

Oracle® Auto Service Request
Installation and Operations Guide
Release 4.9 for Linux and Solaris
E18475-29

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Preface

Oracle Auto Service Request (ASR) is a feature of Oracle Premier Support for Systems and Oracle/Sun Limited Warranty that is designed to automatically request Oracle service when specific hardware faults occur. ASR is designed to enable faster problem resolution by eliminating the need to initiate contact with Oracle services for hardware failures, reducing both the number of phone calls needed and overall phone time required. For complete information about ASR, see <http://oracle.com/asr>.

Audience

This document is intended for Oracle customers and partners who have Oracle products qualified for ASR with Oracle Premier Support for Systems and/or Hardware Warranty service plans.

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Conventions

The following text conventions are used in this document:

Convention	Meaning
boldface	Boldface type indicates graphical user interface elements associated with an action, or terms defined in text or the glossary.
<i>italic</i>	Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values.
<code>monospace</code>	Monospace type indicates commands within a paragraph, URLs, code in examples, text that appears on the screen, or text that you enter.

What's Changed

This table provides a brief overview of the document changes for the latest publication of the *Oracle® Auto Service Request Installation and Operations Guide*:

Part Number	Change Summary
E18475-29	Updated the What's New chapter to clarify the Automatic updates for open service requests (SRs) feature.
E18475-28	Added a new section: ASR Audit Logging . Added a new e-mail example: Asset Component Activation Failed . Updated the <code>asr show_log_collection_status</code> command in ASR Diagnostics . Updated Figure 4-1, "ASR Asset Status Transition" diagram.

What's New

Oracle Auto Service Request (ASR) is designed to automatically request Oracle service when specific hardware faults occur. This chapter identifies the features and enhancements provided by Oracle Auto Service Request Release 4.9.

The Oracle ASR Manager Release 4.9 software upgrade is quick to install and is available for download from <http://oracle.com/asr>. All customers are urged to upgrade to this release at their earliest convenience.

Note: Support for Oracle Auto Service Request is limited to the current release and the two previous releases. Oracle now supports ASR 4.9, 4.8.1, and 4.8. It is recommended that you upgrade to the latest version. See [Using Auto Update to Upgrade Oracle ASR](#) for more information.

New Features and Enhancements for Oracle ASR Release 4.9

The Oracle Auto Service Request Release 4.9 includes the following features:

- **ASR Audit Logging:** New audit logging that allows customers to see all events ASR Manager sends and receives from the Oracle ASR back-end. Easy to view and review since the log is limited only to these events, and the exact XML contents of the messages are logged. See [ASR Audit Logging](#) for details.
- **Improvements for `snmpget`:**
 - Improvements to follow-on fault event `snmpget` logic increasing the chances for successful fault event enrichment.
 - Improvements to `snmpget` failure messaging.
- **Automatic updates for open service requests (SRs):** When an ASR SR is opened and prior SRs for the same asset are open, the five most recent open SRs are updated with a note indicating that a new SR has been opened.
- Support for Oracle Solaris 11.2 `asr-notify` service.

See [Using Auto Update to Upgrade Oracle ASR](#) for instructions on how to upgrade to the latest version of the ASR Manager.

Features and Enhancements for Oracle ASR Release 4.8.1

The Oracle Auto Service Request Release 4.8.1 includes the following features:

- Corrects a known issue with ILOM version 3.2.1.x devices. These devices are not properly sending individual SNMP heartbeats. Because of this issue, ASR Manager 4.8.1 does not attempt to track individual asset heartbeats for this version of ILOM, but instead uses the ASR Manager heartbeat status for these assets.
- ASR Manager 4.8.1 with ILOM version 3.2.2.0 or greater is now required for support of iLOM asset individual heartbeat.
- Customers running ASR Manager 4.5, 4.6, 4.7, or 4.8 and ILOM version 3.2.1.x need to upgrade to ASR Manager 4.8.1 and ILOM version 3.2.2 to ensure heartbeats for these devices are processed and represented correctly.

See [Using Auto Update to Upgrade Oracle ASR](#) for instructions on how to upgrade to the latest version of the ASR Manager.

Features and Enhancements for Oracle ASR Release 4.8

The Oracle Auto Service Request Release 4.8 includes the following features:

- A new `list_registrations` command is available that displays all ASR Manager current registrations. This command is particularly helpful if the ASR Manager is being used as a relay. See [ASR Manager Registrations](#) for details.
- Improvements to the `show_diag_upload_status` command to include any remote request activities and Service Request (SR) numbers when appropriate. See [ASR Diagnostics](#) for more information.
- Enhanced `snmpget` functionality increases the likelihood of a successful transaction and improved event enrichment.
- Improvements to the ASR fault coverage listing including:
 - See the full ASR fault coverage listing at:
http://docs.oracle.com/cd/E37710_01/nav/faultcoverage.htm
 - A unique rule identifier has been added to each ASR rule listing for easier rule reference.
 - A Last Update date column has been added to better identify the date the rule originated or was last updated.
 Rules already in place will have a blank initial date value. Additionally, other data elements have also been added to assist with understanding rule change history, when appropriate.
- Corrects the following known issues:
 - Where assets with ServiceTag serial numbers with leading or trailing spaces couldn't be activated.
 - Where the `list_asset -i` and `list_asset -h` options are not working.
 - Where in some rare cases customers are receiving an Auto-Update failure e-mail even though Auto Update completed successfully.
- ASR Security White Paper updated to include a sample of all ASR events:
http://docs.oracle.com/cd/E37710_01/doc.41/e37468/toc.htm

Known Issues for ASR Manager

- **Uninstalling OASM 1.4.2 or earlier (Linux only):** When using the `rpm -e SUNWsasm` command to remove OASM 1.4.2 (or earlier), the process completely removes the `crontab` entries for OASM.

This uninstallation issue has been resolved with OASM 1.5. To prevent losing any `crontab` entries, you can uninstall OASM 1.4.2 (or earlier) with the following command:

```
rpm -e --noscripts SUNWsasm
```

Auto Service Request Overview

Welcome to the Auto Service Request (ASR) software from Oracle. ASR is a secure, scalable, customer-installable software feature of Oracle Premier Support for Systems and Oracle/Sun Limited Warranty support that provides auto-case generation when specific hardware faults occur. ASR is designed to enable faster problem resolution by eliminating the need to initiate contact with Oracle for hardware failures, reducing both the number of phone calls needed and overall phone time required. ASR also simplifies support operations by utilizing electronic diagnostic data. If your qualified system is under warranty or covered by a service plan, you are entitled to ASR at no charge. Visit the Oracle ASR product page (<http://www.oracle.com/asr>) for information to see which server, storage, and Oracle Exadata products are qualified for ASR.

Note: ASR is not a monitoring solution and is not a substitute for the normal monitoring processes/services that customers have.

1.1 Auto Service Request Feature Summary

ASR provides the following features:

Telemetry Collection and Forwarding: ASR collects specific hardware telemetry data from all ASR-enabled systems, called ASR Assets. ASR filters this telemetry data and forwards what it determines to be potential hardware faults directly to Oracle. Hardware faults cover faults coming from fans, to power supplies, disks, memory, CPUs, and other internal hardware components. The fault telemetry sent to Oracle includes specific hardware faults, but also includes the conditions that may later result in a component failure. The ASR fault coverage is different for each qualified system type.

Automatic Creation of Service Requests: Once fault telemetry is sent to Oracle's ASR infrastructure, systems filter the data again to confirm the reality of the fault and then automatically generates a Service Request. Once created, Service Requests are sent to Oracle Support and also communicated, via e-mail, to the technical support contact on record for the qualified system reporting the fault.

Support Response: Service Requests are actively reviewed by Oracle Support Services and service response is provided in accordance with your Service or Warranty contract.

ASR Auto Update: By default, Oracle ASR will download and install the latest version of the ASR software. By installing the latest version, you will always be current with the latest features and functionality of the ASR service.

1.2 ASR Architectural Components

Understanding the architecture and the nomenclature of ASR is key to a successful installation. See the *ASR Security White Paper* for more information about the architectural flow. The following list describes the key components involved with ASR:

1. **ASR Manager:** The ASR Manager is a system that centrally accepts hardware telemetry data sent from a group of ASR Assets. The ASR Manager filters the incoming data and forwards potential fault telemetry to Oracle/ASR Backend systems. For the ASR Manager, you should also know:
 - The ASR Manager is always installed first, followed by ASR Assets.
 - You have the option to install more than one instance of an ASR Manager. The reasons to do this may be to support a large amount of ASR Assets and/or for organizational reasons, such as grouping ASR Assets by data center, support group, subnet, or other grouping scheme as needed.

Note: Even though an ASR Asset communicates its telemetry to one ASR Manager only, an ASR Manager can serve as a relay for other ASR Managers by sharing a common network connection to Oracle Support.

- The ASR Manager system can be installed as an ASR Asset. This way, the ASR Manager system can report its own hardware telemetry, as does an ASR Asset.
 - The telemetry data that is sent from the ASR Manager to the Oracle / ASR Backend Systems is encrypted. For more information on this topic, refer to the ASR White Paper at: <http://www.oracle.com/asr>.
 - The ASR Manager software runs as a plug-in application to the Oracle Automated Service Manager (OASM) software. OASM is an applications environment that manages various plug-in applications used mainly for system-level management. OASM simplifies different Oracle Network Service deployments and provides a secure transport mechanism for telemetry data.
2. **ASR Assets:** ASR Assets are qualified systems that are configured to report its hardware telemetry to an ASR Manager. For a complete list of hardware qualified for ASR, see:
<http://www.oracle.com/technetwork/systems/asr/documentation/index.html>
 3. **Oracle/ASR Backend Systems:** The ASR backend infrastructure at Oracle collects all telemetry data forwarded to it from the ASR Manager, or ASR Managers if multiple instances are installed. The fault-rule technology on these backend systems ascertains the reality of the fault telemetry, and forwards recognized faults to Oracle's Service Request system. From there, the following actions occur:
 - A Service Request, also called a case, is created and assigned to an Oracle Support Engineer. At the same time, an e-mail notification of the Service Request is sent to your support contact on record associated with the system reporting a fault.
 - The Service Request is handled in accordance with the asset's Support or Warranty contract.
 4. **Oracle Support Interaction:** Once an Oracle Support Engineer begins working on the Service Request, the engineer may collect additional information from you to

better determine resolution to the hardware issue. Resolution to the issue may involve system configuration or the following possibilities:

5. Order and ship a replacement part with installation instructions to you. These are called Customer Replaceable Units (CRUs).
6. Order and ship a replacement part to the customer site to be installed by an Oracle Field Engineer. These are called Field Replaceable Units (FRUs).

1.3 Oracle ASR Prerequisites

This section provides the instructions to assess your Oracle system environment for the ASR installation. An assessment of your operating system version, network setup, and available telemetry sources is necessary to determine if any of these items need upgrading or other configuration to support the ASR installation.

Note: The instructions in this section apply to both the ASR Manager and ASR Assets.

1.3.1 Hardware Requirements

For ASR Assets, only the hardware listed on the Systems Qualified for ASR page is supported. Visit the Oracle ASR product page (<http://www.oracle.com/asr>) to see which server, storage, and Oracle Exadata products are qualified for ASR.

Qualified ASR Asset hardware must be associated with a valid support identifier in My Oracle Support (<https://support.oracle.com>).

Note: Oracle Auto Service Request Release 3.1 and later no longer requires the designated ASR Manager to be qualified. However, there are still minimal operating system, Java, etc., requirements.

1.3.1.1 Designate an ASR Manager

To designate an ASR Manager:

1. Choose a system that you intend to install as the ASR Manager. This system does not need to be a dedicated server and can co-reside with other applications and services.
2. Size the system:
 - Establish roughly how many ASR Assets will report their hardware telemetry to the ASR Manager system now and in the future.
 - Refer to the Hardware and Network Configuration page (see <http://www.oracle.com/asr> for more information) to confirm system requirements, depending on how many ASR Asset(s) will report their telemetry to the ASR Manager.
 - If the system you selected to be an ASR Manager is under-sized, consider the following options:
 - Select another system that is better sized, or upgrade the current system.
 - Reduce the number of ASR Assets that you will associate to this ASR Manager system. If you choose this option, you will have to consider installing an additional instance(s) of the ASR Manager to accommodate the remaining ASR Assets. Focus on the first ASR Manager and its

associated ASR Assets before installing additional ASR Manager instances.

3. Once the ASR Manager is sized, record the hostname and hardware type.

1.3.1.2 Designate ASR Assets

To designate ASR Assets:

Note: The ASR Manager system is always installed first.

1. Choose the qualified systems that you intend to install as ASR Assets and make note of the hardware type of each (for example, SPARC Enterprise T5120, Sun Blade X6240, etc.).
2. Verify your system is qualified for ASR. Visit the Oracle ASR product page (<http://www.oracle.com/asr>) to see which server, storage, and Oracle Exadata products are qualified for ASR.

From the Qualified Systems List, confirm that your system is on the list. If not, the system is not yet qualified to run ASR.

3. Once the ASR Asset system(s) are qualified, record the hostname(s) and hardware type of each.

1.3.2 Operating System Requirements

Designated ASR Managers support Oracle Auto Service Request running Linux or Solaris operating systems:

- [Linux \(ASR Manager Only\)](#)
- [Solaris](#)

1.3.2.1 Linux (ASR Manager Only)

ASR Manager is supported on the following versions of Linux:

- Oracle Linux 5.3 or later.
- Red Hat Enterprise Linux 6.3 or later.

To check your version of Linux, run the `/etc/enterprise-release` command. The output should look like this:

```
Enterprise Linux Server release 5.3 (Carthage)
```

For Linux systems, the `rpm-build` package must be available. To verify where `rpm-build` exists, run the following command as root:

```
# rpmbuild
```

If the `rpm-build` package is not installed, you can install it with the following command:

```
yum install rpm-build
```

1.3.2.2 Solaris

The following Solaris releases are supported for ASR Manager systems:

- Solaris 11

- Solaris 10, Update 6 (10u6), or later

To check your Solaris version, run `cat /etc/release`.

If your qualified ASR Asset indicates a particular patch version, verify your patch level (see <http://www.oracle.com/asr> for information on Solaris requirements for Server Products Qualified for ASR):

```
patchadd -p|grep <patch number>
```

To download any required patches, visit My Oracle Support (login required) at <http://support.oracle.com>.

1.3.3 Software Requirements

Depending on your selected ASR Assets, you may need additional software for Oracle ASR to function. See doc ID 1185493.1 in My Oracle Support to download the latest Oracle ASR package:

<https://support.oracle.com>

The following topics are described:

- [Oracle Automated Service Manager \(OASM\) Requirements - ASR Manager Only](#)
- [Java Requirements](#)
- [Services Tools Bundle Requirements - Solaris 10 ASR Assets Only](#)

1.3.3.1 Oracle Automated Service Manager (OASM) Requirements - ASR Manager Only

OASM 1.5 or later is required for Oracle ASR. On the ASR Manager system, log in as `root` and run the following command to determine the existence and version of OASM:

- For Solaris, run: `pkginfo -l SUNWsasm`
- For Linux, run: `rpm -q SUNWsasm`

Note: There is a known issue when uninstalling OASM 1.4.2 (or earlier) on Linux using the `rpm -e SUNWsasm` command. Using this command to remove OASM 1.4.2 (or earlier) completely removes the crontab entries for OASM.

This uninstallation issue has been resolved with OASM 1.5. To prevent losing any crontab entries, you can uninstall OASM 1.4.2 (or earlier) with the following command:

```
rpm -e --noscripts SUNWsasm
```

If OASM is not installed, see doc ID 1185493.1 in My Oracle Support to download the latest package:

<https://support.oracle.com>

If you do not need to install OASM, then proceed to [Install ASR](#).

Note: ASR Manager requires OASM 1.5 or later. If ASR Manager is installed on previous versions of OASM, the installation fails with the following message:

```
*****
Prerequisite package SUNWsasm (version 1.5 or higher)
must be installed in order to continue the installation.
```

```
Please download and install the latest Oracle Automated
Service Manager (OASM) package from http://oracle.com/asr
*****
```

See [Install OASM and Using Auto Update to Upgrade Oracle ASR](#).

1.3.3.2 Java Requirements

ASR Manager systems require Oracle Java 7 - JDK 7 (JDK 1.7.0_13) or later JDK 7 updates.

Note: OpenJDK is not supported.

You can download the latest version from the Java SE Downloads page:
<http://www.oracle.com/technetwork/java/javase/downloads/>

To check your version of Java, run:

```
java -version
```

1.3.3.3 Services Tools Bundle Requirements - Solaris 10 ASR Assets Only

Services Tools Bundle (STB) is a tool set (including Explorer and SNEEP) that helps ASR obtain required information from each ASR system before you can activate them, such as obtaining the system's serial number from firmware.

To verify that the necessary tools are installed on your system, run:

```
pkginfo -l SUNWexplo
```

To verify that your system's serial number is being reported correctly, run:

```
sneep -a
```

To verify that your system's attributes are being reported correctly, run:

```
stclient -E
```

Note: If your system is using only a service processor-based telemetry source (ILOM, or XSCF on M-Series), STB does not need to be installed.

See Doc ID 1153444.1 to download the latest Oracle Service Tool Bundle (STB) software from My Oracle Support:

<https://support.oracle.com>

1.3.4 Network Connection Requirements

The ASR Manager System must have an internet connection – either a direct connection or through a proxy. If you access the internet through a proxy, check with your network administrator to collect information needed to configure the ASR Manager system. You will need to know:

- Proxy server name
- Proxy port number
- Proxy user name
- Proxy password
- NTLM Domain Name (if applicable)
- NTLM Host Name (if applicable)
- OASM Host Information (if applicable)

Check and make note of the ASR Manager IP address:

```
ifconfig -a
```

To test the connection to Oracle, in a browser, go to:

```
https://transport.oracle.com/v1
```

You can also test your connection in a terminal window:

```
telnet transport.oracle.com 443
/usr/sfw/bin/wget https://transport.oracle.com/v1
```

If you receive a "connected" message, the connectivity is successful.

For ASR Assets, contact your network administrator to confirm or enable the following:

1. Set-up firewall rules to allow bi-directional SNMP/UDP traffic to traverse between ASR Assets and the ASR Manager.

Notes:

- If your asset is running Solaris 11 and if you are planning to make the ASR Manager the endpoint URL, then ensure the designated HTTP(S) port is open to the ASR Manager.
- If your asset is running Solaris 11 and if you are planning on a direct connect back to Oracle, then ensure connectivity with the following command:

```
telnet transport.oracle.com 443
```

2. Ensure that ASR Assets can send SNMP telemetry data out on port 162 to the ASR Manager.

Note: If your asset is running Solaris 11, then ensure it can send HTTP(S) telemetry data to the ASR Manager port configured.

3. Ensure that the ASR Manager can communicate with ASR Assets, via http, using port 6481.

Note: If your ASR Asset system is running Solaris 11, then this step is not required.

Check and make note of the ASR Asset IP address:

```
ifconfig -a
```

If working with a system that has a service processor, such as Blade systems and some T and X-series systems, obtain the service processor and/or the chassis IP address. These will be required for ASR installation.

1.3.5 Telemetry Requirements

An integral component to ASR functionality is the hardware telemetry sources resident on your ASR Assets. Depending upon your hardware type, you will have one or more hardware telemetry sources resident on your system. To determine the telemetry source for your ASR Asset, see the list of qualified hardware at:

<http://www.oracle.com/technetwork/systems/asr/documentation/index.html>

Once you find your specific hardware in the list:

1. In the columns titled **Telemetry Source on: SERVICE PROCESSOR** and **Telemetry Source on: HOST**, you will see the telemetry sources that are on your system. As indicated, some telemetry sources reside on a service processor (dedicated hardware), and others reside on the host itself. It is also common for some systems to have multiple telemetry sources.
2. Make a note of the telemetry sources on your system for later use in the installation process (for example, ILOM, FMA, XSCF, etc.).
3. If the telemetry sources have a **Note** indicator, review the note at the bottom of the table and make note of the requirements for that telemetry source. Keep the following in mind:
 - Any Solaris operating system or patch requirements should have been completed. Refer to "[Operating System Requirements](#)" on page 1-4, if necessary.
 - In some cases, the telemetry software must be upgraded for ASR. In other cases, the telemetry source requires a dedicated network connection.
 - In some cases, multiple telemetry sources cannot run together on the same system.

1.3.5.1 Telemetry Sources Overview

1. **Fault Management Architecture (FMA):** FMA is a capability in Solaris 10 and 11 that automatically diagnoses, isolates, and recovers from many hardware and application faults. As a result, business-critical applications and essential system services can continue uninterrupted in the event of software failures, major hardware component failures, and even software misconfiguration problems.
 - Solaris 10 can be configured to send SNMP traps to the ASR Manager.
 - Solaris 11 can be configured to send events to the ASR Manager via http(s) using the Solaris `asradmin` command via the `asr-notify` service.
2. **Integrated Lights Out Manager (ILOM):** ILOM is embedded into some platforms and comes with dedicated network and serial ports to provide remote

management, configuration, and telemetry reporting. ILOM reports power and environmental problems as well as CPU and memory faults on certain servers.

Note: Beginning with ASR 4.1, ILOM telemetry supports the SNMP v3 security protocol. SNMP v3 provides security (encryption and authentication) for any communication between an ASR Asset and OASM.

If your environment requires SNMP v3 to use the Oracle ASR service, you will need to configure both ASR Manager and any ASR Assets. See [Configure ASR Manager for SNMP v3](#) and [Set Up SNMP v3 for ASR Assets \(Optional\)](#) for more information.

3. **M-Series Extended System Control Facility (XSCF):** XSCF incorporates a service processor separate from all other processors. XSCF regularly monitors server components including CPU, memory, disks, fan rotation and device temperatures.
4. **The Oracle Hardware Management Pack (OHMP):** OHMP allows ILOM events to be captured by the Host and forwarded through the Host network connection. OHMP is a telemetry source for T5xxx and some x64 servers.

1.4 My Oracle Support Requirements

My Oracle Support provides an interface to the ASR service that allows you to:

- Complete the activation of ASR Assets.
- View and update any Service Requests generated from ASR.

All ASR Assets must be associated with a Support Identifier, which includes contact information to notify you when a Service Request is generated. You can also view all hardware assets associated with your support identifier.

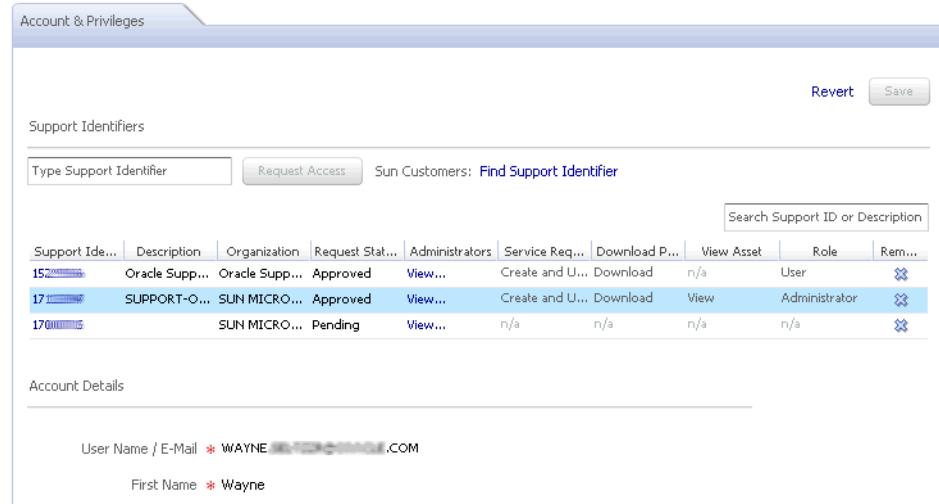
To install the ASR software components, you must provide a valid My Oracle Support login name in order to validate key information about the systems targeted for ASR installation (for example, serial numbers).

1.4.1 Request Support Identifier Access in My Oracle Support

With Oracle Premier Support, a support contract is composed of one or more support identifiers. Each support identifier can cover one or more hardware assets. You **must** have the appropriate account access before you can complete any ASR installation. Only the Customer User Administrator (CUA) can approve an ASR Asset.

To request access to your support identifier:

- Log in to My Oracle Support (<https://support.oracle.com>). Note that your Oracle Single-Sign On user name is your e-mail address. You can register if you are a new user.
- In the My Oracle Support Dashboard, select **Settings** from the menu.
- In the Settings pane on the left, select **Account & Privileges** (located under the Personal submenu). Information about your account and access privileges will display:



- If you already have the support identifier number, enter it in the field and click the **Request Access** button. If you do not know your support identifier, click **Find Support Identifier** to perform a search. You can search on:
 - The hardware system serial number
 - Organization
 - Existing Sun Contract number
- Access requests are sent to the account administrator to approve. Once approved, you will be able to view information about the assets associated with your support identifier.

1.4.2 Oracle Partner Network (OPN) Partners and ASR

If support services for your ASR assets are provided by an Oracle Partner, the Partner is responsible for ASR activation in My Oracle Support. When ASR detects a fault, only the Partner is notified of the problem.

Note: ASR will generate a technical Service Request (not draft) if support services are provided by an Oracle Support Provider Partner for Oracle Engineered Systems (excluding Oracle Database Appliance). For more information about Oracle Engineered Systems, see:

<http://www.oracle.com/us/products/engineered-systems>

Contact your Oracle Support Provider Partner for details.

The Partner's My Oracle Support account *must* have access to their respective partner Customer Support Identifier (CSI) associated with the asset and must have administrator privileges. This will enable the account to manage the assets of the customer CSIs associated with the Partner CSI.

The Partner has the responsibility to:

- Use My Oracle Support to:

- Assign contacts to ASR assets. The contact must be a member of the Partner's organization, and the MOS account must be associated with the Partner's CSI.
 - [optional] Assign distribution e-mail addresses to ASR assets. This can be used to send ASR e-mail notifications to an e-mail list maintained by the Partner.
 - Activate ASR assets.
 - Maintain ASR asset information.
- Provide a My Oracle Support username and password to register the ASR Manager, using a Partner e-mail address.
 - Provide service to their customers when ASR detects problems.

You can use My Oracle Support to view ASR asset status, but you cannot edit the ASR asset information.

2

Oracle ASR Manager

The ASR Manager is a system that centrally accepts hardware telemetry data sent from a group of ASR Assets. The ASR Manager filters the incoming data and forwards potential fault telemetry to Oracle/ASR Backend systems.

This chapter explains how to install the software necessary for an ASR Manager, which must be installed first before ASR Assets. Installing the ASR Manager consists of the following tasks:

1. [Install Software](#)
2. [Register the ASR Manager](#)

Note: Once you have registered the ASR Manager, many ASR features are enabled by default (such as, [Using Auto Update to Upgrade Oracle ASR](#)). See [ASR Environment Administration](#) for information on customizing your ASR environment.

Depending on your hardware and network configuration, you may be required to complete the following optional tasks to complete your ASR Manager installation:

- [Enable HTTP Receiver for ASR Manager Relay, Solaris 11, and VOP](#)
- [Configure ASR Manager for SNMP v3](#)
- [ASR Manager and High Availability](#)

2.1 Install Software

This section provides instructions for installing the appropriate software for the ASR Manager:

- [Install OASM](#)
- [Install ASR](#)

Note: You can specify an ASR Manager to be monitored as an ASR Asset. If the ASR Manager that you want to monitor as an ASR Asset is running Solaris 10, then Services Tools Bundle must be installed. See [Install Services Tools Bundle \(STB\)](#) for more information.

