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CHAPTER 32

Using Package Support Updater

The Package Support Updater (PSU) helps your application check for software and device support updates, download them to the server file system along with the related dependent packages, and install them. PSU provides the user with a central location from within the CiscoWorks application, to all software updates and device packages for better management of their network.

PSU makes use of configuration of CCO credentials and Proxy Server settings from a CWCS Web Server page. Command line tools can perform installation, uninstallation and download of device packages. You can also download software updates using CLI.

Software updater includes applications using the IDUs model for delivery of software updates and device support, Common Services Service Packs, point patches, etc.

You can navigate to the software update related user interfaces from the Common Services Application. Select Software Center > Software updates from Common Services to see the software updates.

Software updates allows you to:

- View a list of solution bundles installed along with a list of products and versions installed.
- View a list of updates installed (base version, patch versions, service pack versions).
- Select one or more or all products and request for a 'Check for updates' function, which lists all available updates, from which you can choose the required updates and download it to a location to install.
- Configure to look Cisco.com to check for packages available for updates.
- Download the selected updates to any location on the CiscoWorks server, from where, you can later install those packages using existing package install procedures [for example, extracting the package, and running the *setup.sh*].

The following topics describe how to use PSU with your application:

- [Understanding PSU](#)
- [Using PSU with Your Application](#)
- [Working with Software Center](#)

For more details on the PSU dialogs, see the *Software And Device Updates Software Functional Specification*, EDCS-310850.

http://wwwin-eng.cisco.com/Eng/ENM/CMF/CMF2_3/PSUSW.doc

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Understanding PSU

PSU provides software package updates by downloading them from a designated source to CiscoWorks Server. PSU is designed to download and install updates for device packages like CiscoView device packages, Synchronous Device Interface (SDI) and application data packages like CMIC adapters package, which contain device specific data.

PSU allows you to view a list of solution bundles installed, along with products list and versions. You can also get a detailed list of all OS level packages with their version numbers.

Using PSU with Your Application

PSU helps you to check for software and device support updates, download them to your server along with the related dependent packages. You can then install them on your server.

For software updates, PSU help you to look for updates from Cisco.com, and download them to your server location. You can then install the updates using the procedures recommended in the readme file of the update package.

**Note**

No web based install tool will be provided for installing software updates due to technical limitations.

For device support updates, PSU helps you to look for updates from Cisco.com and download them to your server location. You can then install the updates using a web based user interfaces wherever possible. You can also install directly from Cisco.com

Most of the Common Incremental Device Support (CIDS) based packages can be installed directly from CiscoWorks Homepage. PSU will not support installation of classic IDU monolithic packages. These have to be installed manually by the user with the help of the Readme files.

You can also choose to install the selected packages directly from Cisco.com without saving them on your server.

Following sections describe how to use PSU:

- [Integrating Applications](#)
- [Integrating Applications](#)
- [Backing Up the Server](#)
- [Releasing Package Updates](#)
- [Uninstalling Device Support Packages](#)

Integrating Applications

Applications should follow the guidelines mentioned below to use PSU:

- Add New tags in the INFO file
- Register with PSU
- Implement Package Adapter and Package Descriptor Interfaces

CISCO CONFIDENTIAL**Adding New Tags in INFO Files**

Applications should use the tags defined by install framework in the info files to specify the applications and packages.

To identify your product among the list of all installed products, the corresponding INFO file should have the following tags:

```
PROD_INFO=<Name of the INFO file>
```

```
PRODNAME=<Name of the Product>
```

For example, to identify the product updates from RME, the INFO file rme.info should be updated with the following tags:

```
PROD_INFO=rme
```

```
PRODNAME=Resource Manager Essentials
```

Registering with PSU

You should register your application during install time by invoking PSURegistration API. This API registers your application with PSU by creating appropriate directories and updating PSU configuration files.

