

HP Operations Manager software



Enhance IT infrastructure availability and performance

IT professionals must do more with less these days, keeping costs down while delivering high-quality business services that give their companies a competitive advantage. That increases the importance of efficient IT management and makes consolidated operations and performance management a critical solution for today's IT organizations.

Control cost and complexity

Enhancing server and application availability and performance is a basic goal of every IT organization, fundamental to helping achieve satisfactory performance of business applications while meeting the company's overarching goal of containing costs.

A primary challenge in meeting this goal is the difficulty of managing increasingly complex IT ecosystems—multiple operating systems, highly virtualized environments, and a variety of third-party applications. IT infrastructure is more distributed and interconnected than ever before, creating many additional issues that IT doesn't encounter in simpler environments. Two key factors make centralized IT management in complex environments very difficult:

- IT organizations consist of multiple specialist teams, each responsible for a specific IT technology. These teams work in isolation with limited visibility into activities of other teams.
- Each team has its own unique tools, and few of these tools share data or have common user interfaces—making cooperation between teams difficult.

Continual innovation adds to the management challenge. Because new technologies and applications are constantly being introduced, more tools are required to support their monitoring and management. Likewise, as business applications become more complex and interlinked, it becomes a greater challenge to identify the cause of a business-impacting incident. These issues result in a third, and growing, set of issues related to IT processes. Organizational silos inhibit the implementation of state-of-the-art "cross-domain" processes such as those defined in IT Infrastructure Library (ITIL). Consistent, controlled processes are an important part of IT management—vital to maintain and support a quality IT infrastructure and associated applications. Process controls are also a requirement as the focus on governance and compliance increases within organizations.

HP Operations Manager software

HP Operations Manager software addresses the challenges discussed earlier through:

- Comprehensive event management for IT infrastructure, operating systems, and applications
- Proactive performance monitoring
- Automated alerting
- Consolidation of events to a single operations console

HP Operations Manager software addresses all of the core challenges through an HP Operations Manager server and distributed monitoring and data collection technologies.

HP Operations Manager server

The HP Operations Manager server collects and maintains alerts and performance information from the managed environment, which may consist of both physical and virtual servers. Highly scalable with the ability to monitor thousands of nodes, the Operations Manager server can:

- Receive, consolidate, and integrate events from HP agent and agentless technologies as well as third-party tools—such as network monitors—to provide a single, normalized view of the managed environment
- Automatically discover managed nodes, applications infrastructure, and automatically deploy monitoring rules (policies) to managed nodes based on their application role for simplified, consolidated management
- Create and synchronize trouble tickets (incidents) in industry-leading help-desk packages to integrate with IT service processes
- Add resolution guidance information to events to advise operators on a recommended approach for remediation, and include pre-defined tools and automated or guided actions to streamline fix processes
- Give IT staff production-ready features such as operational maintenance modes; support for high-availability cluster architectures and disaster-tolerant distributed environments using multiple HP Operations Manager servers; the ability to forward events to external notification systems such as paging, email, or SMS; and the ability to audit and log operator activities to effectively and efficiently manage mission-critical environments

The Operations Manager management server runs on a variety of platforms, including:

- Microsoft® Windows®
- Linux
- UNIX®—HP-UX
- Sun Solaris

Figure 1. HP Operations Manager includes both agent-based and agentless monitoring for greater flexibility in monitoring the IT infrastructure

