Wireless No.	Last Bal.
545-803-9028	\$364.12
847-349-4100	\$245.90
447-483-9312	\$196.91
451-378-3743	\$159.82
397-894-2110	\$144.32

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Edit Recurring Payment:

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My Account | **Statement** | Payments

One-Time Payment | **Recurring Payments** | Payment Accounts | Payment Activity

Edit Recurring Payments

Company Name: CellTec **Hierarchy Name:** N/A
User Name: Anne Green **Position Name:** N/A

Recurring Payment

*** From Payment Account** ING [New Payment Account](#)

Billing Accounts ☒ 91459771

***Amount** ☒ Total amount
☐ Total amount with a threshold of \$ 0
(you will be notified by e-mail if amount exceeds desired threshold)
☐ Fixed Amount of \$ 0

***Payment Transfer Date** ☐ 0 business days before due date
☒ On day 1 of every month

***Effective Period** ☐ Until Cancelled
☒ For 6 payments
☐ Until Date MM/dd/yyyy

CellTec

Business Structures: 1
Billing Accounts: 24
Wireless Numbers: 76

User Information

Username:
agreen [Edit](#)

Password:
***** [Edit](#)

Role:
Administrator

Highest Wireless Users

Wireless No.	Last Bal.
545-803-9028	\$364.12
847-349-4100	\$245.90
447-483-9312	\$196.91
451-378-3743	\$159.82
397-894-2110	\$144.32

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Edit Payment Confirmation Screen:

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My Account | **Statement** | Payments

One-Time Payment | **Recurring Payments** | Payment Accounts | Payment Activity

Confirm Recurring Payment

Company Name: CellTec
User Name: Anne Green

Hierarchy Name: N/A
Position Name: N/A

Recurring Payment	
Payment Account	ING
Billing Accounts	☒ 91459771
Amount Type	Total Amount Due
Pay Interval	On day 5 of the month
Effective Period	For 6 payments
CANCEL CONFIRM	



CellTec
Business Structures: 1
Billing Accounts: 24
Wireless Numbers: 76

User Information
Username:
agreen [Edit](#)
Password:
***** [Edit](#)
Role:
Administrator

Highest Wireless Users

Wireless No.	Last Bal.
545-803-9028	\$364.12
847-349-4100	\$245.90
447-483-9312	\$196.91
451-378-3743	\$159.82
397-894-2110	\$144.32

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Delete Recurring Payment Confirmation:

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My Account | **Statement** | **Payments**

One-Time Payment | **Recurring Payments** | Payment Accounts | Payment Activity

Confirm Recurring Payment Deletion

Company Name: CellTec **Hierarchy Name:** N/A
User Name: Anne Green **Position Name:** N/A

Delete			
Account Number	Amount Type	Pay Interval	Effective Period
91459771	Total Amount Due	On day 1 of the month	For 6 payments



CellTec

Business Structures: 1
Billing Accounts: 24
Wireless Numbers: 76

User Information

Username:
agreen [Edit](#)

Password:
***** [Edit](#)

Role:
Administrator

Highest Wireless Users

Wireless No.	Last Bal.
545-803-9028	\$364.12
847-349-4100	\$245.90
447-483-9312	\$196.91
451-378-3743	\$159.82
397-894-2110	\$144.32

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Manage Payment Accounts (3200)

Name:	Manage Payment Accounts
Brief Description:	Business user adds, edits, or deletes payment account information.
Actors:	Business user
Triggers	1. User selects Payments \ Accounts menu option 2. User selects "Add Payment Account" action from the "Create One-Time Payment" screen 3. User selects "Add Payment Account" action from the "Manage Recurring Payments" screen
Main Path:	(Main path describes adding a credit card account. Alternate paths address other types of accounts) 1. This use case begins when the user selects the Payment Accounts operation from the navigation menu. 2. System displays a list of existing payment accounts and the ability to add/edit/delete those accounts. 3. User selects to add credit card account. [A1-A5] 4. System displays the form to add a credit card account that contains the following fields. a. Account Nickname b. Card Number c. Name on Card d. Card Type e. Expiration Date f. Card Verification Code g. Street Address (Line 1) h. Street Address (Line 2) i. City j. State k. Zip l. Country 5. User enters the information and saves the form. 6. System validates the information as being correct and updates the list of payment accounts.[A6] 7. Use case ends.
Alternate Paths:	[A1] New bank account. 1. System displays screen to add a bank account that contains the following information. a. Account Nickname b. Bank Name

	c. Account Number d. Routing Number e. Diagram of a check identifying the location of the bank account and routing number. 2. User enters the information and saves the form. 3. System validates the information as being correct and updates the list of payment accounts. [A2] Edit account. 1. System displays the edit account screen containing credit card or bank account editable fields showing the current information for the specified account. 2. User enters the information and saves the form. 3. System validates the information as being correct and updates the list of payment accounts. [A3] Delete account link. 1. System displays a Yes/No alert to ensure the user wants to delete the account. 2. System displays a confirmation screen. 3. System deletes the account and redisplay the screen. 4. Any recurring payments using the deleted payment account will be deleted. [A4] System is unable to validate the information. System displays error message to user informing them of the specific issue.
Standard Features:	1. Form validation 2. Bank or Credit Card
Notes:	1. <i>Payment Account Access Limitation:</i> Users are only able to view payment accounts which they created. This applies to viewing/editing payment accounts in this use case as well as selecting them in the one-time and recurring payment use cases. <i>Preferred Solution:</i> If configured with a company setting, any user who has permission to perform a function in a payment screen should have access to all payment accounts created by any user. (At this writing that was not possible)

Manage Payment Account Screen:

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My Account | Statement | **Payments**

One-Time Payment | Recurring Payments | **Payment Accounts** | Payment Activity

Manage Payment Accounts

Company Name: CellTec
User Name: Anne Green

Hierarchy Name: N/A
Position Name: N/A

Add New Account
Add a new payment account, or edit or delete an existing payment account.

NEW CREDIT CARD ACCOUNT
NEW BANK ACCOUNT

Current Payment Accounts

Description	Account Type	Account No.	Actions
ING	Bank Account	XXXXXX0098	Edit Delete
my bank	Bank Account	XXXXXXXX8910	Edit Delete
Alumni Visa	Credit Card	XXXXXXXXXXXX5510	Edit Delete
test2	Bank Account	XXXXXX0098	Edit Delete

CellTec
Business Structures: 1
Billing Accounts: 24
Wireless Numbers: 76

User Information
Username:
agreen [Edit](#)
Password:
***** [Edit](#)
Role:
Administrator

Highest Wireless Users

Wireless No.	Last Bal.
545-803-9028	\$364.12
847-349-4100	\$245.90
447-483-9312	\$196.91
451-378-3743	\$159.82
397-894-2110	\$144.32

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Add a Credit Card Account:

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My Account **Statement** **Payments**

One-Time Payment Recurring Payments **Payment Accounts** Payment Activity

Add Credit Card Account

Company Name: CellTec **Hierarchy Name:** N/A
User Name: Anne Green **Position Name:** N/A

Nick Name

Card Number

Name on Card

Account Type

Expiration Date Format MM/yyyy

Expiration Date

Card Verification Code

Street

City

State

ZIP code

Country

CellTec

Business Structures: 1
Billing Accounts: 24
Wireless Numbers: 76

User Information

Username:
agreen [Edit](#)

Password:
***** [Edit](#)

Role:
Administrator

Highest Wireless Users

Wireless No.	Last Bal.
545-803-9028	\$364.12
847-349-4100	\$245.90
447-483-9312	\$196.91
451-378-3743	\$159.82
397-894-2110	\$144.32

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	[A2] Edit pending payment 1. System displays the payment details with the editable fields. 2. User edits the information and submits the form. [A3] If MTID has multiple accounts, system displays a link to View Accounts.
Standard Features:	1. Cancel action 2. Paging 3. Sorting
Notes:	1. A recurring payment is a schedule of payments to be made. Once recurring payments are processed they become pending payments. 2. Edit Payment Instruction Limitation: Only the user who created a recurring or one-time payment can edit or delete it. This means that system intervention (OOTB, CSRs aren't given permission to modify any payment instructions) would be required if the creating user was no longer with the company nor able to share his login/password. <i>Preferred Solution:</i> If configured with a company setting, any user with a role with permission to edit payments and hierarchy access to the billing account to which the payment is against would be able to edit the payment instruction. (At this writing that was not possible)

Payment Activity Screen:

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My Account

Statement

Payments

One-Time Payment

Recurring Payments

Payment Accounts

Payment Activity

Payment Activity

Company Name: CellTec

User Name: Anne Green

Hierarchy Name: N/A

Position Name: N/A

Page 1 of 2

List of payments

Transaction No.	Billing Accounts	Date	Amount	Source	Status	Action
1105727038993	05696543	04/15/2005	15.11	①	scheduled	Edit Delete
1105726978255	05696543	03/14/2005	15.11	①	cancelled	
1105561320378	03286008	02/19/2005	379.13	①	cancelled	
1105726344868	GROUP	02/01/2005	1,797.82	①	- ? -	View Accounts
1105726906262	00486590	02/01/2005	1,509.84	①	scheduled	Edit Delete
1105718973682	05696543	01/14/2005	15.11	①	paid	
1105726936982	03286008	01/14/2005	379.13	①	paid	
1105727005286	06122165	01/14/2005	49.31	①	paid	
1105732588094	GROUP	01/14/2005	6,233.26	①	paid	View Accounts
1105645527884	GROUP	01/13/2005	1,574.26	①	paid	View Accounts
1105652628799	GROUP	01/13/2005	367.94	①	paid	View Accounts
1105560630995	05696543	01/12/2005	15.11	①	paid	
1105401842055	06122165	01/10/2005	49.31	①	settled	
1105402463990	05128140	01/10/2005	501.72	①	settled	
1105401578575	03286008	01/10/2005	379.13	①	paid	

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Group Payment Activity:

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My Account **Statement** **Payments**

One-Time Payment Recurring Payments Payment Accounts **Payment Activity**

Payment Activity

Company Name: CellTec Hierarchy Name: N/A
User Name: Anne Green Position Name: N/A

Page 1 of 2

List of payments of Transaction Number : 1105732588094

Transaction No.	Billing Accounts	Date	Amount	Source	Status	Action
1105732588108	00486590	01/14/2005	1,509.84	①	paid	
1105732588453	03286008	01/14/2005	379.13	①	paid	
1105732588591	05128140	01/14/2005	501.72	①	paid	
1105732588830	05696543	01/14/2005	15.11	①	paid	
1105732588992	06122165	01/14/2005	49.31	①	paid	
1105732589329	06876439	01/14/2005	12.35	①	paid	
1105732589524	07655448	01/14/2005	41.93	①	paid	
1105732589722	08654347	01/14/2005	206.83	①	paid	
1105732589896	09677685	01/14/2005	838.19	①	paid	
1105732590027	10756456	01/14/2005	235.42	①	paid	
1105732590168	11599659	01/14/2005	49.92	①	paid	
1105732590292	12876558	01/14/2005	210.70	①	paid	
1105732590444	13875658	01/14/2005	17.05	①	paid	
1105732590610	14464399	01/14/2005	3.82	①	paid	
1105732590797	29006120	01/14/2005	364.12	①	paid	

[Back to Payment Activity](#)

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3.9 Hierarchy Use Cases

The hierarchy use cases allow administrators to grant users access to statement information by assigning them to specific billing accounts or devices. Users can also be assigned to folders, which give them access to all accounts and devices in the tree structure below their assigned folders.

Billing Account Hierarchies are created automatically during the billing feed and can not be modified except by assigning and assigning users. Therefore only the 'Details' and 'Users' tabs display in the right pane.

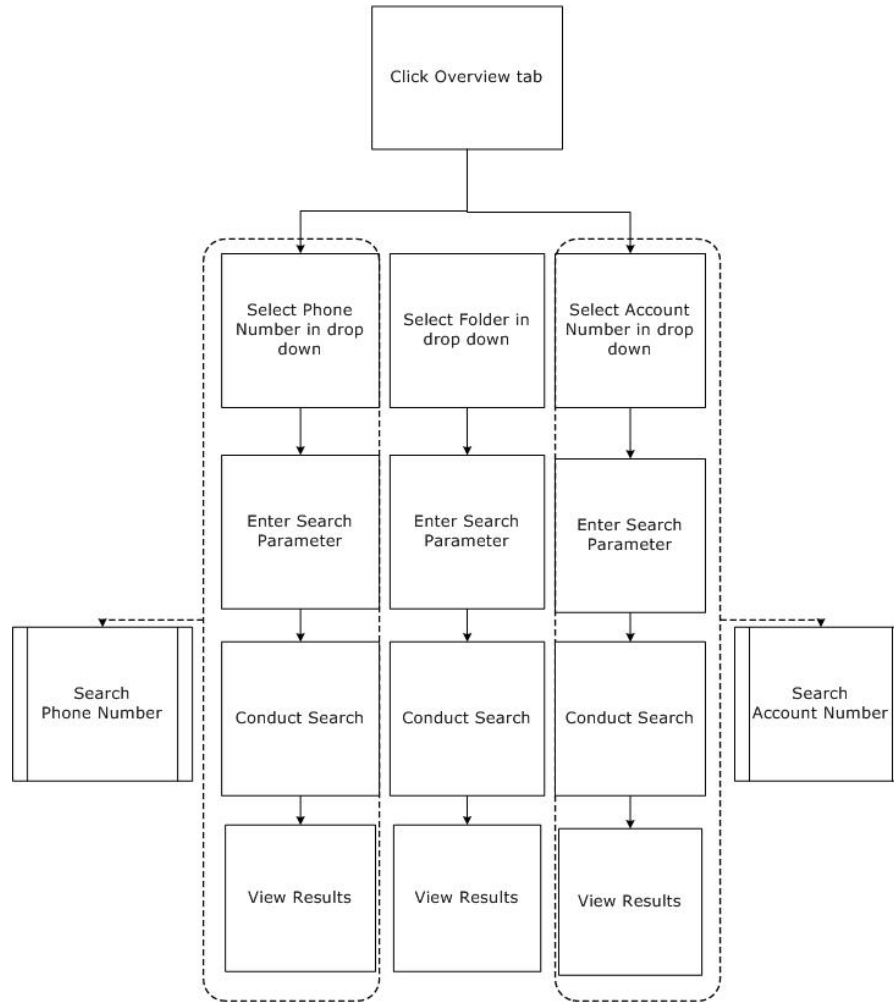
Billing Structure Hierarchies are manually created by a company administrator to resemble the different ways in which they view their organization (department, location, cost center, etc.). The administrator creates folders in a tree structure and then assigns accounts and devices to the folders. As is the case with Billing Account Hierarchies, users can be assigned to folders, accounts, and devices. If an account or device is selected in the left pane, only the 'details' and 'users' tabs display in the right pane (as is the case for billing hierarchies). If a folder is selected in the left pane the 'folders', 'accounts', and 'devices' tabs are displayed in the right pane in addition to the 'details' and 'users' tabs.

The following use cases are described in more detail below:

- Manage Billing Accounts in Hierarchy
- Manage Billing Account Users in Hierarchy
- Manage Business Structures
- Manage Business Structure Users
- Manage Business Structure Folder Nodes
- Manage Business Structure Accounts
- Manage Business Structure Device
- Download Hierarchy

Manage Billing Accounts (4000)

Search Billing Hierarchy or Business Structure for Accounts or Devices:



Name:	Manage Billing Accounts in Hierarchy
Brief Description:	The process of searching for folders, billing accounts, and devices from the billing hierarchy.
Actors:	Administrator User
Trigger:	User clicks on the Hierarchy tab then clicks on Billing Accounts tab.
Pre-Condition:	1. User must have access to more than one viewable item (billing account or subscription). 2. User must have access to a Business Structure with at least one folder to conduct a Folder search.
Main Path:	1. This use case begins when the Administrator wishes to search accounts from the billing hierarchy. 2. System displays a page showing the existing billing hierarchy The billing

	hierarchy presented displays search options along with the. a) User selects to search for an account or device in the billing hierarchy.[A3-A4] 3. User enters search criteria value and submits, options include: 1. Folder name 2. Account Number 3. Device 4. System displays search results. 5. Use case ends.
Alternate Paths:	[A1] System cannot find business object. 1. System displays message informing the User of the problem and allows them to correct it.
Standard Features:	1. Form validation 2. Account creation validation 3. Download Hierarchy (UC 4700)

Search Billing Accounts Screen:

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My Account | Statement | Payments

Overview | Hierarchy | Personal | Company

Manage Billing Accounts - Details

Company Name: CellTec
User Name: Anne Green

Hierarchy Name: N/A
Position Name: N/A

Billing Accounts | Business Structures

Search Options

Billing Accounts | Wireless Number | SEARCH

Billing Accounts

Billing Accounts

- Billing Accounts**
- 29006120
- 80011008
- 12876558
- 08654347
- 06876439
- 10756456
- 61362310
- 14464399
- 31569801
- 09677685
- 91459771
- 00486590
- 92156901
- 41251761
- 07655448
- 71385461
- 92801508

DOWNLOAD

Billing Accounts

Details | Users

Name: Billing Accounts

Location:

Description:

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Manage Billing Account – Unassign Users:

telcomanager [Help](#) [Contact Us](#) [Change Language](#) [Logout](#)

My Account **Statement** **Payments**

Overview **Hierarchy** Personal Company

Manage Billing Accounts - Manage Users

Company Name: CellTec **Hierarchy Name:** N/A
User Name: Anne Green **Position Name:** N/A

Billing Accounts **Business Structures**

Search Options
Billing Accounts Wireless Number

Billing Accounts

- ☐ [Billing Accounts](#)
- ☐ [29006120](#)
- ☐ [80011008](#)
- ☐ [12876558](#)
- ☐ [08654347](#)
- ☐ [06876439](#)
- ☐ [10756456](#)
- ☐ [61362310](#)
- ☐ [14464399](#)
- ☐ [31569801](#)
- ☐ [09677685](#)
- ☐ [91459771](#)
- ☐ [00486590](#)
- ☐ [92156901](#)
- ☐ [41251761](#)
- ☐ [07655448](#)
- ☐ [71385461](#)
- ☐ [92801508](#)

Billing Accounts

Details **Users**

View: Filter: Text:

☐ Anne Green

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Manage Billing Account – Assign Users:

telcomanager [Help](#) [Contact Us](#) [Change Language](#) [Logout](#)

My Account **Statement** **Payments**

Overview **Hierarchy** Personal Company

Manage Billing Accounts - Manage Users

Company Name: CellTec **Hierarchy Name:** N/A
User Name: Anne Green **Position Name:** N/A

Billing Accounts **Business Structures**

Search Options
Billing Accounts **Wireless Number** **SEARCH**

Billing Accounts

Billing Accounts

- Billing Accounts**
 - 29006120
 - 80011008
 - 12876558
 - 08654347
 - 06876439
 - 10756456
 - 61362310
 - 14464399
 - 31569801
 - 09677685
 - 91459771
 - 00486590
 - 92156901
 - 41251761
 - 07655448
 - 71385461
 - 92801508

DOWNLOAD

Billing Accounts

Details **Users**

View: Unassigned **Filter:** First Name **Text:** **REFRESH**

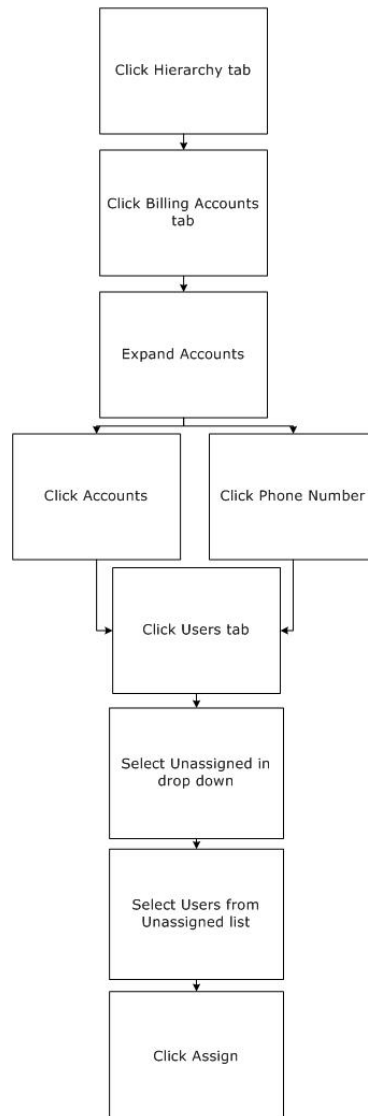
- ☐ Nathan Zuckerman
- ☐ David Reichert
- ☐ chpchp chpchp
- ☐ Fred Fredericks

ASSIGN

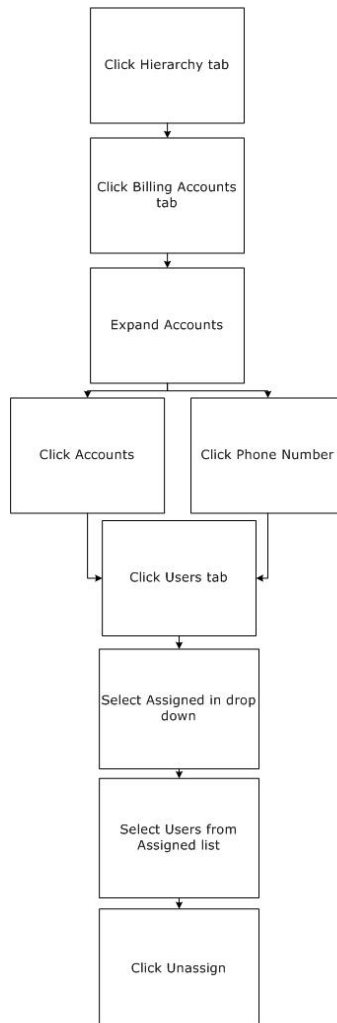
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Manage Billing Account Users (4100)

Assign Users Access to View Account or Individual Phone Information in Billing Accounts:



Unassign Users Access to View Account or Individual Phone Information in Billing Accounts:



Name:	Manage Billing Account Users in a Hierarchy
Brief Description:	The process of searching for, assigning or unassigning users to the billing hierarchy folders, accounts, and devices. This use case is identical to the Manage Business Structures Use Case
Actors:	Administrator User
Trigger:	User clicks on the Hierarchy tab, clicks on Billing Accounts tab, then expands Accounts.
Preconditions	User has selected a Billing Account or Subscription in the Billing Structure, or User has selected a Billing Account, Subscription, or Folder in a Business Structure under the Business Structure subtab
Main Path:	See Manage Business Structure Use Case.

	All actions are identical and the screens are nearly identical except that the screen titles differ ("Manager Billing Account" vs. "Manage Business Structure" and the right pane only displays a "details" and "users" tab.
Alternate Paths:	[A1] Assign User {see "Manage Business Structure Users" use case} [A2] Un-assign User {see "Manage Business Structure Users" use case} [A3] If no users exist in system, then the user has the option to enroll a new user.
Standard Features:	Form validation Download Hierarchy (UC 4700)
Notes:	None
Questions:	

Manage Billing Account – Details:

The screenshot shows the 'telcomanager' web application interface. At the top, there is a navigation bar with links for 'Help', 'Contact Us', 'Change Language', and 'Logout'. Below this, a secondary navigation bar includes 'My Account', 'Statement', and 'Payments'. A third navigation bar shows 'Overview', 'Hierarchy', 'Personal', and 'Company'. The main heading is 'Manage Billing Accounts - Details'. Below this, account information is displayed: 'Company Name: CellTec', 'User Name: Anne Green', 'Hierarchy Name: N/A', and 'Position Name: N/A'. A tabbed interface shows 'Billing Accounts' and 'Business Structures'. A search section includes 'Search Options', a dropdown for 'Billing Accounts', a 'Wireless Number' dropdown, a text input field, and a 'SEARCH' button. The left pane, titled 'Billing Accounts', shows a tree view of accounts. The right pane, titled '61362310', shows details for the selected account, including 'Name: 61362310', 'Location: Billing Accounts\61362310', and 'Description: Generated through Synchronizer'. A 'DOWNLOAD' button is at the bottom left. The footer contains the copyright notice: '© 1996-2005 edocs®, Inc. All Rights Reserved.'

telcomanager

Help | Contact Us | Change Language | Logout

My Account | Statement | Payments

Overview | Hierarchy | Personal | Company

Manage Billing Accounts - Details

Company Name: CellTec
User Name: Anne Green
Hierarchy Name: N/A
Position Name: N/A

Billing Accounts | Business Structures

Search Options

Billing Accounts | Wireless Number | SEARCH

Billing Accounts

61362310

Details | Users

Name: 61362310
Location: Billing Accounts\61362310
Description: Generated through Synchronizer

DOWNLOAD

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Manage Billing Account - Assign Users in Hierarchy:

telcomanager [Help](#) [Contact Us](#) [Change Language](#) [Logout](#)

My Account **Statement** **Payments**

Overview **Hierarchy** Personal Company

Manage Billing Accounts - Manage Users

Company Name: CellTec **Hierarchy Name:** N/A
User Name: Anne Green **Position Name:** N/A

Billing Accounts **Business Structures**

Search Options
Billing Accounts **Wireless Number** **SEARCH**

Billing Accounts

61362310

Billing Accounts

- Billing Accounts**
 - 29006120
 - 80011008
 - 12876558
 - 08654347
 - 06876439
 - 10756456
 - 61362310
 - 61362310
 - 318-473-2174
 - 318-743-4734
 - 14464399
 - 31569801
 - 09677685
 - 91459771
 - 00486590
 - 92156901
 - 41251761

Details **Users**

View: Unassigned **Filter:** First Name **Text:** **REFRESH**

- ☐ Nathan Zuckerman
- ☐ David Reichert
- ☐ chpchn chpchn
- ☐ Fred Fredericks

ASSIGN

DOWNLOAD

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Manage Billing Account - Unassign Users in Hierarchy:

telcomanager
[Help](#) | [Contact Us](#) | [Change Language](#) | [Logout](#)

My Account | **Statement** | Payments

Overview | **Hierarchy** | Personal | Company

Manage Billing Accounts - Manage Users

Company Name: CellTec **Hierarchy Name:** N/A
User Name: Anne Green **Position Name:** N/A

Billing Accounts | Business Structures

Search Options

Billing Accounts | Wireless Number |

Billing Accounts

- Billing Accounts
 - 29006120
 - 80011008
 - 12876558
 - 08654347
 - 06876439
 - 10756456
 - 61362310
 - 61362310
 - 318-473-2174
 - 318-743-4734
 - 14464399
 - 31569801
 - 09677685
 - 91459771
 - 00486590
 - 92156901
 - 41251761

61362310

Details | **Users**

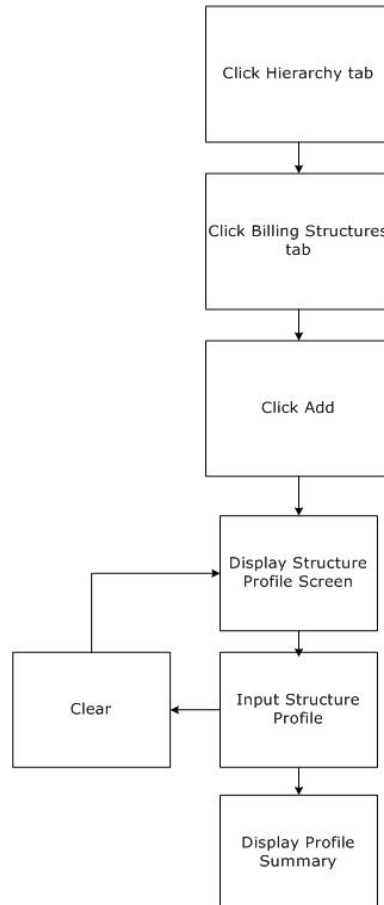
View: Assigned
Filter: First Name
Text:

No user found. [Add a new user](#)

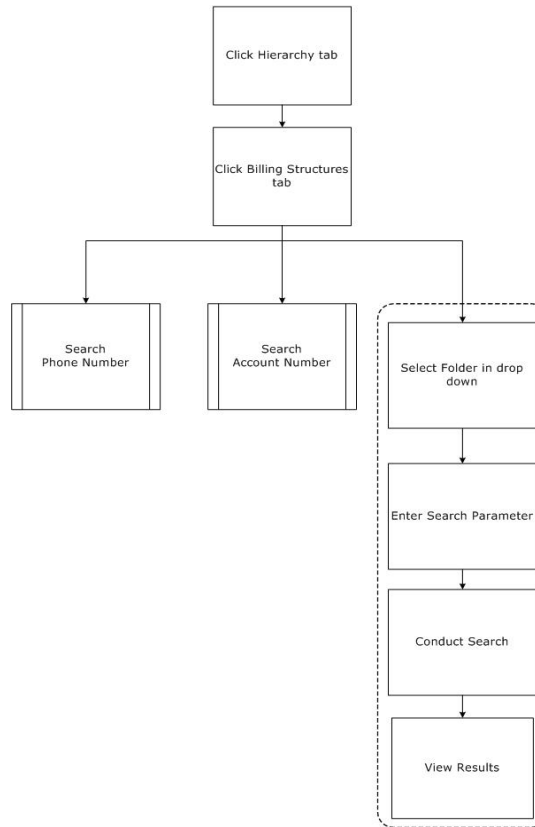
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Manage Business Structures (4200)

