



# Videoscape Control Suite 3.5.2 BSS/OSS Adaptor Service Configuration Guide

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# About This Guide

## *Introduction*

Cisco's Business Support System/Operations Support System (BSS/OSS) adaptor provides a unified interface to the back-end subscriber and billing systems typical of subscription-based service provider deployments. Because the BSS/OSS adaptor (BOA) is attached to the messaging fabric, the adaptor can be co-located with back-end systems. This eliminates the need for a separate billing system interface for each headend control system.

## *Purpose*

This document describes how to install and configure the BOA service for Cisco's Videoscape Control Suite (VCS) Version 3.5.2.

## *Prerequisites*

Before you can use the procedures in this document, the following tasks must be completed:

- VCS Version 3.0 or greater must be installed.
- Any other needed components must be installed and configured, please see the *Installing COP Files for Videoscape Control Suite* for these.

## *Installation*

See the following publications for additional information about this VCS release:

- *Videoscape Control Suite Installation and Upgrade Guide* (part number OL-29939)
- *Installing COP Files for the Videoscape Control Suite* (part number OL-27753)

## *Document Version*

This is the fifth formal release of this document. The contents of this document were modified to support VCS Version 3.5.2.

# BOA Overview

## Description

The Billing Adaptor, which is also referred to as BOA in this document, provides an adaptation layer that bridges various billing interface types with other core VCS components in order to:

- Manage households, users, and devices
- Create offers
- Retrieve purchase history
- Initiate purchase requests
- Transmit purchase notifications
- Manage authorizations
- Publish content view events

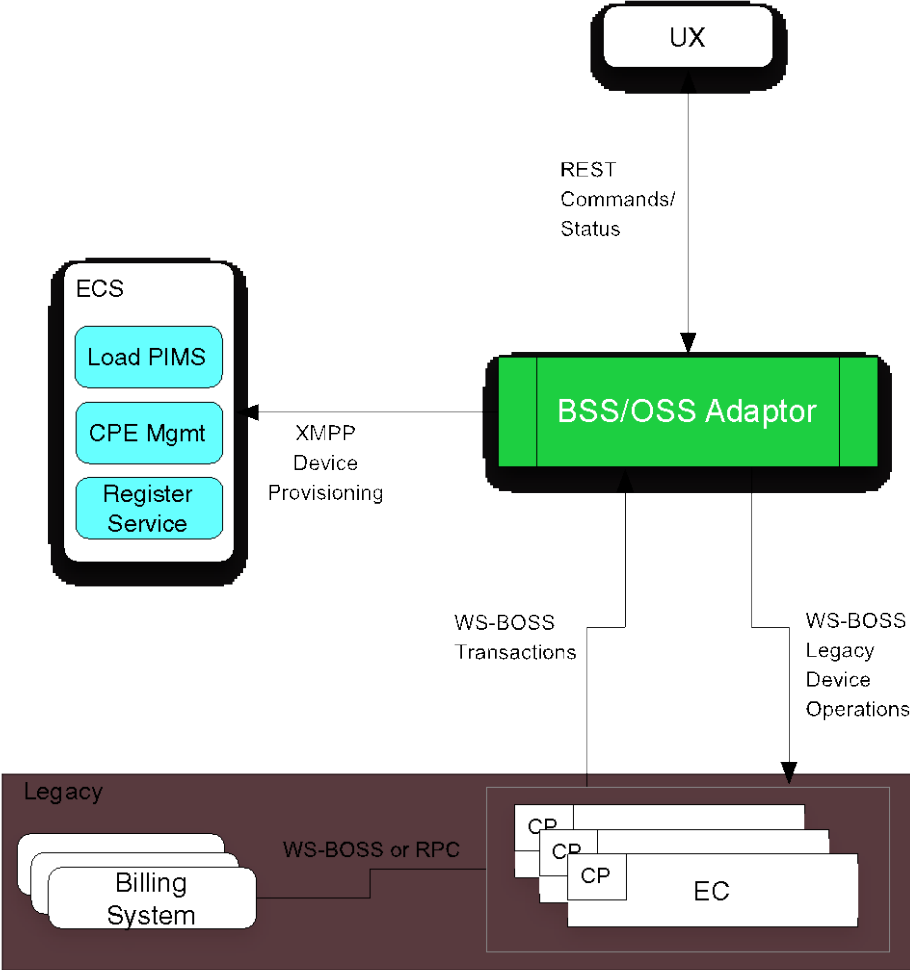
The goal of the adaptation layer is to isolate the deployment-specific billing variations to a single component in order to minimize the effect on other components. Depending on the deployment environment, BOA may have different active interfaces on both sides: the customer's billing interface on one side and other Cisco VCS components on the other. The choice of billing interface to be used depends upon a number of factors including the presence of a legacy billing interface, a preference for asynchronous versus synchronous behavior, or simply a preference between protocols. Since the active interfaces are dependent on the environment, the configuration settings for each type of environment are different as well. This document addresses the various environment types in separate sections so the installation and configuration steps to follow will be dependent on the identification of the environment type.

