



Sun™ Ops Center

Centralized life cycle management of physical and virtual system infrastructures

Highlights

- Comprehensive management for physical and virtual Sun Systems
- Centralized end-to-end management
- Extends to heterogeneous environments — Solaris, Linux, Windows
- World class intelligent patching
- Rapid scalability with unique multi-tier architecture
- Seamless user experience with innovative browser-based interface

Benefits

- **Control systems growth** — with robust monitoring capabilities and high scalability
- **Increase systems flexibility** — with rapid systems deployment and dynamic allocation of resources
- **Improve compliance** — with automated updates and detailed reporting
- **Lower operation costs** — reduce downtime with automation and ease of use features



As the number of servers proliferate and the adoption of virtualization accelerates, operational and architectural issues can make managing a global organization's technology infrastructure a challenge. Even with the consolidation of underlying servers with virtualization, organizations are finding they still need to scale-out their physical server resources. All of this growth and change is creating significant complexity, requiring effective management tools to keep both physical and virtual systems running smoothly and efficiently. These tools must help organizations control rapid resource growth, improve data center flexibility, meet compliance mandates, as well as decrease operational costs by reducing system downtime and improving productivity.

Built on proven Sun technologies, Sun™ Ops Center combines discovery, provisioning, updating, monitoring, and management of physical and virtual systems into a single intuitive console to address the challenges of complex data centers, and maximize the value of underlying systems.

Sun Ops Center extends life-cycle management across the full range of Sun's x86 and SPARC® servers, virtual technologies including Solaris™ Zones and Logical Domains, and heterogeneous server and operating systems environments. It is a comprehensive, highly scalable management solution that enables enterprises to quickly provision and administer physical and virtual assets.

This end-to-end system management solution provides the capabilities necessary to help IT departments regain control over the rapid growth of physical and virtual systems, provide a more flexible system infrastructure, ensure greater system compliance, and reduce IT costs by lessening downtime and increasing productivity.

Life cycle management capabilities based on proven Sun technology

Ops Center provides complete visibility, management and centralized control of both the physical and virtual servers with life cycle

management features such as asset management, automated provisioning, intelligent patching, centralized management and comprehensive monitoring.

Asset management and discovery

Asset management helps IT staff discover operating systems, physical servers, and virtual resources automatically. These options give organizations the flexibility to quickly discover assets, specific subsets of assets or a pre-defined set of assets. Discovered assets can then be registered through inventory services from Sun. This service provides details about the product life cycle so the user can take appropriate actions based on the various phases of the life cycle.

Automated provisioning

Automated provisioning provides the capabilities for bare-metal and manual boot OS provisioning, firmware provisioning, multistate rollback, profile-based management, existing-state provisioning and configurations management.

- Bare-metal and manual boot OS provisioning — Enables the installation of a supported OS on physical or virtual servers
- Firmware provisioning — Deploys of a dependency-aware chain of firmware that supports ALOM, ILOM, newsys, ELOM, and RSC firmware

- Multistate rollback — Returns the system to a previous state or configuration
- Profile-based management — Compares the differences between two machines with the ability to “make A like B”
- Existing-state provisioning — Automatically provisions a system to take on the state of an existing system or a predefined installation
- Configuration management — Deploys and manages system and application configuration files using profiling capabilities

World class intelligent patching

Ops Center is intelligent enough to use in the patch management of Solaris Zones or of the controlling and guest operating environments in a hypervisor deployment. Specific capabilities include:

- Patch finder — Provides search and patch-at-a-time downloads using a patch portal, plus complete access to README documents, reports, and vendor provided patch clusters.
- Active dependency rules — Patented knowledge-based rules provide deep awareness of dependencies for Solaris, Linux, and middle-ware applications, improving patching capabilities for Oses on both physical and virtual environments.
- Minimal downtime — Simulate patch updates on a target system prior to actual deployment to ensure correct update and minimal downtime. Use the Live Upgrade capability to patch the system to reduce downtime and minimize risks.
- Rollback capabilities — revert a system or groups of systems to previous versions
- Local components and knowledge extensions
 - Allows the creation of a custom cache of locally loaded components and incorporates rules/associations for use in patching and updating in-house and third-party applications.

