

Oracle[®] VM Server for SPARC 3.6 Installation Guide

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Using This Documentation

- **Overview** – Provides detailed information and procedures for installing the Oracle VM Server for SPARC 3.6 software on supported servers, blades, and server modules.
- **Audience** – System administrators who install Oracle VM Server for SPARC software on SPARC servers.
- **Required knowledge** – Working knowledge of UNIX systems and the Oracle Solaris operating system (Oracle Solaris OS).

Product Documentation Library

Documentation and resources for this product and related products are available at <http://www.oracle.com/technetwork/documentation/vm-sparc-194287.html>.

Feedback

Provide feedback about this documentation at <http://www.oracle.com/goto/docfeedback>.

◆◆◆ CHAPTER 1

System Requirements

This chapter contains system requirements for running the Oracle VM Server for SPARC software.

Note - Oracle VM Server for SPARC features are added and maintained on the supported hardware platforms listed in “[Supported Platforms](#)” on page 9.

As a rule, new Oracle VM Server for SPARC features and functionality are made available for all price-listed, supported SPARC T-series servers, SPARC M-series servers, and SPARC S-series servers from Oracle and Fujitsu M10 servers and Fujitsu SPARC M12 servers at the time that the Oracle VM Server for SPARC software is released and not for SPARC based systems that have already passed their last-order date.

Supported Platforms

When more than one version of the Oracle VM Server for SPARC software is supported on a hardware platform, bug fixes apply only to the latest version of the software. To receive Premier Support, you must use the latest Oracle VM Server for SPARC software.

In addition, bug fixes for the Oracle VM Server for SPARC 3.2 software on the Oracle Solaris 10 operating system (OS) continue, consistent with the support life cycle of the Oracle Solaris 10 product. Bug fixes for the Oracle VM Server for SPARC 3.5 software on the Oracle Solaris 11.3 OS continue, consistent with the support life cycle of the Oracle Solaris 11.3 product. For more information, see [Oracle Lifetime Support Policies](#).

You can find the platform documentation at <http://docs.oracle.com/en/hardware/>. You can also find information about the software stacks for the various platforms on the [Sun System Software Stacks page](#) (<http://www.oracle.com/technetwork/systems/software-stacks/stacks/index.html>).

Note - Logical domains that run at least the Oracle Solaris 11.4 OS are no longer supported on the UltraSPARC T2, UltraSPARC T2 Plus, and SPARC T3 series servers.

The Oracle VM Server for SPARC 3.6 software is supported on the following platforms:

- **Fujitsu SPARC M12 servers**
 - Fujitsu SPARC M12 server (refer to *Fujitsu SPARC M12 Server Product Notes*)
For more information about features that are specific to the Fujitsu SPARC M12 servers, see *Fujitsu SPARC M12 and Fujitsu M10/SPARC M10 System Operation and Administration Guide* in the Product Notes for your model at <http://www.fujitsu.com/global/services/computing/server/sparc/downloads/manual/>.
- **Fujitsu M10 servers**
 - Fujitsu M10 server (refer to *Fujitsu M10 Server Product Notes*)
For more information about features that are specific to the Fujitsu M10 servers, see *Fujitsu SPARC M12 and Fujitsu M10/SPARC M10 System Operation and Administration Guide* in the Product Notes for your model at <http://www.fujitsu.com/global/services/computing/server/sparc/downloads/manual/>.
- **SPARC M8 Series servers**
 - SPARC M8-8 server (refer to *SPARC M8 Series Servers Product Notes*)
 - SPARC M8-16 server (refer to *SPARC M8 Series Servers Product Notes*)
- **SPARC M7 Series servers**
 - SPARC M7-8 server (refer to *SPARC M7 Series Servers Product Notes*)
 - SPARC M7-16 server (refer to *SPARC M7 Series Servers Product Notes*)
- **SPARC M6 servers**
 - SPARC M6-32 server (refer to *SPARC M5-32 and SPARC M6-32 Servers Product Notes*)
- **SPARC M5 servers**
 - SPARC M5-32 server (refer to *SPARC M5-32 Server Product Notes*)
- **SPARC S7 Series servers**
 - SPARC S7-2 server (refer to *SPARC S7-2 Server Product Notes*)
 - SPARC S7-2L server (refer to *SPARC S7-2L Server Product Notes*)
 - Netra SPARC S7-2 server (refer to *Netra SPARC S7-2 Server Product Notes*)
- **SPARC T8 Series servers**
 - SPARC T8-1 server (refer to *SPARC T8 Series Servers Product Notes*)
 - SPARC T8-2 server (refer to *SPARC T8 Series Servers Product Notes*)
 - SPARC T8-4 server (refer to *SPARC T8 Series Servers Product Notes*)
- **SPARC T7 Series servers**

