

# **Oracle Utilities Customer Care and Billing**

Optional Products Installation Guide

Release 2.7.0.3

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Oracle Utilities Customer Care and Billing Optional Products Installation Guide, Release 2.7.0.3

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# Preface

Welcome to the Oracle Utilities Customer Care and Billing Optional Products Installation Guide.

This guide provides the instructions for installing and configuring optional products that can be used with Oracle Utilities Customer Care and Billing.

## Audience

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

## Related Documents

For more information, refer to these Oracle documents:

### **Installation Guides and Release Notes**

- *Oracle Utilities Customer Care and Billing Release Notes*
- *Oracle Utilities Customer Care and Billing Quick Install Guide*
- *Oracle Utilities Customer Care and Billing Installation Guide*
- *Oracle Utilities Customer Care and Billing Database Administrator's Guide*
- *Oracle Utilities Customer Care and Billing Optional Products Installation Guide*
- *Oracle Utilities Customer Care and Billing Licensing Information User Manual*

### **Administrative and Business User Guides**

- *Oracle Utilities Customer Care and Billing Administrative User Guide*
- *Oracle Utilities Customer Care and Billing Business User Guide*

### **Supplemental Documents**

- *Oracle Utilities Customer Care and Billing Server Administration Guide*
- *Oracle Utilities Customer Care and Billing Security Guide*

## Updates to Documentation

Additional and updated information about the product is available from the Knowledge Base section of My Oracle Support (<http://support.oracle.com>). Please refer to My Oracle Support for more information.

Documentation updates are also posted on the Oracle Technology Network documentation page as they become available ([http://docs.oracle.com/cd/E72219\\_01/documentation.html](http://docs.oracle.com/cd/E72219_01/documentation.html)).

## Conventions

The following text conventions are used in this document:

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

Acronym	Definition
CCB	Oracle Utilities Customer Care and Billing
OUAF	Oracle Utilities Application Framework

## Additional Resources

For more information and support, visit the Oracle Support Web site at: <http://www.oracle.com/support/index.html>

# Chapter 1

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## Overview

This chapter provides an overview of the optional products available for Oracle Utilities Customer Care and Billing, including:

- [Optional Products for Oracle Utilities Customer Care and Billing](#)
- [Using this Guide](#)

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# Optional Products for Oracle Utilities Customer Care and Billing

The following optional products that can be used with Oracle Utilities Customer Care and Billing are described:

- Oracle BI Publisher
- Oracle Documaker

## Using this Guide

The chapters below explain the installation and configuration of optional products for Oracle Utilities Customer Care and Billing:

- [Chapter 1: Overview](#) (this chapter) provides an overview of the optional products used with Oracle Utilities Customer Care and Billing.
- [Chapter 2: Configuring Reports for Oracle BI Publisher](#) discusses the reporting features of the Oracle BI Publisher software that can be used by Oracle Utilities Customer Care and Billing.
- [Chapter 3: Additional Products](#) discusses other software products, including Oracle Documaker.
- [Chapter 4: Receipt Printing](#) describes configuration steps necessary to integrate Oracle Utilities Customer Care and Billing with a Point of Sale (POS) printer.

# Chapter 2

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## Configuring Reports for Oracle BI Publisher

This chapter focuses on the Oracle Utilities Customer Care and Billing and Oracle BI Publisher configuration to support a reporting solution that uses Oracle BI Publisher, including:

- [Supported BI Publisher Versions](#)
- [Installing Oracle BI Publisher Enterprise](#)
- [Sample Reports Supplied with the Product](#)

# Supported BI Publisher Versions

At the time of this release, the supported versions for Oracle Utilities Customer Care and Billing are:

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

## Installing Oracle BI Publisher Enterprise

Oracle BI 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 Care and Billing 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 BI Publisher Enterprise such that requests can be pointed to the Oracle BI Publisher Enterprise running on Windows or Unix.

**Note:** Images Do Not Generate Properly Without X Server in Unix version of BI Publisher. If you are running the BI 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.

For a description of each sample report, refer to the **Reports** chapter of the Oracle Utilities Customer Care and Billing online documentation.

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 Care and Billing Report Files](#)
- [Publishing Sample Reports in Oracle BI Publisher Enterprise](#)
- [Preparing Oracle BI Publisher Enterprise Server For integration](#)
- [Setting Up the Company Title and Logo](#)

- [Oracle Utilities Customer Care and Billing User ID and Report Code](#)
- [Adding Custom Layout to Existing Reports in BI Publisher](#)
- [Adding Custom Layout to Existing Reports in BI Publisher](#)

## 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 Care and Billing 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 Care and Billing 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 does not 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.

