Cisco Smart+Connected Meeting Spaces TM & Cisco Smart+Connected Digital Signage TM Installation Guide

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Cisco Smart+Connected Meeting Spaces ™ & Cisco Smart+Connected Digital Signage™ Installation Guide

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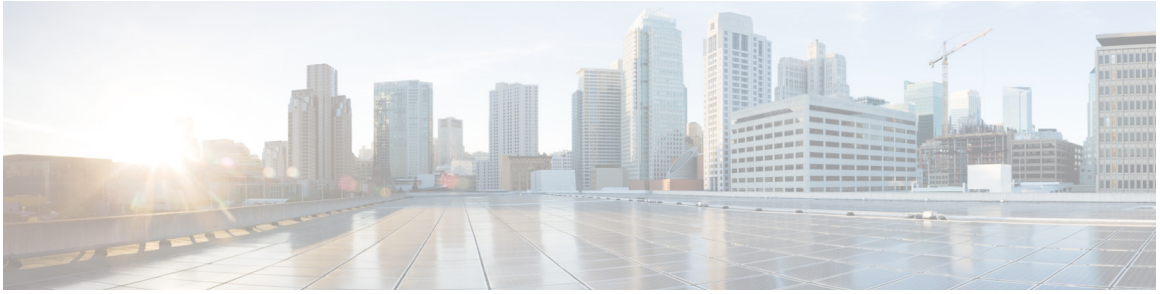

Preface

This preface describes the audience, organization, and conventions of the Cisco Smart+Connected Meeting Spaces™ & Cisco Smart+Connected Digital Signage™ Installation Guide, and provides information on the related documentation.

- Audience, page vii
- Organization, page vii
- Document Conventions, page viii
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Audience

This guide is intended for system administrators who install, configure, and maintain the Cisco Smart+Connected Meeting Spaces™ & Cisco Smart+Connected Digital Signage™ (Smart+Connected MS & DS) application.

Organization

Title	Description
Chapter 1, "Getting Started."	Describes information on the architecture, prerequisites, and deployment models of the Smart+Connected MS & DS application.
Chapter 2, "Installing the Smart+Connected MS & DS on WebLogic."	Describes how to install and deploy the Smart+Connected MS & DS application by using the Oracle database and WebLogic application server.
Chapter 3, "Configuring the Smart+Connected MS & DS Application."	Describes how to configure the Smart+Connected MS & DS application after installation.

Document Conventions

Convention	Indication
Boldface	Commands, command options, and keywords are in boldface.
Italics	Arguments for which you supply values are in italics.
Option > Option	Used to describe a series of menu options.
`courier` font	Terminal sessions and information the system displays appear in courier font.

Note Means *reader take note*. Notes contain helpful suggestions or references to material not covered in this guide.

Related Documentation

- *Cisco Smart+Connected Meeting Spaces User Guide*
- *Release Notes for Cisco Smart+Connected Meeting Spaces™*
- *Cisco Smart+Connected Digital Signage User Guide*
- *Release Notes for Cisco Smart+Connected Digital Signage™*
- *Cisco Smart+Connected Digital Signage Administrator Guide*
- *Cisco Smart+Connected Meeting Spaces Administrator Guide*
- *Cisco Service Delivery Platform Overview Guide*
- *Cisco Service Delivery Platform User Guide*
- *Cisco Service Delivery Platform Installation Guide*

Obtaining Documentation and Submitting a Service Request

For information on obtaining documentation, submitting a service request, and gathering additional information, see *What's New in Cisco Product Documentation* at: http://www.cisco.com/en/US/docs/general/whatsnew/whatsnew.html.

Subscribe to *What's New in Cisco Product Documentation*, which lists all new and revised Cisco technical documentation, as an RSS feed and deliver content directly to your desktop using a reader application. The RSS feeds are a free service.

Getting Started

This chapter provides information on the architecture, prerequisites, and deployment models of the Cisco Smart+Connected Meeting Spaces & Cisco Smart+Connected Digital Signage (Smart+Connected MS & DS) application.

- Overview, page 1-1
- System Architecture, page 1-2
- List of Acronyms and Abbreviations, page 1-3
- System Requirements, page 1-5
- Deployment Flowchart, page 1-11

Overview

The Smart+Connected MS & DS application allows you to easily access information by using digital signages, IP phones, and the web portal. For example, you can easily view information, such as meeting details, news, energy consumption data, energy saving tips, and so on. The application also allows you to book meetings instantly using touchscreen digital signage and IP phones, manage conference room resources, and report the issues, if any, in the conference rooms. The automatic energy saving settings lead to reduced power consumption and contribute to the eco-friendly policies of the organization. In case of any mishaps, emergency notifications are sent out to the users through IP phone and digital signage.

The Cisco Smart+Connected MS is a solution that leverages the Cisco Service Delivery Platform (SDP). It provides features for conference room management and signage-based messaging using Cisco IP phones. The Smart+Connected MS leads to enhanced enterprise communication as the updated meeting room information is widely available and easily accessible to employees. It also leads to better resource management and energy savings which translate to reduced energy bills and more environment-friendly corporate practices.

The Smart+Connected MS solution allows the end user to do the following:

- Using Digital Signage
  - Book meeting spaces and TelePresence rooms
  - Book conference rooms.
  - View detailed floor plans with locations of conference rooms.
  - View news content associated with the location.
- Using Web Portal and IP Phones

  - Book conference rooms.
  - Manage meeting room devices and equipment.
  - Configure multiple devices to suit your meeting and presentation needs using a single menu selection.
  - Create a case to resolve a fault in a conference room, and convey the same to the others in the organization by sending messages to the digital signage.

In addition, the solution can help in energy savings by automatically switching devices to a standby mode when the meeting room is unoccupied and based on the configuration, turn them back on before the actual occupancy.

As an administrator, you have to manage the overall configuration, maintenance, and content creation for the Smart+Connected MS solution through a web portal. You have to add locations and devices, create users, and associate devices to locations for the solution in the SDP. For more information on performing these tasks, see the *Cisco Service Delivery Platform User Guide* and *Cisco Service Delivery Platform Installation Guide*. After the locations are added, and the devices are associated to them in the SDP, they are available in the Smart+Connected MS portal. You can select a location and associate a configuration to it. The features such as fault messages, device control options, signage menu messaging, and room booking that are added to the configuration can be accessed by the end user from the Cisco IP phones at the location.

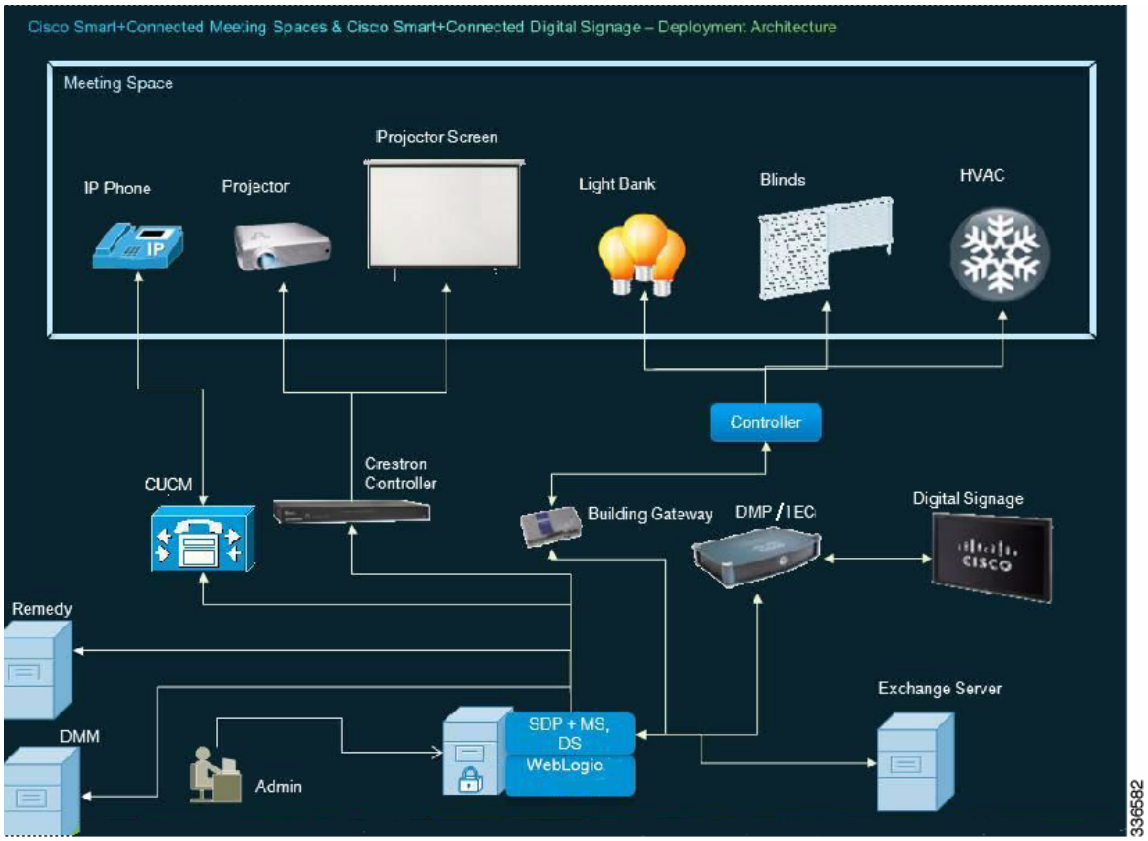
System Architecture

The Smart+Connected MS & DS application communicates with the following:

- Microsoft Exchange—To book meetings and retrieve meeting details.
- Building Management System (BMS)—To control and monitor devices, such as lights, blinds, and air conditioners.
- Content Management System (CMS)—To store the application data.
- Crestron Controller—To control projectors and projector screens.
- Digital Media Player (DMP) and Cisco Interactive Experience Client (IEC)—To display meeting details, notifications, general information, news, energy consumption data, energy saving tips, and so on, on the digital signages.
- Remedy—To raise trouble tickets for the conference room issues.

The Smart+Connected MS & DS application leverages the SDP. For more information on the SDP, see the *Cisco Service Delivery Platform User Guide*.

Figure 1-1 System Architecture



List of Acronyms and Abbreviations

Table 1-1 List of Acronyms and Abbreviations

Acronym	Expansion
MS	Meeting Spaces
DS	Digital Signage
APR	Acoustic Pulse Recognition
CMS	Content Management System
CPU	Central Processing Unit
CTI	Computer Telephony Integration
CUCM	Cisco Unified Communications Manager
DB	Database
DMP	Digital Media Player
DMM	Digital Media Manager
DBMS	Database Management System

Table 1-1 List of Acronyms and Abbreviations (continued)

Acronym	Expansion
EWS	Exchange Web Services
HDD	Hard Disk Drive
HTTP	Hypertext Transfer Protocol
IEC	Cisco Interactive Experience Client
JDBC	Java Database Connectivity
JDK	Java Development Kit
JMS	Java Message Service
JNDI	Java Naming and Directory Interface
JTAPI	Java Telephony Application Programming Interface
LAN	Local Area Network
LDAP	Light Weight Directory Access Protocol
MAC	Media Access Control
NIC	Network Interface Card
NTP	Network Time Protocol
OS	Operating System
RAM	Random-access Memory
RAC	Real Application Cluster
RDBMS	Relational Database Management Systems
RHEL	Red Hat Enterprise Linux
S+CC	Smart+Connected Communities
SDP	Service Delivery Platform
SNMP	Simple Network Management Protocol
SP	Service Pack
SQL	Structured Query Language
UCS	Unified Computing System
UI	User Interface
VM	Virtual Machine

System Requirements

Before installing the Smart+Connected MS & DS applications, ensure that all the system requirements are met.

Table 1-2 System Requirements

Software/Hardware	Smart+Connected MS & DS
Operating System	Red Hat Enterprise Linux (RHEL) 5.5 (64-bit) and 6.3 (64-bit)
Hardware - For Application Server and Database Note: • This requirement is for one VM (for example, colocated) or one physical machine. • For a non-cluster setup, you need two VMs—one for the application server and another for the database. Also, each VM must meet the requirements that are mentioned here. • For a cluster setup, the hardware requirements are based on the deployment scenario and user requirements.	Minimum requirements are: • Hard Disc Space—200 GB • RAM—Minimum configuration of 4 GB or above • Processor – 2 vCPU dual core for Virtual Machine (VM) – Intel x86/II386 Architecture for physical machines – Certified on Cisco UCS B-Series and C-Series with Intel CPUs.
Crestron A/V integration (if applicable)	• Separate host or VM with Windows 2008 R2 Standard SP1 or Windows 7 • IIS 7.5 with .NET framework 3.5 or higher
Browser	• Mozilla Firefox Versions 6.0 and 15.0 • Microsoft Internet Explorer Versions 8.0 and 9.0 • Google Chrome Version 24.0 and 26.0
Database	Oracle Enterprise Edition 11g R2 (11.2.0.2) with character set configured to UTF8 For more information on how to install the Oracle database, see the Oracle documentation.
Application Server	WebLogic Server 11g
Java Development Kit (JDK)	Oracle JDK 1.6.0_24

Table 1-2 System Requirements (continued)

Software/Hardware	Smart+Connected MS & DS
Exchange Server	• Microsoft Exchange Server 2007 SP3 • Microsoft Exchange Server 2010 SP1, SP2 Exchange Web Services (EWS) integration is supported using only the BasicAuth authentication scheme. This needs to be configured in the Microsoft Exchange. • For mailboxes, 'AutomateProcessing' property must be set to 'AutoAccept' so that recurring meeting updates are sent correctly to the solution through notifications. • For mailboxes, 'AddOrganizerToSubject' and 'DeleteSubject' must be set to $false. If this is not done, then the meeting organizer name appears in the in the Subject field instead of meeting subject. Impersonation rights are required on the conference room mailbox for the service account. This allows the service account to connect to the Exchange server and retrieve meeting details from the conference room mailbox. For more information on Exchange impersonation, see: • Exchange 2007: http://msdn.microsoft.com/en-us/library/bb204095(EXCHG.80).aspx • Exchange 2010: http://msdn.microsoft.com/en-us/library/bb204095.aspx
Trouble Ticketing	BMC Remedy Version 7.5
Audio/Visual	The certified Crestron controllers that have been tested with the .NET SDK are: • MC2E (one controller for one projector) • PRO2 (one controller for two projectors) However, the Crestron Control System with Ethernet port supports the Crestron .NET SDK, and therefore can be integrated with the solution.
Mediation Gateway	Tridium with Obix Versions 3.5.34, 3.7.x
Digital Media Player (DMP)	DMP 4400: • Firmware 5.1 for http • Firmware 5.2 for https • Firmware 5.3 for https
Cisco Interactive Experience Client (IEC)	IEP-4632-HW-K9: • Firmware 4.155.393
Digital Media Manager (DMM)	Version 5.2.1

Table 1-2 System Requirements (continued)

Software/Hardware	Smart+Connected MS & DS
Cisco Digital Signage	• 42 inch • 47 inch • 55 inch
Touchscreen	The Smart+Connected MS & DS application is certified on the eLO Touchscreen APR technology model. However, DMP 4400G also supports other touchscreen overlays. For more information on other touchscreen overlays of DMP 4400G, see: http://www.cisco.com/en/US/docs/video/digital_media_systems/dmscompat3.html#wp1100911
IP Phone Model	• Touchscreen: 7975 and 9971 • Non-Touchscreen: 7962 and 9951
Call Manager	• Cisco Call Manager Version 7.1 • Cisco Call Manager Version 8.x • Cisco Call Manager Version 9.x The audio notification feature does not work with Cisco Call Manager 7.1.
Emergency Notification System	• Cisco JTAPI • Singlewire InformaCast
LDAP	• Active Directory – Windows 2008 Version 6.0 – Windows 2003 Version 5.2 R2 • RHEL 5.5 OpenLDAP - 2.3.43.12
Service Delivery Platform (SDP)	Cisco SDP 2.0.2
Language	U.S. English The Smart+Connected MS & DS application provides multi-language support. Although U.S. English is the language that is supported out-of the-box, other languages can be supported by doing necessary configurations.

Deployment Models

You can install and deploy the Smart+Connected MS & DS application using one of the following deployment models:

- Colocated Server Setup—The database and the S+CC application are installed on a single server.
- Non-Cluster Server Setup—The database and the application server are installed on two different instances, either on a physical or a virtual machine.
- Cluster Server Setup—The database and the application server are installed on separate dedicated servers or on a cluster of servers. This setup provides high availability.

Note This document describes the installation process in the colocated/non-cluster and cluster server setups.

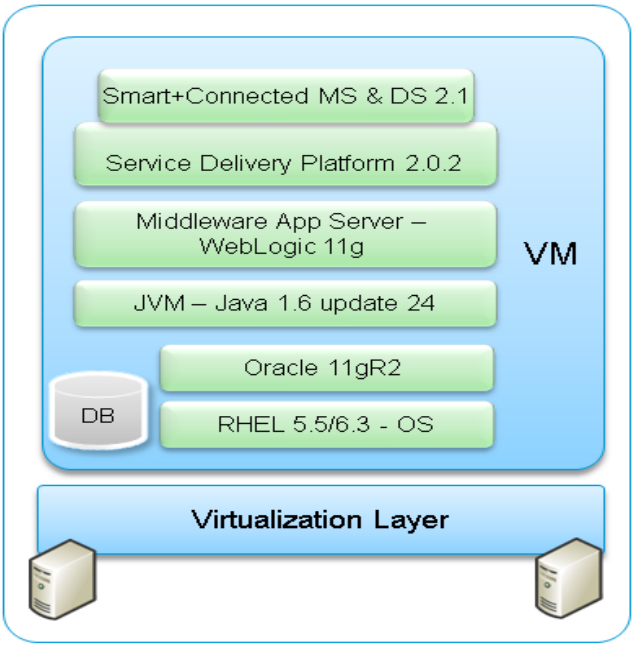
- Colocated Server Setup, page 1-8
- Non-cluster Server Setup, page 1-9
- Cluster Server Setup, page 1-10

Colocated Server Setup

In a colocated deployment, all the functionalities and layers of the application reside on a single server.