## Interface Types

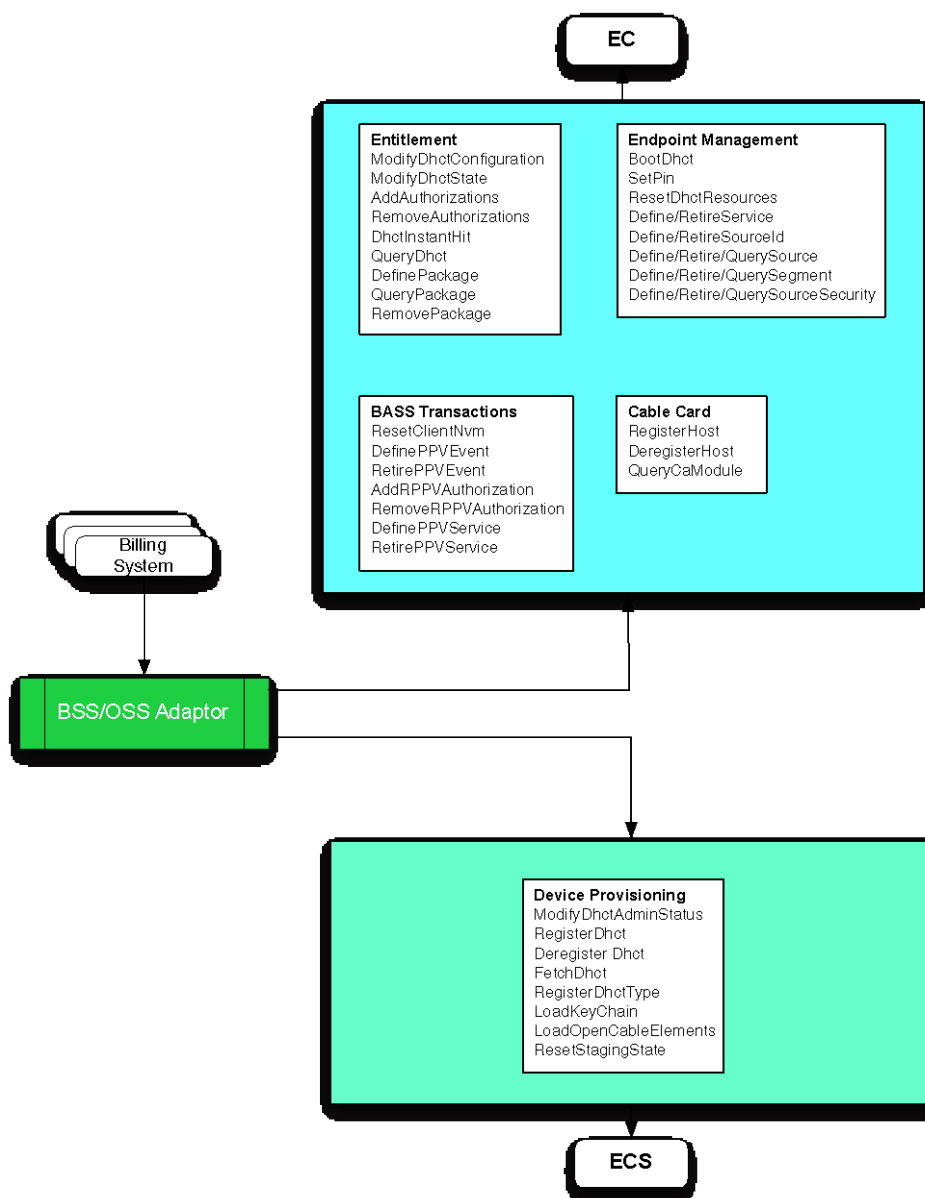
### Asynchronous Web Service – BOSS WSDL

In deployment environments where the asynchronous web service interface is utilized, BOA is responsible for forwarding BOSS commands to the EC or ECS,

depending on the command type. The following diagram represents a typical deployment for this interface type.



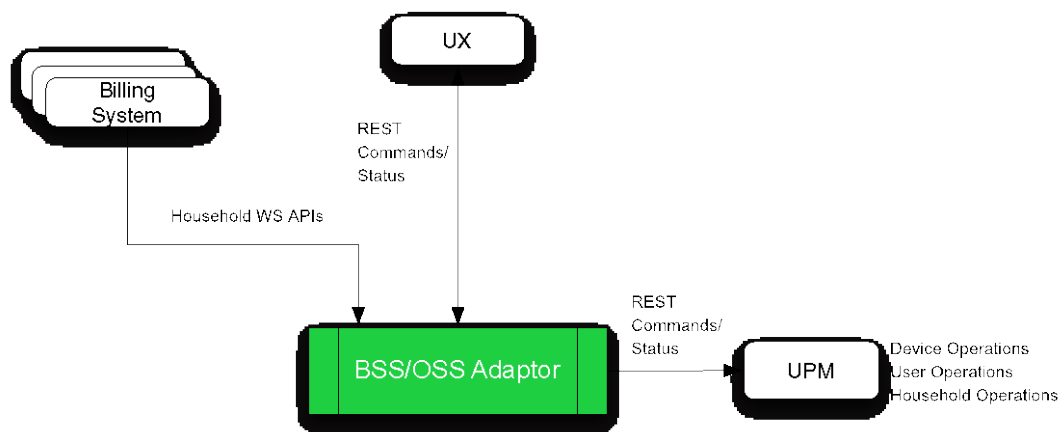
The commands are routed as shown in the following diagram.



This interface is device-centric. With the store authorizations feature flag enabled at installation time, BOA will also store authorizations in UPM. With that feature flag enabled, the UPM and Domain Service configuration entries are required. The BASS Splitter feature is also available for this interface for cases where PPV events are defined and removed via an interface with the Catalog Import component. When the BASS Splitter feature flag is enabled at install time, the Catalog Import configuration entries are required.

## Synchronous Web Service – Household WSDL

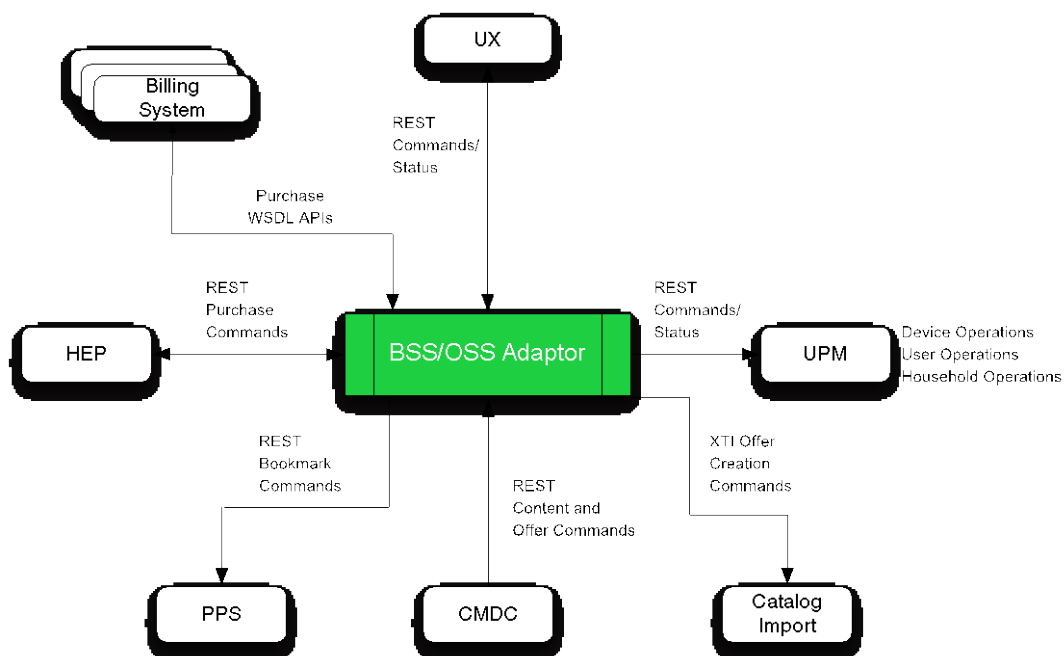
In deployment environments where the synchronous web service interface is utilized with the household WSDL, BOA is responsible for managing households, devices, and authorizations using an interface with UPM. This interface is household-centric. There are no feature flags that apply to this interface and UPM is the only required configuration value. The following diagram represents a typical deployment for this interface type.