STB is not a requirement for all systems. For example:

- If your ASR Manager system is running Solaris 11, the installation of STB is not required. See [Enable HTTP Receiver for ASR Manager Relay, Solaris 11, and VOP](#).
 - If your system is using only a service processor-based telemetry source (ILOM, or XSCF on M-Series), STB does not need to be installed.
-

2.1.1 Install OASM

Follow the procedure below to install OASM.

Note: OASM is installed on the ASR Manager system only, not ASR Assets.

See [Oracle Automated Service Manager \(OASM\) Requirements - ASR Manager Only](#) for information on the supported versions of OASM.

1. Once the file(s) are downloaded, go to the download directory, or other directory where you copied the .zip file(s), and unzip the file(s). Be certain that the file(s) are copied to an installation directory on the system where the ASR Manager is to be installed before unzipping them.
2. Open a terminal window and make sure you are logged in to the ASR Manager system as **root**.
3. From the directory where you unzipped the OASM package, install the OASM package using the following command:
 - For Solaris, run: `pkgadd -d SUNWsasm.version_timestamp.pkg`
 - For Linux, run: `rpm -i SUNWsasm.version_timestamp.rpm`
4. As the installation progresses, you are prompted to make several selections. Use the list below to determine how to respond to the installation prompts:
 - When prompted: ". . . install all packages," press **[Return]**.
 - When prompted: ". . . install conflicting files," enter **Y**.
 - When prompted: ". . . scripts will be executed with super-user permission during the process of installing this package," enter **Y**.
5. Once the installation completes successfully, continue to "[Install ASR](#)".

Run the following command to get the status of the OASM process ID (PID):

- For Solaris: `svcs sasm`
- For Linux: `service sasm status`

Note: OASM requires Java 7 or later. If you have an incorrect or older version of Java, you will receive an error message when you try to run the ASR Manager. See [Resolve ASR Manager Java Path Location in config.ini File](#) for instructions to correct this issue.

2.1.2 Install ASR

Follow the procedure below to install the ASR package on the ASR Manager system.

1. Open a terminal window and make sure you are logged in to the ASR Manager system as root.
2. Verify that OASM is running. To get the status of the OASM process ID (PID):
 - For Solaris, run: `svcs sasm`
 - For Linux, run: `service sasm status`
 If OASM is not running, then start it with:
 - For Solaris, run: `svcadm enable sasm`
 - For Linux, run: `service sasm start`
3. From the directory where you unzipped the ASR package, install the ASR package using the following command:
 - For Solaris, run: `pkgadd -d SUNWswasr.version_num.pkg`
 - For Linux, run: `rpm -i SUNWswasr.version_num.rpm`
4. As the installation progresses, you are prompted to make several selections. Use the list below to determine how to respond to the installation prompts:
 - When prompted: “. . . select all packages to process,” press **[Return]** to select all packages.
 - When prompted: “. . . install conflicting files,” enter **Y**.
 - When prompted: “. . . scripts will be executed with super-user permission during the process of installing this package,” enter **Y**.
5. Add the `asr` command to the `PATH` environment variable. This update would be made to the root user’s `.profile`, `.cshrc`, `.kshrc`, or `.bashrc` files as needed (for both Solaris and Linux):


```
PATH=$PATH:/opt/SUNWswasr/bin
export PATH
```
6. To confirm proper network connectivity between the ASR Manager and Oracle, go to [Test Connectivity from the ASR Manager to Oracle](#). When complete, continue to [Register the ASR Manager](#).

2.2 Register the ASR Manager

Follow the procedure below to register the ASR Manager (for both Solaris 10u6, Solaris 11, and Linux systems). Make sure you are logged in to the ASR Manager system as root.

Note: If you are upgrading your ASR Manager installation, then you do not need to re-register.

1. Log in to the ASR console:

- If you have not set your PATH environment variable, run:

```
/opt/SUNWswasr/bin/asr
```

Note: See [Install ASR](#) for instructions for setting the PATH environment variable.

- If you have set your PATH environment variable, run:

```
# asr
```

2. To register the ASR Manager:

```
asr> register
```

Note: If you are registering the system with an ASR Manager Relay, see [Enable HTTP Receiver for ASR Manager Relay, Solaris 11, and VOP](#).

3. Enter proxy server details:

- If you are using a proxy server to access the internet, see the instructions in [Configure ASR Manager to Use a Proxy Server](#).
- If you are not using a proxy server, enter a hyphen: -

4. Enter the username and password of your My Oracle Support account when prompted.

5. Upon entry of your My Oracle Support credentials, ASR will validate the login. Once validated, the registration is complete.

6. Check the registration status of ASR:

```
asr> show_reg_status
```

A message is displayed on the screen indicating whether ASR is registered with the transport server.

7. To be sure that ASR can send information to the transport server:

```
asr> test_connection
```

This command sends a test message (ping) to the transport server.

8. Upon successful results of the above commands, the registration of the ASR Manager is complete.

Note: ASR Audit Logging is enabled by default, regardless if your ASR Manager is disabled or unregistered. See [ASR Audit Logging](#) for more details.

2.2.1 ASR Manager as an ASR Asset (Solaris Only)

An ASR Manager can be activated as an ASR asset, if it is qualified for ASR and entitled to service. In this case, you must select your ASR Manager from the list of qualified hardware (see <http://www.oracle.com/asr>). Once you install and register the ASR Manager as described in this chapter, complete the instructions in the Oracle ASR Assets chapter.

2.2.2 ASR Manager Support for Other Platforms

Because the ASR Manager no longer requires being installed on a device that is currently under an Oracle Service Contract and that the server has been qualified for ASR, you now have more flexibility regarding how you can install ASR. Some of the possibilities include:

- Local zone: for SPARC or x86 server running Solaris 10u6 or later

Note: If the ASR Manager is installed on a local zone, it is not possible to activate the ASR Manager as an ASR asset. If this is attempted, an error will be returned:

Asset cannot be activated due to unknown product name or serial number.

Instead, activate the global zone of the asset, for example:

```
asr> activate_asset -i <IP_address_of_the_global_zone>
```

- Logical domains: for SPARC servers running Solaris 10u6 or later
- x86 Server running Linux (see [Linux \(ASR Manager Only\)](#) for Linux versions supported)

Note: Linux runs on x86 servers, and logical domains are specific to Solaris SPARC servers.

- Windows 7/Windows XP:
 - VirtualBox running Solaris 10u6 or later
 - VirtualBox running Linux
- Installation on blade servers:

Before installing ASR Manager on a blade system, make sure the service svc:/milestone/multi-user-server status is online.

- To check the status of this service, run:

```
svcs svc:/milestone/multi-user-server
```

- If the state indicates maintenance, run:

```
svcadm clear svc:/milestone/multi-user-server
svcadm enable svc:/milestone/multi-user-server
```

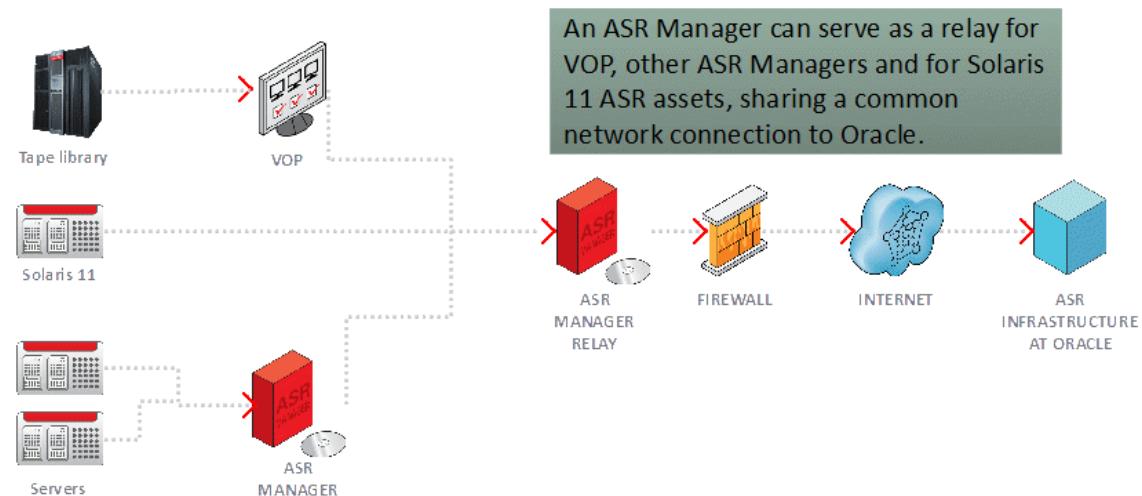
- If the state indicates disabled, run:

```
svcadm enable svc:/milestone/multi-user-server
```

2.3 Enable HTTP Receiver for ASR Manager Relay, Solaris 11, and VOP

The ASR Manager can be configured as a relay for other ASR Managers, Solaris 11 servers, and Virtual Operator Panel (VOP) for tape library products:

ASR Manager Relay



Solaris 11 includes the ability to send ASR fault events and telemetry to Oracle using xml over HTTP to the ASR Manager.

To enable this capability, use the `asr enable_http_receiver` command. Select a port for the HTTP receiver that is appropriate for your network environment and does not conflict with other network services. To show the current HTTP receiver configuration port and status, run:

```
asr> show_http_receiver
```

Follow the procedure below to configure the ASR Manager as a relay for other ASR Managers and Solaris 11 ASR Assets. Make sure you are logged in to the ASR Manager system as root.

1. After installing the ASR Manager, enable the HTTP receiver:

```
asr> enable_http_receiver -p <port_number>
```

Note: If the following error message appears:

Unable to determine the fully qualified domain name for this ASR Manager via DNS. Please refer to the Oracle ASR Installation and Operations Guide for troubleshooting information.

If DNS is not available, then set up the HTTP receiver manually. Edit the /var/opt/SUNWsasm/configuration/config.ini file with the following properties:

```
jetty.enable=true
jetty.host=<IP_address_of_ASR_manager>
jetty.http.port=<http_port>
```

After updating the file, restart OASM and test the HTTP receiver as described in step 2.

2. Verify the HTTP receiver is up and running. In a browser, go to:

```
http://<asr_manager_host>:<port_number>/asr
```

A message will display indicating that the HTTP receiver is up and running.

Note: If you need to disable the HTTP receiver, run:

```
asr> disable_http_receiver
```

If you need to use HTTPS for security purposes, you can set up HTTPS/SSL for the ASR Manager HTTP receiver:

1. The detailed steps for enabling https/SSL for Jetty are documented at <http://docs.codehaus.org/display/JETTY/How+to+configure+SSL>
2. Once the SSL certificate from a trusted authority is loaded into keystore, then add the following SSL connector in /var/opt/SUNWsasm/configuration/jetty/jetty.xml below the <Call name="addConnector"> sections:

```
<Call name="addConnector">
    <Arg>
        <New class="org.mortbay.jetty.security.SslSocketConnector">
            <Set name="Port">443</Set>
            <Set name="maxIdleTime">30000</Set>
            <Set name="keystore">/path/to/keystore</Set>
            <Set name="password">....</Set>
            <Set name="keyPassword">....</Set>
            <Set name="truststore">/path/to/keystore</Set>
            <Set name="trustPassword">....</Set>
        </New>
    </Arg>
</Call>
```

Passwords above can be plain text or obfuscated as follows:

```
java -classpath lib/jetty-6.1.7.jar:lib/jetty-util-6.1.7.jar
org.mortbay.jetty.security.Password <plaintext-password>
```

Then copy/paste the output line starting with OBF : (including the OBF : part) into this jetty.xml config file.

3. Restart OASM:
 - Solaris: svcadm restart sasm
 - Linux: service sasm restart
4. Verify the SSL setup by accessing the following URL from a browser:

```
https://<asr_manager_host>/asr
```

Even though an ASR Asset communicates its telemetry to one ASR Manager only, you can set up an ASR Manager to serve as a relay for other ASR Managers by sharing a common network connection to Oracle Support:

1. Verify the HTTP receiver is enabled:

```
asr> show_http_receiver
```

Output should look like this:

```
HTTP Receiver configuration:
```

```
HTTP Receiver Status: Enabled  
Host Name: asrmanager1.mycompany.com  
HTTP Port: 8777  
HTTPS/SSL configuration is not enabled.
```

2. To register an ASR Manager or Solaris 11 server with ASR Manager Relay:

- On the ASR Manager machine, run:

```
asr> register -e http://asrmanager1.mycompany.com:8777/asr
```

- On a Solaris 11 server, run:

```
asradm register -e http://asrmanager1.mycompany.com:8777/asr
```

3. Test the connection:

```
asr> test_connection
```

Output should look like this:

```
Connecting to ASR manager relay URL http://asrmanager1.mycompany.com:8777/asr  
Connectivity test to ASR manager relay completed successfully.
```

2.4 Configure ASR Manager to Use a Proxy Server

As part of the registration process for ASR Manager, you can optionally set the ASR Manager to access the internet through a proxy server.

In the step for proxy server settings, enter the proxy server information as you determined in [Network Connection Requirements](#). If you are not using a proxy server, enter: - (hyphen).

Note: If you are using a SOCKS proxy, enter the hyphen - for no proxy. When completed with the steps in this procedure, manually edit the OASM config.ini file with your SOCKS proxy server information. For instructions, refer to [Configure ASR to Send HTTPS Traffic Through a Proxy Server](#).

If you are using an NTLM proxy, pay close attention to the requirements as shown in the installation prompts (shown below). You may have to contact a network administrator for assistance.

Screen output should look like this:

```
Proxy server name: ? <proxy server name>
Proxy port number: ? <proxy port number>
Proxy authentication; if authentication is not required, enter -.
Proxy user: <proxy user name>
Proxy password: <proxy password>
If this is an NTLM type proxy, enter the information below.
Otherwise, enter -
NTLM Domain: [?] <NTLM domain name>
Enter the host the NTLM authentication request is originating
from. Usually this is the hostname of the SASM server.
NTLM Host: [?] <NTLM host name>
NTLM support is not bundled with SASM but may be added now.

1) Download jcIFS from http://jcifs.samba.org/
2) Extract contents and locate the jcifs-*.jar file
3) Enter full path to this file below

jcIFS jar file: [?] <full path of jcIFS jar file>
Note: These properties are stored in the
/var/opt/SUNWsasm/configuration/config.ini file. You can update these properties
if needed and then restart the SASM.
```

2.5 Configure ASR Manager for SNMP v3

The minimum required ILOM version for SNMP v3 support is ILOM 3.0.16 and later.

Note: If ILOM is not your telemetry source, then skip this section.

Beginning with ASR 4.1, ILOM telemetry supports the SNMP v3 security protocol. SNMP v3 provides security (encryption and authentication) for any communication between an ASR Asset and OASM.

To configure your designated ASR Manager to allow ASR Assets to use SNMP v3 through ILOM, you must create an SNMP v3 user:

1. Create an SNMP v3 user:

```
asr> add_snmpv3_user -u userName -e engineId[,engineId2, ...] -pp
privacyProtocol
```

Note: ASR Manager supports adding multiple engine IDs (separated by comma) to the SNMP v3 user. The engine ID must match with the ILOM engine ID from ILOM Service processor. To view the ILOM engine id, run the following command from the ILOM Service Processor:

```
show /SP/services/snmp
```

For more information, see the [Set Up SNMP v3 for ASR Assets \(Optional\)](#) section.

You will be prompted to create both authentication and privacy passwords.

2. Show the SNMP v3 user:

```
asr> show_snmpv3_user
```

Running this command displays the SNMP v3 user name, engine IDs, and authentication and privacy protocols (algorithms). Passwords are not displayed.

Notes:

- ASR Manager only supports the SHA protocol for authentication and the AES protocol for privacy and encryption.
 - ASR Manager supports only one SNMP v3 user at this time. Multiple SNMP v3 users are not currently supported.
-

Once you have created the SNMP v3 user, you must configure the ASR Assets that use ILOM for a telemetry source to use SNMP v3. See [Set Up SNMP v3 for ASR Assets \(Optional\)](#) for more information.

Other options for managing the SNMP v3 user on the ASR Manager include:

- Validate the authentication and privacy passwords of the SNMP v3 user:

```
asr> validate_snmpv3_user
```

You will be prompted to enter both authentication and privacy passwords.

- Delete the SNMP v3 user:

```
asr> delete_snmpv3_user
```

You will be prompted to continue with the deletion. Enter Y to delete.

- Add/delete the engine ID:

```
asr> add_engine_id -e engineId[,engineId2, ...]
asr> delete_engine_id -e engineId[,engineId2, ...]
```

- Enable/disable SNMP v1 and v2c:

```
asr> enable_snmpv1v2c : enable SNMPv1/v2c
asr> disable_snmpv1v2c : disable SNMPv1/v2c
```

2.6 ASR Manager and High Availability

[Appendix B, "Other ASR Manager Administration"](#) describes how to set up the ASR Manager in a high availability environment.

3

Oracle ASR Assets

ASR Assets are qualified systems that are configured to report its hardware telemetry to an ASR Manager. For a complete list of hardware qualified for ASR, see:

<http://www.oracle.com/technetwork/systems/asr/documentation/index.html>

This chapter provides the instructions to configure ASR Assets running Oracle Solaris. Keep in mind that an active ASR Manager must be installed before configuring ASR Assets. Configuring an ASR Asset involves the following steps:

- [Verify Assets in My Oracle Support](#). Your ASR Assets must be associated with a Support Identifier in My Oracle Support.
- [Install Software - Solaris 10 Only](#). For ASR Assets running Solaris 10, you may need to install Services Tools Bundle.
- [Enable Telemetry Sources](#).
- [Activate ASR Assets](#).
- [Approve ASR Assets in My Oracle Support](#).

3.1 Verify Assets in My Oracle Support

Once you have access to your appropriate support identifier, you can review all hardware assets associated with it. To view all assets associated with your support identifier:

- Log in to My Oracle Support (<https://support.oracle.com>).
- In the My Oracle Support Dashboard, click the “Systems...” tab. Then select “Settings” from the menu.
- In the “Settings” pane on the left of the window, select “Assets” (located under the Administrative submenu). All assets associated with your support identifier will display.
- The last column of the table shows the asset’s “ASR Status.” There can be four values for this field:
 - **Active:** ASR is active for this asset.
 - **Inactive:** the asset has the correct ASR software installed, but it is not active. Assets can be set to “inactive” for any number of reasons (e.g., asset maintenance, patch updates, contract expiration).
 - **Pending:** the asset has the correct ASR software installed, but has not yet been enabled (see [“Approve ASR Assets in My Oracle Support”](#)).

- [Empty]: The asset has not sent an ASR activation request to Oracle.

You can view information about a particular asset, and in some cases, you can update information about the asset. To view the information, click the asset's serial number. You can update the following content:

- **Asset Name:** you can give the asset an alias to help system administrators readily identify a particular system. This option can be useful if there are many qualified assets associated with the support identifier or if you want to specifically call out an ASR Master system.
- **Contact Name:** the name of the person responsible for the particular machine. This name should be either a system administrator, primary developer, etc. All assets configured for ASR must have a contact name. An asset cannot be enabled without this information. The Contact's Customer Support Identifier must be approved in My Oracle Support in order for the Contact to view assets.
- **Address:** the address fields should indicate the location of the asset.

Note: For more information on how to use My Oracle Support, click the Help link in the upper-right-hand corner.

3.1.1 Access ASR Assets With My Oracle Support Message Center

My Oracle Support includes a Message Center to show when a user action is required. If you have the correct association to a support identifier, then you will receive a message when the following ASR actions are required:

- Show Assets with ASR 'No Heartbeat' Issue
This message indicates a network or connection problem with the ASR Asset.
- Approve ASR Assets
As new qualified hardware is associated with a support identifier, they need to be approved to be ASR Assets. This message shows when an ASR Asset is awaiting approval. The ASR service will not be enabled for the asset until it is approved in My Oracle Support.

3.2 Install Software - Solaris 10 Only

If your ASR Assets are running Solaris 10, then you will need to install Services Tools Bundle (STB) to enable ASR telemetry. Also, if your ASR Asset does not use ILOM for telemetry, you will need to use the `asrassetmenu.sh` script, which is included in the ASR Asset Bundle, to configure the asset.

- [Install Services Tools Bundle \(STB\)](#)
- [Install ASR Asset Bundle](#)

Note: If your ASR Asset system is running Solaris 11, then you can skip this section. See [Activate and Register ASR Assets for Solaris 11 Systems](#).

3.2.1 Install Services Tools Bundle (STB)

STB is a tool set that helps ASR obtain required information from each ASR system before you can activate them, such as obtaining the system's serial number from firmware. Follow the instructions below to install STB.

Note: If your ASR Asset system is running Solaris 11, then STB is not required to enable ASR telemetry. However, STB is required to enable Oracle Proactive Services.

1. Download and untar the STB bundle that is appropriate for your platform. See "[Services Tools Bundle Requirements - Solaris 10 ASR Assets Only](#)" on page 1-6 for more information.
2. On the system where ASR is to be installed, open a terminal window and log in as root.
3. Run the `install_stb.sh` script. You may have to change shells to `sh` if the file does not execute. Also, you may have to set execute permissions on the file, as shown below:

```
sh
chmod +x install_stb.sh
./install_stb.sh
```

Note: STB will install all applications bundles by default. You can downgrade applications when invoked with the `-force` option in non-interactive mode. Run `install_stb.sh -?` to view all installation options.

4. STB version 6.0 and higher defaults to installing all tools, a "yes" (y) response is already selected for you. As the installation progresses, you will be prompted for confirmation that you wish to install the tools.

When prompted: "Would you like to (I)nstall, (X)tract component selections, or (E)xit," press [Enter].

5. To confirm that STB is installed correctly, and that it is reporting your system's serial number correctly, run:

```
sneep -a
```

If the serial number for your system is incorrect, contact Oracle Support to resolve this problem.

6. Run the following command to be sure that STB is reporting your system attributes correctly:

```
stclient -Ex
```

7. Be sure that the following attributes are reporting as indicated:

- `<agent_version>` must be **5.2** or above
- `<system>` must be **SunOS**
- `<platform>` must be your platform type
- `<serial_number>` must be the serial number of your system

- <product_name> must be **Solaris Operating System**
 - <container>global
 <source> must be **SUNWstosreg**
 - <container>global
 <source> must be **SUNWsthwreg**
8. If you are not getting the correct data, re-install STB.

3.2.2 Install ASR Asset Bundle

Note: If your ASR Asset does not require Solaris 10 FMA fault telemetry or uses XSCF (see [Enable M-Series XSCF Telemetry](#)), then skip this section.

The ASR Asset Bundle includes the `asrassetmenu.sh` script used to configure an SNMP trap host for Solaris 10 FMA on assets requiring this fault telemetry. If your asset does not require this fault source, then it does not need to be installed. To access the bundle:

1. Open a terminal window and log in as root on the system where the ASR Manager is installed.
2. Go to `/opt/SUNWswasr` and copy the `ASRAAssetBundle.version_num.tar` file to all systems that will be ASR Assets. You can copy the file to an NFS location or use a provisioning tool to distribute the file to a group of assets. Copy the ASR Asset Bundle file to any directory on the system, such as `/opt` or `/tmp`.
3. On each ASR Asset, open a terminal window and log in as root.
4. Go to the directory where you copied the ASR Asset Bundle file and unzip and untar the file:

```
tar -xvf ASRAAssetBundle.[version_num].tar
```

3.3 Enable Telemetry Sources

These procedures enable telemetry sources on your ASR Assets to send telemetry data to Oracle through the ASR Manager. You should have already verified what telemetry sources reside on the system, as explained in ["Telemetry Requirements"](#) on page 1-8. Depending upon what telemetry sources reside on your system, complete one or more of the following procedures:

- [Enable FMA Telemetry for Solaris 10 ASR Assets](#)
- [Enable FMA Telemetry for Solaris 11 ASR Assets](#)
- [Enable ILOM Telemetry](#)
- [Enable M-Series XSCF Telemetry](#)
- [Enable Fujitsu M10 XSCF Telemetry](#)

Note: If you want to use the ASR Manager as an asset, too, then telemetry reporting will need to be configured.

If you have completed installing the ASR Manager and need to set-up telemetry reporting on the ASR Manager, go to "[Telemetry Requirements](#)" on page 1-8.

3.3.1 Enable FMA Telemetry for Solaris 10 ASR Assets

1. Make sure you are logged in as `root` on the system whose telemetry you wish to enable. This could be either an ASR Manager or an ASR Asset system.
2. Go to the directory where you untarred the Asset Bundle file, and then go to the specific ASR Asset Bundle directory. For example:
 - On an ASR Asset: `cd /file_copy_location/asrassetbundle`
 - On an ASR Manager: `cd /opt/SUNWswasr/asrassetbundle`
3. Launch the ASR Asset menu. Run `./asrassetmenu.sh` to display the menu:


```
Welcome to the ASR asset menu
-----
1) Check system for ASR qualifications
2) Add a trap-destination to SunMC agent
3) Add a trap-destination to FMA agent
4) Remove a trap-destination from SunMC agent
5) Remove a trap-destination from FMA agent
6) List SunMC agent trap-destinations
7) List FMA agent trap-destinations
8) Test event to verify ASR connectivity
9) Exit
```
4. Select 3 to enable FMA telemetry. Respond to the script's prompts as follows:
 - When prompted, "Please enter Hostname or IP address of SASM ASR plugin," enter the information for the ASR Manager. Whether you are enabling telemetry on the ASR Manager system or on ASR Asset systems, the hostname or IP entered **must be for the installed ASR Manager**.
 - When prompted, "Please enter SNMP port of SASM ASR plugin (q to quit) [162]," press **[Return]** or enter another port if you have changed your port settings for ASR
 - When prompted, "Do you want to set trap-destination [y,n,q]," confirm the displayed information, enter **Y**, and press **[Return]**.
5. The ASR Asset Menu then enables the telemetry and displays where the telemetry from this system will be sent (IP or hostname of the ASR Manager).
6. Repeat for all ASR Assets.

3.3.1.1 Command Line Options for Setting Solaris FMA Trap Destinations

You can incorporate ASR Asset configuration into your automated provisioning process. The `asrassetmenu.sh` script now includes command line options for setting Solaris FMA trap destinations. To set a Solaris FMA trap destination from the command line:

```
asrassetmenu.sh -solaris [destination_IP_address] [port_number]
```

The `asrassetmenu.sh` script will exit with an error status value for any of these conditions:

- `[destination_IP_address]` not provided
- `[port_number]` not provided
- Trap destination unable to be set

3.3.1.2 Change Default FMA SNMPget Port and community String

FMA telemetry sources (including Solaris 10) are configured to send SNMP traps to the ASR Manager when faults occur. The ASR Manager then queries the asset for fault event details using `SNMPget` using default port and SNMP community string. The port and community string can be changed **for all assets**.

To show the existing FMA enrichment port:

```
asr> get_property snmp.request.port
```

To change the port:

```
asr> set_property snmp.request.port <port_number>
```

To show the community string:

```
asr> get_property snmp.request.community
```

To change the community string:

```
asr> set_property snmp.request.community <community_string>
```

For the changes to take effect, you must restart ASR:

```
asr> stop  
asr> start
```

3.3.2 Enable FMA Telemetry for Solaris 11 ASR Assets

Configuration and activation of Solaris 11 ASR Assets are performed concurrently. See [Activate and Register ASR Assets for Solaris 11 Systems](#).

3.3.3 Enable ILOM Telemetry

To enable ILOM telemetry, it must first be set up, configured, and confirmed. Do not continue with the installation unless you have confirmed the initial ILOM set-up. You will need the ILOM service processor IP address to enable ILOM telemetry. Enabling ILOM telemetry involves the following steps:

- [Set Up ILOM](#)
- [Confirm ILOM](#)
- [Set Up SNMP v3 for ASR Assets \(Optional\)](#)
- [Set Up ILOM Sideband Management \(Optional\)](#)
- [Set Up OHMP \(Optional\)](#)
- [Enable ILOM: GUI Interface](#)
- [Enable ILOM: Command Line Interface](#)

3.3.3.1 Set Up ILOM

For complete details on configuring ILOM to send telemetry information, refer to your ILOM documentation.