This is the simplest form of the deployment, where the database and the application are installed on the same instance and the setup is self-contained. This is suitable for small enterprises.

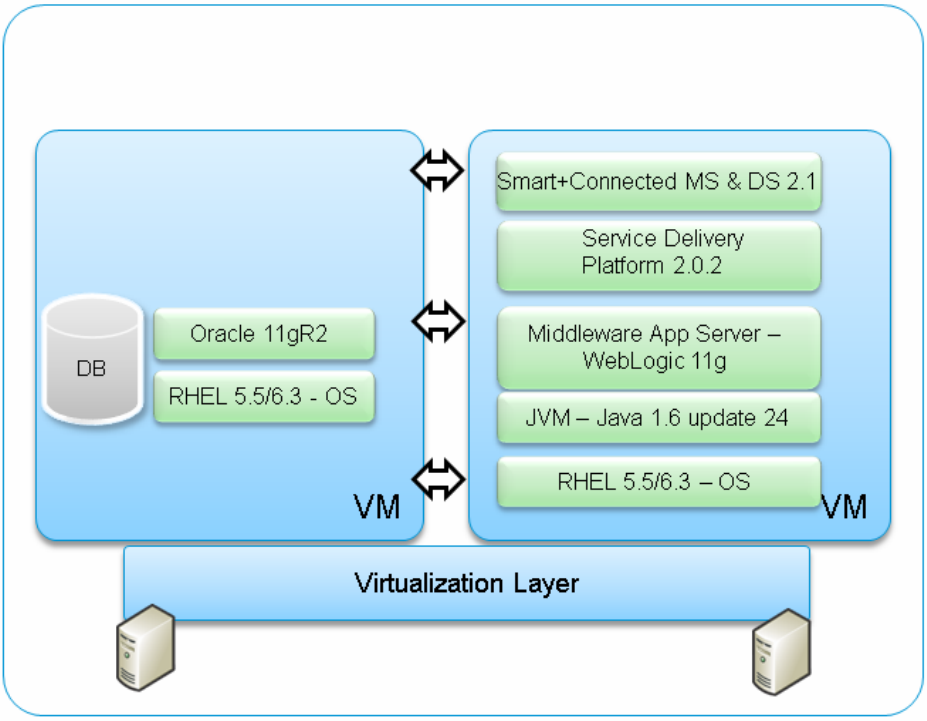
Figure 1-2 Colocated Server Setup



Non-cluster Server Setup

In this setup, the database and the application server are installed on two different instances—either on a physical or a virtual machine. This is a common server setup method for the enterprise installations. The database is setup on one instance and the application server, SDP, and the S+CC application are installed and set up on a second instance.

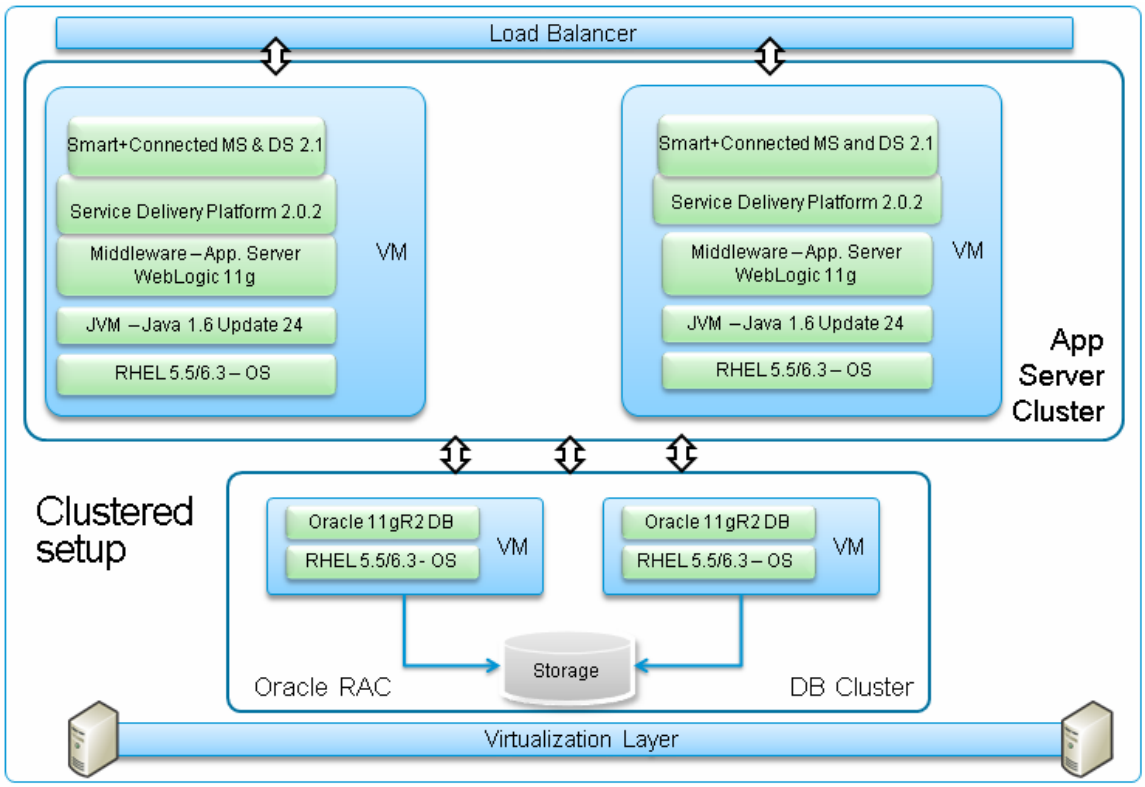
Figure 1-3 Non-Cluster Server Setup



Cluster Server Setup

A cluster setup consists of multiple nodes that run an application simultaneously and work together to provide increased scalability, reliability, and high availability. In a distributed cluster setup, the solution is deployed on the multiple nodes of a cluster.

Figure 1-4 Cluster Server Setup



Deployment Flowchart

The deployment flowchart describes the procedure to deploy the solution and ensure a successful installation.

Figure 1-5 displays the deployment flowchart for a Colocated/ Non-cluster Server Setup .

Figure 1-5 Deployment Flowchart - Colocated/Non-cluster Server Setup

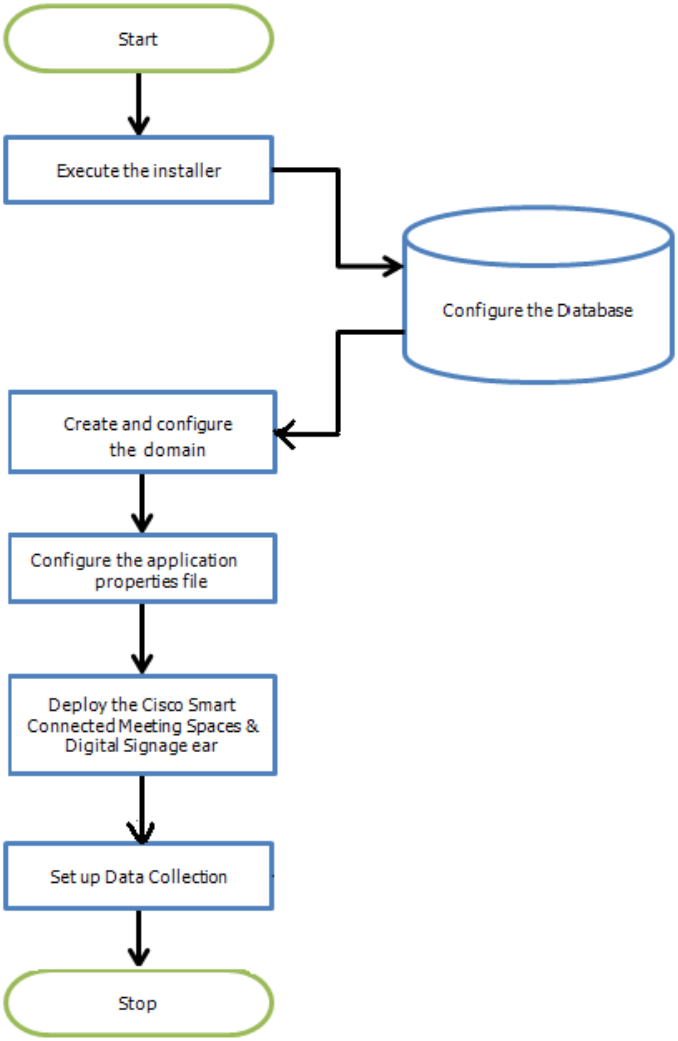
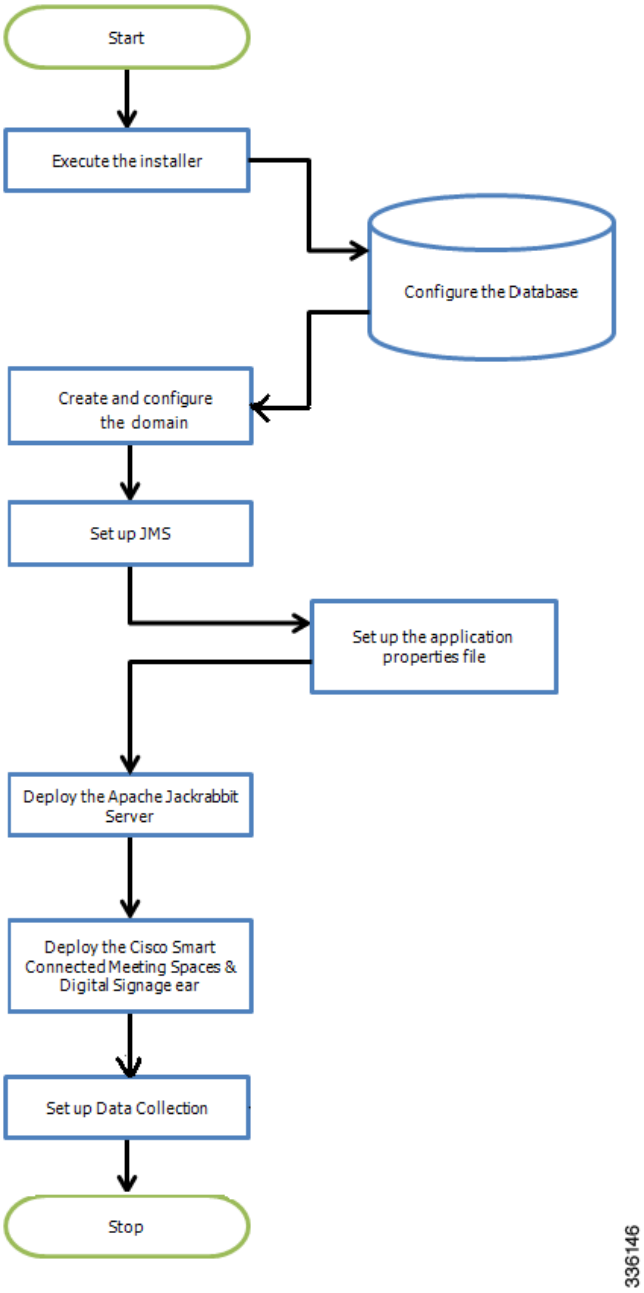


Figure 1-6 displays the deployment flowchart for a Cluster Server Setup.

Figure 1-6 Deployment Flowchart - Cluster Server Setup



Installing the Smart+Connected MS & DS on WebLogic

This chapter describes how to install the Cisco Smart+Connected Meeting Spaces & Cisco Smart+Connected Digital Signage (Smart+Connected MS & DS) application by using the Oracle database and WebLogic application server.

- Prerequisites, page 2-1
- Installing on a Colocated or Non-Cluster Server Setup, page 2-2
- Installing on a Cluster Server Setup, page 2-17

After successfully installing the Smart+Connected MS & DS application, you can configure the application by performing tasks that are listed in Chapter 3, "Configuring the Smart+Connected MS & DS Application."

Prerequisites

- Gathering Required Information, page 2-1
- Verifying Network Configurations, page 2-2

Gathering Required Information

Prior to beginning the installation, you must gather the following information:

- Database details:
  - Database SID
  - Database IP address or the DNS hostname
  - Database port number
  - Database schema username
  - Database schema password
  - SSH credentials

    These credentials are required to access the machine. This account needs to be able to run SQLPlus.
- Application Server details:

- Location of the WebLogic directory, if the WebLogic Server has been pre-installed. If not, then you require the preferred path to set up the WebLogic server.
- SSH credentials

  These credentials are required to access the machine. This account needs to be able to run SQLPlus.

Verifying Network Configurations

Verify the following network configuration:

- All the machines are in the same LAN.
- All machines are configured to be on the same locale.
- System time is synchronized on all the machines using Network Time Protocol (NTP).
- All the interface components within the application are accessible over the network.

Installing on a Colocated or Non-Cluster Server Setup

To install the Smart+Connected MS & DS application on a colocated or non-cluster server setup, perform the following steps in order:

1. Installing the Application, page 2-2
2. Configuring the Database, page 2-3
3. Creating a WebLogic 11g Domain, page 2-7
4. Extending the WebLogic 11g Domain, page 2-8
5. Configuring the Property Files, page 2-9
6. Starting the WebLogic Server, page 2-11
7. Deploying the Apache Jackrabbit and the Smart+Connected MS & DS Application, page 2-12
8. Importing SSL Certificates, page 2-12
9. Restarting the WebLogic Server, page 2-13
10. Assigning Roles and Locations to IBUser, page 2-14
11. Accessing the Smart+Connected MS & DS Application, page 2-15
12. Accessing the Web Calendar, page 2-16

Installing the Application

The Smart+Connected MS & DS installation package consists of a single executable file (install.bin) that is located on the product DVD.

Before you begin the installation, do the following:

- Copy the WebLogic installer file (install.bin) from the WebLogic folder to a local directory.
- Ensure that the <*JAVA_HOME*> environment variable is set to the location at which the JDK is installed and the PATH environment variable includes the <*JAVA_HOME*>/bin folder.

To install the application, perform the following steps:

Step 1 From the product DVD, run the installer:

a. In a terminal session, navigate to the directory that contains the installer and give execute permission to the install.bin file.

b. Enter the following command:

```
chmod u+x install.bin
```

c. Enter the following command:

```
./install.bin
```

Alternatively, use the installer that is available in the e-delivery package.

The Smart Plus Connected Communities - Introduction screen appears.

Step 2 Click **Next**.

The License Agreement screen appears.

Step 3 Choose **I accept the terms of the License Agreement**, and click **Next**.

The Choose Install Folder screen appears.

Step 4 Click **Choose** to select the directory where you want the applications to be installed. Alternatively, you can enter the path manually.

Note The location where you install the Smart+Connected MS & DS application is referred as *<MS_INSTALL_DIRECTORY>* in this guide.

Step 5 (Optional) Click **Restore Default Folder** if you want to revert to the default directory.

Step 6 Click **Next**.

The Pre-Installation Summary screen appears.

Step 7 Click **Install**.

After the installation is complete, the Install Complete screen appears.

Step 8 Click **Done** to complete the installation process.

Step 9 Navigate to the directory that you had selected during installation, and verify that the following directories have been created:

- pkg-apps
- pkg-clientsamples
- pkg-jackrabbit
- pkg-properties
- pkg-scripts
- pkg-templates

Configuring the Database

You must configure a database for the Smart+Connected MS & DS environment.

- Requirements, page 2-4
- About the Database Scripts, page 2-4

- Executing Database Scripts, page 2-6
- Configuring the Non-Touch IP Phones, page 2-6

Requirements

Before configuring the database, ensure that the following requirements are met:

- The Oracle Database 11g Release 2 (11.2.0.2) is installed on your database server, and is ready for use.

  This document does not include information on how to set up the Oracle database. For more information, see the Oracle documentation.
- A database user is created with the following grants:
  - connect
  - create table
  - create procedure
  - create sequence
  - create trigger
  - create view
  - create job

  For more information on how to create users and provide grants, see the Oracle documentation.
- The following SDP database SQL scripts have been executed:
  - setup-sdp-base.sql
  - setup-sdp-types.sql

  The SDP database scripts are available in the following directory on the server where you have installed the SDP application:

  <SDP_INSTALL_DIRECTORY>/sdp/

  For more information on how to execute the SDP database scripts, see the *Cisco Service Delivery Platform Installation Guide*.

About the Database Scripts

- SDP Database Scripts, page 2-5
- Application Database Scripts, page 2-5

SDP Database Scripts

Table 2-1 SDP Database Script - Details

Script	Description
`clean-sdp-objects.sql`	Cleans all SDP related objects from the user schema if an instance of SDP was running earlier. Executing this script is not necessary if you are installing the SDP for the first time.
`setup-sdp-base.sql`	• Creates the tables, constraints, sequences, and indexes. • Loads only the basic data that is required to bootstrap the application. • Enables local database authentication. • Creates a user with the default username/password as superadmin/superadmin. • Adds the locations that are defined in the seed data. • Grants access rights for the locations to the SuperAdmin (super administrator).
`setup-sdp-types.sql`	Loads the device types and device properties data.

Application Database Scripts

Table 2-2 Smart+Connected MS & DS Database Script - Details

Script	Description
`clean-Smart_Connected_Meeting_Spaces_and_Digital_Signage-objects.sql`	Cleans all Smart+Connected MS & DS related objects from the user schema. Executing this script is not necessary if you are installing the application for the first time.
`setup-Smart_Connected_Meeting_Spaces_and_Digital_Signage-base.sql`	• Creates tables, constraints, sequences, and indexes. • Loads the basic data that is required to bootstrap the application.
`setup-Smart_Connected_Meeting_Spaces_and_Digital_Signage-base_ko.sql`	• Creates tables, constraints, sequences, and indexes. • Loads the basic data that is required to bootstrap the application in Korean.

