CSM Server User Guide

What is CSM Server?

CSM Server is a web based server-side automation and orchestration framework. It provides service providers the ability to simultaneously schedule and deploy IOS-XR (ASR9K, CRS, and NCS6K) SMUs & software upgrades across hundreds of routers in a scheduled manner through a simple point and click Web interface

It leverages the Accelerated Upgrade Tool (AUT) to automate and relieve our customers of having to perform tedious & manual install steps themselves

CSM Server

- Requirements
  - Runs on Linux machine
  - Python interpreter 2.7.6 & supported libraries
  - MySQL 5.6 or above
  - Gunicorn web server
  - Safari/Google Chrome/Firefox Browser

- Installation
  - Refers to the Installation guide
  - This guide will provide instructions on installing CSM Server and various components on different Linux distributions as well as how to launch it.

- CSM Server Modules
  - CSM Server
    - Provides a Web GUI to provision hosts, jump servers, regions, and servers
    - Schedules different types of installation jobs
    - Browses database information and view system and session logs
    - Performs administrative tasks

  - CSM Dispatcher
    - Runs scheduled download and install jobs
    - Collects software inventory information from hosts
    - Performs housekeeping tasks

High Level Overview

- Login
  - Use default Admin user authentication to login

- Modify User Password
  - Click Tools – Edit User Profile

- Create CSM Server Users
  - Click Admin – Create User

- Create Server Repositories
  - Define TFTP/FTP/SFTP server information

- Create Regions
  - Create regions and link them with server repositories

- Create Jump Servers
  - Define jump servers if managed hosts are behind them

- Create Managed Hosts
  - Define connection information and assign a region to a managed host
  - Once a host is defined, CSM Server will connect to the host to retrieve software inventory information

- Host Dashboard
  - Click the hostname under the Managed Hosts tab
  - Display the host connection information, software packages, scheduled installations, and the install and software inventory history.
  - Allows installation to be scheduled

- Schedule Install
  - From Host Dashboard, click Action - Schedule an Install

- Install Dashboard
  - View scheduled/in-progress/failed/completed installations

Start & Stop CSM Server

Start CSM Server

- For detail information, refer to the installation guide

- **Follow only if CSM Server is running inside virtualenv**
  - To enter the virtual environment, from csmserver directory, type "source env/bin/activate"
  - The shell prompt will display "(env)" which indicates you are inside the virtual environment
  - Follow below instructions to start CSM Server
  - To leave the virtual environment, type "deactivate". This will return you to the regular shell prompt

- **To Start CSM Server**
  - From csmserver directory, type "./csmserver start"

- **To Start CSM Server Securely**
  - Must have ssl.key and ssl.cert files
  - From csmserver directory, type "./csmserver start secure"

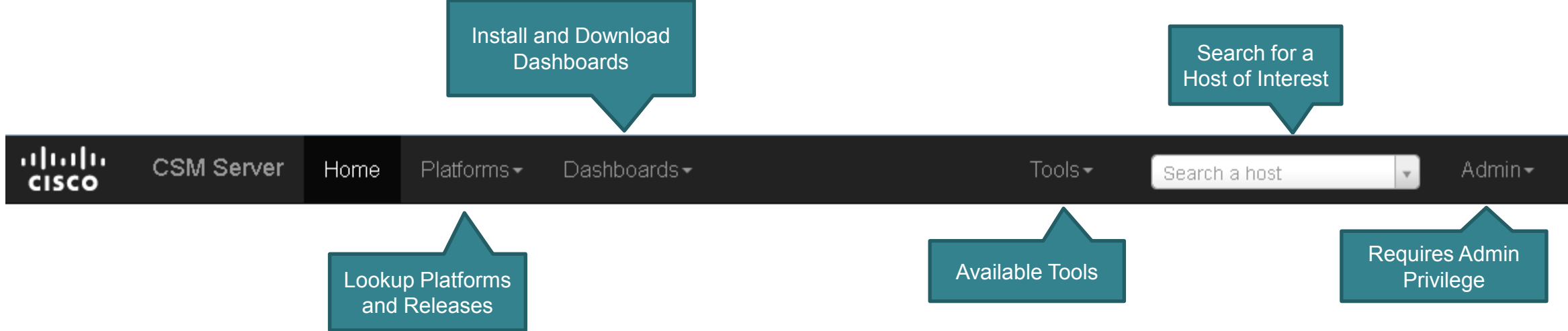# Stop CSM Server

- For detail information, refer to the installation guide

- Before stopping CSM Server, precautions below help eliminate unexpected results
  - On the Admin Dashboard, disable 'Allow Scheduled Installs to Run'
  - Go to the Install Dashboard to see if there is any in-progress installation
  - If no in-progress installation, following the instructions below to stop CSM Server
  - 'Allow Scheduled Installs to Run' will need to be re-enabled when CSM Server starts again

- If CSM Server is running inside virtualenv
  - Follow instructions on previous slide to enter the virtual environment

- To Stop CSM Server
  - From csmserver directory, type "./csmserver stop"

