Oracle® VM Server for SPARC 3.4.0.3 Supplemental Release Notes

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Part No: E83161

Oracle VM Server for SPARC 3.4.0.3 Supplemental Release Notes

These supplemental release notes contain the list of resolved issues in Oracle VM Server for SPARC 3.4.0.3 maintenance update release.

These supplemental release notes contain the following information about the Oracle VM Server for SPARC 3.4.0.3 maintenance update release:

For information about the supported hardware and minimum and fully qualified firmware, Oracle Solaris OS and hardware, see Chapter 1, "System Requirements" in *Oracle VM Server for SPARC 3.4 Installation Guide*.

For information about issues with the Oracle VM Server for SPARC 3.4 software, see *Oracle VM Server for SPARC 3.4 Release Notes*.

Resolved Issues

The following issues have been addressed for the Oracle VM Server for SPARC 3.4.0.3 software release:

20085077	ldm start-reconf/cancel-reconf loop causes ldmd abort and hv_mblock exhaustion
21069411	I/O guest domain run diskinfo/croinfo only lists PCIE slot no other buses
24431008	ldm set-io shouldn't allow an invalid multicast alt-mac-addrs to be set for a virtual function
24697006	ds_dio should wait for existing getinfo_threads to exit before creating new ones
24301372	Problem in MGMTMIGRN/MIGRATION-MGMT
24755631	Targeted mode PPAR DR memory remap fails if target memory is not aligned
24799226	ldmd dumps core on SPARC M7-16 server after updating to sysfw build 45_a
25042249	IOVFC from saved config lost port-wwn and node-wwn info
25072777	Extend vHBA DS timeout so ls-hba with many LUNs succeeds - workaround 2471238
25143261	Propagate keystore-backup persistence version to keystore
25240689	Infinite loop encountered in mem_bind_real for Board DR in ratio mode

Documentation Issues

Maximum Number of LDC Endpoints in the LDC Pool

"Using Logical Domain Channels" in *Oracle VM Server for SPARC 3.4 Administration Guide* is out of date. Following is the updated section:

Oracle VM Server for SPARC uses logical domain channels (LDCs) to implement all communications such as console, virtual I/O, and control traffic. An LDC is the method used to enable communications between two endpoints. Although typically each endpoint is in a different domain, the endpoints can be in the same domain to enable loopback communications.

This software and system firmware provide a large pool of LDC endpoints that you can use for the control domain and guest domains. This LDC endpoint pool is available starting with the SPARC T4 servers and Fujitsu M10 servers. The number of LDCs in the pool is based on the platform type as follows:

- **SPARC T4 Server –** 1984 LDC endpoints per logical domain
- **SPARC T5 Server –** 4080 LDC endpoints per logical domain
- **SPARC T7 Series Server –** 4080 LDC endpoints per logical domain
- **SPARC M5 Server –** 4080 LDC endpoints per logical domain
- **SPARC M6 Server –** 4080 LDC endpoints per logical domain
- **SPARC M7 Series Server –** 4080 LDC endpoints per logical domain
- **Fujitsu M10 Server –** 4080 LDC endpoints per logical domain
- **SPARC S7 Series Server –** 4080 LDC endpoints per logical domain

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Note - Starting with the Oracle SPARC T5 servers and for all Fujitsu servers, the LDC pool contains 4080 LDCs when the domain runs at least the Oracle Solaris 11.3 SRU 8 OS. Otherwise, LDC the pool contains 1984 LDCs.

The required system firmware to support the LDC endpoint pool is 8.5.2 for SPARC T4 servers, 9.2.1 for SPARC T5 servers, SPARC M5 servers, and SPARC M6 servers, 9.4.3 for SPARC T7 series servers and SPARC M7 series servers, any release version for SPARC S7 series servers, and XCP2240 for Fujitsu M10 servers.

The following LDC endpoint limits still apply if you run an older version of the system firmware on a supported platform or on an UltraSPARC T2, UltraSPARC T2 Plus, or SPARC T3 platform:

- **UltraSPARC T2 Server –** 512 LDC endpoints per logical domain
- **UltraSPARC T2 Plus Server –** 768 LDC endpoints per logical domain
- **SPARC T3 Server –** 768 LDC endpoints per logical domain
- **SPARC T4 Server –** 768 LDC endpoints per logical domain
- **SPARC T5 Server –** 768 LDC endpoints per logical domain
- **SPARC T7 Series Server –** 768 LDC endpoints per logical domain
- **SPARC M5 Server –** 768 LDC endpoints per logical domain
- **SPARC M6 Server –** 768 LDC endpoints per logical domain
- **SPARC M7 Series Server –** 768 LDC endpoints per logical domain
- **Fujitsu M10 Server –** 768 LDC endpoints per logical domain
- **SPARC S7 Series Server –** 768 LDC endpoints per logical domain