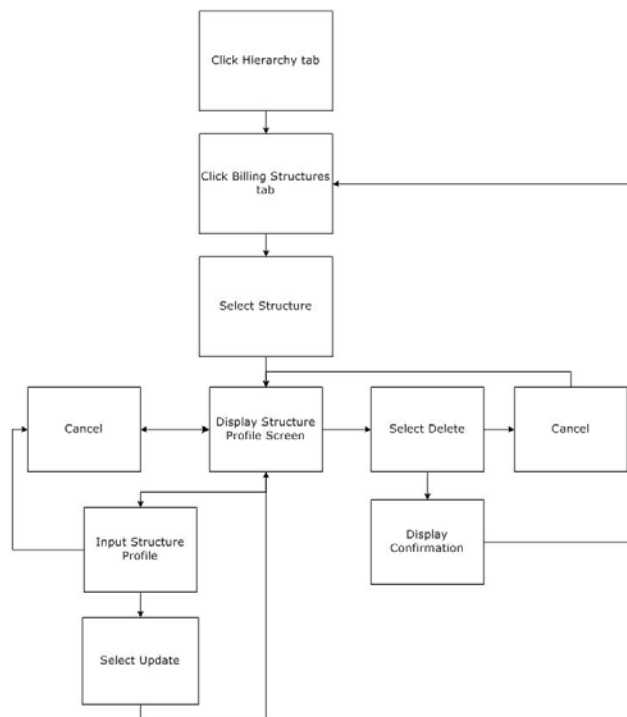
Create New Structure:



Search for Accounts, Folders, or Device:



Modify Existing Structure:



Name:	Manage Available Business Structures
Brief Description:	The process of adding (main path), editing, and deleting business structures available. An Administrator creates and assembles folders in a tree structure to resemble the different ways in which they view their organization. Billing accounts and wireless numbers are assigned to the folders and then the administrator can assign users to folders, accounts, and devices to define user access control.
Primary Actor	a. Administrator User (at root level of organization)
Trigger:	User clicks on the Hierarchy tab, clicks on Billing Structures tab
Preconditions	Organization and Accounts exist.
Main Path:	1. System displays a page showing the existing business structures along with a method to add a new business structure. [A1 - A2] 2. User selects to create a new business structure. 3. System prompts the user to enter attribute(s) for the business structure including: a. Display Name b. Description 4. User enters a name and attribute(s) for the business structure and submits. 5. System validates information to be correct.[A3]

Alternate Paths:	[A1] Edit Business Structure 1. User selects to edit the attributes of an existing business structure 2. User selects the name of the business structure. 3. System displays in the right pane the attributes currently associated to the selected business structure. 4. User modifies one or more attributes of the business structure and selects update. 5. System validates information to be correct. 6. System displays confirmation that the business structure has been modified. [A2] Delete business structure. 1. User selects the name of the business structure. 2. System displays in the right pane the attributes currently associated to the selected business structure. 3. User selects delete action 1. User confirms delete action 2. System removes the selected business structure and displays a confirmation. [A3] System determines one or more items are missing or invalid. 1. System displays message informing the User of the problem and allows them to correct it. [A4] Search Business Structure(s) 1. User selects the business object for which to search within the business structure, options include: a. Folders b. Accounts c. Devices 2. User enters search criteria based on the properties of the business object and submits, options include: a. Display Name of Folder b. Display Name of Account c. Number of Device 3. System validates information and displays search results page. 4. User selects the hyperlink for one of the search results lines and the system displays the position of the selected item in the left hierarchy pane. [A5] System cannot find business object. 1. System displays message informing the User of the problem and allows them to correct it.
Standard Features:	Form Validation Download Hierarchy (UC 4700)
Notes:	This use case is restricted to users at the root level of an organization

Add Business Structure:

telcomanager

[Help](#) | [Contact Us](#) | [Change Language](#) | [Logout](#)

[My Account](#) | [Statement](#) | [Payments](#)

[Overview](#) | [Hierarchy](#) | [Personal](#) | [Company](#)

Manage Business Structure - Add Business Structure

Company Name: CellTec

Hierarchy Name: N/A

User Name: Anne Green

Position Name: N/A

[Billing Accounts](#) | [Business Structures](#)

Search Options

CellTec Offices

Wireless Number

SEARCH

Business Structures

+

CellTec Offices

NEW

CellTec Offices

Create a new Business Structure

Name:

Description:

CLEAR

CREATE

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Edit Business Structure:

telco manager [Help](#) [Contact Us](#) [Change Language](#) [Logout](#)

My Account **Statement** **Payments**

Overview **Hierarchy** Personal Company

Manage Business Structure - Edit Business Structure

Company Name: CellTec **Hierarchy Name:** N/A
User Name: Anne Green **Position Name:** N/A

Billing Accounts **Business Structures**

Search Options
CellTec Offices Wireless Number

Business Structures

☐ [CellTec Offices](#)

CellTec Offices

Name:
Description:

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Display Business Structure Details:

The screenshot displays the 'telcomanager' web application interface. At the top, there is a navigation bar with links for 'Help', 'Contact Us', 'Change Language', and 'Logout'. Below this, a secondary navigation bar includes 'My Account', 'Statement', and 'Payments'. The main navigation area features tabs for 'Overview', 'Hierarchy', 'Personal', and 'Company', with 'Hierarchy' currently selected.

The page title is 'Manage Business Structure - Details'. It shows the following information:

- Company Name:** CellTec
- User Name:** Anne Green
- Hierarchy Name:** N/A
- Position Name:** N/A

Below this information, there are two tabs: 'Billing Accounts' and 'Business Structures', with 'Business Structures' being the active tab. A search section is present with a dropdown menu set to 'CellTec Offices', a 'Wireless Number' dropdown, a text input field, and a 'SEARCH' button.

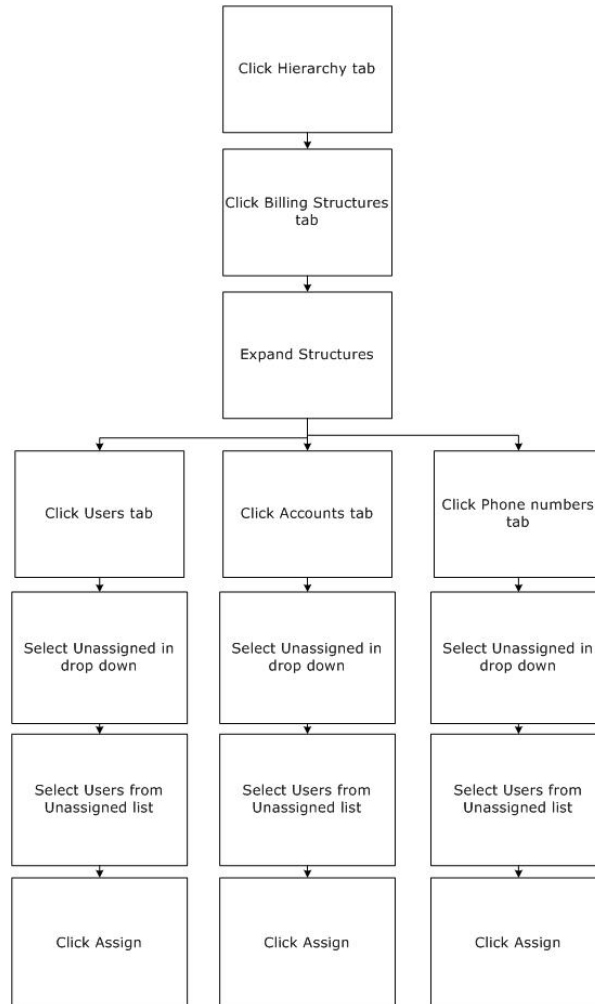
The main content area is divided into two sections. On the left, under the heading 'Business Structures', there is a tree view showing a folder 'CellTec Offices' with a 'GO' button. Under it, there are two sub-folders: 'Natick, MA' and 'San Mateo, CA'. On the right, the details for the 'Natick, MA' folder are displayed. This section has a sub-header 'Natick, MA' and a tabbed interface with 'Details', 'Users', 'Folders', 'Accounts', and 'Wireless Numbers'. The 'Details' tab is active, showing a form with the following fields:

- Name:** Natick, MA
- Location:** CellTec Offices\Natick, MA
- Description:** (empty text area)

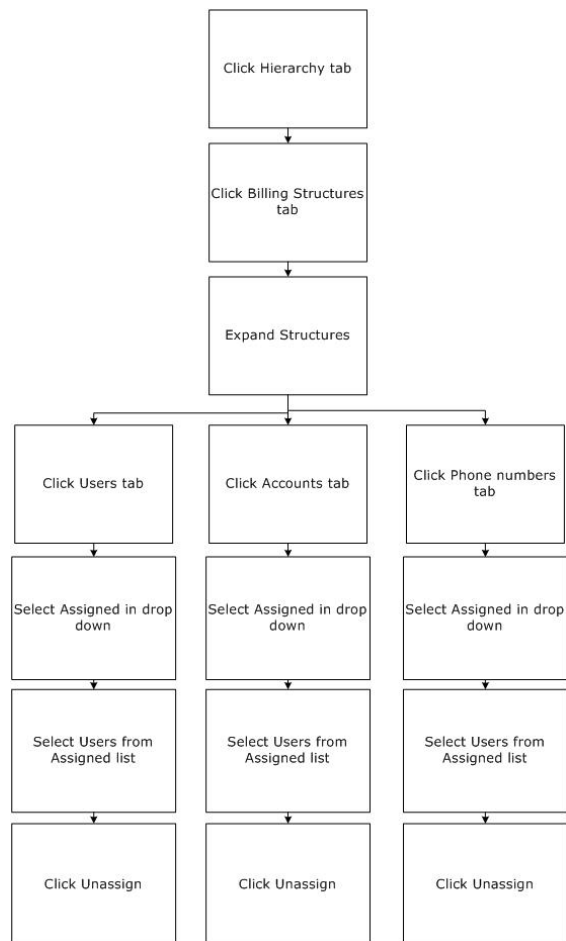
At the bottom of the details form are three buttons: 'CANCEL', 'UPDATE', and 'DELETE'. At the bottom left of the main content area, there are two buttons: 'NEW' and 'DOWNLOAD'. The footer of the page contains the copyright notice: '© 1996-2005 edocs®, Inc. All Rights Reserved.'

Manage Business Structure Users (4300)

Assign Users to Folders, Accounts, or Devices:



Un-assign Users from Folders, Accounts, or Devices:



Name:	Manage Business Structure Users
Brief Description:	The process of assigning or un-assigning users to/from folders, accounts, and devices. Users assigned to accounts or devices are able to view statement information associated with those accounts or devices. If assigned to folders, the user can view statement information for all accounts and devices below the folders in the tree structure to which they have been assigned. .
Primary Actor	Administrator User
Trigger:	User clicks on the Hierarchy tab, clicks on Billing Structures tab, then selects Business Structure
Preconditions	Business Structures exist. User has selected a account or device in a Business Structure in the left pane (note this screen only displays the 'Details' and 'Users' tab in the right pane, not the wireless number tab as the wireless numbers cannot be assigned directly to the account)

Main Path:	Main path describes viewing the users assigned to a business structure folder, account, or device. 1. User selects a folder, account, or device in a business structure in the left pane. The top of the right pane displays the name of the selected folder, account, or device 2. User selects the "user" tab in the right pane. The screen name changes to "Manage Business Structures – Manage Users" 3. Refresh Users User selects from the following options: ◆ View (assigned, unassigned) ◆ Filter (first name, last name, user name) ◆ Text User selects "Refresh" action to view all assigned or unassigned users matching the above criteria.
Alternate Paths:	[A1] Assign user 1. User selects the "un-assigned" view and selects refresh 2. User selects one or more users to assign 3. User selects the assign action 4. Right pane view refreshes and changes to the assigned user view [A2] Un-assign user 1. User selects the "assigned" view and selects refresh 2. User selects one or more users to un-assign 3. User selects the un-assign action 4. Right pane assigned user view refreshes, no longer displaying the un-assigned user(s). [A3] User selects Add a new user hyperlink. 5. System invokes, Enroll company users use case. [A4] User selects 'New', to create business structure. 1. System invokes the Manage business structure use case.
Standard Features:	1. Form validation 2. Download Hierarchy (UC 4700)
Notes:	<i>Limitation to Device Based Access Control:</i> If a user is given access to a device in the billing hierarchy, the user will be able to see all statement usage related data for that device, even if the usage data relates to usage from another user from the same company who had the same device. This is also true for the billing account hierarchy, except that the usage from the previous user would need to have been under the same billing account in the billing feed.

Manage Business Structure - Assign Users:

The screenshot shows the 'telcomanager' web application interface. At the top, there's a navigation bar with 'My Account', 'Statement', and 'Payments' tabs. Below this, a sub-navigation bar includes 'Overview', 'Hierarchy', 'Personal', and 'Company'. The main heading is 'Manage Business Structure - Manage Users'. It displays company information: 'Company Name: CellTec', 'User Name: Anne Green', 'Hierarchy Name: N/A', and 'Position Name: N/A'. A secondary navigation bar has 'Billing Accounts' and 'Business Structures' tabs. Below this is a search section with 'Search Options', a dropdown for 'CellTec Offices', a 'Wireless Number' dropdown, a text input field, and a 'SEARCH' button. The main content area is split into two panels. The left panel, titled 'Business Structures', shows a tree view with 'CellTec Offices' expanded, revealing 'Natick, MA' and 'San Mateo, CA'. The right panel, titled 'Natick, MA', has tabs for 'Details', 'Users', 'Folders', 'Accounts', and 'Wireless Numbers'. The 'Users' tab is active, showing a 'View' dropdown set to 'Unassigned', a 'Filter' dropdown set to 'First Name', and a 'Text' input field. Below these is a list of users with checkboxes: David Reichert, chpchp chpchp, and Fred Fredericks. A 'REFRESH' button is next to the text input, and an 'ASSIGN' button is at the bottom right of the user list. At the bottom of the interface, there are 'NEW' and 'DOWNLOAD' buttons, and a copyright notice: '© 1996-2005 edocs®, Inc. All Rights Reserved.'

telcomanager

Help | Contact Us | Change Language | Logout

My Account | Statement | Payments

Overview | Hierarchy | Personal | Company

Manage Business Structure - Manage Users

Company Name: CellTec | Hierarchy Name: N/A
User Name: Anne Green | Position Name: N/A

Billing Accounts | Business Structures

Search Options

CellTec Offices | Wireless Number | SEARCH

Business Structures

CellTec Offices | GO

Natick, MA

San Mateo, CA

Details | Users | Folders | Accounts | Wireless Numbers

View: Unassigned | Filter: First Name | Text: | REFRESH

☐ David Reichert
☐ chpchp chpchp
☐ Fred Fredericks

ASSIGN

NEW | DOWNLOAD

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Manage Business Structure - Unassign Users:

telcomanager [Help](#) [Contact Us](#) [Change Language](#) [Logout](#)

My Account **Statement** **Payments**

Overview **Hierarchy** Personal Company

Manage Business Structure - Manage Users

Company Name: CellTec **Hierarchy Name:** N/A
User Name: Anne Green **Position Name:** N/A

Billing Accounts **Business Structures**

Search Options
CellTec Offices Wireless Number

Business Structures

CellTec Offices

- Natick, MA
- San Mateo, CA

Natick, MA

Details **Users** Folders Accounts Wireless Numbers

View: Assigned
Filter: First Name
Text:

No user found. [Add a new user](#)

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Manage Business Structure - Display Selected Account Details:

The screenshot displays the 'telcomanager' web application interface. At the top, there is a navigation bar with links for 'Help', 'Contact Us', 'Change Language', and 'Logout'. Below this, a secondary navigation bar includes 'My Account', 'Statement', and 'Payments'. A third navigation bar shows 'Overview', 'Hierarchy', 'Personal', and 'Company'. The main heading is 'Manage Business Structure - Details'. Below this, account information is listed: 'Company Name: CellTec', 'User Name: Anne Green', 'Hierarchy Name: N/A', and 'Position Name: N/A'. A tabbed interface shows 'Billing Accounts' and 'Business Structures'. Under 'Business Structures', there is a search section with 'Search Options', a dropdown for 'CellTec Offices', a 'Wireless Number' dropdown, a text input field, and a 'SEARCH' button. The main content area is split into two panes. The left pane, titled 'Business Structures', shows a tree view with 'CellTec Offices' selected, containing folders for 'Natick, MA' and 'San Mateo, CA'. Under 'Natick, MA' are 'Engineering' and 'Product Management'. Under 'Product Management' are the account '80011008' and two phone numbers: '318-743-4734' and '847-349-4108'. The right pane, titled '80011008', has tabs for 'Details' and 'Users'. The 'Details' tab is active, showing 'Account Number: 80011008' and 'Location: CellTec Offices\Natick, MA\Product Management\80011008'. At the bottom left, there are 'NEW' and 'DOWNLOAD' buttons. The footer contains the copyright notice: '© 1996-2005 edocs®, Inc. All Rights Reserved.'

Manage Account Users – Unassign Users:

telcomanager [Help](#) [Contact Us](#) [Change Language](#) [Logout](#)

My Account **Statement** **Payments**

Overview **Hierarchy** Personal Company

Manage Business Structure - Manage Users

Company Name: CellTec **Hierarchy Name:** N/A
User Name: Anne Green **Position Name:** N/A

Billing Accounts **Business Structures**

Search Options
CellTec Offices Wireless Number

Business Structures

CellTec Offices

- Natick, MA
 - Engineering
 - Product Management
 - 80011008
 - 318-743-4734
 - 847-349-4108
 - San Mateo, CA

80011008

Details **Users**

View: Filter: Text:

No user found. [Add a new user](#)

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Manage Business Structure - Displays Selected Device Details:

The screenshot shows the 'telcomanager' web application interface. At the top, there's a navigation bar with links for 'Help', 'Contact Us', 'Change Language', and 'Logout'. Below this, a secondary navigation bar includes 'My Account', 'Statement', and 'Payments'. A third bar shows 'Overview', 'Hierarchy', 'Personal', and 'Company' tabs, with 'Hierarchy' currently selected.

The main heading is 'Manage Business Structure - Details'. Below this, user information is displayed: 'Company Name: CellTec', 'User Name: Anne Green', 'Hierarchy Name: N/A', and 'Position Name: N/A'.

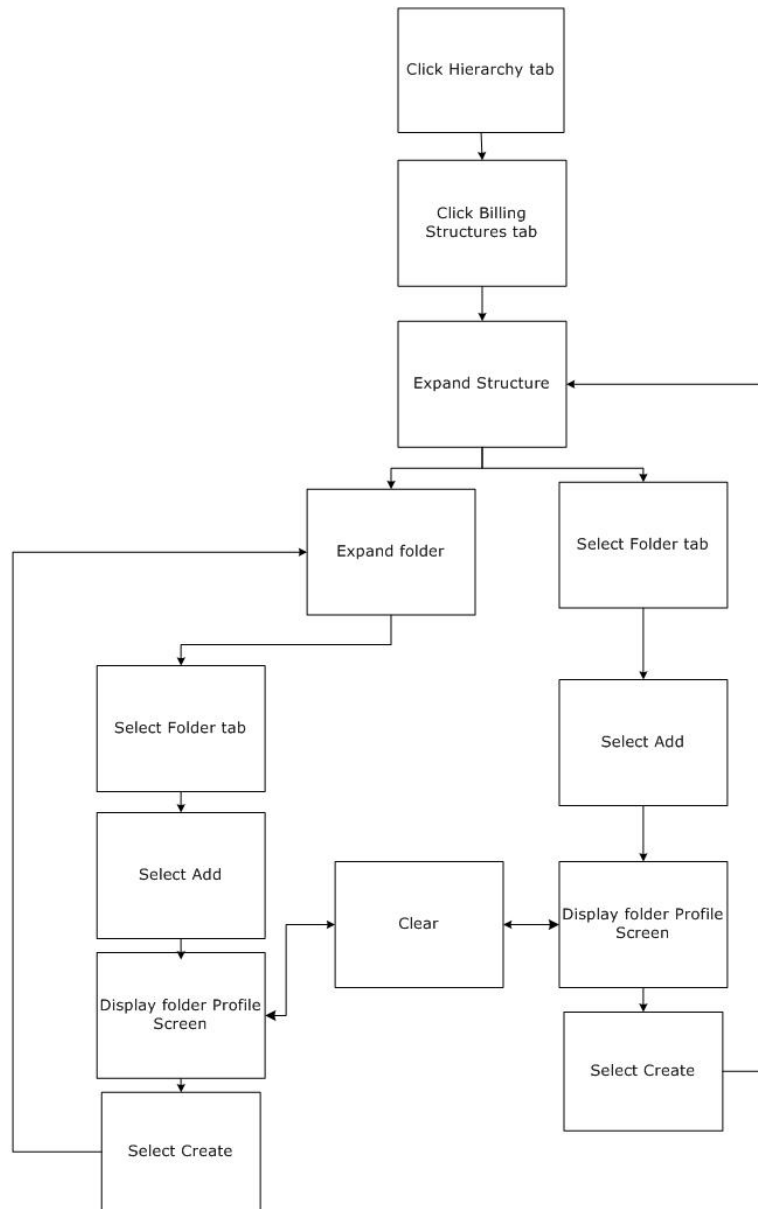
A sub-navigation bar shows 'Billing Accounts' and 'Business Structures', with 'Business Structures' selected. Below this is a 'Search Options' section with a dropdown menu set to 'CellTec Offices', a 'Wireless Number' dropdown, an input field, and a 'SEARCH' button.

The main content area is split into two columns. The left column, titled 'Business Structures', shows a tree view under 'CellTec Offices' with a 'GO' button. The tree includes folders for 'Natick, MA' and 'San Mateo, CA'. Under 'Natick, MA', there are sub-folders for 'Engineering' and 'Product Management'. Under 'Product Management', there are three phone numbers listed: '80011008', '318-743-4734', and '847-349-4108'. The right column displays details for the selected phone number '318-743-4734'. It has tabs for 'Details' and 'Users', with 'Details' selected. The details shown are: 'Phone Number: 318-743-4734' and 'Location: CellTec Offices\Natick, MA\Product Management\318-743-4734'.

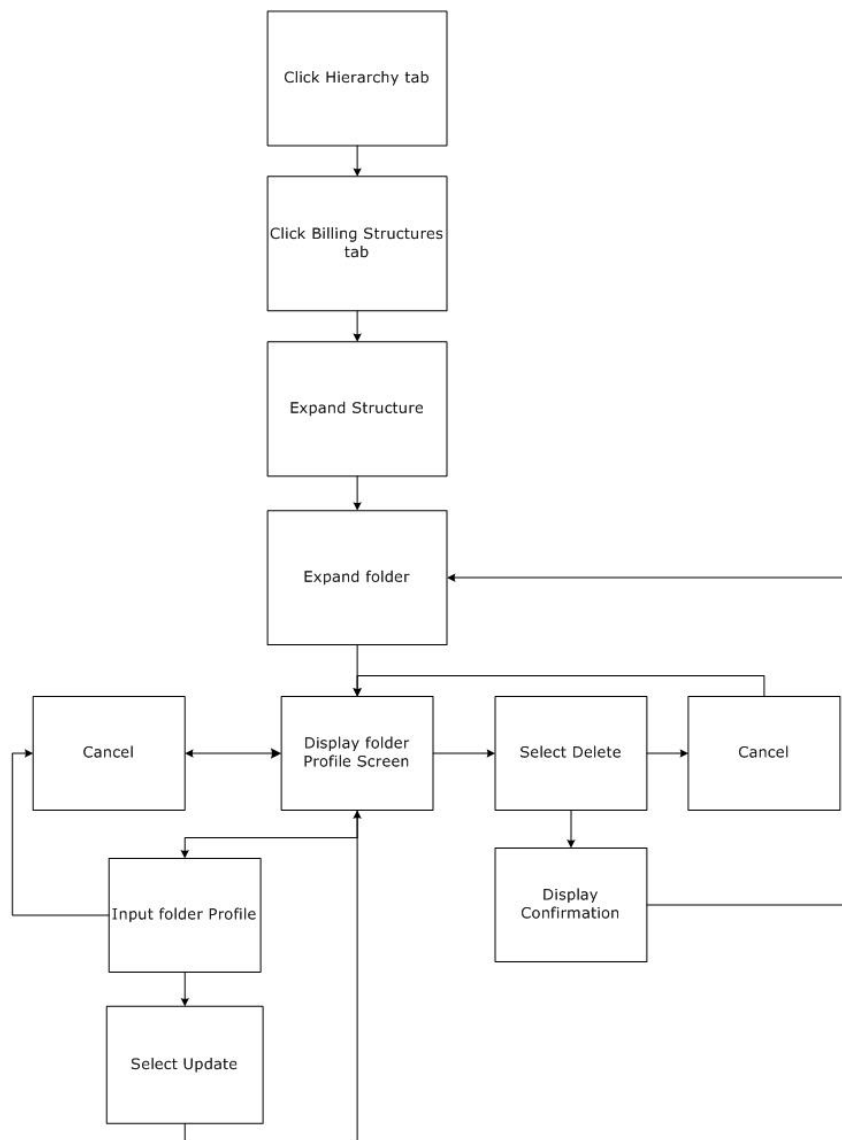
At the bottom left, there are 'NEW' and 'DOWNLOAD' buttons. At the bottom center, a copyright notice reads: '© 1996-2005 edocs®, Inc. All Rights Reserved.'

