# Getting Started

This chapter discusses initial device configuration, logging into and navigating the Internet Streaming Content Delivery System Manager (CDSM), and a typical Cisco Videoscape Distribution Suite, Internet Streamer (VDS-IS) configuration workflow.

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## Initially Configuring the Devices

You must initially configure the Content Delivery Engines (CDEs) before they can participate in the VDS-IS network. The CDE that runs the Internet Streaming CDSM must be initialized first so that the CDEs running the Service Engine (SE) and Service Router (SR) can register with it. For more information about initially configuring the CDEs, see the *Cisco Content Delivery Engine 205/220/250/420 Hardware Installation Guide*.

After you have initially configured your CDEs, you must activate the SEs and SRs and configure the internal clocks by using the Internet Streaming CDSM. See the "Activating and Synchronizing the Devices" section on page 3-3 for more information.

## Logging In to the Internet Streaming CDSM

To log in to the Internet Streaming CDSM, follow these steps:

**Step 1** Using your web browser, enter the IP address of your CDSM and port 8443.

> **Note** VDS-IS supports Internet Explorer Version 6 or later, and Mozilla Firefox Version 3.6 or later.

For example, if the IP address of your CDSM is 192.168.0.236, enter:

**https://192.168.0.236:8443**

The Security Alert message is displayed.

> **Note** If you are using Mozilla Firefox Version 3.6 or later as your web browser, you need to add the CDSM IP address to the exception list. After entering the CDSM IP address with port 8443, Firefox displays a Secure Connection Failed message with a link stating "Or you can add an exception." Click this link, then click **Add Exception**. The Add Security Exception dialog box is displayed. Click **Get Certificate**, and then click **Confirm Security Exception**. The CDSM IP address is added to the exception list and you no longer receive the Secure Connection Failed message.

> **Note** Sometimes the CDSM is not initially accessible from a web browser. If this occurs, you must disable and re-enable the Centralized Management System (CMS). log in to the CLI for the CDSM, and enter the **no cms enable** command in global configuration mode followed by the **cms enable** command.

**Step 2** Click **Yes** to accept the security certificate. The Login page is displayed (Figure 3-1).

*Figure 3-1      Internet Streaming CDSM Login Page*
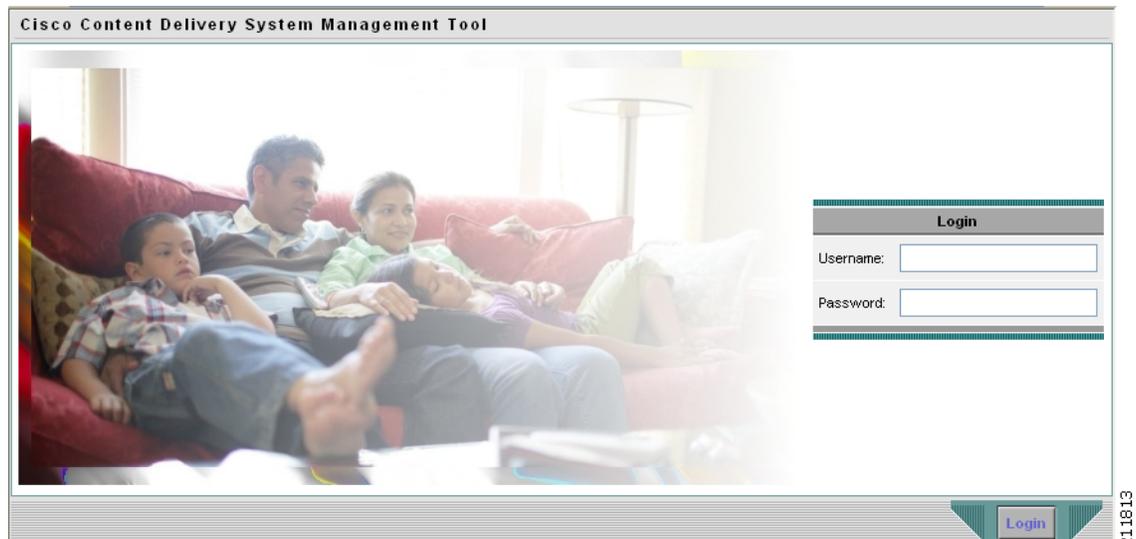


**Step 3** Enter the username and password and click **Login**. The Internet Streaming CDSM home page is displayed.

The built-in username is *admin* and the initial password is *default*.