- SPARC T7-1 server (refer to *SPARC T7 Series Servers Product Notes*)
- SPARC T7-2 server (refer to *SPARC T7 Series Servers Product Notes*)
- SPARC T7-4 server (refer to *SPARC T7 Series Servers Product Notes*)
- **SPARC T5 servers**
 - SPARC T5-1B server (refer to *SPARC T5-1B Server Product Notes*)
 - SPARC T5-2 server (refer to *SPARC T5-2 Server Product Notes*)
 - SPARC T5-4 server (refer to *SPARC T5-4 Server Product Notes*)
 - SPARC T5-8 server (refer to *SPARC T5-8 Server Product Notes*)
- **SPARC T4 servers**
 - SPARC T4-1 server (refer to *SPARC T4-1 Server Product Notes*)
 - SPARC T4-2 server (refer to *SPARC T4-2 Server Product Notes*)
 - SPARC T4-4 server (refer to *SPARC T4-4 Server Product Notes*)
 - SPARC T4-1B server (refer to *SPARC T4-1B Server Product Notes*)
 - Netra SPARC T4-1 server (refer to *Netra SPARC T4-1 Server Product Notes*)
 - Netra SPARC T4-2 server (refer to *Netra SPARC T4-2 Server Product Notes*)
 - Netra SPARC T4-1B server (refer to *Netra SPARC T4-1B Server Product Notes*)

Firmware and OS Versions for Oracle VM Server for SPARC 3.6

This section describes the system firmware versions and Oracle Solaris OS versions to use with the current Oracle VM Server for SPARC software.

You can run the Oracle VM Server for SPARC 3.6 software with at least the minimum versions of the system firmware and Oracle Solaris OS. In such a configuration, you might not have access to all the features of the latest Oracle VM Server for SPARC software.

For the best results in production environments, run with the system firmware version described in [“System Firmware Versions” on page 12](#) and with the Oracle Solaris OS version described in [“Supported Oracle Solaris OS Versions” on page 13](#).



Caution - Do not downgrade to older versions of individual system firmware, Oracle Solaris OS or software components. Such downgrades might lead to unexpected behavior and failures.

System Firmware Versions

This section includes information about the system firmware versions that you need to run the Oracle VM Server for SPARC 3.6 OS.

To take advantage of all features of Oracle VM Server for SPARC 3.6, ensure that your SPARC T-series server, SPARC M-series server, or SPARC S-series server from Oracle runs at least the system firmware versions listed in “[System Firmware Versions](#)” on page 12. You can access these patches from [Firmware Downloads and Release History for Oracle Systems \(http://www.oracle.com/technetwork/systems/patches/firmware/release-history-jsp-138416.html\)](http://www.oracle.com/technetwork/systems/patches/firmware/release-history-jsp-138416.html).

Note - The minimum version of the system firmware might not support all the features for the Oracle VM Server for SPARC 3.6 release.

You can apply the latest Oracle VM Server for SPARC package to a system that runs at least the following versions of the system firmware:

- SPARC S7 Series servers: 9.7.2
- Fujitsu M10 servers: XCP2012
- Fujitsu SPARC M12 servers: XCP3021
- SPARC M8 Series servers: 9.8.x
- SPARC M7 Series servers: 9.7.1
- SPARC M6 servers: 9.5.4.b
- SPARC M5 servers: 9.5.4.b
- SPARC T8 Series servers: 9.8.x
- SPARC T7 Series servers: 9.7.1
- SPARC T5 servers: 9.5.4.a
- SPARC T4 servers: 8.8.4

Oracle Solaris OS Versions

This section includes information about the Oracle Solaris OS versions that you need to run the Oracle VM Server for SPARC 3.6 OS, and covers the following topics:

