

Oracle[®] VM Server for SPARC 3.6 Release Notes

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Using This Documentation

- **Overview** – Provides late-breaking information about the Oracle VM Server for SPARC 3.6 software, such as changes for this release and known bugs that affect the software.
- **Audience** – System administrators who manage virtualization on SPARC servers.
- **Required knowledge** – System administrators with working knowledge of UNIX systems and the Oracle Solaris operating system (Oracle Solaris OS).

Product Documentation Library

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

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Oracle VM Server for SPARC 3.6 Release Notes

These release notes include information about issues that you might encounter if you are running the versions of the Oracle Solaris OS, system firmware for a supported platform, and the Oracle VM Server for SPARC 3.6 software that are described in this book. If you are not running these Oracle Solaris OS and system firmware versions, you might encounter a larger set of issues.

Note - Ensure that you install and run the Oracle VM Server for SPARC 3.6 software with the latest system firmware versions on the supported hardware platforms. All domains on the system must run the latest Support Repository Update (SRU) of an Oracle Solaris 11 OS. Guest domains can also run the latest patch for the Oracle Solaris 10 1/13 OS.

These release notes might include some known issues that exist with older versions of the software.

For information about the supported hardware, software, and system firmware, see [Chapter 1, “System Requirements” in *Oracle VM Server for SPARC 3.6 Installation Guide*](#).

Note - Oracle VM Server for SPARC features are added and maintained on the supported hardware platforms listed in [“Supported Platforms” in *Oracle VM Server for SPARC 3.6 Installation Guide*](#). However, new features will not be added and existing features will not be maintained on hardware platforms that have been removed from the list.

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

Note - The features that are described in this book can be used with all of the supported system software and hardware platforms that are listed in *Oracle VM Server for SPARC 3.6 Installation Guide*. However, some features are only available on a subset of the supported system software and hardware platforms. For information about these exceptions, see “What’s New in This Release” in *Oracle VM Server for SPARC 3.6 Release Notes* and *What's New in Oracle VM Server for SPARC Software* (<http://www.oracle.com/technetwork/server-storage/vm/documentation/sparc-whatsnew-330281.html>).

What's New in This Release

For information about the features introduced in all versions of the Oracle VM Server for SPARC (Logical Domains) software, see *What's New in Oracle VM Server for SPARC Software* (<http://www.oracle.com/technetwork/server-storage/vm/documentation/sparc-whatsnew-330281.html>).

The major changes for the Oracle VM Server for SPARC 3.6 software are as follows. Note that each feature is available on all supported platforms unless otherwise stated. For the list of supported platforms, see “Supported Platforms” in *Oracle VM Server for SPARC 3.6 Installation Guide*.

- Add the ability to assign zero or more physical devices to a virtual SAN. See “Managing the Physical Devices in a Virtual Storage Area Network” in *Oracle VM Server for SPARC 3.6 Administration Guide*.
- Enhance the `ovmtconfig` command with an option to clear local properties. See the `ovmtconfig(8)` man page.
- Improvements to the `ldm list-netstat` command. See the `ldm(8)` man page.
- Remove support for the UltraSPARC T2, UltraSPARC T2 Plus, and SPARC T3 servers. An Oracle VM Server for SPARC 3.6 control domain must run at least the Oracle Solaris 11.4 OS, which no longer supports these older servers.
- Normalize Oracle VM Server for SPARC man page sections to match Oracle Solaris 11.4 man page organization.
- Bug fixes.

What's New in Oracle Solaris 11.4 That Affects the Oracle VM Server for SPARC Software

This section describes features that have been added solely to the Oracle Solaris 11.4 OS that are of interest to Oracle VM Server for SPARC users.

- Support for listing available virtual consoles and connecting to a virtual console. See [“Connecting to a Guest Domain Console Over the Network”](#) in *Oracle VM Server for SPARC 3.6 Administration Guide* and the `ldmconsole(8)` man page.
- Support for DLMP over virtual network devices. See [“Configuring DLMP Aggregations Over Virtual Network Devices”](#) in *Oracle VM Server for SPARC 3.6 Administration Guide*.

Features That Depend on System Firmware, the Oracle Solaris OS, or Both

Some of the Oracle VM Server for SPARC 3.6 features are available only when the latest system firmware and Oracle Solaris OS are installed. Note that the control domain must already be running the latest Oracle Solaris OS.

