Oracle Utilities Customer To Meter

Optional Products Installation Guide

Release 2.9.0.0.0

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Oracle Utilities Customer To Meter Optional Products Installation Guide

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Contents

Preface

Welcome to the Oracle Utilities Customer To Meter Optional Products Installation Guide.

This guide provides the instructions for installing and configuring optional products that can be used with Oracle Utilities Customer To Meter V2.9.0.0.0.

The preface includes:

Audience

This guide is intended for anyone who needs to install and configure optional products for Oracle Utilities Customer To Meter.

Related Documents

For more information, refer to these Oracle documents:

Installation Guides and Release Notes

- *Oracle Utilities Customer To Meter Release Notes*
- *Oracle Utilities Customer To Meter Quick Install Guide*
- *Oracle Utilities Customer To Meter Installation Guide*
- *Oracle Utilities Customer To Meter Database Administrator's Guide*
- *Oracle Utilities Customer To Meter Database Changes Guide*
- *Oracle Utilities Customer To Meter Optional Products Installation Guide*
- *Oracle Utilities Customer To Meter Licensing Information User Manual*

Administrative and Business User Guides

- *Oracle Utilities Customer To Meter Administrative User Guide*
- *Oracle Utilities Customer To Meter Business User Guide*

Supplemental Documents

- *Oracle Utilities Customer To Meter Server Administration Guide*
- *Oracle Utilities Customer To Meter Security Guide*

Updates to this Documentation

The complete Oracle Utilities Customer To Meter documentation set is available from Oracle Help Center at https://docs.oracle.com/en/industries/utilities/index.html.

Visit My Oracle Support for additional and updated information about the product.

Conventions

The following text conventions are used in this document:

Convention	Meaning
boldface	Boldface type indicates graphical user interface elements associated with an action, or terms defined in text or the glossary.
italic	Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values.

Convention	Meaning
`monospace`	Monospace type indicates commands within a paragraph, URLs, code in examples, text that appears on the screen, or text that you enter.

Acronyms

The following acronyms and terms are used in this document:

Term	Description
C2M	Oracle Utilities Customer To Meter
OUAF	Oracle Utilities Application Framework
MDM	Oracle Utilities Meter Data Management
BI	Business Intelligence

Additional Resources

Additional and updated information about the product is available on My Oracle Support.

Chapter 1

Overview

This chapter provides an overview of the optional products available for Oracle Utilities Customer To Meter, including:

- Optional Products for Oracle Utilities Customer To Meter
- What is this book?

Optional Products for Oracle Utilities Customer To Meter

The following optional products can be used with Oracle Utilities Customer To Meter:

- Oracle Analytics Publisher
- Oracle Documaker

What is this book?

This book describes the installation and configuration of optional products for Oracle Utilities Customer To Meter, including the following:

- Overview (this chapter) provides an overview of the optional products used with Oracle Utilities Customer To Meter.
- Configuring Reports for Oracle Analytics Publisher discusses the reporting features of the Oracle Analytics Publisher software that can be used by Oracle Utilities Customer To Meter.
- Additional Products discusses other software products, including Oracle Documaker.
- Receipt Printing describes how to configure Oracle Utilities Customer To Meter to support integration with a Point of Sale (POS) printer.

Chapter 2

Configuring Reports for Oracle Analytics Publisher

This chapter describes the steps required to configure Oracle Utilities Customer To Meter and Oracle Analytics Publisher to support a reporting solution that uses Oracle Analytics Publisher, including:

- Supported Analytics Publisher Versions
- Installing Oracle Analytics Publisher Enterprise
- Sample Reports Supplied with the Product

Supported Analytics Publisher Versions

At the time of release the supported versions for Oracle Utilities Customer To Meter are:

- **Windows:** Analytics Publisher 12c (12.2.1.4.0)
- **Unix:** Analytics Publisher 12c (12.2.1.4.0)

Installing Oracle Analytics Publisher Enterprise

Oracle Analytics Publisher Enterprise provides the tools for:

- Making reports available over the web (establishing the required report server processes)
- Integrating reports with the Oracle Utilities Customer To Meter system
- Scheduling reports to run on a regular basis
- Managing instances of the reports that have been created by a previous run
- Managing user access to the report instances

This section assumes that you have already installed Oracle Analytics Publisher Enterprise such that requests can be pointed to the Oracle Analytics Publisher Enterprise running on Windows or Unix.

> **Note:** Images Do Not Generate Properly Without X Server in Unix version of Analytics Publisher. If you are running the Analytics Publisher server on a Linux or Unix machine that does not have an X Server installed reports that contain images may not be properly generated. Workaround: Specify the following property at the java command line:
>
> `-Djava.awt.headless=true`

Sample Reports Supplied with the Product

The system provides several sample reports that may be used by your organization as a starting point for creating a new report. The following sections provide instructions on how to set up your implementation environment to use the sample reports.

> Refer to the **Reports** chapter of the Oracle Utilities Customer To Meter online documentation or a description of each sample report.

If you would like to use any of the sample reports, you need to perform some steps to be able to execute them in an implementation environment. This section walks you through the steps needed, including:

- Oracle Functions and Packages
- Unzipping Oracle Utilities Customer To Meter Report Files
- Publishing the Sample Reports in Oracle Analytics Publisher Enterprise
- Preparing Oracle Analytics Publisher Enterprise Server For integration
- Setting Up the Company Title and Logo

Oracle Functions and Packages

Each report has one or more corresponding database function, package that store the business logic to fetch the data from the database that is then presented in the report.

The prerequisite for Oracle Utilities Customer To Meter reports to work against the target database is setting up of a RPTUSER database user. This user should have read access to all Oracle Utilities Customer To Meter database objects and execution privilege on the stored procedures that the reports access.

The steps involved in setting up the RPTUSER are:

1. Create the RPTUSER.

   To create the RPTUSER (it doesn't exist), navigate to the Database\Oracle folder and edit the file CDX_rptuser.sql to match your requirements. The parameters in this file that need review are: password of the user, default and temporary tablespace names for the user.