## Synchronous Web Service – Purchase WSDL

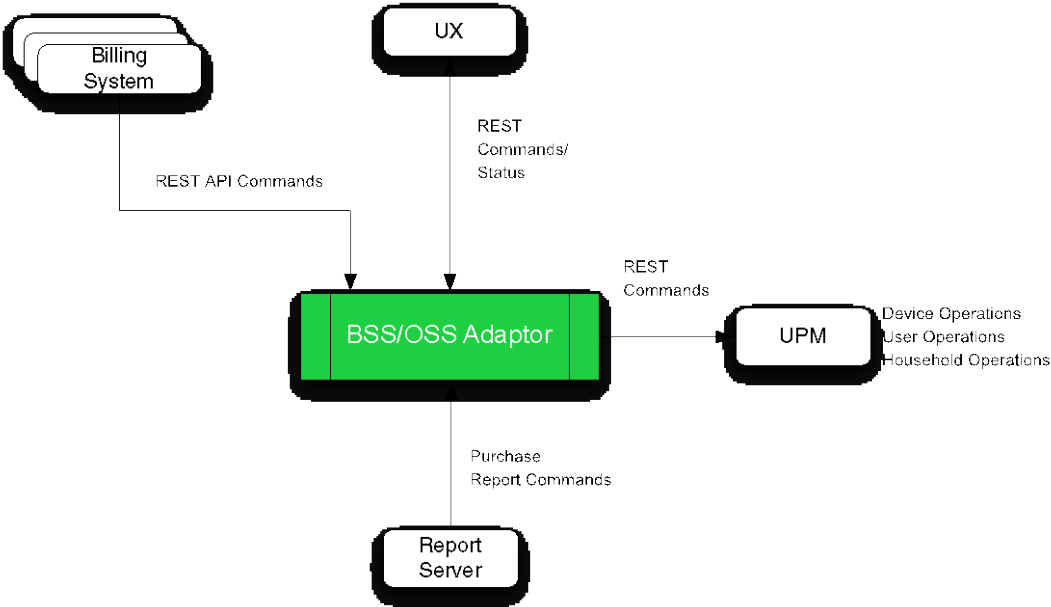
In deployment environments where the synchronous web service interface is utilized with the purchase WSDL, BOA is responsible for creating and deleting purchases and processing view start/stop events. This interface is household-centric. There are no feature flags that apply to this interface and in order to exercise the full set of purchase WSDL commands, the following configuration values are required. Make sure the Unified HeadEnd (UHE) components are installed prior to installing BOA: **UPM, HEP, CMDC, PPS**, and the **purchase connections**. If a reduced set of purchase WSDL commands are targeted for use, the configuration values may be a subset of that list. The following diagram depicts components to which BOA has an interface for purchase WSDL commands.





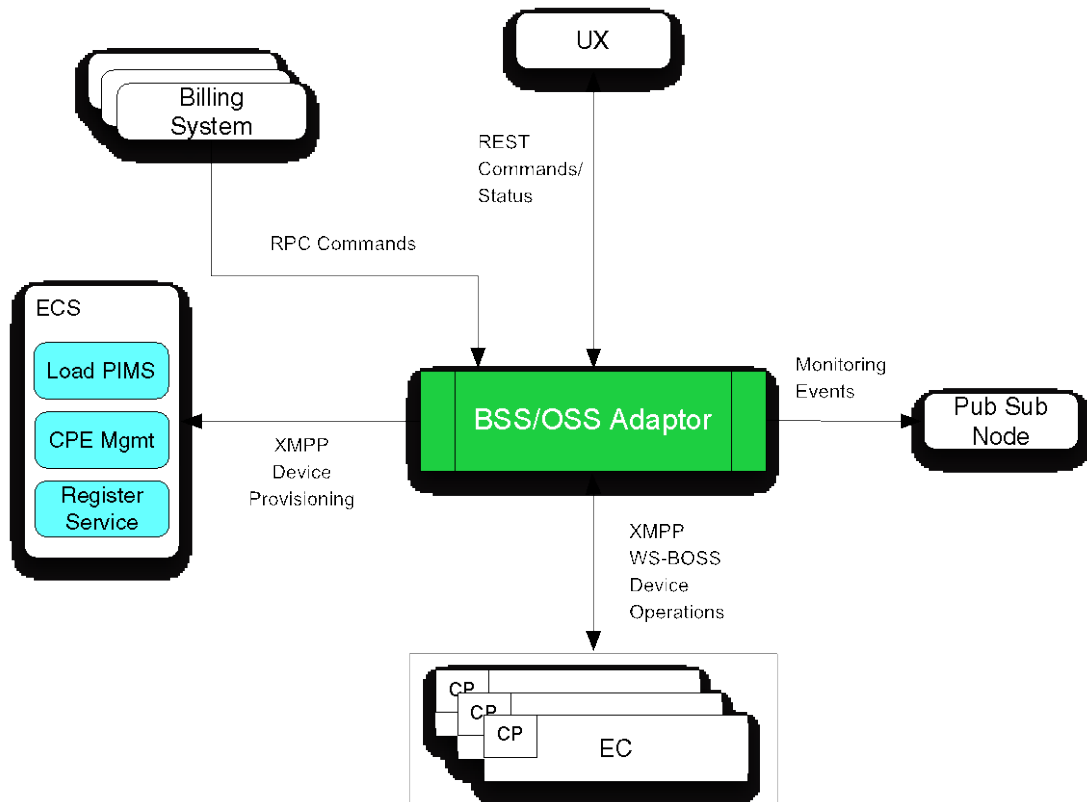
## REST

In deployment environments where the BOA REST interface is utilized, BOA is responsible for managing households, devices, and authorizations using an interface with UPM. This interface is household-centric. There are no feature flags that apply to this interface and UPM is the only required configuration value. A purchase reporting command is available in this interface, and if it is targeted for use, the **Report Server** configuration value needs to be populated. The following diagram represents a typical deployment for this interface type.