Executing Database Scripts

In order to execute the SQL scripts locally, you need to have all the scripts and the script related files stored on your local system.

Ensure that you have the 'read' permission to run the scripts. You can execute the SQL scripts by using SQL *Plus or SQL Developer. After the database scripts have been executed, the necessary objects are created in the database schema.

To execute the database scripts by using the SQL *Plus, perform the following steps:

Step 1 From the application install directory, copy the pkg-scripts folder to a location on the database machine.

You can access the pkg-scripts folder from the following location:

<MS_INSTALL_DIRECTORY>/pkg-scripts, where *<MS_INSTALL_DIRECTORY>* is the location at which the Smart+Connected MS & DS application is installed.

Step 2 Navigate to the *<MS_INSTALL_DIRECTORY>*/pkg-scripts folder on the database machine.

Step 3 Connect to SQL*Plus:

a. In a terminal session, enter **sqlplus**.

b. Press **Enter**.

Step 4 Enter the database username and password.

Step 5 For an English setup, enter

```
@<MS_INSTALL_DIRECTORY>/pkg-scripts/setup-Smart_Connected_Meeting_Spaces_and_Digital_Signage-base.SQL
```

For a Korean setup, enter

```
@<MS_INSTALL_DIRECTORY>/pkg-scripts/setup-Smart_Connected_Meeting_Spaces_and_Digital_Signage-base_ko.SQL
```

Step 6 Press **Enter**.

The database objects are created in your schema for the Smart+Connected MS & DS application.

Note When you run the database scripts, a log file is automatically generated and saved in the Scripts folder. You must check this log file to ensure that there are no errors logged. If the log file displays errors, these errors must be corrected before you proceed with the installation.

Configuring the Non-Touch IP Phones

By default, the Smart+Connected MS & DS application supports touchscreen IP phones. To enable text-based menu display on non-touchscreen IP phones, you must configure the non-touchscreen IP phones.

To configure the non-touch IP phones, enter the following details in the SSP_MOBILE table, which is available in the database schema you created earlier:

- HEADER_NAME—x-CiscoIPPhoneModelName
- HEADER_VALUE—Model Name
- SCREEN_MODE—Menu

These values are case-sensitive.

```
INSERT INTO SSP_MOBILE (MOBILE_DEVICE_ID, MOBILE_DEVICE_NAME, BROWSER_NAME,HEADER_NAME,
HEADER_VALUE, SCREEN_MODE,IMAGE_PATH, CREATED_BY, CREATED_DT, UPDATED_BY,UPDATED_DT,
TENANT_ID) VALUES (1,'Cisco IP Phone','All','x-CiscoIPPhoneModelName','CP-
9951','Menu',null,'superadmin',SYSDATE,'superadmin',SYSDATE,0);
COMMIT;
```

Creating a WebLogic 11g Domain

You must create a WebLogic domain where the Smart+Connected MS & DS application will be deployed. To create a WebLogic domain, perform the following steps:

Step 1 Launch the WebLogic Configuration wizard:

a. Navigate to <*BEA_HOME*>/wlserver_10.3/common/bin directory, where <*BEA_HOME*> is the location at which WebLogic is installed.

b. Run the **config.sh** file.

The Configuration wizard appears.

Step 2 Choose Create a new WebLogic domain and click **Next**.

The Select Domain Source screen appears.

Step 3 Choose **Generate a domain configured automatically to support the following products**, and click **Next**.

The Specify Domain Name and Location screen appears. Specify the domain and location for the domain.

Step 4 Enter a domain name in the Domain Name field. For example, MSDS.

Step 5 Browse for or enter the path where you want to save the domain and then click **Next**.

Note It is recommended that you create the domain at the default location.

The Configure Administrator User Name and Password screen appears.

Step 6 Enter the administrator username, password, confirm password, and description in the corresponding fields and click **Next**.

The Configure Start Mode and JDK screen appears.

Step 7 In the Select JDK and Start Mode screen, do the following:

a. Under WebLogic Domain Startup Mode, choose Production Mode.

b. Under Available JDKs, choose **Sun SDK 1.6.0_24**.

c. Click **Next**.

The Optional Configuration Screen appears.

Step 8 Select the Administration Server check box and then click **Next**.

The Configure the Administration Server screen appears.

Step 9 Enter the details and click **Next**.

Step 10 If you want to use the default port 7001, click **Next**. If you want to change the port from 7001, enter the new port number, and click **Next**.

The Configuration Summary screen appears.

Step 11 Review the details and click **Create**.

A new WebLogic domain is created.

Note After creating the WebLogic domain, you can navigate to <BEA_HOME>/user_projects/domains and verify that the domain is successfully created. If you have specified a different location for the domain, navigate to that location to verify that the domain is successfully created.

Extending the WebLogic 11g Domain

After creating the WebLogic 11g domain, you must extend it by using the domain template that is provided with the MS & DS application. Ensure that you have prepared the database for the application.

To extend the Oracle WebLogic server domain using the domain template, perform the following steps:

Step 1 Navigate to <*BEA_HOME*>/wlserver_10.3/common/bin, where <*BEA_HOME*> is the location at which WebLogic is installed and run the **config.sh** command in the command mode. For example, **./configu.sh -mode=console**.

The console mode that displays options to either create or extend the WebLogic domain appears.

Step 2 Select the option to extend the WebLogic domain and press **Enter**.

Step 3 From the list of domain directories, choose the domain directory and press **Enter**.

Step 4 Select the option to choose the custom template and press **Enter**.

Step 5 Enter the path to the domain template and press **Enter**.

The path of the domain template is <MS_INSTALL_DIRECTORY>/pkg-templates/scmsdomain.jar, where <MS_INSTALL_DIRECTORY> is the location at which you have installed the Smart+Connected MS & DS application

Step 6 Select the option to modify the Data Sources and press **Enter**.

Step 7 Select the option to modify the DBMS name, enter the database SID, and press **Enter**.

Step 8 Select the option to modify the DBMS host name, enter the database host IP address or the DNS hostname, and press **Enter**.

Step 9 Select the option to modify the DBMS port number, enter the database port number (default port for Oracle is 1521), and press **Enter**.

Step 10 Select the option to modify the username, enter the schema username, and press **Enter**.

Step 11 Select the option to modify the password, enter the schema password, and press **Enter**.

Step 12 Select the option to confirm the password, enter the schema password, and press **Enter**.

Step 13 Press **Accept**.

Step 14 A confirmation message requesting you to proceed appears. Press **Yes**.

The WebLogic domain is successfully extended.

Configuring the Property Files

- Updating the Properties Files, page 2-9
- Setting up Data Collection, page 2-10

Updating the Properties Files

To update the application.properties, dc.properties, and logging.properties files, perform the following steps:

Step 1 Navigate to the *<BEA_HOME>*/user_projects/domains/<DOMAIN NAME>/properties folder.

Step 2 Update the application.properties file:

a. Modify the properties as follows:

IB_JMSPROVIDER_URL	t3**://<***MS Appserver IP Address or hostname***>:<***MS Appserver port number***>** For example, IB_JMSPROVIDER_URL=t3://10.65.111.54:8001
IB_userName	*<MS weblogic domain admin userid>* For example, IB_userName=weblogic
IB_password	*<MS weblogic domain admin password>* For example, IB_password=weblogic
SDP_JMSPROVIDER_URL	t3://*<SDP APP server IP Address or hostname>*:*<SDP Appserver port number>* For example, SDP_JMSPROVIDER_URL=t3://10.65.111.54:7001
SDP_userName	*<SDP weblogic console user name>* For example, SDP_userName=weblogic
SDP_password	*<SDP weblogic console password>* For example, SDP_password=weblogic

b. Save and close the file.

Step 3 Update the dc.properties file:

a. Modify the properties as follows:

datacollection.jms.providerUrl	t3**://<***MS Appserver IP Address or hostname***>:<***MS Appserver port number***>** For example, datacollection.jms.providerUrl=t3://10.65.111.54:8001
datacollection.jms.securityPrincipal	*<MS weblogic console user name>* For example, datacollection.jms.securityPrincipal=weblogic

datacollection.jms.securityCredentials	*<MS weblogic console password>* For example, datacollection.jms.securityCredentials=weblogic
datacollection.unitxml.path=	*<MS_INSTALL_DIRECTORY>*/ms_config/datacollection/unit.xml For example, datacollection.unitxml.path=/home/scc-qa/ms_config/datacollection/unit.xml

b. Save and close the file.

Step 4 Modify the logging.properties file to update the directory in which the MS & DS Application log file needs to be generated:

a. Create the 'ms_log' folder under *<MS_INSTALL_DIRECTORY>* directory, and provide the read and write access.

b. Search for the line starting with `java.util.logging.FileHander.pattern` and replace it as follows:

```
java.util.logging.FileHandler.pattern=<MS_INSTALL_DIRECTORY>/ms_log/MS-%u.log
```

Note By default, the logging level is set to SEVERE for the modules and can be customized as per your requirements.

c. Save and close the file.

Setting up Data Collection

To collect data from a Building Management System (BMS), you need to provide information on data points and the corresponding metadata in the SSP_DEVICE_PROPERTY_METADATA table.The device components are controlled by metadata and the metadata units are derived from units.xml file.

Every device added in the SDP has a unique property ID. For historic trending, reporting and policies for system generated alarms, the solution uses data collection tables and metadata table of Data Collection Schema. The collected data is mapped to the associated location and device instance.

Table 2-3 Metadata Properties

Property	Purpose
METADATA_ID	Primary key field of the table.
PROPERTY_VALUE_ID	Used to derive the id from the SSP_DEVICE_PROPERTY table which is unique across all the devices. It should be added in the SSP_DEVICE_PROPERTY_METADATA table.
TRENDABLE	If the trendable property is set to one, the data collector collects data for the property at the specified trend frequency.
TREND_FREQUENCY	Used to set the rate of data collection. Unit of measurement is minutes. The minimum value that can be provided is one minute.

Table 2-3 Metadata Properties (continued)

Property	Purpose
UNIT_CONFIG	Unit of the data stored in the collection table in the database.
UNIT_MEASURED	Used to set the value of the unit of the data measured in BMS gateway. For example, water is measured in cubic meters.
MONITORABLE	Not applicable for the Smart+Connected MS & DS application. Therefore, the value must be set to zero.
CUMULATIVE	Not applicable for the Smart+Connected MS & DS application. Therefore, the value must be set to zero.
SCHEDULABLE	Not applicable for the Smart+Connected MS & DS application. Therefore, the value must be set to zero.
CONTROLLABLE	Not applicable for the Smart+Connected MS & DS application. Therefore, the value must be set to zero.
REPORTABLE	Not applicable for the Smart+Connected MS & DS application. Therefore, the value must be set to zero.
ALARMABLE	Not applicable for the Smart+Connected MS & DS application. Therefore, the value must be set to zero.
IS_NUMERIC	For a string property, the value is zero and the data gets collected in SSP_DATA_COLL_VAR table. For a numeric property, the value is one and the data gets collected in SSP_DATA_COLL table.
THRESHOLD	The threshold value is set only when it is cumulative and is based on UNIT_CONFIG value. After the threshold value is reached, the energy meter reading is reset.

Starting the WebLogic Server

You need to start the WebLogic server after completing all the above tasks, such as installing the Smart+Connected MS & DS application, configuring the database, setting up the WebLogic domain, and so on.

To start the WebLogic server, perform the following steps:

Step 1 In a terminal session, navigate to the following location:

<*BEA_HOME*>/user_projects/domains/<*your domain*>/bin, where <*BEA_HOME*> is the location at which WebLogic is installed.

Step 2 Use the following command to start the WebLogic server:

```
./startWebLogic.sh
```

When prompted, enter the username and password that you provided while creating the domain. For example, weblogic/weblogic.

Deploying the Apache Jackrabbit and the Smart+Connected MS & DS Application

To deploy the Apache Jackrabbit and the Smart+Connected MS & DS application, perform the following steps:

Step 1 Copy the jackrabbit-jca-2.2.8.rar from <*MS_INSTALL_DIRECTORY*>/pkg-jackrabbit to solutions domain library (<*BEA_HOME*>/scms/bin/apps).

Step 2 Copy the Smart_Connected_Meeting_Spaces_and_Digital_Signage.ear file from <*MS_INSTALL_DIRECTORY*>/pkg-apps folder, to solutions domain library (<*BEA_HOME*>/scms/bin/apps)

Note <*BEA_HOME*> is the location at which WebLogic is installed, and <*MS_INSTALL_DIRECTORY*> is the location at which the Smart+Connected MS & DS application is installed.

Step 3 Restart the WebLogic server.

For information, see the "Restarting the WebLogic Server" section on page 2-34.

Importing SSL Certificates

You must import the SSL certificates for the Cisco Unified Communications Manager (CUCM) and the Exchange Server. You may require to import the SSL certificates for the Cisco Digital Media Player (DMP), Cisco Interactive Experience Client (IEC), and Light Weight Directory Access Protocol (LDAP).

Before you begin importing the SSL certificates, ensure that you obtain the certificates from CUCM, Exchange, DMP, IEC, and LDAP, and store them in a directory on the application server.

To import the SSL certificates, perform the following steps:

Step 1 In a terminal session, navigate to the directory <*JAVA_HOME*>/bin, where <*JAVA_HOME*> is the location at which JDK is installed.

Step 2 Execute the following command:

```
./keytool -import -alias <Alias Name>  -file <Certificate File name with complete path>
-keystore <JAVA_HOME>/jre/lib/security/cacerts -storepass changeit
```

Where <*Certificate File name with complete path*> is the certificate file name with a complete directory path where you store your certificates, and <*Alias Name*> is the unique alias name.

For example:

- CUCM—./keytool -import -alias CM -file /home/scc-qa/CM115.cer -keystore /home/scc-qa/Desktop/jdk1.6.0_24/jre/lib/security/cacerts -storepass changeit
- DMP—./keytool -import -alias DMP -file /home/scc-qa/DMP.cer -keystore /home/scc-qa/Desktop/jdk1.6.0_24/jre/lib/security/cacerts -storepass changeit
- IEC—./keytool -import -alias IEC -file /home/scc-qa/IEC.cer -keystore /home/scc-qa/Desktop/jdk1.6.0_24/jre/lib/security/cacerts -storepass changeit

- Exchange Server—./keytool -import -alias EXCH -file /home/scc-qa/EXCH.cer -keystore /home/scc-qa/Desktop/jdk1.6.0_24/jre/lib/security/cacerts -storepass changeit

Note If you have installed JDK 1.6 update 24 using an RPM binary bundle, you need SUDO access to add the certificate to the keystore.

A message is displayed that prompts you to trust this certificate.

Step 3 Choose **Yes**, and press **Enter**.

The certificates are imported.

Step 4 In the setDomainEnv.sh file in the WebLogic domain directory, append the JAVA_PROPERTIES line with the following line:

```
-Dweblogic.net.proxyAuthenticatorClassName=java.net.Authenticator
-Djavax.net.ssl.trustStore=<JAVA_HOME>/jre/lib/security/cacerts
-Djavax.net.ssl.trustStorePassword=changeit
```

For example:

```
-Dweblogic.net.proxyAuthenticatorClassName=java.net.Authenticator
-Djavax.net.ssl.trustStore=/usr/java/default/jre/lib/security/cacerts
-Djavax.net.ssl.trustStorePassword=changeit
```

Step 5 Restart the WebLogic server.

Restarting the WebLogic Server

You must restart the WebLogic server if you have made any changes through the WebLogic console or any configuration changes that require a restart of the server.

To restart the WebLogic server, perform the following steps:

Step 1 In a terminal session, navigate to the following location:

<*BEA_HOME*>/user_projects/domains/<*your domain*>/bin, where <*BEA_HOME*> is the location at which WebLogic is installed.

Step 2 Stop the WebLogic server using the following command:

```
./stopWebLogic.sh
```

Step 3 When the WebLogic server is stopped and the prompt returns, start the WebLogic server using the following command:

```
./startWebLogic.sh
```

When prompted, enter the username and password that you provided while creating the domain. For example, weblogic/weblogic.

Assigning Roles and Locations to IBUser

To access the Smart+Connected MS & DS application, you need to assign roles and locations to the 'IBUser'. 'IBUser' is the default user that is created with the seed data.

You can assign roles and locations by performing the following tasks in the SDP:

- Assigning the InfoBundle Manager role to 'IBUser'.
- Assigning specific locations to the InfoBundle Manager role.

To assign roles and locations to 'IBUser' in the SDP, perform the following steps:

Step 1 Log in into the SDP application.

For more information on how to log in to the SDP application, see the *Cisco Service Delivery Platform User Guide*.

Step 2 To assign the InfoBundle Manager role to 'IBUser', do the following:

a. Click the **Users & Roles** tab.

The List of Users area displays the 'IBUser'.

b. In the User Name column, click 'IBUser', and in the View User page, click **Edit**.

The Edit User page appears.

c. In the Assign Roles and Locations area, click **Assign New Role**.

The Select Roles for the Users dialog box appears. The Available Roles box lists the InfoBundle Manager role.

d. In the Available Roles column, select the InfoBundle Manager role, and click **Add**.

e. Click **Assign and Close**.

The InfoBundle Manager role is assigned to 'IBUser' along with the associated permissions.

f. Click **Save**.

Step 3 To assign specific locations to the InfoBundle Manager role, do the following:

a. Ensure that the locations that you want to assign to the InfoBundle Manager role is already added in SDP.

b. In the Assigned Locations column of the Assign Roles and Locations area, click **Assign Locations** next to the InfoBundle Manager role.

The Assign Locations dialog box appears with a location hierarchy. The location hierarchy lists the locations for which you have been assigned permissions.

c. In the location hierarchy, select a location that you want to associate to the InfoBundle Manager.