If you attempt to add a service or bind a domain so that the number of LDC endpoints exceeds the limit on any single domain, the operation fails with an error message similar to the following:

```
13 additional LDCs are required on guest primary to meet this request,
```

```
but only 9 LDCs are available
```

The following guidelines enable you to plan properly for using LDC endpoints and explain why you might experience an overflow of the LDC capabilities of the control domain:

- The control domain uses approximately 15 LDC endpoints for various communication purposes with the hypervisor, Fault Management Architecture (FMA), and the system processor (SP), independent of the number of other domains configured. The number of LDC endpoints used by the control domain depends on the platform and on the version of the software that is used.
- The Logical Domains Manager allocates an LDC endpoint to the control domain for every domain, including itself, for control traffic.
- Each virtual I/O service on the control domain uses one LDC endpoint for every connected client of that service. Each domain needs at least a virtual network, a virtual disk, and a virtual console.

The following equation incorporates these guidelines to determine the number of LDC endpoints that are required by the control domain:

> 15 + *number-of-domains* + (*number-of-domains* x *number-of-virtual-services*) = *total-LDC-endpoints*

number-of-domains is the total number of domains including the control domain and *number-of-virtual-services* is the total number of virtual I/O devices that are serviced by this domain.

The following example shows how to use the equation to determine the number of LDC endpoints when there is a control domain and eight additional domains:

15 + 9 + (8 x 3) = 48 LDC endpoints

The following example has 45 guest domains and each domain includes five virtual disks, two virtual networks, and a virtual console. The calculation yields the following result:

15 + 46 + 45 x 8 = 421 LDC endpoints

Depending upon the number of supported LDC endpoints of your platform, the Logical Domains Manager will either accept or reject the configuration.

If you run out of LDC endpoints on the control domain, consider creating service domains or I/O domains to provide virtual I/O services to the guest domains. This action enables the LDC endpoints to be created on the I/O domains and the service domains instead of on the control domain.

A guest domain can also run out of LDC endpoints. This situation might be caused by the `inter-vnet-link` property being set to `on`, which assigns additional LDC endpoints to guest domains to connect directly to each other.

The following equation determines the number of LDC endpoints that are required by a guest domain when `inter-vnet-link=off`:

> 2 + *number-of-vnets* + *number-of-vdisks* = *total-LDC-endpoints*

2 represents the virtual console and control traffic, *number-of-vnets* is the total number of virtual network devices assigned to the guest domain, and *number-of-vdisks* is the total number of virtual disks assigned to the guest domain.

The following example shows how to use the equation to determine the number of LDC endpoints per guest domain when `inter-vnet-link=off` and you have two virtual disks and two virtual networks:

2 + 2 + 2 = 6 LDC endpoints

The following equation determines the number of LDC endpoints that are required by a guest domain when `inter-vnet-link=on`:

2 + [[(*number-of-vnets-from-vswX* x *number-of-vnets-in-vswX*)] ...] + *number-of-vdisks* = *total-LDC-endpoints*

2 represents the virtual console and control traffic, *number-of-vnets-from-vswX* is the total number of virtual network devices assigned to the guest domain from the *vswX* virtual switch, *number-of-vnets-in-vswX* is the total number of virtual network devices on the *vswX* virtual switch, and *number-of-virtual-disks* is the total number of virtual disks assigned to the guest domain.

The following example shows how to use the equation to determine the number of LDC endpoints per guest domain when `inter-vnet-link=on` and you have two virtual disks and two virtual switches. The first virtual switch has eight virtual networks and assigns four of them to the domain. The second virtual switch assigns all eight of its virtual networks to the domain:

2 + (4 x 8) + (8 x 8) + 2 = 100 LDC endpoints

Virtual network devices that you create by using at least the Oracle VM Server for SPARC 3.4 software have `inter-vnet-link=auto` by default. This feature automatically turns off inter-vnet-links when the number exceeds the threshold. However, any virtual network devices that you created with `inter-vnet-link=on` must be explicitly modified to change `inter-vnet-link=off` to reduce the number of LDC channels. For more information, see "Inter-Vnet LDC Channels" in *Oracle VM Server for SPARC 3.4 Administration Guide*.

You can still set `inter-vnet-link=off` to reduce the number of LDC endpoints in the domain or domains that have the virtual network devices. However, the `off` property value does not affect the service domain that has the virtual switch because the service domain still requires an LDC connection to each virtual network device. When this property is set to `off`, LDC channels are not used for inter-vnet communications. Instead, an LDC channel is assigned only for communication between virtual network devices and virtual switch devices. See the `ldm`(1M) man page.

Note - Although disabling the assignment of inter-vnet links reduces the number of LDC endpoints, it might negatively affect guest-to-guest network performance. This degradation would occur because all guest-to-guest communications traffic goes through the virtual switch rather than directly from one guest domain to another guest domain.

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Accès aux services de support Oracle

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