Ops Center capabilities	
Enterprise class scalability	<ul style="list-style-type: none"> • Ops Center is designed to scale with the environment and work with multiple administrative roles. Ops Center’s 3-tier architecture allows proxies to be deployed with appropriate servers in data centers or remote offices, scaling from SMBs to large enterprises.
User friendly and rich user interface	<ul style="list-style-type: none"> • Context-driven actions removes the guess work on what actions are appropriate for which object type, simplifying management. • Ops Center’s use of web protocols allows it to work with existing data center configuration without any changes. • Access your data center from anywhere through a web browser supported by rich feature set.
High availability	<ul style="list-style-type: none"> • Redundant management server provides access to all the services even when the management server goes down. Backup capabilities keeps the downtime minimal.
Automation	<ul style="list-style-type: none"> • Automates the tasks related to server life cycle management reducing costs and errors while improving the support and performance.
Integration	<ul style="list-style-type: none"> • WS-Man API is supported to integrate with 3rd party products. • CLI can be used for addingscripts.
Role based management	<ul style="list-style-type: none"> • Fine grained access limits users to appropriate features based on the permissions they have. Distributed environments can have multiple people managing the environment at the same time.
Disconnected operations	<ul style="list-style-type: none"> • Secure the environment by isolating itself from internet but at the same keep the systems up to date with the required updates (by leveraging the knowledge base through offline mechanism).
Compliance	<ul style="list-style-type: none"> • Comply with security, configuration, baseline and other guidelines setup by the corporate policies or regulatory requirements.
Comprehensive reports	<ul style="list-style-type: none"> • Reporting provides system configuration, patch, monitoring and asset information. Further action can be taken based on these reports to improve the system compliance, troubleshooting and trend analysis.

- Consistent and customized deployment — Deploy patches consistently across all the systems through profiles, black/white lists, pre- and post-scripts.
- Heterogeneous management — Built-in support for Solaris, RHEL and SLES patching. Update Windows systems with Microsoft System Center Configuration Manager

(MSSCCM) in the backend, providing a similar interface for updating all the major OSes (Windows, Solaris, RHEL and SLES).

Centralized management

- Integrated management — Manage all resources from a single console.
- Lights out management — Remotely power systems on and off, reboot systems, and control the service locator LED. Control the status of entire racks at the same time.

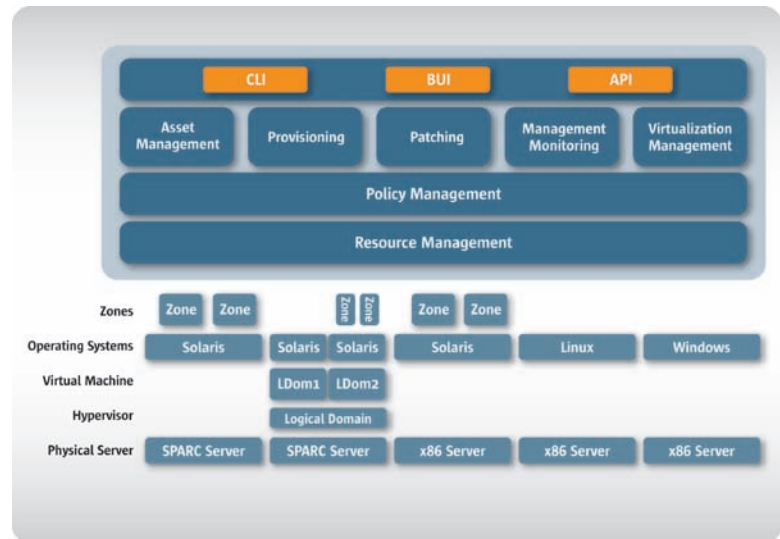
- Sprawling server management — By auto discovering and grouping assets, assets are presented in a manner that shows the relationship between them. As the number of assets increase, built-in search capabilities and tagging mechanisms provide another dimension for locating the required asset quickly and simplifies the process.

Comprehensive monitoring

Built-in agentless technology along with a rich set of reporting capabilities enable low operational overhead, while allowing for compliance and up-to-date operational status performance data.

- Systems Monitoring — Agentless monitoring of critical hardware components. The operating environment is monitored through an agent.
- Status — Provides information on hosts, hypervisors, virtual machines, networks, file systems and users.
- Historical data — Information about CPU, memory, I/O and power is collected and stored for future reference.
- Green IT support — Monitors the power consumption of physical servers. Data helps load balance to improve the power efficiency across all the servers.
- Graphical trending — Based on the data collected, users can graph the historical data for trend analysis and forecasting.
- Fault and Event Management — Provides multiple information logs about various modules including UI, controllers and patching and advanced details about events. Sends an email if pre-defined threshold is reached. Hardware and software information is tracked to check the overall health of the system. Sends an email if pre-defined threshold is reached. Hardware and software information is tracked to check the overall health of the system.