For information about the supported hardware, system firmware, and Oracle Solaris OS, see [Chapter 1, “System Requirements”](#) in *Oracle VM Server for SPARC 3.6 Installation Guide*. For Fujitsu SPARC M12 servers, see the latest *Fujitsu SPARC M12 Server Product Notes*. For Fujitsu M10 servers, see the latest *Fujitsu M10/SPARC M10 Server Product Notes*.

Generally, some Oracle VM Server for SPARC 3.6, features are available even if the system does not run the latest system firmware.

Oracle VM Server for SPARC 3.6 System Requirements

You can find information about the recommended and minimum software component versions to use with the Oracle VM Server for SPARC 3.6 release in [Chapter 1, “System Requirements”](#) in *Oracle VM Server for SPARC 3.6 Installation Guide*.

Deprecated and Removed Oracle VM Server for SPARC Features

The following features have been deprecated in the Oracle VM Server for SPARC 3.6 software:

- Support for Logical Domains Manager based power management on Oracle SPARC servers.

The following deprecated features have been removed from the Oracle VM Server for SPARC 3.6 software:

- Support for the UltraSPARC T2, UltraSPARC T2 Plus, and SPARC T3 platforms, which are no longer supported by the Oracle Solaris 11.4 OS.
- Commands that manage and monitor discrete cryptographic units are no longer relevant. Support for the SPARC servers that use these commands has been removed from the Oracle Solaris 11.4 OS and the Oracle VM Server for SPARC 3.6 software.

The following previously deprecated Oracle VM Server for SPARC feature will be removed from a future release of this software:

- Using the `ldm migrate-domain -p filename` command to initiate a non-interactive migration operation is deprecated. Instead, use SSL certificate-based authentication. See [“Configuring SSL Certificates for Migration” in Oracle VM Server for SPARC 3.6 Administration Guide](#).

Known Issues

This section contains general issues and specific bugs concerning the Oracle VM Server for SPARC 3.6 software.

Bugs Affecting the Oracle VM Server for SPARC Software

This section summarizes the bugs that you might encounter when using this version of the software. The most recent bugs are described first. Workarounds and recovery procedures are specified, if available.

Bugs Affecting the Oracle VM Server for SPARC 3.6 Software

Virtual Switch MTU Value Erroneously Set to Zero After Upgrading to Oracle VM Server for SPARC 3.5 and Oracle VM Server for SPARC 3.6

Bug ID 28045753:

When a virtual switch has been created without an MTU value on an Oracle VM Server for SPARC 3.4 or 3.5 system, you might see the following error after you upgrade to Version 3.5 or 3.6 and attempt to modify the backend device (net-dev) of the virtual switch.

```
primary# ldm set-vswitch net-dev=net0 vsw_1
Domain "primary" network device "vsw_1" MTU (0) must be within
the backing device's MTU range 1500-15500
```

Workaround: Ensure that you also specify an MTU value when you modify the virtual switch's backend device:

```
primary# ldm set-vswitch mtu=1500 net-dev=net0 vsw_1
```

ldm add-vsan-dev Does Not Support Domain Migration

Bug ID 27974950: You cannot migrate a guest domain that has a vhba instance associated with a virtual SAN with mask=on.

Use the `ldm list -o hba ldgb` command to determine whether your guest domain is affected by this issue. The following example lists the vhba instances in the ldgb guest domain that you want to migrate:

```
primary# ldm list -o hba ldgb
NAME
ldgb

VHBA
  NAME          VSAN          DEVICE  TOUT SERVER
  -----
  vhba0         vsan0         vhba@0  0    ldga
```

The vhba instance, `vhba0`, is associated with `vsan0` which executes in the `ldga` domain. The following command lists the vsan resources in the `ldga` domain:

```
primary# ldm list -o san ldga
NAME
```

```
ldga
```

```
VSAN
```

```
    NAME      MASK  DEVICE  IPORT
    vsan0     on    vsan@0
[/pci@300/pci@1/pci@0/pci@4/SUNW,emlxs@0,1/fp@0,0]
    vsan1     off   vsan@1
[/pci@300/pci@1/pci@0/pci@4/SUNW,emlxs@0,1/fp@0,0]
```

The previous output shows that `vsan0` has its `mask` property set to `on`, which means that you cannot migrate the `ldgb` guest domain.