Syntax:

On Solaris:

```
PSURegistration "Product_Name" "Adapter_directory_location" "Shortname:Longname",  
"extraClasspaths"
```

On Windows:

```
PSURegistration ("Product_Name" "Adapter_directory_location" "Shortname:Longname",  
"extraClasspaths")
```

Table 32-1 Arguments and their Description

Arguments	Description
Product_Name	Short Name of the application. Examples: rme, cmf
Adapter_directory_location	Location where the adapter zip files are stored. There will not be any adapter implementation for products which does not support device updates
Shortname	Tag used by the CCO script to query the updates. The tags defined by the product are as follows: <ul style="list-style-type: none"> • cmf (CiscoWorks Common Services) • rme (Resource Manager Essentials) • cvw (CiscoView) • nmim (Integration Utility) • dfm (Device Fault Manager)

CISCO CONFIDENTIAL**Table 32-1 Arguments and their Description**

Arguments	Description
Longname	Name of the product. Usually this refers to the Marketing name of the product and should match the PRODDNAME tags defined in the info files.
extraClassPaths	Any other classes other than the standard directories. This is required by the PSU CLI script to add them to the java classpath before execution

Examples:

On Solaris:

```
PSURegistration "rme" "/auto/cw/cdimages/rme4_0_blr/image/disk1/rme/adapter"
"rme:Resource Manager Essentials"
```

On Windows:

```
PSURegistration("cmf","", "cw2000:CiscoWorks Common Services,"")
```

Implementing Package Adapter and Package Descriptor Interfaces

Applications should implement the following interfaces for installing the device packages and packaging them along the update image before releasing to CCO.

- com.cisco.nm.xml.psu.interfaces.adapter.PkgAdapterIf
- com.cisco.nm.xml.psu.interfaces.pkg.PkgDescrIf

Using the PSU Command Line Tools

You need to login to the CiscoWorks server to execute CLI. PSU provides CLI features to query all packages from user specified package directory location. Queries will also list details about packages associated with specified package if any.

You can also install all or specified package from user specified package directory location. CLI will install all packages from Source Location or install latest versions of installed packages.

In case of installing packages from Cisco.com, you have to first download the packages from CCO, save them to a directory in your computer and then install them by specifying that directory.

PSU CLI will also uninstall all installed packages or uninstall specified package.

Package Support Updater Usage

```
psu -help
psu -p <product1,product2...> -query -src dir {-all|PackageNames}
psu -p <product1,product2...> -install -src dir {-all|PackageNames} [-noprompt]
psu -p <product1,product2...> -uninstall {-all|PackageNames} [-noprompt]
psu -p <product1,product2...> -download -dst dir
psu -p <product1,product2...> -software -dst dir
```

From Common Services 3.0 Service Pack 2, the following are also supported:

```
psu -p <product1,product2...> -pkgDependents [-src dir] {-all|PackageNames}
psu -p <product1,product2...> -pkgVersion [-src dir] {-all|PackageNames}
```

CISCO CONFIDENTIAL**Commands**

```

-help (-h): Print psu command usage
-query (-q): Print list of packages (default source location is installed repository of
the product).
-install (-i): Install packages (from user specified directory).
-uninstall (-u): Uninstall packages.
-software (-s): download all software packages
-product (-p): product for which packages are to be downloaded
-pkgDependents (-pdep) : Print list of base package(s) for the specified package(s)
present in the source location (default source location is installed repository of the
product).
-pkgversion (-pver) : Print the versions of the specified package(s) present
in the source location (default source location is installed repository of the product).

```

Options

```

-src <dir>:install packages from user specified directory for installation.
-all: select all packages available at the source location.
-noprompt: flag which turns off the prompting for restart of daemon services during
install/uninstall.
-dst: destination directory for downloading.

```

Examples

```

psu -p rme -q -all [Lists all the packages in the installed repository for RME]
psu -p rme -q -src <dir> [Lists all the packages in the specified directory for RME]
psu -p rme -i -src <dir> -all [installs all packages for RME from user specified
directory]
psu -p rme -u -all [uninstalls all packages of RME from the installed repository]
psu -p rme -d -all -dst<dir> [downloads all device packages for RME to user specified
directory]
psu -p rme -s [downloads all software packages for RME to the specified directory]
psucli -p rme -src /opt/psupkgs -pdep Rtr3600
psucli -p rme,cmf -src /opt/psupkgs -pver Mdf Rtr3600

```

**Note**

The PSU in Solaris is `<NMSROOT>/bin/PSUcli.sh`. In NT, it is `<NMSROOT>/bin/PSUcli.bat`

Backing Up the Server

To backup what is installed on the server, PSU maintains package and device map in the respective product packages directory. Package map is a list of all packages installed on the server and Device map is a list of all the supported devices on the server for that product. Any PSU configuration settings will be backed up for that product as part of CMF backup, and restored during a CMF restore.

Maintaining package map and device map is helpful in two ways.