   Now log into the target database as a DBA user using SQLPLUS and execute the script by entering following command at SQL prompt:

   ```
   SQL> @CDX_rptuser.sql
   ```

2. Create or refresh the Oracle functions and packages.

   Login to the target database as the user CISADM that owns Oracle Utilities Customer To Meter schema objects using SQLPLUS and execute the script CDX_rptfn.sql by entering the following command at the SQL prompt:

   ```
   SQL> @CDX_rptfn.sql
   ```

   ("SQL>" denotes the SQL prompt and doesn't need to be typed).

3. Compile the report function.

   ```
   SQL> @CDX_compfn.sql
   ```

4. Configure security.

   This involves generating synonyms in RPTUSER and granting it privileges to execute the stored procedures and read the Oracle Utilities Customer To Meter tables. The utility prompts you to answer for the following questions:

   - Enter the Oracle user that owns the schema (example: CISADM): **CISADM**
   - Enter the password for the CISADM user: **CISADM**
   - Enter the name of the Oracle Database: *Your_db*
   - Enter a comma-separated list of Oracle users in which synonyms need to be created (example: cisuser,cisread): **RPTUSER**

The utility runs and configures security for the Oracle Utilities Customer To Meter objects.

Unzipping Oracle Utilities Customer To Meter Report Files

The Reports files/folders are included in the C2M V29000 Installer, C2M-V2.9.0.0.0-MultiPlatform.jar. After decompressing the jar file (refer to the *Oracle Utilities Customer To Meter Installation Guide* for steps to decompress), the Reports files/folders are extracted to C2M.V2.9.0.0.0/data/reports.

> **Note:** By default, the reports provided are read only. You will need to reset the permissions on the files before making any changes, for example, to configure the default data source.

Publishing the Sample Reports in Oracle Analytics Publisher Enterprise

The installation media contains sample reports provided with the system. The report files are in the reports extract folder under ..\C2M-V2.9.0.0.0/data/reports/AnalyticsPublisher11g/reportFiles.

Install Oracle Analytics Publisher Enterprise. This section assumes that you have already installed Oracle Analytics Publisher Enterprise.

> **Note:** If you install Oracle Analytics Publisher Enterprise in a location other than the default installation directory, adjust the path descriptions to match your actual install directories.

The first step you need to take in order to use any of the samples is to publish the report in Oracle Analytics Publisher Enterprise. You need to create a folder in Oracle Analytics Publisher Enterprise named as defined on Reporting Options table in Oracle Utilities Customer To Meter and publish there report extracted to the reports extract folder.

Create a folder named C2M in the *BI_Repository_Path*\Reports folder. Copy all Oracle Analytics Publisher sample reports into the C2M folder.

> **Note:** To check for the location of your BI repository path, log in to the BI console as an Administrator and go to **Administration, Server Configuration.** If the repository type is File System, the path will be seen in Catalog region. If the repository type is not File System you cannot load the sample reports.

Refer to the Oracle Analytics Publisher Enterprise documentation for more information.

Preparing Oracle Analytics Publisher Enterprise Server For integration

The C2M Reporting Options Table should include the following information about Reporting Server and Folder:

Reporting Folder: C2M

Reporting Server: URL of reporting server

For example: http://sf-ugbu.splwg.com:9704

If you want to have a different name for your reporting folder, you can rename the C2M folder on the server and put the corresponding value on the Reporting options table.

Access Oracle Analytics Publisher Enterprise Server:

1. Access the Oracle Analytics Publisher Enterprise Server as Administrator.
2. On the **Admin** tab define a **JDBC Connection** section under **Data Sources**, and add a new data source using **Add Data Source**.

Create a new Data Source "C2M" with connection details pointing to the C2M database using the existing RPTUSER credentials.

3. Test the connection to make sure the database connection is successful.
4. Click **Apply** to save the changes.

To configure a new group in WebLogic:

1. Configure a group within WebLogic for Authentication called "BIConsumer".
2. Create an Application Role called "C2M Reports" to access the Oracle Analytics Publisher reports.
3. Associate the member "BIConsumer" with the "C2M Reports" Application Role.

The role will now be visible from within the Oracle Analytics Publisher Enterprise. Within Oracle Analytics Publisher Enterprise, for the Role Name C2M Reports you just created, click **Add Folders** to add the C2M sample reports to the Allowed Folders.

Do the same for Role Name C2M Reports. Click **Add Data Sources** to add the C2M data source to the Allowed Data Sources.

To include appropriate roles for Role Name C2M Reports, click **Add Role**.

To verify Sample Oracle Analytics Publisher reports on Server:

1. Login to Oracle Analytics Publisher Server as a user belonging to BIConsumers.
2. Verify that all sample reports provided appear in the C2M folder.

Single-sign-on and more sophisticated security would need to be tailored to the specific implementation.

Setting Up the Company Title and Logo

The sample reports provided by the system use the company title that is defined on the **Messages** tab of the **Installation Options - Framework** page in Oracle Utilities Customer To Meter.

To set up the Company Logo:

1. Store the logo on the server and make a note of the relative path to the image.

   For example, you can store the logo in the BI Domain Home Directory. Check with your Oracle Analytics Publisher administrator for the location of that directory.

2. Open the report template in Microsoft Word and use the **Format Picture** dialog box to specify the alternative text for the image.

   The alternative text should be the directory path to the image. For example, if your logo, company_logo.gif, is in the logo folder in the home directory, the alternative text should be:

   ```
   /C2M.V2.9.0.0.0/data/reports/BIPublisher11g/logo/company_logo.gif
   ```

Oracle Utilities Customer To Meter User ID and Report Code

The Oracle Utilities Customer To Meter user ID and report Code are defined as the required parameter in every sample report. These parameters are hidden when report is submitted from Oracle Utilities Customer To Meter, but must be defined in the report.

Copying a Report Definition From the Demonstration Database

In order to use one of the sample reports in your Oracle Utilities Customer To Meter region, you must define the meta-data for the report. The demonstration database contains the report definition and all its related data for each sample report.

