

# Oracle<sup>®</sup> VM Server for SPARC 3.2.0.1 Supplemental Release Notes

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# Oracle VM Server for SPARC 3.2.0.1 Supplemental Release Notes

These supplemental release notes contain the following information about the Oracle VM Server for SPARC 3.2.0.1 maintenance update release:

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For information about the supported hardware and minimum and fully qualified firmware, Oracle Solaris OS and hardware, see [Chapter 1, “Oracle VM Server for SPARC 3.2 System Requirements,”](#) in [“Oracle VM Server for SPARC 3.2 Installation Guide ”](#).

For information about issues with the Oracle VM Server for SPARC 3.2 software, see [“Oracle VM Server for SPARC 3.2 Release Notes ”](#).

## What's New in This Maintenance Update Release

Audit records are not generated for Logical Domains Manager actions by default. For more information, see [“Audit Records Are No Longer Generated for Logical Domains Manager Actions by Default” on page 5](#).

## Resolved Issues

The following enhancement requests and bugs have been fixed for the Oracle VM Server for SPARC 3.2.0.1 software release:

19365876	I/O Resource Group information is missing
19679858	ldm ls-constraints lose the configured hypervisor mpgroup function
19914686	Missing memory info from ldm list-group -a -l on T7-2 or T5-2
20124236	ldmd should log HVMDs, error info after failing to reconfigure the HV
20187197	CPUs are not resumed after power cap under the limit
20201013	Recovery Mode fails to recover I/O domains due to timeout
20372132	cpu-arch=(migration-class1 generic) should not include DAX in the MDs
20416951	Disable generation of LDOMs audit records

20458698	3.2 fix for 19513561 is incomplete
20570207	Recovery Mode hangs primary domain if Elastic PM
20586961	Problem with mgmtldmgr/ldommgr-mgmt
20604908	get_ldom_by_rc_name() does not always return the correct root domain
20688980	LDoms 3.1.1.2/M5-32/ldmd core dumps while doing a live migration
20688980	LDoms 3.1.1.2/M5-32/ldmd core dumps while doing a live migration
20704724	Defer retained memory API group check
20796786	MIB missing ldomVdsdevTable, ldomVnetTable, ldomVdiskTable
20974426	Disable changes to autosave made by 18746688

## Bugs Affecting the Oracle VM Server for SPARC 3.2.0.1 Maintenance Update Release

The bugs described in this section might also affect the Oracle VM Server for SPARC 3.2 software.

### ldm list-rsrc-group -a Produces Incorrect Output

**Bug ID 21116138:** If you specify the `-a` option to the `ldm list-rsrc-group` command, the output shows the available (free) memory and bound memory in the MEMORY column. However, the total memory size in the summary heading incorrectly shows the sum of only the bound memory.

If you do not specify the `-a` option, the memory information in the MEMORY column matches the total memory in the summary information.

**Workaround:** To obtain a listing of free memory in the system, use the `ldm ls-devices memory` command. Specify the `-a` option to list all memory.

### Performing a Live Migration of a Guest Domain Might Fail

**Bug ID 20991993:** The live migration of a guest domain that has the `cpu-arch` property value set to `native` might fail. This problem is due to mismatched system firmware versions.

If the domain to be migrated runs at least the Oracle Solaris 11.2.9.5.0 OS, the migration fails unless both systems run the appropriate system firmware versions:

- **SPARC T5, SPARC M5, and SPARC M6 systems.** At least version 9.3.0 or versions older than or equal to 9.2.1.
- **SPARC T4 systems.** At least version 8.6.0 or versions older than or equal to 8.5.1.

**Workaround:** Set the `cpu-arch` property value to `migration-class1` on the domain to be migrated.

You must stop and restart the guest domain before you change the `cpu-arch` property value from `native` to `migration-class1`.

## device busy Error When Attempting to Remove a PCIe Bus That Hosts an SES-Enabled Storage Device

**Bug ID 20774477:** If you use SES-enabled storage devices, you might see a `device busy` error when you attempt to remove a PCIe bus that hosts these devices. To determine whether you are using this type of storage device, search for the `ses` or `enclosure` string in the `ldm list-io -l` output for the PCIe bus.