LLDP SMF Service Can Prevent VFs From Being Created or Destroyed

Bug ID 27925093: LLDP advertises information throughout a LAN for purposes of topology discovery. Due to the following issue:

28650967 - LLDP lock is preventing offline of pf's, breaking LDoms create-vf

an attempt to create or destroy virtual functions in a root domain where this service is enabled, and which also owns the physical function target of the `create-vf` or `destroy-vf` command, will fail. This occurs because the service keeps all the physical functions in that domain busy. This in turn prevents the required offline and online of that physical function for the create or destroy operation.

Workaround: Disable the service, create or destroy virtual functions as needed, then reenble the service.

Run the following commands as superuser on the root domain which owns the physical function involved in the create or destroy operation. For example:

```
# svcadm disable lldp
# ldm create-vf <pf_name>
# svcadm enable lldp
```

ldomHbaTable Is Empty

Bug ID 24393532: The fix for bug ID 23591953 disabled both Oracle VM Server for SPARC Oracle VM Server for SPARC MIB monitoring, such as listing the Oracle VM Server for SPARC MIB objects by using the `snmpwalk` command, and trap generation for the

ldomHbaTable table. As a result, the Oracle VM Server for SPARC MIB ldomHbaTable table does not show contents.

```
primary# snmpwalk -v1 -c public localhost SUN-LDOM-MIB::ldomHbaTable
primary#
```

Workaround: Use the `ldm list-hba` command to view the HBA information.

Migration Fails When the Target Machine Has Insufficient Free LDCs

Bug ID 23031413: When the target machine's control domain runs out of LDCs during a domain migration, the migration fails with no explanation and the following message is written to the SMF log:

```
warning: Failed to read feasibility response type (5) from target LDoms Manager
```

This error is issued when the domain being migrated fails to bind on the target machine. Note that the bind operation might fail for other reasons on the target machine, as well.

Workaround: For the migration to succeed, the number of LDCs must be reduced either in the domain being migrated or in the control domain of the target machine. You can reduce the number of LDCs by reducing the number of virtual devices being used by or being serviced by a domain. For more information about managing LDCs, see [“Using Logical Domain Channels” in Oracle VM Server for SPARC 3.6 Administration Guide](#).

ldm set-vsw net-dev= Successfully Removes the Virtual Switch's Backing Device With an Error Message When Virtual Switch's linkprop Is Set With phys-state

Bug ID 22828100: In Oracle Solaris 11, the virtual switch is not an actual network device. As such, the value of its `linkprop` property has no operational impact. However, this property can cause a spurious error message if set to `phys-state` when you attempt to remove the `net-dev` backing device by running the `ldm set-vsw` command.

```
primary# ldm set-vsw net-dev= vsw0
Failed to modify virtual switch because the linkprop of the virtual
switch requires that it has a physical network device assigned
```

You can avoid this error message by specifying the `linkprop=` option on the command line:

```
primary# ldm set-vsw net-dev= linkprop= vsw0
```

Alternatively, you can ignore this error message. As long as no virtual network devices have the `linkprop` property set to `phys-state`, the `ldm set-vsw` command succeeds.

However, if an attached virtual network device has its `linkprop` property set to `phys-state`, the `ldm set-vsw` issues the following error message and the command fails:

```
Failed to modify virtual switch because the linkprop of at least one
virtual network device requires that the virtual switch has a physical
network device assigned
```

Setting Up Jumbo Frames for Oracle VM Server for SPARC Virtual Network

Bug ID 22108218: Oracle VM Server for SPARC migration will not detect a jumbo frame MTU size mismatch before it tries and migrates a logical domain. Such a migration will fail silently so physical and or virtual NICs using jumbo frames must be carefully set up so that all the NIC and VNICs participants can communicate.

To setup jumbo frames for a virtual switch and multiple virtual networks, the virtual switch must be setup first.

- Setting Up the Virtual Switch for Jumbo Frames

From an account with root privileges, run `dladm` to find the max possible MTU size supported by the physical backing NIC device.

```
# dladm show-linkprop -p mtu net0
LINK PROPERTY PERM VALUE EFFECTIVE DEFAULT POSSIBLE
nte0 mtu      rw  1500 1500    1500  46-9194
```

In this example, the the value of the MTU should never exceed 9194 for the backing device (`net-dev=net0`) on the virtual switch.