Refer to the **Reports** chapter in the *Oracle Utilities Customer To Meter Administrative User Guide* for instructions on how to copy any/all of the report definitions from the demonstration database to your implementation's database.

Adding Custom Layout to Existing Reports in Oracle Analytics Publisher

The layout of the sample reports have been created in Microsoft Word using Oracle Analytics Publisher Desktop 11g plug-in. Custom Layouts can be created in Oracle Analytics Publisher. The name of the Custom layout can be specified in the Report Definition: Customer Specific Font/Layout. Oracle Analytics Publisher will then use this custom layout when the report is invoked from Oracle Utilities Customer To Meter.

Chapter 3

Additional Products

This chapter describes how you can install and integrate Oracle Utilities Customer To Meter with Oracle Documaker or DOC1. It includes:

- Using Oracle Documaker
- Using DOC1

Using Oracle Documaker

Oracle Documaker enables Adobe's Portable Document Format (PDF) to be used for on-line viewing and Internet delivery of on-line bills and other documents.

This section describes how Oracle Utilities Customer To Meter can be integrated with Documaker to allow Bills, Letters, Statements, Field Orders and Quotes to be viewed online.

The facility requires the Documaker software to already be installed. It can be licensed separately and downloaded from Oracle eDelivery (http://edelivery.oracle.com/).

The section includes:

Supported Documaker Versions

At the time of release the supported versions for Oracle Utilities Customer To Meter are:

Windows: Documaker 12.7

Linux: Documaker 12.7

Java Requirements for Documaker

To set up the required Java version for Documaker:

1. Make sure that the appropriate Java JRE 32-bit version 1.8 (Linux, AIX, Windows) or Java JRE 32-bit version 1.7 (Solaris) is installed on the target environment.
2. Add the directory path to the JRE directories in the server's library path environment variable.
    - The library path is LD_LIBRARY_PATH for Solaris and Linux, and LIBPATH for AIX.
    - The path should also contain the libjvm.so DSO specific path. You may need to use a very specific path. See the following example:

    If your current LD_LIBRARY_PATH contains:

    ```
    /a01/documaker/jre/jdk1.8.0_40/jre/lib
    ```

    Add additional values as shown (in bold) in the example below. The order is important.

    ```
    LD_LIBRARY_PATH=/a01/documaker/bin/lib:/a01/documaker/bin:/a01/
    documaker/jre/jdk1.8.0_40/jre/lib/i386/server:/a01/documaker/
    jre/jdk1.8.0_40/jre/lib:/a01/documaker/jre/jdk1.8.
    ```

Note: For native WebLogic setup, LD_LIBRARY_PATH should be added to the WebLogic's script, setDomainEnv.sh.

Supported Oracle Documaker Reports

The following Documaker online reports are supported for this release of C2M:

- C1-BL-DISP: Creates a PDF of bill image by calling Documaker.
- C1-QT-DISP: Creates a PDF of quote image by calling Documaker.
- C1-LT-DISP: Creates a PDF of letter image by calling Documaker.
- C1-ST-DISP: Creates a PDF of statement image by calling Documaker.
- C1-FO-DISP: Creates a PDF of field order image by calling Documaker.

Installing and Integrating Documaker Templates with Oracle Utilities Customer To Meter

Follow this process to integrate the supplied Documaker templates with your Oracle Utilities Customer To Meter installation and to configure your system:

1. Login to the target server hosting the environment that you are setting up for online image display.
2. Initialize the target environment:

   UNIX

   ```
   $SPLEBASE/bin/splenviron.sh -e <SPLENVIRON>
   ```

   Windows

   ```
   %SPLEBASE%\bin\splenviron.cmd -e <SPLENVIRON>
   ```

3. Edit template files to include the following exact values:

   #> cat billdirfile.ini.template:

   ```
   ONLINE BILL HOST=@ONLINE_DISPLAY_HOME@
   ONLINE BILL TEMPLATE=@ONLINE_DISPLAY_HOME@@DIRSEP@C2M (Replace
   AppFiles with C2M)
   BILL EXTRACT PATH=@SPLOUTPUT@@DIRSEP@
   BILL IMAGE PATH=@SPLEBASE@@DIRSEP@splapp@DIRSEP@billView@DIRSEP@
   BILL IMAGE
   SCRIPT=@ONLINE_DISPLAY_HOME@@DIRSEP@C2M@DIRSEP@@DOC1BILLSCRIPT@
   URL PREFIX=/@WEB_CONTEXT_ROOT@/billView/
   ```

   #> cat doc1dirfile.ini.template:

   ```
   ONLINE DOC HOST=@ONLINE_DISPLAY_HOME@
   ONLINE DOC TEMPLATE=@ONLINE_DISPLAY_HOME@@DIRSEP@C2M
   DOC EXTRACT PATH=@SPLOUTPUT@@DIRSEP@
   DOC IMAGE PATH=@SPLEBASE@@DIRSEP@splapp@DIRSEP@billView@DIRSEP@
   DOC IMAGE
   SCRIPT=@ONLINE_DISPLAY_HOME@@DIRSEP@C2M@DIRSEP@@DOC1SCRIPT@
   URL PREFIX=/@WEB_CONTEXT_ROOT@/billView/
   ```

4. Add the following entries to the WebLogic script setDomainEnv.sh.

   ```
   # Setup display bill ini file - DOCUMAKER 12.7
   BILLDISPINI=$SPLEBASE/etc/billdirfile.ini; export BILLDISPINI
   ```

```
DOCDISPINI=$SPLEBASE/etc/doc1dirfile.ini; export DOCDISPINI
ENVFILE=$SPLEBASE/etc/ENVIRON.INI; export ENVFILE
```

5. Declare the documaker base folder in the environment's ini file, $SPLEBASE/etc/ENVIRON.INI

   ```
   ONLINE_DISPLAY_HOME=/spl/documaker12.7# Documaker 12.7 base folder
   ```

6. Edit the ENVIRON.INI file to add the location of the JRE 1.8 directories in the server's library path as described above in Java Requirements for Documaker.
7. Initialize the environment to propagate the changes.