**Workaround:** Perform one of the following workarounds to remove the PCIe bus:

- **Dynamically remove the PCIe bus.**

1. Disable the FMD service.

```
primary# svcadm disable -st svc:/system/fmd
```

2. Remove the PCIe bus.

```
primary# ldm remove-io bus
```

3. Re-enable the FMD service.

```
primary# svcadm enable svc:/system/fmd
```

- **Statically remove the PCIe bus.**

1. Place the root domain that has the PCIe bus in a delayed reconfiguration.

```
primary# ldm start-reconf root-domain
```

2. Remove the PCIe bus.

```
primary# ldm remove-io bus
```

3. Perform a reboot from the root domain console.

```
root-domain# reboot
```

## Documentation Issues

### Clarify Dynamic PCIe Bus Assignment Feature Requirements

“[Dynamic PCIe Bus Assignment Requirements](#)” in “[Oracle VM Server for SPARC 3.2 Administration Guide](#)” does not specify the complete set of requirements for the dynamic PCIe bus assignment feature.

This feature is not supported with a root domain that runs the Oracle Solaris 10 OS. This feature runs on the supported SPARC M-Series systems with at least the 9.4.2 version of the system firmware and the Oracle Solaris 11 OS, and on Fujitsu M10 servers with at least XCP2240 and the Oracle Solaris 11 OS.

### Clarify Resilient I/O Domain Requirements

“[Resilient I/O Domain Requirements](#)” in “[Oracle VM Server for SPARC 3.2 Administration Guide](#)” states that a resilient I/O domain runs at least the Oracle Solaris 11.2.8.0.0 (SRU) OS. A resilient I/O domain cannot run the Oracle Solaris 10 OS.

## Clarify Link Aggregation Configuration for the Oracle Solaris 11.2 OS

“Using Link Aggregation With a Virtual Switch” in “Oracle VM Server for SPARC 3.2 Administration Guide” does not include a pointer to information about configuring link aggregations for the Oracle Solaris 11.2 OS. For the Oracle Solaris 11.2 information, see “Creating a Link Aggregation” in “Managing Network Datalinks in Oracle Solaris 11.2”.

## Clarify That Rebooting a Root Domain Benefits From Resilient I/O Domains

“Rebooting the Root Domain With PCIe Endpoints Configured” in “Oracle VM Server for SPARC 3.2 Administration Guide” does not indicate that a resilient I/O domain can continue to operate even when the root domain that is the owner of the PCIe bus becomes unavailable.

If the I/O domain is resilient, it can continue to operate even if the root domain that is the owner of the PCIe bus becomes unavailable. See “I/O Domain Resiliency” in “Oracle VM Server for SPARC 3.2 Administration Guide”.

## Audit Records Are No Longer Generated for Logical Domains Manager Actions by Default

The Logical Domains Manager uses the Oracle Solaris OS auditing feature to examine the history of actions and events that have occurred on your control domain. The history is kept in a log that tracks what was done, when it was done, by whom, and what was affected. Starting with the Oracle VM Server for SPARC 3.2.0.1 maintenance update release, audit records are not generated for Logical Domains Manager actions by default.

You can enable and disable the Oracle Solaris OS auditing feature based on the version of the Oracle Solaris OS that runs on your system, as follows:

- **Oracle Solaris 10 OS:** Use the `bsmconv` and `bsmunconv` commands. See the `bsmconv(1M)` and `bsmunconv(1M)` man pages, and [Part VII, “Auditing in Oracle Solaris,” in “System Administration Guide: Security Services”](#).
- **Oracle Solaris 11 OS:** Use the `audit` command. See the `audit(1M)` man page and [Part VII, “Auditing in Oracle Solaris,” in “Oracle Solaris 11.1 Administration: Security Services”](#).

### ▼ How to Enable Auditing

You must configure and enable the Oracle Solaris auditing feature on your system. Oracle Solaris 11 auditing is enabled by default, but you must still perform some configuration steps.

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**Note** - Pre-existing processes are *not* audited for the virtualization software (`vs`) class. Ensure that you perform this step *before* regular users log in to the system.