Log into the target database as the user CISADM that owns Oracle Utilities Customer Care and Billing schema objects using SQLPLUS and execute the CDX\_rptfn.sql script 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 Care and Billing 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 Care and Billing objects.

## Unzipping Oracle Utilities Customer Care and Billing Report Files

The Reports files/folders are included in the CCB V27030 Installer, CCB-V2.7.0.3-MultiPlatform.jar. After decompressing the jar file (refer to the *Oracle Utilities Customer Care and Billing Installation Guide* for steps to decompress), the Reports files/folders are extracted to CCB.V2.7.0.3/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 Sample Reports in Oracle BI Publisher Enterprise

The installation media contains sample reports provided with the system. The report files are in the reports extract folder under ..\CCB.V2.7.0.3\data/reports/ BIPublisher11g/reportFiles.

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

**Note:** If you install Oracle BI 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 BI Publisher Enterprise. You need to create a folder in Oracle BI Publisher Enterprise named as defined in the Reporting Options table in Oracle Utilities Customer Care and Billing and publish the report extracted to the reports extract folder.

Create a folder named CCB in the *BI\_Repository\_Path*\Reports folder. Copy all Oracle BI Publisher sample reports into the CCB 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 BI Publisher Enterprise documentation for more information.

## Preparing Oracle BI Publisher Enterprise Server For integration

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

Reporting Folder: CCB

Reporting Server: URL of reporting server. For example: http://<hostname>:9704

For a different name for your reporting folder, rename the CCB folder on the server and put the corresponding value on the Reporting options table. Do the following:

1. Access the BI 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 named CCB with connection details pointing to the CCB database using the RPTUSER credentials set up in the prior section.

3. Test Connection to make sure the Database connection is successful and save changes using **Apply**.

To configure a new group in WebLogic:

1. Configure the **BIconsumer** group within WebLogic for Authentication.
2. Create the **CCB Reports** Application Role to access the BI Publisher reports.
3. Associate the **BIconsumer** member with the **CCB Reports** Application Role. The role will now be visible from within the BI Publisher Enterprise.
4. Within BI Publisher Enterprise, for the Role Name CCB Reports you just created, click **Add Folders** to add the CCB sample reports to the Allowed Folders.
5. Repeat the same for Role Name CCB Reports.
6. Click **Add Data Sources** to add the CCB data source to Allowed Data Sources.
7. To include appropriate Roles for Role Name CCB Reports, click **Add Role**.

To verify Sample BI Publisher reports on Server:

1. Log in to Oracle BI Publisher Server as a user belonging to BIconsumers.
2. Verify that all sample reports provided appear in the CCB 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 Care and Billing.

The Company Logo should be set up according to the following procedure:

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 BI 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:

```
/CCB.V2.7.0.3/data/reports/BIPublisher11g/logo/company_logo.gif.
```

## Oracle Utilities Customer Care and Billing User ID and Report Code

The Oracle Utilities Customer Care and Billing 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 Care and Billing, but must be defined in the report.

## **Adding Custom Layout to Existing Reports in BI Publisher**

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

# Chapter 3

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## Additional Products

This chapter describes the procedure to install and integrate Oracle Utilities Customer Care and Billing with Oracle Documaker or DOC1.

- [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 Care and Billing can be integrated with Documaker to allow Bills, Letters, Statements, Field Orders and Quotes to be viewed online.

This facility requires that Documaker is already installed. Documaker can be purchased and licensed separately from Oracle E-Delivery (<http://edelivery.oracle.com/>).