Main Menu Bar

Main Menu Bar

Install and Download Dashboards

Search for a Host of Interest

CSM Server | Home | Platforms ▾ | Dashboards ▾ | Tools ▾ | Search a host ▾ | Admin ▾

Lookup Platforms and Releases

Available Tools

Requires Admin Privilege

CSM Server Home

Home

🏠 Home

CSM Server

Server Time	01/13/2015 11:49 AM
Version	1.0
Login User	root
Privilege	Admin

Server & Logged-in User Info

Total Managed Hosts: 44

Platform	Software	# Host
asr9k-px	4.2.1	1
asr9k-p	4.2.3.05l	1
asr9k-p	4.2.3	1

Summary of Managed Hosts

💼 Information

Tab Options

| Managed Hosts | Jump Servers | Regions | Server Repositories | Create ▾ |

Filter

[10 ▾] records per page

Search: [   ]

Hostname ▲	Region	TS/IP	Platform	Software	Successful Retrieval	Action
Alok_vkg28B	blr	10.105.226.27	ASR9K	5.3.0.05C (asr9k-px)	79d 12h 48m ago	Delete
ASR9000-Q0701	RTP	10.17.7.1	ASR9K	Unknown	None	Delete
ASR9000-Q1002	RTP	10.17.10.2	ASR9K	5.3.0.17l (asr9k-px)	36d ago	Delete
ASR9K-ISSU	india-blr	10.105.227.12	ASR9K	5.2.0 (asr9k-px)	1d 11h 48m ago	Delete

Host Dashboard

Edit Host

Showing 1 to 10 of 44 entries

← Previous | 1 | 2 | 3 | 4 | 5 | Next →

Number of Managed Hosts

Page Navigation

Home Tab Options

Managed Hosts	Jump Servers	Regions	Server Repositories	Create ▾

- **Managed Hosts**
  - Managed host are Cisco IOS-XR devices that scheduling tasks can be performed on.
  - Each row represents one Cisco device.

- **Jump Servers (Optional)**
  - The server that CSM logs into in order to then connect to the managed hosts.
  - Many service provider environments often place their devices behind a jump server. CSM first logs into the jump server, then to the router.

- **Regions**
  - A region is mapped to multiple server repositories.
  - All devices from the same region share the same set of TFTP, FTP, SFTP servers.

- **Server Repositories**
  - Where you define the TFTP, FTP, and SFTP server repositories.

- **Create**
  - Where you go to create managed hosts, jump servers, regions and server repositories.

Create Server Repository

- Specify an unique server repository name

- Select a server type for the server repository where the software packages reside.

- For TFTP server, specify the TFTP server path (e.g. tftp://202.153.144.25/auto/tftpboot). A TFTP server path usually has a corresponding Unix file directory (e.g. /auto/tftpboot). Specify that in File Directory so that CSM Server can browse the software packages

- For FTP/SFTP server, specify the FTP/SFTP server name (e.g. ftp.easycgi.com or an IP address). If applicable, specify the remote directory. The remote directory should be relative to the default directory where FTP/SFTP client first connects to.

- When scheduling an install, CSM Server uses this server repository information to provide file and directory browsing function.

Create Server Repository

Server Repository Name	East Coast TFTP
Server Type	TFTP
TFTP Server Path	tftp://202.153.144.25/auto/tftpboot
File Directory (Used by CSM Server)	/auto/tftpboot

Check Reachability   Save   Cancel

Create Server Repository

Server Repository Name	West Coast FTP
Server Type	FTP
FTP Server Name	172.20.168.19
Remote Directory	4_3_0_SMU
Username	johnsmith
Password	•••••••

Check Reachability   Save   Cancel

Create Region

- Specify an unique region name.

- Assign server repositories to the region.

- When creating a new host, a region is attached to the host.

- When scheduling an install, CSM Server uses the host's region to lookup server repositories and provides file and directory browsing function.

Create Region

Region Name San Jose

Server Repositories

Available Servers
Showing all 43

Filter

➡➡   ➡

SJ20-5_2_0-CCO
SJ20-5_2_2-23l
Spain TFTP
srprasa-tftp
Surya TFTP
Svanka B-20

Servers Assigned to this Region
Showing all 2

Filter

⬅   ⬅⬅

Dsegovia Bldg 18
Dsegovia Bldg 20

Save   Cancel

Create Jump Server

- Specify an unique jump server name

- Specify a connection type

- Specify a sever name or an IP address of the server

- Specify a telnet or ssh port number.

- A jump server may be assigned to a managed host if the managed host is behind the jump server.

Create Jump Server

Server Name | sj20lab-as1

Connection Parameters

Connection Type | telnet ▾

Server or IP | sj20lab-as1

Port Number | Leave Blank for Default

Username | root

Password | •••••• 👁

Check Reachability   Save   Cancel

Create Host

- Specify an unique host name

- Select a platform and region for the managed host. Optional, you may specify the role of the device. This will enable further filtering when creating batch schedule installs.

- If the device is attached to a terminal server, specify the terminal server IP.

- If the device is on the management network, specify the management IP.