Then add the virtual switch with the selected `net-dev` backing device and an MTU size that does not exceed the max POSSIBLE MTU size displayed in `dladm`. The best practice for Oracle VM Server for SPARC is to use an MTU size of 9000 or less for jumbo frames.

- Setting up Jumbo Frames between a Virtual Switch and other Physical NICs

Determine the max POSSIBLE MTU size for each physical NIC you want to connect to using jumbo frames, then determine the `MIN(vsw0_nic, vsw1_nic, vswN_nic, . . . , nic1. nic2, . . . nicN)` of all the virtual switch backing NICs and NICs you are connecting. The MIN is the smallest max possible MTU size of all the NICs in the jumbo frame network. That is the max MTU size you can use. Again, the best practice is to use an MTU size of 9000 or less.

A Domain That Has Socket Constraints Cannot Be Re-Created From an XML File

Bug ID 21616429: The Oracle VM Server for SPARC 3.3 software introduced socket support for Fujitsu SPARC M12 servers and Fujitsu M10 servers only.

Software running on Oracle SPARC servers and Oracle VM Server for SPARC versions older than 3.3 cannot re-create a domain with socket constraints from an XML file.

Attempting to re-create a domain with socket constraints from an XML file with an older version of the Oracle VM Server for SPARC software or on an Oracle SPARC server fails with the following message:

```
primary# ldm add-domain -i ovm3.3_socket_ovm11.xml
socket not a known resource
```

If Oracle VM Server for SPARC 3.2 is running on a Fujitsu SPARC M12 server or Fujitsu M10 server and you attempt to re-create a domain with socket constraints from an XML file, the command fails with various error messages, such as the following:

```
primary# ldm add-domain -i ovm3.3_socket_ovm11.xml
Unknown property: vcpus
```

```
primary# ldm add-domain -i ovm3.3_socket_ovm11.xml
perf-counters property not supported, platform does not have
performance register access capability, ignoring constraint setting.
```

Workaround: Edit the XML file to remove any sections that reference the socket resource type.

Oracle Solaris 11.3 SRU 12: `ssd` and `sd` Driver Functionality Is Merged for Fibre Channel Devices on SPARC Platforms

Bug ID 17036795: The Oracle Solaris 11.3 SRU 12 OS has merged the `ssd` and `sd` driver functionality for Fibre Channel devices on SPARC platforms.

This change affects device node names on the physical device path. The device node names change from `ssd@` to `disk@`. This change also affects device driver bindings from `ssd` to `sd`.

Note - Ensure that any application or client in the Oracle Solaris OS system that depends on these device node names or device driver bindings is adjusted.

This change is not enabled by default for Oracle Solaris 11.3 systems.

You must enable this change to perform live migrations of domains that use virtual HBA and Fibre Channel devices.

Before you enable this change, ensure that MPxIO is already enabled by running the `stmsboot -D fp -e` command.

Run the `format` command to determine whether MPxIO is enabled. When enabled, you should see `vhci` in device names. Alternatively, if the `mpathadm -list lu` output is empty, no MPxIO devices are enumerated.

Use the `beadm` command to create a new boot environment (BE). By using BEs, you can roll back easily to a previous boot environment if you experience unexpected problems.

Mount the BE and replace the `/etc/devices/inception_points` file with the `/etc/devices/inception_points.vhba` file. The `.vhba` file includes some feature flags to enable this change.

Finally, reboot after you activate the new BE.

```
# beadm create BE-name
# beadm mount BE-name /mnt
# cp /mnt/etc/devices/inception_points.vhba /mnt/etc/devices/inception_points
# beadm umount BE-name
# beadm activate BE-name
# reboot
```

After rebooting, use the `prtconf -D | grep driver | grep sd` command to verify the change.

If any disks use the `ssd` driver, there is a problem with the configuration.

You can also use the `mpathadm list lu` command to show multiple paths to the same disks if virtual HBA and the FibreChannel virtual function are both configured to see the same LUNs.

Resilient I/O Domain Should Support PCI Device Configuration Changes After the Root Domain Is Rebooted

Bug ID 16691046: If virtual functions are assigned from the root domain, an I/O domain might fail to provide resiliency in the following hotplug situations:

- You add a root complex (PCIe bus) dynamically to the root domain, and then you create the virtual functions and assign them to the I/O domain.