This section focuses on:

- [Supported Documaker Versions](#)
- [Supported Oracle Documaker Reports](#)
- [Installing and Integrating Documaker Templates with Customer Care and Billing](#)
- [Sample Directory Structure](#)
- [Sample Generated Ini File](#)
- [Documaker Integration](#)
- [Examples provided](#)

## Supported Documaker Versions

At the time of release the supported versions for Customer Care and Billing Release 2.7.0.3 are:

**Windows:** Documaker 12.6

**Linux:** Documaker 12.6

## Java Requirements for Documaker

Follow these steps to set up the required Java version for Documaker:

1. Make sure that the appropriate Java JRE 32-bit version 1.8 (Linux, HP, 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
```

You will need to add additional values, which are shown in bold in the example below. The following 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 ENVIRON.INI file of the Oracle Utilities Customer Care and Billing application.

## Supported Oracle Documaker Reports

The following Documaker online reports are supported for this Oracle Utilities Customer Care and Billing release:

- 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 Customer Care and Billing

Follow this process to integrate the supplied Documaker templates with your Oracle Utilities Customer Care and Billing 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 have the following exact values:

```
#> cat billdirfile.ini.template:
```

```
ONLINE BILL HOST=@ONLINE_DISPLAY_HOME@
ONLINE BILL TEMPLATE=@ONLINE_DISPLAY_HOME@@DIRSEP@CCB (Replace
AppFiles with CCB)
BILL EXTRACT PATH=@SPLOUTPUT@@DIRSEP@
BILL IMAGE PATH=@SPLEBASE@@DIRSEP@splapp@DIRSEP@billView@DIRSEP@
BILL IMAGE
SCRIPT=@ONLINE_DISPLAY_HOME@@DIRSEP@CCB@DIRSEP@@DOC1BILLSSCRIPT@
URL PREFIX=@WEB_CONTEXT_ROOT@/billView/
```

```
#> cat doc1dirfile.ini.template:
```

```
ONLINE DOC HOST=@ONLINE_DISPLAY_HOME@
ONLINE DOC TEMPLATE=@ONLINE_DISPLAY_HOME@@DIRSEP@CCB
DOC EXTRACT PATH=@SPLOUTPUT@@DIRSEP@
DOC IMAGE PATH=@SPLEBASE@@DIRSEP@splapp@DIRSEP@billView@DIRSEP@
DOC IMAGE
SCRIPT=@ONLINE_DISPLAY_HOME@@DIRSEP@CCB@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 12.6
BILLDISPINI=$SPLEBASE/etc/billdirfile.ini; export BILLDISPINI
DOCDISPINI=$SPLEBASE/etc/docldirfile.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/documaker12.6# Documaker 12.6 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.

### UNIX

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

### Windows

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

8. Create the billView folder under \$SPLEBASE/splapp.

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

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

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

10. Stop and start the environment.
11. Copy the templates jar file (CCB-Unix.jar or CCB-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 you will decompress CCB-Windows.jar:

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

The CCB folder will be extracted.

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

- **12.6 Flat** supports the flat format extract file for Bills and other extracts like Statement, Field Order, Quote and Letter.
- **12.6 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 CCB under the Documaker host directory <ONLINE\_DISPLAY\_HOME>. Copy the contents of the appropriate CCB folder in the <TEMPDIR> to the CCB directory Documaker host directory on the target application server (see the **Software Requirements** section in the *Oracle*

*Utilities Customer Care and Billing Installation Guide* for installation location). It should be at the same level as FAP folder.

14. Ensure that the Oracle Utilities Customer Care and Billing Administrator user ID (typically cissys) has execute permissions to all files in the <ONLINE\_DISPLAY\_HOME>/FAP and <ONLINE\_DISPLAY\_HOME>/CCB folders.

## Sample Directory Structure

Directory	Contents
<ONLINE_DISPLAY_HOME>/FAP	Documaker Binaries
<ONLINE_DISPLAY_HOME>/CCB	CCB templates and driver programs
<ONLINE_DISPLAY_HOME>/CCB/INPUT	CCB sample extracts
<ONLINE_DISPLAY_HOME>/CCB/DATA	CCB 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>/CCB
BILL EXTRACT PATH=<SPLOUTPUT>
BILL IMAGE PATH=<SPLEBASE>/splapp/billview/
BILL IMAGE SCRIPT=<ONLINE_DISPLAY_HOME>/CCB/_ccbPrint.sh
URL PREFIX=/spl/billview/
```

### docfiledirectory.ini

```
ONLINE DOC HOST=<ONLINE_DISPLAY_HOME>
ONLINE DOC TEMPLATE=<ONLINE_DISPLAY_HOME>/CCB/
DOC EXTRACT PATH=<SPLOUTPUT>
DOC IMAGE PATH=<SPLEBASE> /splapp/billview/
DOC IMAGE SCRIPT=<ONLINE_DISPLAY_HOME>CCB/_ccbPrintDoc.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:

- [On-line Bill Display Components](#)
- [On-line Quote Display Components](#)
- [On-line Letter Display Components](#)
- [Statement Display Components](#)
- [On-line Field Order Display Components](#)

## On-line Bill Display Components

The on-line 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 on-line 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 back 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 Customer Care and Billing 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 `_ccbPrint.sh` or `_ccbPrint.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/12.6/12.6-Flat/CCB/data folder and documaker/12.6/12.6-XML/CCB/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>/CCB
- 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>/CCB/\_ccbPrint.sh or \_ccbPrint.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 (CIPCQTDIX) 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 `_ccbPrintDoc.sh` or `_ccbPrintDoc.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 `$$PLEBASE/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/12.6/12.6-Flat/CCB/data` folder and `documaker/12.6/12.6-XML/CCB/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>/CCB`
- `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>/CCB/\_ccbPrintDoc.sh or \_ccbPrintDoc.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:

/CCB/input/examples

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

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

## Using DOC1

Oracle Utilities Customer Care and Billing 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 Care and Billing Release 2.7.0.3 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 <CCB_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 <CCB_BASE_FOLDER>/doc1_v6.4/generate
cd <CCB_BASE_FOLDER>/doc1_v6.4/generate
tar xvf doc1lnx64host.tar
```

3. Uncompress using WinZip or 7zip to C:\spl\DOC1\generate.
4. Download the CCB 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/CCB/doc1_v6.4/AppFiles
```

### Windows:

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

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

5. Ensure 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>
<docldirfile.ini.template>
<dest_files>
<dest_file_1>@SPLEBASE@/etc/docldirfile.ini</dest_file_1>
</dest_files>
</docldirfile.ini.template>
```

6. Ensure that these two template files exists under \$SPLEBASE/etc folder.

```
billdirfile.ini.template
docldirfile.ini.template
```

7. Ensure 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 docldirfile.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. Ensure 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/docldirfile.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/CCB/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, e.g. /scratch/CCB/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 Care and Billing application/environment.

# Chapter 4

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## Receipt Printing

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

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

Refer to the Oracle Utilities Customer Care and Billing *Business User Guide* for more information about these payment transactions.

Configuration to support this functionality includes:

- [Printer Installation](#)
- [Oracle Utilities Customer Care and Billing Configuration](#)

### Notes:

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

## Printer Installation

This implementation requires installation of a Javascript printer library and SDK on a server that is accessible from the user's web browser (the connection to the printer will be directly from the web browser rather than from the application server).

For example, when using the sample Epson TM-H6000IV-DT Series printer, the following Javascript library would be installed on the server:

```
epos-x.x.x.js
```

Refer to the printer documentation for specifics regarding installation and set up of the printer driver and library, as well as use of the printer's API library.

**Note:** The SDK, driver and documentation for the sample Epson TM-H6000IV-DT Series printer can be found [here](#).

Note the file name and path of the Javascript printer driver. You will need to reference this in the UI maps that generate the print dialog box from the payment transaction portals (see **Configuring and Updating UI Maps** on page 4-3).

## Oracle Utilities Customer Care and Billing Configuration

Configuration of Oracle Utilities Customer Care and Billing includes the following:

- [Configuring the Point of Sale Printer Integration Master Configuration](#)
- [Configuring and Updating UI Maps](#)
- [Configuring and Updating Tender Sources](#)

### Configuring the Point of Sale Printer Integration Master Configuration

To enable printing from the three payment transactions, you must define the BPA script used to launch the print dialog box from each type of transaction in the Point of Sale (POS) Printer Integration (C1-PointOfSaleIntegConfig) master configuration. The base product provides three processing types (one for each payment transaction that supports printing) and corresponding sample BPA scripts:

Processing Type	Sample BPA Script
POS Printing - Payment Event	Payment Event Add Print (C1-PEAddPrt)
POS Printing - Payment Event Quick Add	Payment Event Quick Add Print (C1-PEQAddPrt)
POS Printing - Payment Quick Add	Payment Quick Add Print (C1-PyQAddPrt)

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

## Configuring and Updating UI Maps

The BPA scripts referenced on the Master Configuration each reference a UI map that's used to define the print dialog box. The base product provides sample UI maps for each of the sample BPA scripts listed above:

Sample BPA Script	Sample UI Map
Payment Event Add Print (C1-PEAddPrt)	Payment Event Print Control (C1-PayEventAddPrint)
Payment Event Quick Add Print (C1-PEQAddPrt)	Payment Event Quick Add Print (C1-PayEventQuickAddPrint)
Payment Quick Add Print (C1-PyQAddPrt)	Payment Quick Add Print (C1-PaymentQuickAddPrint)

The UI maps must be updated to include specific information about the printer being used, including:

- [Javascript Printer Library](#)
- [Printer Actions and Text Composition and Formatting](#)

### Javascript Printer Library

Each UI map must be updated to reference the file name and path of the Javascript printer library installed on the printer server (see **Printer Installation** on page 4-2).

Update the appropriate UI Map for each of the processing types you want to support. The printer library should be defined in a <script> element in the <head> element of the UI map's schema.

**Example:** The sample below references the driver for the sample Epson TM-H6000IV-DT Series printer:

```
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Strict//EN" "http://
www.w3.org/TR/xhtml1/DTD/xhtml1-strict.dtd">
<html xmlns="http://www.w3.org/TR/xhtml1/strict">
  <head>
    <title oraMdLabel="TITLE_CIPPEQPCTL"></title>
    <link href="cisDisabled.css" type="text/css"
rel="stylesheet" />
    <script type="text/javascript" src="c1/ccbUtil/
c1Utils.js"></script>
    <script type="text/javascript" src="http://
tugbul.oracle.com/Minerva/PDPortal/epos-2.9.0/epos-2.9.0.js"></
script>
    <script type="text/javascript">
```

### Printer Actions and Text Composition and Formatting

Each UI map must also be updated to include the specific printer actions and appropriate text composition and formatting for each type of receipt you wish to print.

Use the printer library API to generate code for the printer actions and formatting you wish to use, and include that code in the UI map. For example, the Payment Event Quick Add Print (C1-PayEventQuickAddPrint) UI map includes the following functions for composing and printing receipts:

```

function printReceipt() {
    composeReceipt();
    printer.addFeedLine(6);
    printer.send();
}

function composeReceipt() {
    printer.addTextAlign(printer.ALIGN_CENTER);
    printer.addText(myPageData.USER_ID);
    printer.addText(' ');
    printer.addText(myPageData.TNDR_CTL_ID);
    printer.addText(' ');

printer.addText(main.convertInternalDateToLocal(myPageData.PAY_DT)
);
    printer.addText('\n');
    printer.addTextAlign(printer.ALIGN_LEFT);
    printer.addText('\n');
    printer.addText('\r\n');
    var receiptList = main.model.getList('PRINT');
    for (var x = 0; x < receiptList.elements.length; x++) {
        var elem = receiptList.elements[x];
        if (elem.PAY_EVENT_ID != '' || elem.ACCT_ID != '' ||
            elem.PAY_AMT != 0 || elem.TENDER_TYPE_CD != '') {
            printer.addText(elem.ACCT_ID);
            printer.addText(' ');
            printer.addText(elem.ACCT_CHECK_DIGIT);
            printer.addText(' ' + ' ');
            printer.addText(elem.TENDER_TYPE_CD);
            printer.addText('\n');
            printer.addTextAlign(printer.ALIGN_RIGHT);

printer.addText(main.convertInternalMoneyToLocal(elem.PAY_AMT));
            printer.addText('\n');
            printer.addTextAlign(printer.ALIGN_LEFT);
            printer.addText('\r\n\n');
        }
    }
}

```

Refer to the printer documentation for specifics regarding use of the printer's API library.

**Note:** The SDK, driver and documentation for the sample Epson TM-H6000IV-DT Series printer can be found [here](#).

Refer to the Payment Event Quick Add Print (C1-PayEventQuickAddPrint) UI map for additional sample functions and text composition examples.

## Configuring and Updating Tender Sources

You must also update the Tender Sources used for the payment transactions you need to support.

The functions defined in the UI maps access the printer library (installed on the printer server, see **Printer Installation** on page 4-2) via the printer's IP address.

**Note:** The UI map derives the printer IP address from the Tender Source using the Get Printer IP Address (C1-GetPrntIP) service script.

The printer's IP address should be specified in the **External Source ID** field on the Tender Sources used by the Tender Controls used with the payment transactions for which printing is supported.

Each of the Tender Sources used by your Tender Controls must be updated to specify the IP address of the printer in the External Source ID field.

Refer to the Oracle Utilities Customer Care and Billing *Business User Guide* for more information about Tender Sources.