- Multiple management IPs (i.e. RSP0 and RSP1) can be entered in the Terminal Server or Mgmt. IP field. Use comma as the delimiter.

- Multiple terminal server ports can be entered in the Port Number field. Use comma as the delimiter.

Create Host

Hostname	ASR9-PE2-R1
Platform	ASR9K
Region	Pleasanton
Roles	PE Router

Connection Parameters

Connection Type	telnet
Terminal Server or Mgmt. IP	172.27.82.122
Port Number	Leave Blank for Default
Username	root
Password	••••
Jump Server	None

Host Dashboard

Host Dashboard

- Overview
  - The Host Dashboard is a dynamic view. It refreshes every 10 seconds to display up-to-date information.

- Invocation
  - Invoked by clicking the hostname under the Managed Hosts tab on the Home page.
  - Invoked by using the "Search a host" search bar on the main menu bar.

- General
  - Display the host connection information.

- Software Packages
  - Display the software packages of the host.

- Scheduled Installations
  - Display all the scheduled installations. When an installation is executing, a runner icon is displayed next to the scheduled installation.

- Install/Software Inventory History
  - Display both the install and software inventory history.
  - By default, only the last 10 records are displayed. To change the default, select a different number from the selector.

- Action
  - Schedule an Install
  - Delete All Scheduled Installs
  - Delete All Failed Installs
  - Retrieve the Latest Software
  - Edit Host

Host Dashboard

View History

Available Actions

Host: ASR9K-PE1-R0

Last Successful Retrieval: 12h 13m 56s ago

Install History | Software Inventory History | Action

General

Region	Cisco Telecom West Coast
Platform	ASR9K
Software	5.1.3
Host or IP	172.28.98.2
Username	cisco
Connection	telnet
Created By	root

active-committed

View Packages

Search:

disk0:asr9k-fpd-px-5.1.3

disk0:asr9k-k9sec-px-5.1.3

disk0:asr9k-mcast-px-5.1.3

disk0:asr9k-mgbl-px-5.1.3

disk0:asr9k-mini-px-5.1.3

disk0:asr9k-mpls-px-5.1.3

disk0:asr9k-nx-5.1.3-...

inactive-committed

Package State

Scheduled Installations

Install Action	Scheduled Time
Install Add	01/16/2015 10:10 AM

Scheduled Install

Schedule an Install

Delete All Scheduled Installs

Delete All Failed Installs

Retrieve Latest Software

Edit Host

Cisco Confidential

Install History

View History

| Install History | Software Inventory History | Action ⟲ ▾ |

▤ **Install History**   Return to Top

Retrieve Last 10 Records: [10   ▾]

Number of Records to Retrieve from the Database

[10 ▾] records per page   Search: [   ]

Install Action	Scheduled Time ▴	Start Time ▴	Packages ▴	Status ▴	Status Time ▾	Log ▴	Created By ▴
Install Add	10/05/2014 11:38 PM	10/05/2014 11:38 PM	📁	failed	10/05/2014 11:39 PM	📋	root
Install Add	10/05/2014 11:19 PM	10/05/2014 11:19 PM	📁	completed	10/05/2014 11:19 PM	📋	root
Install Add	10/05/2014 11:09 PM	10/05/2014 11:09 PM	📁	completed	10/05/2014 11:09 PM	📋	root
Install Add	10/01/2014 09:18 PM	10/01/2014 09:18 PM	📁		10/01/2014 09:18 PM	📋	root

View Logs

View Packages

Cisco Confidential   20

Software Inventory History

View History

Install History | Software Inventory History | Action ⚲ ▾

📋 **Software Inventory History**   Return to Top

[10 ▾] records per page   Search: [   ]

Description	Status	Status Time	Elapsed Time	Log
Software retrieved successfully	completed	10/27/2014 12:01 AM	16h 35m 47s ago	📋
Failed retrieving software	failed	10/26/2014 12:00 AM	1d 16h 36m ago	📋
Software retrieved successfully	completed	10/25/2014 12:01 AM	2d 16h 35m ago	📋
Software retrieved successfully	completed	10/24/2014 12:01 AM	3d 16h 35m ago	📋
Failed retrieving software	failed	10/23/2014 12:00 AM	4d 16h 36m ago	⚠️

View Logs

View Traces

Cisco Confidential

Schedule an Install

Available Install Actions

- **Pre-Upgrade**
  - Establishes initial device connection.
  - Records running software version.
  - Records the running configuration and store it in a file.
  - Checks the state of all nodes on the system.
  - Verifies server repository reachability.
  - Records inactive, active, committed package list.

  Optional Plugins:
  - Records OSPF and ISIS neighbors.
  - Sets ISIS set-overload-bit if ISIS is running.
  - Records total number of BGP neighbors.
  - Records total number of MPLS LDP neighbors.
  - Records total number of PIM neighbors.
  - Records total number of HSRP neighbors and states.
  - Records total number of VRRP neighbors and states.