- Whenever you want to view installed packages, PSU will not need to iterate through installed repository to look for package descriptors and associate OIDs to MDF Name.
- If there is a problem with the server, PSU will restore package map and device map to show what devices and packages were installed on the server.

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Releasing Package Updates

Update packages may be a software package, a device package or a IDU package.

A Software package that PSU can identify is a ZIP file comprising software image and PSU descriptor. Similarly IDU package that PSU can identify is a ZIP file with IDU bundle and PSU Descriptor. And Device Package is a ZIP file with Device Package related files and PSU descriptor.

It is expected that PSU descriptor will contain all the relevant methods to facilitate PSU in recognizing package as software, IDU or device. Additional method added to existing PSU descriptor to identify it for software, device or IDU is getType() method.

Applications should follow the prescribed interface for defining PSU descriptor. For more details, see Appendix B in the Software And Device Updates Software Functional Specification (EDCS-310850) available at: http://wwwin-eng.cisco.com/Eng/ENM/CMF/CMF2_3/PSUSW.doc

Applications must provide a PSU header, and a PSU Metafile, along with software, device or IDU package.

The PSU Header is parsed to get the list of dependent packages, which are automatically selected and installed while installing the updates.

The PSU Meta data file, which is an XML file, is updated in CCO for every version of application, bundle, or for every device and software update for that version of the application. The PSU Meta data file contains the information of all updates (device or software) pertaining to the application. The PSU Meta data file has to be downloaded to check the availability of packages based on the list of applications or bundle posted in CCO. The PSU Meta data file improves the performance of PSU by avoiding the download of all PSU headers of all CCO updates.

Uninstalling Device Support Packages

PSU may deny an uninstall operation based on the application's inability to handle the uninstall. You have to perform the necessary checks before uninstalling a package, through the adapter.

You can select one or more products and unistall device packages. This displays a list of packages installed with version numbers. You can then select a subset of the packages and choose to uninstall them from the server

For basic information on PSU (including autogenerated code documentation, installation procedures, packages, dependencies, and utilities supplied with it), see the “[About the Package Support Updater \(PSU\) Components](#)” section on page 29-5.

For more information about PSU, see the Software And Device Updates Software Functional Specification (EDCS-310850) available at:

http://wwwin-eng.cisco.com/Eng/ENM/CMF/CMF2_3/PSUSW.doc

Working with Software Center

Software Center helps you to easily check for software and device support updates, download them to their server file system along with the related dependent packages, and install them.

Software Center helps you to look for software and device updates from CCO, and download them to a server location from which you can install the updates. In the case of device updates, Software Center helps you to install the updates using a web based user interfaces, wherever possible.

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Most of the device family based packages can be installed directly from the web interface, while the device support packages like IDU, have to be installed based on the installation instructions documented in the respective readme files.

You may also uninstall a device support package. Software Center does not support uninstallation of software updates. In the case of software updates, only a download is allowed. For device updates of a particular application, (eg: RME), in addition to downloads, install and uninstall is also supported.

To backup what is installed on the server, Software Center maintains a package and device map in the respective applications installed packages directory. Package map is a list of all packages installed on the server and device map is a list of all the supported devices on the server.

Software Center provides a Command Line Interface to download device updates and software updates, and install or uninstall device packages.

The following sections elaborate the Software Center features:

- [Performing Software Updates](#)
- [Performing Device Updates](#)
- [Scheduling Device Downloads](#)
- [Viewing Activity Logs](#)

Performing Software Updates

The Software Updates tab under Software Center takes you to the Installed Software dialog box. Here, you can see two tables: One that lists the Bundles installed and another that lists the products installed. The bundle or product name, the version, and the date on which the software was installed are given in the tables.

You can click on each product to view a list of updates installed such as base version, patch versions or service pack versions. You can also further drill down each product and get a detailed list of all individual OS level packages installed on the system, along with the versions.