ILOM requires a network connection/route to the ASR Manager system. If you know that ILOM is already set-up and connected to the network, continue to the next step. Otherwise, continue with the tasks below.

1. A network connection must be made from the Net Management port on the system's service processor (SP) to the network.
2. An IP address must be assigned to the Net Management port. Obtain and make note of this IP address for later use in the installation.
3. For some systems, ILOM can be connected using Sideband Management. ILOM Sideband Management allows the same ILOM IP address to be used, but it is routed through one of the host Ethernet ports, thus eliminating the need for the physical connection to the ILOM Net Management ports. If you want to configure your ILOM system for Sideband Management, go to "[Set Up ILOM Sideband Management \(Optional\)](#)". When complete, return and continue with the following instructions.
4. If it is not possible to connect to the ILOM network port and your system does not support Sideband Management, OHMP telemetry can be configured on the host to generate telemetry for ILOM-diagnosed faults.

3.3.3.2 Confirm ILOM

Refer to the list of qualified servers to determine if the version of ILOM running on your platform is supported by ASR.

- Use ssh to the IP address of the ILOM network interface and log in as root.

```
ssh [IP_Address_of_ILOM_Interface]
```
- Run the following command:

```
show /SP
```

or

```
version
```

Note: If the product version is earlier than 2.x, upgrade it now to the latest ILOM version using your ILOM documentation for instructions.

3.3.3.3 Set Up SNMP v3 for ASR Assets (Optional)

Beginning with ASR 4.1, ILOM telemetry supports the SNMP v3 security protocol. SNMP v3 provides security (encryption and authentication) for any communication between an ASR Asset and OASM.

The minimum version of ILOM that supports the AES privacy protocol for SNMP v3 is ILOM 3.0.16 and later.

1. Log in to the ILOM service processor as root and change to the snmp directory:

```
cd /SP/services/snmp
```
2. Set a value for the engine ID:

```
set engineid=<engineId>
```

For example:

```
set engineid=engineid1234
```

Note: The value of `engineid` must be 25 characters or less.

To configure your qualified ASR Assets to use SNMP v3 with ILOM telemetry:

1. Verify your ILOM service processor can support SNMP v3. Log in to the ILOM service processor IP as `root`. Run the `version` command.

The ILOM version must be **3.0.16** or later to use SNMP v3.

2. Create an SNMP v3 user:

```
cd /SP/services/snmp/users
create <UserName> authenticationprotocol=SHA authenticationpassword=<password>
privacyprotocol=AES privacypassword=<password>
```

This user is the same created in "[Configure ASR Manager for SNMP v3](#)".

3. Set SNMP v3 to send telemetry to the ASR Manager:

```
cd /SP/alertmgmt/rules/<x>
```

Where `<x>` is the alert rule slot. Refer to "[Enable ILOM: Command Line Interface](#)" to find the specific alert rule slot of your ILOM.

```
set type=snmptrap level=minor destination=<ASR Manager IP address> destination_
port=162 community_or_username=<SNMP v3 user name> snmp_version=3
```

4. See "[Create Test Alert - ILOM](#)" to test the configuration.
5. Verify that the test alert is received to the ASR Manager. Check for the test alert in the ASR Manager log file:

```
/var/opt/SUNWsasm/log/sw-asr.log.0
```

Check that you have received the test Service Request confirmation e-mail. See "[ASR Service Request E-mail Examples](#)" for examples of Service Request e-mail.

3.3.3.4 Set Up ILOM Sideband Management (Optional)

ILOM Sideband Management allows ILOM telemetry to be routed through a Host Ethernet port. This shared connection using the Host Ethernet port eliminates the physical connection required for the ILOM Net Management port.

Note: Connection to the service processor using `ssh` or the web interface may be lost during configuration of Sideband Management.

The default ILOM network connection is through the Service Processor's dedicated network port.

Note: ILOM Sideband Management is currently available for specific Oracle x64 and CoolThreads servers. See the list of hardware qualified for ASR for more information:

<http://www.oracle.com/technetwork/systems/asr/documentation/index.html>

1. Log in to the host and confirm the mac address:

```
# ifconfig -a
```

Note: Make sure to set the ILOM port to a connected and configured Host Ethernet port. The mac address obtained from the host is the Ethernet port that should be used.

2. Log in to ILOM and configure ILOM trap destination to the ASR Manager. See "[Enable ILOM: GUI Interface](#)" or "[Enable ILOM: Command Line Interface](#)" for details.
3. Configure the ILOM for Sideband Management; select the Configuration tab and then the Network tab.
4. Select the ILOM Sideband Management Port by using the drop-down list to activate the desired management port. The drop-down list allows the user to change to any of the four Host Ethernet ports /SYS/MB/NETx, where x is 0 to 3.
5. Click **Save** for the changes to take effect.

3.3.3.5 Set Up OHMP (Optional)

The Oracle Hardware Management Pack (OHMP) allows ILOM events to be captured by the Host and forwarded through the Host network connection. This eliminates the need to network the Service Processor. The host must be configured and activated for ASR to properly forward ILOM telemetry.

Note: The OHMP for ASR is only available for certain systems using Solaris 10. For more information about specific systems visit the Oracle ASR product page (<http://www.oracle.com/asr>).

The host must be activated for ASR and trap destinations configured.

1. Configure the host trap destination to the ASR Manager as described in "[Enable FMA Telemetry for Solaris 10 ASR Assets](#)".
2. Download and install the latest Oracle Service Hardware Management Pack. To download OHMP:
 - a. Login to My Oracle Support (<https://support.oracle.com>).
 - b. Click the **Patches & Updates** tab.
 - c. In the Patch Search pane, click **Product or Family** (Advanced Search).
 - d. Enter **Oracle Hardware Management Pack** in the Product field.
 - e. In the Release drop-down menu, select the release of OHMP you want to download and click the **Search** button.
 - f. In the Search Results, click the **Patch ID** number that corresponds to your operating system (the applicable operating system is shown in the Patch description).
 - g. In the patch description, click the **Download** button to download the patch
3. Use the *Oracle Hardware Management Pack Installation Guide* to install OHMP. Please note the reference to CR 6977584 (Unix Installer Issue) in the Installation Issues

section of the manual. When using the OHMP installer, if the installation aborts, it is likely to be due to this defect. There are two workarounds for this defect:

- a. Use the command `unsetenv DISPLAY` to unset the `DISPLAY` variable before running the installer. The `unsetenv` command runs in the C shell.
- b. Install the required components of OHMP manually rather than using the OHMP installer. The procedure for manual component installation is included in the *Oracle Hardware Management Pack Installation Guide*. The packages required to support OHMP telemetry are:

```
ORCLhmp-libs  
ORCLhmp-snmp  
ORCLhmp-hwmgmt
```

3.3.3.6 Enable ILOM: GUI Interface

ASR installers have the choice of using a web-based GUI or a command-line interface to enable ILOM telemetry. Follow the procedure below for the GUI method. If command-line is desired, go to "["Enable ILOM: Command Line Interface"](#)".

Note: If using OHMP, then skip this section.

1. From a web browser, access the IP address of the ILOM interface (note: `https://IP_Address_of_ILOM_Interface`)
2. Log in as root.
3. From the menu, select **Configuration**, then select **Alert Management**.

Note: If using ILOM on a Sun Blade 6000 series, select CMM from the left navigation pane, then select **Configuration**, and **Alert Management**.

4. The Alert Setting screen lists 15 possible Alert IDs that can be configured to send ILOM telemetry. Alert ID slots that are occupied by existing alert settings are shown along with their alert parameters. Choose an Alert ID that is not used by selecting the radio button next to the Alert ID number.

Note: Unused Alert IDs are mainly indicated by the disable setting in the **Level** column and by all zeros in the **Destination Summary** column.

5. Select **Edit** from the **Actions** pull-down menu.

Note: If using ILOM on a Sun Blade 6000 series, select the **Edit** button from the top of the screen.

6. Enter data in this screen as follows:

- **Level:** Select **Minor** from the pull-down menu. If removing an ILOM trap, select **Disable**.
- **Type:** Select **SNMP Trap** from the pull-down menu.

- **IP Address:** Enter the IP Address of the ASR Manager system.
- **Destination Port:** Set to port 162. For ILOM versions 2.0.4.2 or lower, the port cannot be changed from the default (162).
- **SNMP Version:** Select v2c from the pull-down menu.

Note: If you are using ILOM 3.0.16 or above and want to enable SNMP v3, refer to "["Set Up SNMP v3 for ASR Assets \(Optional\)"](#)".

- **Community Name:** Enter **public** in the text entry field.
7. Click the **Save** button.
 8. Repeat for each ASR Asset required for ILOM telemetry.

If you have enabled all telemetry sources on an ASR Asset system, go to "["Activate ASR Assets"](#)".

3.3.3.7 Enable ILOM: Command Line Interface

Follow these ILOM command line procedures below to enable ILOM telemetry. If you used the GUI method, as described in the previous procedure, you do not need to complete these steps.

Note: If using OHMP, then skip this section.

1. Open a terminal window and ssh to the IP address of the ILOM network interface:
`ssh IP_address_of_ILOM_interface`
2. Log in as `root`.
3. Before enabling ILOM telemetry, it is important to understand that ILOM supports up to 15 user-configurable alert rules. It is one of these rules you must set to enable ILOM telemetry. Therefore, you must first choose one of these rules (1 to 15) to set. Before choosing, however, you must determine that the rule you select is not currently being used. You can use the web-based GUI method to determine this quickly, as discussed in "["Enable ILOM: GUI Interface"](#)". Otherwise, run the following command to determine an available alert rule slot.
 - For Rack Mount Servers and Blades:
`-> show /SP/alertmgmt/rules/x`
 - For the Sun Blade 6000 Chassis:
`-> show /CMM/alertmgmt/rules/x`

Important: Substitute `x` for a rule number (1 to 15). If you see that a rule level is set to anything else but disabled, the alert rule slot is occupied. Rerun the command above and substitute the rule number with the next number in sequence (for example, 2, then 3, etc.) until you find an available alert rule slot.

4. Once an alert rule slot is determined, run one of the following commands. Pay close attention to the following data entry points before running the command:

- **rules/x:** For x, enter a number from **1** to **15**, depending upon which alert rule slot you have determined is unoccupied using the previous step.
- **destination:** Enter the IP address of the **ASR Manager**.
- **destination_port:** Set to **162**. For ILOM versions 2.0.4.2 or lower, the port cannot be changed from the default (162).

Note: If you are removing a trap, set the level parameter to disable.

- For Rack Mount Servers and Blades:

```
-> set /SP/alertmgmt/rules/x type=snmptrap level=minor destination=[IP_of_ASR_Manager] snmp_version=2c community_or_username=public destination_port=162
```

- For the Sun Blade 6000 Chassis:

```
-> set /CMM/SP/alertmgmt/rules/x type=snmptrap level=minor destination=[IP_of_ASR_Manager] snmp_version=2c community_or_username=public destination_port=162
```

Note: If you are using ILOM 3.0.16 or above and want to enable SNMP v3, refer to "[Set Up SNMP v3 for ASR Assets \(Optional\)](#)".

5. Repeat for each ASR Asset using ILOM telemetry.

3.3.4 Enable M-Series XSCF Telemetry

Follow the procedures below to enable M-Series XSCF telemetry. It is assumed that a network connection to the platform's dedicated service processor (SP) is connected and configured. Do not continue with the installation unless you have confirmed the initial XSCF set-up.

Note: This procedure can also be used to remove XSCF trap destinations. For more information on XSCF, refer to the *XSCF User Guide for SPARC Enterprise M3000/M4000/M5000/M8000/M9000 Servers*.

1. Open a terminal window and initiate an ssh connection to the IP address of the XSCF network interface:

```
ssh IP_address_of_XSCF_interface
```

2. Log in to the XSCF console. Make sure you have `platadm` privileges, (run `showuser -p <login name>`). You can run `showuser -p` for a list of users with this privilege.

3. Disable the SNMP agent:

```
XSCF> setsnmp disable
```

4. Add the ASR Manager system as the trap destination. If using these procedures to remove a trap, see further below in this step:

```
XSCF>setsnmp addtraphost -t v2 -s public -p 162 xxx.xxx.xxx.xxx
```

Where:

- **-s** = community string (default value is **public**)
- **-p** = SNMP listener port (value should always be **162**)
- **xxx.xxx.xxx.xxx** = ASR Manager IP address

If you wish to remove an XSCF trap destination, run the following command to stop XSCF from sending telemetry to the ASR Manager system:

```
XSCF>setsnmp remtraphost -t v2 xxx.xxx.xxx.xxx
```

Where:

- **xxx.xxx.xxx.xxx** = ASR Manager IP address

5. Enable the SNMP agent:

```
XSCF> setsnmp enable
```

6. Enable SNMP v1v2:

```
XSCF> setsnmp enablelev1v2c <community>
```

community is the community string and should always be set to **public**.

Note: The default XSCF SNMP community string is **PUBLIC** while the default ASR Manager community string is **public**, which are not equivalent.

Run the following command on the XSCF(s) to enable the ASR Manager to use `snmpget` to retrieve the fault event details:

```
XSCF> setsnmp enablelev1v2c public
```

Run the following command to verify SNMP connectivity on the XSCF(s):

```
asr> test_snmp_get
```

See [M-Series Servers XSCF SNMP GET Troubleshooting](#) for troubleshooting information.

7. Verify SNMP settings to make sure the trap destination is set, SNMP is enabled, and the FM MIB is enabled:

```
XSCF> showsnmp
```

```
Agent Status: Enabled
Agent Port: 161
System Location: Unknown
System Contact: Unknown
System Description: Unknown
Trap Hosts:
Hostname      Port  Type   Community String  Username  Auth Protocol
-----  -----  -----  -----  -----
xxx.xxx.xxx.xxx  162    v2      public          n/a        n/a
SNMP V1/V2c:
Status: Enabled
Community String: public
Enabled MIB Modules:
```

SP MIB
FM MIB

8. Repeat for each M-Series ASR Asset required for XSCF telemetry.

3.3.5 Enable Fujitsu M10 XSCF Telemetry

Follow the procedures below to enable Fujitsu M10 XSCF telemetry. It is assumed that a network connection to the platform's dedicated service processor (SP) is connected and configured. Do not continue with the installation unless you have confirmed the initial XSCF set-up.

1. Open a terminal window and initiate an ssh connection to the IP address of the XSCF 0 (LAN#0) network interface. For Building Block (BB) M10-4S configurations, this will be the IP address of LAN#0 of the Master XSCF (that is, the XSCF installed in either BB#00 or XBBOX#80, depending on the BB configuration):

```
ssh -l <login name> <IP_address_of_XSCF_interface>
```

2. Log in to the XSCF console. Make sure you have `platadm` privileges, (run `showuser -p <login name>`). You can run `showuser -p` for a list of users with this privilege.

3. Disable the SNMP agent:

```
XSCF> setsnmp disable
```

4. Add the ASR Manager system as the trap destination.

- a. Configure Fujitsu M10 for SNMP v2c:

```
XSCF> setsnmp addtraphost -t v2 -s public -p 162 xx.xxx.xxx.xx
```

Where:

-s = community string (default value is **public**)

-p = SNMP trap port (value should always be **162**)

Note: The **-p** option can be ignored if so wished. The trap port will default to **162** on the Fujitsu M10 server.

xx.xxx.xxx.xx = ASR Manager IP address

If you wish to remove an XSCF trap destination, run the following command to stop XSCF from sending telemetry to the ASR Manager system:

```
XSCF> setsnmp remtraphost -t v2 xx.xxx.xxx.xx
```

Where:

xx.xxx.xxx.xx = ASR Manager IP address

Enable the SNMP v1v2:

```
XSCF> setsnmp enablev1v2c <community>
```

Where:

<community> = community string and should always be set to **public**

- b. Configure Fujitsu M10 for SNMP v3:

- a. Configure SNMP v3 trap:

```
XSCF> setsnmp addv3traphost -u <UserName> -r SHA -n <engineId> -x AES
xx.xxx.xxx.xxx
```

- b.** Enter the trap authentication passphrase.
- c.** Enter the trap encryption passphrase.

For more information, see [Configure ASR Manager for SNMP v3](#).

- 5.** Verify SNMP settings to make sure the trap destination is set, SNMP is enabled, and the FM MIB is enabled:

```
XSCF> showsnmp
```

```
Agent Status: Enabled
Agent Port: 161
System Location: Unknown
System Contact: Unknown
System Description: Unknown
Trap Hosts:
Hostname      Port   Type   Community String  Username  Auth Protocol
-----  -----  -----  -----  -----
xx.xxx.xxx.xx  162    v2     public           n/a       n/a
SNMP V1/V2c:
Status: Enabled
Community String: public
Enabled MIB Modules:
SP MIB
```

- 6.** Enable the SNMP agent:

```
XSCF> setsnmp enable
```

- 7.** Once the Fujitsu M10 asset is activated/approved in My Oracle Support, send a test trap. To send a test trap from M10 XSCF, run:

```
XSCF> rastest -c test
```

- 8.** Repeat for each Fujitsu M10 ASR Asset required for XSCF telemetry.

Note: An activation event will be sent to Oracle ASR infrastructure as soon as the trap destination is configured to an ASR Manager. You do not need to activate it on the ASR Manager.

3.4 Activate ASR Assets

Once ASR Assets are activated, they will need to be enabled in My Oracle Support (see [Approve ASR Assets in My Oracle Support](#)). All assets to be activated should already have telemetry trap destinations set, as described in [Enable Telemetry Sources](#).

Some ASR Assets are activated differently:

- For Sun Blade systems, see [Activate Blade Assets](#).
- For Exadata systems, see [Activate Exadata Assets](#).
- For Exalogic systems, see [Activate Exalogic Assets](#).
- For ASR Asset systems running Solaris 11, see [Activate and Register ASR Assets for Solaris 11 Systems](#).

- For Virtual Operator Panel (VOP) assets, see [Register VOP and Activate ASR Assets for VOP](#).
- For VSM assets, see [Activate StorageTek Virtual Storage Manager \(VSM\) Assets](#).

All other ASR Asset systems are activated following the procedure below:

Note: To enter the ASR prompt as root, type `asr` on the command line. See "[Install ASR](#)" on page 2-3 for instructions for setting the PATH environment variable.

1. Open a terminal window and log in as `root` on the ASR Manager system.
Important: Activating ASR Assets is not done on the assets themselves but on the ASR Manager system only.
2. Run the following activate command for each ASR Asset. Be sure to use the IP or hostname of the ASR Asset system.

```
asr> activate_asset -i [IP address]
```

or

```
asr> activate_asset -h [hostname]
```

3. Log in to My Oracle Support to complete the activation process. See [Approve ASR Assets in My Oracle Support](#) for details.

Note: **Auto Activation:** If the ASR Manager receives fault telemetry from an asset that has not been previously activated, ASR automatically attempts to activate the asset as if the `asr activate_asset` command is executed.

3.4.1 Activate Blade Assets

Use the following procedure to activate a Sun Blade system. Keep in mind that Blade systems also include the chassis within which the Blade systems are installed. Therefore, when activating, the Blade and the chassis must be activated. Chassis telemetry reports power and environmental faults, and blade telemetry reports faults specific to the blade's subsystems. You will need Blade serial number of the Blade chassis and the Blade systems in order to complete this procedure.

3.4.1.1 ASR Activation on Blade Systems and Chassis - Solaris 10 Only

1. Open a terminal window and log in as `root` on the ASR Manager system.
Important: Activating ASR Assets is not done on the assets themselves but on the ASR Manager system only.

Note: If activating an X627x system, see [Sun Blade X627x Configuration](#).

2. Activate the Blade Chassis:

```
asr> activate_asset -i [Chassis_IP]
```

3. Activate the Blade System:

```
asr> activate_blade -i [Blade_IP] -c [Chassis_IP]
```

4. Repeat the `activate_blade` command for each Blade within the chassis that you desire to have under ASR management. Keep in mind that the Blade systems must be qualified for ASR, as specified in "Systems Qualified for ASR" (see: <http://oracle.com/asr>).
5. Log in to My Oracle Support to complete the activation process. See [Approve ASR Assets in My Oracle Support](#) for details.

3.4.1.2 ASR Activation on Blade Systems and Chassis - Solaris 11 Only

1. Open a terminal window and log in as root on the ASR Manager system.
Important: Activating ASR Assets is not done on the assets themselves but on the ASR Manager system only.

Note: If activating an X627x system, see [Sun Blade X627x Configuration](#).

2. Activate the Blade Chassis:

```
asr> activate_asset -i [Chassis_IP]
```

3. When activating a Solaris 11 Blade host, the `asradm register` command must first be run on the Blade (see [Activate and Register ASR Assets for Solaris 11 Systems](#)). Following this, verify the Blade has a status of "Pending" by using the `list_asset` command from the ASR Manager. Copy the blade's serial number from the output of `list_asset` and paste for the `[Blade_Serial]` value.
Activate the Blade System:

```
asr> activate_blade -s [Blade_Serial] -c [Chassis_IP]
```

4. Repeat the `activate_blade` command for each Blade within the chassis that you desire to have under ASR management. Keep in mind that the Blade systems must be qualified for ASR, as specified in "Systems Qualified for ASR" (see: <http://oracle.com/asr>).
5. Log in to My Oracle Support to complete the activation process. See [Approve ASR Assets in My Oracle Support](#) for details.

3.4.1.3 Sun Blade X627x Configuration

For the Sun X627x Blades, both the host and the service processor are ASR telemetry sources.

Note: The Sun Blade X6275 and Sun Blade X6275 M2 servers have two Service Processors that should be configured and activated for ASR using the steps described above. Also, each blade server has two Hosts than can be configured as a secondary telemetry source

- **Sun Blade X627x Service Processors**

Activate each Sun Blade X627x Service Processor with the command:

```
activate_blade -i [Service_Processor_IP] -c [Chassis_IP]
```

- **Sun Blade X627x Hosts**

For Sun Blade X527x hosts, see the instructions in [ASR Activation on Blade Systems and Chassis - Solaris 10 Only](#) or [ASR Activation on Blade Systems and Chassis - Solaris 11 Only](#) depending on whether the host is running Solaris 10 or Solaris 11.

3.4.2 Activate Exadata Assets

To activate Exadata assets, run the following command:

```
activate_exadata [-i exadataip -h exadatahostname -l ilomip] [-?]
```

or

```
activate_exadata [-i exadataip -h exadatahostname -n ilomhostname] [-?]
```

The parameters are:

- **-i exadataip** - The IP address of the database server host or storage cell.
- **-h exadatahostname** - The hostname of the database server host or storage cell.
- **-l ilomip** - The IP address of the ILOM corresponding to the database server host or storage cell.
- **-n ilomhostname** - The hostname of the ILOM corresponding to the database server host or storage cell.
- **-?** - Help (optional), displays help information.

Note: For details on enabling Oracle Auto Service Request on the Oracle Exadata servers, please refer to Oracle Exadata documentation.

3.4.3 Activate Exalogic Assets

To activate ASR on Exalogic OpenStorage Assets, use the embedded system management GUI. This is the same method for activating ASR on a standalone Sun Unified Storage 7xxx product.

To activate ASR on each Exalogic X4170 M2 server, use the `asr activate_asset` command from the ASR Manager. See [Enable ILOM Telemetry](#) to configure SNMP trap destinations on each of the ILOMs.

3.4.4 Activate and Register ASR Assets for Solaris 11 Systems

Follow the steps below to active ASR Assets for Solaris 11 systems:

1. Log in to the ASR Asset as the `root` user.
2. Run the following command to register the endpoint URL:

- For the endpoint URL to be the ASR Manager:

```
asradm register -e http://[asr_manager_host]:[port_number]/asr
```

The `[port_number]` is the same port that was specified when enable HTTP receiver was done on the ASR Manager (See [Enable HTTP Receiver for ASR Manager Relay, Solaris 11, and VOP](#)).

- For the endpoint URL to be a direct connect back to Oracle:

```
asradm register
```

Notes:

- Sun Blades does not support the direct connect back to Oracle.
 - If the same ASR Asset is using ILOM telemetry, the ILOM telemetry must go through the ASR Manager.
-

3. Enter your Oracle SSO user name and password.
4. Run the following command to view the status:

```
asradm list
```

The results should appear like this:

```
# asradm list
PROPERTY          VALUE
Status            Successfully Registered with ASR manager

System Id         <system identification number>
Asset Id          <asset identification number>
User              MyUserName
Endpoint URL     http://<asr_manager_host>:<port_number>/asr
#
```

Note: For Sun Blade systems, see [Activate Blade Assets](#).

5. Log in to My Oracle support to complete the activation. See [Approve ASR Assets in My Oracle Support](#).
6. To send a test e-mail, run the following command:

```
asradm send test <email.address@mycompany.com>
```

Note: If you need to unregister and deactivate your ASR asset, run:

```
asradm unregister
```

3.4.5 Register VOP and Activate ASR Assets for VOP

The Virtual Operator Panel (VOP) now supports ASR. Refer to the ASR section in Chapter 6, "Using the MD-VOP Interface," of the *StorageTek Virtual Operator Panel User's Guide* for instructions:

http://docs.oracle.com/cd/E37055_01/index.html

3.4.6 Activate StorageTek Virtual Storage Manager (VSM) Assets

Oracle ASR now supports the StorageTek Virtual Storage Manager (VSM). VSM products supported include V2x, V2xf, VSM4, VSM5, and VSM5C.

Note: You should first install and register the ASR Manager before configuring the VSM as an ASR Asset. See [Oracle ASR Manager](#) for more information.

Unlike other qualified ASR Assets, the setup and configuration of VSM assets requires the involvement of an Oracle Customer Support Engineer (CSE).

To set up and activate the VSM asset for Oracle ASR:

Collect VSM Information

Before configuring the VSM to use the ASR service, collect the following information:

1. Identify the VSM asset's IP address.
2. Identify the VSM asset's serial number.
3. Verify that the VSM asset and the ASR Manager are in the same subnet.

Create a Service Request (SR)

To engage an Oracle CSE to configure the VSM asset, you must submit a Service Request (SR):

1. Log in to My Oracle Support and submit an SR for an Oracle CSE to configure the VSM for ASR:

<https://support.oracle.com>

When you submit the SR, include the following information:

- VSM asset serial number.
 - Service Identifier (SI).
 - Request the CSE reference MOS note ID 1523811.1.
2. When the Oracle CSE arrives to configure VSM for ASR, be prepared to provide the following VSM asset information:
 - IP address.
 - Subnet.
 - Netmask.

Complete ASR Activation and Verify VSM Configuration

Once the Oracle CSE has configured your VSM asset for ASR, complete ASR activation for VSM devices by running the following commands:

1. On the ASR Manager, activate the VSM asset with the `activate_storage -d` command:

- a. To activate a single VSM asset:

```
asr> activate_storage -d VSM_SVA -i <IP address>
```

For a successful ASR Asset activation, output should look like this:

```
Successfully submitted activation for the asset
IP Address: <IP address>
Serial Number: <serial number>
The e-mail address associated with the registration id for this asset's ASR
Manager will receive an e-mail highlighting the asset activation status and
any additional instructions for completing activation.
Please use My Oracle Support http://support.oracle.com to complete the
activation process.
The Oracle Auto Service Request documentation can be accessed on
http://oracle.com/asr.
```

- b.** To activate multiple VSM_SVA assets simultaneously:

```
asr> activate_storage -d VSM_SVA -i <IP address1>, <IP address2>, <IP address3>, <IP address4>
```

Output should look like this:

```
Please wait, discovery is in progress.....
```

```
Activation process is completed
Please run "list_asset" to get the list of discovered assets
```

2. Complete the activation of the VSM asset in My Oracle Support. See [Approve ASR Assets in My Oracle Support](#).
3. Verify the configuration by sending a test ASR message. This step verifies that the configuration of the VSM asset is correct and that connectivity to My Oracle Support is enabled.