- “[Supported Oracle Solaris OS Versions](#)” on page 13
- “[Location of the Oracle VM Server for SPARC Software](#)” on page 13
- “[Location of Documentation](#)” on page 13

Supported Oracle Solaris OS Versions

You must run at least the Oracle Solaris 11.4 OS in the Oracle VM Server for SPARC 3.6 control domain. You must run this Oracle Solaris OS version in all domain types that access physical I/O (control, service, root, and I/O). For information about the minimum versions of the Oracle Solaris OS for supported server platforms, see the data sheet for your server platform at <http://www.oracle.com/technetwork/server-storage/sun-sparc-enterprise/overview/index.html>.

Note - On a guest domain that has only virtualized I/O, you can run any Oracle Solaris OS version that is supported by the platform. For information about the minimum versions of the Oracle Solaris OS for supported server platforms, see the <http://www.oracle.com/technetwork/server-storage/sun-sparc-enterprise/overview/index.html>.

Location of the Oracle VM Server for SPARC Software

The Oracle VM Server for SPARC 3.6 software is installed by default when you install or upgrade to at least the Oracle Solaris 11.4 OS.

You can also obtain the `ldomsmanager` package from the Oracle Solaris 11.4 Support Repository.

Also see “[Updating an Oracle Solaris 11.3 System to Oracle Solaris 11.4](#)” in *Updating Your Operating System to Oracle Solaris 11.4* and “[How to Update Oracle Solaris 11 Systems Using Support Repository Updates](#)” (<http://www.oracle.com/technetwork/articles/servers-storage-admin/o11-018-howto-update-s11-1572261.html>).

Location of Documentation

Late-breaking information and known issues for this product are included in the documentation library at <http://www.oracle.com/technetwork/documentation/vm-sparc-194287.html>.

The Oracle VM Server for SPARC 3.6 man pages are installed on your system as part of the `ldomsmanager` package.

The following table shows the documentation that is available for the Oracle VM Server for SPARC 3.6 release. These documents are available in HTML and PDF formats unless indicated.

TABLE 1 Related Documentation

Application	Title
Oracle VM Server for SPARC 3.6 Software	Oracle VM Server for SPARC 3.6 Release Notes
	Oracle VM Server for SPARC 3.6 Installation Guide (this book)
	Oracle VM Server for SPARC 3.6 Administration Guide
	Oracle VM Server for SPARC 3.6 Security Guide
	Oracle VM Server for SPARC 3.6 Reference Manual (HTML only)
	Oracle VM Server for SPARC 3.6 Management Information Base User's Guide
Oracle VM Server for SPARC-related man pages	Oracle VM Server for SPARC 3.6 Developer's Guide
	Oracle Solaris 11.4 Reference Manual (HTML only):
	<ul style="list-style-type: none"> ■ drd(8) man page ■ ldmad(8) man page ■ ldmconsole(8) man page ■ vntsd(8) man page
	Oracle Solaris OS Installation and Configuration Guides:
	<ul style="list-style-type: none"> ■ Oracle Solaris 11.4 Documentation (http://docs.oracle.com/cd/E37838_01) ■ Oracle Solaris 10 Documentation (http://www.oracle.com/technetwork/documentation/solaris-10-192992.html)
Oracle Solaris OS: Installation and Configuration	Oracle VM Server for SPARC White Paper and Oracle Solaris OS Security Guides:
	<ul style="list-style-type: none"> ■ Secure Deployment of Oracle VM Server for SPARC (http://www.oracle.com/technetwork/articles/systems-hardware-architecture/secure-ovm-sparc-deployment-294062.pdf) ■ Oracle Solaris 11.4 Security and Hardening Guidelines ■ Oracle Solaris 11 Security Guidelines ■ Oracle Solaris 10 Security Guidelines
	Oracle VM Server for SPARC and Oracle Solaris OS Security
	Oracle VM Server for SPARC White Paper and Oracle Solaris OS Security Guides:
	<ul style="list-style-type: none"> ■ Secure Deployment of Oracle VM Server for SPARC (http://www.oracle.com/technetwork/articles/systems-hardware-architecture/secure-ovm-sparc-deployment-294062.pdf) ■ Oracle Solaris 11.4 Security and Hardening Guidelines ■ Oracle Solaris 11 Security Guidelines ■ Oracle Solaris 10 Security Guidelines

You can find documentation that relates to your server, software, or the Oracle Solaris OS at <https://docs.oracle.com>. Use the Search box to find the documents and the information that you need.