**RPC**

In deployment environments where the RPC interface is utilized, BOA is responsible for forwarding BOSS commands received over RPC to either an EC or the ECS, depending on the command type. This interface is device-centric. There are no feature flags that apply to this interface and only the routing table is required among the configuration settings. An RPC monitoring feature is supported on this interface that allows for XML data to be published to a pub sub node for each RPC command that is received or transmitted. The following diagram represents a typical deployment for this interface type.



# Installation and Configuration

## Deployment-Specific Procedures

Choose your Installation Environment from the options below and perform the installation procedures within the appropriate sections that follow.

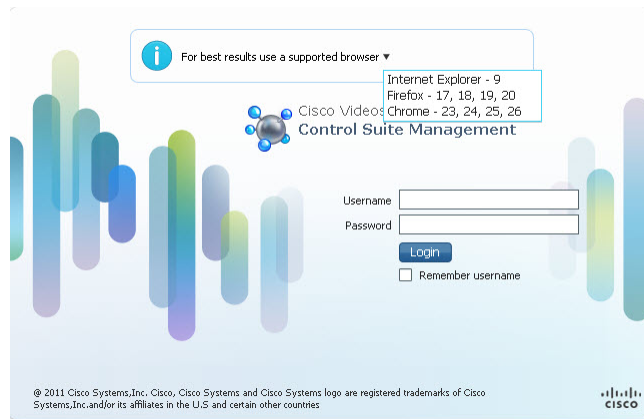
Installation Environment	Instructions
ECS PowerKey-ONLY	Please go to the <b>ECS PowerKey-Only Deployment</b> section.
ECS VGS(Unified HeadEnd (UHE))/PowerKey	Please go to the <b>ECS VGS(UHE)/PowerKey Deployment</b> section.
Video Back Office (VBO)	Please go to the <b>VBO Deployment</b> section.
Billing System Terminator (BST)	Please go to the <b>BST Deployment</b> section.
cDVR	Please go to the <b>cDVR Deployment</b> section.

BOA installation and configuration are managed with the VCS management console (CMC) so the login procedure is provided as follows.

### VCS Management Console Login

- 1 Open a supported browser.
  - a. Internet Explorer, Firefox, and Chrome browsers are supported.

- b. The VCS login page, displayed in the following step, cites the specific versions that are supported.
- 2 Enter this command in the address bar:  
 https://[VCS Management UI IP address]/  
 Example: https://192.0.2.1/  
 Result: **The management login page opens.**



- 3 Enter the root or BOA user **User Name** and **Password** and click **Login** to log in to the console.

### Installing BOA UI on CMC HA

**NOTE:** If this is a CMC High-Availability configuration, perform a CMC switchover and do the same installation on the new CMC UI. Once the installation has completed perform the switchover again to return to the CMC node you installed first.

### Configuring Multiple BOA Instances

**IMPORTANT:** If installing multiple BOA instances and configuring information on the Configuration UI, install the first BOA instance, install the UI components, and perform the Configuration for that instance. Perform the installation of the additional BOA instances, then using the Configuration UI:

1. Select the IP address of the BOA instance you would like to configure, from

the drop down list.

2. Select "Select" to make sure you are performing the configuration for that instance. Please note that the instance selection is not retained between CMC sessions so if you navigate to another screen and return to the Configuration UI, the instance may be different.
3. Make your configuration changes and select "Save".

Perform steps 1-3 for all BOA instances you need to configure.

## *ECS PowerKey-Only Deployment*

### Installation

1. Download the BillingAdaptor COP file using **Operate → Download** in the CMC.
2. Install the BillingAdaptor COP file:
  - a. Select **Operate → COP Install**.
  - b. Select the Nodes you would like to install the BillingAdaptor COP file on, then select the BillingAdaptor file.
  - c. Select **New Config Generation**.
  - d. Set the installation parameters as specified in the list below and leave the remaining entries unchanged.
    - A. Group ID for Explorer Controllers** – Enter the ECS group/cluster ID, the same as was entered when ECS DBAccessService was installed.

\* Group ID for Explorer Controllers

BOA user pub sub

Store authorizations in UPM

Use catalog ingest for DefinePPV

Datastore IP

Datastore Port

Datastore Database Name

Datastore Username

Datastore User Password

(\* Required Attributes. )

- e. Select the node to install the COP file on then select **Generate Config**, to generate the BillingAdaptor config file. A pop-up window will appear, select **Ok** to generate the configuration file.
- f. A pop-up will appear saying the Node Configuration file was successfully generated, then select **Ok** to return to the **COP Install** page.
- g. Select the Node you would like to install the BillingAdaptor COP on, then, select the BillingAdaptor COP file you would like to install, then, select **COP Install** from **COP Images To Install**.
- h. A popup window will be displayed for confirmation that you want to perform the install, select **Ok** to start the COP installation.
- i. The status under COP install will change for the Nodes selected for install.

- j. Once the install has completed the status will change to SUCCESS.
- k. The BillingAdaptor COP file has been successfully installed.
- l. Select the Management Node you would like to install the BillingAdaptor COP UI on, then, select the BillingAdaptor COP file you would like to install, and then select **Install UI Components** from **COP Images To Install**.
- m. A popup window will be displayed for confirmation that you want to perform the install, select **OK** to start the UI install.
- n. The UI will log out to a Management Node login screen, login as the root user.
- o. Select **Operate**→**High Availability**→**Operations**, select **Switchover** to switch management nodes. NOTE: This operation could take up to 30 mins.
- p. Log into the Management Node.
- q. Select **Operate**→**COP Install**.
- r. Select the Management Node you would like to install the BillingAdaptor COP UI on, then, select the COP file you would like to install, and then select **Install UI Components** from **COP Images To Install**.
- s. A popup window will be displayed for confirmation that you want to perform the install, select **OK** to start the UI installation.