- **Install Add**
  - Copy software packages to the device

- **Activate**
  - Activate packages on the device

- **Post-Upgrade**
  - Checks node status, standby role status, configuration failure, software package states, and etc.
  - Verifies error/tracebacks/core files
  - Performs install commit

- **ALL**
  - All of the above. CSM Server will create Pre-Upgrade, Install Add, Activate, and Post-Upgrade installation with the successor depends on the predecessor. Until the predecessor is executed successful, the successor will not run.

Schedule Install

- Invoked from the Host Dashboard's Action menu.

- Select an install action. Multiple install actions may be selected.

- Select a server repository. Once selected, CSM Server populates the Server Directory selector with sub-directories.

- The selected server directory will be used for software packages browsing or storage. If no server directory is selected, the base directory is used.

- Use the Browse Repository, Cisco.com, or Install History icon to select software packages.

- If a dependency is selected, the scheduled install will not proceed until the dependency is completed successfully.

Schedule Install > Region: Dennis Cai Lab > Host: asr01 (ASR9K-PX-5.3.0)

Install Action   × Install Add

Server Repository   Dennis TFTP

Server Directory

Software Packages
asr9k-fpd-px.pie-5.3.0
asr9k-mpls-px.pie-5.3.0
asr9k-mgbl-px.pie-5.3.0
asr9k-mini-px.pie-5.3.0
asr9k-mcast-px.pie-5.3.0

Browse Software Packages

Browse   Repository   Cisco.com   Install History

Scheduled Time   02/04/2015 11:55 AM

Dependency   None

Setup an Install Dependency

Schedule   Cancel

Browse Server Repository

- Invoked by clicking the Browse Server Repository icon on the Schedule Install dialog.

- Use the Server Directory selector to navigate to the desirable directory on the server repository. The software packages in the selected directory will be displayed in the dual list box.

- Select the software packages by clicking either the double (i.e. select all) or single arrow icon.

Select Software Packages ✕

Server Repository Alex TFTP Server ▾

Server Directory 5.1.1/smu ▾ ⬆ ✖

5.1.1
5.1.1/CCO
5.1.1/smu

Go to Parent Folder

Non-selected

Showing all 17

Filter

➡➡   ➡

asr9k-mpls-px.pie-5.1.1
asr9k-optic-px.pie-5
asr9k-video-px.pie-5
asr9k-services-px.pie-5.1.1
asr9k-bng-px.pie-5.1.1
asr9k-asr9000v-nV-px.pie-5.1.1

Move to Select

Selected

Empty list

Filter

⬅   ⬅⬅

Save   Cancel

Browse Cisco

- Invoked by clicking the Browse Cisco icon on the Schedule Install dialog.

- Use the Platforms button to navigate to the desirable platform and release.

- Select the SMUs or Service Packs of interest.

Platforms ▾

Navigate to Different Platforms and Releases

▼ Optimal ▾

SMU Filter

X

ASR9K-PX-5.1.1 > SMUs 25   Service Packs 1

100 ▾ records per page

Filter the List by Keywords

Search: [   ]

ST	Posted Date	DDTS	Type	Description	Impact	Functional Areas
☐	11/12/2014	CSCup67076	Optional	Punted protocol packets are lost for some VRFs	Traffic Loss	UDP
☐	11/05/2014	CSCum70329	Optional	511-SIT: ISIS crashes after RPFO with 'distribute bgp-ls'	ISSU/Reload	INFRASTRUC

Click to Select

Showing 1 to 25 of 25 entries

← Previous | 1 | Next →

Save   Cancel

Schedule Install, Continue

- After clicking the Schedule button, CSM Server performs the following functions.

- It checks for missing pre-requisites on selected software packages.

- It determines if selected software packages are on the server repository. If not found, CSM Server prompts the user to download them.

- The scheduled install will not proceed at their scheduled time until the software packages are successfully downloaded and copied to the server repository.

Following pre-requisite(s) were not selected, but should be included.

asr9k-px-4.2.3.CSCue19326.pie
asr9k-px-4.2.3.CSCum69972.pie
asr9k-px-4.2.3.CSCug38659.pie
asr9k-px-4.2.3.CSCui33805.pie

Include Pre-requisites   Ignore   Cancel

Following files are missing on the server repository. If you choose to download them, the scheduled installation will not proceed until the files are successfully downloaded and copied to the server repository.

asr9k-px-4.2.3.CSCug38659.pie (needs asr9k-px-4.2.3.CSCug38659.tar)
asr9k-px-4.2.3.CSCur14058.pie (needs asr9k-px-4.2.3.CSCur14058.tar)
asr9k-px-4.2.3.CSCum69972.pie (needs asr9k-px-4.2.3.CSCum69972.tar)
asr9k-px-4.2.3.CSCuh03659.pie (needs asr9k-px-4.2.3.CSCuh03659.tar)
asr9k-px-4.2.3.CSCue19326.pie (needs asr9k-px-4.2.3.CSCue19326.tar)
asr9k-px-4.2.3.CSCui33805.pie (needs asr9k-px-4.2.3.CSCui33805.tar)

Download   Ignore   Cancel

Platforms Menu

Platforms Menu

- From the Platforms menu, users can query SMUs and Service Packs information on various IOS-XR platforms and releases.

