Oracle® Enterprise Manager Ops Center

What's New in This Release?

This document provides an overview of new and enhanced features. The following sections are included in this document:

- New and Enhanced Features in 12*c* Release 4 (12.4.0.0.0)
- New and Enhanced Features in 12*c* Release 3 (12.3.3.0.0)
- New and Enhanced Features in 12*c* Release 3 (12.3.2.0.0)
- New and Enhanced Features in 12*c* Release 3 (12.3.1.0.0)
- New and Enhanced Features in 12*c* Release 3 (12.3.0.0.0)
- Related Resources

New and Enhanced Features in 12*c* Release 4 (12.4.0.0.0)

Oracle Enterprise Manager Ops Center 12*c* Release 4 (12.4.0.0.0) the following enhancements and bug fixes:

- Support for Solaris 11.4 on the three tiers: Enterprise Controller, Proxy Controller and Agent
- Support for Java 8 update 202 on all three tiers
- Support for Oracle VM Server for Sparc 3.6

New and Enhanced Features in 12*c* Release 3 (12.3.3.0.0)

Oracle Enterprise Manager Ops Center 12*c* Release 3 (12.3.3.0.0) contains a number of enhancements and bug fixes.

The following sections describe the new and enhanced features for this release:

- New Hardware Support

New Hardware Support

In 12.3.3.0.0 release, both Fujitsu M12 and M10 servers are supported.

In addition, the following hardware is supported:

- SPARC M8-8
- SPARC T8-1
- SPARC T8-2
- SPARC T8-4
- Oracle Server X7-2
- Oracle Server X7-2C
- Oracle Server X7-2L
- Oracle Server X7-8
- Oralce ZFS Storage ZS5

New Software Support

This section describes the new software support in 12.3.3.0.0

Starting with Oracle Enterprise Manager Ops Center 12c Release 3 (12.3.3.0.0), Oracle Linux 7.3, LDom 3.5, and Java 8 Update 144 are supported. Oracle Linux 7.3 and Java 8 Update144 are supported on all the three tiers: EC, PC, and AC. While provisioning the operating system, you can use new SRU version, S11.3.

New and Enhanced Features in 12*c* Release 3 (12.3.2.0.0)

Oracle Enterprise Manager Ops Center 12*c* Release 3 (12.3.2.0.0) contains a number of enhancements and bug fixes.

The following sections describe the new and enhanced features for this release:

- New Hardware Support
- New Software Support
- SNMP Version 3
- TLS Versions
- Virtualization Enhancements
- Performance Enhancements

New Hardware Support

This section describes the new hardware support in 12.3.2.

The following are new hardware supported in Oracle Enterprise Manager Ops Center 12c Release 3 (12.3.2.0.0):

- Oracle Server X6-2
- Oracle Server X6-2L
- SPARC S7-2
- SPARC S7-2L

New Software Support

This section describes the new software support in 12.3.2.0.0.

Starting with Oracle Enterprise Manager Ops Center 12c Release 3 (12.3.2.0.0), the Enterprise Controller and Proxy Controller tiers support Oracle Linux 7.2.

SNMP Version 3

The new SNMP Version 3 uses credentials instead of a public community string in its communication exchanges.

The credentials includes username, a password for an authorization protocol, and a password for a privacy protocol. Starting with 12.3.2.0.0, Oracle Enterprise Manager Ops Center uses SNMPv3 to discover assets and for new or updated credentials. Existing assets continue to use SNMPv1 until you update the credentials. The product upgrade includes the option to upgrade all credentials to use SNMPv3 credentials. To migrate to SNMPv3 see, Migrating to SNMPv3 Credentials in the *Enterprise Manager Ops Center Upgrade.* SNMPv3 supports ILOM, Solaris OS, and XSCF assets only.

Transport Layer Security Versions

This section describes the new Transport Layer Security protocol versions.