- You hot-add an SR-IOV card to the root domain that owns the root complex, and then you create the virtual functions and assign them to the I/O domain.
- You replace or add any PCIe card to an empty slot (either through hotplug or when the root domain is down) on the root complex that is owned by the root domain. This root domain provides virtual functions from the root complex to the I/O domain.

Workaround: Perform one of the following steps:

- If the root complex already provides virtual functions to the I/O domain and you add, remove, or replace any PCIe card on that root complex (through hotplug or when the root domain is down), you must reboot both the root domain and the I/O domain.
- If the root complex does not have virtual functions currently assigned to the I/O domain and you add an SR-IOV card or any other PCIe card to the root complex, you must stop the root domain to add the PCIe card. After the root domain reboots, you can assign virtual functions from that root complex to the I/O domain.
- If you want to add a new PCIe bus to the root domain and then create and assign virtual functions from that bus to the I/O domain, perform one of the following steps and then reboot the root domain:
 - Add the bus during a delayed reconfiguration
 - Add the bus dynamically

ldm init-system Command Might Not Correctly Restore a Domain Configuration on Which Physical I/O Changes Have Been Made

Bug ID 15783031: You might experience problems when you use the `ldm init-system` command to restore a domain configuration that has used direct I/O or SR-IOV operations.

A problem arises if one or more of the following operations have been performed on the configuration to be restored:

- A slot has been removed from a bus that is still owned by the primary domain.
- A virtual function has been created from a physical function that is owned by the primary domain.
- A virtual function has been assigned to the primary domain, to other guest domains, or to both.
- A root complex has been removed from the primary domain and assigned to a guest domain, and that root complex is used as the basis for further I/O virtualization operations. In other words, you created a non-primary root domain and performed any of the previous operations.

If you have performed any of the previous actions, perform the workaround shown in [Oracle VM Server for SPARC PCIe Direct I/O and SR-IOV Features \(Doc ID 1325454.1\)](https://support.oracle.com/epmos/faces/SearchDocDisplay?amp;_adf.ctrl-state=10c69raljg_77&_afLoop=506200315473090) (https://support.oracle.com/epmos/faces/SearchDocDisplay?amp;_adf.ctrl-state=10c69raljg_77&_afLoop=506200315473090).

Limit the Maximum Number of Virtual Functions That Can Be Assigned to a Domain

Bug ID 15775637: An I/O domain has a limit on the number of interrupt resources that are available per root complex.

On SPARC T4 servers, the limit is approximately 63 MSI/X vectors. Each `igb` virtual function uses three interrupts. The `ixgbe` virtual function uses two interrupts.

If you assign a large number of virtual functions to a domain, the domain runs out of system resources to support these devices. You might see messages similar to the following:

```
WARNING: ixgbev32: interrupt pool too full.  
WARNING: ddi_intr_alloc: cannot fit into interrupt pool
```

`ldm remove-io` of PCIe Cards That Have PCIe-to-PCI Bridges Should Be Disallowed

Bug ID 15761509: Use only the PCIe cards that support the Direct I/O (DIO) feature, which are listed in this [support document \(https://support.oracle.com/CSP/main/article?cmd=show&type=NOT&doctype=REFERENCE&id=1325454.1\)](https://support.oracle.com/CSP/main/article?cmd=show&type=NOT&doctype=REFERENCE&id=1325454.1).

Note - The direct I/O feature is deprecated starting with the SPARC T7 series servers and the SPARC M7 series servers.

Workaround: Use the `ldm add-io` command to add the card to the primary domain again.

Incorrect Device Path for Fibre Channel Virtual Functions in a Root Domain

Bug ID 15754356: In the root domain, the Oracle Solaris device path for a Fibre Channel virtual function is incorrect.

For example, the incorrect path name is `pci@380/pci@1/pci@0/pci@6/fibre-channel@0,2` while it should be `pci@380/pci@1/pci@0/pci@6/SUNW,emlxs@0,2`.

The `ldm list-io -l` output shows the correct device path for the Fibre Channel virtual functions.

Workaround: None.

Live Migration of a Domain That Depends on an Inactive Master Domain on the Target Machine Causes `ldmd` to Fault With a Segmentation Fault

Bug ID 15701865: If you attempt a live migration of a domain that depends on an inactive domain on the target machine, the `ldmd` daemon faults with a segmentation fault and crashes. The `ldmd` daemon is restarted automatically, but the migration is aborted.

Workaround: Perform one of the following actions before you attempt the live migration:

- Remove the guest dependency from the domain to be migrated.
- Start the master domain on the target machine.