   ```
   $SPLEBASE/bin/initialSetup.sh
   ```

8. Re-select the environment in SPL Menu options or re-load the environment variables.

   ```
   $SPLEBASE/bin/splenviron.sh -e $SPLENVIRON
   ```

9. Run the initialSetup utility for the environment to generate the Oracle Utilities Customer To Meter related Documaker INI files.

   UNIX

   ```
   $SPLEBASE/bin/initialSetup.sh
   ```

   Windows

   ```
   %SPLEBASE%\bin\initialSetup.cmd
   ```

10. Stop and start the environment.
11. Copy the templates jar file (C2M-Unix.jar or C2M-Windows.jar) to a temporary folder on the target server. This folder is referred to as <TEMPDIR> in the instructions below. If you are using FTP to transfer the file to a UNIX server, remember to use the BINARY option for the FTP transfer.
12. Decompress the jar file. The example below is for Unix. For Windows decompress the C2M-Windows.jar.

    ```
    cd <TEMPDIR>
    jar -xvf C2M-Unix.jar
    ```

    The C2M folder will be extracted.

    Note: This release includes two Oracle Utilities Customer To Meter configurations for use with Documaker, one for flat file extracts and one for XML file extracts:

    - **12.7 Flat** supports the flat format extract file for Bills and other extracts like Statement, Field Order, Quote and Letter.
    - **12.7 XML** supports the XML format extract file for Bills, and flat files for the other extracts noted above.

13. If one does not already exist, create a folder C2M under the Documaker host directory <ONLINE_DISPLAY_HOME>. Copy the contents of the appropriate C2M folder in the <TEMPDIR> to the C2M directory Documaker host directory on the target application server (see the section **Software Requirements** in the *Oracle Utilities Customer To Meter Installation Guide* for installation location). It should be at the same level as FAP folder.

14. Make sure that the Oracle Utilities Customer To Meter Administrator user ID (typically cissys) has execute permissions to all files in the <ONLINE_DISPLAY_HOME>/FAP and <ONLINE_DISPLAY_HOME>/C2M folders.

Sample Directory Structure

Directory	Contents
<ONLINE_DISPLAY_HOME>/FAP	Documaker Binaries
<ONLINE_DISPLAY_HOME>/C2M	C2M templates and driver programs
<ONLINE_DISPLAY_HOME>/C2M/INPUT	C2M sample extracts
<ONLINE_DISPLAY_HOME>/C2M/DATA	C2M example PDFs

Sample Generated Ini File

The following files will be populated during the execution of the initialSetup utility:

billfiledirectory.ini

```
ONLINE BILL HOST=<ONLINE_DISPLAY_HOME>
ONLINE BILL TEMPLATE=<ONLINE_DISPLAY_HOME>/C2M
BILL EXTRACT PATH=<SPLOUTPUT>
BILL IMAGE PATH=<SPLEBASE>/splapp/billView/
BILL IMAGE SCRIPT=<ONLINE_DISPLAY_HOME>/C2M/_c2mPrint.sh
URL PREFIX=/spl/billView/
```

docfiledirectory.ini

```
ONLINE DOC HOST=<ONLINE_DISPLAY_HOME>
ONLINE DOC TEMPLATE=<ONLINE_DISPLAY_HOME>/C2M/
DOC EXTRACT PATH=<SPLOUTPUT>
DOC IMAGE PATH=<SPLEBASE> /splapp/billView/
DOC IMAGE SCRIPT=<ONLINE_DISPLAY_HOME>C2M/_c2mPrintDoc.sh
URL PREFIX=/spl/billView/
```

Documaker Integration

This section describes using Oracle Documaker to display Bills, Letters, Statements, Field Orders and Quotes. This section includes:

- Online Bill Display Components
- On-line Quote Display Components
- On-line Letter Display Components
- Statement Display Components
- On-line Field Order Display Components

Online Bill Display Components

The online bill display process requires the following components:

Plug-in Spot: Installation - Online Bill Display

The plug-in spot is used to generate a Bill Image.

Algorithm Type: Create PDF of bill image by calling Documaker (C1-BL-DISP)

An algorithm based on algorithm type C1-BL-DISP (CIPBBLDX) for online bill display using Documaker is triggered when the Display Bill action button on the Bill Maintenance window is invoked. This algorithm is responsible for calling the bill extract program and passing the bill information flat file to the Bill Image Generator script to create a bill image in PDF format. The URL of this PDF file is then returned to the client browser, which renders the bill image.

To make this program flexible, its configurable parameters are stored in an INI file. The full path of the INI file is defined by the BILLDISPINI environment variable.

This program utilizes the INI file to determine the target location for the bill extract program and the location of the bill image generator script (see below).

To activate this algorithm, within the application the following steps have to be executed by someone having access to the admin tables, that knows how to set-up and define algorithms. (See also the Business Process Guide on Algorithms)

1. Create an algorithm with the following values:
    - Algorithm code: CM-BL-DISP
    - Description: Online Bill Display
    - Algorithm Type: C1-BL-DISP
    - Parameter
    - Bill Route Type
2. In the Oracle Utilities Customer To Meter Application, navigate to the Installation Algorithm screen and add an Installation Algorithm with the following values (this will create a row on the CI_INSTALL_ALG table):
    - INS_ALG_ENTITY_FLG: ONBD
    - SEQ_NUM: 1
    - ALG_CD: CM-BL-DISP
    - VERSION: 1

Bill Image Generator Script

The Bill Image Generator script _c2mPrint.sh or _c2mPrint.cmd is invoked by the bill print extract algorithm. The call parameters are based on the contents of the billfiledirectory.ini file identified through the BILLDISPINI environment variable. This script validates the input parameters passed to it, sets the environment variables for input file, output file and log file and calls the main driver BillRun.sh /BillRun.cmd. The driver file will in turn call the Oracle Documaker scripts. The output from this process as well as the PDF file are placed in the appropriate directory from the billfiledirectory.ini file where it can be picked up by the application and displayed in the user's browser (usually $SPLEBASE/splapp/billView or %SPLEBASE%\splapp\billView folder).