The Transport Layer Security protocol now has three versions for increasing security: TLS 1.0, TLS 1.1, and TLS 1.2. The default version used in Oracle Enterprise Manager Ops Center is TLS 1.0. To change the minimum version, use the `ecadm set-tls-level -e|--enable 0|1|2` command. The integers refer to the point release of the protocol version, for example, 1 indicates TLSv1.1.

Virtualization Enhancements

This section describes the virtualization enhancements in 12.3.2.0.0.

Analytics information for your Oracle Solaris Zone and Oracle VM Server Pool members is displayed in a graphical format. An analytics dashboard is available for each of your Control Domain and Global Zone server pools. Server Pool analytics include CPU, Memory, Storage, power consumption, and guest distribution details.

Oracle VM Server for SPARC: When you place a Control Domain in maintenance mode, all automatic actions such as ASR and automatic recovery are suspended.

Enhanced Oracle VM Server guest management provides the ability to migrate a shut down guest.

Server Pool: A comprehensive view and analysis of the server pool resource is displayed in the Analytics tab of the selected server pool. Here, you can view information about the CPU, memory, storage, guests, power consumption, and history of the selected server pool. See Monitoring Server Pool Resources for more information.

Performance Enhancements

The following are performance enhancements made in 12.3.2.0.0.

- Updated sizing requirements for the Agent Controller: An Agent Controller requires a minimum of 512 MB of RAM.

- New requirements for the Enterprise Controller memory: Beginning with 12.3.2.0.0, the minimum memory for an installation using a local database is 12Gb.

  See the Sizing and Performance Guide for more about the new requirements and how to calculate the memory requirements for the Enterprise Controller.

New and Enhanced Features in 12*c* Release 3 (12.3.1.0.0)

Oracle Enterprise Manager Ops Center 12*c* Release 3 (12.3.1.0.0) contains a number of enhancements and bug fixes.

The following sections describe the new and enhanced features for this release:

- Dynamic Zones Modification
- Expanded Kernel Zones Support
- Virtual Network Device Support
- JDK Support
- Performance Enhancements
- New Software Support
- New Features
- CPU Activation Keys for Fujitsu M10 Servers
- New Icons
- Database Enhancements
- Storage Enhancements
- Network Enhancements
- Discovery Enhancements
- New CLI Sub Commands

Dynamic Zones Modification

You can dynamically edit storage, network, and file system properties on zones using Oracle Solaris 11.2 or later.

See *Adding File Systems to Zones* for more information.

Expanded Kernel Zones Support

You can create new kernel zones using the Ops Center user interface.

Support for Oracle Solaris 11 Kernel Zones has been expanded in version 12.3.1. You can now create new kernel zones using the Ops Center user interface. You can edit the configuration of kernel zones and migrate logical domains that are hosting kernel zones. The storage tab display is also improved for kernel zones.

Virtual Network Device Support

Virtual network device support is introduced in 12.3.1.0.0.

You can create logical domains with a Virtual Network Device configuration and connect networks to guests with a Virtual Network Device.

JDK 8 Support

JDK 8 is supported with release 12.3.1.0.0.

In addition to JDK 7, Oracle Enterprise Manager Ops Center 12 c Release 3 (12.3.1.0.0) supports JDK 8.

Performance Enhancements

This section lists the performance enhancements that have been made in 12.3.1.0.0.

The following are enhancements made in regard to performance in 12 c Release 3 (12.3.1.0.0).

- Improved start up of Enterprise Controller.
- Improved logical units listing in the user interface.
- Improved Asset Tree (tree cache).
- Improved guest details information enabling the dashboards and right action panel to load faster.
- Improved network tree and network's dashboards.
- Improved listing of incidents in the User Interface.
- Asset Counter is now part of the User Interface under Administration, EC/Proxy Asset counter tab.

New Software Support

This section lists the new software support for Oracle Solaris 11.2 or later and improved OSP support introduced in 12.3.1.0.0.