You can use shortcut tools to search and select a location in the location hierarchy.

d. Click **Assign**.

The selected location is assigned to the InfoBundle Manager.

e. Click **Save**.

Creating and Assigning Webcalendar Roles

To create users and assign Webcalendar User roles, perform the following steps:

Step 1 Log in into the SDP application.

For more information on how to log in to the SDP application, see the *Cisco Service Delivery Platform User Guide*.

Step 2 Choose **Users and Roles > Create a User**.

The Create User page appears.

Step 3 Enter the user details and click **Save**.

For more information on how to create users, see the *Cisco Service Delivery Platform User Guide*.

Step 4 To assign the Webcalendar User role, do the following:

a. Click the **Users & Roles** tab.

The List of Users area displays all the users.

b. In the User Name column, click the specific user, and in the View User page, click **Edit**.

The Edit User page appears.

c. In the Assign Roles and Locations area, click **Assign New Role**.

The Select Roles for the Users dialog box appears. The Available Roles box lists the Webcalendar User role.

d. In the Available Roles column, select the Webcalendar User role, and click **Add**.

e. Click **Assign and Close**.

The Webcalendar User role is assigned along with the associated permissions.

f. Click **Save**.

Accessing the Smart+Connected MS & DS Application

To access the Smart+Connected MS & DS application, perform the following steps:

Step 1 In a Web browser, type the URL http://<*host*>:<*port*>/solutions/, where <*host*> is the host IP address or DNS hostname and <*port*> is the port number of the Weblogic application server.

Step 2 Press **Enter**.

The Smart+Connected MS & DS Login page appears.

Step 3 Enter the username and password for the Smart+Connected MS & DS application, and click **Login**.

Your default login credentials are:

- Username—superadmin
- Password—superadmin

You can change your password by logging in to the SDP application. You can also create additional users by using the SDP application. For more information on how to assign roles and permissions to users in the SDP application, see the *Cisco Service Delivery Platform User Guide.*

For more information on how to use the Smart+Connected MS & DS features, see the *Cisco Smart+Connected Meeting Spaces User Guide and Cisco Smart+Connected Digital Signage User Guide*.

Accessing the Web Calendar

After performing all installation tasks, you can access the Smart+Connected MS & DS web calendar.

To access the Smart+Connected MS & DS web calendar, perform the following steps:

Step 1 In a Web browser, type the URL http://<*host*>:<*port*>/calendar/, where <*host*> is the host IP address or DNS hostname and <*port*> is the port number of the WebLogic application server.

Step 2 Press **Enter**.

The Smart+Connected MS & DS Login page appears.

Step 3 Enter the username and password for the Smart+Connected MS & DS web calendar, and click **Login**.

You can change your password by logging in to the SDP application. You can also create additional users by using the SDP application. For more information on how to assign roles and permissions to users in the SDP application, see the *Cisco Service Delivery Platform User Guide.*

For more information on how to use the Smart+Connected MS & DS features, see the *Cisco Smart+Connected Meeting Spaces User Guide and Cisco Smart+Connected Digital Signage User Guide*.

Installing on a Cluster Server Setup

To install the Smart+Connected MS & DS application on a cluster server setup, perform the following steps in order:

1. Installing the Application, page 2-18
2. Configuring the Smart+Connected MS & DS Database, page 2-18
3. Configuring the JAVA File, page 2-19
4. Setting up Managed Servers, page 2-19
5. Creating WebLogic Domain for Admin/Proxy Server, page 2-26
6. Extending WebLogic Domain for Admin/Proxy Server, page 2-28
7. Starting the Administrative Server, page 2-29
8. Configuring the Cluster, page 2-29
9. Deploying Apache Jackrabbit, page 2-34
10. Deploying the Smart+Connected MS & DS Application, page 2-35
11. Starting Managed Server and Proxy Server, page 2-35
12. Starting Application/Cluster Services, page 2-36
13. Configuring the Apache Jackrabbit Repository, page 2-36
14. Importing SSL Certificates, page 2-39
15. Assigning Roles and Locations to IBUser, page 2-39
16. Accessing the Application, page 2-39
17. Accessing the Web Calendar, page 2-39

About Clustering

A WebLogic server cluster consists of multiple WebLogic server instances running simultaneously and working together to provide increased scalability, reliability, and high availability. A cluster appears to clients as a single WebLogic server instance. The server instances that constitute a cluster run on the same machine or are usually located on different machines. You can increase a cluster's capacity by adding additional server instances to the cluster on an existing machine or on different machines. Each server instance in a cluster must run on the same WebLogic version.

An example of clustered deployment in a distributed environment is explained below. It has the following constituents:

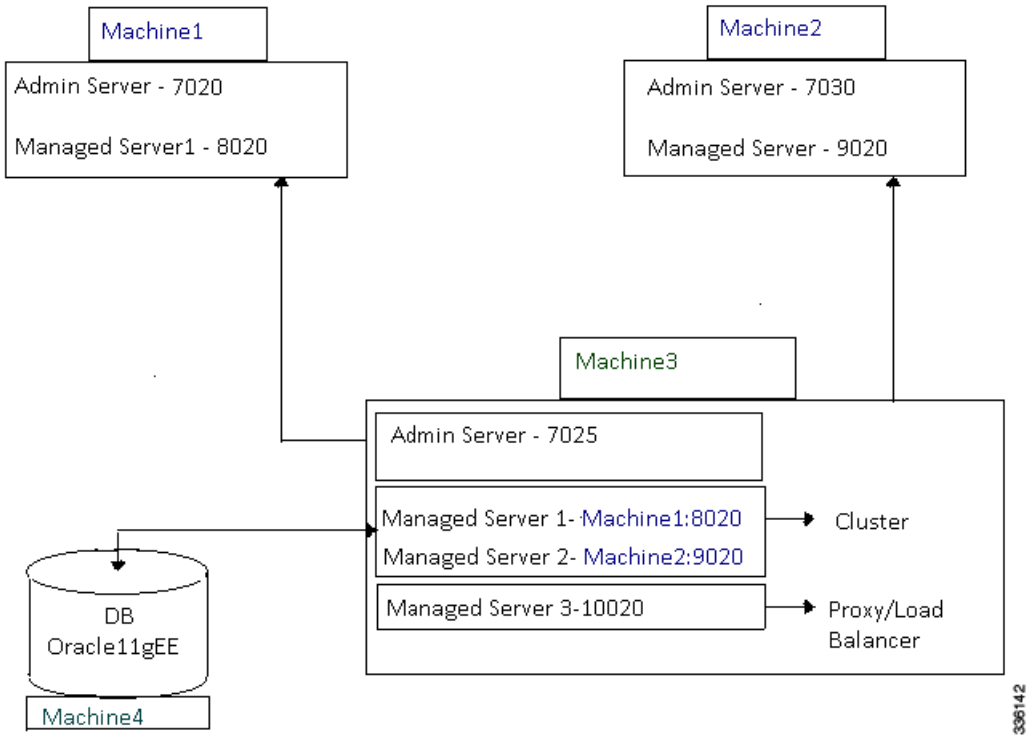
- Database is non-clustered.
- Application servers are clustered.
- Three virtual machines host the application servers.
- One of the virtual machines hosts the administrative server and a proxy server. This proxy server acts as a software load balancer.
- Application is deployed on two machines—Machine 1 and Machine 2—that has two managed servers.

You can modify this setup based on your requirements, such as number of managed servers, port numbers, and so on.

An example of cluster setup is as follows:

- Machine 1: WebLogic Managed Server 1 (WebLogic 11g)
- Machine 2: WebLogic Managed Server 2 (WebLogic 11g)
- Machine 3: WebLogic Admin Server and HTTP Proxy Server (WebLogic 11g)
- Machine 4: Database Server (Oracle Database 11g)

Figure 2-1 Clustering in a Distributed Setup



Installing the Application

For information on how to install the Smart+Connected MS & DS application, see the "Installing the Application" section on page 2-2.

Configuring the Smart+Connected MS & DS Database

For information on how to configure the Smart+Connected MS & DS database, see the "Configuring the Database" section on page 2-3.

Configuring the JAVA File

To configure the JAVA file, perform the following steps:

Step 1 Navigate to the location *$JAVA_HOME*/jre/lib/security directory and open the java.security file for editing.

Step 2 Search for the below text:

```
securerandom.source=file:/dev/urandom
```

Replace with:

```
securerandom.source=file:/dev/./urandom
```

Setting up Managed Servers

The following section explains the configuration required to set up the managed server on one host. In order to complete the setup, the same configuration must be performed on all the other managed servers.

- Creating a New WebLogic Domain for a Managed Server, page 2-19
- Extending the WebLogic Domain for a Managed Server, page 2-21
- Configuring the Property Files, page 2-22
- Configuring Jackrabbit in Managed Server, page 2-26

Creating a New WebLogic Domain for a Managed Server

To create a WebLogic domain for managed servers on the machines that are described in Figure 2-1, perform the following steps:

Step 1 Log in to the machine where you want to create a WebLogic domain.

Navigate to <*BEA_HOME*>/wlserver_10.3/common/bin and run the **config.sh** file, where <*BEA_HOME*> is the location at which WebLogic is installed.

The Configuration Wizard appears.

Step 2 Choose **Create a new WebLogic domain**, and click **Next**.

The Select Domain Source screen appears.

Step 3 Select **Generate a domain configured automatically to support the following products**, and click **Next**.

The Specify Domain Name and Location screen appears.Specify the domain and location for the domain.

Step 4 Enter the domain name in the Domain Name field.

Step 5 Browse for or enter the path where you want to save the domain and click **Next**.

It is recommended that you create the domain at the default location.

The Configuration Administrator Username and Password screen appears.

Step 6 Enter the administrator username, password, confirm password, and description in the corresponding fields and click **Next**.

The Configure Server Start Mode and JDK screen appears.

Step 7 In the Select JDK and Start Mode screen, do the following:

a. Under WebLogic Domain Startup Mode, choose **Production Mode**.

b. Under Available JDKs, choose **Sun SDK 1.6.0_24**.

c. Click **Next**.

The Select Optional Configuration Screen appears.

Step 8 Select the Adminstration Server, Manager Servers, Clusters and Machines, RDBMS Security Stores check boxes, and click **Next**.

The Configure the Administration Server screen appears.

Step 9 Enter the following details, and click **Next**:

- In the Listen Port field for Machine1, enter 7020.
- In the Listen address field, enter IP address of the managed server.

Note Use Listen Port 7030 for Machine 2.

The Configure Managed Server screen appears.

Step 10 To add the managed server, perform the following steps:

a. In the Configure Managed Servers screen, click **Add**.

A row for the new managed server appears.

b. In the Name field, enter the name of the managed server, for example, MS1.

Note When you configure the managed server names for Machine 1 and Machine 2, you must ensure that the managed server names are unique. For example, MS1 is for Machine 1, while MS2 is for Machine2.

c. In the Listen address field, enter the host IP address of the managed server 1.

d. In the Listen port field, enter the port number as 8020. The port 8020 is the listen port of the managed server 1.

Note Use Listen Port 9020 for Machine 2.

e. Click **Next**.

The Configure Clusters screen appears.

Step 11 Click **Next**.

The Configure Machines screen appears.

Step 12 Click **Next**.

The Configure RDBMS Security Store Database screen appears.

Step 13 Click **Next**.

The Configuration Summary screen appears.

Step 14 Review the details, and click **Create**.

A new WebLogic domain is created.

Note After creating the WebLogic domain, you can navigate to <*BEA_HOME*>/user_projects/domains and verify that the domain is created successfully. If you have specified a different location for the domain, navigate to that location to verify if the domain is created successfully.

Extending the WebLogic Domain for a Managed Server

To extend the Oracle WebLogic server domain using the domain template, perform the following steps:

Step 1 Navigate to <*BEA_HOME*>/wlserver_10.3/common/bin, where <*BEA_HOME*> is the location at which WebLogic is installed and run the **config.sh** command in the command mode. For example, **./configu.sh -mode=console**.

The console mode that displays options to either create or extend the WebLogic domain appears.

Step 2 Select the option to extend the WebLogic domain and press **Enter**.

Step 3 From the list of domain directories, choose the domain directory and press **Enter**.

Step 4 Select the option to choose the custom template and press **Enter**.

Step 5 Enter the path to the domain template and press **Enter**.

The domain template for SDP is located at: <SDP_HOME>/sdp/templates/domains/10g/sdp10gdomain.jar, where <SDP_HOME> is the location at which you have installed the SDP.

Step 6 Select the option to modify the Data Sources and press **Enter**.

Step 7 Select the option to modify the DBMS name, enter the database SID, and press **Enter**.

Step 8 Select the option to modify the DBMS host name, enter the database host IP address or the DNS hostname, and press **Enter**.

Step 9 Select the option to modify the DBMS port number, enter the database port number (default port for Oracle is 1521), and press **Enter**.

Step 10 Select the option to modify the username, enter the schema username, and press **Enter**.

Step 11 Select the option to modify the password, enter the schema password, and press **Enter**.

Step 12 Select the option to confirm the password, enter the schema password, and press **Enter**.

Step 13 Press **Accept**.

Step 14 A confirmation message requesting you to proceed appears. Press **Yes**.

The WebLogic domain is successfully extended.

Configuring the Property Files

- Updating the Property Files, page 2-22
- Setting up Data Collection, page 2-25
- Adding Configurations to the WebLogic Server, page 2-25

Updating the Property Files

To update the application.properties, dc.properties, logging.properties, and ehcacheconfig.xml files, perform the following steps:

Step 1 Copy the properties files from <*MS_INSTALL_DIRECTORY*> to a local directory.

a. Create a folder with a name 'ms_config' under the directory in which the Smart+Connected MS & DS application is set up, and assign the read and write permissions.

b. Open a terminal and navigate to <*MS_INSTALL_DIRECTORY*>/pkg-properties, where <*MS_INSTALL_DIRECTORY*> is the location at which the Smart+Connected MS & DS application is installed.

c. Copy the application.properties.sample file to the <*MS_INSTALL_DIRECTORY*>/ms_config directory with the target file name as application.properties.

For example: cp application.properties.sample <*MS_INSTALL_DIRECTORY*>/ms_config/application.properties

d. Copy the LDAP.properties.sample file to the <*MS_INSTALL_DIRECTORY*>/ms_config location with the target file name as LDAP.properties.

For example: cp LDAP.properties.sample <*MS_INSTALL_DIRECTORY*>/ms_config/LDAP.properties

e. Navigate to <*MS_INSTALL_DIRECTORY*>/pkg-properties/logging and copy the logging.properties.sample file to the location <*MS_INSTALL_DIRECTORY*>/ms_config with the target file name as logging.properties.

For example: cp logging.properties.sample <*MS_INSTALL_DIRECTORY*>/ms_config/logging.properties

f. Navigate to <*MS_INSTALL_DIRECTORY*>/pkg-properties/ and copy the directory datacollection to the <*MS_INSTALL_DIRECTORY*>/ms_config location.

For example: cp -r datacollection <*MS_INSTALL_DIRECTORY*>/ms_config

g. Navigate to <MS_INSTALL_DIRECTORY>/pkg-properties/ and copy the ehcacheconfig.xml

Step 2 Update the application.properties file:

a. Modify the properties as follows:

IB_JMSPROVIDER_URL	*t3://<MS managed server IP Address or hostname>:<MSmanaged server port number>* For example, • For managed server 1: IB_JMSPROVIDER_URL=t3://10.65.111.54:8020 • For managed server 2: IB_JMSPROVIDER_URL=t3://10.65.111.55:9020
IB_userName	*<MS weblogic domain admin userid>* For example, IB_userName=weblogic
IB_password	*<MS weblogic domain admin password>* For example, IB_password=weblogic
SDP_JMSPROVIDER_URL	t3://*<SDP APP server IP Address or hostname>*:*<SDP Appserver port number>* For example, SDP_JMSPROVIDER_URL=t3://10.65.111.56:7001
SDP_userName	*<SDP weblogic console user name>* For example, SDP_userName=weblogic
SDP_password	*<SDP weblogic console password>* For example, SDP_password=weblogic

b. Save and close the file.

Step 3 Update the dc.properties file:

a. Modify the properties as follows:

datacollection.jms.providerUrl	t3://<MS managed server IP Address or hostname>:<MSmanaged server port number> For example, • For Managed Server1: datacollection.jms.providerUrl=t3://10.65.111.54:8020 • For Managed Server2: datacollection.jms.providerUrl=t3://10.65.111.55:9020
datacollection.jms.securityPrincipal	*<MS weblogic console user name>* For example, datacollection.jms.securityPrincipal=weblogic

datacollection.jms.securityCredentials	*<MS weblogic console password>* For example, datacollection.jms.securityCredentials=weblogic
datacollection.unitxml.path=	*<MS_INSTALL_DIRECTORY>*/ms_config/datacollection/unit.xml For example, datacollection.unitxml.path=/home/scc-qa/ms_config/datacollection/unit.xml

b. Save and close the file.

Step 4 Modify the logging.properties file to update the directory in which the MS & DS application log file needs to be generated:

a. Create the 'ms_log' folder under *<MS_INSTALL_DIRECTORY>* directory, and provide the read and write access.

b. Search for the line starting with `java.util.logging.FileHander.pattern` and replace it as follows:

```
java.util.logging.FileHandler.pattern=<MS_INSTALL_DIRECTORY>/ms_log/MS-%u.log
```

Note By default, the logging level is set to SEVERE for the modules and can be customized as per your requirements.

c. Save and close the file.