- t. Select **Operate**→**High Availability**→**Operations**, select **Switchover** to switch management nodes. NOTE: This operation could take up to 30 mins.
  
- u. The UI will log out to a Management Node login screen, login as the root user. Verify that the Service→Billing Adaptor has three menu items.

## Configuration

In this environment, there are no configuration values to populate so there is no need to change the Billing Adaptor Configuration page.

## *ECS VGS(UHE)/PowerKey Deployment*

### Installation

1. Download the BillingAdaptor COP file using **Operate → Download**
2. Install the BillingAdaptor COP file:
  - a. Select **Operate → COP Install**
  - b. Select the Nodes you would like to install the BillingAdaptor COP file on, then select the BillingAdaptor file.
  - c. Select **New Config Generation**.
  - d. Set the installation parameters as specified in the list below and leave the remaining entries unchanged.
    - A. Group ID for Explorer Controllers** - Enter the ECS group/cluster ID, the same as was entered when ECS DBAccessService was installed.
  - e. Select the node to install the COP file on then select **Generate Config**, to generate the BillingAdaptor config file. A pop-up window will appear, select **Ok** to generate the configuration file.
  - f. A pop-up will appear saying the Node Configuration file was successfully generated, then select **Ok** to return to the **COP Install** page.
  - g. Select the Node you would like to install the BillingAdaptor COP on, then, select the BillingAdaptor COP file you would like to install, then, select **COP Install** from **COP Images To Install**.

- h. A popup window will be displayed for confirmation that you want to perform the install, select **Ok** to start the COP installation.
- i. The status under COP install will change for the Nodes selected for install.
- j. Once the install has completed the status will change to SUCCESS.
- k. The BillingAdaptor COP file has been successfully installed.
- l. Select the Management Node you would like to install the BillingAdaptor COP UI on, then, select the BillingAdaptor COP file you would like to install, and then select **Install UI Components** from **COP Images To Install**.
- m. A popup window will be displayed for confirmation that you want to perform the install, select **OK** to start the UI install.
- n. The UI will log out to a Management Node login screen, login as the root user.
- o. Select **Operate**→**High Availability**→**Operations**, select **Switchover** to switch management nodes. NOTE: This operation could take up to 30 mins.
- p. Log into the Management Node.
- q. Select **Operate**→**COP Install**.
- r. Select the Management Node you would like to install the BillingAdaptor COP UI on, then, select the COP file you would like to install, and then select **Install UI Components** from **COP Images To Install**.

- s. A popup window will be displayed for confirmation that you want to perform the install, select **OK** to start the UI installation.
  
- t. Select **Operate**→**High Availability**→**Operations**, select **Switchover** to switch management nodes. NOTE: This operation could take up to 30 mins.
  
- u. The UI will log out to a Management Node login screen, login as the root user. Verify that the Services→Billing Adaptor has three menu items.

## Configuration

1. From the Management Node main menu, select **Service**→**Billing Adaptor**→**Configuration**
  
2. Select the desired service instance.
  - a. Select the service instance from the drop-down menu.
  
  - b. Click the **Select** button. Please note that the instance selection is not retained between CMC sessions so if you navigate to another screen and return to the configuration screen, the instance may be different.
  
3. Populate the **Service Connections** section of the screen.
  - a. **UPM IP** - Enter the IP address of the UPM server. (NOTE: Must be configured)
  
  - b. **UPM Port** - Enter the port for UPM server communications, default port is 6040. (NOTE: Must be configured)
  
  - c. **Domain Service Host** - Enter the IP address for the Domain Service Host. (NOTE: Must be configured)

- d. **Domain Service Port** - Enter the port for Domain Service communications, default port is 6045. (NOTE: Must be configured)
4. Select the first "Save" button to save the entries.
5. From the Management Node main menu, select **Service**→**Billing Adaptor**→**Offer Creation**
6. Select the desired service instance.
  - a. Select the service instance from the drop-down menu.
  - b. Click the **Select** button. Please note that the instance selection is not retained between CMC sessions so if you navigate to another screen and return to the offer creation screen, the instance may be different.
7. Assign the **Business Rule IDs**
  - a. **PPV ID** - Enter the PPV ID value. (NOTE: Must be configured)
  - b. **Subscription ID** - Enter the Subscription ID value. (NOTE: Must be configured)
8. Select "Save" to save the entries.

## *VBO Deployment*

### **High Availability (VBO Installation only)**

To support high availability and purchase retention requirements, BOA uses the Mongo database in this deployment. **The BOA database and user must be created prior to the BOA install. Do not** complete the DataStore parameters during the installation unless using the Mongo Database.

### **Installation Prerequisites**

1. Install/Start the Mongo database Server.
2. Perform the following steps:
  - a. Log on to the Mongo DB server.
  - b. Execute **mongo** to enter the mongo command line:
    - i. Type: mongo
    - ii. Type the following to create the BOA database and add the user/password, the user and password are examples only:

```
use boa
db.addUser( { user: "boouser",
             pwd: "Moon1234",
             roles: [ "readWrite", "dbAdmin" ] } )
```

3. Install all of the Unified HeadEnd (UHE) components if they are going to be used prior to installing BOA.

## **Installation**

1. Download the BillingAdaptor COP file using **Operate → Download**
2. Install the BillingAdaptor COP file:
  - a. Select **Operate → COP Install**

- b. Select the Nodes you would like to install the BillingAdaptor COP file on, then select the BillingAdaptor file.
- c. Select **New Config Generation**.
- d. Set the installation parameters as specified in the list below and leave the remaining entries unchanged.
  - i. **Group ID for Explorer Controllers** - Enter the ECS group/cluster ID, the same as was entered when ECS DBAccessService was installed.
  - ii. **BOA user pub sub** - This value does not need to be populated.
  - iii. **Store authorizations in UPM** -- Options (**true/false**, default **false**) (**NOTE: DO NOT CONFIGURE. Leave as False**)
  - iv. **Use catalog Import for DefinePPV** - Options (**true/false**, default **false**) (**NOTE: DO NOT CONFIGURE. Leave as False**)
  - v. **Datastore IP** - Enter the IP address for the Mongo Database Server.
  - vi. **Datastore Port** - Enter the connection port for the Mongo Database Server, usually 27017.