The path for the input and output files is specified in the fsisys.ini file and Documaker reads the INI file option values in lower case. There will be an error in UNIX if the path for the input/output files has directory/file names not in lower case. To avoid this error, the input file will be copied to an intermediate file with the input file name in lower case in documaker/12.7/12.7-Flat/C2M/data folder and documaker/12.7/12.7-XML/C2M/data folder, and the output file from the same data folder will be copied to the original output directory specified in the billfiledirectory.ini file.

BILLDISPINI environment variable

The full path location of the billfiledirectory.ini is contained in the BILLDISPINI environment variable (typically <SPLEBASE>/etc directory).

The billfiledirectory.ini File

The billfiledirectory.ini file is used by the Bill Print Algorithm to render the bill image.

The INI file contains the following externalized parameters:

- ONLINE BILL HOST=<Oracle Documaker Host Path>: This parameter defines where Oracle Documaker is installed. Value typically <DOCHOSTDIR> (note that FAP will be a subfolder)
- ONLINE BILL TEMPLATE=<Oracle Documaker Template Path>: This parameter defines the location of Oracle Documaker's template. Value typically <DOCHOSTDIR>/C2M
- BILL EXTRACT PATH=<Bill Extract Output Path>: This parameter defines the location where the bill print extract program creates its flat file output. Value Typically <SPLOUTPUT>
- BILL IMAGE PATH=<Full PDF Path>: This parameter defines the location where Documaker creates the bill image PDF file. Value typically <SPLEBASE>/splapp/billView The Documaker log files for a specific report is also in this directory.
- BILL IMAGE SCRIPT= <Bill Image Generator Script with full path>: This parameter defines the location of the script that invokes Oracle Documaker to generate the PDF file from the extract file. <DOCHOSTDIR>/C2M/ _c2mPrint.sh or _c2mPrint.cmd
- URL PREFIX=<URL Prefix>: This parameter defines the prefix that will be affixed to the PDF filename in order to compose its full URL when displayed. This value dependant on the application middleware (WebLogic, WebSphere)

On-line Quote Display Components

Plug-in Spot: Installation - Online Quote Display

The plug-in spot is used to generate a Quote Image.

Algorithm Type: Create PDF of Quote image by calling Documaker (C1-QT-DISP)

An algorithm based on algorithm type C1-QT-DISP (CIPCQTDX) for on-line quote display using Documaker is triggered when the Display Quote action button on the Quote Maintenance window is invoked. This algorithm is responsible for calling the quote extract program and passing the quote information flat file to the Document Image Generator script to create a quote image in PDF format. The URL of this PDF file is then returned back to the client browser, which renders the quote image.

To make this program flexible, its configurable parameters are stored in an INI file. The full path of the INI file is defined by the DOCDISPINI environment variable.

This program utilizes the INI file to determine the target location for the quote extract program and the location of the document image generator script (see below).

To activate this, a new algorithm of this type should be created and should be plugged from the Installation Options.

Document Image Generator Script

The Document Image Generator script _c2mPrintDoc.sh or _c2mPrintDoc.cmd is invoked by the various document extract algorithms. The call parameters are based on the contents of the docfiledirectory.ini file identified through the DOCDISPINI environment variable. This script validates the input parameters passed to it, sets the environment variables for input file, output file and log file and calls the main driver depending on the document type. The driver file will in turn call the Oracle Documaker scripts. The output from this process as well as the PDF file are placed in the appropriate directory from the docfiledirectory.ini file where it can be picked up by the application and displayed in the user's browser (usually $SPLEBASE/splapp/billView or %SPLEBASE%\splapp\billView folder).

The path for the input and output files is specified in the fsisys.ini file and Documaker reads the INI file option values in lower case. There will be an error in UNIX if the path for the input/output files has directory/file names not in lower case. To avoid this error, the input file will be copied to an intermediate file with the input file name in lower case in documaker/12.7/12.7-Flat/C2M/data folder and documaker/12.7/12.7-XML/C2M/data folder, and the output file from the same data folder will be copied to the original output directory specified in the docfiledirectory.ini file.

DOCDISPINI environment variable

The full path location of the docfiledirectory.ini is contained in the DOCDISPINI environment variable (typically <SPLEBASE>/etc directory).

The docfiledirectory.ini File

The docfiledirectory.ini file is used by the various Document Print Algorithms to render the document image.

The INI file contains the following externalized parameters:

- ONLINE DOC HOST=<Oracle Documaker Host Path>: This parameter defines where Oracle Documaker is installed. Value typically <DOCHOSTDIR> (note that FAP will be a subfolder)
- ONLINE DOC TEMPLATE=<Oracle Documaker Template Path>: This parameter defines the location of Oracle Documaker's template. Value typically <DOCHOSTDIR>/C2M
- DOC EXTRACT PATH=<Document Extract Output Path>: This parameter defines the location where the various document print extract programs create their flat file output. Value Typically <SPLOUTPUT>
- DOC IMAGE PATH=<Full PDF Path>: This parameter defines the location where Documaker creates the document image PDF file. Value typically <SPLEBASE>/splapp/billView The Documaker log files for a specific report is also in this directory.
- DOC IMAGE SCRIPT= <Document Image Generator Script with full path>: This parameter defines the location of the script that invokes Oracle Documaker to generate the PDF file from the extract file. <DOCHOSTDIR>/C2M/_c2mPrintDoc.sh or _c2mPrintDoc.cmd
- URL PREFIX=<URL Prefix>: This parameter defines the prefix that will be affixed to the PDF filename in order to compose its full URL when displayed. This value dependant on the application middleware (WebLogic, WebSphere).

On-line Letter Display Components

Plug-in Spot: Installation - Online Letter Image
The plug-in spot is used to generate a Letter Image.