Step 5 Modify the ehcacheconfig.xml file to identify the cache configurations:

a. Search for the following text:

```
<cacheManagerPeerProviderFactory
class="net.sf.ehcache.distribution.RMICacheManagerPeerProviderFactory"
properties="peerDiscovery=manual,
rmiUrls=//server2:4001/sampleCache11|=//server2:4001/sampleCache12">
```

b. Replace with:

```
<cacheManagerPeerProviderFactory
class="net.sf.ehcache.distribution.RMICacheManagerPeerProviderFactory"
properties="peerDiscovery=manual,
rmiUrls=//<MS managed server IP address or hostname>:40001/ipphone.cache|//<MS managed
server IP address or hostname>:40001/subscription.cache|//<MS managed server IP address or
hostname>:40001/locationproperty.cache|//<MS managed server IP address or
hostname>:40001/timezone.cache|//<MS managed server IP address or
hostname>:40001/equipment.cache|//<MS managed server IP address or
hostname>:40001/iec.cache"/>
```

For example:

- For Managed Server1:

  MS managed server IP address or hostname=Managed Server2 IP Address or hostname

- For Managed Server2:

  MS managed server IP address or hostname=Managed Server1 IP Address or hostname

Setting up Data Collection

You must set up data collection to gather the data which the Green Advisor module in Smart+Connected DS uses to display reports. For information on how to set up data collection, see the "Setting up Data Collection" section on page 2-10.

Adding Configurations to the WebLogic Server

You must configure the WebLogic server for data collection.

To add the configurations to the WebLogic server, perform the following steps:

Step 1 Open the setDomainEnv.sh file using an editor. The setDomainEnv.sh file is available at: <*BEA_HOME*>/user_projects/domains/<*your domain*>, where <*BEA_HOME*> is the location at which WebLogic is installed.

Step 2 Search for the following text:

```
JAVA_PROPERTIES="${JAVA_PROPERTIES} -da:com.sun.xml.ws...
-Dsdp.cache.config=${DOMAIN_HOME}/sdp/config/platform/cache/sdpcacheconfig.xml
-Dshared.dir=${DOMAIN_HOME}/sdp/shared -Dsdp.mt.mode=1 -Dsdp.event.config.mode=global”
```

Step 3 Append the following statement at the end of the above text:

```
-Dcom.cisco.sdp.ldap.configfilepath=<MS_INSTALL_DIRECTORY>/ms_config/LDAP.properties
-DUseSunHttpHandler=true
-Dapplication.properties.filepath=<MS_INSTALL_DIRECTORY>/ms_config/application.properties
-Dipphone.usagemetrics=true
-DDataCollectionPropertyFilePath=<MS_INSTALL_DIRECTORY>/ms_config/datacollection/dc.proper
ties -Djava.util.logging.config.file=<MS_INSTALL_DIRECTORY>/ms_config/logging.properties
-Dweblogic.management.clearTextCredentialAccessEnabled=true
-Dorg.quartz.properties= <MS_INSTALL_DIRECTORY>/ms_config/datacollection/quartz.properties
-Dib.cache.config=<MS_INSTALL_DIRECTORY>/ms_config/ehcacheconfig.xml
-DWebexPropertyFilePath=<MS_INSTALL_DIRECTORY>/ms_config/cleWebexAdapterConfig-MC.properti
es"
```

For example:

```
JAVA_PROPERTIES="${JAVA_PROPERTIES} -da:com.sun.xml.ws...
-Dsdp.cache.config=${DOMAIN_HOME}/sdp/config/platform/cache/sdpcacheconfig.xml
-Dshared.dir=${DOMAIN_HOME}/sdp/shared -Dsdp.mt.mode=1 -Dsdp.event.config.mode=global
-Dcom.cisco.sdp.ldap.configfilepath=/home/scc-qa/ms_config/LDAP.properties
-DUseSunHttpHandler=true
-Dapplication.properties.filepath=/home/scc-qa/ms_config/application.properties
-Dipphone.usagemetrics=true
-DDataCollectionPropertyFilePath=/home/scc-qa/ms_config/datacollection/dc.properties
-Djava.util.logging.config.file=/home/scc-qa/ms_config/logging.properties
-Dweblogic.management.clearTextCredentialAccessEnabled=true"
-Dorg.quartz.properties= <MS_INSTALL_DIRECTORY>/ms_config/datacollection/quartz.properties
-Dib.cache.config=<MS_INSTALL_DIRECTORY>/ms_config/ehcacheconfig.xml
-DWebexPropertyFilePath=<MS_INSTALL_DIRECTORY>/ms_config/cleWebexAdapterConfig-MC.properti
es”
```

Step 4 Save and close the setDomainEnv.sh file.

Configuring Jackrabbit in Managed Server

To configure Jackrabbit in a managed server, perform the following steps:

Step 1 Navigate to the following location:

<MS_INSTALL_DIRECTORY>/pkg-jackrabbit

Step 2 Copy jcr-2.0.jar to the directory *<BEA_HOME>*/user_projects/domains/*<Your domain>*/lib, where *<BEA_HOME>* is the location at which WebLogic is installed.

Jackrabbit is successfully configured in a managed server.

Creating WebLogic Domain for Admin/Proxy Server

You must create a WebLogic domain for the admin/proxy server so that the application can be deployed from administrative console. After the application is deployed, it can be accessed from other machines through the proxy server.

To create a WebLogic domain for admin/proxy server, perform the following steps:

Step 1 Log in to Machine 3 where you want to create the admin or proxy server.

In the file browser, navigate to *<BEA_HOME>*/wlserver_10.3/common/bin and run the **config.sh** file.

Where *<BEA_HOME>* is the location at which WebLogic is installed.

The Configuration Wizard appears.

Step 2 Choose **Create a new WebLogic domain**, and click **Next**.

The Select Domain Source screen appears.

Step 3 Select **Generate a domain configured automatically to support the following products**, and click **Next**.

The Specify Domain Name and Location screen appears.Specify the domain and location for the domain.

Step 4 Enter the domain name in the Domain Name field.

Step 5 Browse for or enter the path where you want to save the domain and click **Next**.

It is recommended that you create the domain at the default location.

The Configuration Administrator Username and Password screen appears.

Step 6 Enter the administrator username, password, confirm password, and description in the corresponding fields and click **Next**.

Step 7 In the Select JDK and Start Mode screen, do the following:

a. Under WebLogic Domain Startup Mode, choose Production Mode.

b. Under Available JDKs, choose **Sun SDK 1.6.0_24**.

c. Click **Next**.

The Select Optional Configuration Screen appears.

Step 8 Select the Adminstration Server, Manager Servers, Clusters and Machines, RDBMS Security Stores check boxes, and click **Next**.

The Configure the Administration Server screen appears.

Step 9 Enter the following details, and click **Next**:

- In the Listen Port field, enter 7025.
- In the Listen address field, enter IP address of the admin server.

The Configure Managed Server screen appears.

Step 10 To add the managed server, perform the following steps:

a. In the Configure Managed Servers screen, click **Add**.

   A row for the new managed server appears.

b. In the Name field, enter the name of the managed server, for example, MS1.

c. In the Listen address field, enter the host IP address of the managed server 1.

d. In the Listen port field, enter the port number as 8020. The port 8020 is the listen port of the managed server 1.

e. On the Configure Managed Servers page, click **Add**.

   A row for the new managed server appears.

f. In the Name field, enter the name of the managed server. For example, MS2.

g. In the Listen address field, enter the host IP address of the managed server 2.

h. In the Listen port field, enter the port number as 9020. The port 9020 is the listen port of the managed server 2.

i. In the Configure Managed Servers screen, click the **Add**.

   A row for the new managed server appears to add the proxy server.

j. In the Name field, enter the name of the managed server. For example, MS3.

k. In the Listen address field, enter the host IP address of the admin/proxy server.

l. In the Listen port field, enter the port number as 10020. The port 10020 is the listen port of the proxy server.

Step 11 Click **Next**.

The Configure Clusters screen appears.

Step 12 Click **Add** and do the following:

- Enter a name for the cluster, for example MSCluster.
- Change the multicast port to 11020.

Step 13 Click **Next**.

The Assign Servers to the Clusters screen appears.

Step 14 Move all the managed servers from the Servers pane to the Cluster pane but do not move the proxy server (MS3).

Step 15 Click **Next**.

The Create HTTP Proxy Applications screen appears.

Select the **Create HTTP proxy for cluster** <*cluster_name*> check box. Ensure that MS3 is selected in the proxy server combo box.

Step 16 Click **Next**.

The Configure machines screen appears.

Step 17 Click **Next**.

The Configure RDBMS Security Store Database screen appears.

Step 18 Select **I don't want to change anything here**, and click **Next**.

The Review WebLogic Domain screen appears.

Step 19 Review the domain and then click **Create**.

A new WebLogic domain is created.

Note After creating the WebLogic domain, you can navigate to <*BEA_HOME*>/user_projects/domains and verify that the domain is successfully created. If you have specified a different location for the domain, navigate to that location to verify that the domain is successfully created.

Extending WebLogic Domain for Admin/Proxy Server

To extend the WebLogic domain for admin/proxy server, perform the following steps:

Step 1 Navigate to <*BEA_HOME*>/wlserver_10.3/common/bin, where <*BEA_HOME*> is the location at which WebLogic is installed and run the **config.sh -mode=console** file.

The console mode that displays options to either create or extend the WebLogic domain appears.

Step 2 Select the option to xtend the WebLogic domain and press **Enter**.

Step 3 From the list of domain directories, choose the domain directory and press **Enter**. .

Step 4 Enter the path or browse to the domain template. The domain template for SDP is located at:

<*SDP_HOME*>/sdp/templates/domains/10g/sdp10gdomain.jar, where <*SDP_HOME*> is the location at which you have installed the SDP.

Step 5 Select the option to modify the Data Sources and press **Enter**.

Step 6 Select the option to modify the DBMS name, enter the database SID, and press **Enter**.

Step 7 Select the option to modify the DBMS host name, enter the database host IP address or the DNS hostname, and press **Enter**.

Step 8 Select the option to modify the DBMS port number, enter the database port number (default port for Oracle is 1521), and press **Enter**.

Step 9 Select the option to modify the username, enter the schema username, and press **Enter**.

Step 10 Select the option to modify the password, enter the schema password, and press **Enter**.

Step 11 Select the option to confirm the password, enter the schema password, and press **Enter**.

Step 12 Press **Accept**.

Step 13 A confirmation message requesting you to proceed with the update appears. Press **Yes**.

Step 14 The WebLogic domain is successfully updated.

Starting the Administrative Server

To start the admin server, see the "Starting the WebLogic Server" section on page 2-11.

Configuring the Cluster

- Configuring a Replication Group, page 2-29
- Setting Up the Message Types, page 2-30
- Enabling the WebLogic Plug-in, page 2-30
- Configuring Distributed JMS, page 2-31
- Restarting the WebLogic Server, page 2-34

Configuring a Replication Group

To configure a replication group, perform the following steps:

Step 1 Ensure that the administration server is up and running.

Step 2 Log in to the WebLogic Server Administration Console.

The WebLogic Server Administration Login page appears.

Step 3 Enter the user details that you had specified while creating the WebLogic domain, and click **Login**.

The WebLogic Server home page appears.

Step 4 Click **Lock & Edit**.

Step 5 In the Domain Structure pane, expand the 'Environment' node, and click **Servers**.

The Summary of Servers page appears. Ensure that all the servers are listed with the appropriate port numbers.

Step 6 In the Name column, select **MS 1**.

The Settings for Managed Server 1 page appears.

Step 7 Click **Cluster**, and enter the replication group name in the **Replication Group** field. For example, rep1

Step 8 Click **Save**.

Step 9 In the Name column, select **MS 2**.

The Settings for Managed Server 2 page appears.

Step 10 Click **Cluster**, and enter the replication group name in the **Replication Group** field. For example, rep1.

Note You must enter the same replication group name in both, MS 1 and MS 2. If you change the name, the clustering setup will not work.

Step 11 Click **Save**.

Step 12 Click **Activate Changes**.

Setting Up the Message Types

For a cluster setup, you must change the message settings from multicast to unicast.

To change the message settings, perform the following steps:

Step 1 Log in to the WebLogic Server Administration Console.

The WebLogic Server Administration Login page appears.

Step 2 Enter the user details that you have specified during the WebLogic domain creation, and click **Login**.

The WebLogic Server home page appears.

Step 3 In the Domain Structure pane, expand the 'Environment' node and click **Clusters**.

The Summary of Clusters page appears.

Step 4 Under the **Name** column, select **Cluster**.

The Settings for Cluster page appears.

Step 5 Under the **Configuration** tab, click the **Messaging** tab.

Step 6 Click **Lock and Edit**.

Step 7 From the **Messaging Mode** drop-down list, choose **Unicast**, and then click **Save**.

Step 8 Click **Activate Changes**.

The message settings are now changed to unicast successfully.

Enabling the WebLogic Plug-in

To enable the WebLogic plug-in for a cluster setup, perform the following steps:

Step 1 Log in to the WebLogic Server Administration Console.

The WebLogic Server Administration Login page appears.

Step 2 Enter the user details that you had specified while creating the WebLogic domain, and click **Login**.

The WebLogic Server home page appears.

Step 3 In the Domain Structure pane, expand the Environment node, and click **Clusters**.

The Summary of Clusters page appears.

Step 4 In the Name column, select **Cluster**.

The Settings for Cluster page appears.

Step 5 Click **Advanced**, and click **Lock & Edit**.

Step 6 Select the **WebLogic Plug-In Enabled** check box, and click **Save**.

Step 7 In the Domain Structure pane, click a domain name.

The settings for domain page appears.

Step 8 Click the **Web Applications** tab.

Step 9 Select the **Client Cert Proxy Enabled** and **WebLogic Plug-In Enabled** check boxes, and click **Save**.

Step 10 Click **Activate Changes**.

The WebLogic plug-in is successfully enabled.

Configuring Distributed JMS

To configure the distributed JMS configuration, perform the following steps:

Step 1 Log in to the WebLogic console using the administrator credentials that you provided while creating the domain.

Step 2 Click **Lock & Edit**.

Step 3 Choose **Domain Structure > Services > Messaging > JMS Servers**, and choose **New**.

Step 4 Enter the Name as sspJMSServer1, and click **Next**.

Step 5 Choose the target server as MS1 from the Target drop-down list and click **Finish**.

Step 6 Choose **Domain Structure > Services > Messaging > JMS Servers**, and choose **New**.

Step 7 Enter the name as sspJMSServer2 and click **Next**.

Step 8 Choose the target servers as MS2 from the Target drop-down list, and click **Finish**.

Step 9 Choose **Domain Structure > Services > Messaging > JMS Servers**, and choose **New**.

Step 10 Enter the Name as sspJMSServer3, and click **Next**.

Step 11 Choose the target servers as MS3 from the Target drop-down list, and click **Finish**.

Step 12 Choose **Domain Structure > Services > Messaging > JMS Modules**, and choose **New**.

Step 13 Enter the **Name** as sspJMSModule1 and click **Next**.

Step 14 Choose the cluster under Targets. Click **Next** and then click **Finish**.

Step 15 Choose **Domain Structure > Services > Messaging > JMS Modules**, and choose **New**.

Step 16 Enter the **Name** as sspJMSModule2, and click **Next**.

Step 17 Choose the target as Proxy (MS3), click **Next**, and click **Finish**.

Step 18 Choose **Domain Structure > Services > Messaging > JMS Modules > sspJMSModule1,** and click **New**.

Step 19 Choose **Connection Factory**, and click **Next**.

Step 20 Enter the Name as sspConnectionFactory1 and JNDI Name as jms/sspConnectionFactory, click **Next**, and click **Finish**.

Step 21 Choose **Domain Structure > Services > Messaging > JMS Modules > sspJMSModule1**, and choose **New**.

Step 22 Choose **Distributed Queue**, and click **Next**.

Step 23 Enter the Name as insertUsageQueue1 and JNDI Name as jms/insertUsageQueue. Click **Next** and then click **Finish**.

Step 24 Choose **Domain Structure > Services > Messaging > JMS Modules > sspJMSModule1**, and choose **New**.

Step 25 Choose **Distributed Queue** and click **Next**.

Step 26 Enter the Name as callbackExchangeQueue1 and JNDI Name as jms/callbackExchangeQueue. Click **Next** and then click **Finish**.

Step 27 Choose **Domain Structure > Services > Messaging > JMS Modules > sspJMSModule1**, and choose **New**.

Step 28 Choose **Distributed Queue** and click **Next**.

Step 29 Enter the Name as emailCaseManagementQueue1 and JNDI Name as jms/emailCaseManagementQueue. Click **Next** and click **Finish**.

Step 30 Choose **Domain Structure > Services > Messaging > JMS Modules > sspJMSModule1**, and choose **New**.

Step 31 Choose **Distributed Queue** and click **Next.**

Step 32 Enter the Name as emailPoisonQueue1 and JNDI Name as jms/emailPoisonQueue. Click **Next** and then click **Finish**.

Step 33 Choose **Domain Structure > Services > Messaging > JMS Modules > sspJMSModule1**, and choose **New**.

Step 34 Choose **Connection Factory** and click **Next**.

Step 35 Enter the Name as dataCollectionConnectionFactory1 and JNDI Name as jms/dataCollectionConnectionFactory. Click **Next** and then click **Finish**.

Step 36 Choose **Domain Structure > Services > Messaging > JMS Modules > sspJMSModule1**, and choose **New**.

Step 37 Choose **Distributed Queue** and click **Next**.

Step 38 Enter the Name as dataCollectionQueue1, JNDI Name as jms/dataCollectionQueue. Click **Next** and then click **Finish**.

Step 39 Choose **Domain Structure > Services > Messaging > JMS Modules > sspJMSModule2**, and choose **New**.

Step 40 Choose **Connection Factory** and click **Next**.

Step 41 Enter the Name as sspConnectionFactory2 and JNDI Name as jms/sspConnectionFactory. Click **Next** and click **Finish**.

Step 42 Choose **Domain Structure > Services > Messaging > JMS Modules > sspJMSModule2**, and choose **New**.

Step 43 Choose **Queue** and click **Next**.

