

# Oracle Enterprise Manager 13c Hardware & Virtualization Management



Oracle Enterprise Manager is Oracle's on-premises management platform, providing a single pane of glass for management of Oracle environments, whether in customer data centers or in Oracle Cloud. Through deep integration into Oracle's product stack, Enterprise Manager provides market-leading management and automation for Oracle engineered systems, databases, middleware, and hardware.

Enterprise Manager helps increase business agility using application-to-disk automation and maximizes service levels through intelligent management of the Oracle stack. It also enables customers to reduce costs through comprehensive lifecycle automation, combined hardware and software management, proactive monitoring and compliance control.

## FEATURES

- Enterprise Manager Systems Infrastructure (EMSI) plug-in
- Discovery of Oracle assets
- Systems Infrastructure user interface
- Monitoring and management
- Engineered systems management
- Automated maintenance

## Introduction

The Oracle Enterprise Manager Systems Infrastructure (EMSI) plug-in provides an enterprise-wide view of the bottom half of the stack and monitoring of most targets including Oracle Solaris and Linux operating systems, SPARC/x86 engineered systems, SPARC/x86 standalone servers, virtual environments (Solaris Zones and OVM for SPARC), ZFS storage appliance and Oracle switches. It also supports monitoring of engineered systems like Oracle SuperCluster that integrates SPARC compute nodes along with an Oracle ZFS Storage Appliance, Exadata Storage Servers and Network switches into a multi-rack system.

Relevant hardware faults will be propagated to the application dashboard, providing true "single pane of glass" management, with one tool managing the entire stack.

The plug-in integrates with My Oracle Support for automated service requests and access to the Oracle Support knowledge base for problem resolution.

## Discovery of Infrastructure Assets

Enterprise Manager 13c can rapidly discover all Oracle assets, such as servers, storage, networking, virtual systems, and operating systems. Oracle Solaris and Linux operating systems are discovered and promoted as part of the host discovery and promotion process. If Oracle Solaris Zones and Oracle VM Server for SPARC exists on a host, it gets discovered as part of host discovery. Discovering and adding servers can be performed separately or as part of the host discovery. Following discovery,

assets can be viewed in a usable format including storage and network relationships to physical and virtual servers.

## Monitoring and Management

Information gathered by the Systems Infrastructure plug-in appears in an updated user interface. Each target home page is slightly different, depending on the type of target and whether the target utilizes Oracle VM Server for SPARC or Oracle Solaris Zones virtualization technology.

Open incidents, resource utilization and metrics for a target appear in a dashboard, helping you to maintain high availability and optimized performance. Tabs in the user interface contain more detailed metric information. Information appears in graphs, tables, charts, schematic, and photorealistic views to help you to quickly understand the status and relationships between components.

The home page enables you to quickly view the status, identify potential resource issues, and view the service request and configuration history of a specific target. From this page, you can drill down to specifics for an open incident, view detailed metrics, and guest details.

The dashboard is designed to display an overview of important information and information that you might want to monitor closely. The information appears in a series of sections, called dashlets. Figure 1 is an example of the first three dashlets on an Oracle System Infrastructure Server target home page. The first dashlet contains target details; the second dashlet shows the number of open incidents and the severity level. The third dashlet shows the temperature for this target. One or more buttons appears beneath the Open Incidents dashlet, click a button to navigate to the next series of dashlets.



Figure 1: Description of target dashlets

A series of monitoring rules and parameters monitor the managed targets. Alerts and incidents are raised for resources that are not performing as expected.

A Management Agent deployed on the host gathers information and keeps track of activity, status, performance and the health of the targets. Depending on the type of target, a target home page might include graphs, charts and tables to provide greater detail at a glance. The home pages of more complex targets include dynamic photorealistic views and relationship charts. In some cases, you can interact with the images to better understand how hardware is deployed and how resources are utilized.