Algorithm Type: Create PDF of Letter image by calling Documaker (C1-LT-DISP)
An algorithm based on algorithm type C1-LT-DISP (CIPCLTDX) on-line letter display using Documaker is triggered when the Display Letter action button on the Customer Contact Maintenance window is invoked. This algorithm is responsible for calling the letter extract program and passing the letter information flat file to the Document Image Generator script to create a letter image in PDF format. The URL of this PDF file is then returned back to the client browser, which renders the letter image.

To make this program flexible, its configurable parameters are stored in an INI file. The full path of the INI file is defined by the DOCDISPINI environment variable.

This program utilizes the INI file to determine the target location for the letter extract program and the location of the document image generator script.

To activate this, a new algorithm of this type should be created and should be plugged from the Installation Options.

Statement Display Components

Plug-in Spot: Installation - Online Statement Image
The plug-in spot is used to generate a Statement Image.

Algorithm Type: Create PDF of Statement image by calling Documaker (C1-ST-DISP)
An algorithm based on algorithm type C1-ST-DISP (CIPBSTDX) for on-line Statement display using Documaker is triggered when the Display Statement action button on the Statement Maintenance window is invoked. This algorithm is responsible for calling the Statement extract program and passing the Statement information flat file to the Document Image Generator script to create a Statement image in PDF format. The URL of this PDF file is then returned back to the client browser, which renders the Statement image.

To make this program flexible, its configurable parameters are stored in an INI file. The full path of the INI file is defined by the DOCDISPINI environment variable.

This program utilizes the INI file to determine the target location for the Statement extract program and the location of the document image generator script.

To activate this, a new algorithm of this type should be created and should be plugged from the Installation Options.

On-line Field Order Display Components

Plug-in Spot: Installation - Online Field Order Image
The plug-in spot is used to generate a Field Order Image.

Algorithm Type: Create PDF of Field Order image by calling Documaker (C1-FO-DISP)
An algorithm based on algorithm type C1-FO-DISP (CIPOFODX) for on-line Field Order display using Documaker is triggered when the Display Field Order action button on the Field Order Maintenance window is invoked. This algorithm is responsible for calling the Field Order extract program and passing the Field Order information flat file to the Document Image Generator script to create a Field Order image in PDF format.

The URL of this PDF file is then returned back to the client browser, which renders the Field Order image.

To make this program flexible, its configurable parameters are stored in an INI file. The full path of the INI file is defined by the DOCDISPINI environment variable.

This program utilizes the INI file to determine the target location for the Field Order extract program and the location of the document image generator script.

To activate this, a new algorithm of this type should be created and should be plugged from the Installation Options.

Examples provided

Examples to test the installation, infrastructure are provided in the following directory:

/C2M/input/examples

Review the sample scripts samplebill.sh/.cmd to generate an online bill without the GUI and sampleletr.sh/.cmd for online letters.

The generated PDF file will be created in .../C2M/data folder. The output from the Oracle Documaker generation process will also be copied to this directory.

Using DOC1

Oracle Utilities Customer To Meter provides support for Pitney Bowes DOC1 for online/batch printing and online display, viewing of bills, letters, field orders, statements and quotes.

Please note that implementations can use either Oracle Documaker or DOC1 for their printing and display needs.

Supported DOC1 Version

At the time of release the supported version for Oracle Utilities Customer To Meter is:

Windows and Linux: DOC1 6.4.1.38

Prerequisite

Do not install DOC1 6.4.1.38 if Documaker 12.x already exists or installed on the same machine.

Configuring DOC1

1. Copy the Generate installer to DOC1 6.4.1.38 folder on the desired server.

   Download the DOC1 software from the Piney Bowes website.

2. Uncompress the files to designated Generate folder.

   Refer to folder hierarchy in UNIX:

   - <SPL_BASE_FOLDER>/doc1_v6.4 > AppFiles
   - <SPL_BASE_FOLDER>/doc1_v6.4 > generate

NOTE: Make sure you uncompress the contents under generate folder. Create the generate folder if does not exists.

UNIX:

```
cd <C2M_BASE_FOLDER>/doc1_v6.4/
unzip Generate_6.4Maint-lnx64-6.4.1.38.zip
cd "Generate Windows and UNIX 6.4 Maintenance 6.4.1.38"/lnx64/
cp -rp doc1lnx64host.tar <C2M_BASE_FOLDER>/doc1_v6.4/generate
cd <C2M_BASE_FOLDER>/doc1_v6.4/generate
tar xvf doc1lnx64host.tar
```

3. Uncompress using WinZip or 7zip to C:\spl\DOC1\generate.
4. Download the C2M configuration files from SVN and save it under DOC1 6.4.1.38 folder.

   AppFiles should be at the same folder level of generate folder. For example:

   UNIX:

   ```
   /scratch/C2M/doc1_v6.4/AppFiles
   ```

   Windows:

   ```
   C:\spl\DOC1\AppFiles
   ```

   NOTE: For Unix, make sure that you rename the AppFiles-Unix to AppFiles.

5. Make sure that FW_template_structure.xml under $SPLEBASE/structures has this entry.

   ```
   <billdirfile.ini.template>
   <dest_files>
   <dest_file_1>@SPLEBASE@/etc/billdirfile.ini</dest_file_1>
   </dest_files>
   </billdirfile.ini.template>
   <doc1dirfile.ini.template>
   <dest_files>
   <dest_file_1>@SPLEBASE@/etc/doc1dirfile.ini</dest_file_1>
   </dest_files>
   </doc1dirfile.ini.template>
   ```

