



CHAPTER 1

System Recommendations

This chapter describes the system recommendations and requirements for Cisco Prime Fulfillment. Prime Fulfillment is a web-based application you install on a Sun Solaris server, along with a web server and other supporting packages. You access Prime Fulfillment using a web browser.

The recommendation is to thoroughly review this list before even planning your installation, to be sure you have all the hardware and software you must successfully install.

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Prime Fulfillment Server Hardware

You must have a CD-ROM drive to install the Prime Fulfillment 1.0 product.

For the Sun™ Solaris server, the minimum recommendations are as shown in [Table 1-1](#) and for the Linux server, the minimum recommendations are as shown in [Table 1-2](#)

Table 1-1 Minimum Linux Server Recommendations for Prime Fulfillment Applications

Class	Applications	Minimum Linux Server	RAM	Swap Space	Disk Space
Entry	Cisco Prime Diagnostics or L2VPN and L3 MPLS with a total of up to 1500 attachment circuits Note: Not recommended for API use.	C200 with 1 CPU (recommending X5550) Standard RAID card (0 and 1)	8 GB (see note below)	8 GB	73 GB hard drive (see note below)

Table 1-1 Minimum Linux Server Recommendations for Prime Fulfillment Applications

Mid-range	L2VPN and L3 MPLS with a total of up to 10,000 attachment circuits	C200 with 2 CPUs (recommending 2 x X5550 for cost perspective) Standard RAID card (0 and 1)	16 GB	16 GB	73 GB hard drive (see note below)
High End	L2VPN and L3 MPLS with a total of more than 10,000 attachment circuits	C210 with 2 CPUs (recommending 2 x X5670) PCI RAID card (0, 1, 5, 6...)	24 GB	32 GB	146 GB hard drive 4 disk drives (RAID5) for virtual machines.

Notes:

The recommended servers in this table are examples for typical installations. Relative performance can be impacted by many factors. Please contact your Cisco account representative if you need assistance in selecting the correct server.

The default Oracle and Sybase database layouts are sufficient for Prime Fulfillment. Further optimization is your preference.

The two disk drives are required (one for OS/ISC and one for swap space). If disk mirroring for better availability is required then four disk drives is two mirrored pairs.

The minimum memory resources required for a mid-level VmWare image running Prime Fulfillment are 4 GB RAM and 8 GB swap space. To determine whether all of the CPU core resources are needed for running Prime Fulfillment, it is recommended that you perform benchmark testing of your server under typical load.

Table 1-2 Minimum Sun Solaris Server Recommendations for Prime Fulfillment Applications

Class	Applications	Minimum Sun Solaris Server	RAM	Swap Space	Disk Space
Entry	Cisco Prime Diagnostics or L2VPN and L3 MPLS with a total of up to 1500 attachment circuits Note: Not recommended for API use.	Sun™ SPARC T5210, Quad-core CPU, 1.2 GHz	8 GB (see note below)	8 GB	73 GB hard drive

Table 1-2 Minimum Sun Solaris Server Recommendations for Prime Fulfillment Applications (continued)

Mid-range	Traffic Engineering Management (TEM) of up to 5000 TE tunnels or L2VPN and L3 MPLS with a total of up to 10,000 attachment circuits	Sun™ SPARC T5220, Quad-core CPU, 1.2 GHz	8 GB	8 GB	73 GB hard drive
High End	Traffic Engineering Management (TEM) of more than 5000 TE tunnels or L2VPN and L3 MPLS with a total of more than 10,000 attachment circuits	Sun™ SPARC M4000, 2 CPUs, 2.15 GHz	16 GB	32 GB	146 GB hard drive

Notes:

The recommended servers in this table are examples for typical installations. Relative performance can be impacted by many factors. Please contact your Cisco account representative if you need assistance in selecting the correct server.

The default Oracle and Sybase database layouts are sufficient for Prime Fulfillment. Further optimization is your preference.

For server virtualization, minimum recommendations are a Sun™ SPARC T5210 with 8 GB of memory (minimum orderable).

The minimum resources required for an entry-level LDOM running Prime Fulfillment are two 1.2 GHz cores and 4 GB RAM and 8 GB swap space.

The minimum memory resources required for a mid-level LDOM running Prime Fulfillment are 4 GB RAM and 8 GB swap space. To determine whether all of the CPU core resources are needed for running Prime Fulfillment, it is recommended that you perform benchmark testing of your server under typical load.

In addition to Solaris platforms, Prime Fulfillment supports Linux/UCS/VMware platforms. Specific platforms supported include:

- Red Hat Enterprise Linux, version 5.3 and 5.5 (64-bit Edition)
- VMware virtualization, including running the embedded database.
- Linux UCS B-series blade servers.
- Linux UCS C-series chassis.

Prime Fulfillment Server Solaris Configuration

Solaris 10 is supported in this release. Solaris 10 with recommended patches of at least 118822-30 for the kernel level of the patch cluster and JDK 1.6.0_07 patches are found at: <http://sunsolve.sun.com>. As a minimum, you must get your system up to the 118822-30 Kernel patch level. For installation instructions, see the README file which is at the same location as the patch bundle.