Related Software

Compatible Software

This section describes the software that is compatible with and can be used with the Oracle VM Server for SPARC software. Be sure to check the software documentation or your platform documentation to find the version number of the software that is available for your version of the Oracle VM Server for SPARC software and your platform.

- **Oracle VM Manager** is a web-based user interface that you can use to manage the Oracle VM environment. For more information about Oracle VM Manager, see the [Oracle VM Documentation \(http://www.oracle.com/technetwork/documentation/vm-096300.html\)](http://www.oracle.com/technetwork/documentation/vm-096300.html).
- **SunVTS** functionality is available in the control domain and guest domains on certain Oracle VM Server for SPARC releases and certain platforms. SunVTS is a validation test suite that provides a comprehensive diagnostic tool that tests and validates Oracle's Sun hardware by verifying the connectivity and proper functioning of most hardware controllers and devices on Oracle's Sun servers. For more information about SunVTS, refer to *SunVTS 7.0 Software*.
- **Explorer Data Collector** can be used with the Oracle VM Server for SPARC software enabled on the control domain. Explorer is a diagnostic data collection tool. The tool comprises shell scripts and a few binary executables. For more information, see [Oracle Explorer User's Guide \(http://docs.oracle.com/cd/E19957-01/819-6613/819-6613.pdf\)](http://docs.oracle.com/cd/E19957-01/819-6613/819-6613.pdf).
- **Oracle Solaris Cluster** software can be used in a guest domain with some restrictions. See the Oracle Solaris Cluster documentation for more information about any restrictions and about the Oracle Solaris Cluster software in general.
- **Oracle Enterprise Manager Ops Center** enables you to manage physical and virtual system resources. This solution simplifies resource discovery and monitoring, provides operating system and firmware provisioning, performs comprehensive update and patch management, manages virtual environments such as Oracle Solaris Zones and Oracle VM Server for SPARC, and supports hardware management from power up to production. For more information, see <http://www.oracle.com/enterprise-manager/index.html>.

System Controller Software

The following system controller (SC) software interacts with the Oracle VM Server for SPARC 3.6 software:

- **Sun Integrated Lights Out Manager (ILOM)** is the system management firmware that you can use to monitor, manage, and configure SPARC T-series servers, SPARC M-series servers, and SPARC S-series servers. Oracle ILOM is preinstalled on these platforms and can be used on supported servers with the Oracle VM Server for SPARC 3.6 software enabled. Refer to *Sun Integrated Lights Out Manager User's Guide* for features and tasks that are common to Oracle's Sun rack-mounted servers or blade servers that support Oracle ILOM. Other user documents present Oracle ILOM features and tasks that are specific to the server platform that you are using. You can find the Oracle ILOM platform-specific information within the documentation set that accompanies your system.

SPARC M7 series servers, SPARC T7 series servers, and SPARC S7 series servers that run the latest system firmware use ILOM 4.0. These servers with older system firmware and other supported Oracle SPARC servers use ILOM 3.2.

- **Fujitsu M10 Servers and Fujitsu SPARC M12 Servers eXtended System Control Facility (XSCF)** is the system management firmware that you can use to monitor, manage, and configure Fujitsu M10 servers and Fujitsu SPARC M12 servers. XSCF is preinstalled on these systems and can be used with the Oracle VM Server for SPARC 3.6 software enabled. For more information about this software, see *Fujitsu SPARC M12 and Fujitsu M10/SPARC M10 System Operation and Administration Guide* and *Fujitsu SPARC M12 and Fujitsu M10/SPARC M10 XSCF Reference Manual* in the Product Notes for your model at <http://www.fujitsu.com/global/services/computing/server/sparc/downloads/manual/>.

Installing the Software

This chapter describes how to install or upgrade the different software components required to use the Oracle VM Server for SPARC 3.6 software.