6. Make sure that these two template files exists under $SPLEBASE/etc folder.

   ```
   billdirfile.ini.template
   doc1dirfile.ini.template
   ```

7. Make sure that the above templates files have the exact value.

   ```
   #> cat billdirfile.ini.template
   ONLINE BILL HOST=@ONLINE_DISPLAY_HOME@
   ONLINE BILL TEMPLATE=@ONLINE_DISPLAY_HOME@@DIRSEP@AppFiles
   BILL EXTRACT PATH=@SPLOUTPUT@@DIRSEP@
   BILL IMAGE PATH=@SPLEBASE@@DIRSEP@splapp@DIRSEP@billView@DIRSEP@
   BILL IMAGE
   SCRIPT=@ONLINE_DISPLAY_HOME@@DIRSEP@AppFiles@DIRSEP@@DOC1BILLSCRIP
   T@
   URL PREFIX=/@WEB_CONTEXT_ROOT@/billView/

   #> cat doc1dirfile.ini.template
   ONLINE DOC HOST=@ONLINE_DISPLAY_HOME@
   ONLINE DOC TEMPLATE=@ONLINE_DISPLAY_HOME@@DIRSEP@AppFiles
   DOC EXTRACT PATH=@SPLOUTPUT@@DIRSEP@
   ```

```
DOC IMAGE PATH=@SPLEBASE@@DIRSEP@splapp@DIRSEP@billView@DIRSEP@
DOC IMAGE
SCRIPT=@ONLINE_DISPLAY_HOME@@DIRSEP@AppFiles@DIRSEP@@DOC1SCRIPT@
URL PREFIX=/@WEB_CONTEXT_ROOT@/billView/
```

8. Make sure that the entries below are added to the WebLogic script setDomainEnv.sh.

```
# Setup display bill ini file - DOC1
ONLINEBILLINI=$SPLEBASE/etc/billdirfile.ini; export ONLINEBILLINI
ONLINEDOCINI=$SPLEBASE/etc/doc1dirfile.ini; export ONLINEDOCINI
ENVFILE=$SPLEBASE/etc/ENVIRON.INI; export ENVFILE
```

9. Declare the DOC1 6.4.1.38 base folder in the environment's ini file, $SPLEBASE/etc/ENVIRON.INI.

```
ONLINE_DISPLAY_HOME=/scratch/C2M/doc1_v6.4# DOC1 6.4.1.38 base
folder
```

10. Create the billView folder under $SPLEBASE/splapp

```
#> mkdir billView
#> chmod 777 billView
```

11. Update the license code of DOC1 6.4.1.38, keycode.ops, located under $DOC1HOSTDIR/AppFiles. (Example: /scratch/C2M/doc1_v6.4/AppFiles)

```
Enter all necessary information.
#> vi keycode.ops
```

    Note: License code is different for each OS platform.

12. Initialize the environment to propagate the changes:

```
#> $SPLEBASE/bin/initialSetup.sh
#> %SPLEBASE%\bin\initialSetup.cmd
```

13. Reselect the environment in SPL Menu options or re-load the environment variables.

```
#> $SPLEBASE/bin/splenviron.sh -e $SPLENVIRON
```

14. Restart the Oracle Utilities Customer To Meter application/environment.

```
#> spl.sh -a stop
#> spl.sh -a start
```

Chapter 4

Receipt Printing

This chapter describes how to configure Oracle Utilities Customer To Meter to support integration with a Point Of Sale (POS) printer for printing of receipts related to the following payment transactions:

- Payment Event
- Payment Event Quick Add
- Payment Quick Add

Refer to the *Oracle Utilities Customer To Meter Business User Guide* for more information about these payment transactions.

Configuration to support this functionality includes:

- Oracle Utilities Customer To Meter Configuration
- Printer Installation
- Recommended Printer Preferences

Notes:

- The instructions in this document are based on a specific sample printer, the Epson TM-H6000IV USB POS printer.

Oracle Utilities Customer To Meter Configuration

Configuration of Oracle Utilities Customer To Meter includes the following:

- Configuring the Point of Sale Printer Integration Master Configuration
- Configuring UI Maps and BPA Scripts

Configuring the Point of Sale Printer Integration Master Configuration

To enable printing from the three payment transactions, you must define the following in the Point of Sale (POS) Printer Integration (C1-PointOfSaleIntegConfig) master configuration:

- **Company Name:** Printed at the top of payment receipts.
- **Company Premise**: Used as the source of the company address that is printed at the top of payment receipts.
- **Payment Receipt and Endorsement Messages**: Configure up to 20 payment receipt messages and 10 endorsement messages. Define the messages under an Implementer's Message message category - either 90000 or 80000.
- **BPA scripts** to launch the **Print** dialog from each type of transaction. The base product provides three sample BPA scripts (one for each payment transaction that supports printing) and corresponding sample BPA scripts:

Processing Type	Sample BPA Script
POS Printing - Payment Event	Payment Event Print (C1-PyEvtPrt)
POS Printing - Payment Event Quick Add	Payment Event Quick Add Print (C1-PyEvQAPrt)
POS Printing - Payment Quick Add	Payment Quick Add Print (C1-PyQAPrt)

Define a BPA script for each of the processing types you want to support.

> **Note**: If your implementation has existing receipt and endorsements messages configured on the Installation record and/or Company Name defined in the override text of message (11,99901), the Update Point Of Sale Printer Configuration (C1-UPPSC) plugin-driven batch process can be run to copy this data into this master configuration. Refer to the C1-UPPSC batch control and its related algorithms for more information.

Configuring UI Maps and BPA Scripts

The BPA scripts referenced on the Master Configuration each reference a UI map that's used to define the print dialog box and to compose the information that is printed on the payment receipt, check endorsement and stub. The base product provides sample UI maps for each of the sample BPA scripts listed above.

Sample BPA Script	Sample UI Map
Payment Event Print (C1-PyEvtPrt)	Payment Event Print Control (C1-PaymentEventPrint)
Payment Event Quick Add Print (C1-PyEvQAPrt)	Payment Event Quick Add Print (C1-PaymentEventQuickAddPrint)
Payment Quick Add Print (C1-PyQAPrt)	Payment Quick Add Print (C1-PmtQuickAddPrint)

The UI maps mentioned in the table above are designed for local USB point-of-sale printers. This approach differs from previous base samples that were designed for network printing. Note that the prior sample UI maps and BPA scripts will no longer be enhanced starting with this release.