The following are new software support introduced:

- For Oracle Solaris 11.2 or later, you can create Unified Archive files from existing operating systems running on an asset and use them to deploy new ones or recover one. See the Release Notes for more information.

- When you provision the operating system, you can use the same SRU version that you selected when creating a profile to be used for provisioning. See *Set SRU Version* for more information.

- You can use UAR when provisioning your operating system. UAR speeds up OS provisioning. See *Using UAR for OS Provisioning* for more information.

New Features

New features such as rebalancing assets on the proxy controller and new tabs such as Asset Counter and Blacklist tabs are introduced.

You can rebalance assets of the proxy controller. When an asset rebalance job is initiated, it calculates the necessary migrations required and starts the migration tasks. See *Rebalancing Assets* for steps to rebalance the assets.

The following are new tabs introduced in Oracle Enterprise Manager Ops Center 12c Release 3 (12.3.1.0.0):

- Asset Counter
- Blacklist

  These tabs are available from the **Administration** menu on the left pane.

Asset Counter

This tab displays the current number of access points by asset type. If the number exceeds 3000 on the Enterprise Controller or 500 on Proxy Controller, an alert is sent to the Incident Manager. More assets are allowed, but performance is affected. You can get a current count by using the Run Asset Counter Job action.

Blacklist

This tab displays a list of assets in Blacklist mode. You can update credentials for assets and can also remove assets from the blacklist mode.

CPU Activation Keys for Fujitsu M10 Servers

You can add CPU activation keys for Fujitsu M10 servers or you can move CPU activation keys from one Fujitsu M10 server to another Fujitsu M10 server.

The CPU activation key is not limited to one machine, but the key is limited to the model of the M10 server, such as M10-1, M10-4, and M10-4S. For example, the CPU activation key from an M10-1 server can be moved to another M10-1 server, but not to

M10-4 or M10-4S servers. See the *Oracle Enterprise Manager Ops Center Operate Reference* for more information.

New Icons

New logical domains icons for Oracle SuperCluster have been introduced in 12.3.1.0.0.

New logical domains icons namely SuperCluster I/O Domains, SuperCluster Dedicated Domains, and SuperCluster Root Domains have been introduced for Oracle SuperCluster.

For more information, see the *Icons Guide*.

Database Enhancements

In environments using an embedded database, the embedded database is upgraded to Oracle Database 12.1.0.2 during the upgrade to Ops Center 12.3.1.0.0.

Minimum requirements for the Enterprise Controller operating system have changed to enable this support. The requirements vary depending on the environment. To know more about the minimum requirements, see *Checking the System Requirements* in the *Enterprise Manager Ops Center Installation for Linux Operating Systems.* Environments using a customer-managed database can upgrade the database to Oracle Database 12.1.0.2.

New version of Oracle Database Enterprise Edition 12.1.0.2 is supported.

If you want to use a customer-managed database running Oracle 12 multi-tenant container database (CDB), you can install and configure it to work with Oracle Enterprise Manager Ops Center.

Storage Enhancements

The Oracle ZS4-4 storage appliance is supported in 12.3.1.0.0.

For cluster appliances of all models, the active-active configuration is supported. An alternative driver to the StorageConnect plug-in is also supported.

Network Enhancements

DLMP aggregation is supported.

For networks, the default operation allows overlapping networks in both InfiniBand and Ethernet fabrics.

Discovery Enhancements

For discovery credentials and management credentials, you can use sudo with the SSH protocol to escalate privileges on the assets.

If root access is needed, it is not necessary to use root credentials if the asset has been configured to allow a login account to escalate its access.

Other improvements to discovery are as follows:

- You can direct a probe for assets to those managed by a specific Proxy Controller.

- You can improve SSH discovery's performance by excluding ALOM assets.

New CLI Sub Commands

New CLI sub commands and options have been introduced in 12.3.1.0.0.

The following are new CLI sub commands in Oracle Enterprise Manager 12 c Release 3 (12.3.1.0.0).