- Go to Tools – User Preferences to exclude certain platforms and releases from displaying under the Platforms menu.

- If a SMU has already been downloaded to the "downloads" directory, a green check icon is displayed.

- Select to download a SMU by checking the checkbox and select Action – Download SMU/Service Pack. Then, select the server repository to store the download image.

Install Dashboard

Install Dashboard

- Action
  - **Schedule Batch Installs**
  - **Delete All Scheduled Installs**
  - **Delete All Failed Installs**

- Install Dashboard Tabs
  - **Scheduled**
    - Lists any pending scheduled tasks
  - **In Progress**
    - Lists currently executing tasks
  - **Failed**
    - Lists any task that failed & provide links to appropriate logs
  - **Completed**
    - List of completed task plus install logs

⚙ **Install Dashboard**

Available Actions

Action 🔗 ▾

Schedule Batch Installs

Delete All Scheduled Installs

Delete All Failed Installs

Scheduled 6	In Progress 0	Failed 21	Completed (showing 25 of 145)

10 ▾ records per page   Search:

Hostname	Install Action	Dependency	Scheduled Time	Packages	Created By	Action
ASR9K-PE4	Activate	Yes	10/22/2014 02:38 AM	asr9k-fpd-px.pie-5.1.3 asr9k-k9sec-px.pie-5.1.3 asr9k-mcast-px.pie-5.1.3 asr9k-mgbl-px.pie-5.1.3 asr9k-mini-px.pie-5.1.3 asr9k-mpls-px.pie-5.1.3	root	Delete
ASR9K-PE4	Post-Upgrade	Yes	10/22/2014 02:38 AM	asr9k-fpd-px.pie-5.1.3 asr9k-k9sec-px.pie-5.1.3 asr9k-mcast-px.pie-5.1.3 asr9k-mgbl-px.pie-5.1.3 asr9k-mini-px.pie-5.1.3 asr9k-mpls-px.pie-5.1.3	root	Delete

Scheduled 0	In Progress 1	Failed 1	Completed 5

10 ▾ records per page   Search:

Hostname	Install Action	Scheduled Time	Status	Status Time
VALKYRIE3	Install Add	08/19/2014 12:00 AM	Executing :Install Add Packages	08/25/2014 05:30 PM

Schedule Batch Installs

- Select a region of interest

- Select a role to further filter the hosts.

- All managed hosts belong to the selected region and role will be displayed.

- Use the dual list box to select multiple hosts for the same scheduled installation.

- By default, the scheduled time is now. The installation will be executed immediately. Click the calendar icon next to the Scheduled Time to select a different date and time.

Select Hosts

Region Cisco Telecom West Coast ▾

Role Any ▾

Available Hosts
Showing all 4

Filter

Move All Move Selected

➡➡ ➡ ← ⬅⬅

ASR9K (Alex)
ASR9K-PE1-R0
ASR9K-PE2-R1
ASR9K-PE5

Selected Hosts
Showing all 2

Filter

ASR9K-PE3
ASR9K-PE4

Schedule Batch Installs

Install Action Install Add ▾

Server Repository Terastream-tme(172.20.168.195) ▾

Download Dashboard

SMU/SP Download Dashboard

- Action
  - Delete All Scheduled Downloads
  - Delete All Failed Downloads

- Download Dashboard Tabs
  - Scheduled
    - Lists any pending downloads
  - In Progress
    - Lists downloads that are in progress
  - Failed
    - Lists all failed downloads
  - Completed
    - Lists completed downloads

- CSM Server Repository
  - Lists SMU tar files that have been downloaded. All requested downloads are first saved in this repository before being transferred to the designated server repository.

⚙ **Download Dashboard**

CSM Server Repository [Action 🔗 ▾]

| Scheduled 0 | In Progress 1 | Failed 0 | Completed (showing 10 of 24) |

[10 ▾] records per page   Search: [   ]

Image Name	Server Repository	Status		Status Time ▲	Created By
hfr-px-4.2.3.CSCub59736.tar	Alex TFTP Server	Downloading 2105344 of 85401600 bytes.		01/27/2015 05:38 PM	root

Showing 1 to 1 of 1 entries   ← Previous [1] Next →

⚙ **CSM Server Repository** (requested download is first downloaded to this area, then transferred to the designated server repository)   Return to Top

[10 ▾] records per page   Search: [   ]

Image Name ▲	Size (in bytes)	Action
asr9k-px-4.2.3.CSCui21691.tar	1587200 bytes	Delete
asr9k-px-4.2.3.CSCur14058.tar	4188160 bytes	Delete
hfr-px-4.2.3.CSCun65949.tar	1433600 bytes	Delete

Tools Menu

Tools Menu

- **List Hosts**
  - Display all managed hosts with their connection information. To make changes, click the host name of interest.

- **List Jump Servers**
  - Display all jump servers with their connection information. To make changes, click the server name of interest.

- **Optimize List**
  - Given a SMU list, produces an optimize list which includes missing pre-requites.