> ⚠
> **Caution** You have only three attempts to log in successfully. The CDSM will be locked, if you fail to log in within three attempts.

> **Note** The CDSM is locked for 30 minutes for a user, and is locked completely for an administrator.

> **Note**
> - We strongly recommend that you change the built-in admin password as soon as possible. To do so, log in to the CLI of the CDSM device, and use the **username** *admin* **password** *<password>* global configuration command.
> - If the default username and password have been changed by another CDSM administrator, you need to get the new username and password.

If you log in as an administrator, you can see the last log in details along with the failed log in details (if any).

Starting with release 4.1, VDS-IS allows the administrator user can view the list of locked user accounts, and unlock a user. via the **System > AAA > Locked Users** page in the CDSM GUI. For more information on how to unlock a user, see "Viewing Locked Users" section on page 6-7.

# Activating and Synchronizing the Devices

The VDS-IS administrator approves a device by making it active. This security feature prevents unauthorized devices from joining the VDS-IS.

> **Caution**  All devices must be synchronized with each other for the VDS-IS to function properly.

Synchronization ensures accurate timestamps in all of the logs and accuracy in caching decisions determined by If Modified Since (IMS) lookups. Using Network Time Protocol (NTP) to synchronize the devices in the VDS-IS is the best practice.

> **Note**  If the network is not configured with NTP, then every device in the VDS-IS must be configured with exactly the same time and time zone. We recommend that you use an NTP server for network synchronization.

## Activating and Setting NTP for Each Device

> **Tip**  To navigate within the Internet Streaming CDSM, click one of the tabs (for example, Devices) and then one of the tab options (for example Locations).

> **Note**  From the Devices Table, you can activate all inactive devices by clicking the **Activate All Inactive SEs** icon. See the "Activating All Inactive Service Engines" section on page 3-5.

To activate and synchronize a Service Engine (SE) or Service Router (SR), follow these steps:

**Step 1**   From the Internet Streaming CDSM home page, choose **Devices > Devices**. The Devices page with the table is displayed (Figure 3-2) listing all of the registered SEs and SRs.

*Figure 3-2        Devices Table Page–Edit Device*



**Step 2**    Click the **Edit** icon next to the device name. The Devices home page is displayed.

> ✎
>
> **Note**    If the device that you want to activate is not listed in the Devices Table, restart the CMS for that
> device by telneting to it and entering the **no cms enable** command followed by the **cms enable**
> command in global configuration mode.

**Step 3**    Click **Activate** in the Devices home page. The Location dialog box is displayed (Figure 3-3).

*Figure 3-3        Devices Home Page—Location Dialog Box*



**Step 4**    Create or choose a location. To activate an SE, you need to assign it to a location.

Because the standby CDSM is global to the VDS-IS network, it does not need to be assigned to a
location.

You have the following options in creating or choosing a location:

a.    If you have already created locations, you can choose a location from the **Location** drop-down list.

**b.** To create a default location, which can be edited later, check the **Create a New location** check box. A default location is created with the following name: *<SE-name>-location*. From the **Parent of the New Location** drop-down list, choose a parent for this location.

For information about creating locations, see the "Configuring Locations" section on page 4-1.

**Step 5** Click **Apply and Activate**.

The Status of the device shows "pending" until the device is fully activated. This may take a few minutes.