From the ASR Manager, run:

```
asr> send_test -i <VSM's IP address>
```

Output should look like this:

```
Submitted test event for asset <serial number>
Verification email will be sent to asr_contact@mycompany.com
```

The e-mail is sent to the registered point of contact for the VSM asset.

4. To list all of the ASR Assets, run the following command from the ASR Manager:

```
asr> list_asset
```

[Example 3-1](#) shows an example of how VSM assets appear in the output.

Example 3-1 ASR list_asset Command - Sample Output

Storage Assets

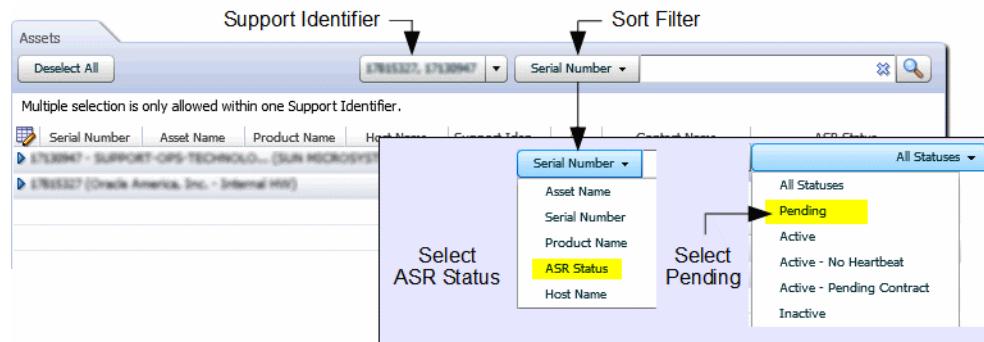
IP_ADDRESS	SERIAL_NUMBER	ASR	PROTOCOL	SOURCE	PRODUCT_NAME
12.23.34.45	123456789012	Enabled	VSHELL	VSM_SVA	VSM4
13.31.13.31	123456789013	Enabled	VSHELL	VSM_SVA	VSM4
12.21.12.21	123456789014	Enabled	VSHELL	VSM_SVA	VSM5

Please use My Oracle Support '<http://support.oracle.com>' to view the activation status.

3.5 Approve ASR Assets in My Oracle Support

To complete the installation of ASR, you will need to log in to My Oracle Support and approve ASR for each asset

1. Log in to My Oracle Support (<https://support.oracle.com>).
2. In the My Oracle Support Dashboard, click the **Systems** tab.
3. Select **ASR Status** from the sort filter, then select **Pending** from the All Statuses drop-down menu:



Note: By default, all support identifiers that you are associated with are displayed. If this list of assets is long, you can limit the display to show only assets associated to one support identifier.

You can filter and sort on asset columns to find the assets you are interested in.

4. You can approve a Pending asset two ways:

- Activate Multiple assets via Asset Toolbar

Select one or more assets to display a toolbar with the following options:

- Assign Contact - select this option to assign a contact to the asset. Only users associated with the support identifier can be a contact.
- Change Address - select this option to update the asset's physical location.
- Approve - for assets that are Pending, click Approve to enable ASR for the asset.
- Other Actions - you can also perform other actions such as Activate (for an inactive asset), Deactivate (for an active asset), or Deny (for a pending request).

The Asset Toolbar looks like this:



Note: You can use the Asset Toolbar to update multiple assets. To select multiple assets:

1. Click the checkbox of each asset.
2. Click the first asset then shift-click another asset to select all the assets in a range.

- Activate a single asset via Asset Details

At the bottom of the Asset pane, there is a "Show Asset Details" option. Click an asset's serial number and then the "Show Asset Details" to update information about the asset. The ASR Activation window will appear and look like this:

Asset Details for 140 [Create SR](#)

⚠ To activate Oracle ASR for this asset, you must provide a contact name in the Show Asset Details area.

Serial Number	140
Support Identifier	194
Product Name	SPARC T5-1B server module: model family
First Activation Date	Jun 17, 2014
Entitlement End Date	In 6+ months (Mar 16, 2015)
Contract Type	Hardware and OS Support
Asset Name	production HR server
Host Name	v215
ASR Status	Pending Approve Deny
ASR Status Update Date	1+ month ago (Jul 10, 2014 3:08 PM)
Contact Name	Type Contact Name..
Distribution E-mail List	
* Time Zone	(GMT+)

Required fields for ASR asset activation are indicated by an asterisk (*). You should update and verify the following fields:

- **Asset Name:** You can assign a name for the asset.
- **ASR Status:** This field shows the current status of the ASR Asset. For Pending assets, click the Approve button to enable the asset for ASR.

Note: There can be many reasons to deny ASR activation. For example, if the machine is part of a test environment and you do not want to receive status e-mail from ASR, then you can click the Deny button to exclude it from ASR. You can always update the settings for the machine to include it.

- **Contact Name:** Users that have been associated with the Support Identifier for the asset will appear in this drop-down menu. Click the drop-down menu to see the list of available names.
- **Street Address 1:** Enter the street address for the physical location of the asset.
- **Country:** Select the asset's country location from the drop-down menu.
- **ZIP/Postal Code:** enter the ZIP/postal code for the asset's location.
- **Distribution E-mail List:** You may add an e-mail address that will receive all ASR e-mail notifications (for example "asr_notify@mycompany.com"). Oracle ASR will send e-mail to the Contact's e-mail address **and** the Distribution E-mail List, if provided. You may also include multiple e-mail addresses, separated by commas (for example, "asr_notifyteam1@mycompany.com, asr_notify_team2@mycompany.com"). This feature is useful if your organization has one or more teams that should be informed about Service Requests created by ASR.

For more details, see *How To Manage and Approve Pending ASR Assets In My Oracle Support* (Doc ID 1329200.1) in My Oracle Support:

<https://support.oracle.com/epmos/faces/DocumentDisplay?id=1329200.1>

4

ASR Environment Administration

This chapter contains all procedures and other information required to manage the ASR environment.

Note: To enter the ASR prompt (`asr>`) as root, type `asr` on the command line. See "[Install ASR](#)" on page 2-3 for instructions for setting the PATH environment variable.

The following topics are discussed.

- [Using Auto Update to Upgrade Oracle ASR](#)
- [Manually Upgrading ASR Manager Software](#)
- [ASR Manager Registrations](#)
- [ASR Audit Logging](#)
- [ASR Asset Management Overview](#)
- [ASR E-mails](#)
- [Add/Remove Telemetry Traps from ASR Asset\(s\)](#)
- [ASR Backup and Restore](#)
- [Unregister ASR](#)
- [Starting and Stopping ASR and OASM](#)
- [Enable/Disable ASR Assets](#)
- [Deactivate/Activate ASR Assets](#)
- [Uninstall ASR](#)
- [ASR Network Parameters Management](#)
- [ASR Integration with Enterprise Monitoring Systems](#)

4.1 Using Auto Update to Upgrade Oracle ASR

Beginning with ASR 4.3, Oracle ASR, by default, checks the ASR software update server for any software updates. If there is a newer version, it will:

- Automatically download the latest Oracle ASR software bundle.
See [Network Connection Requirements](#) for details on how to test your connection.
- Install the new version of the software.

Note: If you are running ASR Auto Update from a Linux server and there is no rpm-build package installed, then ASR Auto Update will not work. The following error message is displayed:

Warning: rpm-build package is not installed on this server. ASR Manager Auto Update functionality will not work unless the rpm-build package is installed.

Auto Update functionality will be disabled until rpm-build package is installed. Please install the rpm-build package and then enable Auto Update by running "asr enable_autoupdate".

If an Auto Update fails because of a missing rpm-build package, then this error message is displayed in:

/var/opt/SUNWsasm/log/sw-asr-autoupdate.log

- Send an e-mail notification that installation is complete or if a problem was encountered.
- Store the previous version of Oracle ASR to the /var/opt/SUNWsasm/backup directory.

The following topics are presented:

- [Disabling and Enabling ASR Auto Update](#)
- [Using Auto Update to Manually Upgrade ASR Manager Software](#)
- [Other ASR Auto Update Commands](#)
- [ASR Auto Update show_version Examples](#)

4.1.1 Disabling and Enabling ASR Auto Update

If necessary, you can disable the Auto Update feature:

```
asr> disable_autoupdate
```

To enable ASR Auto Update:

```
asr> enable_autoupdate
```

4.1.2 Using Auto Update to Manually Upgrade ASR Manager Software

If Auto Update is disabled, you will need to upgrade Oracle ASR manually. You can use the Auto Update feature to download and install future versions of Oracle ASR manually:

```
asr> autoupdate
```

Output of the autoupdate command will look like this:

```
asr> autoupdate
```

This command will update the ASR Manager software with the latest bundles available on Oracle content server. Auto Update process will take up to 5 minutes to complete. During this time, assets attached to ASR Manager will not be monitored. Do you want to proceed with Auto Update? [y/n]:

Enter **y** to proceed. The upgrade continues with the following output:

New SWASR package 4.4.0 is available for update.
 New Rules definitions bundle 4.4.1 is available for update.

Started ASR Manager software Auto Update.
 ASR command line console will be locked until Auto Update is completed.

Note: For Linux, the environment variable SELINUX can be set to Enforcing mode which will not allow the automatic update of RPM packages. If you try the Auto Update feature with this environment variable set to Enforcing, the following warning message will display:

Warning: SELINUX environment variable is set to "enforcing" mode on this server. ASR Manager Auto Update functionality will not work unless the SELINUX environment variable is set to "permissive"

4.1.3 Other ASR Auto Update Commands

Auto Update commands include:

- `show_version`: Shows OASM, ASR Manager, and rules version information. See [ASR Auto Update show_version Examples](#) for sample output of the `show_version` command.
- `autoupdate`: Executes the Auto Update feature to update the ASR Manager and rules bundle software.
- `enable_autoupdate`: Enables the ASR Auto Update feature.
- `disable_autoupdate`: Disables the ASR Auto Update feature.

4.1.4 ASR Auto Update `show_version` Examples

You can run the ASR `show_version` command any time. There are several possible output examples, depending on your configuration:

Auto Update Enabled

When the ASR Auto Update feature is enabled, the output of the `show_version` command includes information about the installed ASR software versions, Auto Update statistics and status, and a history of Auto Update activity (such as, ASR Manager updates and rules definitions updates).

When you run the `show_version` command, you should expect to see output like this:

```
asr> show_version

Software Versions
=====
OASM version: 1.4.2

ASR Manager version: 4.4

Rules definitions version: 4.4.0

Auto Update Statistics
=====
Last Run Time: 2013-04-02 14:59:55.15
Last Run Status: ASR Manager software has been updated successfully.
```

```
Next Run Time: 2013-04-03 14:59:55.15

Auto Update Status
=====
Auto Update functionality is enabled.

Auto Update History
=====
ASR Manager Auto Update history
-----
ASR Manager Auto Update started at: 2013-04-02 14:31:30.229
ASR Manager Auto Update completed at: 2013-04-02 14:34:12.696
ASR Manager Auto Update result: COMPLETE_SUCCESS
ASR Manager updated from version: 4.3.2
ASR Manager updated to version: 4.4.0

Rules definitions Auto Update history
-----
Rules definitions Auto Update started at: 2013-04-02 14:58:21.544
Rules definitions Auto Update completed at: 2013-04-02 14:59:54.96
Rules definitions Auto Update result: COMPLETE_SUCCESS
Rules definitions updated from version: 4.4.0
Rules definitions updated to version: 4.4.1

ASR Manager Services
-----
ASR Notification trap is enabled.
Remote Request feature is enabled.
```

Auto Update Disabled

Even though the ASR Auto Update feature is disabled, you can still use the `show_version` command for information about the installed ASR software, including statistics and status.

When you run the `show_version` command, you should expect output like this:

```
asr> show_version

OASM version: 1.4.2

ASR Manager version: 4.4

Rules definitions version: 4.4.0

Auto Update Statistics
=====
Last Run Time: 2013-04-03 11:21:11.283
Last Run Status: Auto Update functionality is disabled.
Next Run Time: 2013-04-03 11:23:11.283

New Rules definitions bundle 4.4.2.0.0 is available for update.

Auto Update Status
=====
Auto Update functionality is disabled.
Please refer to the My Oracle Support Doc Id: 1503107.1 for instructions on Auto Update of ASR Manager software.

ASR Manager Services
-----
```

ASR Notification trap is disabled.
Remote Request feature is disabled.

Auto Update Enabled, ASR Manager Unregistered

For ASR to function properly, the ASR Manager must be registered. See [Register the ASR Manager](#) for more information. You can still use the show_version command to view limited information about ASR software versions and Auto Update status.

If your ASR Manager is unregistered and you run the show_version command, the output should look like this:

```
asr> show_version

Software Versions
=====
OASM version: 1.4.2

ASR Manager version: 4.4

Rules definitions version: 4.4.0

Oracle ASR Infrastructure is not available.

Auto Update Status
=====
Auto Update functionality is enabled.
```

New Software Available

If a new software download is available (including any new rules definitions), you can use the show_version command to review the versions. Output should look like this:

```
asr> show_version

Software Versions
=====
OASM version: 1.4.2

ASR Manager version: 4.4

Rules definitions version: 4.4.0

New SWASR package 4.4.0.0.0 is available for update.
New Rules definitions bundle 4.4.2.0.0 is available for update.

Auto Update Status
=====
Auto Update functionality is enabled.
```

4.2 Manually Upgrading ASR Manager Software

Follow the steps below to upgrade the ASR Manager software manually:

1. Make sure that OASM is running. To get the status of the OASM:
 - For Solaris, run: svcs sasm
 - For Linux, run: service sasm status

If OASM is not running, then start it with these commands:

- For Solaris, run:

```
svcadm enable sasm (starts OASM)
```
 - For Linux, run:

```
service sasm start
```
2. Uninstall ASR. Refer to [Uninstall ASR](#) for details.
 3. Obtain the new ASR package. Refer to [Software Requirements](#) for download instructions. To install OASM, refer to [Install OASM](#).
 4. Install the new ASR package. Refer to [Install ASR](#). Be sure to register and activate the ASR Manager, as explained in the referenced instructions.

4.3 ASR Manager Registrations

Beginning with ASR 4.8, the `list_registration` command provides a list of all registered ASR Manager hosts. Use this command to verify that your installed ASR Manager is registered with Oracle ASR Infrastructure or ASR Manager relay. To generate the information, run:

```
asr> list_registration
```

The following examples show a sample output of the `list_registration` command:

Sample 1

```
This ASR Manager is registered with Oracle ASR Infrastructure.  
The following ASR Manager(s) are registered with this ASR Manager Relay:  
ASR Manager Host : 10.12.12.11  
ASR Manager Host : 10.12.12.13
```

Sample 2

```
This ASR Manager is registered with Oracle ASR Infrastructure.
```

Sample 3

```
This ASR Manager is registered with ASR Manager relay  
http://host123.test.com:8928/asr
```

4.4 ASR Audit Logging

When the ASR Manager sends or attempts to send a message about an ASR Asset, that message and its corresponding status is included in an audit log in the following directory:

```
/var/opt/SUNWsasm/log/auditlog
```

Each day, a new audit log file is created to collect all unique activity from the ASR Manager. By default, a maximum of **30 days** of log files are maintained. After 30 days, the oldest log file is deleted.

You can use these logs to perform troubleshooting analysis on your qualified ASR Assets. A typical log file summarizes all ASR activity for any ASR Asset associated with the ASR Manager. Duplicate activity for a single asset is not recorded. For example, if a message from the ASR Manager fails to be sent to the Oracle ASR Infrastructure, then each retry attempt will not be recorded in the log.

For example, an ASR Audit Log file will look like this:

```
<sample log file showing two or three monitored assets>
```

By default, ASR Audit Logging is *enabled*. Use the following commands from the ASR Manager to configure and modify the ASR Audit Logging feature:

ASR Command	Description
asr> enable_audit_log	Enable audit logging. Messages are written to audit log in the /var/opt/SUNWsasm/log/auditlog directory.
asr> disable_audit_log	Disable audit logging. Messages are <i>not</i> written to audit log.
asr> set_audit_log_days [1-30]	Set how many days of audit logs to keep before rolling over (accepts any number between 1 and 30).
asr> get_audit_log_days	Get how many days of audit logs are kept.
asr> enable_asr_manager	Enable ASR Manager. Messages are sent to the Oracle ASR Infrastructure. By default, the ASR Manager is <i>enabled</i> .
asr> disable_asr_manager	Disable ASR Manager. Messages are <i>not</i> sent to Oracle ASR Infrastructure, but are logged in the /var/opt/SUNWsasm/log/auditlog directory.

Note: ASR Audit Logging is enabled by default, regardless if your ASR Manager is disabled or unregistered.

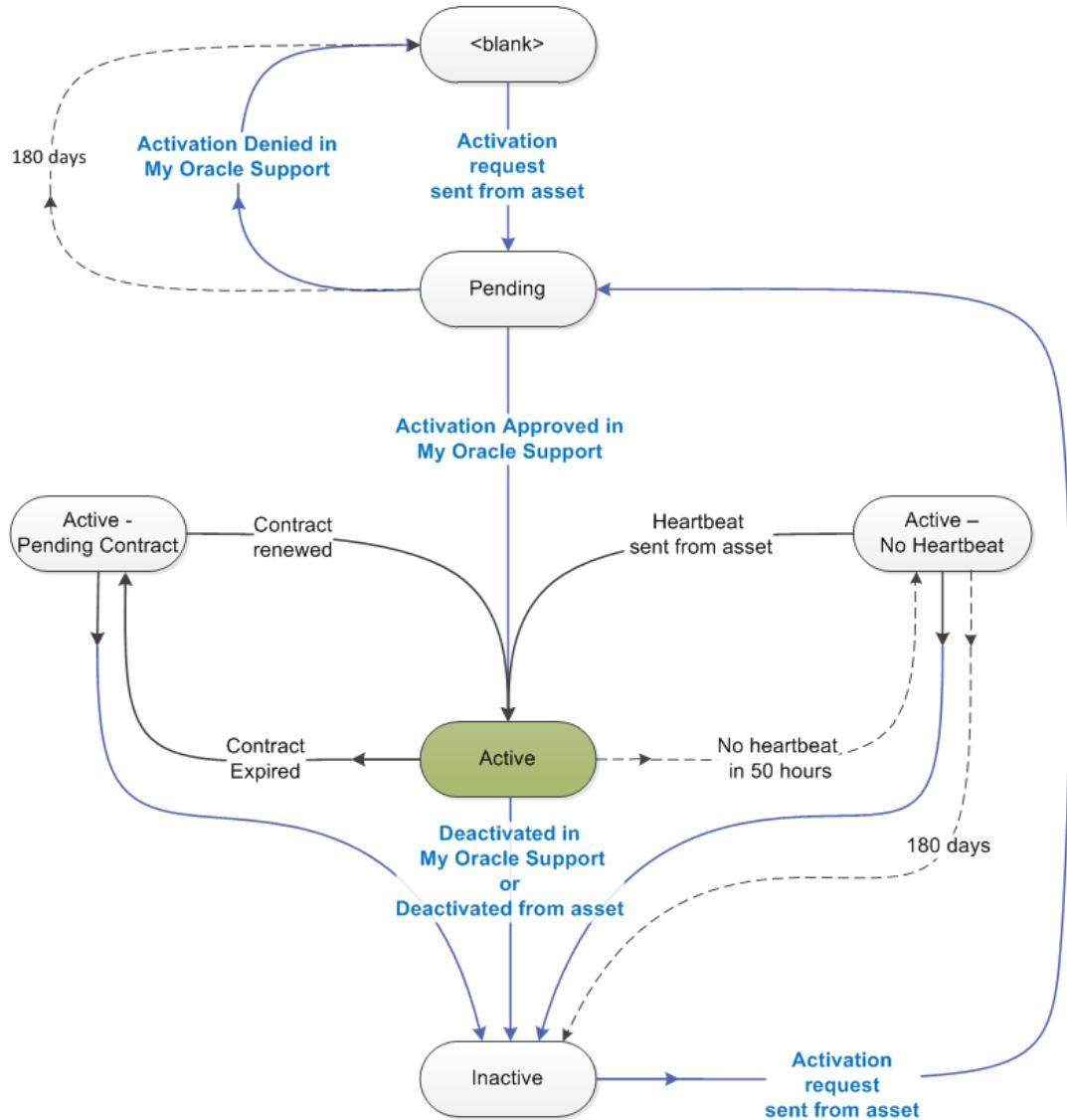
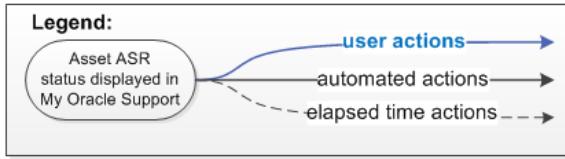
4.5 ASR Asset Management Overview

This section provides a variety of commands and procedures for managing ASR Assets. [Figure 4-1](#) shows the status transition of ASR Asset:

Figure 4–1 ASR Asset Status Transition

Auto Service Request (ASR) Asset Status transition diagram

Assets in My Oracle Support have an "ASR Status" value. This diagram illustrates how the ASR status changes when the user takes actions in the ASR asset's software and in My Oracle Support. The ASR asset status is also changed by automated actions of My Oracle Support and the ASR infrastructure. The initial ASR status value is <blank>.



4.6 ASR E-mails

This section describes the types of e-mails generated by ASR. See [Appendix A, "ASR E-mail Examples."](#) E-mail generated by ASR is sent to:

- The e-mail address of the My Oracle Support account associated with the ASR installation.
- The contact assigned to the asset in My Oracle Support.
- A distribution list assigned to the asset in My Oracle Support (optional)

Table 4–1 shows the various recipients of the typical ASR e-mail, depending on the reason for sending it, where:

- Registration user: The e-mail address used to register the asset. For the ASR Manager, this is the e-mail address entered for the `asr register` command.
- My Oracle Support Contact: The My Oracle Support (MOS) user assigned to the asset as the contact.
- MOS Dist List: a comma-separated distribution list of e-mail addresses in My Oracle Support.
- Support Identifier Administrators: The My Oracle Support users who are administrators of the Support Identifier associated with the asset.

Table 4–1 ASR E-mail Types and Recipients

Notification Type	ASR E-mail Recipient					
	Registration User	Contact	MOS Dist List	Support Identifier Admins	Other	
Auto Update	Yes	Yes			Auto Update user SSO (typically the same as activation SSO)	
Heartbeat failure	Yes	Yes	Yes	Registration SSO (if applicable)		
ASR rules out of date	Yes					
ASR Manager out of date	Yes					
SR create delayed	Yes	Yes	Yes			
SR create	Yes	Yes	Yes			
SR create (partner)	No	Yes	Yes	No		
SR failed	Yes	Yes	Yes	Yes		
SR test (non-Pillar)	Yes	Yes	Yes			
SR test (Pillar)	Yes	Yes	Yes	Yes		
SR update	Yes	Yes	Yes			
Status Pending MOS	Yes			Yes		
Status Change	Yes					
Activation failed	Yes					

The types of e-mail generated by ASR include:

- **ASR Activation E-mail and Status of ASR Assets**

An e-mail indicating success or failure of ASR activation is sent. Instructions for any user action is included as needed. ASR Asset status is available in My Oracle Support.

- **ASR Service Request E-mail**

Service Request e-mails are generated whenever a Service Request is created at Oracle that results from a hardware fault detection on any of your ASR-enabled systems. Failure e-mails indicate what issues may have prevented a Service Request from being created upon receipt of a hardware fault from ASR.

All Service Request e-mails are sent to the Primary and Preferred Technical Contact associated with the system reporting a potential fault. For more on how this contact is established or changed, refer to [View Status from My Oracle Support](#).

Note: Any e-mail sent from Blade ASR Assets have a different e-mail format.

- **Heartbeat Failure Notification**

If the ASR Heartbeat detects a communications error to Oracle, an e-mail is sent.

- **Fault Rules Out of Date E-mail**

This e-mail is sent if ASR detects that its fault rules are out of date.

4.6.1 Create Test Alert

You can test the end-to-end functionality of ASR by simulating a hardware fault. The end result is an e-mail sent to the e-mail address of the My Oracle Support account associated with the ASR installation.

Note: A test alert should be run only after the asset has been enabled in My Oracle Support. See ["Approve ASR Assets in My Oracle Support"](#) on page 3-21 for more information.

4.6.1.1 Create Test Alert - ILOM

Note: Only valid for ILOM 3.0 or later.

To generate a test alert from ILOM:

- **From the ILOM GUI:** In the *Alert Settings* page, select the alert you want to test and then click the **Send Test Alert** button. ILOM generates a test event for the selected alert. If configured properly, you will receive a test Service Request e-mail.
- **From the ILOM CLI:** Type one of the following command paths to set the working directory:
 - For a rack-mounted server SP, type: cd /SP/alertmgmt/rules
 - For a Blade server SP, type: cd /CH/BLn/SP/alertmgmt/rules
 - For a chassis CMM, type: cd /CMM/alertmgmt/CMM/rules

Type the following command to generate a test alert:

```
->set testalert=true
```

4.6.1.2 Create Test Alert - Solaris 11

To send a test e-mail on an ASR Asset for Solaris 11, run the following command:

```
asradm send test email.address@mycompany.com
```

Note: The ASR Asset Menu (`asrassetmenu.sh`) is not available on ASR Assets running Solaris 11.

4.6.1.3 Create Test Alert - Solaris 10

To send a test e-mail on an ASR Asset for Solaris 10:

1. Execute the `asrassetbundle` shell script:

- If on an ASR Asset:

```
cd /untar_location_of_assetbundle/asrassetbundle
./asrassetmenu.sh
```

Note: If you have issues finding the `asrassetbundle` directory, go to "[Install ASR Asset Bundle](#)" on page 3-4 for more information.

- If on the ASR Manager system:

```
cd /opt/SUNWswasr/asrassetbundle
./asrassetmenu.sh
```

2. From the ASR Asset Menu, type **8**.
3. Whether you are on an ASR Asset or the ASR Manager, enter the IP address of the ASR Manager.
4. Enter the SNMP port used to send hardware telemetry to the ASR Manager. The default port is **162**.
5. When the test alert is sent, check the e-mail contact of the My Oracle Support account associated with the ASR installation.

Note: If this test fails on Solaris 10, be sure that the `/usr/sfw/bin/snmptrap` exists and Solaris `netsnmp` library is installed on the asset.

4.7 Add/Remove Telemetry Traps from ASR Asset(s)

The procedures in this section explain how to enable or disable telemetry trap destinations on ASR Asset(s). A trap destination is where the telemetry data is sent. During ASR installation, each asset is configured by setting trap destinations from the asset system. In all cases, the trap destination specified is the ASR Manager system, which centrally collects the telemetry data sent from ASR Asset(s). Even if the ASR Manager itself is configured to send telemetry data, its trap destination must be this same ASR Manager.

Reasons for enabling traps include:

- Traps were not enabled during installation.
- Traps need to be enabled as part of troubleshooting tasks.

Reasons for disabling traps include:

- IP address of ASR Manager changed. If this situation occurs, you need to disable the traps, then re-enable the traps with the new IP information.
- Stopping the use of ASR and/or you want to minimize telemetry traffic.