- vii. Datastore Database Name** -- Enter the Mongo Database name for the BOA instance.
  - viii. Datastore Username** -- Enter the Mongo Database user name for the BOA instance.
  - ix. Datastore User Password** -- Enter the Mongo Database user password for the BOA instance.
- 
- e. Select the node to install the COP file on then select **Generate Config**, to generate the BillingAdaptor config file. A pop-up window will appear, select **Ok** to generate the configuration file.
  - f. A pop-up will appear saying the Node Configuration file was successfully generated, then select **Ok** to return to the **COP Install** page.
  - g. Select the Node you would like to install the BillingAdaptor COP on, then, select the BillingAdaptor COP file you would like to install, then, select **COP Install** from **COP Images To Install**.
  - h. A popup window will be displayed for confirmation that you want to perform the install, select **Ok** to start the COP installation.
  - i. The status under COP install will change for the Nodes selected for install.
  - j. Once the install has completed the status will change to SUCCESS.
  - k. The BillingAdaptor COP file has been successfully installed.
  - l. Select the Management Node you would like to install the BillingAdaptor COP UI on, then, select the BillingAdaptor COP file you would like to install, and then select **Install UI Components** from **COP Images To Install**.



- m. A popup window will be displayed for confirmation that you want to perform the install, select **OK** to start the UI install.
- n. The UI will log out to a Management Node login screen, login as the root user.
- o. Select **Operate→High Availability→Operations**, select **Switchover** to switch management nodes. NOTE: This operation could take up to 30 mins.
- p. Log into the Management Node.
- q. Select **Operate→COP Install**.
- r. Select the Management Node you would like to install the BillingAdaptor COP UI on, then, select the COP file you would like to install, and then select **Install UI Components** from **COP Images To Install**.
- s. A popup window will be displayed for confirmation that you want to perform the install, select **OK** to start the UI installation.
- t. Select **Operate→High Availability→Operations**, select **Switchover** to switch management nodes. NOTE: This operation could take up to 30 mins.
- u. The UI will log out to a Management Node login screen, login as the root user. Verify that the Service→Billing Adaptor has three menu items.

## Configuration

1. From the Management Node main menu, select **Service**→**Billing Adaptor**→**Billing Adaptor Configuration Settings**
2. Select the desired service instance.
  - a. Select the service instance from the drop-down menu.
  - b. Click the **Select** button. Please note that the instance selection is not retained between CMC sessions so if you navigate to another screen and return to the configuration screen, the instance may be different.
3. Populate the **Service Connections** section of the screen. Please configure all of the entries in this section with the exception of **Catalog Import Host/Catalog Import Port**
  - a. **UPM IP** - Enter the IP address of the UPM server.
  - b. **UPM Port** - Enter the port for UPM server communications, default port is 6040.
  - c. **Catalog Import Host** - Enter the IP address of the Catalog Import Host.
  - d. **Catalog Import Port** - Enter the port for Catalog Import communications, default port is 5150.
  - e. **HEP Host** - Enter the IP address for the Headend Purchase (HEP) host.
  - f. **HEP Port** - Enter the port for HEP, default port is 6030.

- g. **CMDC Host** - Enter the IP address for the Catalog Merchandiser Host.
- h. **CMDC Port** - Enter the port for the CMDC communications, default port is 5600.
- i. **PPS Host** - Enter the IP address for the Personal Planner System (PPS) host.
- j. **PPS Port** - Enter the port for the PPS communications, default port is 6060

4. Populate the **Purchase Client Connections** section of the screen.

- a. **SDMP Host** -- Enter the IP address for the SDMP billing system.
- b. **SDMP Port** - Enter the communication port for the SDMP host.
- c. **SDMP Path** - Enter the path for the SDMP host.
- d. **FlexView Host** -- Enter the IP address for the FlexView billing system.
- e. **FlexView Port** - Enter the communication port for the FlexView host.
- f. **FlexView Path** - Enter the path for the FlexView host.

5. Select **Save** to save the **Service Connections** and **Purchase Client Connections** entries.
  
6. If the default values do not suffice, set the **Purchase Retry Configuration** values. The retry parameters apply to purchases that BOA submits.
  - a. **Max retry count** - Enter the maximum number of retries that BOA will attempt before classifying the submission as failed.
  
  - b. **Retry Interval** - Enter the amount of time in seconds that BOA waits before attempting another purchase submission

## *Billing System Terminator (BST)*

### Installation

1. Download the BillingAdaptor COP file using **Operate → Download**
2. Install the BillingAdaptor COP file:
  - a. Select **Operate → COP Install**
  - b. Select the Nodes you would like to install the BillingAdaptor COP file on, then select the BillingAdaptor file.
  - c. Select **New Config Generation**.
  - d. Set the installation parameters as specified in the list below and leave the remaining entries unchanged.
    - i. **Group ID for Explorer Controllers** - Enter the ECS group/cluster ID, the same as was entered when ECS DBAccessService was installed.
    - ii. **BOA user pub sub** - Enter the name of the pub sub controller. A pub sub node is required for RPC monitoring.
  - e. Select the node to install the COP file on then select **Generate Config**, to generate the BillingAdaptor config file. A pop-up window will appear, select **Ok** to generate the configuration file.
  - f. A pop-up will appear saying the Node Configuration file was successfully generated, then select **Ok** to return to the **COP Install** page.

- g. Select the Node you would like to install the BillingAdaptor COP on, then, select the BillingAdaptor COP file you would like to install, then, select **COP Install** from **COP Images To Install**.
- h. A popup window will be displayed for confirmation that you want to perform the install, select **Ok** to start the COP installation.
- i. The status under COP install will change for the Nodes selected for install.
- j. Once the install has completed the status will change to SUCCESS.
- k. The BillingAdaptor COP file has been successfully installed.
- l. Select the Management Node you would like to install the BillingAdaptor COP UI on, then, select the BillingAdaptor COP file you would like to install, and then select **Install UI Components** from **COP Images To Install**.
- m. A popup window will be displayed for confirmation that you want to perform the install, select **OK** to start the UI install.
- n. The UI will log out to a Management Node login screen, login as the root user.
- o. Select **Operate→High Availability→Operations**, select **Switchover** to switch management nodes. NOTE: This operation could take up to 30 mins.
- p. Log into the Management Node.
- q. Select **Operate→COP Install**.
- r. Select the Management Node you would like to install the BillingAdaptor COP UI on, then, select the COP file you would like to install, and then select **Install UI Components** from **COP Images To Install**.