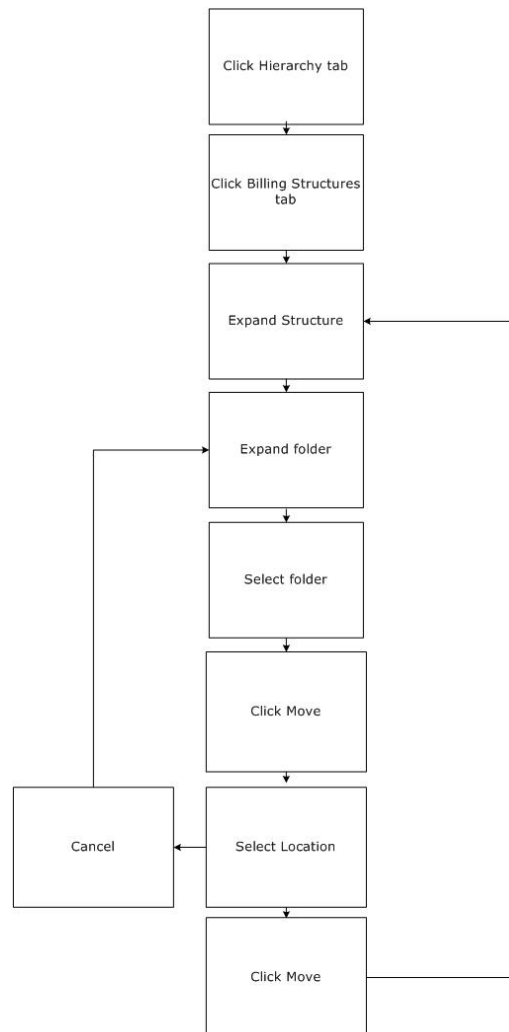
Manage Business Structure Folder Nodes (4400)

Create New Folders in a Business Structure:



Modify Folder Properties in a Business Structure:



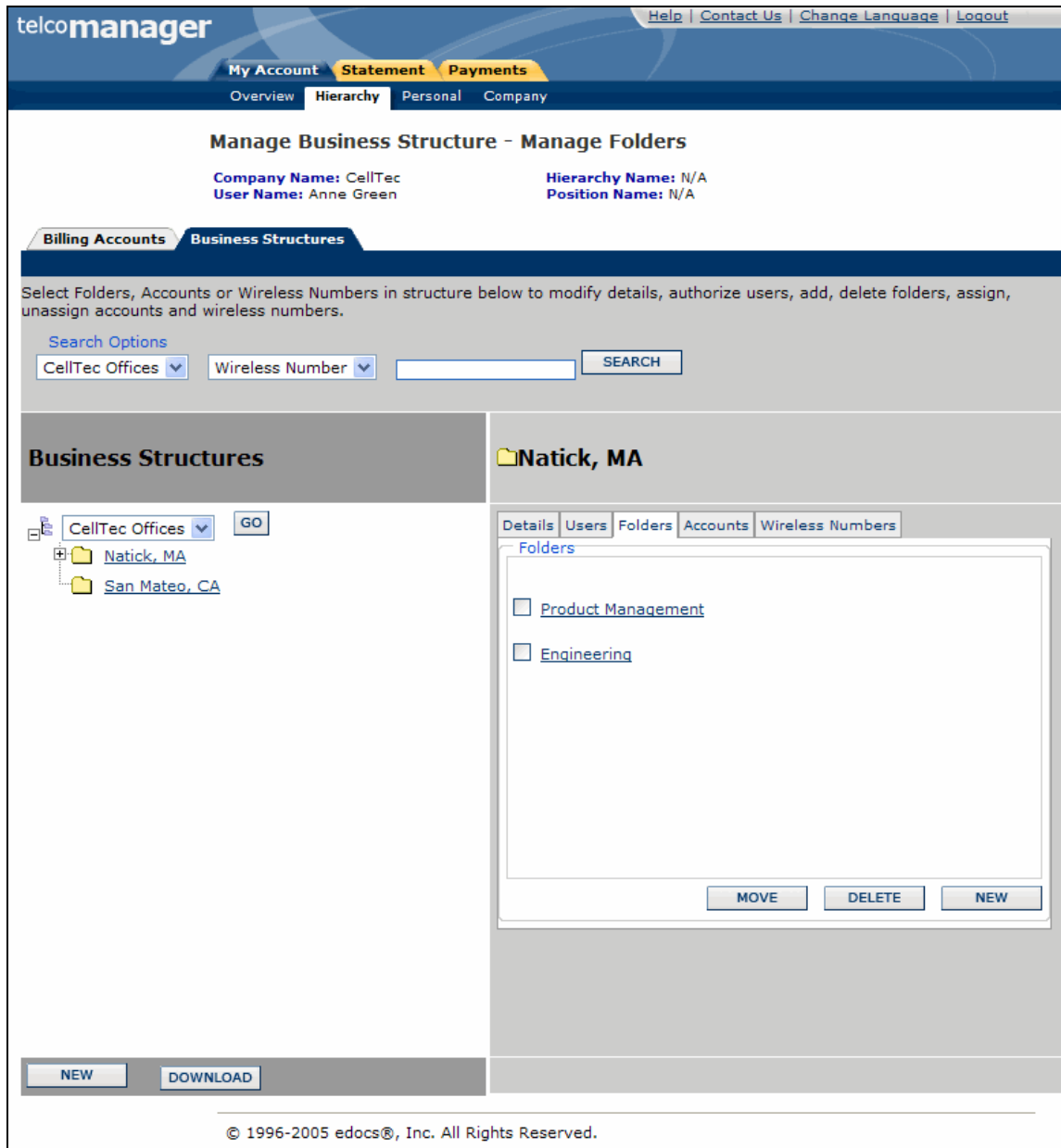
Move Folders Into and Out of Folders:

Name:	Manage Business Structure Folder Nodes
Brief Description:	The process of adding, editing, moving, and deleting folder nodes within a business structure. Folder nodes exist so that users can create a tree structure to mimic different views of their organization. Billing accounts and devices are assigned to folders and appear under the folder in a tree structure. Folders can only be assigned to other folders or to the business structure itself (to add a folder just under the root of the tree structure). Users assigned to a folder have access to all billing accounts and devices within that folder or any folder below the folder in the billing structure.
Actors:	Administrator User
Trigger:	User clicks on the Hierarchy tab, clicks on Business Structures tab, and

	selects a specific Business Structure
Preconditions	Business Structures exist. User has selected a Folder or root node in a Business Structure (note this screen is not available if an account or device is selected in the left pane)
Main Path:	The main path references adding a folder. 1. User highlights a folder within the business structure (or the business structure name itself to create a folder under the root node). The name of the selected object in the left pane is displayed at the top of the right pane. 2. User selects the New Folder operation. [A1 – A3] 3. System prompts the user to enter attribute(s) for the folder including: a. Display Name b. Description 4. User enters a name and attribute(s) for the business structure and submits. 5. System validates information to be correct and redisplay the business structure management screen. [A4] 6. Use case ends.
Alternate Paths:	[A1] Edit Folder Attributes 1. User selects the folder in the left pane. 2. User modifies one or more attributes of the folder and selects update. 3. System validates information to be correct. 4. System displays confirmation that the folder has been modified. [A2] Move an existing folder. 1. User selects right pane "Folder" tab. 2. User selects one or more folder in right pane and selects Move action. 3. User selects the destination for the folder and the Move action 4. System redisplay the structure management page to reflect the newly organized business structure. [A3] Delete folder 1. System requests user to confirm they wish to delete the folder and all of its contents from the business structure. 2. User confirms. 3. System removes the selected folder from the business structure and displays the Structure Management screen. [A4] System determines one or more items are missing or invalid. 1. System displays message informing the User of the problem and allows them to correct it.
Standard Features:	1. Form validation

	- Folder Attributes - Download Hierarchy (UC 4700)
Notes:	Folders can only exist directly under other folders or the root name of the business structure. Folders can not be created or moved under accounts or devices, therefore, the folder tab (same with account and phone number) only displays in the right pane when a folder (or root) node is highlighted in the left pane.

Manage Folder Nodes:



telcomanager

Help | Contact Us | Change Language | Logout

My Account | Statement | Payments

Overview | Hierarchy | Personal | Company

Manage Business Structure - Manage Folders

Company Name: CellTec
User Name: Anne Green
Hierarchy Name: N/A
Position Name: N/A

Billing Accounts | Business Structures

Select Folders, Accounts or Wireless Numbers in structure below to modify details, authorize users, add, delete folders, assign, unassign accounts and wireless numbers.

Search Options
CellTec Offices | Wireless Number | SEARCH

Business Structures

CellTec Offices | GO

- Natick, MA
- San Mateo, CA

Natick, MA

Details | Users | Folders | Accounts | Wireless Numbers

Folders

- ☐ Product Management
- ☐ Engineering

MOVE | DELETE | NEW

NEW | DOWNLOAD

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Edit-Folder Node Details:

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My Account **Statement** **Payments**

Overview **Hierarchy** Personal Company

Manage Business Structure - Details

Company Name: CellTec **Hierarchy Name:** N/A
User Name: Anne Green **Position Name:** N/A

Billing Accounts **Business Structures**

Search Options
CellTec Offices Wireless Number

Business Structures **Product Management**

CellTec Offices
+ Natick, MA
+ San Mateo, CA

Details **Users** **Folders** **Accounts** **Wireless Numbers**

Name: Product Management
Location: CellTec Offices\Natick, MA\Product Management
Description:

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Manage Business Structure Accounts (4500)

Name:	Manage Business Structure Accounts
Brief Description:	The process of assigning, un-assigning or moving accounts within a business structure.
Primary Actor	Administrator User
Triggers	1. User clicks on the Hierarchy tab, clicks on Business Structures tab, and selects a specific Business Structure

Preconditions	Business Structures exist. User has selected a Folder or root node in a Business Structure (note this screen is not available if an account or device is selected in the left pane)
Main Path:	The main path refers to assigning one or more accounts to a folder. 1. User selects a folder in the left pane The 'Details' tab in the right pane displays the folder attributes 2. User selects the Accounts tab in the right pane The list of un-assigned Billing Accounts are displayed in the right pane 3. User selects one or more un-assigned accounts and the 'Assign' action 4. Right pane refreshes to the assigned accounts view
Alternate Paths:	[A1] Un-assign account 1. User selects the 'assigned' view in the right pane and selects refresh 2. User selects one or more accounts to un-assign 3. User selects the un-assign action 4. Right pane view refreshes the assigned accounts view [A2] Move an existing account. User selects a folder in the left pane User selects the account tab in the right pane User selects one or more accounts to move User selects 'Move' action in the right pane Right pane refreshes with a list of target folders to move the selected account. User selects a folder in the right pane to which the previously selected accounts should be moved. User selects the 'Move' action
Standard Features:	1. Form validation 2. Node / Folder Attributes 3. Download Hierarchy (UC 4700)
Notes:	Both accounts and devices follow the same process to be assigned, un-assigned, and moved.

Manage Business Structure – Manage Accounts:

telcomanager

[Help](#) | [Contact Us](#) | [Change Language](#) | [Logout](#)

My Account | **Statement** | Payments

Overview | **Hierarchy** | Personal | Company

Manage Business Structure - Manage Account

Company Name: CellTec
User Name: Anne Green

Hierarchy Name: N/A
Position Name: N/A

Billing Accounts | **Business Structures**

Select accounts in structure below to modify general properties, assign or unassign users, or add new accounts.

[Search Options](#)
CellTec Offices Wireless Number

Business Structures

CellTec Offices

- Natick, MA
- San Mateo, CA

Natick, MA

Details | Users | Folders | **Accounts** | Wireless Numbers

View: Unassigned
Filter: Account Number
Text:

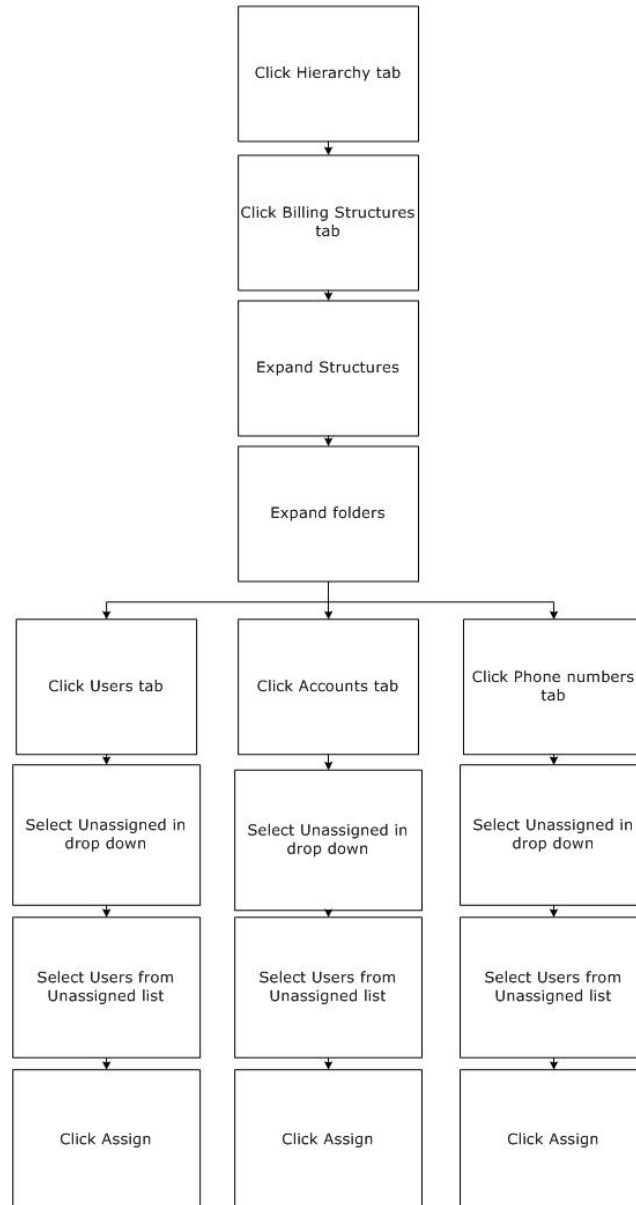
Unassigned

☐	10756456
☐	12876558
☐	13875658
☐	91459771
☐	81441916
☐	92801508
☐	03286008
☐	29006120
☐	31569801
☐	92156901
☐	71385461
☐	11599659

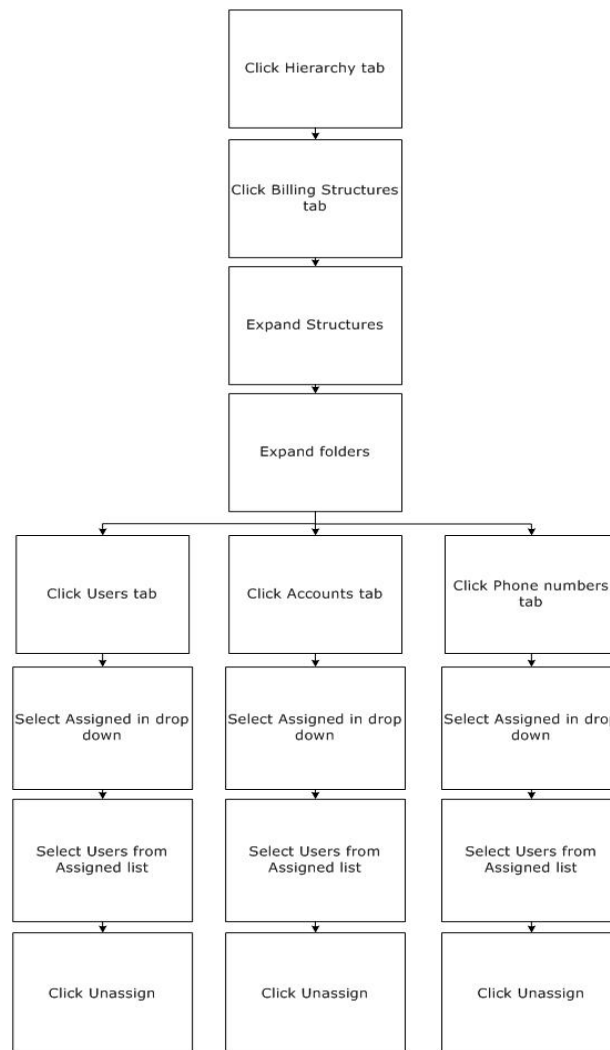
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Manage Business Structure Device (4600)

Assign Users, Accounts or Devices to Folders:



Un-assign Users, Accounts or Devices to Folders:



Name:	Manage Business Structure Device
Brief Description:	The process of assigning or unassigning a device within a business structure.
Primary Actor	Administrator User
Trigger:	User clicks on the Hierarchy tab, clicks on Billing Structures tab, and selects specific Business Structure
Preconditions	Folders exist in Business Structures.
Preconditions	Business Structures exist. User has selected a Folder or root node in a Business Structure (note this

	screen is not available if an account or device is selected in the left pane)
Main Path:	The main path refers to assigning one or more devices to a folder. 1. User selects a folder in the left pane The 'Details' tab in the right pane displays the folder attributes 2. User selects the Device tab in the right pane The list of un-assigned devices are displayed in the right pane 3. User selects one or more un-assigned devices and the 'Assign' action 4. Right pane refreshes to the assigned devices view
Alternate Paths:	[A1] Un-assign device 1. User selects the 'assigned' view in the right pane and selects refresh 2. User selects one or more devices to un-assign 3. User selects the un-assign action 4. Right pane view refreshes the assigned devices view
Standard Features:	1. Form validation 2. Node / Folder Attributes 3. Download Hierarchy (UC 4700)
Notes:	None

Manage Business Structure – Manage Wireless Numbers:

telcomanager [Help](#) [Contact Us](#) [Change Language](#) [Logout](#)

My Account **Statement** **Payments**

Overview **Hierarchy** Personal Company

Manage Business Structure - Manage Wireless Numbers

Company Name: CellTec Hierarchy Name: N/A
User Name: Anne Green Position Name: N/A

Billing Accounts **Business Structures**

Search Options
CellTec Offices Wireless Number

Business Structures

- Natick, MA
 - Engineering
 - Product Management
 - 397-894-2103
 - 474-075-4035
 - San Mateo, CA

Natick, MA

Details Users Folders Accounts **Wireless Numbers**

View: Unassigned
Filter: Wireless Number
Text:

Unassigned

- ☐ 847-349-4101
- ☐ 847-349-4107
- ☐ 397-894-2106
- ☐ 474-994-7903
- ☐ 737-983-0382
- ☐ 847-349-4103
- ☐ 397-894-2108
- ☐ 847-349-4110
- ☐ 748-373-7646
- ☐ 847-349-4106
- ☐ 494-394-2893
- ☐ 847-349-4117

[Select All](#) [Deselect All](#)

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Download Hierarchy (4700)

Name:	Download
Brief Description:	Enables the user to download the billing account or business structure hierarchy in standard formats.
Main Path:	1. User selects Download CSV option. 2. Systems display the standard file save or open dialogue box User selects file name, folder, and save action

	3. Use case ends.
Alternate Paths:	[A1] Download XML format
Standard Features:	Cancel action
Exception Paths:	[E1] User encounters a system error: 1. System invokes Error Message use case.
Notes:	System would support XML format in future.

The screenshot shows the 'telcomanager' web application interface. The top navigation bar includes links for 'Help', 'Contact Us', 'Change Language', and 'Logout'. Below this, there are tabs for 'My Account', 'Statement', and 'Payments'. The main content area is titled 'Manage Business Structure - Manage Users' and displays user information for 'CellTec' (Company Name) and 'Anne Green' (User Name). A 'Business Structures' tab is active, showing a tree view of the organization's structure. A 'File Download' dialog box is open in the foreground, displaying a warning message: 'Some files can harm your computer. If the file information below looks suspicious, or you do not fully trust the source, do not open or save this file.' The dialog provides details about the file: 'File name: CellTec Offices.csv', 'File type: Microsoft Excel Comma Separated Values File', and 'From: nurse'. It asks the user 'Would you like to open the file or save it to your computer?' and offers buttons for 'Open', 'Save', 'Cancel', and 'More Info'. A checkbox at the bottom is checked, labeled 'Always ask before opening this type of file'. The background interface shows a search bar, a list of business structures, and buttons for 'NEW' and 'DOWNLOAD'.

3.10 Personal Profile Use Cases

The profile use case section covers the following use cases:

- Manage Personal Profile
- Manage Password
- Manage Username
- Manage Personal Address Book (PAB)
- Manage Notifications

Manage Personal Profile (5000)

Name:	Manage Personal Profile
Brief Description:	Business User view profile info and optionally modifies their password and user name.
Primary Actor:	Business User
Triggers	1. User selects "My Account" \ "Personal" \ "Profile" menu option
Main Path:	- System displays a page containing the current profile information in read only format with the following: - User Name - Password - Edit Security Question and Answer - Role - Email - Billing Accounts - Business Structures - Wireless numbers - User selects to edit their username. - Manage Username use case(UC 5200) is invoked - User selects to edit their password. - Manage Password use case(UC 5100) is invoke
Alternate Paths:	[A1] User selects 'Edit email address' If the entered email does not follow the <text>@<text>, the user is prompted with a message "invalid email format, please enter your email again". [A2] User selects 'Edit Secret Question/Answer'
Standard Features:	None

Notes:

1. The Personal Profile collects basic information pertaining to the user.
2. Email addresses are collected in the Notifications portion of the application.

Personal Profile:

telcomanager [Help](#) [Contact Us](#) [Change Language](#) [Logout](#)

My Account **Statement** **Payments**

Overview Hierarchy **Personal** Company

Personal Profile

Company Name: CellTec **Hierarchy Name:** N/A
User Name: Anne Green **Position Name:** N/A

Profile **Notifications** **Address Book**

User Name: agreen [Edit](#)
Password: ***** [Edit](#)
[Edit Security Question/Answer](#)
Role: Administrator
Email: newagreen@celltec.com [Edit](#)
Billing Accounts: 24
Business Structures: 1
Wireless Numbers: 76

CellTec
 Business Structures: 1
 Billing Accounts: 24
 Wireless Numbers: 76

User Information
Username: agreen [Edit](#)
Password: ***** [Edit](#)
Role: Administrator

Highest Wireless Users

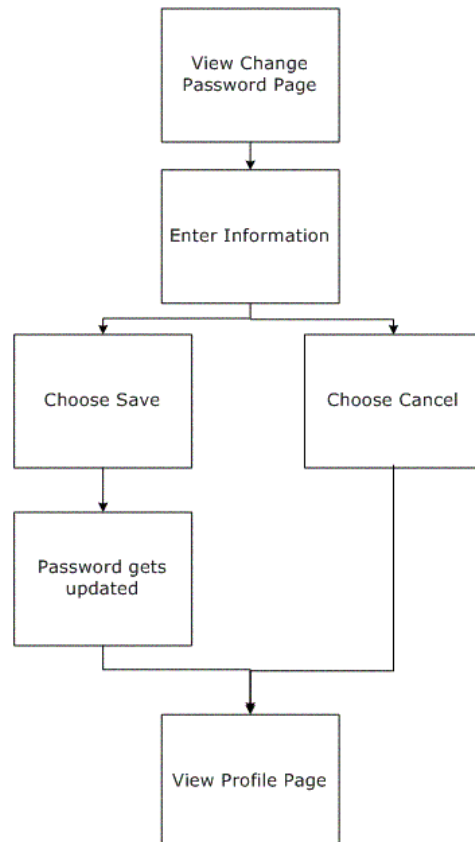
Wireless No.	Last Bal.
545-803-9028	\$364.12
847-349-4100	\$245.90
447-483-9312	\$196.91
451-378-3743	\$159.82
397-894-2110	\$144.32

Quick Links
[View Last Statement](#)
[FAQs](#)

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Manage Password (5100)

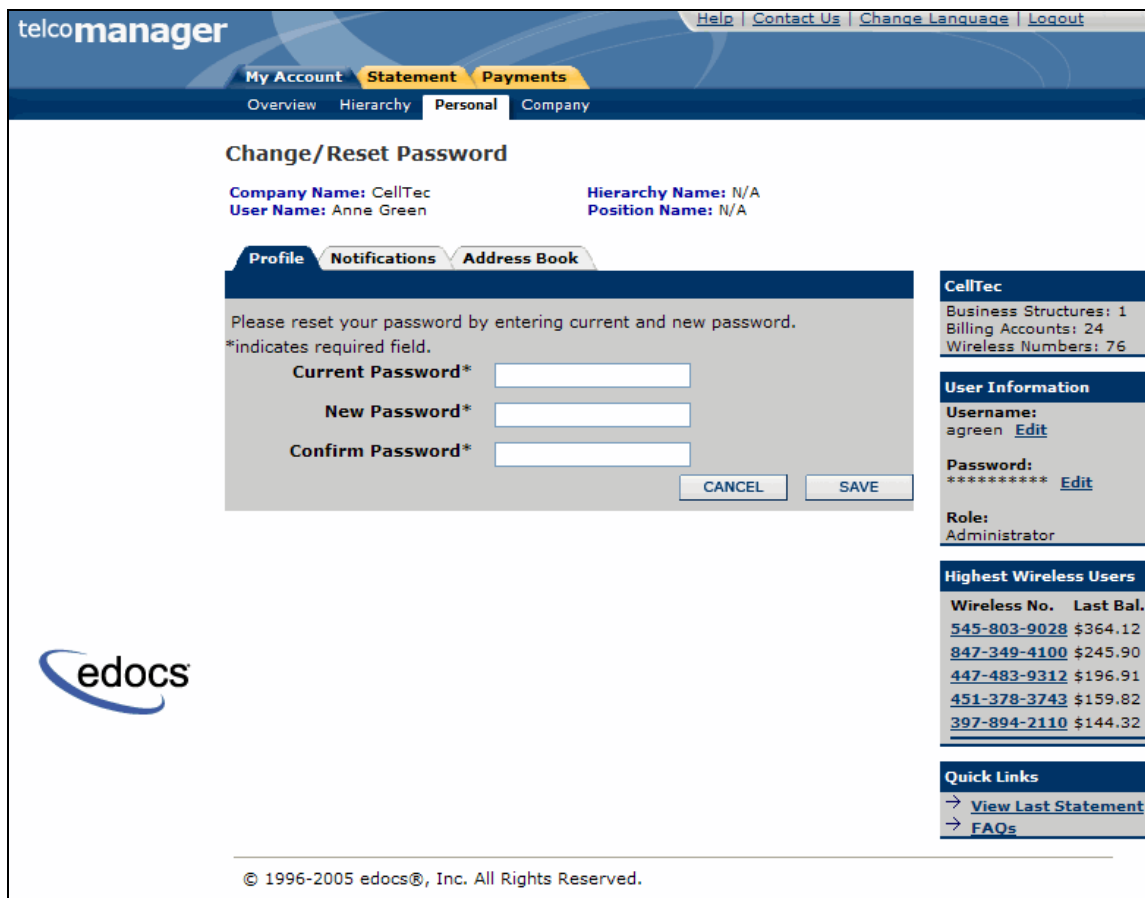
Manage Password:



Name:	Manage Password
Brief Description:	Business User updates their password.
Primary Actor:	Business User
Triggers	1. User selects "My Account" \ "Personal" \ "PAB" menu option
Main Path:	1. User selects "Edit " action from the Personal Profile display screen. 2. User enters in their existing password. 3. User enters in the desired password. 4. User re-enters in the desired password. 5. User submits the password change. 6. System confirms to the user that the password has been changed.[A1-A3] 7. System stores updated password.

Alternate Paths:	[A1] Current password is not valid. 1. System error message stating that the password does not match the one on record. [A2] New passwords do not match security standards. 1. System responds with a message stating that the new passwords do not meet the required security standards. [A3] New passwords do not match each other. 1. System responds with a message stating that the new passwords do not match each other.
Standard Features:	Form validation Cancel action
Notes:	None

Manage Password:



telcomanager [Help](#) [Contact Us](#) [Change Language](#) [Logout](#)

My Account **Statement** **Payments**

Overview Hierarchy **Personal** Company

Change/Reset Password

Company Name: CellTec Hierarchy Name: N/A
User Name: Anne Green Position Name: N/A

Profile Notifications Address Book

Please reset your password by entering current and new password.
*indicates required field.

Current Password*

New Password*

Confirm Password*

CellTec

Business Structures: 1
Billing Accounts: 24
Wireless Numbers: 76

User Information

Username: agreeen [Edit](#)

Password: ***** [Edit](#)

Role: Administrator

Highest Wireless Users

Wireless No.	Last Bal.
545-803-9028	\$364.12
847-349-4100	\$245.90
447-483-9312	\$196.91
451-378-3743	\$159.82
397-894-2110	\$144.32

Quick Links

→ [View Last Statement](#)

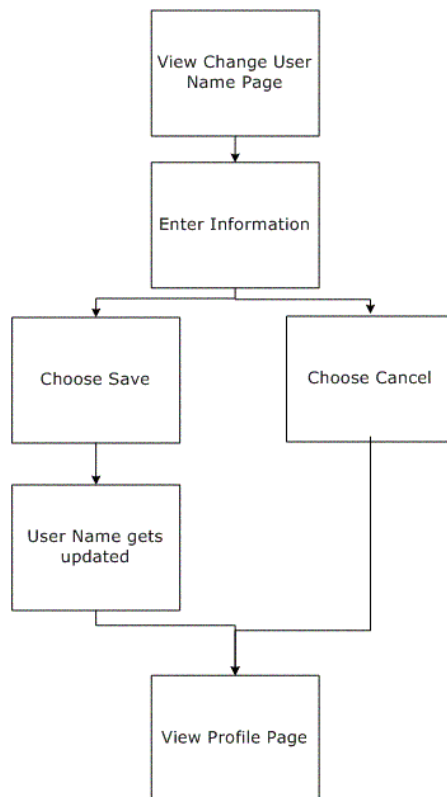
→ [FAQs](#)



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Manage Username (5200)

Manage User Name:



Name:	Manage Username
Brief Description:	Business User updates their username.
Primary Actor:	Business User
Triggers	1. User selects "My Account" \ "Personal" \ "Profile" menu option
Main Path:	1. User selects "Edit " action from the Personal Profile display screen. 2. User enters in the desired username. 3. User submits the username change. 4. System confirms to the user that the username meets the validation criteria and has been changed. [A1] 5. System stores updated username.
Alternate Paths:	[A1] Username is not valid. 1. System responds with a message stating that the new username is not available or invalid.
Standard Features:	Form validation

Notes:

For many self-service applications it is common to have the email address be the username for a user. This often ensures that the user will not forget their username for the site.

Manage Username:

telcomanager [Help](#) [Contact Us](#) [Change Language](#) [Logout](#)

My Account **Statement** **Payments**

Overview Hierarchy **Personal** Company

Edit User Name

Company Name: CellTec **Hierarchy Name:** N/A
User Name: Anne Green **Position Name:** N/A

Profile **Notifications** **Address Book**

Please change your username by entering your current password and new username.
 *indicates required field.