- **Edit My Profile**
  - Modifies the current user authentication and other information.
  - .

- **User Preferences**
  - Defines Cisco authentication .
  - Excludes platforms from the Platforms menu.

- **About CSM Server**
  - Display the About page.

- **Logout**
  - Logout from the system.

Optimize List

- Given a SMU list, CSM Server identifies any missing pre-requisites as well as superseded SMUs and returns an optimal list.

- The SMU names in the list can be in different formats so long as the platform and release are identifiable.

SMU or Service Pack List	Optimized SMUs or Service Packs
Paste the SMU names on below text window and click the green arrow to optimize.	The resultant list will indicate any missing pre-requisites or superseded SMUs.
disk0:asr9k-px-4.2.1.CSCud90009-1.0.0	asr9k-px-4.2.1.CSCud40419 (A Missing Pre-requisite)
disk0:asr9k-px-4.2.1.CSCud39254-1.0.0	asr9k-px-4.2.1.CSCub25750 (A Missing Pre-requisite)
disk0:asr9k-px-4.2.1.CSCud16267-1.0.0	asr9k-px-4.2.1.CSCub46482 (A Missing Pre-requisite)
disk0:asr9k-px-4.2.1.CSCty84643-1.0.0	asr9k-px-4.2.1.CSCub42561 (A Missing Pre-requisite)
disk0:asr9k-px-4.2.1.CSCuc78780-1.0.0	asr9k-px-4.2.1.CSCuc62781 (A Missing Pre-requisite)
disk0:asr9k-px-4.2.1.CSCuc63937-1.0.0	asr9k-px-4.2.1.CSCud90009
disk0:asr9k-px-4.2.1.CSCuc35670-1.0.0	asr9k-px-4.2.1.CSCud39254
disk0:asr9k-px-4.2.1.CSCuc32974-1.0.0	asr9k-px-4.2.1.CSCud16267
	asr9k-px-4.2.1.CSCty84643
	asr9k-px-4.2.1.CSCuc78780 (Superseded)
	asr9k-px-4.2.1.CSCuc63937 (Superseded)
	asr9k-px-4.2.1.CSCuc35670
	asr9k-px-4.2.1.CSCuc32974

Switch to Different Display

Identify any Missing Pre-requisites

Identify any Superseded SMUs

Admin Menu

Admin Menu – Requires Admin Privilege

- **Admin Dashboard**
  - Allows the administrator to configure CSM Server.

- **Import Hosts**
  - Import hosts via comma delimited texts.

- **Create User**
  - Creates new users on the system.

- **List All Users**
  - Displays all the users defined in the system. To make changes, click the user name of interest

- **Hosts that Failed Software Inventory**
  - When CSM Server is unable to retrieve software inventory from a host during the scheduled time, the host will be included on this report.

- **System Logs**
  - Displays all the system logs captured by CSM Server. These logs help determine anomalies that have occurred on CSM Server.

Admin Dashboard

Process Settings

CSM Dispatcher must be restarted in order for the changes below to take place.

Number of Software Inventory Processes	5
Number of Install Processes	10
Number of SMU Download Processes	5

Software Inventory Settings

CSM Dispatcher must be restarted in order for the changes below to take place.

Enable Software Inventory	Yes / No
Hour to Perform Software Inventory	12:00 AM

- **Process Settings**
  - The number of processes to use to retrieve software inventory information.
  - The number of processes to use to perform scheduled installation.
  - The number of processes to use to download SMU or Service Pack.

- **Software Inventory Settings**
  - Enabled by default
  - Specify the hour of the day to perform the software inventory function (i.e. retrieving software package information from managed hosts).
  - After the software inventory function is performed, CSM Server will perform other housekeeping tasks (see Housekeeping Settings).

Admin Dashboard

- ## Scheduled Install Settings
  - By default, CSM Server enables users to schedule installations on managed hosts.
  - By Default, CSM Server enables scheduled installations to run.

- ## Email Notification Settings
  - Email notification is disabled by default. Click Yes to enable it.
  - Define the SMTP server information. Some SMTP server may require user authentication. If that is the case, click Yes and define the user authentication information
  - CSM Server uses the SMTP settings to email users about scheduled install status.

Scheduled Install Settings

Allow Users to Schedule Install	Yes / No
Allow Scheduled Installs to Run	Yes / No

Email Notification Settings

Enable Email Notification	Yes / No
Outgoing SMTP Server	smtp.gmail.com
SMTP Server Port	587
Sender Email Address	alextang.lds@gmail.com

Logon Information

Server uses Authentication	Yes / No
Username	root
Password	••••
Secure Connection	TLS

Admin Dashboard

Default Host Authentication

The default host authentication will be used when a host does not have username and password specified.

Enable Default Host Authentication	**Yes** / No
Default Host Username	root
Default Host Password	•••• 👁

Housekeeping Settings

Software Inventory History Per Host	10
Install History Per Host	10
SMU/SP Download History Per User	100
Total System Logs	1000

- **Default Host Authentication**
  - Disabled by default.
  - The default host authentication will be used when a host does not have username and password specified.