Simultaneous Migration Operations in “Opposite Direction” Might Cause `ldm` to Hang

Bug ID 15696986: If two `ldm migrate` commands are issued between the same two systems simultaneously in the “opposite direction,” the two commands might hang and never complete. An opposite direction situation occurs when you simultaneously start a migration on machine A to machine B and a migration on machine B to machine A.

The hang occurs even if the migration processes are initiated as dry runs by using the `-n` option. When this problem occurs, all other `ldm` commands might hang.

Recovery: Restart the Logical Domains Manager on both the source machine and the target machine:

```
primary# svcadm restart ldmd
```

Workaround: None.

Using the `ldm stop -a` Command on Domains in a Master-Slave Relationship Leaves the Slave With the `stopping` Flag Set

Bug ID 15664666: When a reset dependency is created, an `ldm stop -a` command might result in a domain with a reset dependency being restarted instead of only stopped.

Workaround: First, issue the `ldm stop` command to the master domain. Then, issue the `ldm stop` command to the slave domain. If the initial stop of the slave domain results in a failure, issue the `ldm stop -f` command to the slave domain.

Cannot Connect to Migrated Domain's Console Unless `vntsd` Is Restarted

Bug ID 15513998: Occasionally, after a domain has been migrated, it is not possible to connect to the console for that domain.

Note that this problem occurs when the migrated domain is running an OS version older than Oracle Solaris 11.3.

Workaround: Restart the `vntsd` SMF service to enable connections to the console:

```
# svcadm restart vntsd
```

Note - This command will disconnect all active console connections.

Simultaneous Net Installation of Multiple Domains Fails When in a Common Console Group

Bug ID 15453968: Simultaneous net installation of multiple guest domains fails on systems that have a common console group.

Workaround: Only net-install on guest domains that each have their own console group. This failure is seen only on domains with a common console group shared among multiple net-installing domains.

Resolved Issues

The following enhancement requests and bugs have been fixed for the Oracle VM Server for SPARC 3.6 software release:

15699175	ldmd discovery code does not use gethostname() correctly
15701853	DRM fails to restore default number of virtual CPUs for a migrated domain
15739100	Retry CPU DR for blocked, complete or partial failure, plus cleanup (fix gcc)
15773677	Add LDoms Consoles rights profile
16920540	Mem map that Logical Domains receives after it restarts can be a snapshot, not the final view
17612897	ldm --help does not display the long version of the options
19781576	parse_perm_mem_spans() creates zero-length mblock
21654025	Improve guest TOD management across migration
21918449	vHBA: Support LUN subset semantics in Logical Domains Manager
23022963	ovmtconfig should print an error message if -f is used without -c option
25028104	PCI card info lost in XSCF after deleteboard or addboard
25106230	Domain going into sysconfig when ldap is in properties file
25164919	Virtual function naming should be supported when multiple virtual functions are created
25205333	ovmtconfig fails to backmount with Oracle Solaris 11.4
25205346	ovmtconfig does not set local variables when backmount option used
25293879	Conflicting messages output by ldm set-memory

25526107	Remove crypto and MAU commands on unsupported equipment
25565073	ldm list -o domain [name] has malformed output
25758471	ovmcreate - Deprecate use of SHA-1 hashing algorithms
25770069	ldmd crash in niagara1_gen_hvmd during memory DR
25813893	Exclusive open request is not validated by the Logical Domains Manager
25861926	I/O domain can be recovered even if all I/O resources are unavailable
25886276	ldmd may dump core if DS msgs out of sequence
26047815	Migrating from SPARC M8 to SPARC T5 fails if global 'perf-counter' is set
26144590	XML event support for domain soft state change
26261889	Incorrect pvlan error message when pvid==default-vlan-id
26309473	DRM with vcpu-min=1 bounces in PM performance on domains with 1 CPU and no load
26315720	Guest domain panic: bad unexpected error from hypervisor call at TL 1
26335220	DRM always forces removal of virtual CPUs while stealing
26399694	Memory allocation using mblock option on a stopped domain shows improper message
26408336	Logical Domains Manager needs to avoid using stale variables or keys at start-of-day
26429273	Console is unavailable after migration if a vcc switch occurs
26429746	Memory allocation using mblock option on a running domain shows improper message
26550901	ldm list-netstat needs to allow multiple domains
26561076	ldm list-netstat usage needs correction
26608395	ovmcreate or diskio fails with an I/O error when trying to open an empty slice