Step 44 Enter the Name as insertUsageQueue2 and JNDI Name as jms/insertUsageQueue. Click **Next**.

Step 45 Click **Create a New Subdeployment**. Enter the Subdeployment Name as insertUsageQueueSubDeployment, and click **OK**.

Step 46 Choose **sspJMSServer3** under Targets, and click **Finish**.

Step 47 Choose **Domain Structure > Services > Messaging > JMS Modules > sspJMSModule2**, and choose **New**.

Step 48 Choose **Queue**, and click **Next**.

Step 49 Enter the Name as callbackExchangeQueue2 and JNDI Name as jms/callbackExchangeQueue. Click **Next**.

Step 50 Click **Create a New Subdeployment** and enter the Subdeployment Name as callbackExchangeQueueSubDeployment. Click **OK**.

Step 51 Choose **sspJMSServer3** under Targets, and click **Finish**.

Step 52 Choose **Domain Structure > Services > Messaging > JMS Modules > sspJMSModule2**, and choose **New**.

Step 53 Choose **Queue**, and click **Next**.

Step 54 Enter the Name as emailCaseManagementQueue2 and JNDI Name as jms/emailCaseManagementQueue. Click **Next**.

Step 55 Click **Create a New Subdeployment** and enter the Subdeployment Name as emailCaseManagementQueueSubdeployment. Click **OK**.

Step 56 Choose sspJMSServer3 under Targets and click **Finish**.

Step 57 Choose **Domain Structure > Services > Messaging > JMS Modules > sspJMSModule2**, and choose **New**.

Step 58 Choose **Queue** and click **Next**.

Step 59 Enter the Name as emailPoisonQueue2 and JNDI Name as jms/emailPoisonQueue. Click **Next**.

Step 60 Click **Create a New Subdeployment**. Enter the Subdeployment Name as emailPoisonQueueSubdeployment and click **OK**.

Step 61 Choose sspJMSServer3 under Targets, and click **Finish**.

Step 62 Choose **Domain Structure > Services > Messaging > JMS Modules > sspJMSModule2**, and choose **New**.

Step 63 Choose **Connection Factory**, and click **Next**.

Step 64 Enter the Name as dataCollectionConnectionFactory2 and JNDI Name as jms/dataCollectionConnectionFactory. Click **Next** and then click **Finish**.

Step 65 Choose **Domain Structure > Services > Messaging > JMS Modules > sspJMSModule2**, and choose **New**.

Step 66 Choose **Queue**, and click **Next**.

Step 67 Enter the Name as dataCollectionQueue2 and JNDI Name as jms/dataCollectionQueue. Click **Next**.

Step 68 Click **Create a New Subdeployment** and enter the Subdeployment Name as dataCollectionQueueSubdeployment. Click **OK**.

Step 69 Choose sspJMSServer3 under Targets, and click **Finish**.

Step 70 Choose **Domain Structure > Services > Messaging > JMS Modules > sspJMSModule1**.

Step 71 Click **emailCaseManagementQueue1**.

Step 72 Click the **Delivery Failure** tab.

Step 73 Enter the delay time between the redelivery tries in the Redelivery Delay Override field. Redelivery Delay is the interval after which another attempt to deliver the message will be made after a failed attempt.

Step 74 Enter the redelivery limit value in the Redelivery Limit field.

Step 75 Choose **Redirect** from the Expiration Policy drop-down list.

Step 76 Choose **emailPoisonQueue1** from the Error Destination drop-down list.

Step 77 Choose **Domain Structure > Services > Messaging > JMS Modules > sspJMSModule2**.

Step 78 Click **emailCaseManagementQueue2**.

Step 79 Click the **Delivery Failure** tab.

Step 80 In the **Redelivery Delay Override** field, enter the delay time between the redelivery tries.

Redelivery Delay is the interval after which another attempt to deliver the message will be made after a failed attempt.

Step 81 In the **Redelivery Limit** field, enter the redelivery limit value.

Step 82 From the Expiration Policy drop-down list, choose **Redirect**.

Step 83 From the Error Destination drop-down list, choose **emailPoisonQueue2**.

Step 84 Choose **Domain Structure > Services > Messaging > JMS Modules > sspJMSModule 1 > Summary of Resources > sspConnectionFactory1**.

Step 85 In the Settings for sspConnectionFactory1 page, click the **Transactions** tab.

Step 86 Select the **XA Connection Factory Enabled** check box, and click **Save**.

Step 87 Choose **Domain Structure > Services > Messaging > JMS Modules > sspJMSModule 2 > Summary of Resources > sspConnectionFactory2**.

Step 88 In the Settings for sspConnectionFactory2 page, click the **Transactions** tab.

Step 89 Select the **XA Connection Factory Enabled** check box, and click **Save**.

Step 90 Click **Activate Changes**.

Restarting the WebLogic Server

For information on how to restart the WebLogic server, see the "Restarting the WebLogic Server" section on page 2-13.

Deploying Apache Jackrabbit

To deploy the Apache Jackrabbit, perform the following steps on the administrative server:

Step 1 Log in to the WebLogic Server Administration Console.

The WebLogic home page appears.

Step 2 In the WebLogic home page, under the **Domain Structure**, click **Deployments**.

The Summary of Deployments page appears.

Step 3 Click **Lock & Edit.**

Step 4 Delete the sdpApp and the sdpreport created when you use the SDP domain extension template.

Step 5 Click **Install**.

Navigate to <*MS_INSTALL_DIRECTORY*>/pkg-jackrabbit by either selecting the current location option or by entering path in the path field, and select the jackrabbit-jca-2.2.8.rar file.

Step 6 Click **Next**.

Step 7 Install this deployment as an application, and click **Next**.

Step 8 Select the configured cluster as a target, and click **Next**.

Step 9 Click **Yes, take me to the deployment's configuration screen**, and click **Finish**.

The Configuration screen appears.

Step 10 Change the Deployment Order to 50, and click **Save**.

Step 11 Click **Activate Changes**.

Deploying the Smart+Connected MS & DS Application

To deploy the Smart+Connected MS & DS application for the cluster, perform the following steps on the administrative server:

Step 1 Log in to the WebLogic Administration Console.

The WebLogic home page appears.

Step 2 Click **Lock & Edit**.

Step 3 Click **Deployments**, and choose **Install**.

Step 4 Browse for the Smart_Connected_Meeting_Spaces_and_Digital_Signage.ear file that is available in the *<MS_INSTALL_DIRECTORY>*/pkg-apps folder, and click **Next**.

Step 5 Choose **Install this deployment as an application**, and click **Next.**

Step 6 Select the configured cluster as a target from the Select deployment targets area, click **Next**, and then click **Finish**.

Step 7 Click **Save**.

Step 8 Click **Activate Changes**.

Starting Managed Server and Proxy Server

You must start the managed server and proxy server before you begin accessing the application. To start the managed server and the proxy server, perform the following steps:

Step 1 Login to the server that hosts the WebLogic managed server/proxy.

In a terminal, navigate to the *<BEA_HOME>*/user_projects/domains/*<Your domain>*/bin directory, where *<BEA_HOME>* is the location at which WebLogic is installed.

Step 2 Run the following command to start a managed server:

```
./startManagedWebLogic.sh <name of Managed Server1> t3://<IP address/DNS hostname of admin
server>:<listen port of admin server>
```

For example,

```
./startManagedWebLogic.sh MS1 t3://10.65.111.54:7025 (For managed server 1, on Machine 1)
./startManagedWebLogic.sh MS2 t3://10.65.111.54:7025 (For managed server 2, on Machine 2)
./startManagedWebLogic.sh MS3 t3://10.65.111.54:7025 (For proxy, on Machine 3)
```

Step 3 When prompted, enter the domain username and password. For example, weblogic/weblogic.

The application is deployed after the managed server is started.

Starting Application/Cluster Services

The application must be started and running in all the managed servers in the cluster to the service requests. Ensure that all the managed servers are up and running before starting the application/cluster services.

To start the application/cluster services, perform the following steps:

Step 1 Log in to the WebLogic Server Administration Console using the WebLogic domain username and password.

The WebLogic home page appears.

Step 2 In the WebLogic home page, under the Domain Structure, click **Deployments**.

The Summary of Deployments page appears.

Step 3 Click **Lock & Edit**.

Step 4 Choose all the deployments by selecting the respective check boxes.

Step 5 From the Start drop-down list, choose **Start Servicing all requests**.

Step 6 Click **Activate Changes**.

Configuring the Apache Jackrabbit Repository

Configure the Apache Jackrabbit repository by performing the following tasks:

1. Create a sample content in the Smart+Connected MS & DS application—After creating a sample content in the Smart+Connected MS & DS application, a repository structure is automatically created. You must delete the sample content later.
2. Modify the repository.xml file—After modifying the repository.xml file and restarting the managed server, the database tables that are required for Jackrabbit cluster are automatically created.

To configure the Apache Jackrabbit repository, perform the following steps:

Step 1 Ensure that only one managed server is running and all other managed servers are stopped.

Step 2 To create a sample green content, do the following:

a. Log in to the Smart+Connected MS & DS application.

For more information on how to log in to the Smart+Connected MS & DS application, see the "Accessing the Application" section on page 2-39.

The Smart+Connected MS & DS home page appears.

b. Click the **Smart+Connected MS & DS Green Advisor** tab.

The Green Fact tab appears.

c. In the Green Content area, click **Add**, and enter the following details:

- File name
- Content for the file

d. In the left pane, select a location from the location hierarchy tree to which you want to associate the content.

e. Click **Save**.

The repository structure is created in Apache Jackrabbit.

Step 3 Log in to the managed server that is up and running, navigate to the <*BEA_HOME*>/user_projects/domains/<*Your domain*> directory, and verify that the jackrabbit directory is created.

Step 4 To delete the sample green content that you had created in Step 2, do the following:

a. In the Smart+Connected MS & DS application, under the Green Content area, select the content that you had created.

b. Click **Delete**.

Step 5 In the managed server, navigate to <*BEA_HOME*>/user_projects/domains/<*Your domain*> directory and open the repository.xml file for editing.

Note Get the DB host IP address, DB port number (default 1521 unless changed), DB SID, schema username, and schema password.

Step 6 Search for the following text:

```
<FileSystem class="org.apache.jackrabbit.core.fs.local.LocalFileSystem">
<param name="path" value="${rep.home}/repository"/>
</FileSystem>
```

Replace with:

```
<FileSystem class="org.apache.jackrabbit.core.fs.db.OracleFileSystem">
<param name="driver" value="oracle.jdbc.driver.OracleDriver"/>
<param name="url" value="jdbc:oracle:thin:@<db host IP address>:<db port number>:<SID of
the db>"/>
<param name="user" value="<schema username>"/>
<param name="password" value="<schema password>"/>
<param name="schemaObjectPrefix" value="F_1_"/>
</FileSystem>
```

Step 7 Search for the following text:

```
<DataStore class="org.apache.jackrabbit.core.data.FileDataStore"/>
```

Replace with:

```
<DataStore class="org.apache.jackrabbit.core.data.db.DbDataStore">
<param name="driver" value="oracle.jdbc.driver.OracleDriver"/>
<param name="url" value="jdbc:oracle:thin:@<db host IP address>:<db port number>:<SID of
the db>"/>
<param name="user" value="<schema username>"/>
<param name="password" value="<schema password>"/>
<param name="schemaObjectPrefix" value="D_1_"/>
</DataStore>
```

Step 8 Search for the following text:

```
<PersistenceManager
class="org.apache.jackrabbit.core.persistence.pool.DerbyPersistenceManager">
<param name="url" value="jdbc:derby:${wsp.home}/db;create=true"/>
<param name="schemaObjectPrefix" value="${wsp.name}_"/>
</PersistenceManager>
```

Replace with:

```
<PersistenceManager
class="org.apache.jackrabbit.core.persistence.pool.OraclePersistenceManager">
<param name="url" value="jdbc:oracle:thin:@<db host IP address>:<db port number>:<SID of
the db>"/>
<param name="user" value="<schema username>"/>
<param name="password" value="<schema password>"/>
<param name="schemaObjectPrefix" value="W_1_"/>
</PersistenceManager>
```

Step 9 Search for the following text:

```
<PersistenceManager
class="org.apache.jackrabbit.core.persistence.pool.DerbyPersistenceManager">
<param name="url" value="jdbc:derby:${rep.home}/version/db;create=true"/>
<param name="schemaObjectPrefix" value="version_"/>
</PersistenceManager>
```

Replace with:

```
<PersistenceManager
class="org.apache.jackrabbit.core.persistence.pool.OraclePersistenceManager">
<param name="url" value="jdbc:oracle:thin:@<db host IP address>:<db port number>:<SID of
the db>"/>
<param name="user" value="<schema username>"/>
<param name="password" value="<schema password>"/>
<param name="schemaObjectPrefix" value="V_1_"/>
</PersistenceManager>
```

Add the following text at the end of the file just above the text *</Repository>*:

```
<Cluster id ="node1" syncDelay = "1000">
<Journal class="org.apache.jackrabbit.core.journal.OracleDatabaseJournal">
<param name="driver" value="oracle.jdbc.driver.OracleDriver"/>
<param name="url" value="jdbc:oracle:thin:@<db host IP address>:<db port number>:<SID of
the db>"/>
<param name="user" value="<schema username>"/>
<param name="password" value="<schema password>"/>
<param name="schemaObjectPrefix" value="C_1_"/>
</Journal>
</Cluster>
```

Note In the above text, you must change value of the *<cluster id>* attribute for each managed server. For example: node1 for MS1, node2 for MS2 and so on.

Step 10 In the Step 6 through Step 9, replace the following strings with their actual values:

Replace *<db host IP address>* with the database server IP address

Replace *<db port number>* with the database port number

Replace *<SID of the db>* with the SID of the database

Replace *<schema username>* with the database username

Replace *<schema password>* with the database user password

Step 11 Delete the jackrabbit directory available under *<BEA_HOME>*/user_projects/domains/*<Your domain>*

Step 12 Restart the managed server.

Step 13 Repeat Step 1 through Step 12 on all the managed servers in the cluster.

Step 14 Start all the managed servers and verify that tables have been created in the database. These tables have names starting with c_1_, d_1_, f_1_, v_1_, w_1_

Importing SSL Certificates

You need to import the SSL certificates for all the managed servers. For more information on how to import the SSL certificates, see the "Importing SSL Certificates" section on page 2-12.

Assigning Roles and Locations to IBUser

To access the Smart+Connected MS & DS application, you need to assign roles and locations to the 'IBUser'. 'IBUser' is the default user that is created with the seed data.

For more information on how to assign roles and locations to 'IBUser', see the "Assigning Roles and Locations to IBUser" section on page 2-14.

Accessing the Application

To access the Smart+Connected MS & DS application, perform the following steps:

Step 1 In the address field of a web browser, type the URL http://*<proxy ip address>*:*<proxy port>*/solutions, and press **Enter**.

The port refers to the port number that you have defined for the proxy server of the Smart+Connected MS & DS domain. The Smart+Connected MS & DS Login page appears.

Step 2 Enter the username and password for the Smart+Connected MS & DS application, and click **Login**.

Your default login credentials are:

- Username—superadmin
- Password—superadmin

You can change your password by logging in to the SDP application. You can also create additional users by using the SDP application. For more information on how to assign roles and permissions to users in the SDP application, see the *Cisco Service Delivery Platform Administrator Guide.*

The Smart+Connected MS & DS home page appears.

For more information on how to use the Smart+Connected MS & DS features, see the *Cisco Smart+Connected Meeting Spaces User Guide and Cisco Smart+Connected Digital Signage User Guide*.

Accessing the Web Calendar

After performing all installation tasks, you can access the Smart+Connected MS & DS web calendar.

To access the Smart+Connected MS & DS web calendar, perform the following steps:

Step 1 In a Web browser, type the http://<proxy ip address>:<proxy port> /calendar, where <proxy ip address> is the host IP address or DNS hostname of proxy server and port refers to the port number that you have defined for the proxy server of the Smart+Connected MS & DS domain.

Step 2 Press **Enter**.

The Smart+Connected MS & DS Login page appears.

Step 3 Enter the username and password for the Smart+Connected MS & DS web calendar, and click **Login**.

You can change your password by logging in to the SDP application. You can also create additional users by using the SDP application.

For more information on how to assign roles and permissions to users in the SDP application, see the *Cisco Service Delivery Platform User Guide*. For more information on how to use the Smart+Connected MS & DS features, see the *Cisco Smart+Connected Meeting Spaces User Guide* and *Cisco Smart+Connected Digital Signage User Guide*.

Configuring the Smart+Connected MS & DS Application

This chapter describes the configuration tasks that you need to perform after installing the Cisco Smart+Connected Meeting Spaces & Cisco Smart+Connected Digital Signage (Smart+Connected MS & DS) application.

- Configuring Services in CUCM, page 3-1
- Assigning Roles (Groups) to the Application User, page 3-2
- Configuring Audio Notification to IP Phone, page 3-3
- Configuring Locations, page 3-4
- Configuring Devices, page 3-7
- Configuring Adapters, page 3-16
- Integrating CUCM and InformaCast, page 3-22
- Customizing the Branding Images, page 3-22

Configuring Services in CUCM

The Cisco Unified Communications Manager (CUCM) administrator must configure the service URL in CUCM to make the service appear on the IP phone.

To configure the services in CUCM, perform the following steps:

Step 1 In the browser, type the CUCM URL.

Step 2 Click **Cisco Unified Communications Manager**.

The Cisco Unified CM Administration home page appears.

Step 3 Enter the CUCM administrator's username and password, and click **Login.**

Step 4 Click **Device** > **Device Settings** > **Phone Services**.

Step 5 Click **Add New**.