- **Housekeeping Settings**
  - Specify the number of software inventory history records to keep per host.
  - Specify the number of install history records to keep per host.
  - Specify the number of SMU/SP download history records to keep per user.
  - Specify the number of system log records to keep on the system.
  - CSM Server will purge the history records based on the numbers specified on a daily basis (see Software Inventory Settings).

Import Hosts

Import Hosts

- Import Hosts
  - Select a platform type for the hosts to be imported.
  - Select a region for the hosts to be imported.

- Comma Delimited Data
  - Paste the comma delimited data in the text window. The first line must be a header line followed by each host data fields to be imported.
  - The username and password fields are not mandatory. If no hostname and password is specified, CSM Server will use the default host authentication defined on the Admin Dashboard if it is enabled.
  - The ip and port data fields support comma delimited values. In this case, double quotes must be used to quote the values.

Additional Topics

Password Encryption
Security Privileges
System & Session Logs
Navigate Between Hosts
Software Inventory
Installation Dependency
Dynamic Views

Password Encryption

- **User Password**

  - All user passwords are stored encrypted with a one-way hash algorithm. It is impossible to decrypt the password. If a user forgets the password, the administrator will have to reset it.

- **Other Passwords**

  - Passwords for hosts, jump servers, server repositories, and SMTP mail server are stored encrypted as well.

  - When a password is first defined, it will be masked by dots. To see the password unencrypted, click the eye icon.

    Click to view Password
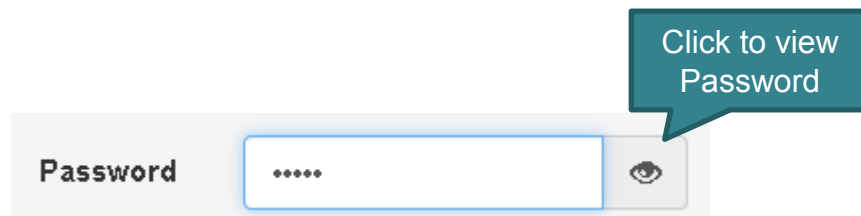
    Password ••••• 👁

- **Saved Passwords**

  - Once the password is saved, it will not be viewable anymore. Instead, the password field shows 'Use Password on File'. To modify the password, click the lock icon next to the Username field. Then, enter the new password.

    Username   cisco   🔒

    Click the Lock icon to change the password
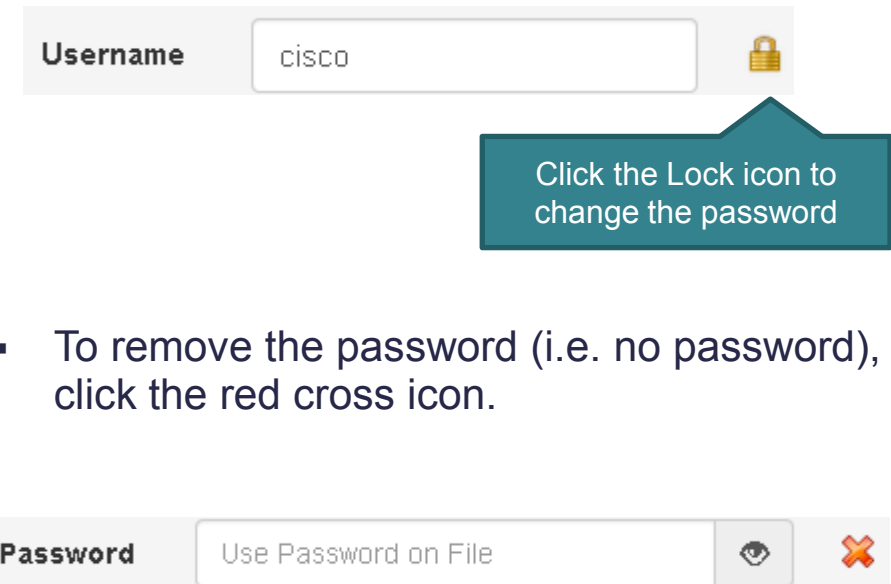
  - To remove the password (i.e. no password), click the red cross icon.

    Password   Use Password on File   👁 ✖

Security Privileges

Three levels of security privileges

- Admin
  - Users with this privilege have no limitation
  - Only admin users can create hosts, jump servers, regions, and server repositories
  - Only admin users can access the Admin menu
  - Only admin users can view and modify other users

- Operator
  - Users with this privilege can only schedule/modify/delete installations
  - They cannot create hosts, jump servers, regions, and server repositories

- Viewer
  - Users with this privilege can only view information

System & Session Logs

- ## System Logs
  - Click Admin – System Logs from the main menu bar
  - These logs are created when exceptions are encountered. They can be used for system debugging. These exceptions may or may not affect system stability and performance.

- ## Session Logs
  - Session logs are created during software inventory or installation operation.
  - CSM Server uses the Accelerated Upgrade Tool (AUT) to perform software inventory and installation. These logs provide valuable insights on what have taken place on the router.
  - If an error condition happens, a file called "expect_out.log.error" will be created. This file provides information on error encountered.