26626542	ldm remove-io of a bus causes Logical Domains Manager crash
26637056	Difference in the 2 system clocks causes domains that boot to have the wrong time
26639127	ovmtconfig should have an option to clear properties for a domain
26747755	Fix for 26235395 has broken effective LPS recalculation in delayed reconfig case
26789900	ldmd coredumps with existing logical domain configuration on SPARC T5-2 from st_004
26822709	deleteboard with ratio mode may fail if there are multiple MBLOCKS in one DIMM
26870407	ldm list-rsrc-group incorrectly shows the blacklisted memory as _sys_memory
26929947	ovmtdeploy fails to deploy on two or more physical disks
26970420	Failed mblks used in add failure case is confusing
26982172	ldm add-memory to an inactive guest domain fails and coredump in seq_download_mds()
27003281	Logical Domains Manager should be using sigwait() for asynchronous signals
27025725	ldmd may dump core during two successive live migrations
27032066	Discovery API implementation not properly retrieving IP address
27055165	spconfig does not save vlan id (vid) of unbound vnet objects
27074852	diskio needs to close file descriptors correctly on error
27075052	ovmtdeploy fails diskio when working with the image over the network
27112181	ncores field in pri_fjsocket_t structure not initialized
27112303	PM incorrectly sets CPU frequency to max power after PPAR DR
27112395	Memory leak in Fujitsu CMI code

27112442	pm_rm_seq_handler() process time needs improvement
27112470	ds_chan_send_msg() may cause timeout problem on PPAR DR
27112506	ldm shrink-socket command after addboard to factory-default causes ldmd core dump
27195619	CMI Phase III support
27201685	Command log write failure may cause deadlock on zeus_log_lock
27201935	ldm add-vsan can fail on initial attempts
27248004	Disable power management in ldmd by default
27248258	Spurious unexpected bound frag warnings in ldmd log
27284691	ovmtlibrary must determine digest method from template
27290924	ovmtdeploy does not recognize EFI labelled disk
27358814	Memory leak in dscard_bk_make_md_all_slot()
27382771	ldmd service does not restart when its package is updated
27382773	frag_find_freelist fails during SuperCluster I/O domain bind attempt
27382799	Superfluous restart_fmri actuator in ldomsmanager package
27395764	Disabling Logical Domains Manager PM by default impacts Fujitsu platforms part 2
27516815	ldm list-netdev incorrectly displays VNIC location
27547715	ovmtcreate incorrectly calculates required disk capacity from prtvtoc output
27587804	Part II: Incorrect memory displayed after ldm remove-memory -g transition from BOUND to INACTIVE
27608465	Misleading error message when failing to create a virtual RC
27615082	Unbound vnet linkprop state should be updated accordingly when domain is bound

27662622	Prevent removal of a bootset required by Recovery Mode
27692532	Add note to Administration Guide to clarify that adding root domains is not possible on all servers
27707155	pm-rm domain service still negotiated with PM disabled
27725340	ldm list-spconfig changes from [current] to [next poweron] after primary reboot
27758465	Add full XML support for ldm add-vsan-dev feature
27848740	Remove confusing warnings when variables get updated on inactive guest domains
27874712	Memory leak in md_dump_to_file functions
27878227	ldm list -o cmi should not output Shared Memory for CMI Phase III
27883448	Named core failure to restore virtual CPUs
27896118	ovmcreate man page needs to change for -w option to show compressed disk images
27920663	Named core error message improvement
27926320	XMPP/XML issues with vsan/vhba
27928409	Update Oracle VM Server for SPARC 3.6 man pages to Section 8 and remove Japanese man pages
27935119	ovmcreate output dir space req not taking compressed img size into account
27952673	Guest domain bad unexpected error from hypervisor call at TL 1
27981605	Guest TOD is not preserved across a cold migration
28022219	XMPP/XML -- inconsistent use of virtual function name in XML destroy-vf
28022816	NVME devices can end up unassigned after firmware upgrade and new config saved to SP

Resolved Issues

28072371	migration: ldm add-vsant-dev must constrain allowable configurations
27220540	Remove ldmd warnings when PM is disabled
27228221	Incorrect memory displayed after ldm remove-memory -g, transition from BOUND to INACTIVE