Current User Name agreeen
New User Name*
Confirm User Name*
Current Password*

CellTec
 Business Structures: 1
 Billing Accounts: 24
 Wireless Numbers: 76

User Information
Username: agreeen [Edit](#)
Password: ***** [Edit](#)
Role: Administrator

Highest Wireless Users

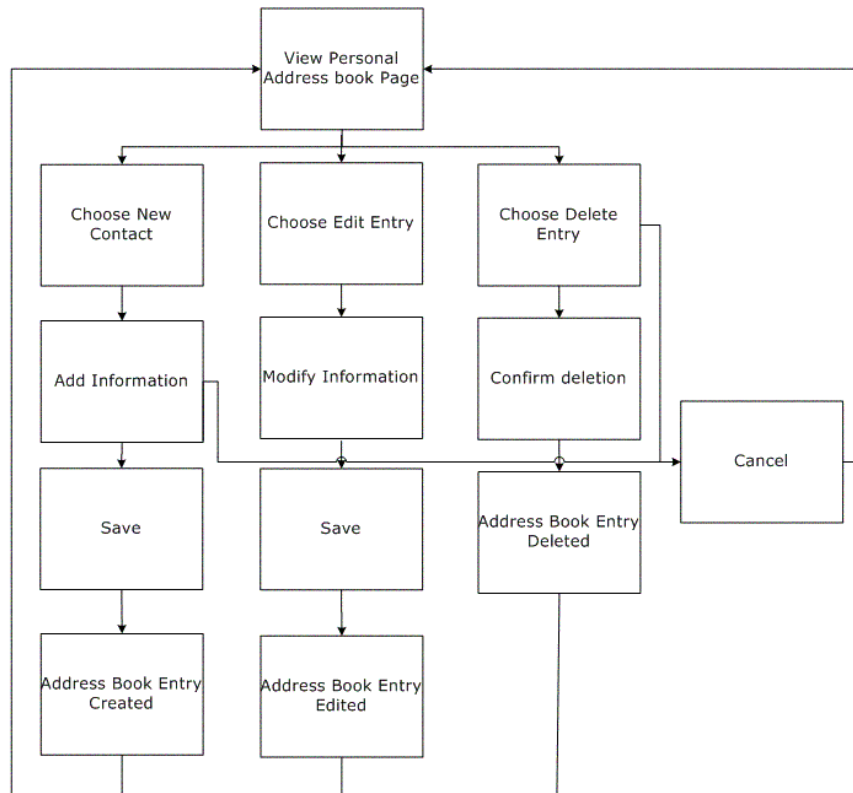
Wireless No.	Last Bal.
545-803-9028	\$364.12
847-349-4100	\$245.90
447-483-9312	\$196.91
451-378-3743	\$159.82
397-894-2110	\$144.32

Quick Links
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Manage Personal Address Book (5300)

Manage PAB:



Name:	Manage Personal Address Book (PAB)
Brief Description:	Business User manages all their personal address book by adding(Main Path), editing and deleting entries. To make online statements more readable, PAB names can be displayed rather than phone numbers.
Primary Actor:	Business User
Triggers	1. User selects "My Account" \ "Personal" \ "PAB" menu option
Main Path:	- System displays the user's complete PAB with the following fields. - Alias (Required, no character validation) - Name (Optional no character validation) - Number (Required) And actions - Edit function - Delete function - User selects the add operation. [A1-A2]

	- System displays an entry form. - User enters the information and submits the form. - System stores the new entry. - System displays the updated PAB list.
Alternate Paths:	[A1] Edit PAB entry - System displays an entry form that is pre-populated with the existing PAB entry. - User edits the information and submits the form. - System stores the new entry. - System displays the updated PAB list. [A2] Delete PAB entry - System displays a page requesting user to confirm the delete operation. - User confirms. - System deletes entry from the User's PAB [A3] Manage PAB from usage screen This alternate path is same as the main path except - The trigger is a user selecting the PAB icon next to a phone number on an online statement or usage report. - The phone number is not editable (defaults to phone number selected on statement) - The user is returned to the statement or report after saving the PAB entry without seeing the list of other PAB entries
Configuration Points	UI field validation
Notes:	The name will be substituted for the phone number when displaying details.

Display List of Personal Address Book Entries:


[Help](#) | [Contact Us](#) | [Change Language](#) | [Logout](#)

[My Account](#) | [Statement](#) | [Payments](#)

[Overview](#) | [Hierarchy](#) | [Personal](#) | [Company](#)

View Personal Address Book Entries

Company Name: CellTec **Hierarchy Name:** N/A
User Name: Anne Green **Position Name:** N/A

[Profile](#) | [Notifications](#) | [Address Book](#)

NEW CONTACT

My Address Book Entries

Alias	Name	Phone Number	Manage Entry
Robert	Robert Shatsky	451-378-3743	Edit Delete
Chris	Christopher Thomas	803-898-9688	Edit Delete
harry	prince harry	803-935-7500	Edit Delete
testddd	testee	803-765-9200	Edit Delete
Victor	Victor Roberts	447-437-2734	Edit Delete

CellTec
 Business Structures: 1
 Billing Accounts: 24
 Wireless Numbers: 76

User Information
Username:
 agreeen [Edit](#)
Password:
 ***** [Edit](#)
Role:
 Administrator

Highest Wireless Users

Wireless No.	Last Bal.
545-803-9028	\$364.12
847-349-4100	\$245.90
447-483-9312	\$196.91
451-378-3743	\$159.82
397-894-2110	\$144.32

Quick Links
[→ View Last Statement](#)
[→ FAQs](#)



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Add Contact to the PAB:

Welcome to edocs - Microsoft Internet Explorer

telcomanager

CLOSE WINDOW

Enter the Alias and full name for this phone number. The alias will be displayed in online statements.

*Phone Number

*Alias

*Name

CANCEL SAVE

edocs

Welcome to edocs - Microsoft Internet Explorer

telcomanager

CLOSE WINDOW

Enter the Alias and full name for this phone number. The alias will be displayed in online statements.

Number 451-378-3743

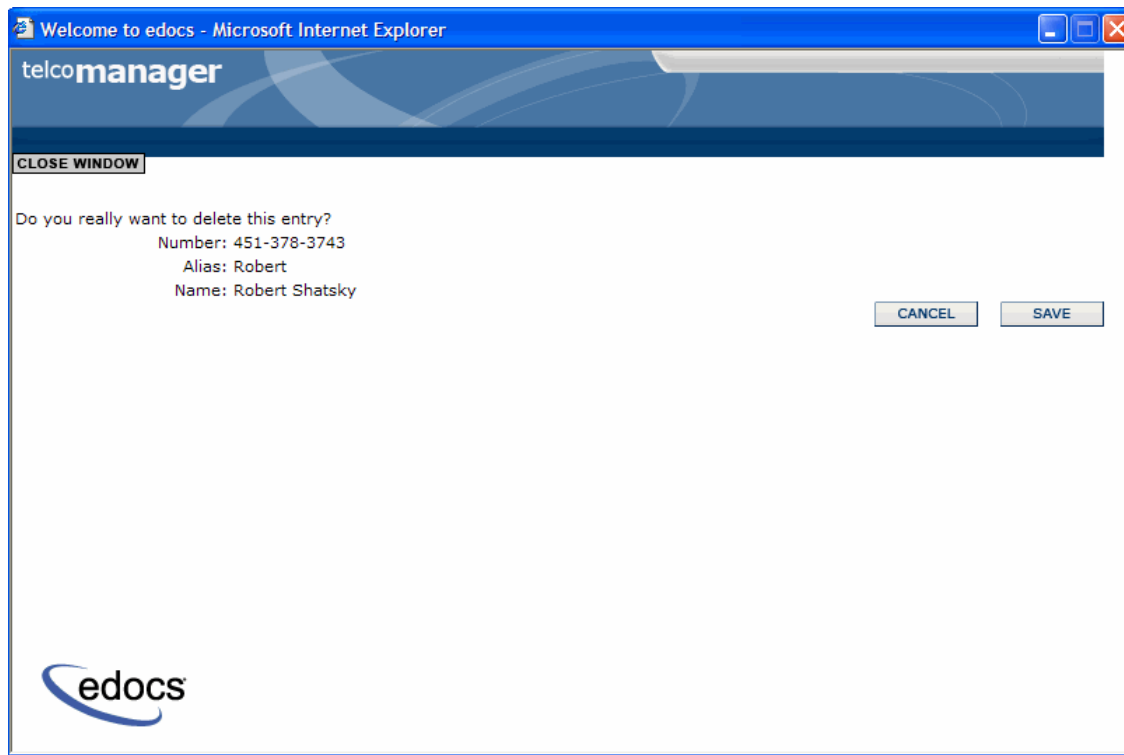
*Alias

*Name

CANCEL SAVE

edocs

Manage Personal Address Book Entry:



Manage Notification (5400)

Name:	Manage Notifications
Brief Description:	Business User opts in or out of event based email/SMS notifications.
Primary Actor:	Business User
Triggers	1. User selects "My Account" \ "Personal" \ "Notifications" menu option
Main Path:	1. Select User User selects the first of the following options a. Modify your notification settings b. Modify another user's notification settings 2. Display System displays form that lists possible notifications. Checked notifications have been previously activated. Grayed checked/unchecked notifications are not editable. Unchecked notifications can be activated. <i>Note:</i> Each notification is tracked as a separate alternate path. <u>Statement</u> (one consolidated notification for all billing accounts for which the user has access.) a. Bill Ready Notification

	b. Payment Due date in 5 days <u>Payment Account</u> (one consolidated notification for any payment account or billing account for which you have access) c. Completed One Time Payment d. Create/Edit Recurring Payment e. Recurring Payment Threshold Exceeded f. Scheduled Payment Paid g. ACH Payment Returned h. Credit card payment failed i. Credit Card Expiration Notice <u>Service Manager</u> (one consolidated notification for any service agreement to which you have access to create a service request) [NOTE: Included for future Siebel Communications Self-Service Manager integration functionality] j. Failed Service Request k. Daily Summary (summary of all submitted, completed, and failed service requests for the day) <u>Other</u> [NOTE: Included for future Siebel Communications Analytics Manager & enrollment functionality] l. Batch Report Ready m. Enrollment Confirmation 3. Edit Notifications - User selects to edit any of the notification selections 4. User select the save action 5. Message is displayed that notifications have been successfully saved
Alternate Paths:	[A1] Enter alternative email addresses for a notification Instructional Text: In addition to the email address in your personal profile, you may enter additional email addresses to receive notifications.” User optionally enters additional email addresses to receive all email notifications selected in this screen. 1. Select the add email addresses actions 2. Two fields are displayed to enter and re-enter an email address 3. User selects save action 4. Email is validated that it is an email address and that the same address is entered in each field. 5. User is returned to the notification page with the new email address displayed under the list of alternative email addresses. [A2] Delete additional email address 1. User selects the delete action next to the alternative email address 2. User is prompted to confirm the deletion 3. Screen re-displays without the email address

	[A3] Select another user for which to edit notifications 1. User selects "Modify another user's notification settings" 2. Search for username 3. User enters search text to search for the user name (similar to the manage company users use case) 4. Select user from search results 5. Notification settings are displayed for the entered user. 6. Full name of entered user is displayed at the top of the screen with a clear message that the notification edits are being performed for this user and not the currently logged in user. 7. Notifications are modified and saved according to the main path. 8. The successfully saved message should state the name of the user for which the changes have been made. [A4] SMS Notification Same as main path, except the user has the option to select an SMS notification option in addition to an email option. [A5] Statement Notification: Bill Ready [A6] Statement Notification: Payment Due date in X days [A7] Payment Notification: Completed One Time Payment [A8] Payment Notification: Create/Edit Recurring Payment [A9] Payment Notification: Recurring Payment Threshold Exceeded [A10] Payment Notification: Scheduled Payment Paid [A11] Payment Notification: ACH Payment Returned [A12] Payment Notification: Credit card payment failed [A13] Payment Notification: Credit Card Expiration Notice
Standard Features:	Form validation
Configuration Points:	1. Email notification will be sent to payment user's email account only. (If a admin user checks payment notification, the admin user receives notifications for all accounts to which the user has access) 2. If payment is performed on a consolidated basis, email notification will be consolidated (all confirmations for payment in one email) based on all payments made within the day. 3. After adding or removing accounts to/from an organization, an email notification will be sent to the administrator(s) for the organization. This notification will be triggered off of the confirmation screen when accounts have been successfully added/removed. 4. Service provider can configure certain notifications to be checked and uneditable.
Notes:	Email Templates The following email template is used to notify the user on payment confirmation. From: admin@Siebel.com

Sent: 25 August 2004 04:45 PM
To: <xsl:value-of select="user"/>
Subject: Recurring Payment Confirmation

Dear <xsl:value-of select="user"/>,

This email is to confirm that you have been enrolled into the Automatic Bill Payment program for your online Account <xsl:value-of select="actnum"/>.

Amount: <xsl:value-of select="amount"/>

The first automatic bill payment will take place after your next billing cycle.

You will receive a payment confirmation email when the payment has been submitted.

You may also continue to make other payments on your account using the Quick Payment option on the Payments Menu.

Thank you for using automatic bill payment.

Please continue visiting <<http://localhost:7001/tbm>>

This is an automatically generated email. Please do not reply to this email address.

Manage Notifications:

telcomanager
[Help](#) | [Contact Us](#) | [Change Language](#) | [Logout](#)

My Account | **Statement** | Payments

Overview | Hierarchy | **Personal** | Company

Notifications - Select User

Company Name: CellTec
User Name: Anne Green

Hierarchy Name: N/A
Position Name: N/A

Profile | **Notifications** | Address Book

Modify your notification settings

EDIT YOUR NOTIFICATIONS

Modify another user's notification settings

Search for Users:

User ID	Name	Role	
blankuser	Fred Fredericks	User	Edit
nathan	Nathan Zuckerman	Administrator	Edit
chpchp	chpchp chpchp	User	Edit
davidr	David Reichert	User	Edit

CellTec
Business Structures: 1
Billing Accounts: 24
Wireless Numbers: 76

User Information
Username: agreen [Edit](#)
Password: ***** [Edit](#)
Role: Administrator

Highest Wireless Users

Wireless No.	Last Bal.
545-803-9028	\$364.12
847-349-4100	\$245.90
447-483-9312	\$196.91
451-378-3743	\$159.82
397-894-2110	\$144.32

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Edit Notifications:

telcomanager
[Help](#) | [Contact Us](#) | [Change Language](#) | [Logout](#)

My Account | **Statement** | Payments

Overview | Hierarchy | **Personal** | Company

Edit Notifications

Company Name: CellTec
User Name: Anne Green
Hierarchy Name: N/A
Position Name: N/A

Profile | **Notifications** | Address Book

Activate or deactivate specific notifications and select save.

Available Alerts	Email	SMS
Statement		
Bill Ready Notification	☐	☐
Payment due in 5 days	☐	☐
Payment Account		
Completed One Time Payment	☐	☐
Create/Edit Recurring Payment	☐	☐
Recurring Payment Threshold Exceeded	☐	☐
Scheduled Payment Paid	☐	☐
ACH Payment Returned	☐	☐
Credit card payment failed	☐	☐
Credit Card Expiration Notice	☐	☐
Service Manager		
Failed Service Request	☐	☐
Daily Summary	☐	☐
Other		
Batch Report Ready	☐	☐
Enrollment Confirmation	☐	☐

CANCEL
SAVE

Alternate Email Addresses
In addition to the email address in your personal profile, you may enter additional email addresses to receive notifications.

Email Address	Actions
newaagreen@celltec.com	Edit Delete
NEW	

CellTec
Business Structures: 1
Billing Accounts: 24
Wireless Numbers: 76

User Information
Username:
agreen [Edit](#)
Password:
***** [Edit](#)
Role:
Administrator

Highest Wireless Users

Wireless No.	Last Bal.
545-803-9028	\$364.12
847-349-4100	\$245.90
447-483-9312	\$196.91
451-378-3743	\$159.82
397-894-2110	\$144.32

Quick Links
→ [View Last Statement](#)
→ [FAQs](#)



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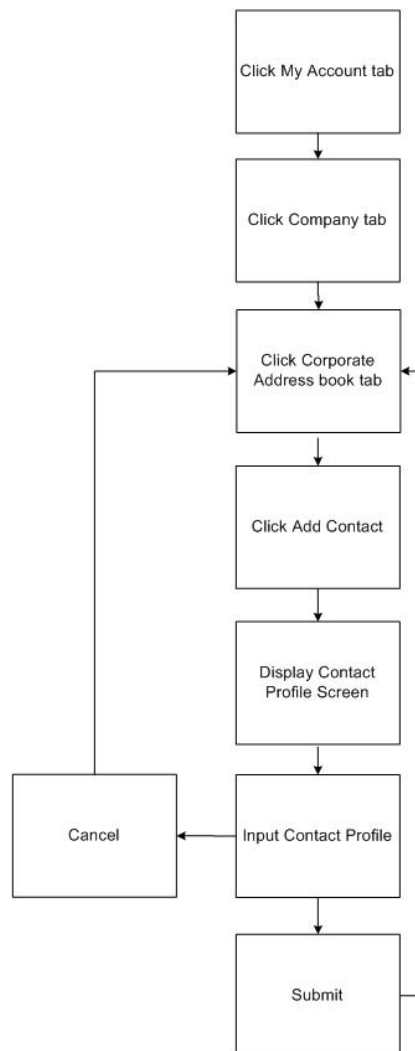
3.11 Company Profile Use Cases

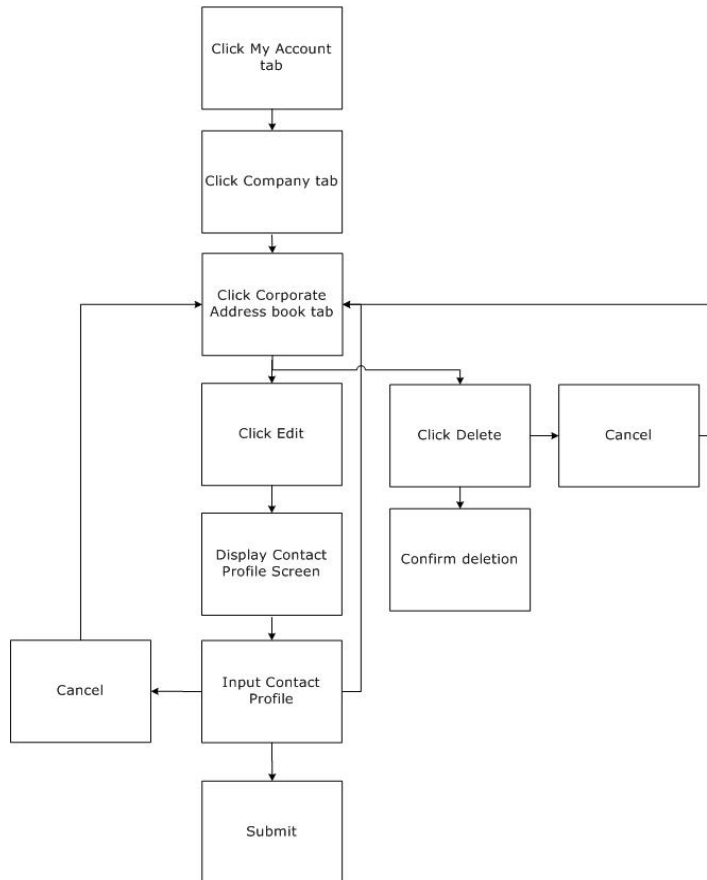
The following use cases cover the functional requirements for allowing businesses to manage their profiles.

- Manage Corporate Address Book
- Manage Company Profile
- Manage Company Users

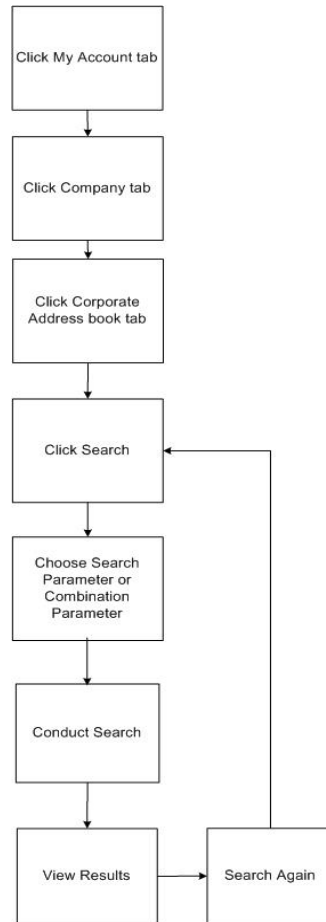
Manage Corporate Address Book (5700)

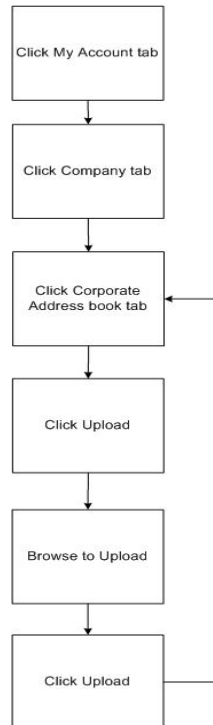
Add Contact Flow:



Modify Contact List Flow:

Search Contacts:

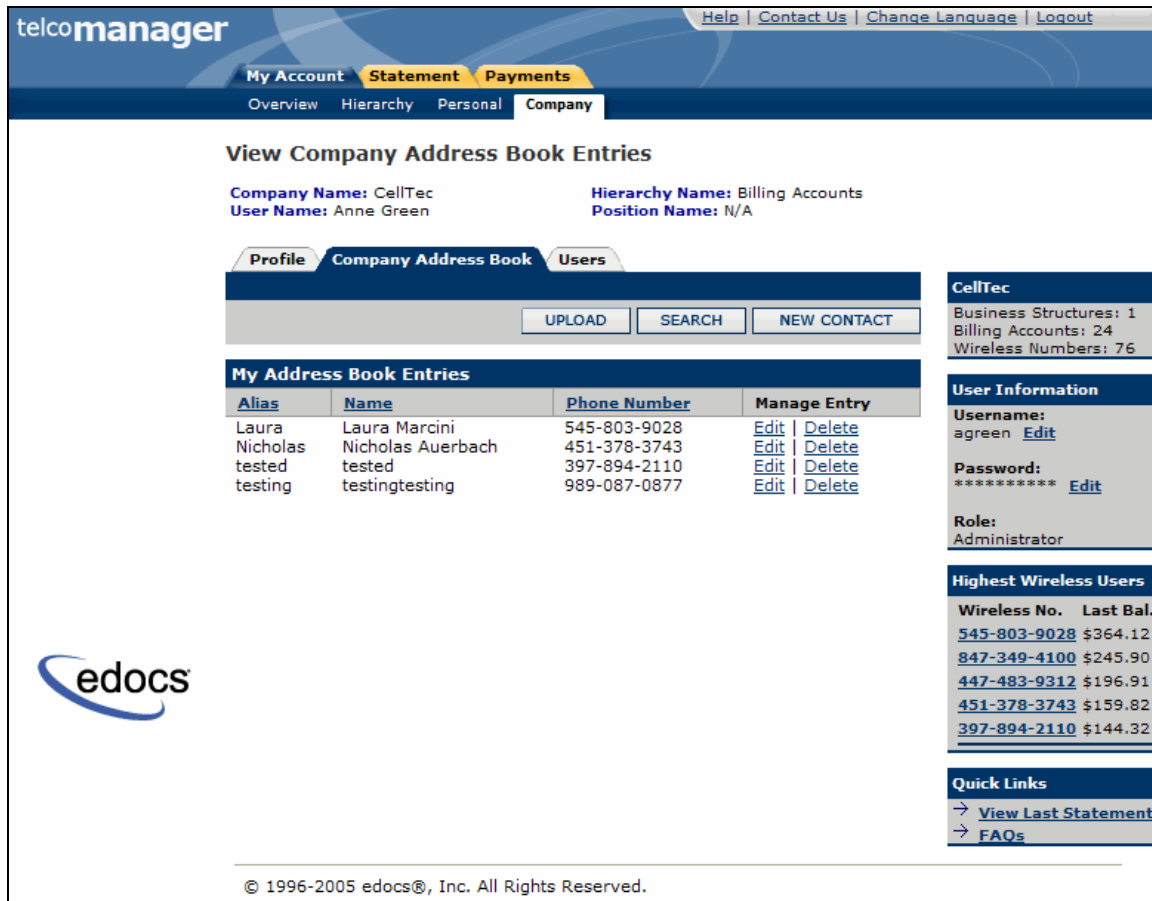


Upload Contact List:

Name:	Manage Corporate Address Book (CAB)
Brief Description:	Administrator User manages all their corporate address book entries.
Primary Actor:	Administrator User
Trigger:	The Communications Admin must Click on the My Account tab; Corporate tab and then Corporate Address book tab
Preconditions	Organization and Accounts exist.
Main Path:	- This use case begins when the User wishes to manage one or more CAB entries and navigates to the Corporate Address Book. - System displays the user's complete CAB with the following fields. - Alias (Required, no character validation) - Name (Optional no character validation) - Number (Required) And actions - Edit function - Delete function - Upload function - User selects the add operation. [A1 – A4]

	- System displays an entry form. - User enters the information and submits the form. - System stores the new entry. - System displays the updated CAB list.
Alternate Paths:	[A1] Edit operation for a specific CAB entry - System displays an entry form that is pre-populated with the existing CAB entry. - User edits the information and submits the form. - System stores the new entry. - System displays the updated CAB list. [A2] Delete operation for a specific CAB entry - System displays a page requesting user to confirm the delete operation. - User confirms. - System deletes entry from the User's CAB [A3] Search CAB - System displays a search criteria window for user to search. - Alias - Name - Phone Number - User enters search criteria in to window - System displays CAB results [A4] Upload contact list from a .CSV file - Select upload action - Select previously formatted text file from windows dialog window alias, first_name,last_name, phone_number
Standard Features:	- Corporate Address Book entries contain the following fields - Friendly Name/Alias - Name - Number
Configuration Points	UI field validation
Notes:	The name will be substituted for the phone number when displaying details.

Manage Corporate Address Book:



telcomanager [Help](#) [Contact Us](#) [Change Language](#) [Logout](#)

My Account **Statement** **Payments**

Overview Hierarchy Personal **Company**

View Company Address Book Entries

Company Name: CellTec **Hierarchy Name:** Billing Accounts
User Name: Anne Green **Position Name:** N/A

Profile **Company Address Book** **Users**

[UPLOAD](#) [SEARCH](#) [NEW CONTACT](#)

My Address Book Entries

Alias	Name	Phone Number	Manage Entry
Laura	Laura Marcini	545-803-9028	Edit Delete
Nicholas	Nicholas Auerbach	451-378-3743	Edit Delete
tested	tested	397-894-2110	Edit Delete
testing	testingtesting	989-087-0877	Edit Delete

CellTec

Business Structures: 1
 Billing Accounts: 24
 Wireless Numbers: 76

User Information

Username: agreeen [Edit](#)

Password: ***** [Edit](#)

Role: Administrator

Highest Wireless Users

Wireless No.	Last Bal.
545-803-9028	\$364.12
847-349-4100	\$245.90
447-483-9312	\$196.91
451-378-3743	\$159.82
397-894-2110	\$144.32

Quick Links

→ [View Last Statement](#)
 → [FAQs](#)

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Add Contact to CAB:

The screenshot shows a web browser window titled "Welcome to edocs - Microsoft Internet Explorer". The page header features the "telcomanager" logo. Below the header is a "CLOSE WINDOW" button. The main content area contains the instruction: "Enter the Alias and full name for this phone number. The alias will be displayed in online statements." This is followed by three required input fields: "* Phone Number", "* Alias", and "* Name". To the right of these fields are "CANCEL" and "SAVE" buttons. The "edocs" logo is located in the bottom left corner of the page.

Welcome to edocs - Microsoft Internet Explorer

telcomanager

CLOSE WINDOW

Enter the Alias and full name for this phone number. The alias will be displayed in online statements.

* Phone Number

* Alias

* Name

CANCEL SAVE

edocs

Upload Contacts:

Welcome to edocs - Microsoft Internet Explorer

telco manager

CLOSE WINDOW

Please select the csv file you wish to upload.
The file should have the following columns: alias, first name, last name, phone number.

* File Browse...