Before installing Prime Fulfillment, configure the server to be able to perform hostname to IP address translations. Ensure that Domain Naming System (DNS) or an alternative is configured.

Table 1-3, “Solaris Software Requirements,” explains the Solaris requirements.

Table 1-3 Solaris Software Requirements

Requirements	Description
Solaris 10	<p>Install Solaris 10 on the Sun Sparc server. Choose either the Developer System Support or the Entire Distribution software groups. Do <i>not</i> choose the End User System software group. Then follow these guidelines:</p> <p>Full Distribution—The full distribution includes the following required packages. If you did not install the full distribution, before proceeding with the installation, ensure that at a minimum the following packages are installed:</p> <ul style="list-style-type: none"> —SUNWbtool—Software development utilities —SUNWbzip—The bzip compression utility —SUNWlldap—LDAP libraries —SUNWscpu—Utilities for user interface and source build compatibility with SunOS 4.x —SUNWsprot—Solaris Bundled tools —SUNWxcu4—Utilities providing conformance with XCU4 specifications <p>To check if your installation includes these packages, enter:</p> <p>pkginfo <i>package</i></p> <p>where: <i>package</i> is one of the packages listed above.</p>



Caution

Make sure that the file descriptor limit is *not* set in the Prime Fulfillment workstation login shell file (which can be the **.login** file, the **.cshrc** file, the **.profile** file, or the **.kshrc** file). If the login shell file contains a line with the **ulimit -n** command (for example, “**ulimit -n <number>**”), comment out this command line in the file. Log out and then log back in to ensure that the **ulimit** is no longer set.

Prime Fulfillment cannot override the file descriptor limitation setting in the login shell file. If the value is set incorrectly, Prime Fulfillment might experience operational problems.

Prime Fulfillment provides support for Solaris Virtualization. This is described in [Appendix C, “Solaris Virtualization Support.”](#)

Prime Fulfillment Client

The following is needed for the Prime Fulfillment client:

- A web browser is needed for the client machine on which to run Prime Fulfillment. Microsoft Internet Explorer 8.0 for Windows and Mozilla Firefox 3.6.x for Windows are supported.
- The screen resolutions that are recommended are 1024x768 pixels and 1280x1024 pixels. To view the fonts and colors correctly, the system display must be set to use a color quality of (at least) 32-bits.

**Note**

Adobe Flash player (version 10.3.183.7) and its plug-in must be installed to support the web browser and to enable the main bar and charts in the Prime Fulfillment GUI.

**Note**

In Internet Explorer, we recommend disabling the script debugging feature. To do this, navigate to **Tools > Internet Options** and click the **Advanced** tab. Select the check box **Disable script debugging** and click **OK**.

**Note**

When using Mozilla Firefox and launching Prime Fulfillment in a second window, you *might* lose the information in the first Prime Fulfillment window. To avoid this, stay in Prime Fulfillment and launch a new Prime Fulfillment from a tab or a hyperlink within Prime Fulfillment.

If launching a new Firefox window is necessary, do so with a different Firefox profile.

- Java Runtime Environment (JRE) and Java Web Start must be installed on the client machine to run Inventory Manager. Java 6.0 Update 7 is supported.

**Note**

When using more than one Prime Fulfillment login, ensure each login is using a different HTTP session. To do so, run each session in a separate browser launched from the command line or by clicking on the browser icon on the desktop or **Start** menu. Do not run parallel Prime Fulfillment logins in tabs within the same browser window or in browser windows launched from existing browser windows.

For operations that last longer than the amount of time predefined by the browser, you may get a warning message that says

“Warning: Unresponsive script. A script on this page may be busy, or may have stopped....”

Examples of tasks during which this warning message occurs are:

- editing a customer device with many interfaces,
- editing user details when there are many users.

Workaround- Increase the browser timeout value.

- For Mozilla Firefox, see http://kb.mozillazine.org/Unresponsive_Script_Error
- For Internet Explorer 8, see <http://support.microsoft.com/kb/175500#LetMeFixItMyselfAlways>

IOS XR Device Setup

The following are the minimum patches for IOS XR, PIEs:

- **mini.pie** - Always required
- **mpls.pie** - Always required for Prime Fulfillment
- **mcast.pie** - Required for Prime Fulfillment layer 3 multicast functionality
- **mgbl.pie** - Required for Prime Fulfillment layer 2 and layer 3 deployment to work (because they use the XML agent); not required for TEM
- **k9sec.pie** - Required only if using Secure Shell (SSH)

Supported Cisco Network Devices and Software Versions

The following hardware and software are recommended and required as specified:

- Prime Fulfillment 6.2 testing on an Oracle database has been on Oracle Database 11g Enterprise Edition Release 11.2.0.1.0 - 64 bit Production. If you would like to use another version of Oracle, see Oracle's compatibility information.
- CEs are supported with Cisco IOS 12.1 or later if the CE is a router, and if connecting using Ethernet then it must have a VLAN ethernet interface. The Management Customer Edge router (MCE) can be any CE.
- The Network-facing Provider Edge (NPE) and User-facing Provider Edge (UPE) can be any of the PE devices in the following tables.

The devices and related software supported are listed in the [Supported Devices Table for Prime Fulfillment 6.2](#).