To add a new service, perform the following steps:

a. Enter the service name in the Service Name field. For example, S+CC service.

b. Enter the service description in the Service Description field.

c. Enter the service URL in the format given below:

http://<host IP address>:<port>/solutions/ip-phone-comm.ip

For example,

http://10.106.13.76:7001/solutions/ip-phone-comm.ip

d. From the Service Category drop-down list, choose XML Service.

e. From the Service Type drop-down list, choose Standard IP Phone Service.

f. Select the **Enable** check box.

Step 6 Click **Save**.

Step 7 Click **Device** > **Phone**.

The Find and List Phones page appears.

Step 8 From the "Find Phone where" drop-down list, choose **Device Name**.

Step 9 From the drop-down list that is adjacent to the "Find Phone where" drop-down list, choose **contains**.

Step 10 Enter the MAC address of the IP phone for which you want to subscribe the service.

Step 11 Click **Find**, and select the IP phone.

The Phone Configuration page appears.

Note Ensure that the Web Access drop-down list displays an enabled value.

Step 12 From the Related Links drop-down list, choose **Subscribe/Unsubscribe Services**, and click **Go**.

Step 13 Select the service name that you have provided in Step 5 a.

Step 14 Click **Next**.

Step 15 Click **Subscribe**.

Step 16 Click **Reset** in the Phone Configuration page.

A device reset dialog box appears.

Step 17 Click **Reset**.

The configured service name appears under Services in the IP Phone.

Assigning Roles (Groups) to the Application User

The Smart+Connected MS & DS application requires an application user to be created in CUCM for pushing the audio broadcast and text messages to the Cisco IP phone.

The application user needs the following privileges minimally to allow the Smart+Connected MS & DS application to work properly:

- Standard CTI Enabled—This user group, which is required for all CTI applications, allows an application to connect to Cisco CallManager to access CTI functionality.
- Standard CTI Allow Control of All Devices—This user group allows an application to control or monitor any CTI-controllable device in the system.

- Standard CCM Admin Users—This grants log-in rights to Cisco Unified Communications Manager Administration. A user with only the Standard CCM Admin Users role can access Cisco Unified Communications Manager Administration but cannot make any changes.
- Standard CCMADMIN Read only— This allows an administrator to view the configuration information in Cisco Unified Communications Manager Administration page.
- Copy of Standard CCM Phone Administration which includes Service URL Page, User Web Page and Phone Services Subscribe.
- Copy of Standard Serviceability named as roles for Web Services which has only SOAP related services as read and write access.

To create and assign a role to an application user, perform the following steps:

Step 1 In the browser, enter the URL to access the Call Manager application.

Step 2 Click **Cisco Unified Communications Manager**.

The Cisco Unified CM Administration home page appears.

Step 3 Enter the username and password and click **Login.**

Step 4 Click **User Management > Application User** to create application users and assign roles to the application users that provide them the above mentioned privileges.

Configuring Audio Notification to IP Phone

The CUCM administrator needs to configure the audio notification feature to allow the Emergency Notification (EN) messages to be pushed to the IP phone.

To configure audio notification to IP Phone, perform the following steps:

Step 1 Create an application user in Call Manager so that the solution can push the Emergency Notification (EN) content to IP Phone.

To create an application user in the Call Manager, perform the following steps:

a. In a browser, type the CUCM URL.

b. Click **Cisco Unified Communications Manager**.

The Cisco Unified CM Administration home page appears.

c. Enter the CUCM administrator's username and password for the Call Manager, and click **Login**.

d. Navigate to **User Management** > **Application User**.

e. Click **Add New.**

The Application User Configuration page appears.

f. Enter the user ID in User ID field.

g. Enter the password in the Password field.

h. Enter the confirmed password in the Confirm Password field.

i. From the Presence Group drop-down list, choose Standard Presence group.

j. In Device Information, move the desired devices from Available Devices to Controlled Devices.

k. Move the desired Available Profiles to CTI Controlled Device Profiles.

l. Under Permissions Information, click **Add to User Group.**

m. Select **Standard CTI Enabled** user group, and click **Add Selected.**

n. Click **Save**.

The roles and permission for the new user appear.

Step 2 For pushing audio to IP phone as part of EN, you have to make a change in the server on which the Smart+Connected MS & DS application is deployed. Change the /etc/hosts file by moving the assigned IP address of the machine before the local loopback address.

For example,

```
10.78.10.143          SCC-BGL04-DV-123
127.0.0.1             SCC-BGL04-DV-123 localhost.localdomain localhost
::1                   localhost6.localdomain6 localhost6
```

Note The IP phones, application server, and CUCM must be on a multicast network. To verify if the application server is multi-cast run **/sbin/ifconfig** in the application server. The **MULTICAST** keyword appears in the output.

Configuring Locations

A location is a physical space that helps you define a spacial structure in a city, organization, complex, industry, and so on. For example, the various locations for an organization can be country, city, building, campus, wing, floor, room, and so on.

- Adding Locations, page 3-4
- Editing Locations, page 3-6
- Deleting Locations, page 3-6

Adding Locations

You can add multiple locations to the SDP application and create a location hierarchy for a city, an enterprise and so on. You can create location hierarchies beginning with the default root location that is defined during installation of the SDP application. You can also modify the name of the default root location, if required.

To add a new location to the location hierarchy, perform the following steps:

Step 1 Log in to the SDP application.

Step 2 Click the **Locations** tab.

The Locations page appears. The left pane displays the location hierarchy, and the right pane displays the main content area.

Step 3 Select a location for which you want to add the child location in one of the following ways:

a. Searching for a location:

1. Click in the shortcut tools.
2. In the Search field, enter a location keyword, and click .

   The Search Results page appears with the location details.You can select the location for which you want to add the child location.

b. Expanding location hierarchy:

1. Click ▸ before a parent location.

   If the ▸ is not displayed before a parent location, the location does not have any child location.
2. Click a location for which you want to add the child location.

   Alternatively, click (**Expand Immediate Child Nodes of Selection** tool), and click a location for which you want to add the child location.

The following details are displayed for the selected location in the Location Details area:

- **Location Type**— Type of location under which the selected location has been categorized.
- **Location Name**—Name of the selected location.
- **Parent Location**—Parent of the selected location.
- Any custom property that has been setup for the location type.

Step 4 In the main content area, click .

The Add Location page appears. The Parent Location field displays the selected parent location for which you want to add the child location.

Step 5 Enter the following details:

- **Location Type**—From the Location Type drop-down list, choose the type of the location under which the selected location has to be categorized.
- **Location Name**— Enter the name of the location. The location name can be alpha-numeric, and you can use a maximum of 500 characters.

For certain location types, additional properties should be added.

Table 3-1 Location Type and Properties

Location Type	Property	Value Description	Sample Data
Country, State, City	Timezone	Timezone of the location.	Location1
Building, Floor	multicastipaddress	The IP address used to send the multicast message.	224.0.1.43
	multicastport	The port used to send the multicast message.	31250
Conference Room	confRoomId	The alias of the conference room ID in exchange.	Room1
	Private Subject	If you enable this property, the subject displays ‘Booked By <organizer name>' on the IP phone and signage instead of displaying the actual subject.	Yes
	Private Attendees	If you enable this property, the attendee list is not displayed on the signage.	Yes

Step 6 Click **Save** to save the location details.

The newly added location is displayed in the location hierarchy.

Editing Locations

After adding a location to the location hierarchy, you can modify the location name and location properties.

To modify the existing location details, perform the following steps:

Step 1 On the Locations page, select a location for which you want to modify the location details in one of the following ways:

The following details are displayed for the selected location in the Location Details area:

- **Location Type**—Type of location under which the selected location has been categorized.
- **Location Name**—Name of the selected location.
- **Parent Location**—Parent of the selected location.

For more information on how to select a location, perform Step 1 through Step 3 in Adding Locations, page 3-4.

Step 2 In the right pane, click .

The Edit Location page appears. The Parent Location field displays the selected parent location. The Location Type drop-down list displays the type of the selected location.

Step 3 Modify the following fields as necessary:

- **Location Name**—Name of the selected location. The location name can be alpha-numeric, and you can use a maximum of 500 characters.
- **Edit Location Properties**—Property definitions that you defined for the location type during installation of the SDP application.

Step 4 Click **Save** to save the location details.

The modified details are updated and displayed in the location hierarchy.

Deleting Locations

To delete a location, perform the following steps:

Step 1 On the Locations page, select a location that you want to delete.

The following details are displayed for the selected location in the Location Details area:

- **Location Type**— Type of location under which the selected location has been categorized.
- **Location Name**— Name of the selected location.
- **Parent Location**— Parent of the selected location.

For more information on how to select a location, perform Step 1 through Step 3 in Adding Locations, page 3-4.

Step 2 In the right pane, click .

After a location is deleted, all the child locations, defined property definitions, and the role and device associations for the location are automatically removed from the SDP application.

Configuring Devices

You need to configure devices to avail the building system services for the location, such as, light settings, blinds, dimmer, and audio video controller through the Smart+Connected MS & DS application. You need to use the SDP interface to access the Devices module.

The devices type definitions, such as, lights, blinds, dimmer, and audio video controller are available as part of SDP seed data that is added when SQL scripts are executed.

- Adding Devices, page 3-7
- Deleting Devices, page 3-15
- Setting up Crestron Controller for the Projector, page 3-16

Adding Devices

The following devices are supported by the Smart+Connected MS & DS application:

- IP Phones
- Blinds
- Light
- Audio Video Controller
- Dimmer
- Light Occupancy Sensor
- ThermoFuser
- VRV
- VAV
- Energy Meter
- Gas Meter
- Water Meter
- Digital Media Player (DMP)
- Cisco Interactive Experience Client (IEC)

You can add any of these devices to the selected location in the location hierarchy if they are available at the location.

Table 3-2 Device Properties and Values

Device	Model	Device Property	Value Description	Sample Data
IP Phone	CP-7975G	MAC Address	MAC Address of the IP phone.	0019305D73EF
	CP-9971	MAC Address	MAC Address of the IP phone.	0019406D74EF
	Non-Touch CP-9951	MAC Address	MAC Address of the IP phone.	0019507D75EF
Blinds	Generic	Open Value	Value to be set on open path to open the blinds.	1
		Close Value	Value to be set on close path to close the blinds.	0
		Stop Value	Value to be set on stop path to stop the blinds.	2
		Open Path	Node path in the BMS gateway for opening the blinds.	/config/Drivers/NiagaraNetwork/aliases/India_Bangalore_BIM/HallMark/BGL10/Floor_01/Conference_Room/Blinds/BO/Blind_Open_Close/
		Stop Path	Node path in the BMS gateway for stopping the blinds when the blinds are opening or closing.	/config/Drivers/NiagaraNetwork/aliases/India_Bangalore_BIM/HallMark/BGL10/Floor_01/Conference_Room/Blinds/BO/Blind_Stop/
		Close Path	Node path in the BMS gateway for closing the blinds.	/config/Drivers/NiagaraNetwork/aliases/India_Bangalore_BIM/HallMark/BGL10/Floor_01/Conference_Room/Blinds/BO/Blind_Open_Close/
	Blinds Scene	Blinds URL	Node path in the BMS gateway for setting the blinds scenes. The scene may correspond to opening or closing the blinds.	/config/Drivers/NiagaraNetwork/aliases/India_Bangalore_BIM/HallMark/BGL10/Floor_01/Conference_Room/Blinds/BO/Blind_Scene/
		Blinds Value	Value to be set on blinds URL to open or close the blinds.	0
Lights	Generic	On Value	Value to be set on On/Off URL to switch on the lights.	true
		Off Value	Value to be set on On/Off URL to switch off the lights.	false
		On/Off URL	Node path in the BMS gateway for switching On/Off the lights.	/config/Drivers/NiagaraNetwork/aliases/India_Bangalore_HA/HallMark/BGL10/Floor_01/Conference_Room/Light_Switch/BO/Lights_ON_OFF/

Table 3-2 Device Properties and Values (continued)

Device	Model	Device Property	Value Description	Sample Data
Audio Video Controller	Generic	Projector Screen Open Join	Join value to be sent to the Crestron Controller to bring down the projector screen.	35
		Projector Screen Stop Join	Join value to be sent to the Crestron Controller to stop the projector screen while bringing down or moving up.	36
		Projector Screen Close Join	Join value to be sent to the Crestron Controller to move up the projector screen.	37
		Projector On Join	Join value to be sent to the Crestron Controller to switch on the projector.	25
		Projector Off Join	Join value to be sent to the Crestron Controller to switch off the projector.	26
		Signal Type	Crestron Controller signal type. Currently only digital is supported.	digital
		Slot	Crestron Controller slot.	1
		IP Address	IP address of the Crestron Controller.	72.163.202.35
		Port	Port of the Crestron Controller. Default port is 41794.	41794
		IP ID	IP ID of the Crestron Controller.	3
Dimmer	Generic	Min Value	Minimum luminosity value.	0
		Max Value	Maximum luminosity value.	100
		Dim URL	Node path in the BMS gateway for setting the dimmer luminosity.	/config/Drivers/NiagaraNetwork/aliases/India_Bangalore_HA/HallMark/BGL10/Floor_01/Conference_Room/Light_Dimmer/AO/Light_Dimmer_Control/
	Wattstopper Light Dimmer	Dim URL	Node path in the BMS gateway for setting the light scene.	/config/Drivers/NiagaraNetwork/aliases/India_Bangalore_HA/HallMark/BGL10/Floor_01/Conference_Room/WattstopperLight_Dimmer/AO/Light_Dimmer_Control/
		Dimmer Values	Scene value to be set on the BMS gateway.	2

Table 3-2 Device Properties and Values (continued)

Device	Model	Device Property	Value Description	Sample Data
Light Occupancy Sensor	Generic Sensor	Sensor URL	Node path in the BMS gateway to enable or disable the sensor.	/config/Drivers/NiagaraNetwork/aliases/India_Bangalore_BIM/HallMark/BGL10/Floor_01/Conference_Room/Light_Occ_Sensor/BV/OnOff_Status_Override/
		On Value	Value to be set on Sensor URL to switch on the sensor.	true
		Off Value	Value to be set on Sensor URL to switch off the sensor.	false
		Sensor Occupancy URL	Node path in the BMS gateway to sense the occupancy of the location.	/config/Drivers/NiagaraNetwork/aliases/India_Bangalore_BIM/HallMark/BGL10/Floor_01/Conference_Room/Light_Occ_Sensor/BI/Occupancy_Status/
		Occupied Value	Value on the sensor whenever occupancy is detected.	true
		Unoccupied Value	Value on the sensor whenever occupancy is idle for more than specified time.	false
ThermoFuser	Generic	Current Temperature URL	Node path in the BMS gateway for reading back the current temperature.	/config/Drivers/NiagaraNetwork/aliases/India_Bangalore_SEC/HallMark/BGL10/Floor_01/Conference_Room/Thermofuser/nvoSpaceTemp/
		Booking Status URL	Node path in the BMS gateway to set the current booking status of the conference room. If booking status is set to booked value, occupancy status is automatically set to occupied mode.	/config/Drivers/NiagaraNetwork/aliases/India_Bangalore_SEC/HallMark/BGL10/Floor_01/Conference_Room/Thermofuser/nviOccCmd/

Table 3-2 Device Properties and Values (continued)

Device	Model	Device Property	Value Description	Sample Data
		Room Temperature URL	Node path in the BMS gateway for reading back the current room temperature.	/config/Drivers/NiagaraNetwork/aliases/India_Bangalore_SEC/HallMark/BGL10/Floor_01/Conference_Room/Thermofuser/nciSetPnts_UnOccCool/
		Temperature Offset URL	Node path in the BMS gateway for setting the offset temperature. When the offset URL is provided, the value provided by the end user, is treated as a difference from the default setpoint value. For example, when the default setpoint is set as 21 degrees and the user expectation is 20 degrees, the offset value of -1 is applied with the appropriate selection in the UI. The value set as Temperature Offset URL impacts the control setpoint, to be either increased or decreased from the preset setpoint, equal to the value set as the offset. The effective setpoint is used as the reference requirement to control the temperature needs.	/config/Drivers/NiagaraNetwork/aliases/India_Bangalore_SEC/HallMark/BGL10/Floor_01/Conference_Room/Thermofuser/nviSetPtOffset/
		Temperature Setpoint URL	Node path in the BMS gateway for configuring and reading back the current setpoint temperature.	/config/Drivers/NiagaraNetwork/aliases/India_Bangalore_SEC/HallMark/BGL10/Floor_01/Conference_Room/Thermofuser/nvoEffectSetPt/

Table 3-2 Device Properties and Values (continued)

Device	Model	Device Property	Value Description	Sample Data
		Occupied Value	Value to be set on occupancy status URL to move the device to occupied mode.	0
		Unoccupied Value	Value to be set on occupancy status URL to move the device to un occupied mode.	1
		Standby Value	Value to be set on occupancy status URL to move the device to standby mode.	2
		Min Temperature Value	Minimum temperature to which the room temperature can be set.	18
		Max Temperature Value	Maximum value of the room temperature that can be set.	28
		Temperature Unit	Unit of temperature.	C or F
		Reserved Value	Value to be set on booking status URL for occupancy.	1
		Unreserved Value	Value to be set on booking status URL for un occupancy.	0
		Occupancy Status URL	Node path in the BMS gateway for reading back the status for occupancy.	/config/Drivers/NiagaraNetwork/aliases/India_Bangalore_BIM/HallMark/BGL10/Floor_Ground/Thermofuser/OccUnocc_Sts/
		Occupied Temperature URL	Node path in the BMS gateway for reading back the occupied setpoint values.	/config/Drivers/NiagaraNetwork/aliases/India_Bangalore_BIM/HallMark/BGL10/Floor_Ground/Thermofuser/RoomTemp_OccSetpt/
VRV	Generic	Current Temperature URL	Node path in the BMS gateway for reading back the current temperature.	/config/Drivers/NiagaraNetwork/aliases/India_Bangalore_BIM/HallMark/BGL10/Floor_Ground/VAV/AV/RoomTemp_OccSetpt/
		Temperature Setpoint URL	Node path in the BMS gateway for configuring and reading back the current setpoint temperature.	/config/Drivers/NiagaraNetwork/aliases/India_Bangalore_BIM/HallMark/BGL10/Floor_Ground/VRV/AV/SpaceTemp_Setpt/
		Min Temperature Value	Minimum temperature to which the room temperature can be set.	18
		Max Temperature Value	Maximum temperature of the room temperature that can be set.	28
		Temperature Unit	Unit of temperature.	C or F