CANCEL UPLOAD

edocs

Manage Company Profile (5800)

Name:	Manage Company Profile
Brief Description:	The process of viewing a company or organization's profile.
Primary Actor	Administrator User
Main Path:	1. This use case begins when the User wishes to view the Company Profile and selects the Company Profile function. 2. System displays the current profile including: a) Company Name a. Number of Billing Accounts b. Number of Service Agreements (devices) c. Total Enrolled Users for Company d. Number of Administrators e. Number of View/Pay Users f. Primary Contact Name g. Primary contact Phone Number h. Primary Contact Email Address i. Sales Rep Name (Up to 10) j. Sales Rep Email address (Up to 10)

Application Use Cases

Alternate Paths:	None
Standard Features:	None
Notes:	None

Manage Company Profile:


[Help](#) | [Contact Us](#) | [Change Language](#) | [Logout](#)

[My Account](#) | [Statement](#) | [Payments](#)

[Overview](#) | [Hierarchy](#) | [Personal](#) | [Company](#)

View Company Profile

Company Name: CellTec
User Name: Anne Green

Hierarchy Name: N/A
Position Name: N/A

[Profile](#) | [Company Address Book](#) | [Users](#)

Company Information

Company Name: CellTec
Billing Accounts: 24
Wireless Numbers: 76

User Information

Total Enrolled Users: 5
Administrators: 2
View Only Users: 3

Contact Information

Main SPOC: Anne Green
Phone Number: 508-652-8600
Email Address: agreen@celltec.com
Sales Rep(s):
Support Center: 508-652-8600



CellTec
 Business Structures: 1
 Billing Accounts: 24
 Wireless Numbers: 76

User Information
Username: agreeen [Edit](#)
Password: ***** [Edit](#)
Role: Administrator

Highest Wireless Users

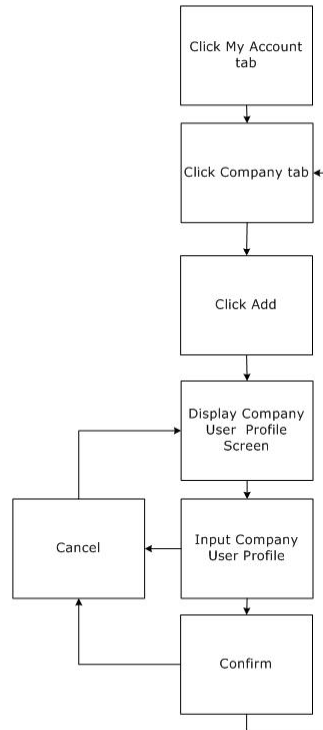
Wireless No.	Last Bal.
545-803-9028	\$364.12
847-349-4100	\$245.90
447-483-9312	\$196.91
451-378-3743	\$159.82
397-894-2110	\$144.32

Quick Links
[→ View Last Statement](#)
[→ FAQs](#)

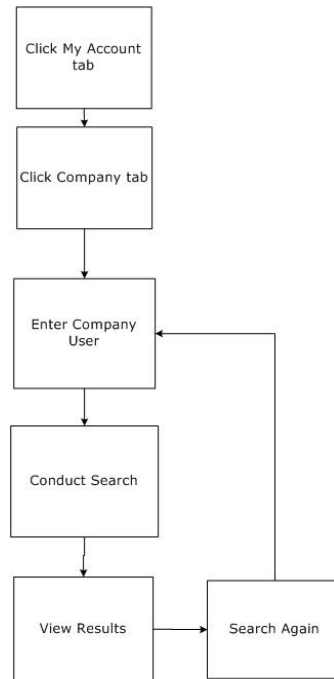
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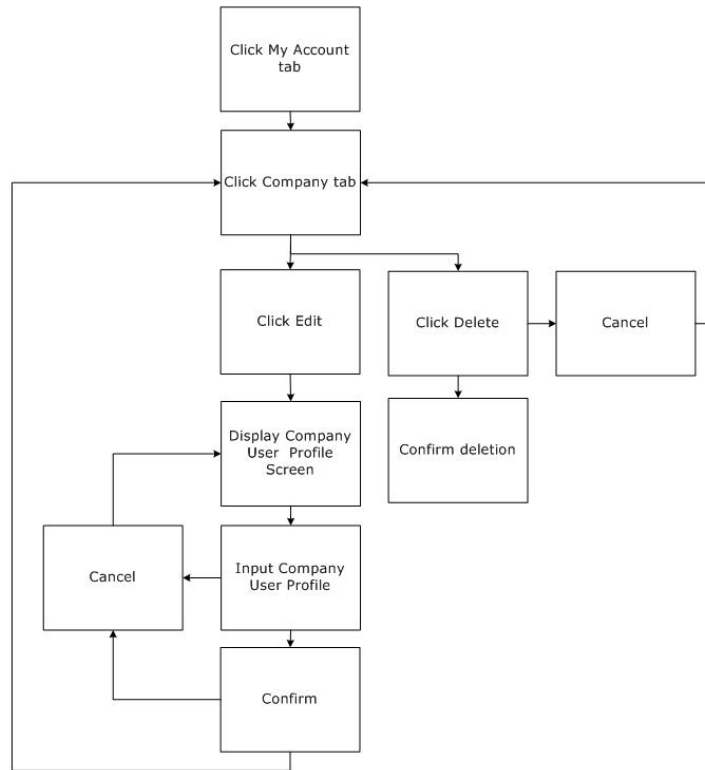
Manage Company Users (5900)

Add Company User Flow:



Search Company User Flow:



Edit Company User Flow:

Name:	Manage Company Users.
Brief Description:	The process of managing the profile of any users to which the administrator has access.
Primary Actor	Administrator User
Trigger:	The Communications Admin must Click on the My Account tab; Hierarchy tab and then Company User tab
Preconditions	Organization and Accounts exist.
Main Path:	(Main path addresses the "edit" function) 1. User optionally enters search text and selects filter option. 2. System displays list of user by any field containing the entered search text. 3. List sorts by role, last name and first name. 4. Admin user selects the edit action for a user profile. 5. System displays the User's Profile page with fields that may be edited. a. First name b. Last name c. Email Address

	d. User Name e. New Password f. Confirm Password g. Role h. Security Question i. Security Answer 6. User modifies one or more field and submits. [A1] 7. System displays confirmation that the profile has been updated.
Alternate Paths:	[A1] Change user role 1. System displays confirmation that the profile has been updated. [A2] Add company user. 1. System displays an add page with the following fields: a. First name b. Last name c. Email Address d. User Name e. Password f. Role 2. User updates company user information and submits 3. System updates company user information [A3] Delete Company User 1. User selects delete action 2. System displays delete confirmation page and requests user to confirm delete. 3. User confirms company user deletion 4. System deletes company user and returns to search results page. [A4] System cannot edit / delete company user 1. System returns error message that the transaction has failed. [A5] System cannot add company user 1. System returns error message that the transaction has failed.
Standard Features:	1. The following fields have configurable form validation: 2. Email 3. Zip/Post Code 4. Phone Number
Notes:	None

Screen Displays List of Users:

telcomanager [Help](#) [Contact Us](#) [Change Language](#) [Logout](#)

My Account **Statement** **Payments**

Overview Hierarchy Personal **Company**

View Company Users

Company Name: CellTec **Hierarchy Name:** N/A
User Name: Anne Green **Position Name:** N/A

Profile **Company Address Book** **Users**

Search for Users:

User ID	Name	Role	
agreen	Anne Green	Administrator	Edit
blankuser	Fred Fredericks	User	Edit Delete
nathan	Nathan Zuckerman	Administrator	Edit Delete
chpchp	chpchp chpchp	User	Edit Delete
davidr	David Reichert	User	Edit Delete

CellTec
 Business Structures: 1
 Billing Accounts: 24
 Wireless Numbers: 76

User Information
Username: agreen [Edit](#)
Password: ***** [Edit](#)
Role: Administrator

Highest Wireless Users

Wireless No.	Last Bal.
545-803-9028	\$364.12
847-349-4100	\$245.90
447-483-9312	\$196.91
451-378-3743	\$159.82
397-894-2110	\$144.32

Quick Links
[→ View Last Statement](#)
[→ FAQs](#)

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telcomanager
[Help](#) | [Contact Us](#) | [Change Language](#) | [Logout](#)

My Account
Statement
Payments

Overview
Hierarchy
Personal
Company

Edit User Profile

Company Name: CellTec
Hierarchy Name: N/A

User Name: Anne Green
Position Name: N/A

Profile
Company Address Book
Users

*indicates required field.
Please Enter your details to update.

*First Name:

*Last Name:

*Email Address:

*User Name:

*New Password:

*Confirm Password:

*Role:

Security Question:

Security Answer:

CANCEL
SAVE

CellTec

Business Structures: 1
Billing Accounts: 24
Wireless Numbers: 76

User Information

Username:
agreen [Edit](#)

Password:
***** [Edit](#)

Role:
Administrator

Highest Wireless Users

Wireless No.	Last Bal.
545-803-9028	\$364.12
847-349-4100	\$245.90
447-483-9312	\$196.91
451-378-3743	\$159.82
397-894-2110	\$144.32

Quick Links

→ [View Last Statement](#)
→ [FAQs](#)

edocs

Edit/Delete User Profile:

telcomanager [Help](#) [Contact Us](#) [Change Language](#) [Logout](#)

My Account **Statement** **Payments**

Overview Hierarchy Personal **Company**

Delete User

Company Name: CellTec **Hierarchy Name:** N/A
User Name: Anne Green **Position Name:** N/A

Profile **Company Address Book** **Users**

CAUTION: User will be deleted from the system.

First Name: Fred

Last Name: Fredericks

Email Address: fredericks@celltec.com

User Name: blankuser

Password: *****

Role: User

Security Question: What is two plus two?

Security Answer: Four

CellTec
 Business Structures: 1
 Billing Accounts: 24
 Wireless Numbers: 76

User Information
Username: agreen [Edit](#)
Password: ***** [Edit](#)
Role: Administrator

Highest Wireless Users

Wireless No.	Last Bal.
545-803-9028	\$364.12
847-349-4100	\$245.90
447-483-9312	\$196.91
451-378-3743	\$159.82
397-894-2110	\$144.32

Quick Links
[→ View Last Statement](#)
[→ FAQs](#)

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3.12 CSR Use Cases

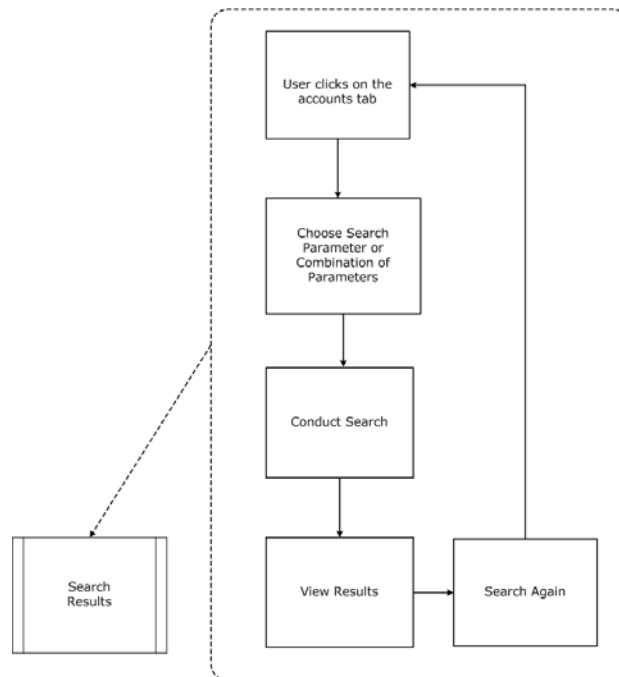
The customer service use cases cover the functional requirements for allowing the service provider to effectively manage business users.

- Search for Users
- Impersonate User
- Create organization and organization administrator
- Search for an Organization
- Manage Organization
- View Accounts for Organization
- Add Billing Accounts to an Organization
- View Administrators for Organization
- Edit Administrator

- Manage Internal User
- Add Internal Users
- Modify Personal Profile

Search for Users (6200)

Search for Users:



Name:	Search for Users
Brief Description:	CSR enters search criteria to locate users that they can impersonate.
Actor:	CSR, CSR Administrator
Trigger:	Successful login into CSR application (default page) or user clicks on the Search for User sub tab of the Search Tab from any other page.
Preconditions:	Login
Main Path:	1. This use case begins when a Customer Service Representative selects search criteria from the Search Accounts screen. 2. System displays search screen with the following attributes: a. User First Name b. User Last Name c. User ID d. Wireless Number e. Account Number

	3. User enters the search criteria and submits the form. 4. System displays search results screen of all users matching search criteria, sorted by account, last name and first name. [A1] 5. Use case ends.														
Alternate Path:	[A1] User clicks “Impersonate” link in search results. 1. System invokes Impersonate User use case.														
Standard Features:	Form Validation Paging														
Configuration:	<table><thead><tr><th>Screen</th><th>Field</th><th>Validation</th></tr></thead><tbody><tr><td rowspan="5">Search Screen</td><td>User First Name</td><td>Only characters and numbers and spaces allowed.</td></tr><tr><td>User Last Name</td><td>Only characters and numbers and spaces allowed.</td></tr><tr><td>User ID</td><td>Only characters and numbers allowed.</td></tr><tr><td>Wireless Number</td><td>Only Numbers, spaces, and dashes.</td></tr><tr><td>Account Number</td><td>Only Numbers spaces, and dashes.</td></tr></tbody></table>	Screen	Field	Validation	Search Screen	User First Name	Only characters and numbers and spaces allowed.	User Last Name	Only characters and numbers and spaces allowed.	User ID	Only characters and numbers allowed.	Wireless Number	Only Numbers, spaces, and dashes.	Account Number	Only Numbers spaces, and dashes.
Screen	Field	Validation													
Search Screen	User First Name	Only characters and numbers and spaces allowed.													
	User Last Name	Only characters and numbers and spaces allowed.													
	User ID	Only characters and numbers allowed.													
	Wireless Number	Only Numbers, spaces, and dashes.													
	Account Number	Only Numbers spaces, and dashes.													

Search User Accounts Screen:

The screenshot displays the 'Search User Accounts' interface within the 'telco manager' application. The top navigation bar includes 'telco manager' and a 'Logout' link. Below this, a tabbed menu shows 'Accounts', 'Manage Org', and 'Manage CSR', with 'Accounts' being the active tab. The main content area is titled 'Search Accounts' and contains a sub-section with the heading 'Search Accounts' and the instruction 'Please input search criteria.' This section features five input fields: 'User First Name:', 'User Last Name:', 'User ID:', 'Wireless Number:', and 'Account Number:'. A 'SEARCH' button is positioned to the right of the 'Account Number' field. The 'edocs™' logo is located in the bottom left corner of the page.

telco manager [Logout](#)

Accounts Manage Org Manage CSR

Search Accounts

Search Accounts

Search Accounts

Please input search criteria.

User First Name:

User Last Name:

User ID:

Wireless Number:

Account Number:

edocs™

Search Result Screen:

telco manager [Logout](#)

Accounts Manage Org Manage CSR

Search Accounts

Search Accounts

Search Again

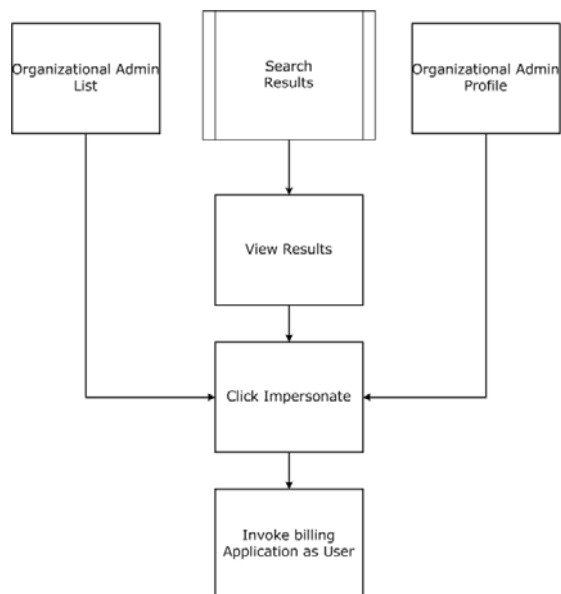
Search Results

Accounts	User IDs	Names	Actions
617901922	DefaultAdmin	Joe Green	Impersonate

edocs™

Impersonate User (6900)

Impersonate User Flow:



Name:	Impersonate User
Brief Description:	A Customer Service Representative impersonates a user or views a specific account.
Actor:	Customer Service Representative
Trigger:	User clicks "Impersonate" link in search results
Preconditions	The CSR can use either search result to locate users and use the "Impersonate" link to impersonate the user.
Main Path:	1. This use case begins when a CSR selects a user and invokes the impersonate operation. 2. System displays the initial page for the selected user, while maintaining the existing CSR navigation menu. 3. The CSR navigates through the application as an end User. 4. CSR exits the impersonated user. 5. System ends impersonation session for the selected user and returns the CSR to the search screen.
Standard Features:	Sorting Paging
Notes:	1. A CSR inherits the same rights and privileges as the user they are impersonating. 2. Actions taken by a CSR will be tracked based separately than those actions taken by the individual users.

CSR Impersonate User Screen:

telcomanager [Logout](#)

Accounts Manage Org Manage CSR

Search Accounts

Impersonate

telcomanager [Logout](#) | [Contact Us](#)

Overview Administration Statements Payments Reports Profile Help

Overview
User: Joe Green Company: BIGTELCO

Search in Department Welcome to your company overview. Please select items you wish to view. For assistance please utilize the search utility for locating items within your accounts.

Wireless Number

Available Structures Department

Department

- [-] Sales & Marketing
- [-] Finance & Admin
- [-] Client Services
- [-] R&D

Last Invoiced Balance

BIGTELCO

Business Structures: 2
Billing Accounts: 3
Wireless Numbers: 10

User Information

Username
DefaultAdmin [change](#)

Password
***** [change](#)

Role
Administrator

Highest Wireless Users

Wireless No.	Last Bal.
550-184-1933	\$48.88
550-317-9004	\$48.23
551-184-6628	\$48.23
551-338-7791	\$48.23
550-184-8410	\$45.95

Quick Links

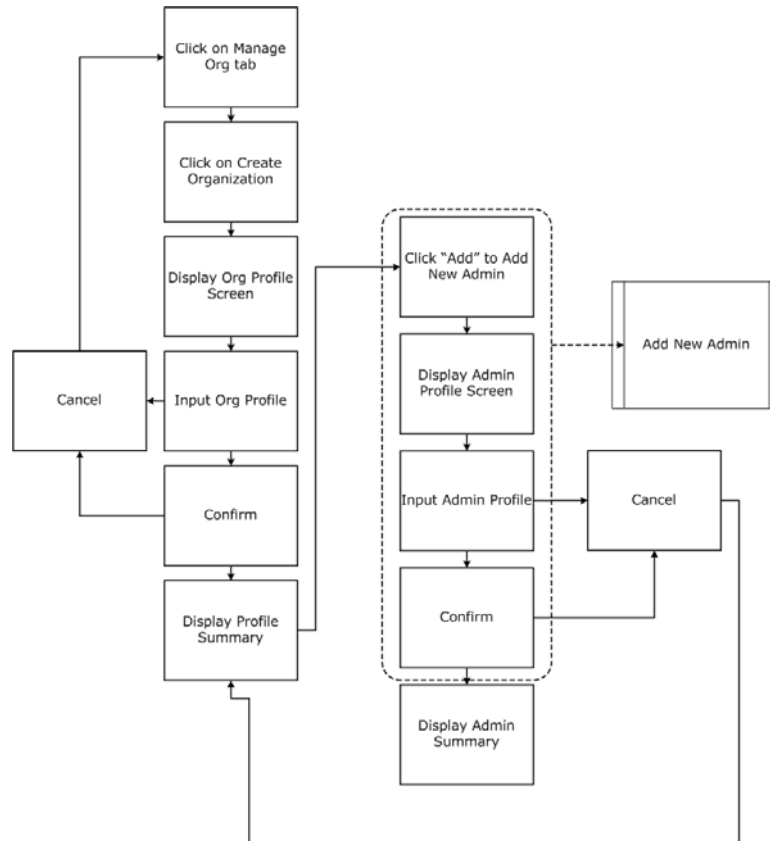
- [View Last Statement](#)
- [FAQs](#)

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Create Organization and Organization Administrator (6000)

Create Organization Flow:



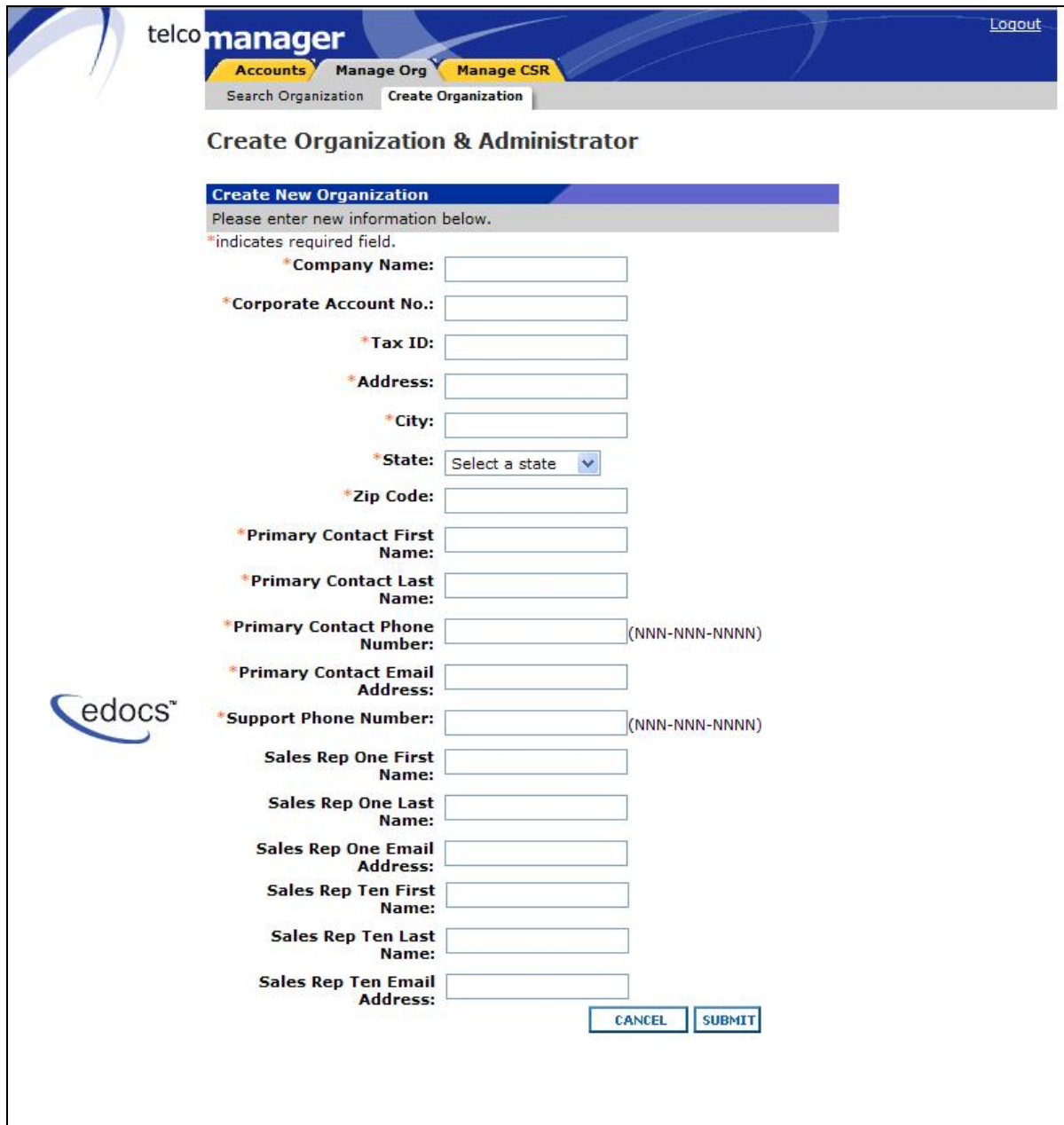
Name:	Create Organization and Organization Administrator
Brief Description:	The process of initially enrolling an organization. After performing this action, the CSR assigns at least on company admin user and billing accounts so that the system can be use used by company users.
Actor:	Customer Service Representative (CSR), CSR Admin
Trigger:	The CSR must Click on the Manage Org tab and Select Create Organization
Preconditions	To create an organization the CSR has to complete the org profile. CSR must add an administrator to the Organization
Main Path:	1. This use case begins when the User chooses to enroll an organization and selects the Enroll Organization operation. 2. System requests User to provide the organization's details such as: a. Organization/Company name b. Corporate Account number c. Tax ID d. Address, city, state, postal code

	</
--	--

Application Use Cases

	Zip/Postal Code Primary Contact First Name Primary Contact Last Name Primary Contact Phone Number Primary Contact Email Address Sales Rep Email Address Add Accounts Account Number First Name Last Name User Name Password Role Administrator, CSR Admin Status Either Active or Inactive.
Notes:	None

Create New Organization and Administrator:



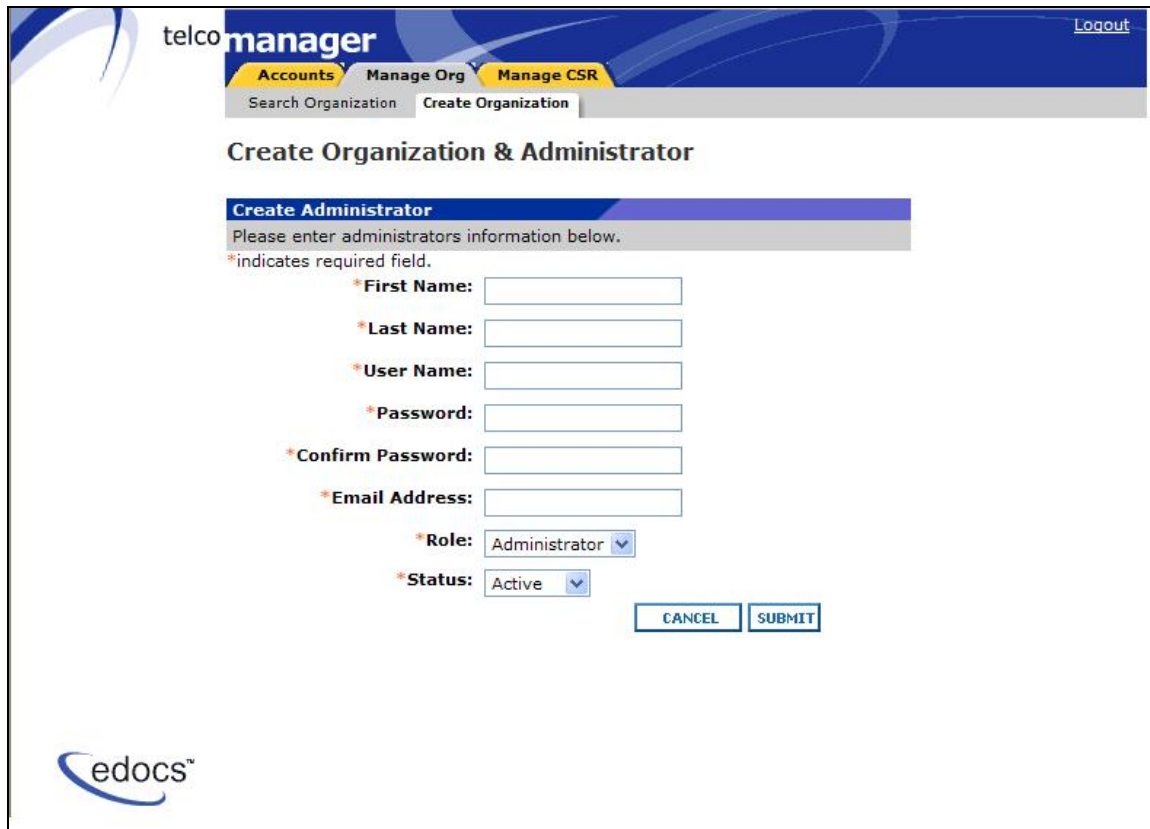
The screenshot displays the 'telco manager' web application interface. The top navigation bar includes 'Accounts', 'Manage Org', and 'Manage CSR' tabs, with 'Create Organization' selected. A 'Logout' link is in the top right. The main heading is 'Create Organization & Administrator'. Below it, a sub-heading 'Create New Organization' is followed by the instruction 'Please enter new information below.' and a note '*indicates required field.'.

The form contains the following fields:

- *Company Name:
- *Corporate Account No.:
- *Tax ID:
- *Address:
- *City:
- *State:
- *Zip Code:
- *Primary Contact First Name:
- *Primary Contact Last Name:
- *Primary Contact Phone Number:
- *Primary Contact Email Address:
- *Support Phone Number:
- Sales Rep One First Name:
- Sales Rep One Last Name:
- Sales Rep One Email Address:
- Sales Rep Ten First Name:
- Sales Rep Ten Last Name:
- Sales Rep Ten Email Address:

At the bottom right, there are 'CANCEL' and 'SUBMIT' buttons. The 'edocs™' logo is visible on the left side of the form area.

Create New Administrator:



The screenshot shows the 'telco manager' application interface. At the top, there is a navigation bar with 'telco manager' on the left and a 'Logout' link on the right. Below the navigation bar are three tabs: 'Accounts', 'Manage Org', and 'Manage CSR'. Under 'Manage Org', there are two sub-tabs: 'Search Organization' and 'Create Organization'. The 'Create Organization & Administrator' section is active. It contains a sub-section titled 'Create Administrator' with the instruction 'Please enter administrators information below.' and a note '*indicates required field.' The form includes the following fields: '* First Name:', '* Last Name:', '* User Name:', '* Password:', '* Confirm Password:', '* Email Address:', '* Role:' (a dropdown menu currently showing 'Administrator'), and '* Status:' (a dropdown menu currently showing 'Active'). At the bottom right of the form are two buttons: 'CANCEL' and 'SUBMIT'. The 'edocs™' logo is visible in the bottom left corner of the page.

telco manager [Logout](#)

Accounts Manage Org Manage CSR

Search Organization Create Organization

Create Organization & Administrator

Create Administrator

Please enter administrators information below.

*indicates required field.