System Logs

Search:

	Create Time	Trace
inventory job = 642	10/31/2014 12:00 AM	View
inventory job = 641	10/31/2014 12:00 AM	View

Session Logs: ConPE_dmahisek_PE8

Session Log Files

- autlogs/1_71_53_12-2015_01_20_18_51_15-11/aut_debug.log → Open File
- autlogs/1_71_53_12-2015_01_20_18_51_15-11/aut_output
- autlogs/1_71_53_12-2015_01_20_18_51_15-11/config_backup.log
- autlogs/1_71_53_12-2015_01_20_18_51_15-11/expect_out.log
- autlogs/1_71_53_12-2015_01_20_18_51_15-11/expect_out.log.error
- _20_18_51_15-11/session.log → Download File

Navigate Between Hosts

- ## Search a host

  - The Search a host bar provides a quick way to navigate in real-time between managed hosts. When a host is selected, the Host Dashboard is displayed.

  - Further filtering can be done by typing the string matching part of the hostname.

Filtering Hosts
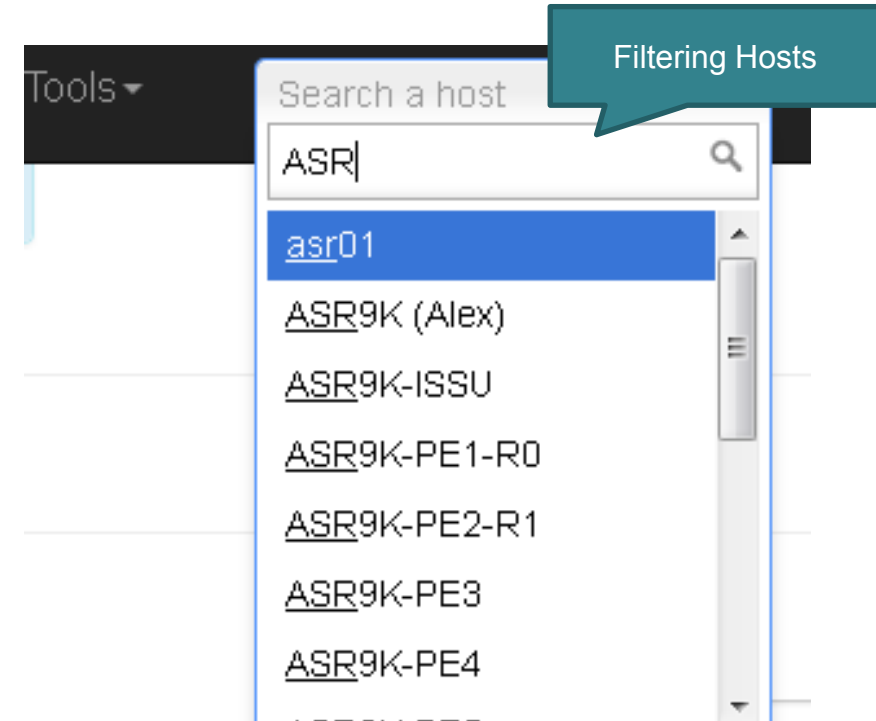
Software Inventory

- Through the Admin Dashboard, the administrator can enable software inventory and specify the hour of the day to perform this operation.

- When the hour is reached, CSM Dispatcher will connect to the managed hosts and collect software inventory information.

- To see which managed hosts failed the software inventory, click Admin – Hosts that Failed Software Inventory from the main menu bar.

- Software Inventory history can be viewed on the Host Dashboard. The Last Successful Retrieval label provides information on the last successful software inventory time.

- To retrieve the latest software, click Action – Retrieve Latest Software from the Host Dashboard.

Installation Dependency

- A dependency can be specified when creating a scheduled install. For example, Install Activate should not be performed unless Install Add is successful.

- If an installation failed, the other scheduled install that has the failed installation as its dependency will not execute.

- When Install Action 'ALL' is selected, CSM Server will create the dependency automatically.

- Deleting a scheduled install will also delete all its dependencies.

Dynamic Views

- The Host, Install, and SMU Download Dashboards are dynamic views. They are updated in every 10 seconds.

- When a scheduled install is running, a runner icon will appear next to the scheduled install on the Host Dashboard.

- The running scheduled install will also appear under the In Progress tab on the Install Dashboard.

- In order to reduce the number records sent between client and CSM Server, the default number of records to return is 25.

Scheduled Installations

Install Action	Scheduled Time	Action
Install Add 🏃	10/31/2014 02:18 PM	Delete

Scheduled **0** In Progress **1** Failed **0** Completed (showing **10** of **18**)

10 ▾ records per page

Hostname	Install Action	Packages	Start Time	Status
1.1.1.1	Install Add	disk0:asr9k-mgbl-px-4.2.3	10/31/2014 02:25 PM	processing

Status will be updated

Scheduled **2** In Progress **0** Failed **1** Completed (showing **25** of **240**)

Retrieve Last 25 Records: 25 ▾

By default, 25 records are returned

Thank you.