Table 3-2 Device Properties and Values (continued)

Device	Model	Device Property	Value Description	Sample Data
VAV	Generic	Current Temperature URL	Node path in the BMS gateway for reading back the current temperature.	/config/Drivers/NiagaraNetwork/aliases/India_Bangalore_BIM/HallMark/BGL10/Floor_Ground/VAV/AV/SpaceTemp_Setpt/
		Occupancy Status URL	The node path in the BMS gateway for reading back the status for occupancy.	/config/Drivers/NiagaraNetwork/aliases/India_Bangalore_BIM/HallMark/BGL10/Floor_Ground/VAV/BI/OccUnocc_Sts/
		Occupied Temperature URL	Node path in the BMS gateway for reading back the occupied setpoint value.	/config/Drivers/NiagaraNetwork/aliases/India_Bangalore_BIM/HallMark/BGL10/Floor_Ground/VAV/AV/RoomTemp_OccSetpt/
		Min Temperature Value	Minimum temperature to which the room temperature can be set.	18
		Max Temperature Value	Maximum value of the room temperature that can be set.	28
		Temperature Unit	Unit of temperature.	C or F
		Occupied Value	Value to be set on occupancy status URL to move the device to occupied mode.	true
		Unoccupied Value	Value to be set on occupancy status URL to move the device to un occupied mode.	false
		Temperature Setpoint URL	Node path in the BMS gateway for configuring and reading back the current setpoint temperature.	/config/Drivers/NiagaraNetwork/aliases/India_Bangalore_BIM/HallMark/BGL10/Floor_Ground/VAV/AV/SpaceTemp_Setpt/
Energy Meter	Generic	EnergyinKWH	Node path in the BMS gateway which provides the energy reading in KWH.	/config/Drivers/NiagaraNetwork/aliases/India_Bangalore_BIM/HallMark/BGL10/Floor_Ground/PMS/AV/KWH
Gas Meter	Generic	gasConsumed	Node path in the BMS gateway which provides the gas consumption.	/config/Drivers/NiagaraNetwork/aliases/India_Bangalore_API/HallMark/BGL10/Basement/Metering/AI/Gas_Consumed
Water Meter	Generic	waterConsumed	Node path in the BMS gateway which provides the water consumption.	/config/Drivers/NiagaraNetwork/aliases/India_Bangalore_API/HallMark/BGL10/Basement/Metering/AI/Water_Consumed

Table 3-2 Device Properties and Values (continued)

Device	Model	Device Property	Value Description	Sample Data
DMP 4400	Generic	Username	User ID for logging in to the DMP.	admin
		Touch	Touchscreen configuration in the Touch Details area: • If the DMP has been configured with a signage that supports touchscreen overlay, select the Touch check box. • If the DMP has been configured with a non-touch signage, keep the Touch checkbox unselected.	–
		URL	The DMP URL.	https: //10.77.78.80
		Password	User password for logging in to the DMP.	Cisco123
		MAC Address	The DMP MAC address.	00:0f:44:02:7b:48
		Locale	Locale for the DMP to use.	en_US
IEC	Generic	Username	User ID for logging in to the IEC.	admin123
		Touch	Touchscreen configuration in the Touch Details area: • If the IEC has been configured with a signage that supports touchscreen overlay, select the Touch check box. • If the IEC has been configured with a non-touch signage, keep the Touch checkbox unselected.	–
		URL	The IEC URL.	https: //10.222.187.80
		Password	User password for logging in to the IEC.	Cisco321
		MAC Address	The IEC MAC address.	00:0d:54:04:8c:53
		Locale	Locale for the IEC to use.	en_US

To add devices to the SDP application, perform the following steps:

Step 1 Log in to the SDP application.

For more information on how to log in to the SDP application, see the *Cisco Service Delivery Platform Administrator Guide*.

Step 2 Click the **Devices** tab.

The Devices page appears. The left pane displays the location hierarchy, and the right pane displays the List of Devices area.

Step 3 Select a location for which you want to add the child location in one of the following ways:

a. Searching for a location:

3. Click in the shortcut tools.
4. In the Search field, enter a location keyword, and click .

The Search Results page appears with the location details.You can select the location for which you want to add the child location.

b. Expanding the location hierarchy:

1. Click ▸ next to a parent location.

   If the ▸ is not displayed next to a parent location, the location does not have any child location.

2. Click a location for which you want to add the child location.

Step 4 In the right pane, click **Add a Device**.

The Add Device page appears. The Parent Location field displays the selected parent location with which you want to associate the device.

Step 5 Enter the following details:

- Device Category—Category under which you want to organize the device.
- Manufacturer—Manufacturer name of the device.
- Model—Model details of the device.
- Device Name—Name of the device.

Step 6 Click **Save**.

The newly added device is associated to the selected location.

Deleting Devices

To delete an device from the SDP application, perform the following steps:

Step 1 In the Devices page, select a location for which you want to modify the device details.

For more information on how to select a location, perform Step 3 in the "Adding Devices" section on page 3-7.

All devices that have been associated with the selected location are displayed.

Step 2 Do one of the following:

- To delete a single device, choose a device that you want to delete, and click .
- To delete multiple devices, select the specific check boxes of the devices that you want to delete, and click **Delete**.

The device is removed from the SDP application.

Setting up Crestron Controller for the Projector

To set up Crestron Controller for the projector, you must have Windows 2008 R2 server machine or Windows 7 that has IIS 7.5 with .NET Framework 3.5 or above.

To set up the Crestron Controller, perform the following steps:

Step 1 From the Linux machine, copy the Crestron Controller ZIP file located in <*MS_HOME*>/pkg-properties/crestron to a Windows machine

Step 2 Unzip the crestroncontroller.zip files using any archive utility.

Step 3 Run the **inetmgr** command. The IIS manager server console appears.

Step 4 Right-click the default web site and choose create a new virtual directory.

Step 5 Enter the alias as **crestron**. In the physical path, choose the Crestron Controller folder that is unzipped.

Step 6 Right-click the crestron folder under Default Web Site, choose Convert to Application, and click **OK**.

The application is created.

Step 7 Enter the URL in a browser in the following format:

```
http://localhost/crestron/Home.aspx?deviceIp=<deviceIP of the Crestron Controller>
&ipId=<ipID of the Crestron controller>&port=<port of the Crestron Controller>&slot=<slot
of the Crestron Controller>&type=digital&join=<join value of the Crestron Controller>
```

- deviceIP—The IP ID of the Crestron Controller.
- port—Port of the Crestron Controller.
- slot—Slot of the Crestron Controller.
- join—Value depends on the action performed on the Crestron Controller.

For example:

```
http://localhost/crestron/Home.aspx?deviceIp=65.100.54.20&ipId=1&port=41794&slot=1&signalT
ype=digital&join=62.
```

A message appears indicating that the Crestron Controller is successfully set up.

Configuring Adapters

- Adapter Description, page 3-17
- Configuring Adapter Properties, page 3-18
- Configuring Adapters to a Location, page 3-21

Adapter Description

Table 3-3 lists the adapters you must configure and the purpose these adapters serve for the functioning of the Smart+Connected MS & DS application.

Table 3-3 Adapter Description

Adapter	Description
ObixBean	Configure this adapter to interface with the Tridium BMS.
AudioVideoBean	Configure this adapter to interface with Crestron Controller for projector and projector screen control.
ExchangeBean	Configure this adapter to interface with Microsoft Exchange.
RemedyBean	Configure this adapter to interface with the Remedy case management system.
EmailBean	Configure this adapter to use e-mail based case notifications, in the absence of a case management system.
IPPhoneOperationBean	Configure this adapter to interface with Cisco JTAPI for sending emergency notifications.
DMMBean	Configure this adapter to interface with Digital Media Manager.
DMPBean	Configure this adapter to interface with the digital media players.
InformaCastBean	Configure this adapter to interface with Singewire InformaCast for sending emergency notifications.

Note You must configure either the IPPhoneOperationBean or the InformaCastBean adapter depending on whether you want to use Cisco JTAPI or Singlewire InformaCast for sending emergency notifications.

Configuring Adapter Properties

You need to configure adapter properties for the available adapters. Adapter configuration needs to be performed in the database by inserting data into the SDP_ADAPTER_PROPERTIES table.

Table 3-4 provides information on the properties of the adapters, which can be used to come up with the SQL scripts that are then to be run against the database.

Table 3-4 Adapter Properties - Details

Adapter (SDP_ADAPTER_DEFN)	Defined Adapter Property (SDP_ADAPTER_PROP_DEFN)	Adapter Property (SDP_ADAPTER_PROPERTIES	Sample Value
com.cisco.cre.ssp.adapter.obix.ObixBean	username	The Obix username	admin
	password	The Obix password	pAsswOrd
	url	The Obix URL	http: //10.76.99.4/obix
	obixUrl	The Obix URL	http: //10.76.99.4/obix
com.cisco.cre.ssp.adapter.audiovideo.AudioVideoBean	appPath	The path of the crestron application.	/crestron/Home.aspx
	hostname	The IP address of the host on which the Smart+Connected MS & DS Crestron .NET component is setup on IIS.	10.106.12.13
	portNumber	The IIS port of the host on which the Smart+Connected MS & DS Crestron .NET component is setup.	80
com.cisco.cre.ssp.adapter.exch.bean.ExchangeBean	exch_udpserverip	The MS application server IP address/ DNS hostname	10.106.13.15
	exch_filepath	The path of the file in Exchange Server.	/apps/exchange-xml/
	exch_defaulttimezone	The timezone of the Exchange Server.	Asia/Shanghai
	exch_domain	The domain name of the Exchange Server.	EXCH2K10
	exch_host	The IP address/DNS hostname Exchange Server.	10.106.13.143
	mail.smtp.host	This property is not used currently.	–
	exch_url	Exchange URL	https: //10.106.13.143/ews/exchange.asmx
	exch_username	The Exchange server username.	scc-qa
	exch_password	The Exchange server password.	Cisco_123
	mail.smtp.port	This property is not used currently.	–
	exch_udpserverport	The MS Application server listen port.	7001

Table 3-4 Adapter Properties - Details (continued)

Adapter (SDP_ADAPTER_DEFN)	Defined Adapter Property (SDP_ADAPTER_PROP_DEFN)	Adapter Property (SDP_ADAPTER_PROPERTIES	Sample Value
com.cisco.cre.ssp.adapter.remedy.RemedyBean	password	The Remedy user's password	WPRcreIT4
	userName	The Remedy user's username.	RA_WPRIT.gen
	scheme	The protocol to invoke the remedy HTTP/HTTPS.	http
	appPath	The path of the remedy application.	/arsys/servlet/RemedyIncidentWrapper
	remedyurl	The Remedy server URL.	http: //alli-stg-01.cisco.com/arsys/servlet/RemedyIncidentWrapper
	hostName	The Remedy server IP Address/DNS hostname.	alli-stg-01.cisco.com
	portNumber	The Remedy Server port.	80
com.cisco.cre.ssp.adapter.email.bean.EmailBean	toAddress	The address to which the e-mail needs to be sent for the case management. This is usually the facilities team helpdesk mail alias.	support @ cisco.com
	fromAddress	The address from which the e-mail needs to be sent for the case management. Usually, this mailbox is set up as a no-reply mailbox.	noreply-sdp @ cisco.com
	mail.smtp.port	The SMTP Server Port.	25
	mail.smtp.host	The IP Address/ hostname of the SMTP server.	mailman.cisco.com

Table 3-4 Adapter Properties - Details (continued)

Adapter (SDP_ADAPTER_DEFN)	Defined Adapter Property (SDP_ADAPTER_PROP_DEFN)	Adapter Property (SDP_ADAPTER_PROPERTIES	Sample Value
com.cisco.cre.ssp.adapter.ipphone.bean.IPPhoneOperationBean	password	The application user's password created in CUCM. For more information on the application password, see the "Assigning Roles (Groups) to the Application User" section on page 3-2.	ccmadmin
	username	The application username created in CUCM. For more information on the application username, see the "Assigning Roles (Groups) to the Application User" section on page 3-2.	Cisco @ 123
	serviceuri	The uri of the call manager configured.	https: //10.106.6.111/realtimeservice/services/RisPort70
	appusername	The application username created in CUCM. For more information on the application username, see the "Assigning Roles (Groups) to the Application User" section on page 3-2.	cisco
	apppassword	The application user's password created in CUCM. For more information on the application password, see the "Assigning Roles (Groups) to the Application User" section on page 3-2.	cisco
com.cisco.cre.ssp.adapter.dmm.DMMBean	dmm_url	The DMM URL.	https: //scc-qa-dmm-1.cisco.com:8443
	dmm_username	The DMM username.	superuser
	dmm_domain	The domain of DMM.	scc-qa-dmm-1.cisco.com
	dmm_password	The DMM password.	Cisco_123
com.cisco.cre.ssp.adapter.ipphone.bean.InformaCastBean	uri	Infomacast URL	https: //10.106.15.161:8444/InformaCast/services/MessageServiceV2?wsdl
	username	Infomacast username	admin
	password	Infomacast password	admin

Configuring Adapters to a Location

The adapters are configured to the specific location by mapping an adapter instance ID with the corresponding location in the SDP_ADAPTER_LOCATION_LINK table. When an adapter instance is associated to a location, the adapter instances are automatically applied to all the child locations for that location.

For a sample configuration for the ObixBean mapped to the location ID 10011, see the "Sample Adapter Configurations" section on page 3-21.

Sample Adapter Configurations

SDP_ADAPTER_DEFN table

This configuration is part of the seed data.

Table 3-5 SDP_ADAPTER_DEFN table - Adapter Definition Mapped to an Adapter Definition ID

ADAPTER_DEFN_ID	ADAPTER	ADAPTER_JAR _LOCATION	VERSION	CREATED_BY	CREATED_DT	UPDATED_BY	UPDATED_DT	TENANT_ID
10	com.cisco.cre.ssp.adapter.obix.ObixBean	–	version1	superadmin	27-JUN-12	superadmin	27-JUN-12	0

SDP_ADAPTER_INSTANCE

Table 3-6 SDP_ADAPTER_INSTANCE - Adapter Definition ID Mapped to an Adapter Instance ID

ADAPTER_INSTANCE_ID	ADAPTER_DEFN_ID	VERSION	CREATED_BY	CREATED_DT	UPDATED_BY	UPDATED_DT	TENANT_ID
10	10	version1	superadmin	27-JUN-12	superadmin	27-JUN-12	0

SDP_ADAPTER_LOCATION _LINK table

This table allows you to link the adapter instances with one or more locations. When an adapter is associated to a location, the adapter instances are automatically applied to all the child locations for that location.

Table 3-7 SDP_ADAPTER_LOCATION _LINK Table - Adapter Instance ID Configured to the Preferred Location

ADAPTER_INSTANCE_ID	LOCATION_ID	CREATED_BY	CREATED_DT	UPDATED_BY	UPDATED_DT	TENANT_ID
10	10011	versions	18-NOV-11	versions	18-NOV-11	0

For more information on how to configure adapters, see the *Cisco Service Delivery Platform Installation Guide*.

If you change the values in these tables, you must restart the application to enable the changes.

Note The IPPhoneOperationBean and the InformaCastBean adapters cannot point to the same location or the child location of either of these adapters in the sdp_adapter_location_link table.

Integrating CUCM and InformaCast

InformaCast is an emergency notification solution by Singlewire, that can broadcast audio stream, text messages, and notifications to multiple Cisco IP phones simultaneously as a group. InformaCast can broadcast either a live, recorded, or a scheduled message on your IP network with a single click from your computer or through API calls.

To use InformaCast in a telephony environment, you have to integrate Cisco Unified Communications Manager (CUCM) and InformaCast. Also ensure that you:

- Integrate Cisco Unified Communications Manager (CUCM) and InformaCast.
- Set up a multicast network as the InformaCast broadcast works on multicast network.

Note You must verify that the InformaCast version and the CUCM version are compatible before you begin to integrate them.

For more information on how to configure and integrate the Cisco Unified Communications Manager (CUCM) and InformaCast, refer to the InformaCast help documentation and Singlewire online knowledge base.

Customizing the Branding Images

Certain images in the solution can be changed or branded as per customer needs. You can customize the user interface by changing one or more of these images.

The images that you replace must have the same name and resolution as the per the specifications that are provided in the Table 3-8.

To customize the branding images, perform the following steps:

Step 1 Open the Smart_Connected_Meeting_Spaces_and_Digital_Signage.ear file by using any archive utility.

Step 2 Navigate to the folders as mentioned in Table 3-8 to replace the Login page image and the logo images.

Table 3-8 Specifications for Branding Images

Image Type	File Name	Height	Width
Login Screen and Header page Logo	\solutions\img\cicso_logo.png	57 pixels	30 pixels
Conference Room logo	\solutions\jsp_noauth\orm\ds\images\icons\Cisco_logo_white .png	122 pixels	59 pixels
Floor Plan Logo	\solutions\jsp_noauth\orm\ds\images\icons\logo_cisco.gif	110 pixels	59 pixels
Building View Logo	\solutions\jsp_noauth\orm\ds\images\cicso_logo.png	74 pixels	40 pixels
Login Screen background image	\solutions\img\login_page_img.png	777 pixels	689 pixels

Note It is recommended to have transparent background images. You must re-deploy the Smart_Connected_Meeting_Spaces_and_Digital_Signage.ear file to enable changes to the branding images.

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