**Step 6** To display the top-level Table of Contents, click **Show All** above the Contents pane.

**Step 7** From the left-panel menu, choose **General Settings > Network > NTP**. The NTP Settings page is displayed.

**Step 8** Check the **Enable** check box and enter the IP address or hostname of each NTP server. Use a space to separate each server.

**Step 9** Click **Submit** to save your settings.

The activation and NTP server settings must be completed for each SE, SR, and standby CDSM.

**Tip** For a quick way to get to other SEs, click the **Display All Devices** icon located to the left of the Expand All button. This icon toggles between the Display All Devices and Menu icons.

For more detailed information about configuring locations, activating devices, and configuring NTP servers, see the following sections:

- Configuring Locations, page 4-1
- Activating a Service Engine, page 4-10
- Configuring NTP, page 4-69

# Activating All Inactive Service Engines

To activate all inactive SEs, follow these steps:

**Step 1** From the CDSM home page, choose **Device > Devices** and click the **Activate All Inactive SEs** icon. See Figure 3-4.

*Figure 3-4    Devices Table Page—Activate All Inactive Service Engines*



The Location Choice page is displayed (Figure 3-5).

*Figure 3-5*        *Location Choice Page*



**Step 2**    In the Location Choice page, click either **Select an Existing Location for All Inactive SEs** or **Create a New Location for Each Inactive SE**.

If you are creating a new location, you can select a parent location, or leave the default of "none."

**Step 3**    Click **Submit** to save the settings.

The Status in the Devices Table for all of the inactive SEs shows "pending" until the devices have been fully activated.

> **Note**    All devices activated in this way need to have the NTP settings configured. See Step 6 through Step 9 in the "Activating and Setting NTP for Each Device" section on page 3-3.

# Navigating the Internet Streaming CDSM

Figure 3-6 shows the different elements of the Internet Streaming CDSM.

*Figure 3-6        Internet Streaming CDSM User Interface*
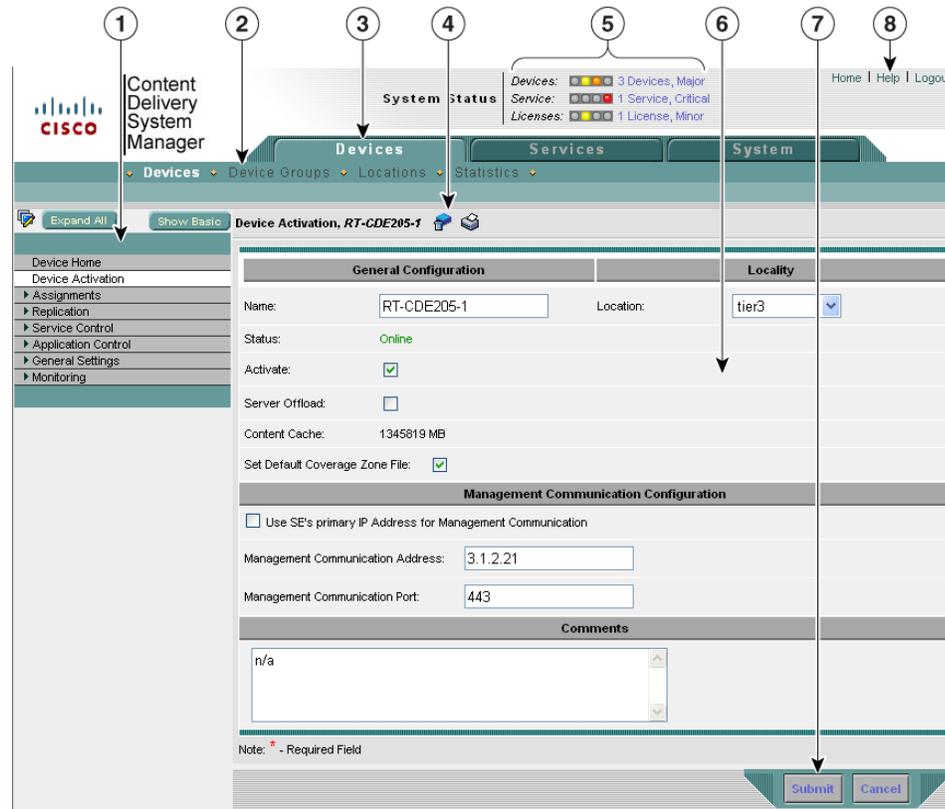