Before continuing, be mindful of the following:

- You should know what telemetry sources exist on any particular ASR system. Refer to "[Telemetry Requirements](#)" on page 1-8.
- An active ASR Manager should already be fully installed. Refer to [Chapter 2, "Oracle ASR Manager."](#)

4.7.1 Add/Remove Telemetry Traps from Solaris 10 FMA Systems

Follow the procedure below to add or remove a trap destination for systems using Solaris 10 FMA telemetry.

1. To add a Solaris FMA telemetry trap, go to "[Enable FMA Telemetry for Solaris 10 ASR Assets](#)" on page 3-5.
2. To remove a trap destination, make sure you are logged in as root on the system whose telemetry trap you wish to remove. This could be either an ASR Manager or an ASR Asset system. Keep in mind that this process stops telemetry from being sent to the ASR Manager. It does not remove the telemetry software itself nor disables its operation (for example, FMA).
3. Go to the directory where you previously untarred the ASR Asset Bundle file, and then go to the specific ASR Asset Bundle directory, if needed. For example:
 - If on an ASR Asset:
 cd /file_copy_location/asrassetbundle
 - If on the ASR Manager system:
 cd /opt/SUNWswasr/asrassetbundle

Note: Refer to "[Install ASR Asset Bundle](#)" on page 3-4 if you have issues locating the asrassetbundle directory and/or asrassetmenu.sh script (below).

4. Launch the ASR Asset Menu:

```
./asrassetmenu.sh
```

```
Welcome to the ASR asset menu
```

- ```

1) Check system for ASR qualifications
2) Add a trap-destination to SunMC agent
3) Add a trap-destination to FMA agent
4) Remove a trap-destination from SunMC agent
5) Remove a trap-destination from FMA agent
6) List SunMC agent trap-destinations
7) List FMA agent trap-destinations
8) Test event to verify ASR connectivity
9) Exit
```

5. Select 5 to remove the FMA trap destination.

6. When prompted, ". . . enter the number of the trap-destination to remove," enter the list number of the IP address of the ASR Manager.

---

**Note:** If you are removing an FMA trap, enter the listed IP address with the port number (for example, 192.20.77.192:162).

---

7. The trap is then removed from the system and all telemetry sent from Solaris FMA to the ASR Manager is stopped.

## 4.7.2 Add/Remove Telemetry from Solaris 11 FMA Systems

Follow the procedure below to add or remove registration for systems using Solaris 11 FMA telemetry.

1. To add Solaris FMA telemetry, see "["Enable FMA Telemetry for Solaris 11 ASR Assets"](#) on page 3-6.
2. To delete the ASR Manager registration, run:

```
asradm unregister
```

## 4.7.3 Add/Remove Telemetry Traps from ILOM Systems

To add or remove an ILOM trap, refer to "["Enable ILOM Telemetry"](#) on page 3-6. This referenced procedure can be used to add or remove traps. If removing a trap, use the following parameters:

- If using the ILOM GUI interface, either remove the entire alert rule destination or set the **Level** parameter to **Disable**.
- If using the command line interface, set the **Level** parameter to **Disable**. Also, be sure to specify the correct alert rule (1 to 15) to disable.

## 4.7.4 Add/Remove Telemetry Traps from M-Series Systems (XSCF)

To add or remove telemetry traps on systems that have XSCF telemetry (Sun M-Series), refer to "["Enable M-Series XSCF Telemetry"](#) on page 3-12. This referenced procedure can be used to add or remove traps.

# 4.8 ASR Backup and Restore

## ASR Backup

1. Verify all information is in the database that is activated:

```
asr> list_asset
```

2. Stop OASM so that data does not change in middle of backup:

- For Solaris, run: `svcadm disable sasm`
- For Linux, run: `service sasm stop`

3. Back up the database directory. Run:

```
tar -cvf db.tar.bz /var/opt/SUNWsasm/db
```

4. Create a backup of the ASR configuration. Run:

```
tar -cvf configuration.tar.bz /var/opt/SUNWsasm/configuration
```

5. Copy both db.tar.bz and configuration.tar.bz files to their proper backup destination.
6. Restart OASM. Run:
  - For Solaris, run: svcadm enable sasm
  - For Linux, run: service sasm start

### ASR Restore

1. Install the ASR plug-in and OASM:
  - For Solaris, run:

```
pkgadd -d SUNWsasm-version-timestamp.pkg
pkgadd -d SUNWswasr-version-timestamp.pkg
```
  - For Linux, run:

```
rmp -i SUNWsasm-version-timestamp.rpm
rpm -i SUNWswasr-version-timestamp.rpm
```

---

**Note:** Download and install the latest packages to upgrade to the latest version of the ASR Manager. See [Software Requirements](#) for more information.

---

2. Stop OASM to restore files:
  - For Solaris, run: svcadm disable sasm
  - For Linux, run: service sasm stop
3. Restore the files from backup:
  - a. Remove files /var/opt/SUNWsasm/configuration and /var/opt/SUNWsasm/db
  - b. Copy backup data to /var/opt/SUNWsasm/
  - c. Extract the tar files (both Solaris and Linux):

```
tar -xvf configuration.tar.bz
tar -xvf db.tar.bz
```
4. Verify the files have been correctly extracted. Run:

```
ls /var/opt/SUNWsasm/
```
5. Restart OASM. Run:
  - For Solaris, run: svcadm enable sasm
  - For Linux, run: service sasm start
6. Register the backup configuration:

```
asr> register
```

---

**Note:** If you are running the latest version of ASR and if host name of the restored ASR Manager and My Oracle Support account) login have not changed, then you can stop here. Steps 7 and 8 are not required.

---

7. Remove old entries from the My Oracle Support backend to associate correctly:  

```
asr> send_deactivations -a
```
8. Add new entries to the My Oracle Support backend:  

```
asr> send_activations -a
```
9. List ASR Assets. Run:  

```
asr> list_asset
```

## 4.9 Unregister ASR

When you installed ASR, you registered it with the transport server (transport.oracle.com) using your My Oracle Support username. The registration is performed on the ASR Manager system, as is an unregister if required. Reasons for unregistering ASR can include the following:

- If your current My Oracle Support account is no longer valid, as in a case when the e-mail contact is no longer associated with the company. The e-mail address associated with the My Oracle Support login is used by ASR to send a variety of ASR notifications, such as status reports. In this case, ASR should be unregistered and then re-registered with the new account information.
- If the server and ASR handshake becomes corrupted.

To unregister ASR:

1. From the ASR Manager system, run:

```
asr> unregister
```

2. Once unregistered, ASR cannot send hardware fault telemetry to Oracle's backend systems.

To register ASR, refer to "[Register the ASR Manager](#)" on page 2-3 for instructions.

## 4.10 Starting and Stopping ASR and OASM

This section explains how to stop and start your complete ASR environment. There are several reasons why you may want to do this, as listed below:

- Telemetry rules or other image upgrade to ASR.
- If you change network and port settings used by ASR. These changes are typically made in the OASM config.ini file:

```
/var/opt/SUNWsasm/configuration/config.ini
```

---

**Note:** On Solaris, OASM startup/restart is done via SMF service.

---

### 4.10.1 Stop ASR and OASM

Follow the procedure below to stop ASR and OASM.

---

**Note:** Stopping OASM is optional, depending upon what your purpose is. If changes are made to the OASM config.ini file, for example, you must stop and restart OASM. In conformance with best practices, OASM should be stopped whenever ASR is stopped, and started whenever ASR is started.

---

1. Open a terminal window and log in as root on the ASR Manager system.
2. Run the following commands:
  - For Solaris:
 

```
asr> stop (stops ASR)
svcadm disable sasm (stops OASM)
```
  - For Linux:
 

```
asr> stop (stops ASR)
service sasm stop
```
3. Once ASR is stopped, you can perform the desired maintenance tasks. Once complete, continue to the next section to restart ASR.

## 4.10.2 Start ASR and OASM

Follow the procedure below to restart ASR and OASM:

1. Open a terminal window and log in as root on the ASR Manager system.
2. Run the following commands:
  - For Solaris:
 

```
svcadm enable sasm (starts OASM)
asr> start (starts ASR)
```
  - For Linux:
 

```
service sasm start (starts OASM)
asr> start (starts ASR)
```
3. Be sure that ASR can send information to the transport.oracle.com servers by running the following command:  
`asr> test_connection`

## 4.11 Enable/Disable ASR Assets

Follow the procedures below to enable or disable ASR Asset(s). Regardless of which asset you wish to enable or disable, this action is always performed on the ASR Manager system. The most common reasons to disable ASR Asset(s) are for system maintenance or if an asset is "noisy" in terms of sending an excess of telemetry data. Disabling an ASR Asset stops the ASR Manager from sending fault telemetry to Oracle for that asset.

### 4.11.1 Disable ASR Assets

1. Open a terminal window and log in to the ASR Manager system as root.

2. Run any one of the following commands depending on your circumstance. Use the IP address or the hostname of the asset you wish to disable. If you disable the ASR Manager itself, only its telemetry will be stopped. **All enabled ASR Asset(s) that send telemetry to this ASR Manager will continue**, and the ASR Manager will continue to forward fault telemetry to Oracle's backend systems.
  - `asr> disable_asset -i IP_address`
  - `asr> disable_asset -h hostname`
  - `asr> disable_asset -s subnet`  
(used to disable a group of assets within the subnet)

#### 4.11.2 Enable ASR Assets

After you have disabled an ASR asset, you can re-enable it when you are ready for ASR to begin transmitting telemetry data.

1. Open a terminal window and log in to the ASR Manager system as root.
2. Run any one of the following commands depending on your circumstance. Use the IP address or the hostname of the asset you wish to enable. Once enabled, the asset will send hardware telemetry data to the ASR Manager and faults will be sent to Oracle's backend systems.
  - `asr> enable_asset -i IP_address`
  - `asr> enable_asset -h hostname`
  - `asr> enable_asset -s subnet`  
(used to enable a group of assets within the subnet)
3. Once complete, a successfully enabled message is displayed.
4. To confirm the asset is enabled, you can generate a test event using either one of the following command options:
  - `asr> send_test -i IP_address`
  - `asr> send_test -h hostname`

---

**Note:** The `send_test` command validates the ASR Manager connection to Oracle and the ASR activation status of the asset.

It does not validate the network connection from the asset to the ASR Manager.

---

5. The status of the test event is sent to the e-mail address of the My Oracle Support account associated with the ASR installation.

#### 4.12 Deactivate/Activate ASR Assets

Deactivating an ASR Asset is done when you are replacing the asset or removing it entirely from the ASR system. When you deactivate an ASR Asset, ASR can no longer transmit telemetry data from this asset to Oracle.

---

**Note:** If you need to unregister your ASR Asset for Solaris 11, run:  
asradm unregister

---

This command unregisters and disables your ASR Asset.

---

The following topics are described:

- [Deactivate/Activate ASR Assets from My Oracle Support](#)
- [Deactivate/Activate ASR Assets from the ASR Manager](#)
- [Reactivate/Deactivate All ASR Assets Associated with an ASR Manager](#)

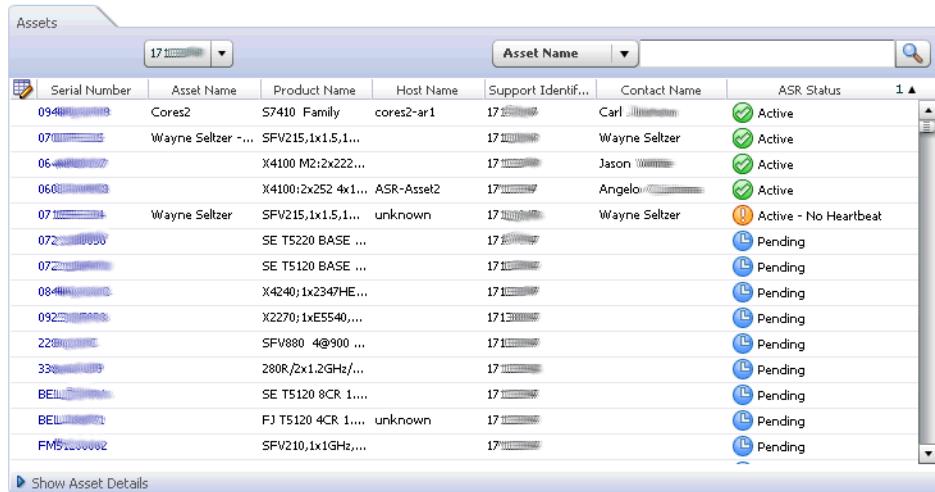
#### 4.12.1 Deactivate/Activate ASR Assets from My Oracle Support

1. In the "Assets" dashboard, click on the serial number of the asset you wish to deactivate/activate. The last column (ASR Status) will show the status of the asset (Active, Inactive, or Pending).

---

**Note:** You must have either CUA or Asset Admin roles to update/approve ASR activation requests.

---



|         | Serial Number       | Asset Name         | Product Name | Host Name | Support Identif... | Contact Name | ASR Status            |
|---------|---------------------|--------------------|--------------|-----------|--------------------|--------------|-----------------------|
| 0940... | Cores2              | S7410 Family       | cores2-arr1  | 17...     | Carl ...           |              | Active                |
| 07...   | Wayne Seltzer - ... | SFV215,1x1.5,1...  |              | 17...     | Wayne Seltzer      |              | Active                |
| 06...   |                     | X4100 M2:2x222...  |              | 17...     | Jason ...          |              | Active                |
| 06...   |                     | X4100:2x252 4x1... | ASR-Asset2   | 17...     | Angelo ...         |              | Active                |
| 07...   | Wayne Seltzer       | SFV215,1x1.5,1...  | unknown      | 17...     | Wayne Seltzer      |              | Active - No Heartbeat |
| 07...   |                     | SE T5220 BASE ...  |              | 17...     |                    |              | Pending               |
| 07...   |                     | SE T5120 BASE ...  |              | 17...     |                    |              | Pending               |
| 08...   |                     | X4240;1x2347HE...  |              | 17...     |                    |              | Pending               |
| 092...  |                     | X2270;1xE5540,...  |              | 171...    |                    |              | Pending               |
| 228...  |                     | SFV880 4@900 ...   |              | 171...    |                    |              | Pending               |
| 33...   |                     | 280R/2x1.2GHz/...  |              | 17...     |                    |              | Pending               |
| BEL...  |                     | SE T5120 8CR 1.... |              | 17...     |                    |              | Pending               |
| BEL...  |                     | FJ T5120 4CR 1.... | unknown      | 17...     |                    |              | Pending               |
| FM5...  |                     | SFV210,1x1GHz,...  |              | 17...     |                    |              | Pending               |

2. In the Asset's Details pane, click the "Deactive" button to deactivate the asset. If the asset is already deactivated, click the "Activate" button to activate it.
3. If necessary, you can update details about the asset (for example, change the Contact Name).

#### 4.12.2 Deactivate/Activate ASR Assets from the ASR Manager

Follow these instructions to deactivate/activate an ASR Asset from the ASR Manager:

1. Open a terminal window and log in to the ASR Manager system as root.
2. Run any one of the following commands depending on your circumstance. Use the IP address or the hostname of the asset you wish to deactivate.
  - `asr> deactivate_asset -i IP_address`

- `asr> deactivate_asset -h hostname`
- `asr> deactivate_asset -s subnet`  
(used to enable a group of assets within the subnet)

---

**Note:** When you deactivate an ASR Asset, you cannot re-enable it. If you want to enable it again for ASR, you must re-activate it. Refer to "["Activate ASR Assets"](#) on page 3-15.

---

3. Once an asset is deactivated, you should also stop the hardware telemetry from being sent from the asset (even though the telemetry data is ignored by ASR once sent).

#### 4.12.3 Reactivate/Deactivate All ASR Assets Associated with an ASR Manager

If you have multiple ASR Assets reporting to an ASR Manager, you can activate them all with one command:

```
asr> send_activations -a
```

---

**Note:** Activations are resent for all the previously activated assets only.

---

Likewise, if you need to deactivate all of the ASR Assets associated with an ASR Manager, you can deactivate them all with one command:

```
asr> send_deactivations -a
```

### 4.13 Uninstall ASR

The following procedure explains how to remove ASR completely or partially for the purpose of an upgrade.

#### Remove ASR as Part of an Upgrade

1. Remove the ASR package from the ASR Manager system:

- For Solaris: `pkgrm SUNWswasr`

---

**Note:** To remove the ASR package from a Solaris machine in "silent" mode, run:

```
/opt/SUNWswasr/pkg/uninstall_silent_mode.sh
```

---

- For Linux: `rpm -e SUNWswasr`

As part of the uninstall process, you will be asked the following question:

Will you be upgrading to a newer version of ASR Manager [y,n,q]:

Enter `y` to continue the process.

2. Remove the OASM package from the ASR Manager system. Removing this package is optional and is often done to reduce system overhead. If you have other applications running under OASM, do not remove it. Refer to [Oracle Automated](#)

---

[Service Manager \(OASM\) Requirements - ASR Manager Only](#) for more information on OASM.

- For Solaris: `pkgrm SUNWsasm`
- For Linux with OASM 1.5 or later: `rpm -e SUNWsasm`
- For Linux with OASM 1.4.2 or earlier: `rpm -e --noscripts SUNWsasm`

---

**Note:** There is a known issue when uninstalling OASM 1.4.2 (or earlier) on Linux using the `rpm -e SUNWsasm` command. Using this command to remove OASM 1.4.2 (or earlier) completely removes the crontab entries for OASM.

This uninstallation issue has been resolved with OASM 1.5. To prevent losing any crontab entries, you can uninstall OASM 1.4.2 (or earlier) with the following command:

```
rpm -e --noscripts SUNWsasm
```

---

### Remove ASR Completely

1. For all ASR Asset systems, remove telemetry traps that send hardware telemetry to the ASR Manager. Follow these steps:
  - Identify what telemetry sources reside on the systems. If uncertain, refer to [Telemetry Requirements](#).
  - Remove the telemetry traps. Refer to [Add/Remove Telemetry Traps from ASR Asset\(s\)](#). If you are collecting telemetry from the ASR Manager itself, be sure to remove those traps as well.
2. Deactivate all ASR Asset(s). Refer to [Deactivate/Activate ASR Assets](#).
3. Unregister ASR. Refer to [Unregister ASR](#).

---

**Important:** If you are using other OASM plug-ins (for example SFT), the OASM transport service used by these plug-ins will be unregistered as part of this process. Consult your plug-in documentation to re-register the OASM transport service, if needed.

---

4. Remove the ASR package from the ASR Manager system:
  - For Solaris: `pkgrm SUNWswasr`
  - For Linux with OASM 1.5 or later: `rpm -e SUNWsasm`
  - For Linux with OASM 1.4.2 or earlier: `rpm -e --noscripts SUNWsasm`

---

**Note:** There is a known issue when uninstalling OASM 1.4.2 (or earlier) on Linux using the `rpm -e SUNWsasm` command. Using this command to remove OASM 1.4.2 (or earlier) completely removes the crontab entries for OASM.

This uninstallation issue has been resolved with OASM 1.5. To prevent losing any crontab entries, you can uninstall OASM 1.4.2 (or earlier) with the following command:

```
rpm -e --noscripts SUNWsasm
```

---

As part of the uninstall process, you will be asked the following questions:

- a. The first question is whether or not you are upgrading the ASR Manager:

Will you be upgrading to a newer version of ASR Manager [y,n,q] :

Enter **n** to continue the process.

- b. The next question is to initiates the removal of ASR Manager and the deactivation of ASR Assets:

Do you want to uninstall ASR Manager completely and deactivate all assets [y,n,q] :

Enter **y** to continue the process. Because the removal is for a complete uninstall, you will be asked to confirm the removal:

You are going to deactivate all assets. Please confirm [y,n,q]

Enter **y** to continue the process.

5. Remove the OASM package from the ASR Manager system. Removing this package is optional and is often done to reduce system overhead. If you have other applications running under OASM, do not remove it. Refer to [Oracle Automated Service Manager \(OASM\) Requirements - ASR Manager Only](#) for more information on OASM.
  - For Solaris: `pkgrm SUNWsasm`
  - For Linux: `rpm -e SUNWsasm`
6. If you never intend to use ASR and OASM again, run the following command to remove leftover artifacts (OASM log files, ASR asset database, configuration files, etc.):

---

**Warning:** This command will remove all asset activation, configuration, and ASR log file data. Only remove these files if you want to **permanently** remove ASR from the system or node.

---

`rm -r /var/opt/SUNWsasm`

7. After completing the steps above, the uninstall of ASR is complete.

## 4.14 ASR Network Parameters Management

This section provides the instructions for networking-related tasks for ASR operations.

### 4.14.1 ASR Port Usage

The following table explains the network ports used by ASR:

| Source      | Destination                               | Protocol   | Port                | Description                                                                              |
|-------------|-------------------------------------------|------------|---------------------|------------------------------------------------------------------------------------------|
| ASR Asset   | ASR Manager                               | http/https | <i>user defined</i> | For sending Solaris 11 ASR telemetry to the ASR Manager.                                 |
| ASR Manager | ASR Backend (Oracle) transport.oracle.com | https      | 443                 | For sending telemetry messages to the transport.oracle.com ASR backend system at Oracle. |
| ASR Manager | ASR Asset                                 | http       | 6481                | Service Tags listener for Asset activation                                               |

| Source      | Destination | Protocol          | Port | Description                                                                      |
|-------------|-------------|-------------------|------|----------------------------------------------------------------------------------|
| ASR Asset   | ASR Manager | snmp<br>udp       | 162  | For sending telemetry messages to the ASR Manager.                               |
| ASR Manager | ASR Asset   | snmp (get)<br>udp | 161  | FMA enrichment for getting additional diagnostics information (Solaris 10 only). |

## 4.14.2 Changing the Default SNMP Port for ASR

You can change the default SNMP port on the ASR Manager by editing the `/var/opt/SUNWsasm/configuration/config.ini` file as follows:

1. Change `com.sun.svc.container.snmp.port=162` to listen on whatever port is appropriate. **162** is the default.

2. Restart OASM:

```
svcadm restart sasm
```

3. Verify the change:

```
/opt/SUNWsasm/bin/sasm getprop | grep com.sun.svc.container.snmp.port
```

This command will return the new port value that you entered.

### 4.14.2.1 Known Issue: Change ASR SNMP Port (ASR 4.1 Only)

A known issue with the SNMP port update in the `config.ini` file from the default **162** port is not working in ASR 4.1. The following workaround is required only when you need to change the ASR SNMP port from the default port (162) in ASR 4.1:

1. Set the SNMP port:

```
asr> set_property snmp.receiver.port <port_number>
```

For example:

```
asr> set_property snmp.receiver.port 1162
```

Edit the `/var/opt/SUNWsasm/configuration/config.ini` file and update `com.sun.svc.container.snmp.port` to the desired port number. This step is required to prevent any issues during future ASR Manager upgrades.

2. Verify that the SNMP port is set correctly:

```
asr> get_property snmp.receiver.port
```

3. Restart OASM:

- For Solaris: `svcadm restart sasm`
- For Linux: `service sasm restart`

## 4.14.3 Configure ASR to Send HTTPS Traffic Through a Proxy Server

This procedure should be used to enable network communications in cases where you have a SOCKS proxy server mediating network traffic between the ASR Manager and the internet. For other proxy server types, you need to re-register ASR to set-up the proxy server information, as discussed in ["Register the ASR Manager"](#) on page 2-3.

1. Open a terminal window and log in as root to the ASR Manager system.

2. Using an editor of your choice (such as vi), edit the following file by changing the SOCKS proxy information as needed:

```
/var/opt/SUNWsasm/configuration/config.ini
```

3. The following entries must be made within the file. Contact a Network Administrator if needed.

```
socksProxyHost=
socksProxyPort=
java.net.socks.username=
java.net.socks.password=
```

4. Restart ASR using the following command:

- For Solaris: svcadm restart sasm
- For Linux, run: service sasm restart

5. To verify the changes, run the following command:

```
cat /var/opt/SUNWsasm/configuration/config.ini | grep socks
```

#### 4.14.4 Configure OASM Network Settings

The following command can be used to confirm that the network parameters used by OASM to connect to Oracle's ASR backend systems are properly set:

```
grep transport.root
/var/opt/SUNWsasm/configuration/config.ini
```

The ASR transport hostname is displayed and will be similar to the results shown below:

```
com.sun.svc.container.transport.root=
https://transport.oracle.com
```

#### 4.14.5 Test Connectivity from the ASR Manager to Oracle

The following procedure can be used to confirm proper communication between the ASR Manager and Oracle's ASR backend systems.

1. Complete **one** of the following steps from the ASR Manager to verify connectivity to Oracle's ASR backend systems:

- Using telnet:

```
telnet transport.oracle.com 443
```

- Using a web browser:

```
https://transport.oracle.com/v1/
```

The web page should indicate that the Data Transport Service is operating.

- Using the wget utility:

- For Solaris:

```
/usr/sfw/bin/wget https://transport.oracle.com/v1/
```

- For Linux:

```
wget https://transport.oracle.com/v1/
```

---

**Note:** "Unable to locally verify the issuer's authority" is an expected error.

---

2. If the results of the above commands do not indicate the Data Transport Service is operating, you must resolve your network connection issue. Listed below are possible resolutions:
  - Determine if your network's DNS configuration is able to resolve `transport.oracle.com`. You may need to configure your firewall to enable outbound Internet access to `transport.oracle.com`.  
If DNS is not available on the ASR Manager host, you may need to manually add an entry for `transport.oracle.com` and its IP address to the `/etc/hosts` file. Use any DNS lookup service on the Internet to determine the IP address for `transport.oracle.com`.
  - You may need to contact your network administrator for assistance. Refer to "[Network Connection Requirements](#)" on page 1-7 for the specific ASR network requirements.
  - If you use a proxy server, the issue could be that the proxy information has not yet been configured to ASR and OASM. This is done by registering ASR, as discussed in the following procedure.

## 4.15 ASR Integration with Enterprise Monitoring Systems

Other environments are set up to use different enterprise monitoring systems (e.g., IBM Tivoli, HP OpenView, etc.). Beginning with ASR 3.0, integration with My Oracle Support allows sending ASR service-request information to these systems. Once installed and properly configured, ASR provides the following integration features with enterprise monitoring systems:

- Ability to configure SNMP trap destination from OASM ASR to enterprise monitoring systems.
- Send case creation and test alert messages to enterprise monitoring systems.
- New ASR MIB that provides the data model of ASR case creation notification.

Examples of enterprise-monitoring systems include:

- IBM Tivoli
- HP OpenView
- BMC Patrol
- Unicenter
- xVM Ops Center
- Any monitoring tool that can receive an SNMP v2c trap

During installation of the ASR software package, the SNMP trap destination can be configured from the OASM host to monitoring systems. Once the ASR-capable assets are activated, ASR is designed to generate a service request after specific faults are detected. Once the service request is opened, the Oracle Support coverage and response times are delivered in accordance with your Oracle Premier Support or Warranty Contract.

---

**Note:** Because of ASR 3.0 integration with My Oracle Support, there are changes in the Service Request format. The service request number format in the notification trap is not correct if you are using any version older than ASR 3.0 manager. See "[Using Auto Update to Manually Upgrade ASR Manager Software](#)" for instructions on upgrading to the latest version of ASR.

---

The OASM ASR Plug-in polls the ASR backend whenever a fault event or test alert occurred and updates its local database with service request or test alert information. Once the service request/test alert information is available to the OASM ASR Plugin, it sends an SNMP v2c trap to the enterprise monitoring systems and include the following service request/test alert data defined in the ASR MIB:

- Hostname
- IP address
- Serial number
- Platform type
- Fault information (one line description)
- Fault information knowledge link
- Service Request number
- Link to Service Request number
- Service Request status information (for "unable to create SR" problems)
- Severity of Service Request
- SR creation time
- Fault detection time
- Customer Contact information

#### 4.15.1 Managing SNMP Trap Destinations for Service Request Notifications

Follow the procedure below to configure SNMP trap destinations for ASR Service Request notifications. You can create up to 10 notification trap destinations.