* First Name:

* Last Name:

* User Name:

* Password:

* Confirm Password:

* Email Address:

* Role: Administrator

* Status: Active

edocs™

Edit Administrator Details:

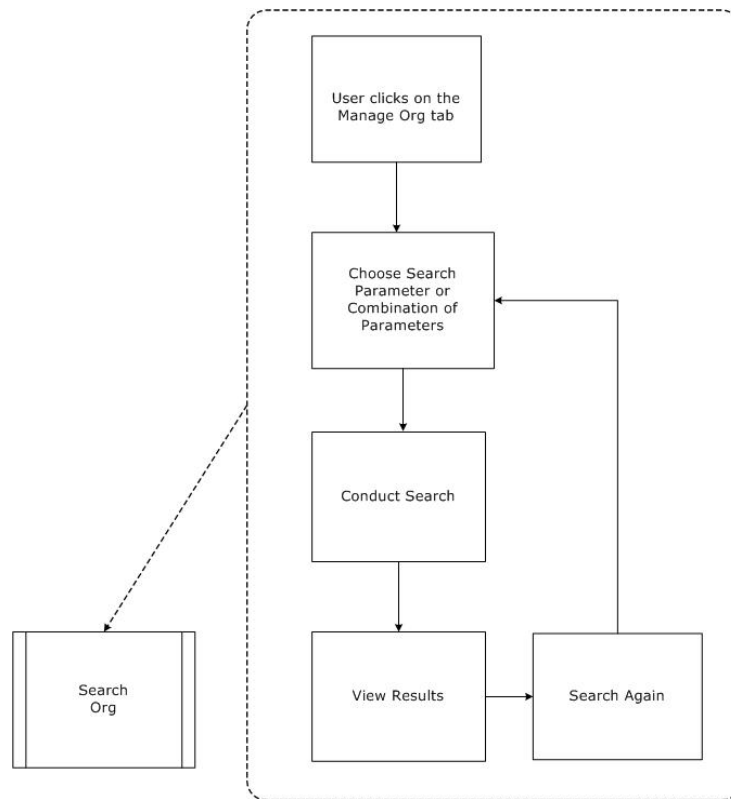
The screenshot displays the 'telco manager' web application interface. At the top, there is a navigation bar with tabs for 'Accounts', 'Manage Org', and 'Manage CSR'. Below these tabs are links for 'Search Organization' and 'Create Organization'. A 'Logout' link is located in the top right corner. The main heading is 'Create Organization & Administrator'. Below this, a sub-heading 'Edit Administrator Details' is followed by the instruction 'Please edit administrator details below.' and two buttons: 'Impersonate' and 'Add New Admin'. A note states '*indicates required field.' The form contains the following fields:

- * First Name: Joe
- * Last Name: Green
- * User Name: DefaultAdmin
- * Password: (masked with dots)
- * Confirm Password: (masked with dots)
- * Email Address: giuseppe.verdi@opera.
- * Role: Administrator (dropdown menu)
- * Status: Active (dropdown menu)

A 'SUBMIT' button is located at the bottom right of the form. The 'edocs' logo is visible in the bottom left corner.

Search Organization (6300)

Search Organization Flow:



Name:	Search for an Organization
Brief Description:	Customer Service Representative searches for an organization.
Actor:	Customer Service Representative (CSR)
Trigger:	User chooses Manage Org tab from another tab OR chooses the Search Organization sub tab of Manage Org tab from another sub tab of the Manage Org tab OR chooses "Search Again" from the Search Organization results page.
Preconditions	Organization and Accounts exist.
Main Path:	1. This use case begins when a Customer Service Representative selects Search Organization to find an account in order to view the account details. 2. System displays search screen. a. Company name b. Wireless number c. Account Number

	d. Tax ID e. Address f. City g. State h. Postal Code 3. User enters criteria and submits the form. [A1] ("*" can be entered for wild card search) 4. System displays a list of all matching Organizations – Search Organization Results screen. [A2] 5. System displays search results screen and provides options to select: a. Company / Organization Summary [A3] b. View Account [A4] c. View Assigned Administrator Details [A5] 6. System displays the appropriate child screen. 7. Use case ends.														
Alternate Paths:	[A1] User clears search fields and can search again. [A2] No matching accounts found for the given criteria 1. System displays a message stating that there are no matching results. [A3] User selects Company link. 1. System displays Company / Organization Summary screen. [A4] User selects View Account 1. System displays list of accounts for company, the View Accounts screen [A5] User selects View Administrator Details 1. System displays View Administrator Details screen														
Standard Features:	1. The following are core fields that are available for search: a) Organization Name b) Wireless Number c) Account Number														
Notes:	Results will only show created organizations, accounts that are loaded into the system, but are not part of an organization will not appear.														
Configuration:	<table><tr><th>Screen</th><th>Field</th><th>Validation</th></tr><tr><td rowspan="5">Search Organization</td><td>Company Name</td><td></td></tr><tr><td>Phone Number</td><td></td></tr><tr><td>Account Number</td><td></td></tr><tr><td>Tax ID</td><td></td></tr><tr><td>Address</td><td></td></tr></table>	Screen	Field	Validation	Search Organization	Company Name		Phone Number		Account Number		Tax ID		Address	
Screen	Field	Validation													
Search Organization	Company Name														
	Phone Number														
	Account Number														
	Tax ID														
	Address														

Application Use Cases

	City
	State
	Postal Code

Search Organization Screen:

telco manager [Logout](#)

Accounts **Manage Org** **Manage CSR**

Search Organization **Create Organization**

Search Organization

Search Organization

Please input search criteria.

Company Name:

Wireless Number:

Account Number:

Tax ID:

Address:

City:

State: ▼

Zip Code:

SEARCH

edocs™

Search Result Screen:

telco manager [Logout](#)

[Accounts](#) [Manage Org](#) [Manage CSR](#)

[Search Organization](#) [Create Organization](#)

Search Organization

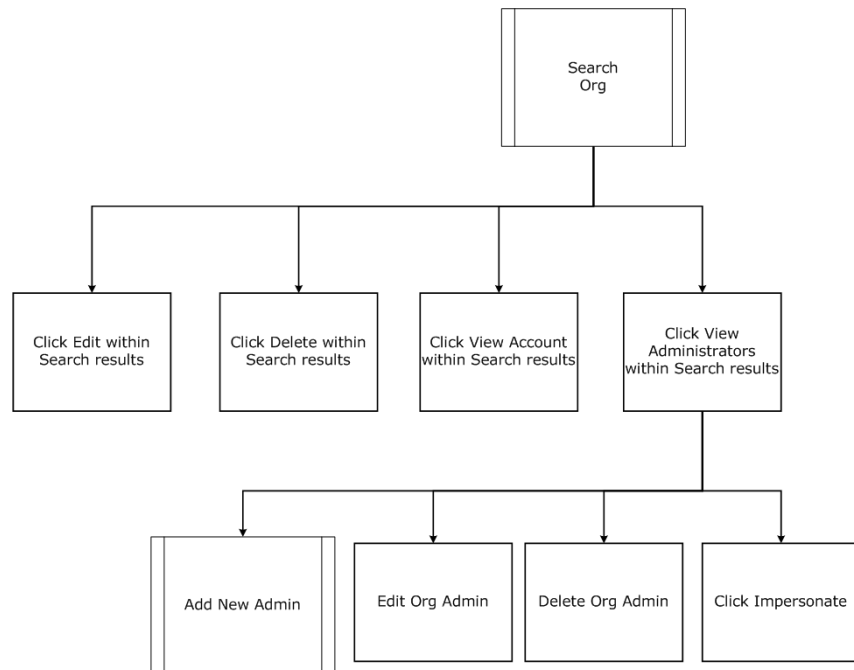
Search Organization [Search Again](#)

Search Results			
Company Name	Company Actions	View Account	Assigned Administrator
BigTelco	Edit Delete	View	View

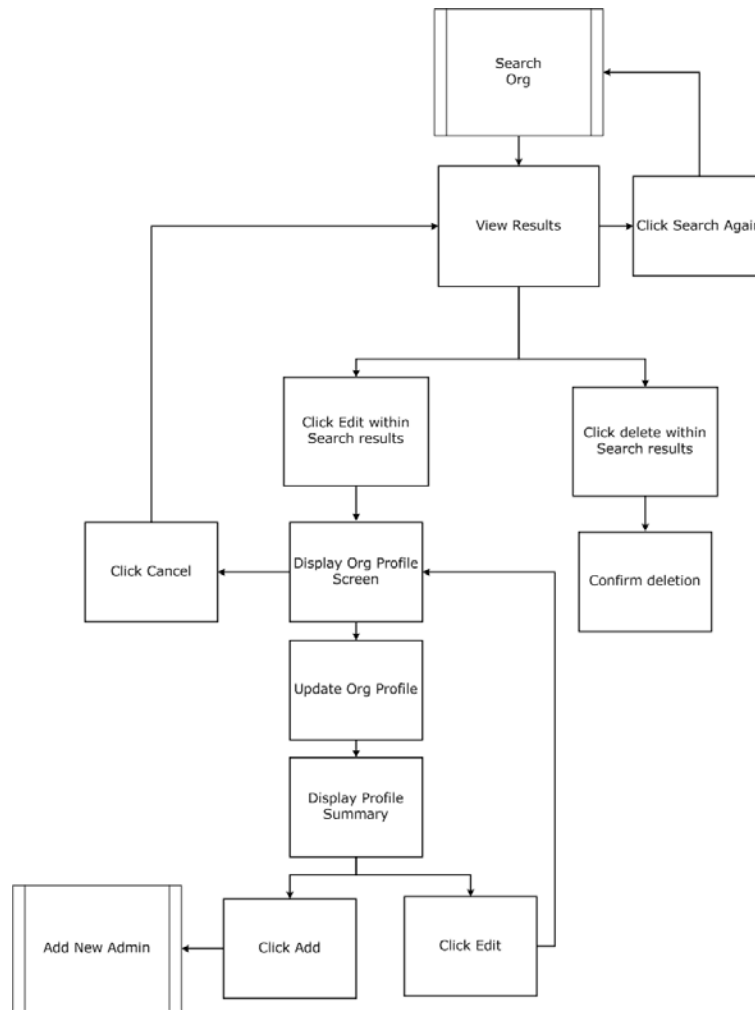
edocs™

Manage Organization (6100)

Manage Organization:



Modify Organization Flow:

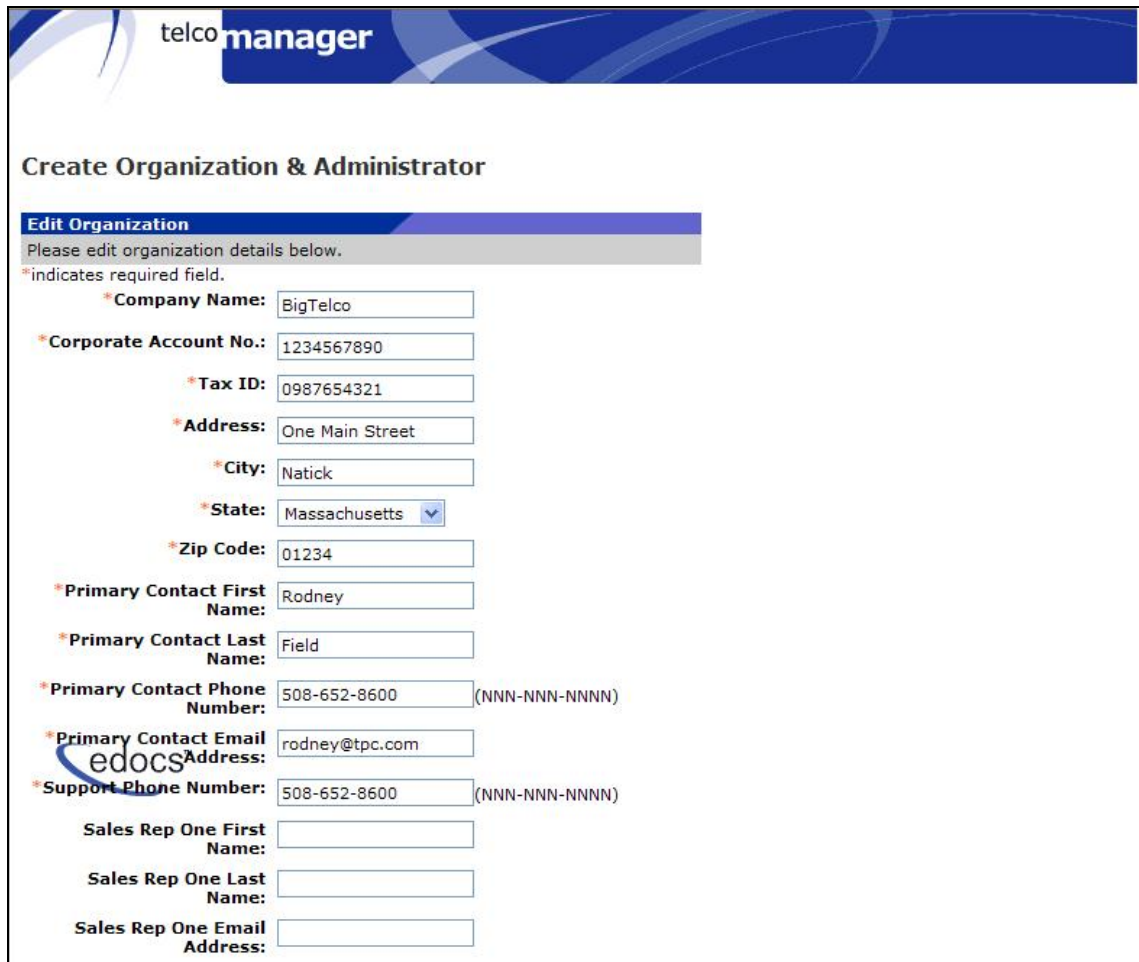


Name:	Manage Organization
Brief Description:	Confirmation of adding a new Organization and option to add a new Administrator.
Actor:	Customer Service Representative (CSR), CSR Admin
Precondition:	User completed the Search for Organization use case and it returned results.
Trigger:	User chooses "edit" option for Company OR chooses "delete" for a Company OR chooses "view" for an account OR chooses "view" for an administrator.
Main Path:	- This use case begins when the User views the search result screen. - User has options to: - Edit Organization/Company details [A2] - Add an Administrator to the new organization This user would have access to all current and future billing accounts and business structure hierarchies created by this user or

Application Use Cases

	other users. c. Accept new Organization creation and navigate elsewhere in the application. 3. Use case ends.																					
Alternate Paths:	[A1] System is unable to link to optional pages. 1. System displays message informing the User of the problem and allows them to correct it. [A2] User selects Delete Company link. 1. System invokes modify or delete organization use case. [A3] User selects View Account 1. System displays list of accounts for company, the View Accounts screen [A4] User selects View Administrator Details 1. System displays View Administrator Details screen [A5] Add Administrator																					
Standard Features:	None																					
Notes:	None																					
Configuration:	<table><thead><tr><th>Screen</th><th>Field</th><th>Validation</th></tr></thead><tbody><tr><td rowspan="7">Search Organization</td><td>Company Name</td><td></td></tr><tr><td>Phone Number</td><td></td></tr><tr><td>Account Number</td><td></td></tr><tr><td>Tax ID</td><td></td></tr><tr><td>Address</td><td></td></tr><tr><td>City</td><td></td></tr><tr><td>State</td><td></td></tr><tr><td></td><td>Postal Code</td><td></td></tr></tbody></table>	Screen	Field	Validation	Search Organization	Company Name		Phone Number		Account Number		Tax ID		Address		City		State			Postal Code	
Screen	Field	Validation																				
Search Organization	Company Name																					
	Phone Number																					
	Account Number																					
	Tax ID																					
	Address																					
	City																					
	State																					
	Postal Code																					

Edit Organization Details:



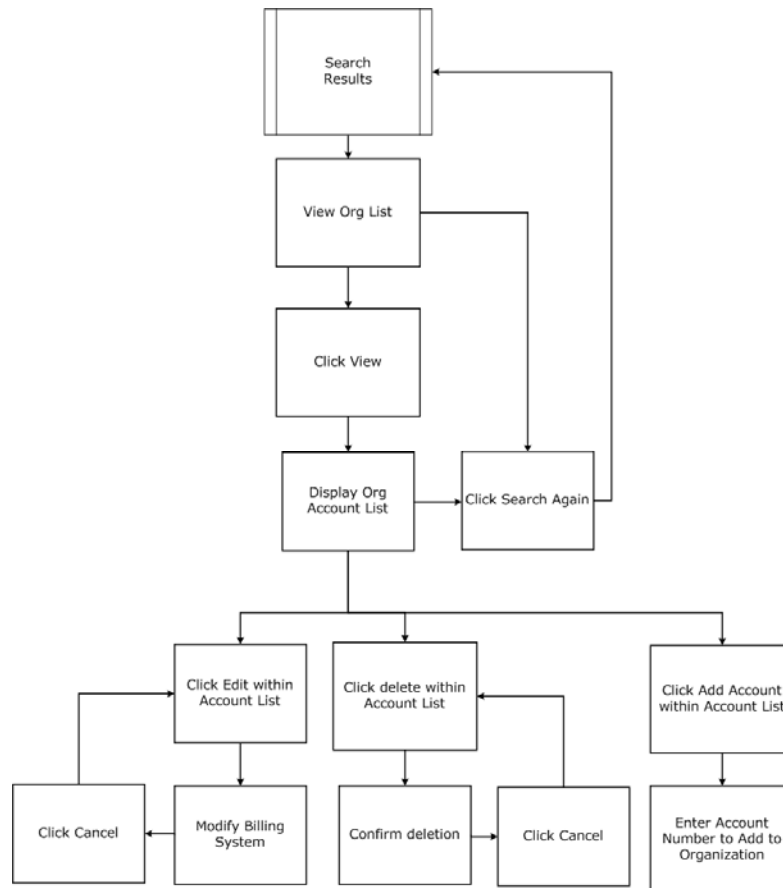
The screenshot displays the 'telco manager' application interface. At the top, there is a blue header bar with the 'telco manager' logo. Below the header, the main title 'Create Organization & Administrator' is centered. A sub-header 'Edit Organization' is followed by a grey instruction box: 'Please edit organization details below.' Below this, a red asterisk indicates required fields. The form contains several input fields with labels and values:

- *Company Name:** BigTelco
- *Corporate Account No.:** 1234567890
- *Tax ID:** 0987654321
- *Address:** One Main Street
- *City:** Natick
- *State:** Massachusetts (dropdown menu)
- *Zip Code:** 01234
- *Primary Contact First Name:** Rodney
- *Primary Contact Last Name:** Field
- *Primary Contact Phone Number:** 508-652-8600 (NNN-NNN-NNNN)
- *Primary Contact Email Address:** rodney@tpc.com
- *Support Phone Number:** 508-652-8600 (NNN-NNN-NNNN)
- Sales Rep One First Name:** (empty field)
- Sales Rep One Last Name:** (empty field)
- Sales Rep One Email Address:** (empty field)

A 'edocs' watermark is visible on the left side of the form.

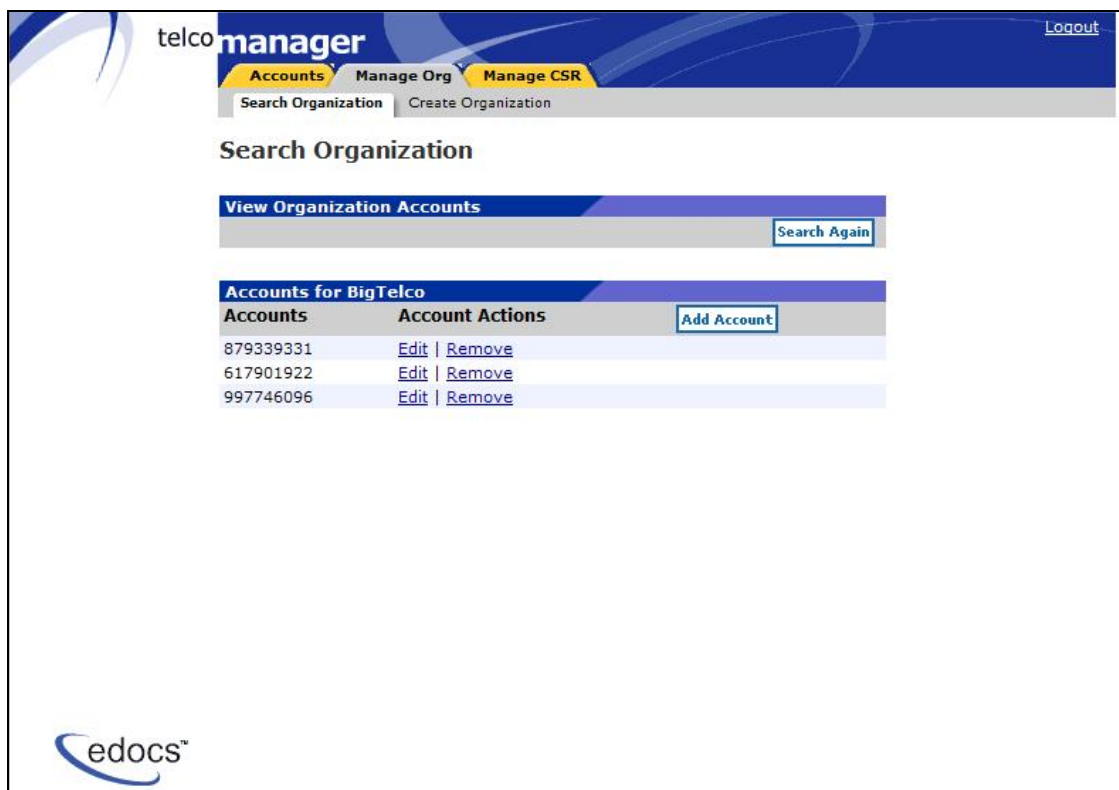
View Accounts for Organization (6500)

Modify Organization Accounts:

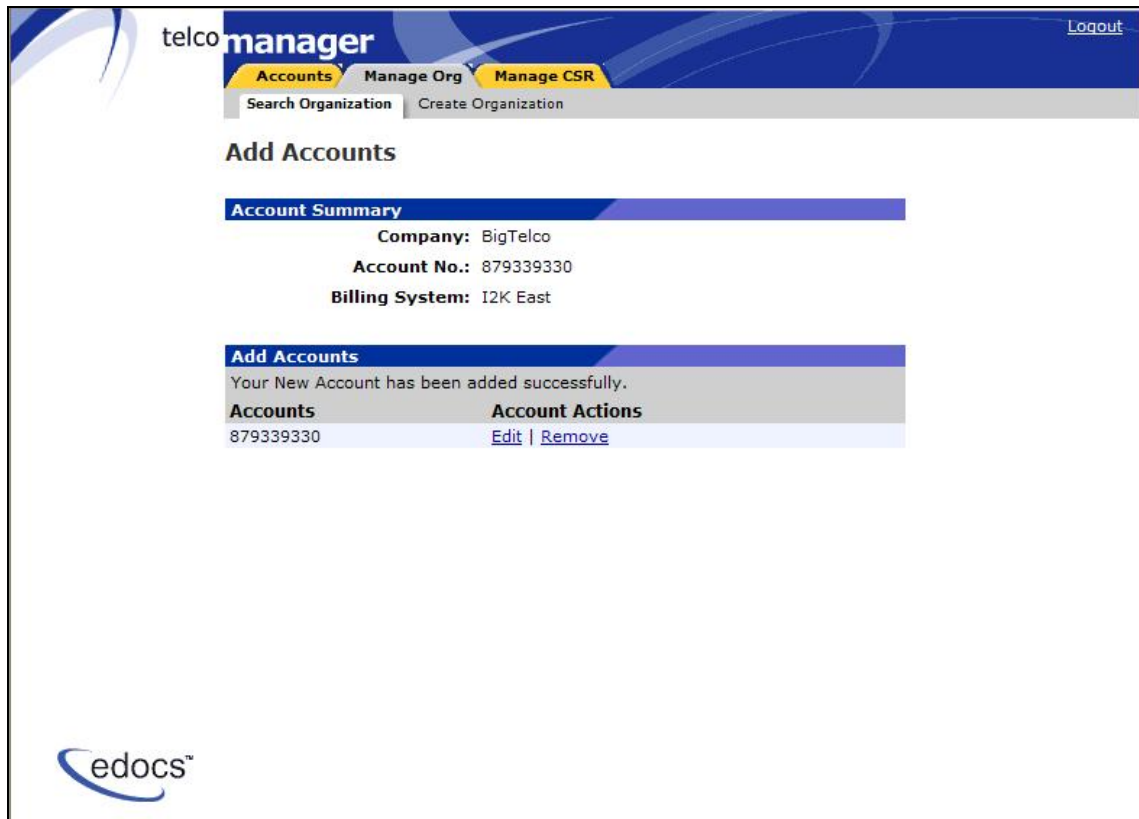


Name:	View Accounts for Organization
Brief Description:	Customer Service Representative views Accounts for an Organization. <i>Rationale:</i> This screen enables the CSR to consolidate under one organization multiple billing accounts that may come from multiple billing systems from the service provider.
Actor:	Customer Service Representative (CSR)
Trigger:	Clicking the View link for an organization in the organization list displays the Org Account List. Click Edit link within Org Account List
Preconditions	The CSR has searched for an existing organization
Main Path:	1. This use case begins when a Customer Service Representative selects the View Accounts view from the Search Organization Results screen. 2. System displays the list of accounts for the company. 3. User can select:

	- Add Account button [A1] - Edit Account link [A2] - Remove Account link [A3] - Use case ends.
Alternate Paths:	[A1] User selects to Add Account to an Organization. - System displays Add Billing Account screen. [A2] User selects Edit Account - System displays the Edit Accounts screen [A3] User selects Remove Account - System displays confirmation page to verify account removal
Standard Features:	None
Notes:	None

View Billing Accounts:

Account Summary with Confirmation:



The screenshot displays the 'telco manager' web application interface. The top navigation bar includes 'Logout' and tabs for 'Accounts', 'Manage Org', and 'Manage CSR'. Below the navigation bar, there are links for 'Search Organization' and 'Create Organization'. The main heading is 'Add Accounts'. A section titled 'Account Summary' displays the following details:

- Company:** BigTelco
- Account No.:** 879339330
- Billing System:** I2K East

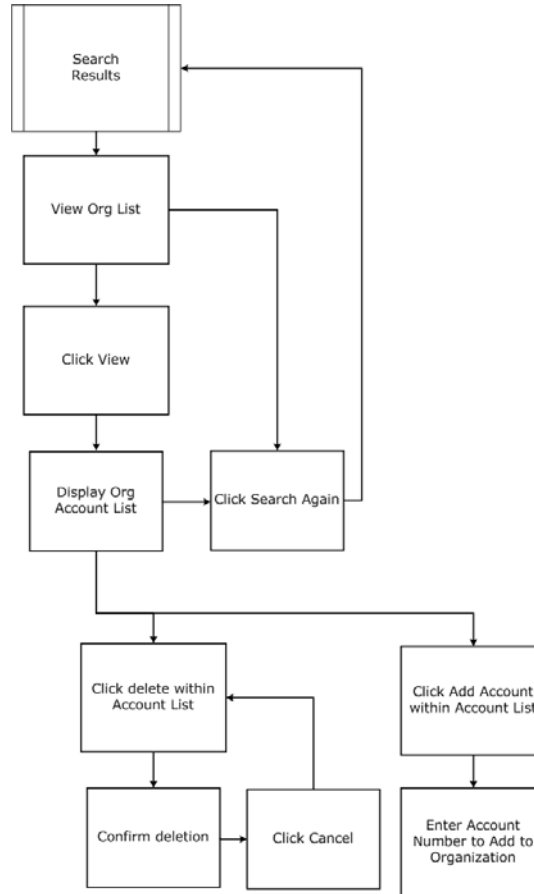
Below the summary, a message states: 'Your New Account has been added successfully.' A table follows with two columns: 'Accounts' and 'Account Actions'.

Accounts	Account Actions
879339330	Edit Remove

The 'edocs' logo is visible in the bottom left corner of the page.