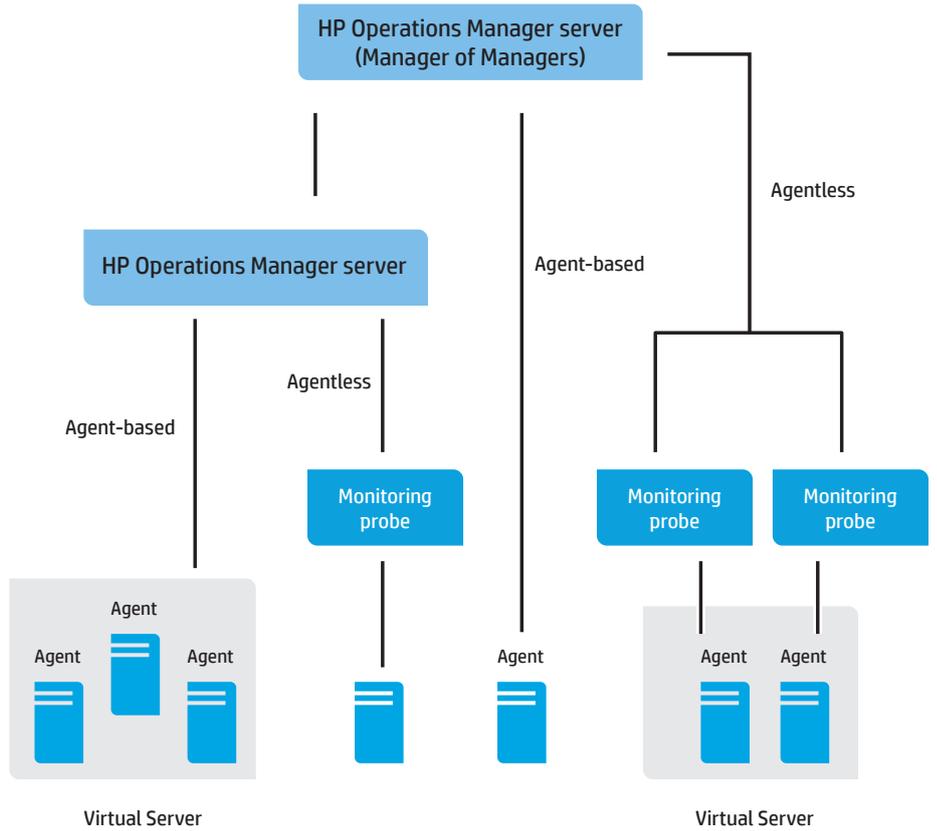
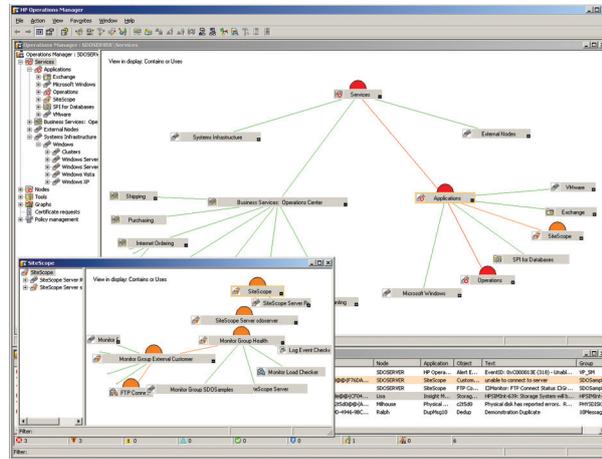


Figure 2. HP Operations Manager consolidates events across IT silos and shows relationships among disparate elements, speeding time to problem resolution



The server includes a multi-user console that provides a single point from which operators can monitor both physical and virtual servers, storage, networks, applications, and middleware. Both operators and administrators can use role-based views, allowing them to stay focused on their specific job functions. Built-in performance and reporting tools—again, allocated by user role—allow operators to analyze performance of one or more managed systems, thus streamlining operational processes and enhancing operational efficiency. These tools support monitoring and performance analysis of systems and applications—including clusters and virtual server configurations.

Data-collection technologies

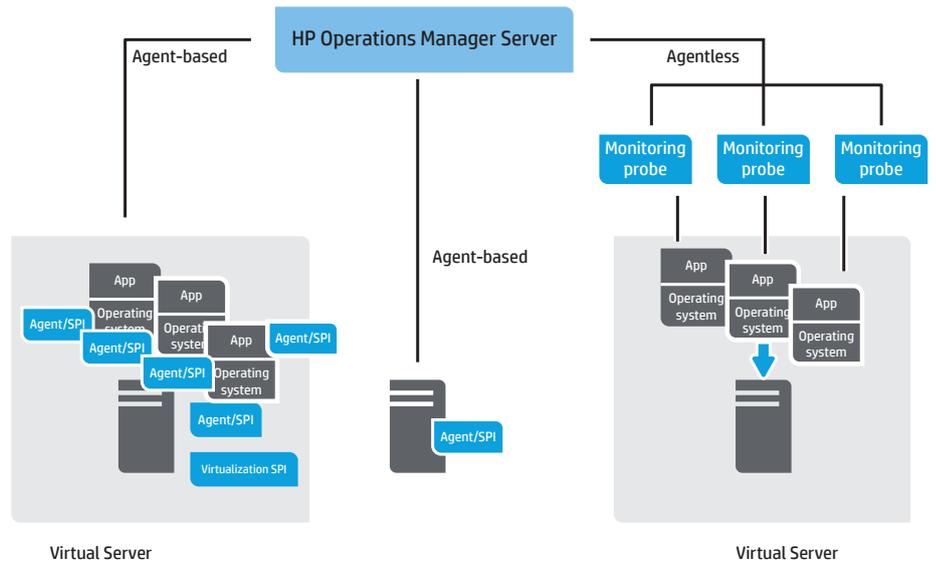
HP Operations Manager collects events, alerts, and performance data using two basic architectures—agent-based and agentless monitoring.