- s. A popup window will be displayed for confirmation that you want to perform the install, select **OK** to start the UI installation.
- t. Select **Operate→High Availability→Operations**, select **Switchover** to switch management nodes. NOTE: This operation could take up to 30 mins.
- u. The UI will log out to a Management Node login screen, login as the root user. Verify that the **Service→Billing Adaptor** has three menu items.

## Configuration

1. From the Management Node main menu, select **Service→Billing Adaptor→Routing Table**
2. Select the desired service instance.
  - a. Select the service instance from the drop-down menu.
  - b. Click the **Select** button. Please note that the instance selection is not retained between CMC sessions so if you navigate to another screen and return to the configuration screen, the instance may be different.
3. Set the **RPC Monitor** feature state.
  - a. Click the **Enable/Disable** button to change the BST monitoring setting if the current state needs to be changed (the red status means that monitoring is disabled while the green status means that monitoring is enabled)

4. Create a routing table entry for each billing IP address by clicking the **Create** button and then entering the requested IP address for each system.
5. Once the routing table is populated, return to step 2 and repeat for each installed BOA instance that needs to support RPC.

## *cDVR Deployment*

### Installation

1. Download the BillingAdaptor COP file using **Operate → Download**
2. Install the BillingAdaptor COP file:
  - a. Select **Operate → COP Install**
  - b. Select the Nodes you would like to install the BillingAdaptor COP file on, then select the BillingAdaptor file.
  - c. Select **New Config Generation**.
  - d. Set the installation parameters as specified in the list below and leave the remaining entries unchanged.
    - i. **Group ID for Explorer Controllers** - Enter the ECS group/cluster ID, the same as was entered when ECS DBAccessService was installed.
  - e. Select the node to install the COP file on then select **Generate Config**, to generate the BillingAdaptor config file. A pop-up window will appear, select **Ok** to generate the configuration file.



- f. A pop-up will appear saying the Node Configuration file was successfully generated, then select **Ok** to return to the **COP Install** page.
- g. Select the Node you would like to install the BillingAdaptor COP on, then, select the BillingAdaptor COP file you would like to install, then, select **COP Install** from **COP Images To Install**.
- h. A popup window will be displayed for confirmation that you want to perform the install, select **Ok** to start the COP installation.
- i. The status under COP install will change for the Nodes selected for install.
- j. Once the install has completed the status will change to SUCCESS.
- k. The BillingAdaptor COP file has been successfully installed.
- l. Select the Management Node you would like to install the BillingAdaptor COP UI on, then, select the BillingAdaptor COP file you would like to install, then select **Install UI Components** from **COP Images To Install**.
- m. A popup window will be displayed for confirmation that you want to perform the install, select **OK** to start the UI install.
- n. The UI will log out to a Management Node login screen, login as the root user.
- o. Select **Operate**→**High Availability**→**Operations**, select **Switchover** to switch management nodes. NOTE: This operation could take up to 30 mins.
- p. Log into the Management Node.
- q. Select **Operate**→**COP Install**.

- r. Select the Management Node you would like to install the BillingAdaptor COP UI on, then, select the COP file you would like to install, and then select **Install UI Components** from **COP Images To Install**.
- s. A popup window will be displayed for confirmation that you want to perform the install, select **OK** to start the UI installation.
- t. Select **Operate→High Availability→Operations**, select **Switchover** to switch management nodes. NOTE: This operation could take up to 30 mins.
- u. The UI will log out to a Management Node login screen, login as the root user. Verify that the Service→Billing Adaptor has three menu items.

## Configuration

1. From the Management Node main menu, select **Service→Billing Adaptor→Billing Adaptor Configuration Settings**
2. Select the desired service instance.
  - a. Select the service instance from the drop-down menu.
  - b. Click the **Select** button. Please note that the instance selection is not retained between CMC sessions so if you navigate to another screen and return to the configuration screen, the instance may be different.
3. Populate the **Service Connections** section of the screen. Please configure only the entries in mentioned and leave the others unchanged.

- a. **UPM IP** – Enter the IP address of the UPM server. (**NOTE:** Must be configured)
  - b. **UPM Port** – Enter the port for UPM server communications, default port is 6040. (**NOTE:** Must be configured)
  - c. **Report Server Host** – Enter the IP address for the Report Server Host.
  - d. **Report Server Port** – Enter the port for Report Service communications, default port is 6530.
4. Select “Save” to save the **Service Connections** entries.

## General Procedures

### *Defining the BOA User and BOA-Mgr User Group*

The VCS Management interface supports role-based user login functionality for the various applications installed on the VCS, including BOA.

The VCS Management interface provides pages that support the creation of a BOA-specific username and password, membership in various user groups, and customized service configuration access permissions for specific tasks.

To define a BOA user with customized access permissions, complete the following steps:

1. Log in to the VCS Management interface as the **root** user.
2. Choose **Administration > Users, Roles & AAA**.
3. Choose **Users** from the list of options on the left side of the page. The Users page appears.

<input type="checkbox"/>	User Name	Member Of	Audit Trail
<input type="checkbox"/>	admin	Admin ...	
<input type="checkbox"/>	boa	BOA-Mgr ...	
<input type="checkbox"/>	root	Root	

4. From the **Select a command** drop-down list, choose **Add User**. Then, click **Go**. The **Add User** page appears.

Add User  
Administration > AAA > Users > **Add User**

General

Username

New Password

Confirm Password

Groups Assigned to this User

<input type="checkbox"/> AM-Mgr	<input type="checkbox"/> Admin	<input type="checkbox"/> BOA-Mgr
<input type="checkbox"/> Client-Directory-Mgr	<input type="checkbox"/> Cloud-DVR-Management	<input type="checkbox"/> ECSOperator
<input type="checkbox"/> ECSUser	<input type="checkbox"/> EPM-Mgr	<input type="checkbox"/> Event-Mgr
<input type="checkbox"/> Message-infra-Mgr	<input type="checkbox"/> Operator	<input type="checkbox"/> Operator-Messaging-Mgr
<input type="checkbox"/> Platform-Mgr	<input type="checkbox"/> Resource-Mgr	<input type="checkbox"/> Root ⓘ
<input type="checkbox"/> Super Users	<input type="checkbox"/> UNG-Mgr	<input type="checkbox"/> UPM-Adaptor-Mgr

5. Enter a new BOA username and password.
6. Check the **BOA-Mgr** check box to assign this new BOA user to the BOA-Mgr group.
7. Click **Save**. The **User added successfully** message should appear.
8. Now, choose **User Groups** from the list of options on the left side of the page. The **User Groups** page appears.