- plan, to list or delete plans or credentials.

- security, to deploy certificates and manage their expirations

- guest

The following are new options:

- New options for user: you can view the permissions.

- New options for job: filtering the list of jobs.

- New option for virtualization: you can list the libraries in use.

- New option for gear and group: you can reset their service processors.

New and Enhanced Features in 12*c* Release 3 (12.3.0.0.0)

Enterprise Manager Ops Center 12*c* Release 3 (12.3.0.0.0) contains a number of enhancements and bug fixes.

The following sections describe the new and enhanced features for this release:

- Discovery Enhancements

- New Hardware Support

- Storage Enhancements

- New and Enhanced Oracle Solaris 11 Operating System Support

- Virtualization Enhancements

- Network Enhancements

- Performance Enhancements

- New Procedure for Replacing Certificates

- Other Enhancements

- Documentation

Discovery Enhancements

Enterprise Manager Ops Center can discover and manage an iSCSI target in more than one initiator group.

New options are available for adding assets when you use the discovery probes option. In addition to searching for targets on all networks associated with all of the available Proxy Controllers, now you can:

- Select a network to limit the search to the Proxy Controller that is attached to the network.
- Select a Proxy Controller to limit the search to the associated networks.

See the *Oracle Enterprise Manager Ops Center Configuration Reference* for how to use the Add Assets feature.

New Hardware Support

For Fujitsu M10 servers, you can edit the CPU Core Activations on the XSCF Summary view on the user interface.

Oracle Server X5 series servers are supported, with the exception of the Configure RAID feature. You cannot use Oracle Enterprise Manager Ops Center to configure RAID on X5 servers.

In addition, the following hardware is supported:

- SPARC M7-8
- SPARC M7-16
- SPARC T7–1
- SPARC T7–2
- SPARC T7–4

See the *Oracle Enterprise Manager Ops Center Configuration Reference* for more information.

For Fujitsu M10 servers, you can edit the CPU Core Activations on the XSCF Summary view on the user interface.

Storage Enhancements

Dynamic storage libraries can use shared LUNs, in the same way as static storage libraries uses them. See the *Oracle Enterprise Manager Ops Center Configuration Reference* for more information.

Ability to move a LUN to a different SAN library. See the *Oracle Enterprise Manager Ops Center Configuration Reference* for more information.

New and Enhanced Oracle Solaris 11 Operating System Support

Ability to create a custom Oracle Solaris 11 AI manifest and use that manifest when provisioning Oracle Solaris 11. This feature enables you to use any supported AI manifest feature. See the *Oracle Enterprise Manager Ops Center Configuration Reference* for more information.

Virtualization Enhancements

This section describes enhancements for virtualization that are available in the 12c Release 3 version of the software.

Limited support for Oracle Solaris 11 Kernel Zones, including discovery and basic management operations. You can perform network and storage management from the agent-managed Kernel Zone operating system, but you cannot migrate a kernel zone or change its configuration in the user interface. See the *Oracle Enterprise Manager Ops Center Virtualization Reference* and the *Discover a Kernel Zone* How To for more information.

The following enhancements for Oracle VM Server for SPARC:

- Additional support for Fibre Channels on Oracle VM Server for SPARC, version 3.1.1: The software displays and monitors the Fibre Channel SR-IOV card, the physical function and the virtual function for Fibre Channels.

- Ability to see the console logs of logical domain guests, beginning with Oracle VM Server for SPARC, version 3.0, when the virtual console concentrator (vcc) service is provided by the control domain. The virtual console concentrator service is typically the control domain, but it can be another guest with the service domain role. The control domain must be running the Oracle Solaris 11 operating system. The guest domain being logged can run older versions of Solaris.

- It is now optional to label the root disk when creating a guest. See the *Oracle Enterprise Manager Ops Center Virtualization Reference* for more information.