Ops Center Solution Diagram



Comprehensive lifecycle management for physical and virtual Sun systems that extends to heterogeneous environments as well

Virtualization management

- Comprehensive management of Sun Virtualization solutions
 - Life cycle management — Create, delete, configure, provision, patch, monitor and manage Zones and Logical Domains.
 - Monitors individual as well as aggregated information of Zones and LDom.
 - Centralized management of physical and virtual resources.
- Resource pools — Manages resource pools to ensure efficient utilization of physical resources. Automatically restarts a failed Logical Domain in a different physical system.
- Mobility — Migrate virtual resources in Zones and LDom using cold and warm migration. Reduce the downtime by testing the Zone compatibility ahead of migration.
- Policy management — Places Logical Domains in appropriate physical resources to optimize resource utilization

- Solaris 8 and 9 support — Facilitates Solaris 8 and 9 migration to Solaris 10 Zones.
- Storage Management — Supports Fiber Channel, ZFS, NFS, CIFS, FC storage libraries. Create, delete and monitor libraries reflecting any storage or guest modifications

Sun Ops Center Enterprise Controller and Proxy Controller Requirements

Memory

- 4GB

Filesystem space

- 72GB (4GB per OS image)

Swap space

- 4GB minimum

Network Connection

- At least one Network Interface Card (NIC)

Operating System

- SPARC and x86: Solaris 10 11/06 and later
- RHEL 5 and RHEL 5.3

Processor — Enterprise Controller

- AMD™ Opteron™ and Intel® Xeon®: 2 sockets
- UltraSPARC T1 / T2: 1 socket, 2 or more cores
- UltraSPARC IV+ / IV : 2 sockets
- UltraSPARC IIIi: 2 sockets

Virtual Environment Enterprise Controller

- Local Zone and Global Zone configuration supported

Processor — Proxy Controller

- AMD Opteron and Intel Xeon: 1 socket; 2 or more cores
- UltraSPARC T1 / T2: 1 socket, 1 or more cores
- UltraSPARC IV+ / IV: 1 socket
- UltraSPARC IIIi: 1 socket

Managed Servers

- All ILOM-based Sun Servers
- M3000, M4000, M5000, M8000, M9000
- ALOM, ELOM and RSC service processor enabled systems

Agent Requirements

Memory

- 512MB

Hard disk

- 2GB

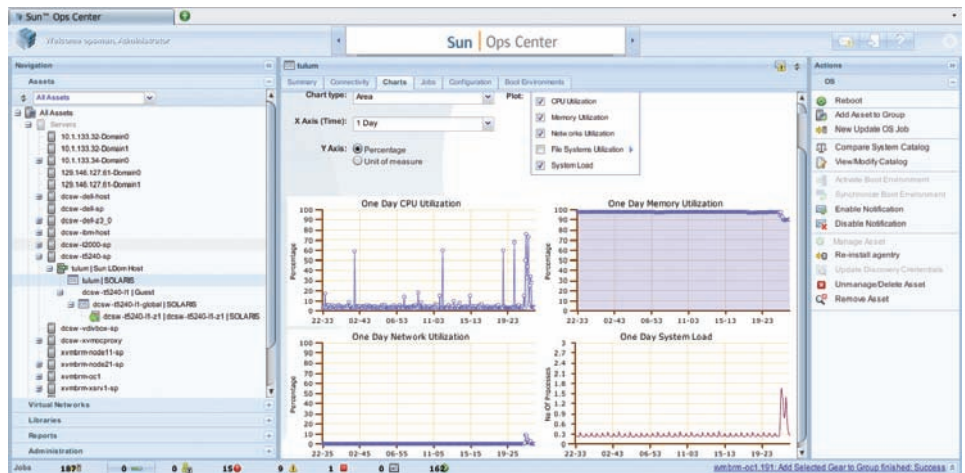
Supported Operating System (for provisioning)

All the managed servers can be provisioned with the following operating systems.

- Solaris SPARC 9 / 10
- Solaris x64/x86 9 / 10
- RHEL 3 / 4 / 5
- SLES 8 / 9 / 10
- Oracle Enterprise Linux 5.3

Supported Browsers

Ops Center Monitoring



Intuitive browser based interface provides seamless user experience

Supported Operating System (for patching)

It is supported on all the servers (hardware-agnostic) with the following operating systems.

- Solaris SPARC 9 / 10
- Solaris x64/x86 9 / 10
- RHEL 3 / 4 / 5
- SLES 8 / 9 / 10
- Windows 2008
- Oracle Enterprise Linux 5.3

Supported Browsers

- Firefox 2.0.x, 3.0.x
- Internet Explorer 7

Logical Domains

Supported servers

- SPARC CMT based systems

Operating systems

- Control Domain — Solaris 10 5/09
- Guest Domain — Solaris 10 8/07 and later
- LDom Manager — 1.2

Zones

Operating systems

- Solaris 10 8/07 and later

Check Ops Center documentation for the updated supported systems matrix.