To download all software updates for selected products:

-
- | | |
|---------------|--|
| Step 1 | Configure Cisco.com credentials in Server > Security > Cisco.com Connection Management > User setup . |
| Step 2 | Select CommonServices > Software Center > Software Updates > Download Updates .
A wizard leads you through the process. |
| Step 3 | Click Next .
A Destination Location Screen appears. |
| Step 4 | Specify Destination Location folder. |
| Step 5 | Click Next .
The summary of the products to be downloaded appears. |
| Step 6 | Click Finish to confirm download of the available packages.
If you click Cancel , the default Installation Software dialog box appears. |
-

To select software updates for selected products:

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-
- Step 1** Configure Cisco.com credentials in **Server > Security > Cisco.com Connection Management > User setup**.
- Step 2** Select **Common Services > Software Center > Software Updates > Select Updates**.
A wizard leads you through the process. The Available Image screen is displayed. For each Product Name you can find the Type (patch, SP4, etc.), Installed Version, Available Version, Readme Details, Posted Dates, and Size.
- Step 3** Select the product you need to update.
- Step 4** Click **Next**.
A Destination Location Screen appears.
- Step 5** Specify **Destination Location** folder.
- Step 6** Click **Next**.
A summary of the products selected is displayed.
- Step 7** Click **Finish** to confirm download of the selected packages.
- Step 8** If you do not want to add the selected packages, click **Back** to reselect packages or click **Cancel** to exit.
-

Performing Device Updates

The Software Updates link under Software Center tab takes you to the Device Update window. The default summary screen displays a count of devices supported for each product installed in the system. Click on the product name to view a list of all device support packages installed and the version of each package. You can also view a list of all support device types, by clicking on the respective device type count, against the product.

To check for updates:

-
- Step 1** Select **Common Services > Software Center > Device Updates**
The Device Updates page appears.
- Step 2** Select the check box corresponding to the product for which you want to check for updates, then click **Check for Updates**.
The Source Location page is displayed. You can check for updates at Cisco.com or at a Server.
- Step 3** To check for updates at Cisco.com:
 - Select the Cisco.com radio button.
To check for update from a Server:
 - Select the Enter Server Path radio button.
 - Enter the path or browse to the location using the **Browse** tab.

**Note**

If the source location is Cisco.com, make sure the credentials are configured in the **Server > Security > Cisco.com Connection Management > User setup**.

- Step 4** Click **Next**.

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The Available Packages and Installed Packages page is displayed.

Step 5 Select the package name that you wish to update, then click **Next**.

The Device Update page appears. You can choose to install device packages or download device packages. To install device packages, select the **Install Device Packages** radio button. To download device packages, select the **Download Device Packages** radio button.

If you select Install Device Packages:

- Click **Next**. A summary of your inputs is displayed.
- Click **OK** to confirm. A warning message pop up to tell you that the daemons are restarted.
- Click **OK** to continue with installation.

If you select Download Device Packages, Enter the folder in File Selection field or click **Browse** to select the folder.

Step 6 In Scheduling pane, choose the Run Type (Immediate or Once), Date, and Time. In the Job Info field, provide the Job Description and E-mail ID.

Scheduling Device Downloads

You can schedule device package downloads and specify the time, frequency (daily, weekly) of the downloads. PSU uses Job Resource Manager (JRM) for scheduling download jobs.

PSU supports the following download policies:

- Download all latest device packages of products installed in the machine.
- Download newer versions of currently installed packages.
- Download the specified packages separated by commas.

You have to provide CCO credentials and the path of the server where the packages should be downloaded.

To schedule downloads:

Step 1 Select **Common Services > Software Center > Schedule Device Downloads**.

The Schedule Downloads screen appears. Specify the Cisco.com user credentials, destination location, download policy, schedule, and job info.

Step 2 Click **Accept** to put your settings into effect. To exit without making changes, click **Cancel**.

Viewing Activity Logs

Activity Log records the jobs in Scheduled Downloads and Device Updates. It displays the activities that are carried out using Software Center.

There are two tables in the Activity Log.

- [Scheduled Job Details](#)
- [Event Logs](#)

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Scheduled Job Details

The Scheduled Job Details Log table records and shows the scheduled downloads that occurred in the server. You can view the application products and Job Id (if its scheduled download).

To view Scheduled Job Details log:

Step 1 Select **Common Services > Software Center > Activity Log**.

The Activity Log dialog box displays the Scheduled Download Log and Event Logs tables.

Step 2 Click on **Scheduled Job Details** to view Scheduled Download Logs.

Event Logs

The Event Log table shows the list of installation, uninstallation and immediate download activities carried out. Here the log records the product Name, description of the activity, the date of operation, the type of events and the status of the activity.

To view Event log:

Step 1 Select **Common Services > Software Center > Activity Log**.

The Activity Log dialog box displays the Scheduled Download Log and Event Log tables.

Step 2 Click on **Event Log** to view event logs.