1. Set ASR notification trap destination:

```
asr> set_notification_trap [-i ipAddress -p port -c community] [-h hostname -p port -c community]
```

For example:

```
asr> set_notification_trap -i 127.0.0.1 -p 162 -c public
```

---

**Note:** Port "162" in the example is the destination port on your monitoring system. The notification trap will be sent **only** when a new service request (SR) is created successfully, and also when the test SR (test SNMP alert from the ASR asset menu) is successful

---

2. Show ASR notification trap destination:

```
asr> show_notification_trap
```

3. Delete ASR notification trap destination:

```
asr> delete_notification_trap -i 127.0.0.1
```

#### 4.15.2 MIB Location and Data Elements

The SUN-ASR-NOTIFICATION-MIB file is located at:

/var/opt/SUNWSasm/configuration/SUN-ASR-NOTIFICATION-MIB.mib

| Data Element                   | Description                                                                                                                                                                                                                                                                                                                                  |
|--------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| sunAsrSrHostname               | Hostname of the system for which the Service Request was created.                                                                                                                                                                                                                                                                            |
| sunAsrSrIpAddress              | IP address of the system for which the Service Request was created.                                                                                                                                                                                                                                                                          |
| sunAsrSrSerialNumber           | Product serial number of the system for which the Service Request was created. For chassis and blade systems, chassis serial number is used.                                                                                                                                                                                                 |
| sunAsrSrPlatformType           | Product Type of the system for which the Service Request was created.                                                                                                                                                                                                                                                                        |
| sunAsrSrCreationDateTime       | Date and time when the Service Request was created.                                                                                                                                                                                                                                                                                          |
| sunAsrSrFaultDetectionDateTime | Date and time when the fault was generated.                                                                                                                                                                                                                                                                                                  |
| sunAsrSrCreationStatus         | Status indicating the processing of Service Request creation.                                                                                                                                                                                                                                                                                |
| sunAsrSrAdditionalInfo         | <p>Additional information associated with the fault can be added as name/value pairs. For example:</p> <pre>&lt;additional-information name=chassis_ host_ name&gt;chassisHostName&lt;/additional-infor mation&gt;</pre> <pre>&lt;additional-information name=chassis_ serial_ number&gt;chassisSerial&lt;/additional-infor mation&gt;</pre> |
| sunAsrSrFaultSummary           | Brief summary of the fault for which the Service Request was created.                                                                                                                                                                                                                                                                        |
| sunAsrSrKnowledgeLink          | Link to a knowledge article for the fault that was reported.                                                                                                                                                                                                                                                                                 |
| sunAsrSrNumber                 | Service request number                                                                                                                                                                                                                                                                                                                       |
| sunAsrSrLink                   | URL for accessing the Service Request information.                                                                                                                                                                                                                                                                                           |
| sunAsrSrSeverity               | Severity of the Service Request opened for the reported fault.                                                                                                                                                                                                                                                                               |
| sunAsrSrName                   | <ul style="list-style-type: none"> <li>▪ Customer contact information associated with the device reporting the fault.</li> <li>▪ Name of Customer Contact associated with the Serial Number of the Device for which the Service Request was created.</li> </ul>                                                                              |
| sunAsrSrTelephone              | Telephone number of Customer Contact associated with the Serial Number of the Device for which the Service Request was created.                                                                                                                                                                                                              |
| sunAsrSrEmail                  | E-mail address of Customer Contact associated with the Serial Number of the Device for which the Service Request was created.                                                                                                                                                                                                                |

# 5

---

## ASR General Troubleshooting

This chapter provides a variety of troubleshooting procedures for the ASR software.

The instructions provided are for Solaris. When possible, corresponding Linux instructions are provided. Please see the appropriate Linux documentation for details for general administration commands.

---

**Note:** To enter the ASR prompt (asr>) as root, type `asr` on the command line. See "[Install ASR](#)" on page 2-3 for instructions for setting the PATH environment variable.

---

The following troubleshooting topics are presented:

- [ASR Status](#)
- [ASR Diagnostics](#)
- [ASR Manager Crash Recovery](#)
- [ASR - No Heartbeat](#)
- [ASR Assets for Solaris 11 Troubleshooting](#)
- [Resolve ASR Manager Java Path Location in config.ini File](#)
- [Service Tools Bundle \(STB\) Troubleshooting \(Solaris 10 Only\)](#)
- [SMA Service Troubleshooting \(Solaris 10 Only\)](#)
- [Error Messages and Resolutions](#)
- [ASR Auto Update Troubleshooting](#)
- [ASR Activation Failed Troubleshooting](#)
- [Troubleshooting StorageTek Virtual Storage Manager \(VSM\) Assets](#)
- [Troubleshooting ILOM](#)

### 5.1 ASR Status

You can review the status of any ASR Asset from the ASR Manager or from My Oracle Support. The following ASR Status troubleshooting topics are presented:

- [View Status from the ASR Manager](#)
- [View Status from My Oracle Support](#)
- [ASR Log Files](#)

- Check the State of ASR Bundles
- Check ASR Manager Status

### 5.1.1 View Status from the ASR Manager

The status of any ASR Asset can be obtained by running any one of the following command options from the ASR Manager system:

| ASR Command                       | Description                                         |
|-----------------------------------|-----------------------------------------------------|
| list_asset                        | Lists all assets associated with this ASR Manager.  |
| list_asset -i <IP address>        | Shows the asset associated with the IP address.     |
| list_asset -h <hostname>          | Shows the asset associated with the host name.      |
| list_asset -hb                    | Displays the last heartbeat date.                   |
| list_asset -s <subnet IP address> | Lists all assets associated with subnet IP address. |

---

**Note:** The `list_asset` command accepts a comma-delimited list of IP addresses, subnets, or hostnames.

---

The results will be similar to the following example:

| IP_ADDRESS    | HOST_NAME     | SERIAL_NUMBER | ASR     | PROTOCOL | SOURCE | PRODUCT_NAME        |
|---------------|---------------|---------------|---------|----------|--------|---------------------|
| 123.45.67.890 | abcd.name.com | 1234ABCD      | Enabled | SNMP     | FMA    | Sun-Fire-V240 SPARC |
| 198.76.54.321 | sasm-123-21   | A11BAC        | Enabled | SNMP     | ILOM   | Sun-Fire-V240 SPARC |

The output of the `list_asset -hb` command would be similar to the following example:

| SERIAL_NUMBER | HOST_NAME     | LAST_HEARTBEAT_DATE     | PRODUCT_NAME                     |
|---------------|---------------|-------------------------|----------------------------------|
| ASRBT7777     | host-123      | NA                      | SUNW, Sun-Fire-V210 SPARC System |
| ASRTEST1      | asr-123       | NA                      | SUN FIRE X2270 x86/x64 System    |
| ASRTST321777  | abcd.name.com | 2014-03-07 07:39:55.105 | SPARC T5-8                       |

The data in `LAST_HEARTBEAT_DATE` column can show either **NA** or a date/time when the ASR Manager received the last heartbeat from the asset.

A value of **NA** indicates that the ASR Asset never sent a heartbeat to the ASR Manager.

---

**Note:** ASR Assets running Solaris 11 and ILOM version 3.2.2.0 will send individual heartbeats.

---

### 5.1.2 View Status from My Oracle Support

To view the status of all ASR Assets, log in to My Oracle Support (<https://support.oracle.com>). In the My Oracle Support Dashboard, click the "Systems..." tab. Then select "Settings" from the menu.

In the "Settings" pane on the left of the window, select "Assets" (located under the Administrative submenu). A complete list of all ASR Assets is displayed:

|             | Serial Number             | Asset Name        | Product Name | Host Name  | Support Identif... | Contact Name | ASR Status              | 1 ▲ |
|-------------|---------------------------|-------------------|--------------|------------|--------------------|--------------|-------------------------|-----|
| 0940000008  | Cores2                    | S7410 Family      | cores2-ari1  | 1710000000 | Carl [REDACTED]    |              | Active                  |     |
| 0710000005  | Wayne Seltzer -...        | SFV215,1x1.5,1... |              | 1710000000 | Wayne Seltzer      |              | Active                  |     |
| 0610000006  | X4100 M2:2x222...         |                   |              | 1710000000 | Jason [REDACTED]   |              | Active                  |     |
| 0600000003  | X4100:2x252 4x1...        | ASR-Asset2        |              | 1710000000 | Angelo [REDACTED]  |              | Active                  |     |
| 0710000004  | Wayne Seltzer             | SFV215,1x1.5,1... | unknown      | 1710000000 | Wayne Seltzer      |              | ! Active - No Heartbeat |     |
| 0720000000  | SE T5220 BASE ...         |                   |              | 1710000000 |                    |              | Pending                 |     |
| 0720000001  | SE T5120 BASE ...         |                   |              | 1710000000 |                    |              | Pending                 |     |
| 0840000000  | X4240;1x2347HE...         |                   |              | 1710000000 |                    |              | Pending                 |     |
| 0920000000  | X2270;1xE5540,...         |                   |              | 1710000000 |                    |              | Pending                 |     |
| 2200000000  | SFV880 4@900 ...          |                   |              | 1710000000 |                    |              | Pending                 |     |
| 3300000000  | 280R/2x1.2GHz/...         |                   |              | 1710000000 |                    |              | Pending                 |     |
| BELL000001  | SE T5120 8CR 1...         |                   |              | 1710000000 |                    |              | Pending                 |     |
| BELL000002  | FJ T5120 4CR 1... unknown |                   |              | 1710000000 |                    |              | Pending                 |     |
| FMS10000002 | SFV210,1x1GHz,...         |                   |              | 1710000000 |                    |              | Pending                 |     |

### 5.1.3 ASR Log Files

When you are troubleshooting ASR, you can change the level of information displayed in the logs, and increase or decrease the number of logs that are saved before being overwritten. The logs are written to the `sw-asr.log` files. Log files are located on the ASR Manager system at `/var/opt/SUNWsasm/log`

| Log File                                  | Description                                                                       |
|-------------------------------------------|-----------------------------------------------------------------------------------|
| <code>asr-sw-autoupdate.log</code>        | Status updates for the ASR Auto Update feature.                                   |
| <code>asr-http-rcvr-accepted.log.0</code> | Messages accepted by the ASR Manager HTTP receiver                                |
| <code>asr-http-rcvr-rejected.log.0</code> | Messages rejected by the ASR Manager HTTP receiver                                |
| <code>asr-http-rcvr.log.0</code>          | Messages processed by the ASR Manager HTTP receiver                               |
| <code>sasm.log</code>                     | Error messages and activity regarding the Oracle Automated Service Manager (OASM) |
| <code>sw-asr-accepted.log.0</code>        | Fault events accepted by the ASR Manager                                          |
| <code>sw-asr-objectpool.log.0</code>      | Troubleshooting information used by the Oracle ASR support team                   |
| <code>sw-asr-rejected.log.0</code>        | Fault events rejected by the ASR Manager                                          |
| <code>sw-asr-servicerequest.log.0</code>  | Oracle service request numbers created by ASR                                     |
| <code>sw-asr.log.0</code>                 | Error messages and activity regarding the ASR Manager                             |
| <code>sw-asr-snmp.log.0</code>            | Activity regarding SNMP traps processing                                          |

There are four levels of logs:

1. **Fine:** Displays the highest level of information. It contains fine, informational, warnings and severe messages.
2. **Info:** Displays not only informational data, but also both warnings and severe messages. This is the default setting.
3. **Warning:** Displays warnings and severe messages.

4. **Severe:** Displays the least amount of information; severe messages only.

The default number of logs collected and saved is 5. Once that number is reached, ASR begins overwriting the oldest file. You have the option to change the number of logs collected and saved. If you are gathering as much information as possible in a short time, you might want to limit the number of logs saved to accommodate the larger files.

#### 5.1.3.1 Set Log Level

Follow the procedure below to set logging levels:

1. Open a terminal window and log in as root on the ASR Manager system.
2. To view the current level of information being gathered, run:

```
asr> get_loglevel
```

3. To change the logging level, run:

```
asr> set_loglevel [level]
```

The choices for level are: **Fine**, **Info**, **Warning**, or **Severe**.

#### 5.1.3.2 Set Log File Counts

Follow the procedure below to set log file counts:

1. Open a terminal window and log in as root on the ASR Manager system.
2. To view the current number of logs being saved, enter the following command:

```
asr> get_logfilecount
```

3. To change the number of logs being saved, enter the following command:

```
asr> set_logfilecount [number]
```

### 5.1.4 Check the State of ASR Bundles

For diagnostic purposes, it may be necessary to check the state of various application bundles installed on the ASR Manager system using the following procedure.

1. Open a terminal window and log in as root to the ASR Manager.

2. Enter the following command:

```
asr> diag
```

3. Review the results of this command below along with the settings you should see:

```
id State Bundle
744 ACTIVE com.sun.svc.asr.sw_3.8.0
Fragments=745, 746
745 RESOLVED com.sun.svc.asr.sw-frag_3.8.0
Master=744
746 RESOLVED com.sun.svc.asr.sw-rulesdefinitions_3.8.0
Master=744
748 ACTIVE com.sun.svc.asr.sw.http.AsrHttpReceiver_1.0.0
Fragments=749
749 RESOLVED com.sun.svc.asr.sw.http-frag_1.0.0
Master=748
743 ACTIVE com.sun.svc.ServiceActivation_3.8.0
```

4. The state of each bundle should be as follows:
  - com.sun.svc.asr.sw bundle should be **ACTIVE**
  - com.sun.svc.asr.sw-frag should be **RESOLVED**
  - com.sun.svc.asr.sw-rules definitions should be **RESOLVED**
  - com.sun.svc.ServiceActivation should be **ACTIVE**
  - com.sun.svc.asr.sw.http.AsrHttpReceiver bundle should be **ACTIVE**
  - com.sun.svc.asr.sw.http-frag should be **RESOLVED**
5. If any of these states are incorrect, enter the following commands:
 

```
asr> stop
asr> start
```
6. Repeat steps 1 to 3.
7. To ensure everything is working properly, run the following commands:
 

```
asr> test_connection
asr> send_test
```

### 5.1.5 Check ASR Manager Status

For diagnostic purposes, it may be necessary to check the status of processes running on the ASR Manager system. For any failures, refer to [Error Messages and Resolutions](#).

To verify the ASR Manager status, run the following script:

```
/opt/SUNWswasr/util/check_asr_status.sh
```

Output of a successful status check should look like this:

```
PASS: OASM ASR Manager bundles status is active.
PASS: OASM ASR Manager SNMP listener is running (SNMP port 162).
PASS: OASM ASR Manager HTTP receiver is running (HTTP port 8777).
PASS: OASM sw-asr database connectivity is working.
PASS: OASM Registration SSO user name is set correctly.
PASS: OASM Oracle Transport connectivity is working.
PASS: OASM Oracle Transport endpoint is set correctly.
PASS: OASM OSGI port is accessible.
PASS: OASM process is running.
PASS: OASM is running with Standard Oracle Java.
```

## 5.2 ASR Diagnostics

To assist with diagnosing issues with ASR Manager installation, configuration, and operation, ASR provides the ability to generate a diagnostic file that can be analyzed by Oracle Support as part of a Service Request, as needed.

To generate and send an ASR diagnostic file for analysis with Oracle Support:

1. Create a Service Request in My Oracle Support.

---

**Note:** If a valid SR number is not provided, then the upload to Oracle will fail.

---

2. Run the following command from the ASR Manager:

```
asr> send_diag -sr <SR number>
```

Where the `-sr <SR number>` is the newly created Service Request number.

For example:

```
asr> send_diag -sr 3-12345678
```

This command will collect the diagnostics file from ASR Manager and upload to Oracle ASR Infrastructure. Do you want to proceed with collect the diagnostics bundle? [y/n]: y

3. Verify the diagnostic file has been successfully attached to the Service Request. Log in to My Oracle Support and view the Service Request you created earlier. The request should be updated with a new attachment.
4. (Optional) Check the status of the ASR diagnostic file:

```
asr show_log_collection_status
```

This command displays the ASR diagnostics file's collection status for all collection attempts, either from the ASR command line or from the ASR portal. The collection status is displayed in ascending order.

Output will look like this:

```
asr show_log_collection_status
```

```
Diagnostics File Upload Status
=====
File Name: /opt/SUNWswasr/util/diag/asr-diag-bundle-<client site
ID>-131218104617.zip
File Upload Time Stamp: 2013-12-18 10:48:17.605
Asset Serial: Not Activated
File Uploaded from Client: ASR Manager
Client Site ID: <client site ID number>
File Upload Status Message: User my-asr-user@mycompany.com is not entitled to
upload the log files to Oracle ASR Infrastructure.
Failure reason: PUT
https://mycompany.com/upload/issue/3-12345678/asr-diag-bundle-<client site
ID>-131218104617.zip returned a response status of 403 Forbidden
File Upload Type: Log Collection via Manual Request
File Upload Requested By: Manual Request from ASR Commandline
File Type: ASR Manager Diagnostics Bundle
```

You can also create a ASR diagnostic file at any time. From the ASR Manager, run the following command and follow the command-line instructions:

```
asr> asrDiagUtil.sh
```

---

**Note:** You can specify where the file is to be located. See [Configure the ASR Diagnostic Utility](#) for more information. By default, this file is stored in the following directory:

```
/opt/SUNWswasr/util/diag
```

---

## 5.2.1 Configure the ASR Diagnostic Utility

The `diag-config.properties` file consists a list of properties for specifying location of the configuration and log directories. It also contains "toggle switches" for enabling and disabling a particular data set to be collected:

- com.sun.svc.asr.util.diag.home.directory – The property for specifying where the diagnostic data .zip bundle will be generated. Default is current directory where the ASR Diagnostic Utility is located.
- com.sun.svc.asr.util.diag.zip.file.prefix – The property for configuring the diagnostic data .zip file's name.
- com.sun.svc.asr.util.diag.zip.recursive.property – The property for enabling traversing into subdirectories of any configuration or log directories.

## 5.2.2 ASR Diagnostic Error Messages

| Error Message                                                                                                                                                                                    | Resolution                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ASR Manager does not have the Minimum Java version required for the Diagnostics file upload to Oracle ASR Infrastructure.<br>Existing Java Version: 1.6.0_26, Minimum required version: 1.6.0_43 | <p>Upgrade the Java version to 1.6.0_43 or above. Then point OASM to use this latest Java version. Open the /var/opt/SUNWsasm/configuration/config.ini file and edit the java.exec= property to point valid Java path.</p> <p>For example:</p> <pre>java.exec=/usr/java/bin/java</pre> <p>Save and close the file, then restart OASM to have the updates take effect:</p> <ul style="list-style-type: none"> <li>■ For Solaris: svcadm restart sasm</li> <li>■ For Linux: service sasm restart</li> </ul> |
| Please enter a valid service request number.                                                                                                                                                     | <p>The Service Request (SR) number format should be valid. A valid format is &lt;single digit&gt;&lt;-&gt;&lt;multiple digits&gt; (for example: 3-1234566).</p> <p>Check the SR number you created and run the send_diag command again with the valid SR number.</p>                                                                                                                                                                                                                                      |
| Log collection was requested with an invalid SR Number.<br>Cannot upload the logs to Oracle ASR Infrastructure.                                                                                  | <p>The contact registered for the ASR Manager is not authorized to upload diagnostics files to My Oracle Support for this SR.</p> <p>Log in to My Oracle Support to verify the upload permissions.</p>                                                                                                                                                                                                                                                                                                    |
| ClassCastException while uploading file to Oracle ASR Infrastructure.<br>A restart of OASM is required.                                                                                          | <p>Restart OASM to resolve the issue.</p> <p>For Solaris: svcadm restart sasm<br/>For Linux: service sasm restart</p>                                                                                                                                                                                                                                                                                                                                                                                     |

## 5.3 ASR Manager Crash Recovery

In cases where an ASR Manager experiences a critical failure, you can set up a new ASR Manager and reconfigure ASR Assets to report to the new host. The following steps describe a sample scenario:

1. An ASR Manager is set up (e.g., hostname: **ASRHOST01**, IP address: **10.10.10.1**) and configured on the network. This ASR host is registered and activated to itself.
2. All ASR assets are configured to report failures to the ASR Manager host (**ASRHOST01**), and all ASR assets are activated on the host.
3. A critical failure occurs in the cabinet of **ASRHOST01** (for example: a fire destroys the system and its data). The assets need to be attached to a different ASR Manager host (e.g., hostname: **ASRHOST02**).

4. A new ASR Manager is set up (e.g., hostname: **ASRHOST02**, IP address: **10.10.10.2**) and configured on the network. The new ASR host is registered and activated to itself.
5. All ASR assets are now re-configured to report failures to the new ASR Manager host **ASRHOST02**, and the trap destination is changed to report failures to **ASRHOST02**.
6. All ASR assets are now activated on **ASRHOST02**

---

**Note:** In order to reduce the additional work with moving the ASR Manager to a different location (e.g., from **ASRHOST1** to **ASRHOST2**), you can create an ASR backup on another host or on the existing host. Creating a backup is crucial when recovering from a crash (see "[ASR Backup and Restore](#)" on page 4-13 for a details on creating an ASR backup).

---

## 5.4 ASR - No Heartbeat

Heartbeat is configured to run once every day via an internal timer thread. If there is no response after approximately 48 hours, the unit will be marked as a 'Heartbeat Failure' unit.

You can check to see if any ASR Manager or ASR Asset are in *Heartbeat Failure* by reviewing the ASR status in My Oracle Support.

If you feel that ASR Manager is configured correctly, then you can troubleshoot your ASR Manager hardware to resolve the problem. See MOS knowledge article 1346328.1 for the instructions to your particular hardware:

<https://support.oracle.com/CSP/main/article?cmd=show&type=NOT&doctype=HOWTO&id=1346328.1>

See [Appendix A.3, "Heartbeat Failure Notification E-mail Examples"](#) for an e-mail example you may receive should this problem occur.

## 5.5 ASR Assets for Solaris 11 Troubleshooting

In cases where you are having issues with configuring ASR on Solaris 11 assets using the `asradm` command, then review the status of the following `asr-notify` SMF service:

```
svcs asr-notify
```

Output should look like this:

| STATE  | STIME    | FMRI                              |
|--------|----------|-----------------------------------|
| online | 13:00:31 | svc:/system/fm/asr-notify:default |

---

**Note:** If the `asr-notify` service status is in maintenance mode, then clear the maintenance mode:

```
svcadm clear asr-notify
```

---

re-register the Solaris 11 asset with ASR manager

---

## 5.6 Resolve ASR Manager Java Path Location in config.ini File

If you have an incorrect or old version of Java installed, the ASR Manager will not start. The command to start OASM will report the following message (see [Start ASR and OASM](#) for Solaris and Linux command samples):

```

Warning! An old Java version (1.5) was detected (tried
'/usr/jdk/jdk1.5.0_16/bin/java').
Oracle Automated Service Manager requires a Java version of 1.6 or higher
to run correctly.

You can set 'java.exec' property in file
/var/opt/SUNWsasm/configuration/config.ini
to point to JAVA 1.7 or later

Java can be downloaded from http://www.java.com

```

1. Check the Java version you have installed. From the ASR Manager, run:

```
java -version
```

See [Java Requirements](#) for details of the Java version requirements for ASR. ASR requires Java 7 (1.7.0\_13) or later.

2. Get the current Java path location. From the ASR Manager, run:

```
cat /var/opt/SUNWsasm/configuration/config.ini | grep ^java.exec
```

The output would look like this:

```
java.exec=/usr/bin/java
```

3. Make a backup of the config.ini file. From the ASR Manager, run:

```
cp /var/opt/SUNWsasm/configuration/config.ini
/var/opt/SUNWsasm/configuration/config.ini_<current-timestamp>
```

4. Edit the java.exec property in the config.ini file to point to the value of the java.exec output from Step 2, which should be for Java 7:

```
/usr/jdk/latest/bin/java
```

5. Stop and start OASM. From the ASR Manager, run:

- For Oracle Solaris:

```
svcadm restart sasm
```

- For Linux:

```
service sasm restart
```

## 5.7 Service Tools Bundle (STB) Troubleshooting (Solaris 10 Only)

This section provides a variety of steps to check on the state of the Service Tools Bundle (STB) that must be installed on most ASR systems. If issues arise during the installation and operation of ASR, STB may be part of the issue.

The following STB troubleshooting areas are presented:

- [Check the Service Tags](#)

- [Check the Service Tags Version](#)
- [Check Service Tags Probe](#)
- [Check Service Tags Listener](#)
- [Unable to Contact Service Tags on Asset](#)
- [Unknown or Empty Service Tags on Asset](#)
- [Cannot Retrieve the OASM IP Address](#)
- [Services are Disabled: stdiscover or stlisten](#)

### 5.7.1 Check the Service Tags

1. Open a browser window to the system you wish to check using the following command. Be sure to include the / (slash) after **agent**.

```
http://asr_system_hostname:6481/stv1/agent/
```

2. A response similar to the following will be displayed:

```
<st1:response>
<agent>
<agent_urn><agent urn number></agent_urn>
<agent_version>1.1.4</agent_version>
<registry_version>1.1.4</registry_version>
<system_info>
<system>SunOS</system>
<host><your host name></host>
<release>5.10</release>
<architecture>sparc</architecture>
<platform>SUNW,Sun-Fire-V215::Generic_137111-06</platform>
<manufacturer>Sun Microsystems, Inc.</manufacturer>
<cpu_manufacturer>Sun Microsystems, Inc.</cpu_manufacturer>
<serial_number>0707FL2015</serial_number>
<hostid><host ID number></hostid>
</system_info>
</agent>
</st1:response>
```

3. If you do not get a response from the Service Tags agent, consult the Service Tags man pages:

```
man in.stlisten
man stclient
```

### 5.7.2 Check the Service Tags Version

Follow the procedure below to check the Service Tags version:

1. Open a terminal window and log in as root to the ASR system you wish to check.
2. Run the following command to get the Service Tags version:

```
stclient -v
```

ASR requires Service Tags version 1.1.4 or later.

### 5.7.3 Check Service Tags Probe

Follow the procedure below to determine that the Service Tag discovery probe is running:

1. Open a terminal window and log in as root to the ASR system you wish to check.
2. To determine that the Service Tag discovery probe is running, run the following command:

```
svcs -l svc:/network/stdiscover
```

3. If the probe is running correctly, the following information is displayed:

```
fmri svc:/network/stdiscover:default
name Service Tag discovery probe
enabled true
state online
next_state none
state_time Wed Sep 03 21:07:28 2008
restarter svc:/network/inetd:default
```

#### 5.7.4 Check Service Tags Listener

Follow the procedure below to determine that the Service Tags Listener is running:

1. Open a terminal window and log in as root to the ASR system you wish to check.
2. To determine if the Service Tags listener is running, run the following command:

```
svcs -l svc:/network/stlisten
```

3. If the listener is running correctly, the following information is displayed:

```
fmri svc:/network/stlisten:default
name Service Tag Discovery Listener
enabled true
state online
next_state none
state_time Wed Sep 03 21:07:28 2008
restarter svc:/network/inetd:default
xibreXR_US root@s4u-v215c-abc12
```

#### 5.7.5 Unable to Contact Service Tags on Asset

This message indicates that the activation failed during Service Tags discovery. The issue can be either Service Tags is not installed on the ASR Asset or is installed but not running. Also the issue can be network connectivity between ASR Manager and the ASR Asset. Complete the following checks:

1. Check if Service Tags is installed and running on an ASR Asset. Run:

```
stclient -x
```

If you cannot run this command, either Service Tags is not installed or not online.