Agent-based data collection

HP Operations Manager agents collect, aggregate, and correlate monitoring information to manage data and events from multiple sources. The agents can suppress irrelevant and duplicate events and correlate the remaining events to produce actionable and enriched management information. Agents are installed on each managed system or node, whether it is a physical or a virtual machine. The agents can:

- Collect and analyze performance data from operating systems and installed applications and use historical patterns to establish performance baselines, for fast, easy identification of performance issues that need attention
- Perform automated corrective actions (in isolation from the HP Operations Manager server) and manage by exception (forwarding only actionable events to the HP Operations Manager server through the use of intelligent filtering, duplicate suppression, and correlation techniques) to speed mean time to recovery
- Support the monitoring of data center technologies such as virtualization and clusters to enable comprehensive monitoring of highly complex IT environments
- Utilize HTTPS communication with the HP Operations Manager server—even in outbound-only communications configurations—to enable secure management through and across firewalls
- Enable administrators to easily add and customize monitoring sources not included in out-of-the-box monitoring policies, enabling comprehensive monitoring of the entire IT environment

Figure 3. HP Operations Manager agents and Smart Plug-Ins (SPIs) work together to collect detailed information about infrastructure, operating systems, and applications



Infrastructure Smart Plug-Ins (SPIs) supplement agents by collecting data at the infrastructure or managed systems level. The system and cluster SPIs are included with the agent. Additional SPIs can be optionally added to the agent—such as the Virtual Infrastructure SPI.

- The system SPI discovers operating system and platform resources, generates alerts on system diagnostic events, monitors system services and processes, and monitors resource utilization.
- The cluster SPI automatically discovers and represents cluster nodes and configured resource groups in a clustered environment, monitors cluster services and processes, and enables monitoring of clustered applications on the fly as they move between cluster servers.
- The virtualization SPI, which is supported on the most common virtualization hypervisors, discovers and monitors virtualization platforms—both host and virtual machines—and provides graphs and reports on resource utilization.

Agentless data collection

Agentless data collection, using monitoring probes, complements agent-based data collection by providing flexibility in how HP Operations Manager gathers information from the IT environment. Through the use of HP SiteScope software, more than 80 types of IT infrastructure targets can be monitored via a lightweight and highly customizable Web-based architecture. Like agent-based data collection, agentless probes monitor both physical and virtual systems. Agentless data collection can:

- Gather detailed performance data for infrastructure targets without the installation of an agent on the managed node, enhancing performance
- Provide easy monitoring of the IT infrastructure to quickly assess issues that need attention
- Allow actions to be initiated automatically when a monitor's status changes, promoting fast and efficient operations management
- Provide solution templates that enable rapid deployment of monitoring probes—which include specialized monitors, default metrics, proactive tests, and best practices for an application or monitoring component—to shorten time to value
- Monitor previously unmanaged or hard-to-manage systems and devices through easy-to-use customization tools to allow comprehensive monitoring of the entire IT environment

Complement HP Operations Manager software with other HP software products

HP Operations Manager is one of several HP products that enhance availability and performance of your IT environment. Complementary products include application SPIs, which gather application-specific events and consolidate them into HP Operations Manager; HP Operations Manager i software, which uses topology information to isolate causal events; and HP Operations Orchestration software, which automates remediation of recurring incidents.

Application SPIs

Many add-on SPIs are available from HP and HP partners, enabling in-depth management and broader coverage of key business applications and middleware. A sample list of application SPIs includes:

- Infrastructure and Virtualization: Infrastructure, Virtualization and Citrix SPIs
- Middleware: TIBCO, Websphere Message Queue, and Tuxedo
- Other SPIs: BMC Remedy, Storage Essentials, and EMC Documentum
- Microsoft servers: Active Directory, Exchange, BizTalk, SharePoint, and Lync Server
- Web application servers: Oracle WebLogic, IBM WebSphere, JBoss Application Server, and Oracle Application Server
- Databases: Oracle, Microsoft SQL Server, Sybase, and Informix
- ERP/CRM: IBM DB2, SAP, PeopleSoft, and Siebel

HP Operations Manager i software

HP Operations Manager i (OMi) software leverages detailed infrastructure content and topology information in an Operational Database (ODB) to provide a comprehensive view of IT components so that organizations can monitor, identify, and repair problems quickly and easily. It complements HP Operations Manager by providing advanced logic and visualization technologies and takes the guesswork out of infrastructure monitoring. Operations Manager i can:

- Use topology-based event correlation (TBEC), in which automatically discovered topology information from the ODB shows relationships among events and separates causes from symptoms to reduce mean time to repair (MTTR)
- Relate IT events to the impacted business services accurately and reliably to prioritize activities among operations staff so that maximum value is delivered to the business
- Provide visualization of infrastructure and application health and their relationship to the business services, enabling quick, easy identification of issues that may impact business

HP Operations Orchestration software

HP Operations Orchestration software creates and executes run-books—automated IT process steps chained together to form an automation flow—which are then called by Operations Manager. By automating and coordinating IT tasks and technology processes across siloed systems and teams, Operations Orchestration enhances service quality and IT staff productivity while reducing incident resolution times and associated costs.

A complete solution

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