| **1** | Left panel menu | **5** | System Status bar |
|-------|-----------------|-------|-------------------|
| **2** | Tab options | **6** | Page |
| **3** | Tabs | **7** | Submit and Cancel buttons |
| **4** | Task bar | **8** | Tools (Home, Help, and Logout) |

The System Status bar, tabs, tab options, and tools are accessible from any page in the CDSM. The left panel menu changes depending on which tab and tab option you choose.

## Devices, Services, and Other Tables

The Devices Table page shows all the devices registered in the CDSM. Figure 3-7 shows an example of the Devices Table page. A table is displayed for each of the following tab options:

- Devices (from Devices tab)
- Device Groups (from Devices tab)
- Locations (from Devices tab)

- Delivery Services (from Services tab)
- Live Video (from Services tab)

*Figure 3-7        Devices Table Page*



You can sort the information in the table by clicking any column title. The table can be sorted in ascending or descending order for each column. The task bar options provide other table manipulations, including filtering, refreshing the table, viewing all items, and printing.

The bottom of the table lists the page number and the total number of pages, as well as how many items are showing out of the total number of items.

The table defaults to listing ten rows. You can change the number of rows shown by clicking the Rows drop-down list.

To get more information on an item or to configure an item, click the **Edit** icon to the left of the item name. To create a new item, click the **Create New** icon in the task bar.

# Devices Home Page

The Devices home page provides information about the device, as well as the ability to perform the following tasks:

- Activate the device
- Update the device software
- Assign the device to baseline groups

From the Devices home page you can access the delivery services and device groups the device is assigned to, by clicking the appropriate link. All delivery services, or device groups (depending on which link you clicked), configured in your VDS-IS are displayed. Through this page, you can assign the device to additional delivery services or device groups by clicking the icon next to the applicable delivery services or device groups and submitting your selection.

The Devices home page offers detailed bandwidth and bytes-served graphs with detailed reports for each.

The left panel menu has two toggle buttons: Show Basic/Show All and Expand All/Collapse All.

- **Show All**      Shows all of the menu items in the menu.

- **Show Basic**    Shows only the Device home menu item.

- **Expand All**    Shows every menu and submenu.

- **Collapse All**    Shows only the top-level menu items.

# Task Bar

The task bar displays information about the page that you are on and provides associated tasks. All task bar icons, as well as other icons, have labels that are displayed when hover your mouse cursor over the icon.

Any icon used in a procedure is referenced by the hover label; for example, **Create New** is the hover label for the following icon:

Table 3-1 describes the icons available in the CDSM.

*Table 3-1    CDSM Icons*

| Icon | Function |
|------|----------|
|      | Activates all inactive Service Engines. |
|      | Displays the devices. |
|      | Displays the left-panel menu. |
|      | Deactivates the device. |
|      | Updates application statistics. |
|      | Forces the refresh of replication information or process content changes. |
|      | Goes back to the Replication Status page. |
|      | Forces full database update. |
|      | Forces settings on SEs in the group. |
|      | Forces the group settings. |

*Table 3-1    CDSM Icons (continued)*

| Icon | Function |
|------|----------|
|  | Views read-only items. |
|  | Creates a new item. |
|  | Edits an item. |
|  | Deletes an item. |
|  | Adds a content item for acquisition. |
|  | Deletes a selected item. |
|  | Manages between host and proxy servers for content acquisition. |
|  | Saves to disk. |
|  | Views complete URL (+) or view (-) partial URL that is used to acquire content. |
|  | Exports a table to a comma-separated value (CSV) file. |
|  | Creates a filtered table. Filter the table based on the field values. |
|  | Displays a graph. |
|  | Applies the default settings to the device. |
|  | Overrides the group settings on the device. |
|  | Views all table entries. Click this icon to view all entries after you have created a filtered table. |
|  | Refreshes the table. |
|  | Reboots the device. |
|  | Prints the current page. |
|  | Copies a program. |