Add Billing Account (6550)

Add and Delete Billing Accounts:



Name:	Add Accounts to an Organization
Brief Description:	A user needs to add billing accounts available to an organization.
Actor:	Customer Service Representative (CSR) admin
Precondition:	The CSR has searched and located an existing organization.
Trigger:	Choose the Add Account option within Organization Account list.
Main Path:	1. This use case begins when the User chooses to add billing accounts to an organization. The User searches and selects an organization via the Search for Organization use case. 2. System displays a page with the organization's details including items such as: a. Account Numbers b. Billing System (if applicable) 3. User chooses to add an additional billing account and provides billing

Application Use Cases

	account information. - User selects Add button to add billing account to an organization. - System verifies the submission and adds the billing account. [A1] - Use case ends.
Alternate Paths:	[A1] System is unable to verify the entry. System displays message informing the User of the problem and allows them to correct it.
Standard Features:	Form validation.
Notes:	

Add Billing Accounts:

The screenshot displays the 'telcomanager' web interface. At the top, there are navigation tabs for 'Accounts', 'Manage Org', and 'Manage CSR'. Below these are links for 'Search Organization' and 'Create Organization'. The main heading is 'Add Accounts'. A sub-heading 'Add Accounts' is also present. The form contains the following fields:

- Company:** BigTelco
- Account No.:** [Text input field]
- Billing System:** I2K East [Dropdown menu]
- SUBMIT** [Button]

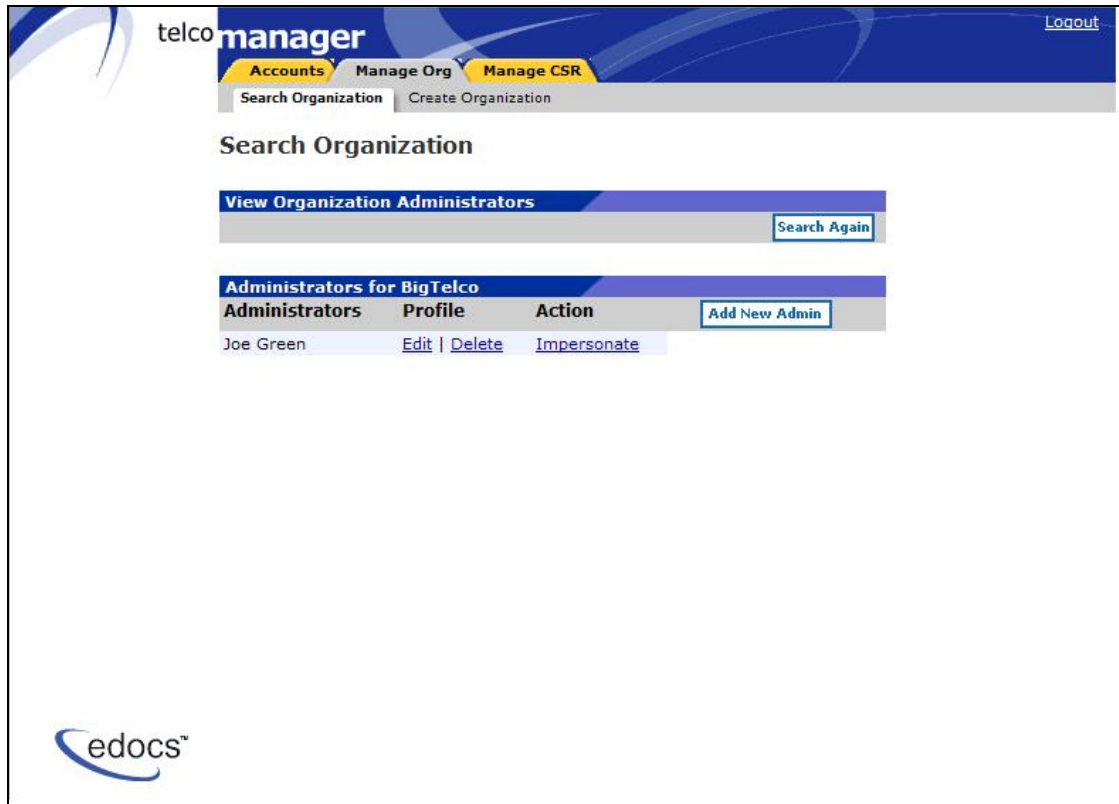
The 'edocs' logo is located in the bottom left corner of the page.

View Administrators for Organization (6600)

Name:	View Administrators for Organization
Brief Description:	Customer Service Representative views Administrators for an Organization.
Actor:	Customer Service Representative (CSR)

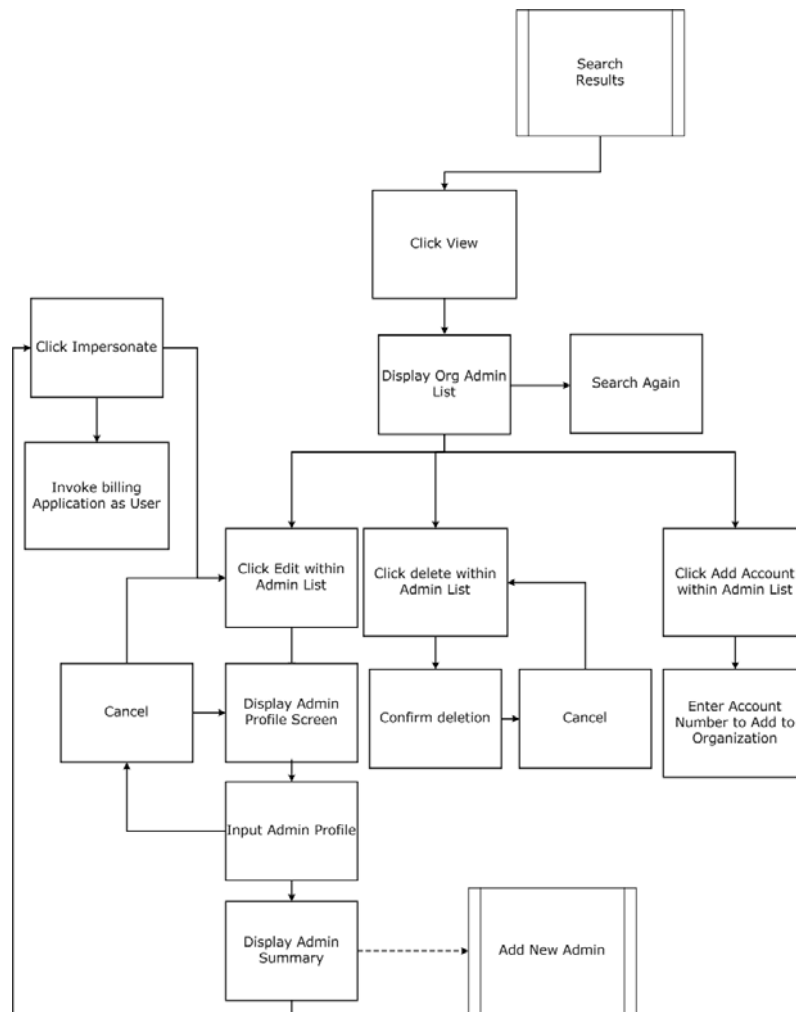
Main Path:	1. This use case begins when a Customer Service Representative selects the View Administrator view from the Search Organization Results screen. 2. System displays the list of administrators for the company. 3. User can select: a. Edit Administrator Profile [A1] b. Impersonate Administrator [A2] 4. Use case ends.
Alternate Paths:	[A1] User selects to edit Administrator profile information. 1. System displays User Profile screen. [A2] User selects to Impersonate Administrator 1. System invokes the Impersonate User functionality
Standard Features:	None
Notes:	None

View Organization Administrators:



Edit Administrator (6650)

Edit Organization Administration Flow:



Name:	Edit Administrator Details
Brief Description:	Customer Service Representative edits an Administrators details for an organization.
Actor:	Customer Service Representative (CSR)
Trigger:	User chooses “edit” or “delete” on the View Organization Administrators page in the Search for Organization and Organization's Information use case.
Preconditions	The CSR has searched for an existing organization
Main Path:	1. This use case begins when a Customer Service Representative selects

	Edit Organization Administrator Details link. 2. System displays Edit Organization Administrator Details screen. [A1-A2] a. First Name b. Last Name c. Password d. Confirm Password e. Email Address f. Role (Drop Down) g. Status (Active/Inactive/Locked) 3. User edits Administrator details and submits the form. 4. System displays Edit Administrator Details Summary page with the updated information. 5. Use case ends.																				
Alternate Paths:	[A1] User can select to Add New Administrator 1. User is taken to Add Administrator page. [A2] User can select to Impersonate Administrator 2. The system invokes the Impersonate User function for the Administrator																				
Standard Features:	1. Password Reset – CSRs can reset Administrator passwords by changing the Password and Confirm Password fields and submitting.																				
Notes:	None																				
Configuration:	<table><thead><tr><th>Screen</th><th>Field</th><th>Validation</th></tr></thead><tbody><tr><td rowspan="8">Edit Adiministrator Details</td><td>First Name</td><td></td></tr><tr><td>Last Name</td><td></td></tr><tr><td>User Name</td><td>Only Characters and Numbers allowed.</td></tr><tr><td>Password</td><td></td></tr><tr><td>Confirm Password</td><td></td></tr><tr><td>Email Address</td><td></td></tr><tr><td>Role</td><td>Either Administrator or User.</td></tr><tr><td>Status</td><td>Either Active or Inactive.</td></tr></tbody></table>	Screen	Field	Validation	Edit Adiministrator Details	First Name		Last Name		User Name	Only Characters and Numbers allowed.	Password		Confirm Password		Email Address		Role	Either Administrator or User.	Status	Either Active or Inactive.
Screen	Field	Validation																			
Edit Adiministrator Details	First Name																				
	Last Name																				
	User Name	Only Characters and Numbers allowed.																			
	Password																				
	Confirm Password																				
	Email Address																				
	Role	Either Administrator or User.																			
	Status	Either Active or Inactive.																			

Search Result Screen:

The screenshot displays the 'telco manager' application interface. The top navigation bar includes 'Accounts', 'Manage Org', and 'Manage CSR' tabs. Below these are buttons for 'Search Organization' and 'Create Organization'. A 'Logout' link is visible in the top right corner. The main content area is titled 'Search Organization' and features a 'View Organization Administrators' section with a 'Search Again' button. Below this is a table titled 'Administrators for BigTelco' with columns for 'Administrators', 'Profile', and 'Action'. The table lists 'Joe Green' with links for 'Edit', 'Delete', and 'Impersonate'. An 'Add New Admin' button is located to the right of the table. The 'edocs' logo is visible in the bottom left corner.

telco manager [Logout](#)

Accounts Manage Org Manage CSR

Search Organization Create Organization

Search Organization

View Organization Administrators [Search Again](#)

Administrators for BigTelco

Administrators	Profile	Action
Joe Green	Edit Delete	Impersonate

[Add New Admin](#)

edocs™

CSR Edits Administrator Details:

The screenshot displays the 'telco manager' web application interface. At the top, there is a navigation bar with tabs for 'Accounts', 'Manage Org', and 'Manage CSR'. Below these tabs are links for 'Search Organization' and 'Create Organization'. A 'Logout' link is located in the top right corner. The main heading is 'Create Organization & Administrator'. Below this, a section titled 'Edit Administrator Details' contains the instruction 'Please edit administrator details below.' and two buttons: 'Impersonate' and 'Add New Admin'. A note states '*indicates required field.' The form includes the following fields: 'First Name' (Joe), 'Last Name' (Green), 'User Name' (DefaultAdmin), 'Password' (masked with dots), 'Confirm Password' (masked with dots), 'Email Address' (giuseppe.verdi@opera.), 'Role' (Administrator), and 'Status' (Active). A 'SUBMIT' button is positioned at the bottom right of the form. The 'edocs' logo is visible in the bottom left corner.

telco manager [Logout](#)

[Accounts](#) [Manage Org](#) [Manage CSR](#)

[Search Organization](#) [Create Organization](#)

Create Organization & Administrator

Edit Administrator Details

Please edit administrator details below. [Impersonate](#) [Add New Admin](#)

*indicates required field.

*First Name:

*Last Name:

*User Name:

*Password:

*Confirm Password:

*Email Address:

*Role:

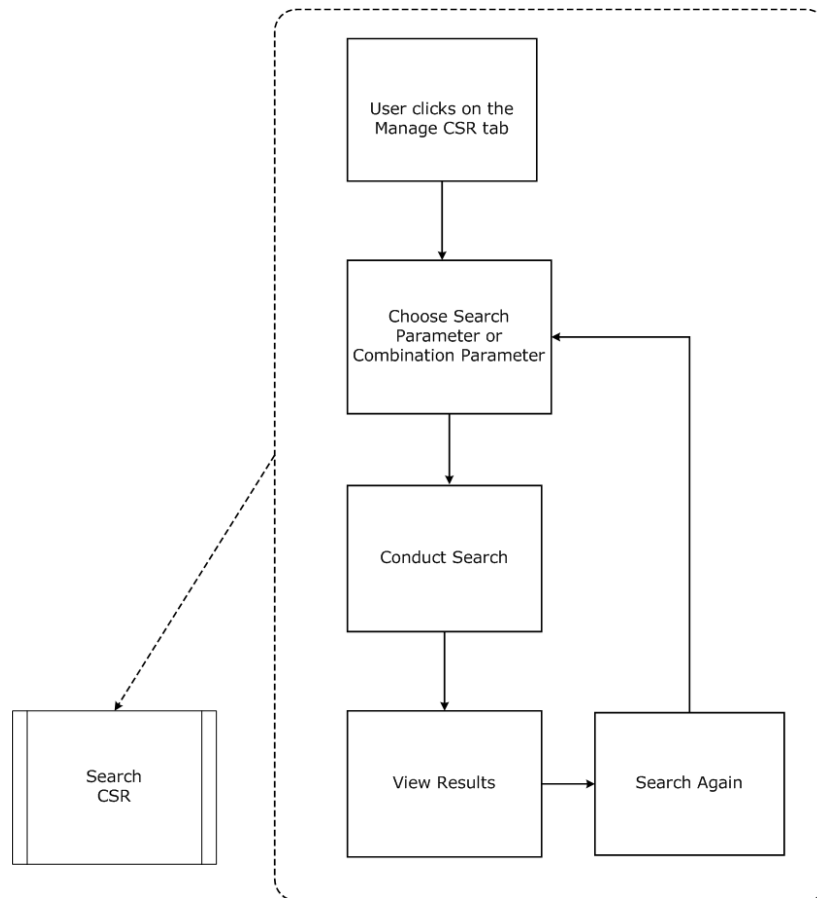
*Status:

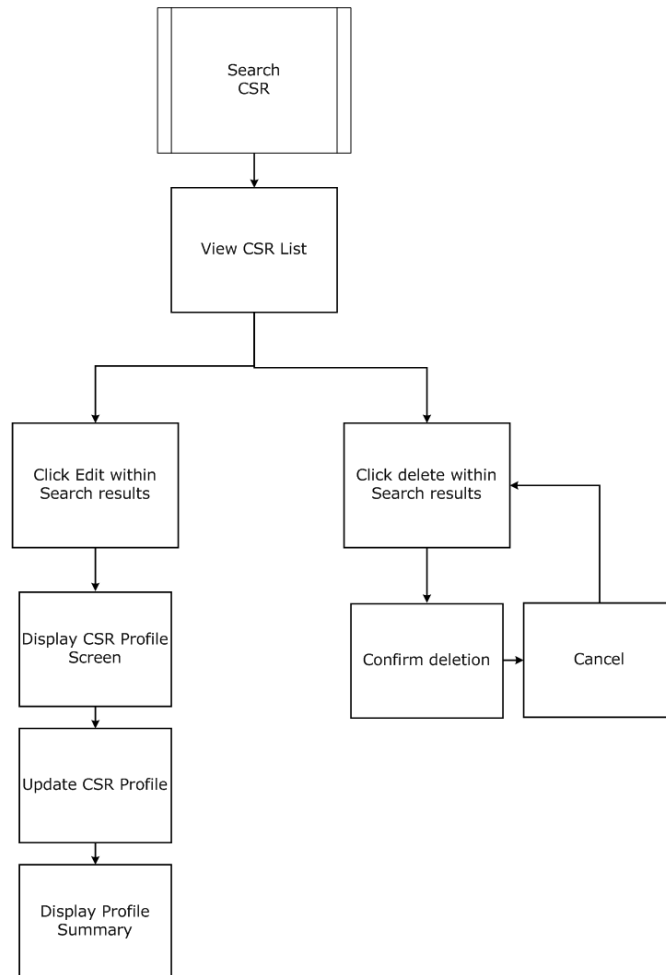
[SUBMIT](#)

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Manage Internal User (6700)

Search CSR Flow:



Modify CSR Flow:

Name:	Manage Internal Users (CSR)
Brief Description:	A Customer Service Representative Administrator, adds, deletes, or modifies other CSR's, so that they can access the application.
Actor:	Customer Service Representative Administrator (CSR Admin)
Trigger:	Successful login into CSR application. CSR Admin clicks on the Manage CSR tab.
Preconditions	The CSR admin User has been created. Organization and Accounts exist.
Main Path:	- This use case begins when a Customer Service Representative wishes to find a CSR user. - System displays search screen with the following attributes: CSR ID CSR First Name

	CSR Last Name - User enters the search criteria and submits the form. - System displays search result with the list of internal user accounts to the administrator. [A1] - User has option to: - Edit CSR User [A2] - Delete CSR User [A3] - User selects an appropriate option. - System links to appropriate page based on option selected. - Use case ends.
Alternate Paths:	[A1] There are no matching accounts found for the given criteria. - System displays a message stating that there are no matching results. [A2] Edit CSR Details. CSR Admin selects user from the list and invokes the Edit User option. - System displays <i>Edit User</i> page including: - First name - Last name - CSR ID - Password - Password confirmation - Email Address - Role - Status (Active/Inactive/Locked) - User updates fields and submits the form. - System validates the information and updates the profile for the selected user. [A4] - System displays the updated list of internal users to the administrator. [A3] CSR Admin selects the Delete operation: - System displays a confirmation page with the following information: - Name - Role - User confirms the operation. - System validates the request and logs details of inactivated user and disables the user's access. - System displays the updated list of Internal Users [A4] System is unable to validate information - System prompts the user to review the information and does not accept the transaction.
Notes:	Search use "exact match" logic, meaning all records are returned with fields that exactly match the values entered in the search criteria. "*" can be added to the end of any value to change it to "starts with" match logic.

Configuration:	Screen	Field	Validation
	Search CSR Profile	First Name	
		Last Name	
		CSR ID	
	Modify CSR Profile	First Name	
		Last Name	
		CSR ID	Only Characters and Numbers allowed.
		Password	
		Confirm Password	
		Email Address	
		Role	Either CSR Administrator or CSR.
		Status	Either Active or Inactive.

Search CSR Screen:

The screenshot displays the 'telco manager' application interface. At the top, there is a navigation bar with three tabs: 'Accounts', 'Manage Org', and 'Manage CSR'. Below these tabs is a sub-navigation bar with three buttons: 'Search CSRs', 'Add CSRs', and 'Profile'. The main content area is titled 'Search CSRs' and contains a search form. The form has a header bar that says 'Search CSRs' and a sub-header that says 'Please input search criteria'. Below this, there are three input fields labeled 'CSR ID:', 'First Name:', and 'Last Name:'. To the right of these fields is a 'SEARCH' button. In the bottom left corner of the application window, there is an 'edocs™' logo.

telco manager

Accounts Manage Org Manage CSR

Search CSRs Add CSRs Profile

Search CSRs

Please input search criteria

CSR ID:

First Name:

Last Name:

SEARCH

edocs™

Search Result Screen:

telco manager

Accounts Manage Org Manage CSR

Search CSRs Add CSRs Profile

Search CSRs

Search Again

CSR Search Results

CSR Users	CSR Details
Donna Pruitt	Edit Delete
Charles Stuart	Edit Delete
Mathew Smith	Edit Delete
Harry Arnold	Edit Delete
Larry Weber	Edit Delete
Steve Balmer	Edit Delete
Bill Gates	Edit Delete
Ray Ozzie	Edit Delete
Chris Yang	Edit Delete
MichaelDell	Edit Delete

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Edit CSR Screen:

telco manager [Logout](#)

Accounts **Manage Org** **Manage CSR**

[Search CSRs](#) [Add CSRs](#)

Profile

Edit CSR Profile

Please edit CSR profile information.
*indicates required field.

*First Name:

*Last Name:

*User Name:

*Password:

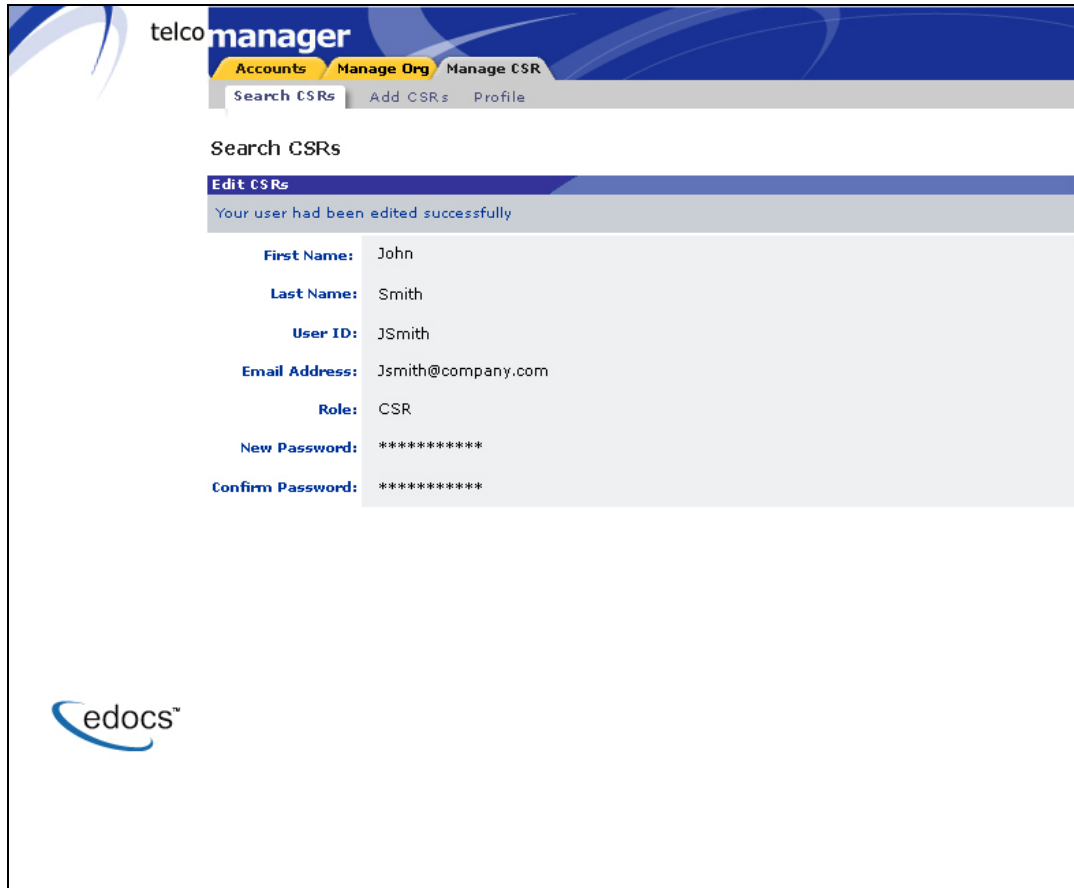
*Confirm Password:

*Email Address:

*Role:

*Status:

Update Confirmation Screen



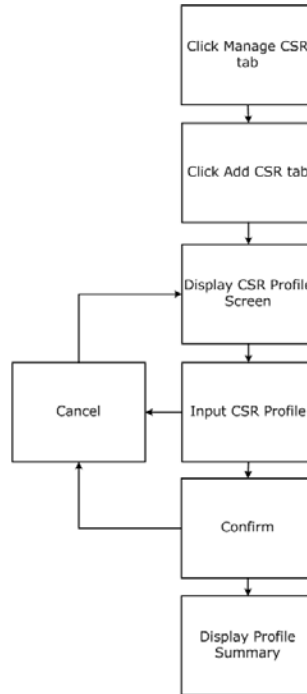
The screenshot shows the 'telco manager' application interface. The top navigation bar includes 'Accounts', 'Manage Org', and 'Manage CSR'. Below this, there are tabs for 'Search CSRs', 'Add CSRs', and 'Profile'. The main content area is titled 'Search CSRs' and features a sub-header 'Edit CSRs'. A message states 'Your user had been edited successfully'. Below this message, a form displays the updated user information:

First Name:	John
Last Name:	Smith
User ID:	JSmith
Email Address:	Jsmith@company.com
Role:	CSR
New Password:	*****
Confirm Password:	*****

The 'edocs™' logo is visible in the bottom left corner of the page.

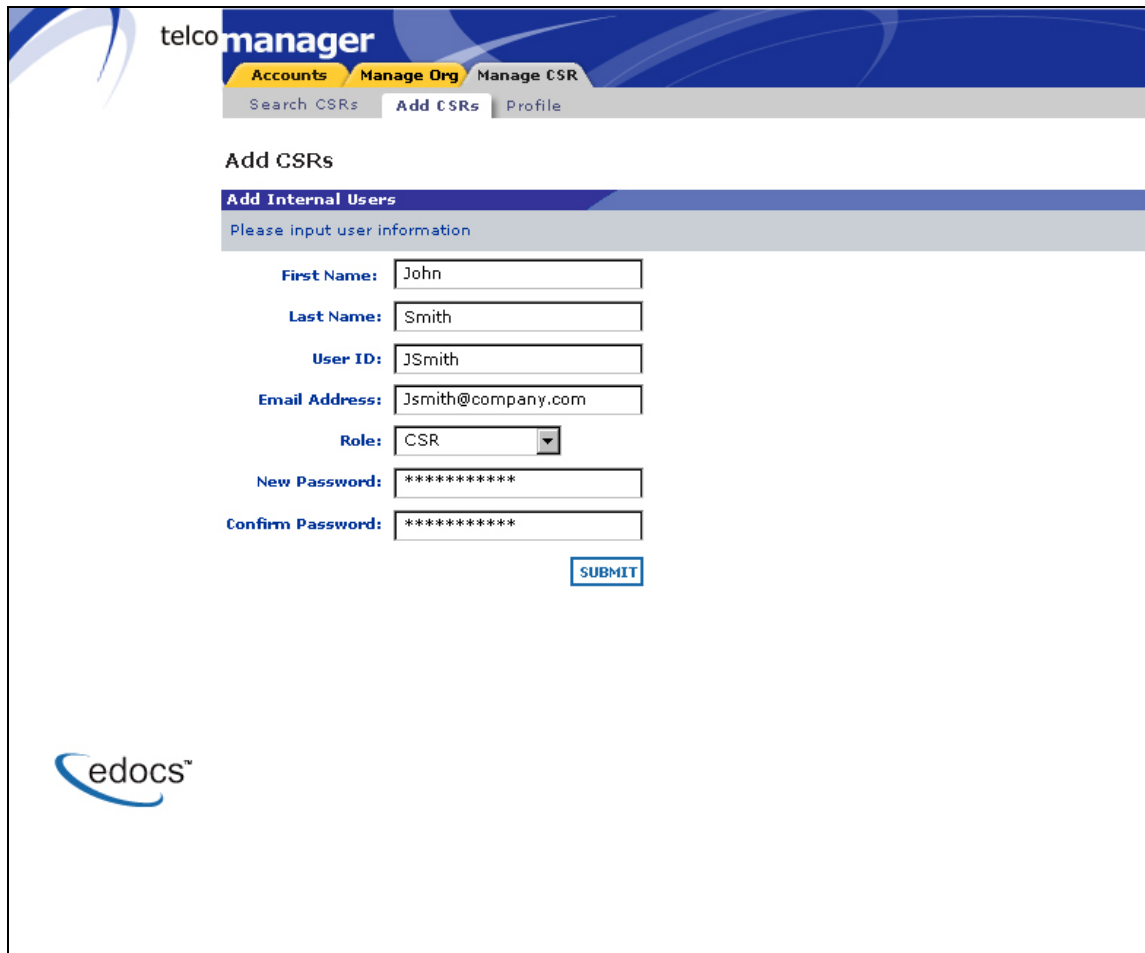
Add Internal Users (6750)

Add CSR Flow:



Name:	Add Internal Users (CSR)
Brief Description:	A Customer Service Representative Administrator adds other CSR's.
Actor:	Customer Service Representative Administrator (CSR Admin)
Trigger:	The CSR must Click on the Manage CSR tab and Select Add CSR
Preconditions	The CSR admin User has been created. Organization and Accounts exist.
Main Path:	1. This use case begins when an administrator CSR chooses to Add Internal Users. 2. User selects the Add function for a chosen CSR user and enters the user's details. a. User ID b. Email c. Team (Need List of teams for dropdown.) d. Role e. Password f. Confirm Password 3. Admin Internal User enters information and submits the form. 4. System validates the information and displays the added confirmation summary to the administrator. [A1] 5. Use case ends

Alternate Paths:	[A1] System is unable to validate information 1. System prompts the user to review the information and does not accept the transaction.
Standard Features:	Form Validation
Notes:	1. Only Administrator CSR's have the ability to manage other CSR users. 2. Regular CSR Users will have access to the profile tab, but will only have access to their own profile so that they can update their information. This is a request from the business. 3. Username and password will have same limits as end users.