2. Check if the Service Tags services are installed and online using the following command:

```
svcs | grep reg
```

3. The results should be similar to the following example:

```
online Aug_23 svc:/application/stosreg:default
online Aug_23 svc:/application/sthwreg:default
```

4. If you cannot find these services, it means Service Tags is not installed on the ASR asset.

5. If the Service Tags services are online, check if psncollector is online. Run:

```
svcs | grep psncollector
```

6. The results should be similar to the following example:

```
online Sep_09 svc:/application/psncollector:default
```

7. Make sure that there are no TCP Wrappers installed on the ASR asset to prevent any service tags discovery issues. Run the following command from the ASR Manager system:

```
wget http://[assetHostNameOrIPaddress]:6481/stv1/agent/
```

8. If there are TCP wrappers installed on the ASR asset, edit /etc/hosts.allow on the asset by adding:

```
in.stlisten:[OASM host name]
```

## 5.7.6 Unknown or Empty Service Tags on Asset

1. View the ASR Asset's serial number using the following URL:

```
http://[AgentipAddress]:6481/stv1/agent/
```

2. If product name is empty or "unknown," then check if the Hardware Service Tags are installed and online. Run:

```
svcs | grep sthwreg
```

The results should look like this:

```
online Aug_23 svc:/application/sthwreg:default
```

3. If the serial number is incorrect, contact Oracle Support to resolve the problem.

## 5.7.7 Cannot Retrieve the OASM IP Address

This error message indicates that the ASR Asset activation failed because the Oracle Automated Service Manager (OASM) IP address could not be retrieved. The final step for activating an ASR Asset includes this command:

```
asr activate_asset -i [host IP address]
```

When activation fails, the following error message displays:

```
Cannot retrieve the SASM IP address, please add the SASM IP address to /etc/hosts
```

You must edit the /etc/hosts file to update the localhost entry. For example, as root, change an entry that looks like this:

```
127.0.0.1 hostname123.com hostname123 localhost.localdomain localhost
```

to this:

```
127.0.0.1 localhost.localdomain localhost
```

## 5.7.8 Services are Disabled: stdiscover or stlisten

Service tag processes (stlisten and stdiscover) must be online in order to activate assets successfully.

1. Check to determine if the stdiscover or stlisten services are disabled. Run the following command:

---

```
svcs stlisten stddiscover
```

If the services have been disabled, the output would look like this:

```
STATE STIME FMRI
disabled 12:20:14 svc:/network/stddiscover:default
disabled 12:20:14 svc:/network/stlisten:default
```

2. To enable the stddiscover and stlisten services, run the following command:

```
svcadm enable stlisten stddiscover
```

3. Verify the services are online:

```
svcs stlisten stddiscover
```

Once the services have been enabled, the output would look like this:

```
STATE STIME FMRI
enabled 12:20:14 svc:/network/stddiscover:default
enabled 12:20:14 svc:/network/stlisten:default
```

## 5.8 SMA Service Troubleshooting (Solaris 10 Only)

The SMA service needs to be online in order to support Solaris FMA enrichment data properly. Prior to configuring FMA, complete the following steps:

1. To check that the state of the SMA service is online, run:

```
svcs sma
```

2. If SMA is online, the state should indicate online, as in the following example:

```
STATE STIME FMRI
online 15:40:31 svc:/application/management/sma:default
```

3. If SMA is not online, run the following command to enable it:

```
svcadm enable sma
```

4. Repeat these steps to confirm SMA is online.

## 5.9 Error Messages and Resolutions

---

| Error Message                                                                                                                                                                                                                                                                            | Resolution                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| WARNING: Unable to retrieve fault details. For additional information and some insights into how to correct, please see the ASR Installation and Operations Guide - located at <a href="http://www.oracle.com/asr">www.oracle.com/asr</a> . See the ASR General Troubleshooting Section. | <ol style="list-style-type: none"> <li>1. Verify that the asset has the right Solaris minimum required version and patch level as per the ASR qualified systems web page (see <a href="http://www.oracle.com/asr">http://www.oracle.com/asr</a> for more information).</li> <li>2. Review the community string properties on the asset. ASR Manager requires public as the value of the community string in order to retrieve FMA enrichment and additional fault details. (See <a href="#">Enable M-Series XSCF Telemetry</a> for more details)</li> <li>3. Review the FMA trap destination configuration file, and restart sma and fmd SMF services.</li> </ol> |
| WARNING: This trap is rejected because the asset is disabled                                                                                                                                                                                                                             | <p>Enable the ASR Asset using <b>one</b> of the following commands:</p> <pre>asr&gt; enable_asset -i &lt;ip&gt; (where ip is the IP address of the ASR asset) or asr&gt; enable_asset -h &lt;host&gt; (where host is the hostname of the ASR asset)</pre>                                                                                                                                                                                                                                                                                                                                                                                                         |

---

| Error Message                                                                                                                                                                                                            | Resolution                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| WARNING: this trap is rejected because OASM ASR Plug-in is not activated                                                                                                                                                 | Enable the ASR Manager using <b>one</b> of the following commands:<br><br>asr> activate_asset -i <ip><br>(where <i>ip</i> is the IP address of the ASR asset)<br>or<br>asr> activate_asset -h <host><br>(where <i>host</i> is the hostname of the ASR asset)                                                                                                                                                                                                                                                                                                |
| WARNING: this trap is rejected because the asset is not found                                                                                                                                                            | Enable the ASR Asset using <b>one</b> of the following commands:<br><br>asr> activate_asset -i [ip]<br>(where <i>ip</i> is the IP address of the ASR asset)<br>or<br>asr> activate_asset -h [host]<br>(where <i>host</i> is the hostname of the ASR asset)                                                                                                                                                                                                                                                                                                  |
| SEVERE: Cannot attach snmp trap to snmp service!                                                                                                                                                                         | This indicates that there could be another process using port 162. Kill that process and then run:<br><br>svcadm restart sasm                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Checking connection to /v1/_register failed!                                                                                                                                                                             | Run the <code>asr&gt; register</code> command again. This time, enter <b>1</b> or the full URL: <a href="https://transport.oracle.com">https://transport.oracle.com</a><br>See <a href="#">Register the ASR Manager</a> .                                                                                                                                                                                                                                                                                                                                   |
| Failure to Register Errors                                                                                                                                                                                               | The <code>sasm.log</code> has more detailed information and a Java stacktrace on what failed during registration. When a failure error is encountered, additional details can be found in:<br><br><code>/var/opt/SUNWsasm/configuration/sasm.log</code>                                                                                                                                                                                                                                                                                                     |
| No Such Host Exception                                                                                                                                                                                                   | This error indicates that the host running ASR Manager cannot resolve the IP address for the Data Transport Service server. Refer to <a href="#">Test Connectivity from the ASR Manager to Oracle</a> to troubleshoot and resolve the problem.                                                                                                                                                                                                                                                                                                              |
| Not Authorized. The My Oracle Support account provided could not be verified by the transport server                                                                                                                     | This error indicates that the communication between transport server and Oracle is down or busy. This can also indicate that the queue set-up is wrong or that the user does not have permissions to the queue.                                                                                                                                                                                                                                                                                                                                             |
| Socket Exception: Malformed reply from SOCKS server                                                                                                                                                                      | This error indicates one of the following: <ul style="list-style-type: none"><li>■ The socks configuration in the <code>config.ini</code> file is incorrect or missing. <b>Action:</b> This usually indicates that you need to supply a user/password for the socks settings.</li><li>■ The socks is not able to route to the transport server endpoint. <b>Action:</b> Add the correct http proxy information or socks settings. Refer to <a href="#">Configure ASR to Send HTTPS Traffic Through a Proxy Server</a> to correct the information.</li></ul> |
| error: Failed dependencies:<br>jdk >= 1.7 is needed by<br>SUNWsasm-1.5.0-112.noarch                                                                                                                                      | <b>Action:</b> Install OASM 1.5 using the <code>--nodeps</code> option:<br><br><code>rpm -i --nodeps SUNWsasm-1.5.0-112.rpm</code>                                                                                                                                                                                                                                                                                                                                                                                                                          |
| This is applicable to ASR Manager on Linux when upgrading OASM 1.4.2 to OASM 1.5<br><br># service sasm start                                                                                                             | <b>Action:</b> <ol style="list-style-type: none"><li>1. Uninstall OASM 1.5 with the following command:<br/><br/><code>rpm -e SUNWsasm</code></li><li>2. Run the following command:<br/><br/><code>rm -rf /var/opt/SUNWsasm/configuration/org.eclipse*</code></li><li>3. Finally, re-install OASM 1.5.</li></ol>                                                                                                                                                                                                                                             |
| Starting Oracle Automated Service Manager... Response from command took longer than expected. Closing connection to console.<br>Only one client can access console at a time. Closing connection to console.<br>Started. |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

| Error Message                                                                                                                                                                                    | Resolution                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Activation failures:<br>This asset cannot be activated.<br>Service Tags on asset abc reports:<br>Product Name: unknown (Invalid Product Name)<br>Serial Number: TEST 123 (Invalid Serial Number) | Valid serial numbers contain letters, digits, period, colons, hyphens, underscores.<br>See <a href="#">Activation Failed for Asset &lt;asset name&gt; Due to Data Error (Solaris 10 Only)</a> for details to correct this issue.                                                                                                                                                                                                                                                                                                                                                                                                             |
| FAIL: Missing Registration SSO username in OASM config.<br>FAIL: OASM Oracle Transport end point is incorrectly set.<br>FAIL: OASM Oracle Transport connectivity is not working                  | Refer to <a href="#">Register the ASR Manager</a> .<br>To verify the ASR Manager status, run the following script:<br><code>/opt/SUNWswasr/util/check_asr_status.sh</code>                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| FAIL: OASM OSGI port is not accessible at this time.<br>FAIL: Multiple OASM processes are running.<br>FAIL: OASM process ID is not matching the process ID saved in /var/run/sasm.pid            | <p>1. Check the OASM processes:</p> <pre>ps -ef   grep "java -cp"   grep "SUNWsasm"</pre> <p>Output should look like this:</p> <pre>root 16817 1 0 16:09:49 ? 4:24 java -cp /var/opt/SUNWsasm/lib/com.sun.svc.container.ManagementTier.jar:/var/opt</pre> <p>2. If OASM is running, kill the processes with the following command:</p> <pre>kill -9 [Process_ID]</pre> <p>3. Restart OASM:</p> <p>For <b>Solaris</b>: <code>svcadm restart sasm</code><br/> For <b>Linux</b>: <code>service sasm restart</code></p> <p>4. To verify the ASR Manager status, run the following script:</p> <pre>/opt/SUNWswasr/util/check_asr_status.sh</pre> |
| FAIL: OASM is not running with Standard Oracle Java.                                                                                                                                             | See <a href="#">Resolve ASR Manager Java Path Location in config.ini File</a> .<br>To verify the ASR Manager status, run the following script:<br><code>/opt/SUNWswasr/util/check_asr_status.sh</code>                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| FAIL: Missing HTTP receiver enable Jetty in OASM config.                                                                                                                                         | See <a href="#">Enable HTTP Receiver for ASR Manager Relay, Solaris 11, and VOP</a><br>To verify the ASR Manager status, run the following script:<br><code>/opt/SUNWswasr/util/check_asr_status.sh</code>                                                                                                                                                                                                                                                                                                                                                                                                                                   |

### 5.9.1 "Only One Client Can Access Console at a Time" or "Can't read input from console" Error Message

If you get either of these error messages running an ASR command on the ASR Manager system, it indicates that only one command can go into the OASM admin port at a time. Each command has a max handle on the connection for 60 seconds before OASM console kills the connection. Try executing the command after 60 seconds. If you still get same message, do the following:

1. Check if OASM is running:

```
ps -ef | grep SUNWsasm
```

2. Results:

```
root 16817 1 0 16:09:49 ? 4:24 java -cp
/var/opt/SUNWsasm/lib/com.sun.svc.container.ManagementTier.jar:/var/opt
```

3. If OASM is running, kill the process using the following command:

```
kill -9 [Process_ID]
```

4. Restart the OASM using the following command:

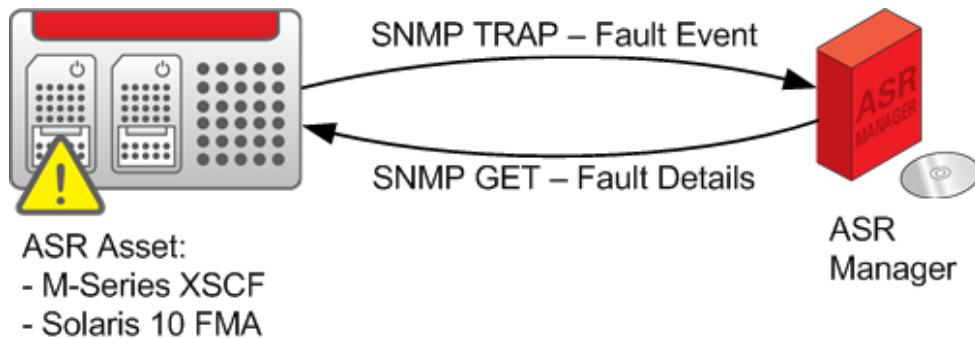
For Solaris: `svcadm restart sasm`

For Linux: `service sasm restart`

### 5.9.2 "SNMP GET failed" Error Message

The ASR Manager uses the SNMP GET protocol to query ASR assets for additional fault information (as shown in [Figure 5-1](#)).

*Figure 5-1 ASR Manager SNMP GET*



This is limited to the following products and fault telemetry sources:

- M-Series servers (for example, M3000, M4000, M5000, M9000), XSCF service processor.
- Solaris 10 on ASR-qualified Oracle servers that require FMA for ASR.

These products send fault events to the ASR Manager using the SNMP TRAP protocol.

The ASR Manager uses the SNMP GET to retrieve additional fault information (such as, FRU part number, serial number, and slot location) from the product. This important information allows Oracle to streamline the service delivery process. For example:

```
snmp_get -i <IP Address>
snmp_get -h <Hostname>
```

The ASR Manager `test_snmp_get` command is used to verify SNMP GET connectivity. For example:

```
test_snmp_get -i <IP Address>
test_snmp_get -h <Hostname>
```

Failure reasons include:

- Incorrect asset configuration.
- Network configuration on routers and firewalls that prohibit SNMP GET traffic.

An SNMP GET error message will be returned as:

```
SNMP GET failed on: asset Hostname/IP
```

#### 5.9.2.1 Solaris 10 FMA SNMP GET Troubleshooting

To resolve this error for ASR Assets running Solaris 10 FMA:

1. Log in to the ASR Asset.
2. Verify the fmd status:

```
svcs fmd
```

Output will look like this:

```
STATE STIME FMRI
online Jan_07 svc:/system/fmd:default
```

**3.** Verify the sma status:

```
svcs sma
```

Output will look like this:

```
STATE STIME FMRI
online Jan_07 svc:/application/management/sma:default
```

**4.** Enable fmd and sma:

```
svcadm enable fmd
svcadm enable sma
```

### 5.9.2.2 M-Series Servers XSCF SNMP GET Troubleshooting

To resolve this error for M-Series servers:

- 1.** Log in to the M-Series XSCF.
- 2.** Verify the following information:

- SNMP is operational with the agent running, accepting requests on port **161**.
- The Service Processor (SP) and Fault Management (FM) Management Information Base ("MIB") is enabled.
- The community string is set to **public** in all lower case.

To verify this information, run:

```
XSCF> showsnmp
```

The output will look like this:

```
Agent Status: Enabled <<-- Must be "Enabled"
Agent Port: 161 <<-- Must be "161"
System Location: Unknown
System Contact: Unknown
System Description: Unknown
```

Trap Hosts:

| Hostname    | Port  | Type  | Community String | Username | Auth Protocol |
|-------------|-------|-------|------------------|----------|---------------|
| -----       | ----- | ----- | -----            | -----    | -----         |
| 10.11.12.13 | 162   | v1    | public           | n/a      | n/a           |

SNMP V1/V2c:

```
Status: Enabled <<-- Must be "Enabled"
Community String: public <<-- Must be "public" in lower case
```

**3.** To enable SNMP:

```
XSCF> setsnmp enablev1v2c public
```

---

**Note:** The SNMP community string is case sensitive. For example, **PUBLIC** is not the same as **public**.

The default community string used by ASR Manager is **public**.

---

## 5.10 ASR Auto Update Troubleshooting

By default, Oracle ASR will download and install the latest version of the ASR software. The following sections provide potential solutions for problems that may arise:

- [ASR Auto Update Error Codes](#)
- [SELINUX Environment Variable \(Linux Only\)](#)

### 5.10.1 ASR Auto Update Error Codes

ASR Auto Update includes a set of error codes to help diagnose and resolve issues you may encounter. See *Oracle ASR: Auto Update Error Codes* (Doc ID 1568407.1) in My Oracle Support:

<https://support.oracle.com>

### 5.10.2 SELINUX Environment Variable (Linux Only)

If the SELINUX environment variable is set to "Enforcing," then the ASR Auto Update will not be able to upgrade (remove and install) the ASR software .rpm file.

To resolve this issue, change this variable to "Permissive." Run the `setenforce Permissive` command to enable ASR Auto Update to remove and install the .rpm file automatically.

## 5.11 ASR Activation Failed Troubleshooting

As part of the activation process (see [Activate ASR Assets](#) for details), Oracle ASR automatically checks to verify that the qualified ASR Asset has been properly configured and that telemetry information can be sent. If an ASR Asset fails this activation process, you will receive e-mail notification, depending on the following causes:

- [Activation Denied](#)
- [Activation Failed for Asset <asset name> Due to Data Error \(Solaris 10 Only\)](#)

For a complete list of activation-related e-mail samples, including activation failures, see [ASR Activation E-mail Examples](#).

### 5.11.1 Activation Denied

If you receive an "activation denied" e-mail, (as shown in the [Activation Denied](#) e-mail sample), then check to ensure that the same asset is not already activated by a different ASR Manager. If so, then you must first deactivate that asset from the previous ASR Manager or deactivate that asset in My Oracle Support before re-activating again from a different ASR Manager.

### 5.11.2 Activation Failed for Asset <asset name> Due to Data Error (Solaris 10 Only)

This message indicates that the message creation failed because of bad or missing data. See [Activation Failed Bad Serial](#) for a sample of this activation-failure e-mail. Most of the time, this error is the result of an incorrect or incomplete serial number or product name. To troubleshoot this message, complete the following steps:

1. View the ASR Asset's serial number using the following URL:

```
http://[AgentipAddress]:6481/stv1/agent/
```

2. If product name is empty or "unknown," then check if the Hardware Service Tags are installed and online. Run:

```
svcs | grep sthwreg
```

The results should look like this:

```
online Aug_23 svc:/application/sthwreg:default
```

3. If the serial number is incorrect, contact Oracle Support to resolve the problem.

## 5.12 Troubleshooting StorageTek Virtual Storage Manager (VSM) Assets

Activate the VSM\_SVA ASR Asset with the following command:

```
asr> activate_storage -d VSM_SVA -i <IP address>
```

If there are problems, common troubleshooting solutions include:

1. If the activation failed, the output should look like this:

```
Failed to configure VSM_SVA device at <IP address>. Can't proceed with activation.
Please refer to ASR documentation for troubleshooting steps.
```

To resolve the problem, ensure the device IP address is accessible from the ASR Manager on port 9877. Run the following command:

```
telnet <device IP> 9877
```

2. If the activation failed because the device type is unsupported, the output should look like this:

```
Cannot activate device. Unsupported Device Type. Svm-sva
Supported device Types are: VSM_SVA
```

For example, you would see this output from the following command:

```
asr> activate_storage -d Svm-sva -i <IP address>
```

To resolve the problem, use the supported device type (-d) **VSM\_SVA**.

3. If the IP address is invalid, then output should look like this:

```
Failed to configure VSM-SVA device at <IP address> to send alerts to ASR manager. Can't proceed with activation.
Please check if <IP address> belongs to a VSM_SVA asset.
Ensure the asset <IP address> is accessible from ASR manager on port 9877.
Please refer to ASR documentation for troubleshooting steps.
```

To resolve the problem, verify that the setup procedures have been completely followed and implemented. Run the following command if the IP address is accessible on port 9877:

```
telnet <device IP> 9877
```

4. If the activation failed because the VSM\_SVA serial number could not be determined, then the output should look like this:

```
Failed to run "status id" command to obtain serial number of VSM_SVA device at <IP address>. Can't proceed with activation.
Please refer to ASR documentation for troubleshooting steps.
```

To resolve the problem, ensure that the VSM\_SVA asset configuration is done properly. Manually run the `status id` command on the asset and ensure serial number is properly configured on the asset.

5. If the activation failed because the VSM\_SVA asset configuration to send the alerts to the ASR Manager has failed, then the output should look like this:

```
Failed to configure VSM-SVA device at <IP address> to send alerts to ASR manager. Can't proceed with activation.
Please refer to ASR documentation for troubleshooting steps to manually configure the VSM_SVA asset.
```

To resolve the problem, you must configure the asset manually to send alerts to the ASR Manager. Run the following commands on the VSM\_SVA device:

```
vshell -f "rvsadd <asr manager IP>" bye
vshell -f "rvsstem /var/opt/SUNWsasm/alerts/VSM_SVA" bye
```

## 5.13 Troubleshooting ILOM

The following sections provide information about troubleshooting the Integrated Lights Out Manager (ILOM):

- [Check the Service Tags on ILOM](#)

### 5.13.1 Check the Service Tags on ILOM

Follow the procedure below to check the Service Tags on ILOM:

1. Log in to the ILOM service processor CLI.
2. To view the ILOM Service Tags properties, enter:

```
show /SP/services/servicetag
```

Output should look like this:

```
/SP/services/servicetag
Targets:

Properties:
 passphrase = none
 servicetag_urn = Q9525
 state = disabled
```

```
Commands:
 cd
 set
 show
```

3. To enable Service Tags, you must enable the `state` property. Run:

```
set /SP/services/servicetag state=enabled
```



# A

---

## ASR E-mail Examples

This appendix provides e-mail examples of what you can expect to receive from ASR. E-mails could be sent to:

- The e-mail address of the My Oracle Support account associated with the ASR installation.
- The contact assigned to the asset in My Oracle Support.
- A distribution list assigned to the asset in My Oracle Support (optional).

---

**Note:** The host name is included in the e-mail for the ASR Asset systems only. ASR e-mail notifications for storage assets do not include a host name.

---

Sections include the following e-mail examples:

- [ASR Activation E-mail Examples](#)
- [ASR Service Request E-mail Examples](#)
- [Heartbeat Failure Notification E-mail Examples](#)
- [Fault Rules Out of Date E-mail Example](#)
- [ASR Auto Update E-mail Examples](#)

### A.1 ASR Activation E-mail Examples

Examples of ASR activation e-mail include:

- [Activation Pending My Oracle Support](#)
- [Activation Failed](#)
- [Activation Status Change](#)
- [Activation Failed Bad Serial](#)
- [Activation Denied](#)
- [Status Report](#)
- [New Version of ASR Manager is Available](#)
- [Asset Component Activation Failed](#)

## A.1.1 Activation Pending My Oracle Support

**From:** no.reply@oracle.com  
**Subject:** Oracle ASR: Action Required - Activation is Pending  
**To:** undisclosed-recipients;;

Hostname: <host name>  
Serial#: <serial number>

Oracle Auto Service Request (ASR) activation for this asset is Pending.

To complete the activation process please login to My Oracle Support. (Use the menus - Systems... Settings... Pending ASR Activations).

Assets with a Pending status require approval in My Oracle Support. Note, to approve an ASR Pending activation, your My Oracle Support account must have the administrator privilege for the Support Identifier associated with the asset.

The Oracle Auto Service Request documentation can be accessed on <http://oracle.com/asr>.

Please use My Oracle Support <https://support.oracle.com> for assistance.

## A.1.2 Activation Failed

**From:** no.reply@oracle.com  
**Subject:** Oracle ASR: Activation Request has not been Successful  
**To:** undisclosed-recipients;;

Hostname: <host name>  
Serial#: <serial number> Reason: <Reason will be indicated>  
Serial#: <serial number> Reason: <Reason will be indicated>

Once resolved, please attempt asset activation for the asset again.

The Oracle Auto Service Request documentation can be accessed on <http://oracle.com/asr>.

Please use My Oracle Support <https://support.oracle.com> for assistance.

### A.1.3 Activation Status Change

**From:** no.reply@oracle.com  
**Subject:** Oracle ASR: Asset Status Change  
**To:** undisclosed-recipients:;

Your Auto Service Request (ASR) asset has changed activation status.

Hostname: *<host name>*

Serial#: *<serial number>* has changed activation status to: ASR has been De-Activated. **This ASR asset has changed from Active status because My Oracle Support data associated with the asset has changed. Your attention is required.**

Please login to My Oracle Support to see the status of your Oracle Auto Service Request (ASR) assets. (Use the menus - Systems... Settings... Assets).

Assets with an Active status are enabled and Service Requests specific fault events for these assets will cause Service Requests to be created.

Assets with a Pending status require approval in My Oracle Support. Note, to approve an ASR Pending activation, your My Oracle Support account must have the administrator privilege for the Support Identifier associated with the asset.

The Oracle Auto Service Request documentation can be accessed on  
<http://oracle.com/asr>.

Please use My Oracle Support <https://support.oracle.com> for assistance.

### A.1.4 Activation Failed Bad Serial

**From:** no.reply@oracle.com  
**Subject:** Oracle ASR: Warning - Unable to Activate Asset  
**To:** undisclosed-recipients:;

Hostname: *<host name>*  
Serial#: *<serial number>*

Oracle Auto Service Request (ASR) is not able to complete your activation request.

Please confirm that this is the correct serial number for the asset. Once the issue with the serial number has been corrected, reactivate the asset.

The Oracle Auto Service Request documentation can be accessed on  
<http://oracle.com/asr>.

Please use My Oracle Support <https://support.oracle.com> for assistance.

### A.1.5 Activation Denied

**From:** no.reply@oracle.com  
**Subject:** Oracle ASR: Warning - Unable to Process Activation Request  
**To:** undisclosed-recipients;;

Hostname: <host name>  
Serial#: <serial number>

Oracle Auto Service Request (ASR) was unable to process your activation request because this asset is already activated by a different ASR manager.

The Oracle Auto Service Request documentation can be accessed on <http://oracle.com/asr>.

Please use My Oracle Support <https://support.oracle.com> for assistance.

### A.1.6 Status Report

**From:** no.reply@oracle.com  
**Subject:** Oracle ASR: Asset Status Report  
**To:** undisclosed-recipients;;

Please login to My Oracle Support to see the status of your Oracle Auto Service Request (ASR) assets.

(Use the menus - Systems... Settings... Assets).

Assets with an Active status are enabled and Service Requests specific fault events for these assets will cause Service Requests to be created.

Assets with a Pending status require approval in My Oracle Support. Note, to approve an ASR Pending activation, your My Oracle Support account must have the administrator privilege for the Support Identified associated with the asset.

The Oracle Auto Service Request documentation can be accessed on <http://oracle.com/asr>.

Please use My Oracle Support <https://support.oracle.com> for assistance.

### A.1.7 New Version of ASR Manager is Available

**From:** no.reply@oracle.com  
**Subject:** Oracle ASR: Asset Status Report  
**To:** undisclosed-recipients;;

Hostname: <host name>

A new version of Oracle Auto Service Request (ASR) Manager is available.

The latest version is ASR <version number>

The Oracle Auto Service Request documentation can be accessed on <http://oracle.com/asr>.

Please use My Oracle Support <https://support.oracle.com> for assistance.

### A.1.8 Asset Component Activation Failed

**From:** no.reply@oracle.com  
**Subject:** Oracle ASR: Activation Request has not been Successful  
**To:** undisclosed-recipients:;

Hostname: <host name>

Serial#: <serial number>

Oracle Auto Service Request (ASR) was unable to process your activation request because the asset component (product name: <product name>) is not supported for ASR.