**Table 3-1        CDSM Icons (continued)**

| Icon | Function |
|------|----------|
| | Previews a program. |
| | Assigns all items to the entity. |
| | Removes all items from the entity. |
| | Indicates that the current transaction was successfully completed. |
| | Indicates that user input is invalid and that the transaction did not finish. |

# Configuring Primary and Standby CDSMs

The Internet Streaming CDSM can operate in two different roles: primary and standby. The primary role is the default. You can have only one primary CDSM active in your network; however, you can have any number of CDSMs operating in a standby role to provide redundancy and failover capacity. You must configure the primary CDSM first. See the *Cisco Content Delivery Engine 205/220/250/420 Hardware Installation Guide* for information on configuring the primary CDSM.

**Note**      The primary and standby CDSMs must be running the same version of software. You must upgrade your standby CDSM first, and then upgrade your primary CDSM.

If the primary CDSM is down, the devices (SE and SR) cannot send regular reports and events to it, so the data is sent to the standby CDSM. After the primary CDSM is online, the database on the standby CDSM is synchronized with the database on the primary CDSM.

To configure a standby CDSM, follow these steps using the CLI:

**Step 1**    Follow the instructions for configuring a CDSM using the setup utility, except do not enter the IP address of the CDSM. The instructions can be found in the *Cisco Content Delivery Engine 205/220/250/420 Hardware Installation Guide*.

**Step 2**    Configure the standby CDSM:

```
CDE(config)# cdsm role standby
```

**Step 3**    Identify the IP address of the primary CDSM:

```
CDE(config)# cdsm ip 10.1.1.90
```

**Step 4**    Start the Centralized Management System (CMS):

```
CDE(config)# cms enable
```

**Step 5**    Save the configuration:

```
CDE# copy running-config startup-config
```

**Step 6**    Activate the standby CDSM by using the web interface of the primary CDSM.

The primary CDSM notifies all registered devices that a standby CDSM exists and sends each device the information it needs to contact the standby should the primary fail or become inactive.

> **Note** You cannot log in to the web interface of the standby CDSM. Its function is to maintain an up-to-date copy of the primary's database.

# Changing a Standby CDSM to a Primary CDSM

> **Note** If your primary CDSM is still operating, you must change its role to standby by executing the **cdsm role standby** command before following these steps. You can only have one primary CDSM operating at any given time.

To change the standby CDSM to become the primary, follow these steps:

**Step 1** If your primary CDSM has failed, enter the following command:

```
CDE(config)# cdsm role primary
```

**Step 2** Save the configuration:

```
CDE# copy running-config startup-config
```

**Step 3** Restore the old primary CDSM, if possible:

**Step 4** When the old primary CDSM is restored, change its role to standby:

```
cdsm role standby
```

**Step 5** Reconnect the old primary CDSM (now the standby CDSM) into the VDS-IS network.

**Step 6** Wait at least one polling interval to allow the data from the primary CDSM to be copied to the standby CDSM.

> **Note** During this period, do not make any configuration changes.

**Step 7** When the new primary CDSM and the new standby CDSM have synchronized, you can change the roles of the CDSMs back to their original roles.

> **Note** There can only be one primary CDSM in a VDS-IS at one time. If there are two primary CDSMs, both CDSMs are halted.

To do this, follow these steps:

**a.** Change the role of the primary CDSM to standby:

```
cdsm role standby
```

**b.** Change the role of the standby CDSM to primary:

```
cdsm role primary
```

**Note**    If you have recently made configuration changes to the primary CDSM, wait at least the polling interval before changing roles to ensure that the standby has a record of the most recent configuration changes.