Add Internal Users:


The screenshot displays the 'telco manager' web application interface. At the top, there are navigation tabs: 'Accounts', 'Manage Org', and 'Manage CSR'. Below these, a sub-navigation bar includes 'Search CSRs', 'Add CSRs', and 'Profile'. The main content area is titled 'Add CSRs' and contains a section for 'Add Internal Users'. A message 'Please input user information' is displayed above the form fields. The form includes the following fields: 'First Name' (containing 'John'), 'Last Name' (containing 'Smith'), 'User ID' (containing 'JSmith'), 'Email Address' (containing 'Jsmith@company.com'), 'Role' (a dropdown menu currently set to 'CSR'), 'New Password' (containing '*****'), and 'Confirm Password' (containing '*****'). A 'SUBMIT' button is located at the bottom right of the form. In the bottom left corner of the page, the 'edocs™' logo is visible.

Add CSR Confirmation Screen:

telco manager

Accounts Manage Org Manage CSR

Search CSRs Add CSRs Profile

Add CSRs

Add Internal Users

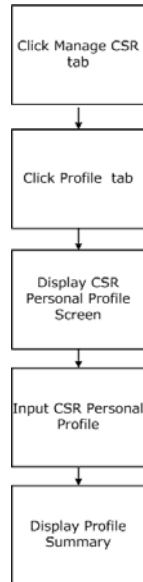
Your user had been successfully added

First Name:	John
Last Name:	Smith
User ID:	JSmith
Email Address:	Jsmith@company.com
Role:	CSR
New Password:	*****
Confirm Password:	*****

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Modify Personal Profile (6850)

Edit Personal Profile:



Name:	Modify Personal Profile
Brief Description:	The Admin CSR may also modify their own profile.
Actor:	Admin CSR
Trigger:	The CSR must Click on the Manage CSR tab and Profile
Preconditions	The CSR admin User has been created.
Main Path:	1. This use case begins when an administrator CSR chooses to modify their own profile. 2. System displays the personal profile details. 3. CSR updates the profile and select submit action. 4. System displays confirmation page. 5. Use case ends.
Alternate Paths:	None
Standard Features:	Form Validation
Notes:	None

Modify Profile:

telco manager [Logout](#)

Accounts **Manage Org** **Manage CSR**

[Search CSRs](#) [Add CSRs](#) **Profile**

Profile

Edit Profile

Please edit your profile information.

* indicates required field.

* **First Name:**

* **Last Name:**

* **CSR ID:**

* **Password:**

* **Confirm Password:**

* **Email Address:**

* **Role:**

* **Status:**

SUBMIT

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3.13 System Use Cases

- Create Billing Accounts
- Process Recurring Payments
- System Email Notification

Create Billing Accounts (7000)

Name:	Create Billing Hierarchy
Brief Description:	The process of initially creating the organization's billing hierarchy
Actor(s):	System, CSR Administrator
Trigger(s):	1. A new hierarchy is created when an Administrator CSR creates an organization, company administrator and assigns accounts to the new organization. The initial hierarchy is viewable by the company administrator when they log in to the system and view Billing Accounts. 2. Add Account

	3. Bill Feed
Main Path:	1. This use case begins when an Administrator creates a new organization, assigns a company administrator and assigns accounts to the new organization through the CSR application. 2. System creates parent node/folder (organization) 3. System assigns company administrator to the parent node/folder 4. System links accounts assigned to the organization at sub nodes/folders 5. System displays Billing Accounts (hierarchy) to company administrator on Dashboard or Administration hierarchy pages. 6. Use case ends.
Alternate Paths:	[A1] Bill Feed [A2] Move Account/Device (Bill Feed) If an account or device has moved to a different node than previously imported into Communications Billing Manager, than the previous account or device should be deleted and the account or device should be added to the billing account hierarchy in its new location.
Standard Features:	None
Notes:	If an organization is created and a company administrator assigned without subsequent account assignment, the only node/folder to display is the parent organization node/folder.

Process Recurring Payments (7100)

Name:	Process Recurring Payments
Brief Description:	System schedules a recurring payment based on schedule of payments setup by the User.
Actor(s):	System
Main Path:	1. This use case begins when, at the selected time, the System Scheduler identifies recurring payments that are to be processed on that day. [A1] 2. System retrieves a list of all billing accounts that have a recurring payment scheduled 3. System verifies information is valid. 4. System generates the payment file containing all recurring payments.[A2] 5. System triggers payment notification email event. 6. Use case ends.
Alternate Paths:	[A1] System is unable to process recurring payments: 1. System records the fault 2. System alerts the system administrator via a job failure in the Command Center. 3. System places the scheduling job on hold. [A2] Payment amount exceeds specified payment threshold: 1. System does not process any recurring payments for those accounts that have exceeded a threshold limit 2. System sends a threshold exceeded email message to customer including text that informs the customer that they must manually pay this month's bill. 3. System generates the payment file containing all valid recurring payments
Standard Features	Email notification for processed and failed payments
Notes:	None

System Email Notification (7500)

Name:	Send system email notification
Brief Description:	System sends email to notify User of a system event
Actor:	System
Trigger(s):	System detects an event that should result in an email to the User.
Main Path:	1. This use case begins when a system notification event has occurred. [A1]

	2. System generates email message based on one of the following triggering events: [A2-A9] <u>Statement</u> (one consolidated notification for all billing accounts for which the user has access.) a. Bill Ready Notification b. Payment Due date in 5 days <u>Payment Account</u> (one consolidated notification for any payment account or billing account for which you have access) c. Completed One Time Payment d. Create/Edit Recurring Payment e. Recurring Payment Threshold Exceeded f. Scheduled Payment Paid g. Credit Card Expiration Notice <u>Service Manager</u> (one consolidated notification for any service agreement to which you have access to create a service request) h. Failed Service Request i. Daily Summary (summary of all submitted, completed, and failed service requests for the day) <u>Other</u> j. Batch Report Ready k. Enrollment Confirmation 3. System generates list of email accounts that will receive email. 4. System generates a file that has the appropriate information. [A10] 5. System transfers the file to a location specified in the configuration of the file creation job. 6. The appropriate server processes and generates email file. [A11] 7. The server places the file in a location that is specified in the configuration of the email notification job. 8. System processes the file to generate email. [A12] 9. System sends email message to SMTP server. [A13] 10. Use Case ends.
Alternate Paths:	[A1] System is unable to start job notification 1. System updates the status of the job to "Failed". [A2] Bill Ready Notification (Account & User Level) 1. Bill cycle is completed for billing accounts 2. System creates Bill Ready email [A3] Payment Due in X days [A4] Completed One Time Payment (User Level) 1. One Time Payment is completed 2. System creates One Time Payment Completed email [A5] Recurring Payment Scheduled (User Level)

	1. A recurring payment is scheduled 2. System creates Recurring Payment Scheduled email [A6] Recurring Payment Threshold Exceeded (User Level) 1. The recurring payment threshold is exceeded 2. System creates a Recurring Payment Threshold Exceeded email [A7] Schedule Payment Paid (User Level) 1. A scheduled payment has been paid 2. System creates a Scheduled Payment Paid email [A8] Credit Card Expiration Notice (User Level) 1. The credit card expiration date has expired 2. System creates a Credit Card Expiration Notice [A8] System is unable to generate the file 1. System updates the status of the job to "Failed". 2. System logs the error and specific error code. [A9] The server is unable to generate the file 1. System updates the status of the job to "Failed". 2. System logs the error and specific error code. [A10] System is unable to process the file to generate email 1. System updates the status of the job to "Failed". 2. System logs the error and specific error code. [A11] Email server is unavailable 1. System updates the status of the job to "Failed". 2. System logs the error and specific error code.
Configuration Points:	1. Email notification will be sent to payment user's email account only. (If a admin user checks payment notification, the admin user receives notifications for all accounts to which the user has access in a consolidated email) 2. If payment is performed on a consolidated basis, email notification will be consolidated (all confirmations for payment in one email) based on all payments made within the day. 3. After adding or removing accounts to/from an organization, an email notification will be sent to the administrator(s) for the organization. This notification will be triggered off of the confirmation screen when accounts have been successfully added/removed.
Notes:	None

Email Notifications Scenarios and Content Table

The foundation application ships with the following email template text which can be modified by the service provider.

Ref	Flow	Email Templates
1	Bill Ready Notification	From: admin@Siebel.com Sent: 25 August 2004 04:45 PM To: <xsl:value-of select="user"/> Subject: Bill Ready Notification Dear <xsl:value-of select="user"/>, The following account(s) registered under your email address have their bills ready for viewing. Please select the link provided to access the site. <xsl:for-each select="acct"> Account Number: <xsl:value-of select="number"/> </xsl:for-each> This is an automatically generated email. Please do not reply to this email address.
2	Enrollment Notification	From: admin@Siebel.com Sent: 25 August 2004 04:45 PM To: <xsl:value-of select="user"/> Subject: Enrollment Notification Email Dear <xsl:value-of select="user"/>, Welcome to your online customer care application, your temporary password is: <xsl:value-of select="pass"/> Now you can enjoy managing and paying your bills online. Why wait! Please visit <http://localhost:7001/tbm> Log in now to the application. Upon login, we recommend changing your temporary password. This is an automatically generated email. Please do not reply to this email address.
3	Recurring Payment Confirmation	From: admin@Siebel.com Sent: 25 August 2004 04:45 PM To: <xsl:value-of select="user"/> Subject: Recurring Payment Confirmation Dear <xsl:value-of select="user"/>, This email is to confirm that you have been enrolled into the Automatic Bill

Ref	Flow	Email Templates
		Payment program for your online Account <xsl:value-of select="actnum"/>. Amount: <xsl:value-of select="amount"/> The first automatic bill payment will take place after your next billing cycle. You will receive a payment confirmation email when the payment has been submitted. You may also continue to make other payments on your account using the Quick Payment option on the Payments Menu. Thank you for using automatic bill payment. Please continue visiting <http://localhost:7001/tbm> This is an automatically generated email. Please do not reply to this email address.
4	Recurring Payment Configuration Update	From: admin@Siebel.com Sent: 25 August 2004 04:45 PM To: <xsl:value-of select="user"/> Subject: Recurring Payment Configuration Update Dear <xsl:value-of select="user"/>, This email confirms that your recurring payment on your online Account(s) <xsl:value-of select="actnum"/> has been updated. Amount: <xsl:value-of select="amount"/> Thank you for using automatic bill payment. Please continue visiting <http://localhost:7001/tbm> This is an automatically generated email. Please do not reply to this email address.
5	Quick Payment Notification	From: admin@Siebel.com Sent: 25 August 2004 04:45 PM To: <xsl:value-of select="user"/> Subject: Quick Payment Notification Dear <xsl:value-of select="user"/>, Thank you for submitting your one-time Quick Payment to Communications Billing Manager in the amount of \$ <xsl:value-of select="amount"/>. Visit us again to make your next online payment. <xsl:if test="ref!="">The master reference number is <xsl:value-of select="ref"/>.</xsl:if> Thank you for using Quick Payment. Please continue visiting <http://localhost:7001/tbm>

Ref	Flow	Email Templates
		This is an automatically generated email. Please do not reply to this email address.
6	Quick Payment Failure Notification	From: admin@Siebel.com Sent: 25 August 2004 04:45 PM To: <xsl:value-of select="user"/> Subject: Quick Payment Failure Notification Dear <xsl:value-of select="user"/>, A problem occurred during your one-time Quick Payment transaction. The payment failed to process successfully. The details are as follows. Amount: \$<xsl:value-of select="amount"/> Message: <xsl:value-of select="msg"/> <xsl:if test="ref!="">The master reference number is <xsl:value-of select="ref"/>. xsl:if> Please visit <http://localhost:7001/tbm> This is an automatically generated email. Please do not reply to this email address.
7	Payment Due Reminder	From: admin@Siebel.com Sent: 25 August 2004 04:45 PM To: <xsl:value-of select="user"/> Subject: Payment Due Reminder Dear <xsl:value-of select="user"/>, This email is to remind you of your payment due date information for each account. <xsl:for-each select="acct"> Account number is: <xsl:value-of select="number"/> Due date is: <xsl:value-of select="duedate"/> Due amount is: <xsl:value-of select="dueamount"/> </xsl:for-each> Thank you for using online payment. Please continue visiting <http://localhost:7001/tbm>

Ref	Flow	Email Templates
		This is an automatically generated email. Please do not reply to this email address.
8	Payment Scheduled Confirmation	From: admin@Siebel.com Sent: 25 August 2004 04:45 PM To: <xsl:value-of select="user"/> Subject: Payment Scheduled Confirmation Dear <xsl:value-of select="user"/>, This email is to confirm that your payments are scheduled for following accounts. <xsl:for-each select="acct"> Account number is: <xsl:value-of select="number"/> Due date is: <xsl:value-of select="duedate"/> Amount is: <xsl:value-of select="dueamount"/> </xsl:for-each> Thank you for using online payment. Please continue visiting <http://localhost:7001/tbm> This is an automatically generated email. Please do not reply to this email address.
9	Payment Success Confirmation	From: admin@Siebel.com Sent: 25 August 2004 04:45 PM To: <xsl:value-of select="user"/> Subject: Payment Success Confirmation Dear <xsl:value-of select="user"/>, This email is to confirm that your payments have completed successfully for following accounts. <xsl:for-each select="acct"> Account number is: <xsl:value-of select="number"/> Amount is: <xsl:value-of select="dueamount"/> </xsl:for-each> Thank you for using online payment. Please continue visiting <http://localhost:7001/tbm> This is an automatically generated email. Please do not reply to this email address.

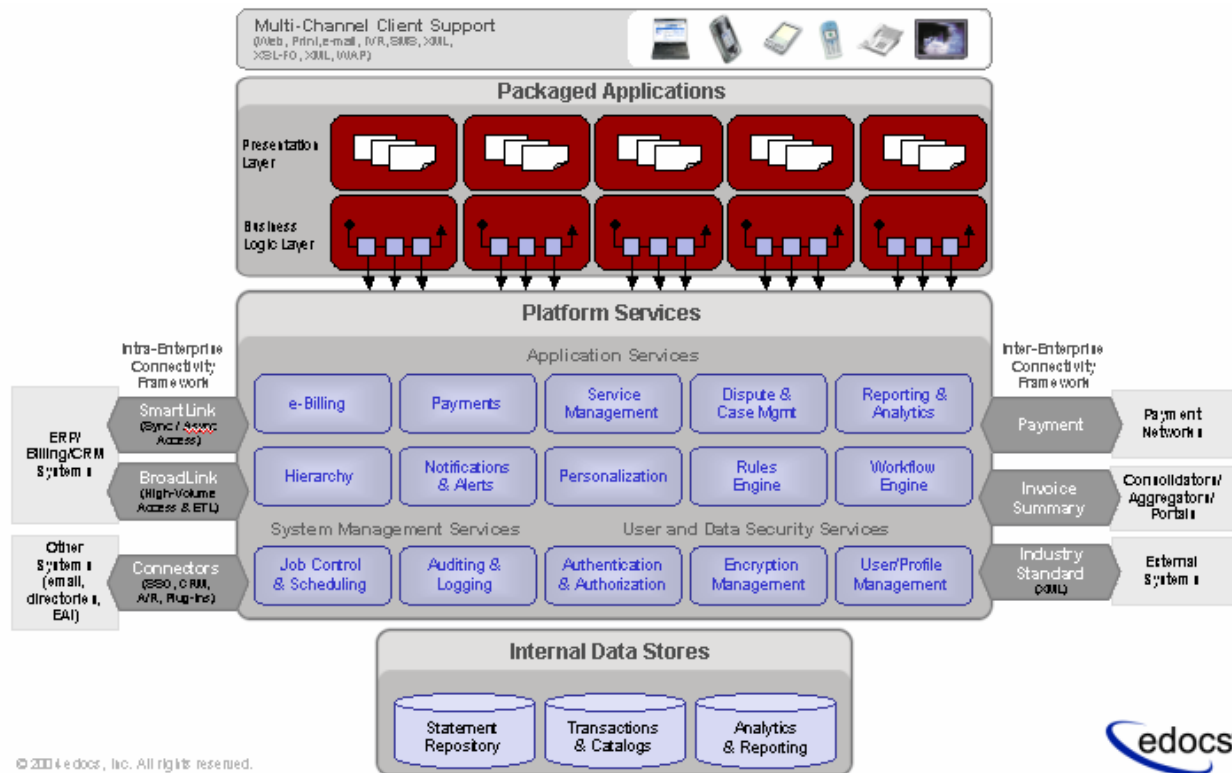
Ref	Flow	Email Templates
10	Payment Failure Notification	From: admin@Siebel.com Sent: 25 August 2004 04:45 PM To: <xsl:value-of select="user"/> Subject: Payment Failure Notification Dear <xsl:value-of select="user"/>, This email is to notify you that your online payments have failed for the following accounts. <xsl:for-each select="acct"> Account number is: <xsl:value-of select="number"/> Amount is: <xsl:value-of select="dueamount"/> </xsl:for-each> Additional details are not available in this message. Please continue visiting <http://localhost:7001/tbm> This is an automatically generated email. Please do not reply to this email address.
11	Payment Threshold Reached	From: admin@Siebel.com Sent: 25 August 2004 04:45 PM To: <xsl:value-of select="user"/> Subject: Payment Threshold Reached Dear <xsl:value-of select="user"/>, This email is to notify you that the due amount exceeds the threshold you set for automated payment for the following accounts. <xsl:for-each select="acct"> Account number is: <xsl:value-of select="number"/> Due Amount is: <xsl:value-of select="dueamount"/> Configured amount is: <xsl:value-of select="configamount"/> </xsl:for-each> Thank you for using online payment. Please continue visiting <http://localhost:7001/tbm> This is an automatically generated email. Please do not reply to this email address.

Ref	Flow	Email Templates
12	Credit Card Expiration Reminder	From: admin@Siebel.com Sent: 25 August 2004 04:45 PM To: <xsl:value-of select="user"/> Subject: Credit Card Expiration Reminder Dear <xsl:value-of select="user"/>, This email is to remind you that your credit card accounts used for online payments are about to expire. <xsl:for-each select="acct"> Credit card number: <xsl:value-of select="number"/> Expiration date: <xsl:value-of select="expdate"/> </xsl:for-each> Thank you for using online payment. Please continue visiting <http://localhost:7001/tbm> This is an automatically generated email. Please do not reply to this email address.

4 External Interfaces

Overview of Integration Points

The following diagram illustrates the Communications Billing Manager's extensible, multi-channel architecture:



The external interfaces are shown eXtensible Multi-channel Architecture (XMA) diagram, above.

These components are customized through the configuration and generation of lower level components within a J2EE infrastructure, including JSP pages, HTML templates, JavaBeans, Struts action classes, Tiles, and Java-based batch processes.

The integration points, as shown in the System Context Diagram in Chapter 2, consist of:

- **Billing data files** – Generated by the billing system following the monthly billing cycle and transferred into an input directory on the IFS system.
- **Daily billing data files** – Generated by the A/R system on a daily basis to provide daily updates to customer accounts.
- **Payment data** – Generated by the system by a scheduled process and transferred to the payment processor.
- **Payment status data** – Generated by the payment processor and returned to the system.
- **A/R payments data** – Generated by the A/R system on processing customer payments.
- **A/R payments reconciliation file** – Generated by the system by a scheduled process and transferred to the A/R system.

Data Files

The Communications Billing Manager application can receive billing data in a variety of formats. The Siebel application can take print composition formats, raw billing table extracts and other well-structured legacy formats. This data is loaded into the Siebel application using a batch scheduling process that is configurable based on specified business rules.

ACH Files

Communications Billing Manager provides connections to payment networks. Real-time and batch interfaces to ACH, Credit Card, and proprietary networks using a cartridge based approach yields complete payment flexibility.

A/R Files

Communications Billing Manager integrates with your existing infrastructure, updating accounts receivable systems with remittance information, and supports reconciliation processes. Communications Billing Manager includes XML-based API's for integration into backend systems.

New Standards and Best Practices

Java 2 Enterprise Edition (J2EE) has become a standard platform for developing enterprise-class web-based solutions. It is well-suited for internet-based applications because it provides many of the underlying services such as the Java Servlet API (for servicing HTTP requests), EJB (for transaction processing), and Java Message Service (for messaging) among others.

J2EE is a more mature and robust technology and is complex. Internet application developers would fail to realize the many benefits promised by J2EE (such as reusability, extensibility, flexibility, scalability etc.) without having a solid understanding of the corresponding technology, and more importantly, a viable application framework upon which the solution is developed.

Siebel's Communications Billing Manager Architecture is the foundation upon which applications may exploit the J2EE design and development best practices.

One of the guiding principles for the Communications Billing Manager Architecture for web-based application is Jakarta Struts. Its architecture and its application to the Siebel suite of products are based on the MVC design pattern. It is a framework by which integrators may deploy web-based application at record speed, with greater re-usability and extensibility, better quality, and better performance.

References

Here are several sources of additional information on the technologies used in the Communications Billing Manager framework:

- The Jakarta Struts web site: <http://jakarta.apache.org/struts/>
- An article on using Struts1.1 features:
<http://www.onjava.com/pub/a/onjava/2002/10/30/jakarta.html?page=1>
- The book *Programming Jakarta Struts* by Chuck Cavaness
- An article explaining the synchronizer token concept:
<http://www.javaworld.com/javaworld/jvatips/jw-jvatip136.html>
- Four-part tutorial on Tiles:
http://www.onjava.com/pub/a/onjava/excerpt/progjakstruts_14/index1.html
http://www.onjava.com/pub/a/onjava/excerpt/progjakstruts_14/index2.html
http://www.onjava.com/pub/a/onjava/excerpt/progjakstruts_14/index3.html
http://www.onjava.com/pub/a/onjava/excerpt/progjakstruts_14/index4.html
- Log4j Web Site: <http://jakarta.apache.org/log4j/docs/index.html>
- Core J2EE Patterns: *Best Practices and Design Strategies* by Deepak Alur, John Crupi, Dan Malks

Background

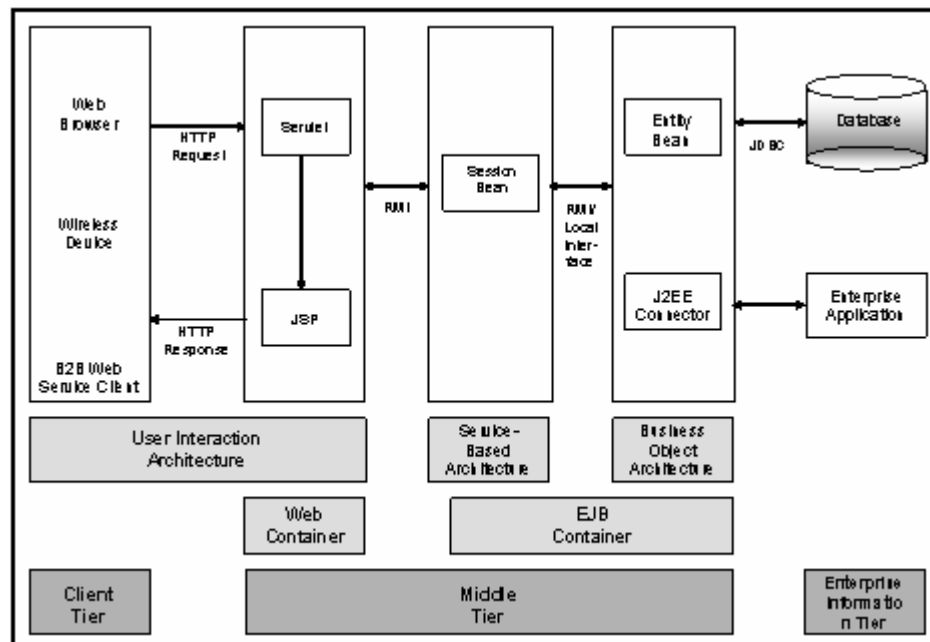
Many web-based applications today, especially those based on J2EE, can be described in terms of their tiers. The application's functionality is separated across these tiers, to provide separation of responsibility and to promote reusability, maintainability, improved scalability and many other benefits.

A brief overview of the J2EE architecture with its multi-tiered components gives the reader a basic understanding of the technology and also describes how the struts components map onto the J2EE application framework.

The J2EE Platform

The J2EE platform provides a component-based approach to implement a multi-tiered software architecture. The components that make up the architecture are executed in run-time environment called containers. Containers are used to provide infrastructure-type services such as memory management, transaction management, security etc. In a web-based environment, the majority of the software resides in two containers, the Web container and the EJB container, running inside of the application server.

The J2EE components are divided into 3 tiers as shown below:



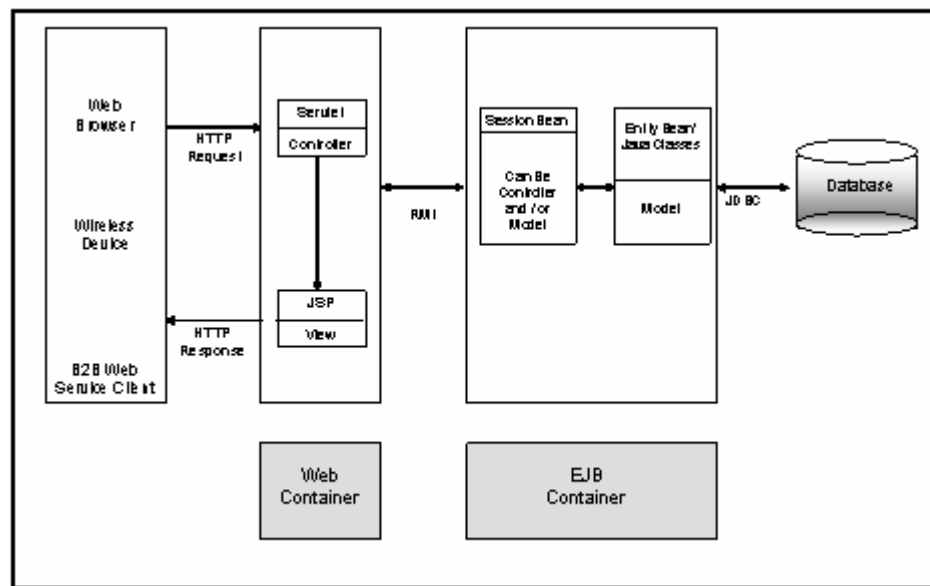
The function of the Web container is to process client requests and generate responses, while the function of the EJB container is to implement the business logic of the application.

The Model-View-Controller Approach

The Model 2 architecture is based on the Model-View-Controller design pattern. MVC is the cornerstone of web-based application development best practices. The patterns are defined as follows:

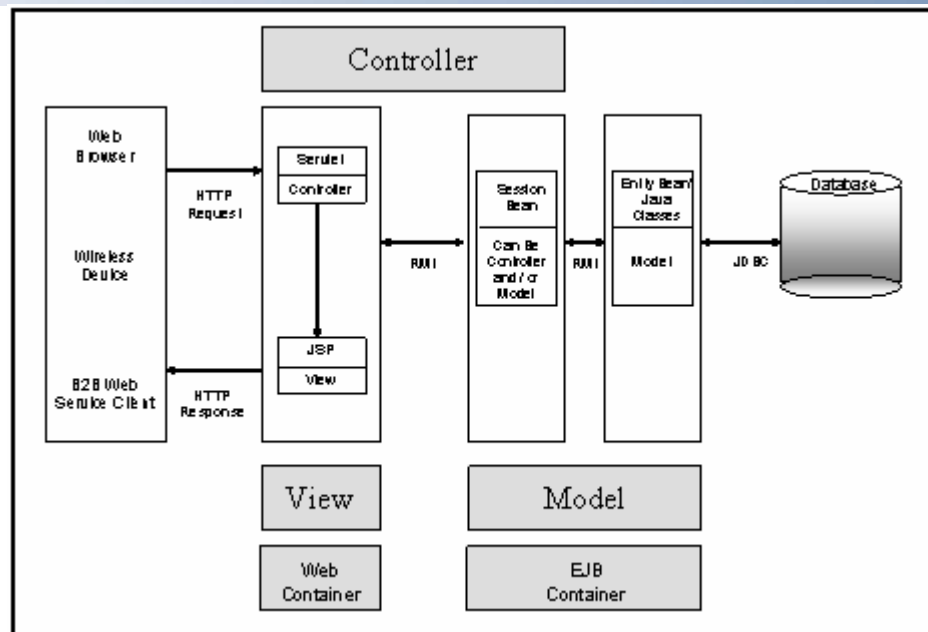
- **View:** The screen presented to the users
- **Controller:** The component that controls the flow and processing of user actions
- **Model:** The application business logic components

The figure below shows a complete picture of how objects in the MVC framework are mapped to the J2EE architecture:



It is important to note that MVC is only a software pattern and does not restrict where components live within the architecture. There are a number of variations of how the MVC pattern can be applied to web-based applications. As can be seen in the figure above, the Controller component can have different functions on the different tiers. A controller component in the Web tier can be used for processing HTTP requests such as form submissions and navigation links. Controller components on the EJB tier can control the flow of the application functionality.

Figure below shows one variation of the MVC pattern in a web-based application:



The Communications Billing Manager framework enables speedy deployment of web applications using the Siebel product line. Communications Billing Manager has been developed using the Jakarta Struts and Tiles frameworks.