Note: This asset has multiple components enabled for ASR, and at least one of them has an Active ASR status.

The Oracle Auto Service Request documentation can be accessed on <http://oracle.com/asr>.

Please use My Oracle Support <https://support.oracle.com> for assistance.

---

**Note:** This e-mail is sent when an ASR activation is attempted for a product name that is not qualified for ASR, but the asset has one or more other components that are activated that share the same serial number.

For example, when an M-series XSCF is activated, the Solaris host is then activated, which results in an e-mail like this one. The XSCF and Solaris host share the same serial number. However, the Solaris host on an M-series server is not qualified for ASR. (All fault events come from the XSCF.)

---

## A.2 ASR Service Request E-mail Examples

Examples of ASR service request (SR) e-mail include:

- [Test Service Request Created Successfully](#)
- [Test Service Request Creation Failed](#)
- [Service Request Created Successfully](#)
- [Service Request Creation Failed](#)
- [Partner Draft Service Request Created Successfully](#)
- [Partner Service Request Created Successfully](#)
- [Service Request Creation Delayed](#)
- [Draft Service Request \(non-Partner\) Created Successfully](#)

### A.2.1 Test Service Request Created Successfully

**From:** no.reply@oracle.com  
**Subject:** Oracle ASR: \*Test\* Service Request  
**To:** undisclosed-recipients;;

Hostname: <host name>  
Serial#: <serial number>

Service Request test-create was successful.

The Oracle Auto Service Request documentation can be accessed on  
<http://oracle.com/asr>.

Please use My Oracle Support <https://support.oracle.com> for assistance.

### A.2.2 Test Service Request Creation Failed

**From:** no.reply@oracle.com  
**Subject:** Oracle ASR: Warning - Test Service Request failed  
**To:** undisclosed-recipients;;

Hostname: <host name>  
Serial#: <serial number>

Oracle Auto Service Request (ASR) was unable to verify Service Request because:  
<reason for failure>

The Oracle Auto Service Request documentation can be accessed on  
<http://oracle.com/asr>.

Please use My Oracle Support <https://support.oracle.com> for assistance.

### A.2.3 Service Request Created Successfully

**From:** no.reply@oracle.com  
**Subject:** Oracle ASR: Service Request <Service Request Number> Created  
**To:** undisclosed-recipients;;

**Service Request:** <service request number>

Oracle Auto Service Request (ASR) has created a Service Request (SR) for the following ASR asset:

**Hostname:** <host name>  
**Serial#:** <serial number>

Please login to My Oracle Support to see the details of this SR. My Oracle Support can also be used to make any changes to the SR or to provide additional information.

The Oracle Auto Service Request documentation can be accessed on  
<http://oracle.com/asr>.

Please use My Oracle Support <https://support.oracle.com> for assistance.

## A.2.4 Service Request Creation Failed

**From:** no.reply@oracle.com  
**Subject:** Oracle ASR: Warning - Unable to Create Service Request  
**To:** undisclosed-recipients:;

**Hostname:** <host name>  
**Serial#:** <serial number>

Oracle Auto Service Request (ASR) was unable to create Service Request because:  
*<Reason for failure>*

The Oracle Auto Service Request documentation can be accessed on  
<http://oracle.com/asr>.

Please use My Oracle Support <https://support.oracle.com> for assistance.

## A.2.5 Partner Draft Service Request Created Successfully

**From:** no.reply@oracle.com  
**Subject:** Oracle ASR: Service Request <Service Request Number> Created  
**To:** undisclosed-recipients:;

Service Request: <service request number>

Oracle Service Delivery Partner,

Following customer's system has logged an Automatic Service Request with Oracle.

Hostname: <host name>  
Serial#: <serial number>

A draft Service Request has been created within My Oracle Support.

This draft will remain active for the next 30 days.

Your customer does not have access to the draft Service Request. It is your responsibility to determine a response to this event.

To view the draft Service Request:

1. Log in to My Oracle Support.
2. Click on "Service Requests" in the menu area.
3. In the "Draft Service Requests" section, click on Service Request <Service Request Number>.
4. In the "Select Product" section, review the Support Identifier and Product Name.
5. In the "Describe Problem" section, review the "Detailed Description" for the fault details.

If you determine that you need assistance from Oracle to resolve the problem, enter the required information in draft Service Request and submit.

The Oracle Auto Service Request documentation can be accessed on  
<http://oracle.com/asr>.

Please use My Oracle Support <https://support.oracle.com> for assistance.

## A.2.6 Partner Service Request Created Successfully

**From:** no.reply@oracle.com  
**Subject:** Oracle ASR: Service Request <*Service Request Number*> Created  
**To:** undisclosed-recipients;;

Service Request: <*service request number*>

Oracle Service Delivery Partner,

Following customer's system has logged an Automatic Service Request with Oracle.

Hostname: <*host name*>  
Serial#: <*serial number*>

Your customer does not have access to the Service Request. It is your responsibility to determine a response to this event. The Oracle Auto Service Request.

The Oracle Auto Service Request documentation can be accessed on <http://oracle.com/asr>.

Please use My Oracle Support <https://support.oracle.com> for assistance.

## A.2.7 Service Request Creation Delayed

**From:** no.reply@oracle.com  
**Subject:** Oracle ASR: Warning - Service Request Creation is Delayed  
**To:** undisclosed-recipients;;

Hostname: <*host name*>  
Serial#: <*serial number*>

Oracle Auto Service Request (ASR) is attempting to create a Service Request (SR) for this asset; however, it is unable to at this time.

ASR will continue to attempt to create the Service Request.

You may use My Oracle Support <https://support.oracle.com> to manually create an SR for this asset.

The Oracle Auto Service Request documentation can be accessed on <http://oracle.com/asr>.

Please use My Oracle Support <https://support.oracle.com> for assistance.

### A.2.8 Draft Service Request (non-Partner) Created Successfully

**From:** no.reply@oracle.com  
**Subject:** Oracle ASR: Draft Service Request <Service Request Number> Created  
**To:** undisclosed-recipients:;

Service Request: <Service Request Number>

One of your systems has logged an Automatic Service Request with Oracle.

A draft Service Request has been created within My Oracle Support.

This draft will remain active for the next 30 days.

To view the draft Service Request:

1. Log in to My Oracle Support.
2. Click on "Service Requests" in the menu area.
3. In the "Draft Service Requests" section, click on Service Request <Service Request Number>.
4. In the "Select Product" section, review the Support Identifier and Product Name.
5. In the "Describe Problem" section, review the "Detailed Description" for the fault details.

If you determine that you need assistance from Oracle to resolve the problem, enter the required information in draft Service Request and submit.

The Oracle Auto Service Request documentation can be accessed on  
<http://oracle.com/asr>.

Please use My Oracle Support <https://support.oracle.com> for assistance.

## A.3 Heartbeat Failure Notification E-mail Examples

Examples of heartbeat failure notification e-mail include:

- [Heartbeat Failure - CAM](#)
- [Heartbeat Failure - Sun Unified Storage 7xxx](#)
- [Heartbeat Failure - ASR SO](#)

### A.3.1 Heartbeat Failure - CAM

**From:** no.reply@oracle.com  
**Subject:** Oracle ASR: Warning - Connectivity Failure  
**To:** undisclosed-recipients;;

Hostname: <host name>  
Serial#: <serial number>

Oracle Auto Service Request (ASR) has detected a Heartbeat Failure for this asset.

ASR would not be able to create a Service Request (SR) if a fault were to occur.

Please review the CAM documentation to resolve.

Once the network issues are resolved, all queued alerts will be transmitted and SR's opened as needed.

The Oracle Auto Service Request documentation can be accessed on  
<http://oracle.com/asr>.

Please use My Oracle Support <https://support.oracle.com> for assistance.

### A.3.2 Heartbeat Failure - Sun Unified Storage 7xxx

**From:** no.reply@oracle.com  
**Subject:** Oracle ASR: Warning - Connectivity Failure  
**To:** undisclosed-recipients;;

Hostname: <host name>  
Serial#: <serial number>

Oracle Auto Service Request (ASR) has detected a Heartbeat Failure for this asset.

ASR would not be able to create a Service Request (SR) if a fault were to occur.

Please review the Oracle Unified Storage documentation to resolve.

Once the network issues are resolved, all queued alerts will be transmitted and SR's opened as needed.

The Oracle Auto Service Request documentation can be accessed on  
<http://oracle.com/asr>.

Please use My Oracle Support <https://support.oracle.com> for assistance.

### A.3.3 Heartbeat Failure - ASR SO

**From:** no.reply@oracle.com  
**Subject:** Oracle ASR: Warning - Connectivity Failure - Assets in "Active - No Heartbeat" state  
**To:** undisclosed-recipients:;

**ALERT:** Oracle Auto Service Request (ASR) has detected a heartbeat failure for these assets:

Hostname: <hostname>, Serial #: <serial number>, ASR Manager Hostname: <ASR Manager hostname>

**IMPACT:** ASR would not be able to create a Service Request (SR) if a fault were to occur.

**ACTION:** Determine why the heartbeat has failed for these assets and resolve the issue.

Review Doc Id: 1346328.1 for troubleshooting information.

Documentation is located at: <http://oracle.com/asr>.

Thank you for taking action to ensure that ASR is functioning on your assets.

We appreciate your prompt attention to this matter.

Sincerely,

Oracle ASR Support Team

### A.4 Fault Rules Out of Date E-mail Example

**From:** no.reply@oracle.com  
**Subject:** Oracle ASR: Fault Rules are Out of Date  
**To:** undisclosed-recipients:;

Hostname: <hostname>

The Oracle Auto Service Request (ASR) fault rules are out of date on this ASR Manager.

The latest version is <version number>

On the ASR Manager please run the following command:

```
asr update_rules
```

This will download the latest fault rules version and update the ASR rules.

The Oracle Auto Service Request documentation can be accessed on  
<http://oracle.com/asr>.

Please use My Oracle Support <https://support.oracle.com> for assistance.

## A.5 ASR Auto Update E-mail Examples

These sample e-mails show possible status updates from the ASR Auto Update feature:

- [Update for ASR Manager is Available, but Auto Update is Disabled](#)

- Warning - Unable to Prepare for Auto Update
- Warning - Auto Update Has Failed. ASR Manager May Be Disabled
- Auto Update of ASR Manager Completed
- Auto Update of ASR is Ready

### A.5.1 Update for ASR Manager is Available, but Auto Update is Disabled

**Subject:** Oracle ASR: Update for ASR Manager is available. Auto update is disabled

**From:** no.reply@oracle.com

**Date:** 10/25/2012 2:41 PM

**To:** undisclosed-recipients:;

**Hostname:** <hostname>

**ASR SiteId:** <ASR Site Identification>

Oracle Auto Service Request (ASR) Manager has determined an update is available.

**New version:** <new version number>

**Current version:** <current version number>

Auto Update is disabled on this ASR Manager. Please manually update.

Review Doc ID: 1503107.1:

<https://support.oracle.com/oip/faces/secure/km/DocumentDisplay.jspx?id=1503107.1>

The Oracle Auto Service Request documentation can be accessed on

<http://oracle.com/asr>.

Please use My Oracle Support <https://support.oracle.com> for assistance.

### A.5.2 Warning - Unable to Prepare for Auto Update

**Subject:** Oracle ASR: Warning - Unable to Prepare for Auto Update

**From:** no.reply@oracle.com

**Date:** 10/25/2012 2:41 PM

**To:** undisclosed-recipients:;

**Hostname:** <hostname>

**Serial #:** <serial number>

**ASR SiteId:** <ASR Site Identification>

Oracle Auto Service Request (ASR) Manager was unable to perform Auto Update.

Review Doc ID: 1503107.1:

<https://support.oracle.com/oip/faces/secure/km/DocumentDisplay.jspx?id=1503107.1>

The Oracle Auto Service Request documentation can be accessed on

<http://oracle.com/asr>.

Please use My Oracle Support <https://support.oracle.com> for assistance.

### A.5.3 Warning - Auto Update Has Failed. ASR Manager May Be Disabled

**Subject:** Oracle ASR: Warning - Auto Update Has Failed. ASR Manager May Be Disabled  
**From:** no.reply@oracle.com  
**Date:** 10/25/2012 2:41 PM  
**To:** undisclosed-recipients:;

**Hostname:** <hostname>  
**Serial #:** <serial number>  
**ASR SiteId:** <ASR Site Identification>

Oracle Auto Service Request (ASR) Manager Auto Update started on this system, but there has been no notification that the Auto Update completed. The ASR Manager may be disabled. Please review the status of ASR.

New version: <new version of ASR>  
Current version: <current installed version of ASR>

Review ASR (Auto Service Request) - How to troubleshoot ASR Manager software autoupdate issues (Doc ID 1503107.1).

The Oracle Auto Service Request documentation can be accessed on  
<http://oracle.com/asr>.

Please use My Oracle Support <https://support.oracle.com> for assistance.

### A.5.4 Auto Update of ASR Manager Completed

**Subject:** Oracle ASR: Auto Update of ASR Manager Completed  
**From:** no.reply@oracle.com  
**Date:** 10/25/2012 2:41 PM  
**To:** undisclosed-recipients:;

**Hostname:** <hostname>  
**ASR SiteId:** <ASR Site Identification>

Oracle Auto Service Request (ASR) Manager was successfully updated to <version number>.

The Oracle Auto Service Request documentation can be accessed on  
<http://oracle.com/asr>.

Please use My Oracle Support <https://support.oracle.com> for assistance.

## A.5.5 Auto Update of ASR is Ready

**Subject:** Oracle ASR: Auto Update of ASR is Ready  
**From:** no.reply@oracle.com  
**Date:** 10/25/2012 2:41 PM  
**To:** undisclosed-recipients:;

**Hostname:** <hostname>  
**ASR SiteId:** <ASR Site Identification>

Oracle Auto Service Request (ASR) Manager has determined an update is available.

**New version:** <new version number>  
**Current version:** <current version number>

This update will be started at Thu Oct 25 21:53:52 MDT 2012

The Oracle Auto Service Request documentation can be accessed on  
<http://oracle.com/asr>.

Please use My Oracle Support <https://support.oracle.com> for assistance.

# B

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## Other ASR Manager Administration

This appendix provides additional or alternative information for managing your ASR Manager environment. Sections include:

- [ASR Manager and High Availability](#)
- [Run OASM or ASR Manager as Non-root User](#)

### B.1 ASR Manager and High Availability

The following are steps that were used for a more recoverable ASR Manager setup than a single server. This setup shows one way without using complex cluster software but there are many other ways.

- [Using Solaris 10 Local/Nonglobal Zone](#)
- [Using Linux and IP Route Package](#)

#### B.1.1 Using Solaris 10 Local/Nonglobal Zone

The concept is to select 2 servers that are identical and has shared storage. A local/non-global zone path/location is setup on the shared storage where the ASR Manager software is installed. The local/non-global zone can then be moved from primary server in the event that the primary server fails and cannot be brought back on-line in a timely manner, to the secondary server where the local/non-global zone and can be brought up. ASR Manager is installed on the local/non-global zone and allows the application to be moved between primary and secondary server.

The shared storage can be direct fiber attached, SAN, iSCSI etc. In this example we use direct fiber attached storage and ZFS. The basics apply no matter what the shared storage is.

The basic concept for moving the local/non-global zone is shutdown ASR local/non-global zone on primary server, export the ZFS zpool on primary server. Then on secondary server, import zpool and boot local/nonglobal zone.

Several things to keep in mind when preparing the setup and process used for fail-over.

- It is preferred to use identical servers for primary and secondary host. This allows you to move the local/non-global zone from one server without having to run zonecfg to change network interface device or storage device.
- Both primary and secondary server must have the same Solaris 10 revision and same patches installed.

- Set zone autoboot to false. This avoids situations of the local zone/non-global zone trying to be booted on both servers.
- If using ZFS, be sure to only import the zpool to one server. ZFS does not support a zpool being imported to 2 separate hosts at the same time.
- In this example we setup the local/non-global zone manually on the secondary server. One can use the zone detach and attach within a script if preferred.

Required hardware setup:

- Two Sun Servers that are the same and support ASR Manager requirements. See [Hardware Requirements](#) for more details.
- Share storage that has a file system that can be moved between primary and secondary server or supports the ability to have file system mounted on both hosts at the same time such as a cluster supported file system.
- ASR Manager software.

### B.1.1.1 Setup and Overview

Initial setup and overview process of primary and secondary hosts:

1. Build two Sun servers with Solaris 10 Update 6 (10u6) and later.
2. Attach shared storage to both primary and secondary host.
3. Create file system on shared storage and test the move (export/import) between primary and secondary host.
4. Create ASR local/non-global zone for ASR Manager
5. Copy the zone `cfg.xml` file and the zone index file entry from primary host to secondary host
6. Verify you can shut down ASR Manager local/non-global zone on primary host and bring up the ASR Manager on secondary host.
7. Install and verify ASR Manager (see [Install ASR](#)).
8. Finally configure ASR Manager to monitor systems.

The following is an example of moving zone and ZFS file system from primary host to secondary host:

In this example we will use the following labels:

- Local/non-global hostname: `asrmanager`
- Primary server: `asrprd-01`
- Secondary server: `asrprd-02`
- Zpool name for ZFS: `/asr-zones`
- Path to ASR zone: `/asr-zones/asrmanager`

At this point the primary host has the ZFX zpool imported and `asrmanager` local/non-global zone is booted:

- Show running `asrmanager` local/non-global zone:

```
asrprd-01# zoneadm list -vc
```

| ID | NAME       | STATUS  | PATH                  | BRAND  | IP     |
|----|------------|---------|-----------------------|--------|--------|
| 0  | global     | running | /                     | native | shared |
| 1  | asrmanager | running | /asr-zones/asrmanager | native | shared |

- Show ZFS zpool:

```
asrprd-01# zpool list
```

| NAME      | SIZE | ALLOC | FREE | CAP | HEALTH | ALTROOT |
|-----------|------|-------|------|-----|--------|---------|
| asr-zones | 272G | 1.04G | 271G | 0%  | ONLINE | -       |

- Show ZFS file systems:

```
asrprd-01# zfs list | grep asr
```

|                      |       |      |       |                       |
|----------------------|-------|------|-------|-----------------------|
| asr-zones            | 1.03G | 267G | 23K   | /asr-zones            |
| asr-zones/asrmanager | 1.03G | 267G | 1.03G | /asr-zones/asrmanager |

### B.1.1.2 Moving from Primary Host to Secondary Host

---

**Note:** This step is required in case of any issues or maintenance work with the primary server.

---

Steps used to move from primary host to secondary host:

1. Shut down asrmanager local/non-global zone:

```
asrprd-01# zoneadm -z asrmanager halt
```

2. Verify zone is shut down:

```
asrprd-01# zoneadm list -vc
```

Command output should look like this:

| ID | NAME       | STATUS    | PATH                  | BRAND  | IP     |
|----|------------|-----------|-----------------------|--------|--------|
| 0  | global     | running   | /                     | native | shared |
| -  | asrmanager | installed | /asr-zones/asrmanager | native | shared |

3. Export ZFS zpool:

```
asrprd-01# zpool export asr-zones
```

4. Verify ZFS zpool has been exported:

```
asrprd-01# zpool list
```

Expected command output should be:

```
no pools available
```

Now that the asrmanager local/non-global zone has been shut down and the ZFS zpool exported, log in to the secondary host and import the zpool and boot the local/non-global zone:

1. To show that ZFS zpool is not imported:

```
asrprd-02# zpool list
```

2. Import the zone ZFS zpool where asrmanager zone resides:

```
asrprd-02# zpool import asr-zones
```

3. Verify ZFS zpool has been imported:

```
asrprd-02# zpool list

NAME SIZE ALLOC FREE CAP HEALTH ALTROOT
asr-zones 272G 1.03G 271G 0% ONLINE -
```

**4. Show ZFS file systems:**

```
asrprd-02# zfs list | grep asr

asr-zones 1.03G 267G 23K /asr-zones
asr-zones/asrmanager 1.03G 267G 1.03G /asr-zones/asrmanager
```

**5. Boot asrmanager local/non-global zone:**

```
asrprd-02# zoneadm -z asrmanager boot
```

**6. Verify asrmanager local/non-global zone has booted:**

```
asrprd-02# zoneadm list -vc
```

| ID | NAME       | STATUS  | PATH                  | BRAND  | IP     |
|----|------------|---------|-----------------------|--------|--------|
| 0  | global     | running | /                     | native | shared |
| 1  | asrmanager | running | /asr-zones/asrmanager | native | shared |

ASR Manager is now running in a local/non-global zone on the secondary host.

## B.1.2 Using Linux and IP Route Package

The concept is to select two servers that are identical and have shared storage. A virtual IP address is set up using the IP Route utility to send ASR traffic to and from the source IP using the virtual IP. Shared storage is mounted between each host where the ASR Manager software is installed.

Using the IP Route utility, the virtual IP that ASR Manager uses can be moved from the primary server (for example, in the event that the primary server fails and cannot be brought back on-line in a timely manner) to the secondary server where the VIP/source route can be brought up. Finally, the shared storage file systems are mounted, and ASR Manager can be started.

The shared storage can be direct fiber attached, SAN, iSCSI etc. The example below uses direct fiber attached storage and ext3 file systems. The basics apply no matter what shared storage is used.

The basic concept for moving from the primary server to the secondary server is:

- On the primary server:
  1. Shut down ASR Manager on the primary host (if primary host is up).
  2. Run the `ip route` command to remove source route.
  3. Unplumb VIP.
  4. Unmount file systems that ASR Manager uses.
- On the secondary server:
  1. Plumb the VIP.
  2. Run `ip route` to add source routing.
  3. Mount file systems.
  4. Start ASR Manager.

Several things to keep in mind when preparing the setup and process used for fail-over.

- It is preferred to use identical servers for the primary and secondary host.
- Both primary and secondary servers must have the same Linux revision and same patches installed.
- Do not start ASR Manager on boot.
- If using ext3, do not mount file systems on both hosts at the same time.

Required hardware setup:

- Two servers that are the same and support ASR Manager requirements. See [Hardware Requirements](#) for more details.
- Shared storage that has a file system that can be moved between primary and secondary server or supports the ability to have file system mounted on both hosts at the same time (for example, a cluster supported file system).
- ASR Manager software.

### B.1.2.1 Setup and Overview

Initial setup and overview process of primary and secondary hosts:

1. Build two Linux servers with versions such as Oracle Linux update7 and later.
2. Add IP Route package. The `iproute-2.6.18-11.el5.i386.rpm` file was used in the example below. This rpm file is located in the “Server” directory on the Oracle Linux DVD.
3. Attach shared storage to both primary and secondary hosts.
4. Create file systems `/opt` and `/var/opt` on shared storage and test the move of file system between primary and secondary host.
5. Plumb VIP interface and install/test IP Route source routing using the VIP's IP. (Read IP Route documentation)
6. Install and verify ASR Manager (see [Install ASR](#)).

The example below shows how to move the ASR Manager from a primary host to a secondary host.

In this example we will use the following labels:

- Virtual IP: `asrmanager / 10.10.0.20`
- Primary server: `asrprd-01 / 10.10.0.10`
- Secondary server: `asrprd-02 / 10.10.0.11`
- File system mounts for ASR manager: `/opt` and `/var/opt`

On the primary host, create the virtual IP, using the IP Route utility for source route and file system mount:

1. Verify file systems `/opt` and `/var/opt` are mounted:

```
[root@asrprd-01]# df | grep opt
```

|                       |           |        |           |    |                       |
|-----------------------|-----------|--------|-----------|----|-----------------------|
| <code>/dev/sdc</code> | 281722700 | 243924 | 267168072 | 1% | <code>/opt</code>     |
| <code>/dev/sdb</code> | 281722700 | 243776 | 267168220 | 1% | <code>/var/opt</code> |

2. Show the source IP:

```
[root@asrprd-01]# ip route show
10.79.208.0/24 dev eth0 scope link src 10.10.0.20
default via 10.10.0.1 dev eth0
```

**3. Plumb the virtual IP interface:**

```
[root@asrprd-01]# /sbin/ifconfig eth0:0 10.10.0.20/24 broadcast 10.79.208.255
```

**4. Change the source IP:**

```
[root@asrprd-01]# ip route change 10.79.208.0/24 dev eth0 src 10.10.0.20
```

**5. Verify the source IP is set to a virtual IP:**

```
[root@asrprd-01]# ip route
```

```
10.79.208.0/24 dev eth0 scope link src 10.10.0.20
default via 10.10.0.1 dev eth0
```

After source IP is set to the virtual IP, you can ping another host from the primary server and should see source IP of the virtual IP on that host and no longer the IP of the primary server.

At this point, install the ASR Manager software which should install in /opt and /var/opt (see [Install ASR](#)).

To move the ASR Manager and the virtual IP to a secondary host:

**1. Log in to the primary server.**

**2. Shut down ASR Manager:**

```
service sasm stop
```

**3. Change source IP route back:**

```
[root@asrprd-01]# ip route change 10.79.208.0/24 dev eth0 src 10.10.0.10
```

**4. Verify the source IP is back to the primary server IP address:**

```
[root@asrprd-01]# ip route show
```

```
10.79.208.0/24 dev eth0 scope link src 10.10.0.10
default via 10.10.0.1 dev eth0
```

**5. Unplumb the virtual IP interface:**

```
[root@asrprd-01]# /sbin/ifconfig eth0:0 down
```

**6. Unmount the /opt and /var/opt file systems from shared storage.**

**7. Log in into secondary server.**

**8. Show current source IP:**

```
[root@asrprd-02]# ip route show
```

```
10.79.208.0/24 dev eth0 proto kernel scope link src 10.10.0.11
default via 10.10.0.1 dev eth0
```

**9. Plumb virtual IP interface:**

```
[root@asrprd-02]# /sbin/ifconfig eth0:0 10.10.0.20/24 broadcast 10.79.208.255
```

**10.** Change source IP:

```
[root@asrprd-02 ~]# ip route change 10.79.208.0/24 dev eth0 src 10.10.0.20
```

**11.** Verify source IP is set to the virtual IP:

```
[root@asrprd-02 ~]# ip route
show
10.79.208.0/24 dev eth0 scope link src 10.10.0.20
default via 10.10.0.1 dev eth0
```

**12.** Mount the /opt and /var/opt file system from shared storage.**13.** Start ASR Manager on secondary host:

```
service sasm start
```

ASR Manager is now running on the secondary host.

## B.2 Run OASM or ASR Manager as Non-root User

To run OASM or the ASR Manager as a non-root user:

**1.** Stop OASM:

For Solaris: svcadm disable sasm

For Linux: service sasm stop

**2.** Create OASM role and assign it to a normal user:

**a.** Run: /opt/SUNWswasr/util/oasm\_asr\_nonroot.sh

**b.** Set the password, run: passwd oasm

**c.** Assign OASM role, run: usermod -R oasm <non-root-user>

Where <non-root-user> is a normal user account.

**Note:** This step is for Solaris only.

**3.** Start OASM:

For Solaris: svcadm enable sasm

For Linux: service sasm start

**4.** Log in to ASR Manager as <non-root-user>. Switch the <non-root-user> to the OASM role:

```
su - oasm
```

**5.** Once the role is switched, then you can perform the following tasks:

- Check OASM status:

For Solaris: svcs sasm

For Linux: service sasm status

- Disable OASM service:

For Solaris: svcadm disable sasm

For Linux: service sasm stop

- Enable OASM service:

For Solaris: svcadm enable sasm

For Linux: service sasm start

---

**Note:** Disable ASR Auto Update functionality on OASM/ASR Manager running as a non-root user. To disable Auto Update:

asr> disable\_autoupdate

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