The following charts and views enable you to assess a target quickly and determine the relationships at a glance:

- Relationship Chart: Displays how resources are allocated among guests. For example, the Systems Infrastructure Virtualization Platform page of an Oracle VM

Server for SPARC includes a Core Distribution tab that displays the vCPU and core allocation. The chart contains concentric circles with segments that display which CPUs and cores are allocated to which guests, and which CPUs and cores are not allocated. You can click a guest in the outer ring to view detailed information about that guest's resource consumption.

- **Photorealistic View:** Displays the components and ports of a hardware target, and if there are open incidents. For example, in Figure 2, the Oracle SuperCluster engineered system monitoring pages provide a photorealistic view, which enables you to see how the system is laid out in the rack. All active targets in the system appear in the image. You can view greater detail by hovering your mouse over a target in the image. When a component of the engineered system has an open incident, the component appears in the image with a red border.

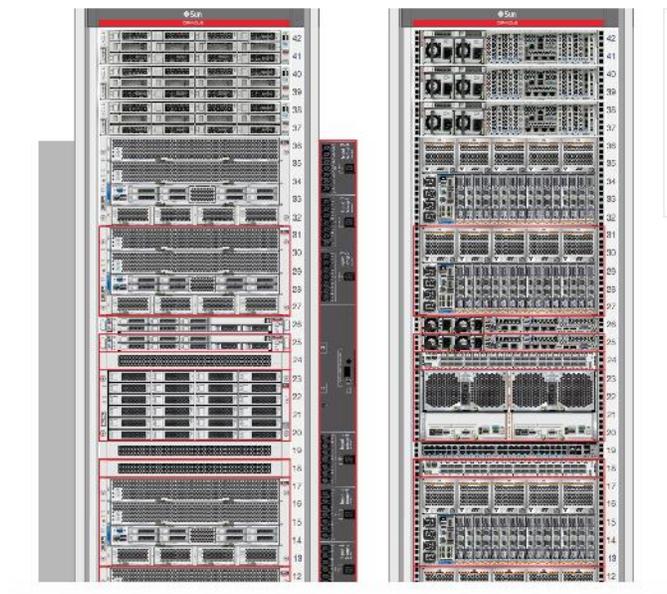


Figure 2: Photo realistic view of SuperCluster target

- **Schematic View:** Displays a symbolic view that displays the labels of an engineered system's components. At a glance, you can see the LED status (up, down, or blackout) and temperature of the server, ZFS Storage Appliance Server, InfiniBand Switch, and PDU in the engineered system.

## Engineered Systems Management

Oracle Enterprise Manager Cloud Control 13c provides an integrated view of hardware and software where you can view and manage hardware components such as compute nodes, Exadata cells, and InfiniBand switches. Oracle Enterprise Manager Cloud Control 13c provides application to disk monitoring. Notable Oracle Enterprise Manager Cloud Control 13c new features includes

- VM provisioning on Exadata and Exalogic
- Support for Exadata Flash Cache Features

- Health checks using EXAchk
- Auto Service Request (ASR) Integration: Fault Telemetry
- Automated Engineered Systems Patching of Exadata and Exalytics

## Automated Maintenance

Infrastructure Management in Oracle Enterprise Manager 13c integrates with My Oracle Support for automated service requests and access to the Oracle knowledge base for optimal problem resolution.

## Summary

Oracle Enterprise Manager provides an integrated and cost-effective solution for complete physical and virtual server lifecycle management. By delivering comprehensive provisioning, patching, monitoring, administration, and configuration management capabilities via web-based user interface, Enterprise Manager significantly reduces the complexity and cost associated with managing Oracle Solaris and Linux operating systems, and virtual environments (Solaris Zones and OVM for SPARC). In addition, enterprises using Oracle Sun hardware can get deep insight into their engineered systems (Exadata and SuperCluster), server, storage and network infrastructure layers and manage thousands of systems in a scalable manner. Oracle Enterprise Manager helps customers to accelerate the adoption of virtualization and cloud computing to optimize IT resources, improve hardware utilization, streamline IT processes, and reduce costs.



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### Hardware and Software, Engineered to Work Together

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