## Recovering from two Primary CDSMs

If you did not change the primary CDSM to standby before you changed the standby CDSM to primary, you will have two primary CDSMs in your VDS-IS and both will be halted. To restore both CDSMs, follow these steps:

**Step 1**    Make sure that the CDSM that is to be designated as the standby is in fact the standby by entering the **cdsm role standby** command.

**Step 2**    Initiate the CMS on the standby CDSM by entering the **cms enable** command.

**Step 3**    Make sure the CDSM that is to be designated as the primary is in fact the primary by entering the **cdsm role primary** command.

**Step 4**    Initiate the CMS on the primary CDSM by entering the **cms enable** command.

**Step 5**    Make sure that the standby CDSM is activated by using the web interface of the primary CDSM.

# Typical Configuration Workflow

Once you have completed activating and configuring the NTP servers for all of the devices in the CDSM, you are ready to configure the VDS-IS for content delivery. For information about activating and configuring the NTP servers for a device, see the "Activating and Setting NTP for Each Device" section on page 3-3.

Table 3-2 lists the basic tasks for configuring the VDS-IS for content delivery, with references to the associated sections in each chapter.

*Table 3-2        Configuration Workflow*

| Task | Description | Where to Find More Information |
|------|-------------|-------------------------------|
| Change admin password | Change the administrator password on each device, including the CDSM, and change the administrator password for the system | Log in to the CLI for the device and use the **username** *admin* **password** *<password>* global configuration command. |
| | | The password strength must be a combination of alphabetic characters, at least one number, at least one special character, and at least one uppercase character. |
| | | To change the password for the CDSM GUI and CLI, go to "Creating, Editing, and Deleting Users," page 6-2 |
| Configure Dedicated Management with Redundant Port | Separate management traffic from application traffic, and configure a redundant port for management | "Configuring Port Channel," page J-6 |
| Create Device Groups | Group like devices to speed up configuration | "Configuring Device Groups," page 4-4 |
| Configure RCP | Configure Remote Copy Protocol (RCP) to listen for requests on TCP port 514 | "Enabling RCP," page 4-69 |
| Configure FTP | Enable FTP services to listen for connection requests | "Enabling FTP Services," page 4-68 |
| Configure Web Engine | For all SEs participating in delivering content | "Configuring Default and Maximum Bandwidth," page 4-38 |
| Configure Windows Media Engine | For all SEs participating in delivering Windows Media content | Begins with "Configuring Windows Media Streaming—General Settings," page 4-42 |
| Configure Movie Streamer | For all SEs participating in delivering MPEG or MOV content | "Configuring Movie Streamer—General Settings," page 4-45 |
| Configure Flash Media Streaming | For all SEs participating in delivering Flash Media Streaming content | "Configuring Flash Media Streaming—General Settings," page 4-47 |
| Create Coverage Zone File | Map SEs to client service areas by IP address or geographic location | Appendix C, "Creating Coverage Zone Files," |
| Import or Upload Coverage Zone File | Apply Coverage Zone mappings to VDS | "Coverage Zone File Registration," page 6-13 |
| Configure Global Routing Method | Set the Coverage Zone file | "Configuring Global Routing," page 6-14 |
| Configure Routing Method | Configure the routing method used by SRs | "Configuring the Service Router," page 4-104 |
| Configure Content Origins | Define all origin servers that are used in delivery services | "Content Origins," page 5-34 |

***Table 3-2*** **Configuration Workflow (continued)**

| Task | Description | Where to Find More Information |
|---|---|---|
| Create Delivery Service Definitions | Create delivery services for both prefetched or cached content and live programs | "Creating Delivery Service," page 5-1 |
| Create Live Programs | Create live programs, or rebroadcasts and schedules | "Configuring Programs," page 5-50 |