User Groups  
Administration > AAA > User Groups

Group Name	Members	Audit Trail	Export
AM-Mgr			Task List
Admin	admin		Task List
BOA-Mgr	boa		Task List
Client-Directory-Mgr			Task List
Cloud-DVR-Management			Task List
ECSOperator			Task List
ECSUser			Task List
EPM-Mgr			Task List
Event-Mgr			Task List
Message-infra-Mgr			Task List
Operator			Task List
Operator-Messaging-Mgr			Task List
Platform-Mgr			Task List
Resource-Mgr			Task List
Root	root		Task List
Super Users			Task List
UNG-Mgr			Task List
UPM-Adaptor-Mgr			Task List

9. Confirm that the new BOA user that you just created in the previous few steps is listed as a **Member** of the **BOA-MGR** group.

10. Choose **BOA-Mgr** from the list of Group Names on the left. The Group Detail: BOA-Mgr page appears.

Group Detail :BOA-Mgr  
Administration > AAA > Groups > Group Detail

BOA-Mgr group.

Tasks Permissions Members

**Alarms and Events**

Ack,Unack and Clear Alarms  Assign and Unassign

Configure Email Notification  Delete Alarms

Troubleshoot  View Alarms and Events

**HA Status**

HA Server Status

**Service Configuration**

Access Endpoint  Alert Manager Dashboard

Application Images  BOA Dashboard

CAP Config List  Client Parameter List

cloud DVR Management  EAC List

Endpoint Configurations  Endpoint Groups

Endpoint Manager Analytics  Endpoint Manager Dashboard

Endpoint Manager Settings  Endpoint Parameters

Endpoint Rules  Endpoint Topics

Endpoint Watches  Generate Notification

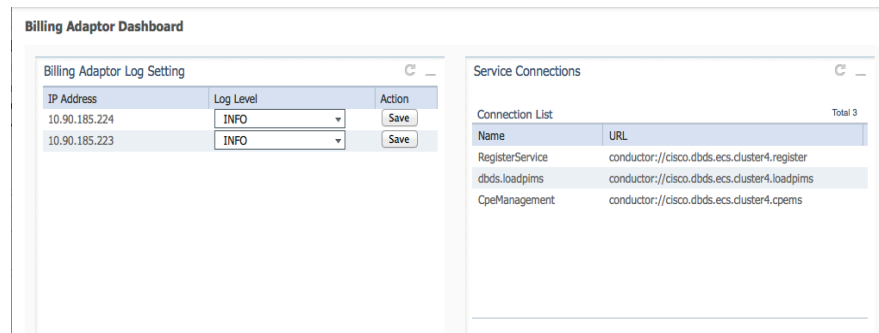
11. Assign **Task Permissions**, as needed, to the new BOA user by checking the appropriate check box. Then, click **Submit**. The **User Group saved successfully** message should appear.

12. Verify the new BOA user, user group, and access permissions by logging out of the VCS Management system, and then logging back in as the new user. Check that the new user can access those pages for which permission was assigned.

## *Modify the BOA Application Log Level Setting*

The BOA application log level setting in the VCS Management window provides the operator with the ability to change the BOA log message output to different levels of detail. To adjust the BOA application log levels, complete the following steps:

1. Log in to the VCS Management interface with a username that provides access to the Billing Adaptor Dashboard page.
2. Choose **Services > Billing Adaptor Dashboard**. The Billing Adaptor Dashboard page appears.



3. In the **Billing Adaptor Log Setting** area, click the drop-down arrow to view the different log levels. **NOTE:** There will be a separate entry for each BOA instance available.
4. Select the new, desired log level that is different from the current level.
5. Click **Save**. A confirmation message appears. The new log level becomes active.

## *Managing Log Messages*

To access the BOA application log messages, use a terminal emulator to log on as **admin** user to the virtual machine on which the BOA COP file was installed. Enter the following commands at the **admin** prompt for the following log message functions:

1. To view current existing BOA log messages:  
**file view activelog jboss/BillingAdaptor.log**
2. To view current existing jboss server log messages:  
**file view activelog jboss/server.log**
3. To list log file names, including archive log file names:  
**file list activelog jboss/\***
4. To view archive log file messages:  
**file dump activelog jboss/[archive\_filename]**
5. To tail BOA log messages:  
**file tail activelog jboss/BillingAdaptor.log**

Note: To exit from the tail utility, press the Ctrl and C keys simultaneously.

# Upgrading the BOA COP and UI

The following procedure can be used to upgrade the BOA COP and its associated UI component.

1. Select the Management Node where the BillingAdaptor Cop file UI is currently installed, then select the BillingAdaptor COP file. From the **COP Images to Install**, select **Uninstall UI Components**.
2. Perform steps 1, 2a through 2e of the appropriate install matrix.
3. Select the Node you would like to install the BillingAdaptor COP on, then, select the BillingAdaptor COP file you would like to install, then, select **COP Upgrade** from **COP Imaged to Install**.
4. A popup window will be displayed for confirmation that you want to perform the install, select **Ok** to start the COP installation.
5. The status under COP install will change for the Nodes selected for install.
6. Once the install has completed the status will change to SUCCESS.
7. The BillingAdaptor COP file has been successfully installed.
8. Select the Management Node you would like to install the BillingAdaptor UI component on, then select the BillingAdaptor COP file you are installing the UI for. From the **COP Images to Install**, select **Install UI Components**.

## Additional Information

### *If You Have Questions*

If you have technical questions, contact Cisco Services for assistance. Follow the menu options to speak with a service engineer.





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