In a virtual datacenter, you can reserve IP addresses so that Enterprise Manager Ops Center does not use them to create vServers.

A new set of icons is available to differentiate the following in the user interface: global zones, kernel zones, non-global zones, logical domains, root domains and I/O domains.

Figure 1-1   New Virtualization Icons
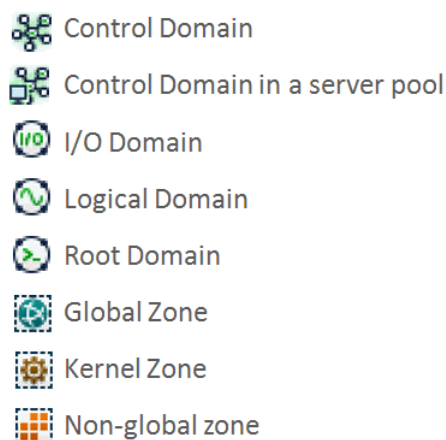
Network Enhancements

Support for the new maximum bandwidth and private virtual local area network (VLAN) attributes of a virtual network (vnet) device.

Performance Enhancements

The Search field now shows the results (assets that match) in the Navigation pane, resulting in improved performance. Instead of a Search Results pop-up window, a new Search Results section appears above the Message Center in the Navigation pane. You can double-click search results to navigate to the asset.

Improvements in the method for getting datalinks has greatly reduced the start time for Oracle Solaris 10 Virtualization Agent Controllers when there are numerous datalinks.

New Procedure for Replacing Certificates

A new procedure is available for replacing certificates signed by a Certificate Authority. Sites that have substituted this type of certificate for the default self-signed certificates, must replace the certificates before they expire. See the *Oracle Enterprise Manager Ops Center Security Guide* for more information.

Other Enhancements

The user interface now has type-ahead filtering when you enter text.

The Navigation pane contains a Search Results section to display the results of a global search for managed assets, storage libraries or networks.

The gear mode of the CLI can upgrade the Agent Controller on all assets that match given attributes or all that require updates.

Documentation

The following reference documents replace the Oracle Enterprise Manager Ops Center Feature Reference Guide:

- *Configure Reference*: Describes the features used to set up the software.
  - Get Started with Configuration
  - Manage Assets
  - Configure Jobs
  - Set Up Monitoring Rules and Policies
  - Configure Software Libraries
  - Configure Storage
  - Configure Networks
  - Create Plans and Profiles
- *Operations Reference*: Describes the features used to operate the software.
  - Get Started with Operations
  - Understanding User Roles
  - Incidents
  - Reports
  - Hardware
  - Operating System Management
  - Operating System Provisioning
  - Operation System Updates
- *Virtualization Reference*: Describes the features used for OS and hardware virtualization.
  - Get Started with Virtualization

    Storage Libraries for Virtualization
  - Networks for Virtualization
  - Oracle Solaris Zones
  - Oracle VM Server for SPARC
  - Oracle VM Server for x86
  - Server Pools
  - Virtual Datacenters
- *Oracle SuperCluster Operations Reference*: Describes the features used to manage Oracle Engineered Systems.
  - Get Started with Operations for Oracle SuperCluster
  - User Roles for Oracle SuperCluster

- Engineered Systems Management
- Oracle SuperCluster Management

The following documents are new or contain updated information:

- *Restoring an Enterprise Controller and Embedded Database on a New System*
- *Discover and Manage Kernel Zones*
- *Discover and Manage SPARC T5 Series Servers and SPARC T7 Series Servers*
- *Security Guide*

Related Resources

This document provides an overview of new and enhanced features. For detailed information about the features, see the Oracle Enterprise Manager Ops Center 12*c* Release 4 documentation library at `https://docs.oracle.com/cd/ops-center-12.4/index.htm`. Example How To documents and workflows are available in Tasks.

Watch our blog at `https://blogs.oracle.com/opscenter/` to see questions that others are asking and for how the documentation can help you.

Documentation Accessibility

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