The latest UI map samples print additional payment receipt information related to the: company, cashiering station, payment, tender and the payee. Refer to the UI map in the application for more details.

If your implementation requires additional information to be printed and/or certain information to be composed/printed differently, the sample UI maps and the referencing BPA scripts should be copied and configured accordingly.

Printer Installation

The following printer installation instructions are specific to the Epson TM-H6000IV USB printer that was used to code and test the sample UI maps. If using a different printer brand or model, refer to your printer's installation instructions.

1. Download the printer driver from the manufacturer's site.

   For Epson TM-H6000IV, the location is: https://epson.com/Support/Point-of-Sale/Hybrid-Printers/Epson-TM-H6000IV-with-Validation/s/SPT_C31CB25A8791?review-filter=Windows+10+64-bit

2. In the **InstallShield Wizard**, click **Next**.
3. Accept the terms of the license agreement and click **Next**.
4. Select **Minimum** install and click **Next**.
5. Add the drivers for **Receipt and Endorsement**. Click **Add** for each driver.
6. The available drivers are shown. Look for the **TM-6000IV Receipt** driver to add and click **Next**.
7. Click **Add** again and search for the **TM-6000IV Endorsement** driver. Click **Next**.
8. The download begins. After the drivers are installed and configured successfully, click **Finish**.

Recommended Printer Preferences

To get the best print quality on check endorsements, stubs and payment receipts, the following browser printer preferences are recommended.

- Printer Preferences for Endorsements and Stubs
- Printer Preferences for Payment Receipts
- Browser Printer Settings

Printer Preferences for Endorsements and Stubs

The paper size and font should be reset as follows:

1. From **Settings**, navigate to **Printers and Scanners**. Select the **Endorsement** printer and click **Manage**.
2. Select **Printing Preferences**.
3. On the **Main** tab, set **Resolution** to the highest setting of 160 x 144.
4. Navigate to the **Layout** tab to change the paper size. The default size is 230 x 297 mm. From the **Paper Size** drop-down list, select **User Defined Paper Size**.
5. On the **User Defined Paper Size** window, change the **Paper Size Name** to '80 x 100 mm'. Set **Paper Width** to 80.00 and **Paper Length** to 100.00. Click **Save Paper Size** and click **OK**.
6. The **Layout** tab is displayed with **Paper Size** defaulting to the new paper size, 80 x 100 mm.
7. Navigate to the **Printer Settings** tab to change the font. Select the **True Font Type Substitution** which then displays the **Substitution** options.
8. Select **Substitute** and click **Advanced Settings**.
9. On the **Font Substitution** page, select **Substitute All**.
10. Click **Device Font Name** where the list of available fonts is shown. Select **FontA** and click **OK**.
11. Click **Apply** and then click **OK**.

Printer Preferences for Payment Receipts

No changes are need for the Receipt Printer.

To verify the proper paper size and resolution settings are set:

1. Navigate to **Settings**. Select **Receipt Printer** and click **Manage**.
2. Select **Printing Preferences**.
3. On the **Main** tab, verify that the **Resolution** is set to “180 x 180”. This is set by default.
4. Navigate to **Layout** tab and check that the paper size is set to “Roll Paper 80 x 297”.

Browser Printer Settings

The following is an example of a browser's **Print** dialog. Note that printer settings may slightly vary by browser.

- Firefox Print Settings
- Chrome Print Settings
- Edge Print Settings

Firefox Print Settings

Receipts

Printer Destination: EPSON TM-H6000IV Receipt

Orientation: Portrait

Paper Sixe: Roll Paper 80 x 297 mm

Scale: Fit to Page

Margins: Minimum

Options: Do not select Print headers and footers or backgrounds. Leave both blank.

Endorsements

Printer Destination: EPSON TM-H6000IV Endorse

Orientation: Portrait (Endorsements) - Landscape (Stubs)

Paper Sixe: 80 x 100 mm

Scale: Fit to Page

Margins: Minimum

Options: Do not select Print headers and footers or backgrounds. Leave both blank.

> **Note**: Firefox has no print control setting for Quality as does Chrome and Edge. This makes a difference in the accuracy and quality of the print. There is still some information missing from the endorsement and stub and this is made worse by multiple endorsement messages defined on POS Master Configuration. The more endorsement messages to print on the endorsement, the more likelihood of the endorsement detail being either missing or garbled.

Chrome Print Settings

Receipts

Printer Destination: EPSON TM-H6000IV Receipt

Layout: Portrait

Paper Sixe: Roll Paper 80 x 297 mm

Scale: Fit to Page

Margins: Minimum

Options: Do not select Print headers and footers or backgrounds. Leave both blank.

Endorsements

Printer Destination: EPSON TM-H6000IV Endorse

Layout: Portrait (Endorsements) - Landscape (Stubs)

Paper Sixe: 80 x 100 mm

Quality: 160 x 144 dpi (Endorsements/Stubs only)

Scale: Fit to Page

Margins: Minimum

Options: Do not select Print headers and footers or backgrounds. Leave both blank.

Edge Print Settings

Receipts

Printer Destination: EPSON TM-H6000IV Receipt

Layout: Portrait

Paper Sixe: Roll Paper 80 x 297 mm

Scale: Actual Size 100

Margins: Minimum

Options: Do not select Print headers and footers or backgrounds. Leave both blank.

Endorsements

Printer Destination: EPSON TM-H6000IV Endorse

Layout: Portrait (Endorsements) - Landscape (Stubs)

Paper Sixe: 80 x 100 mm

Quality: 160 x 144 dpi (Endorsements/Stubs only)

Scale: Actual Size 100

Margins: Minimum

Options: Do not select Print headers and footers or backgrounds. Leave both blank.

When you are ready to print a receipt, endorsement or stub, select the appropriate printer from the **Print** drop-down list.

Also, pay close attention to **Orientation/Layout** depending on printing Receipts, Endorsement and Stubs.

- Select the **Receipt** printer to print long, short and duplicate receipts.
- Select the **Endorse** printer to print endorsements and stubs