This chapter covers the following topics:

- “Hardware, Firmware, and Software Components” on page 17
- “Installing and Upgrading the Software” on page 18

Hardware, Firmware, and Software Components

Using the Oracle VM Server for SPARC software requires the following components:

- A supported platform. Refer to “Supported Platforms” on page 9 for a list of supported platforms. For information about the system firmware versions, see “System Firmware Versions” on page 12 and “Upgrading the System Firmware” on page 21.
- A control domain that runs at least the Oracle Solaris 11.4 OS. See “Upgrading the Oracle Solaris OS” on page 20.

For information about the minimum versions of the Oracle Solaris OS for supported server platforms, see the data sheet for your server platform at <http://www.oracle.com/technetwork/server-storage/sun-sparc-enterprise/overview/index.html>.

For information about stopping an unneeded service, see “Stopping a Service” in *Managing System Services in Oracle Solaris 11.4*.

- Oracle VM Server for SPARC 3.6 software installed and enabled on the control domain.
- (Optional) The Oracle VM Server for SPARC Management Information Base (MIB) software package. See *Oracle VM Server for SPARC 3.6 Management Information Base User’s Guide*.

Note that you must manually install the Oracle VM Server for SPARC MIB software package after you install the Oracle VM Server for SPARC packages. It is not automatically installed with the other packages.

- (Optional) The Oracle VM Template Utilities software package. See [Chapter 2, “Using Oracle VM Server for SPARC Templates”](#) in *Oracle VM Server for SPARC 3.6 Developer’s Guide*.

Note that you must manually install the Oracle VM Template Utilities software package after you install the Oracle VM Server for SPARC packages. It is not automatically installed with the other packages.

Installing and Upgrading the Software



Caution - Oracle VM Server for SPARC-based Power Management (PM) is disabled by default in the Oracle VM Server for SPARC 3.6 software. If you do not plan to override this new default, ensure that your resources are not left in a lower power state than you want. Perform the following steps before you upgrade to the Oracle VM Server for SPARC software:

1. Disable Service Processor power management, also known as the platform policy.

Run the following ILOM command as an administrative user:

```
--> set /SP/powermgmt/ policy=disabled
```

2. Set the PM administrative control to platform on the control domain as superuser:

```
primary# poweradm set active_control/administrative-authority=platform
```

Initially, a SPARC platform appears as a single system hosting only one operating system. After the Oracle Solaris OS, system firmware, and Logical Domains Manager have been installed, the original system and instance of the Oracle Solaris OS become the control domain. That first domain of the platform is named `primary`, and you cannot change that name or destroy that domain. From there, the platform can be reconfigured with multiple domains hosting different instances of the Oracle Solaris OS.

Note - The version of the Oracle Solaris OS software that runs on a guest domain is *independent* of the Oracle Solaris OS version that runs on the `primary` domain. So, if you run the Oracle Solaris 11.4 OS or the Oracle Solaris 11 OS in the `primary` domain, you can still run the Oracle Solaris 10 OS in any of the guest domains.

The Oracle VM Server for SPARC 3.6 software is installed and enabled by default when you install the Oracle Solaris 11.4 OS.

If your system is already installed with the Oracle VM Server for SPARC software, save the configuration for your current system. Perform this step before you install or upgrade to the Oracle VM Server for SPARC 3.6 software.

- If the control domain is installed with the Oracle Solaris 10 OS, you must install the Oracle Solaris 11.4 OS. See [“Installing the Oracle Solaris OS” on page 19](#).
- If the control domain is installed with an older version of the Oracle Solaris 11 OS, you must perform a fresh installation of the Oracle Solaris 11.4 OS. See [“Upgrading the Oracle Solaris OS” on page 20](#).

Saving the Existing Configuration

If you have domains configured on your system, first save the configuration so that you can restore it after installing the Oracle Solaris OS.

▼ How to Save the Existing Configuration

1. **Save your configuration to the SP.**

```
primary# ldm add-config config-name
```

2. **Save your domain constraints.**

```
primary# ldm list-constraints -x >/var/opt/SUNWldm/filename.xml
```

3. **Save the contents of the `/var/opt/SUNWldm` directory.**

```
primary# cd /var/opt/SUNWldm
primary# tar cvf filename.tar .
```

4. **Copy `filename.tar` to external storage.**

Installing the Oracle Solaris OS

If your system is installed with the Oracle Solaris 10 OS, you must install the Oracle Solaris 11.4 OS, which includes the Oracle VM Server for SPARC 3.6 software. See [“Supported Oracle Solaris OS Versions” on page 13](#). For complete Oracle Solaris OS installation instructions, see the [Oracle Solaris 11.4 Information Library \(http://docs.oracle.com/cd/E37838_01/\)](http://docs.oracle.com/cd/E37838_01/). You can tailor the installation to the requirements of your system.