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1. **Add customizations to the `/etc/security/audit_event` and `/etc/security/audit_class` files.** These customizations are preserved across Oracle Solaris upgrades, but should be re-added after a fresh Oracle Solaris installation.
  - a. **Add the following entry to the `audit_event` file if not already present:**

```
40700:AUE_ldoms:ldoms administration:vs
```

- b. Add the following entry to the `audit_class` file if not already present:**

```
0x10000000:vs:virtualization_software
```

- 2. (Oracle Solaris 10) Add the `vs` class to the `/etc/security/audit_control` file.**

The following example `/etc/security/audit_control` fragment shows how you might specify the `vs` class:

```
dir:/var/audit
flags:lo,vs
minfree:20
naflags:lo,na
```

- 3. (Oracle Solaris 10) Enable the auditing feature.**

- a. Run the `bsmconv` command.**

```
# /etc/security/bsmconv
```

- b. Reboot the system.**

- 4. (Oracle Solaris 11) Preselect the `vs` audit class.**

- a. Determine which auditing classes are already selected.**

Ensure that any audit classes that have already been selected are part of the updated set of classes. The following example shows that the `lo` class is already selected:

```
# auditconfig -getflags
active user default audit flags = lo(0x1000,0x1000)
configured user default audit flags = lo(0x1000,0x1000)
```

- b. Add the `vs` auditing class.**

```
# auditconfig -setflags [class],vs
```

`class` is zero or more audit classes, separated by commas. You can see the list of audit classes in the `/etc/security/audit_class` file. Be sure to include the `vs` class on your Oracle VM Server for SPARC system.

For example, the following command selects both the `lo` and `vs` classes:

```
# auditconfig -setflags lo,vs
```

- c. (Optional) Log out of the system if you want to audit your processes, either as the administrator or as the configurator.**

If you do not want to log out, see [“How to Update the Preselection Mask of Logged In Users” in “Oracle Solaris 11.1 Administration: Security Services”](#).

- 5. Verify that the auditing software is running.**

```
# auditconfig -getcond
```

If the auditing software is running, `audit condition = auditing` appears in the output.

- 6. Configure Logical Domains Manager to generate audit records.**

- a. Set the `ldmd/audit` SMF property value to `true`.

```
# svccfg -s ldmd setprop ldmd/audit = boolean: true
```

- b. Refresh the `ldmd` service.

```
# svcadm refresh ldmd
```

- c. Restart the `ldmd` service.

```
# svcadm restart ldmd
```

## Oracle Solaris 10: Configuring SSL Certificates for Migration

**Bug ID 20848606:** “Configuring SSL Certificates for Migration” in “Oracle VM Server for SPARC 3.2 Administration Guide ” applies only to the Oracle Solaris 11.2 OS.

Use the following steps to configure the SSL certificates on an Oracle Solaris 10 OS:

### ▼ How to Configure SSL Certificates for Migration (Oracle Solaris 10)

The following procedure describes how to configure SSL certificates, you must perform the steps in this task on both the source machine and the target machine.

1. Create the `/var/opt/SUNWldm/trust` directory if it does not already exist.
2. Securely copy the remote `ldmd` certificate in the `/var/opt/SUNWldm/server.crt` directory on the remote host to the local `ldmd` trusted certificate directory `/var/opt/SUNWldm/trust` with the name `remote-hostname.pem`.

3. Change to the `/var/opt/SUNWldm/trust` directory.

```
localhost# cd /var/opt/SUNWldm/trust
```

4. Set the `HASH` variable and set the `REMOTE` variable to `remote-hostname`.

```
localhost# REMOTE=remote-hostname
localhost# HASH=`/usr/sfw/bin/openssl x509 -hash -noout -in ${REMOTE}.pem`
```

5. Create a symbolic link from the certificate in the `ldmd` trusted certificate directory to `/etc/sfw/openssl/certs/${HASH}.index`.

```
localhost# ln -s /var/opt/SUNWldm/trust/${REMOTE}.pem /etc/sfw/openssl/certs/${HASH}.index
```

6. Verify that the configuration is operational.

```
localhost# /usr/sfw/bin/openssl verify /var/opt/SUNWldm/trust/${REMOTE}.pem
/var/opt/SUNWldm/trust/remote-hostname.pem: OK
```

7. Restart the `ldmd` daemon.

```
localhost# svcadm restart ldmd
```





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