The Oracle VM Server for SPARC 3.6 software is installed and enabled by default when you install the Oracle Solaris 11.4 OS.

Install the required Oracle Solaris 11.4 OS, Oracle Solaris 11 OS or SRU OS. For information about updating to a new SRU, see [How to Update Oracle Solaris 11 Systems From Oracle Support Repositories \(http://www.oracle.com/technetwork/articles/servers-storage-admin/o11-018-howto-update-s11-1572261.html\)](http://www.oracle.com/technetwork/articles/servers-storage-admin/o11-018-howto-update-s11-1572261.html).

Upgrading the Oracle Solaris OS

If your system is already installed with the Oracle Solaris 11 OS, you must upgrade it to the OS version that is associated with the Oracle VM Server for SPARC 3.6 software. See “[Oracle Solaris OS Versions](#)” on page 12. For complete Oracle Solaris OS upgrade instructions, see the [Oracle Solaris 11.4 Information Library \(http://docs.oracle.com/cd/E37838_01/\)](http://docs.oracle.com/cd/E37838_01/).

The Oracle VM Server for SPARC 3.6 software is installed and enabled by default when you install the Oracle Solaris 11.4 OS.

Restoring the Saved Configuration

Saving and restoring the configuration is required when a control domain that runs the Oracle Solaris 10 OS is re-installed with the Oracle Solaris 11.4 OS.

After the Oracle Solaris OS installation completes, restore the configuration from the tar file that you saved in “[Saving the Existing Configuration](#)” on page 19.

▼ How to Restore the Saved Configuration

Restoring this configuration re-creates any unbound domains, autosave information, and bootsets from your previous configuration.

1. **Disable the `ldmd` daemon.**

```
primary# svcadm disable ldmd
```

2. **Restore the tar file to the `/var/share/ldomsmanager` directory.**

```
primary# cp filename.tar /var/tmp
```

```
primary# cd /var/share/ldomsmanager
primary# tar xvf /var/tmp/filename.tar
```

3. Enable the `ldmd` daemon.

```
primary# svcadm enable ldmd
```

Upgrading the System Firmware

Note - Before you upgrade the system firmware, stop all domains, or migrate the domains to another system, if possible.

Use the following resources when upgrading the system firmware on SPARC T-series servers, SPARC M-series servers, and SPARC S-series servers:

- For information about upgrading the system firmware by using the ILOM software, see “Update the Firmware” and “Updating ILOM Firmware” in *Oracle Integrated Lights Out Manager (ILOM) CLI Procedures Guide*. For more information about using the ILOM software, see the documents for your specific platform at <http://www.oracle.com/technetwork/documentation/sparc-tseries-servers-252697.html>.
- System firmware for your platform is available at <http://www.oracle.com/technetwork/systems/patches/firmware/index.html>.
- For information about the required system firmware for the supported servers, see “System Firmware Versions” on page 12.
- To upgrade the system firmware from the control domain, refer to your system firmware product notes, which are available at *SPARC T-Series Servers Documentation* (<http://www.oracle.com/technetwork/documentation/sparc-tseries-servers-252697.html>).
- Refer to the administration guides or product notes for the supported servers for more information about installing and upgrading the system firmware for these servers.
- To find out how to use the ILOM web interface to upgrade system firmware, see “Updating ILOM Firmware” in the *Oracle Integrated Lights Out Manager (ILOM) Web Interface Procedures Guide*.

To upgrade Fujitsu M10 server or Fujitsu SPARC M12 server firmware by using the eXtended System Control Facility (XSCF), see the following resources:

- *Fujitsu SPARC M12 and Fujitsu M10/SPARC M10 System Operation and Administration Guide*
- *Fujitsu SPARC M12 and Fujitsu M10/SPARC M10 XSCF Reference Manual*

