



# Microsoft® System Center Operations Manager 2007

## Overview

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### Executive Summary

System Center Operations Manager 2007 is the next step in the evolution of Microsoft operational event and performance monitoring solutions. This paper will provide an overview of the features and functionality included in System Center Operations Manager 2007.

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## Overview

Information Technology departments are under more pressure than ever these days. The pressure comes from users who want more productivity and business groups who want to see more value. Pressure also comes from regulators demanding compliance, technology advances, and competitors. IT departments must manage these pressures to keep their businesses running while lowering costs. The bulk of many IT budgets are spent "treading water," simply maintaining the current systems and services. Only a small fraction of an IT budget is spent on new technologies and services to advance the business. The cost of hardware and software is tracking downward, but the cost of managing and operating these assets is increasing. By gaining the upper hand in monitoring and managing their IT services, IT departments can do more with fewer resources, manage the complexity of their environment, and achieve the agility necessary to be successful. IT services are complex combinations of people, processes, and technology, and IT departments are responsible for managing them. Microsoft has a long-term commitment to reduce the complexity of the IT life cycle and to help enable IT professionals to deliver business value to their organizations. As a demonstration of this commitment, Microsoft is actively developing software solutions and people and process methodologies. Overarching and guiding the progress of all development is Microsoft's Dynamic Systems Initiative, exemplified in the System Center family of leading IT management solutions and the Microsoft Operations Framework.

More information on DSI is available at <http://www.microsoft.com/windowsserversystem/dsi/default.mspx>. A key component to enabling Microsoft's DSI is the Microsoft Systems Center suite for monitoring and managing the IT environment. System Center Operations Manager 2007 is one of the solutions that make up the suite. This paper introduces the features and functionality that make System Center Operation Manager a must-have for end to end service monitoring and management of the Windows platform and applications.

## System Center Operations Manager 2007

System Center Operations Manager is a software solution to meet the need for end-to-end service monitoring in the enterprise IT environment. Operations Manager provides an easy-to-use monitoring environment that monitors thousands of servers, applications, and clients to provide a comprehensive view of the health of an organization's IT environment. This view of service health is key to a rapid, agile response to events that may impact the normal running of business and ultimately cost an enterprise money.

System Center Operations Manager 2007 is the third generation of Microsoft's award-winning monitoring solution. Operations Manager 2007 builds on the success of its predecessors by adding key features and functionality that customers and the market have been demanding. Microsoft listened to users of the first two versions of Operations Manager to find out what they liked, and how they thought it could be improved. Customers wanted to monitor IT services in addition to individual servers, and they

wanted more detailed troubleshooting and best practice knowledge. To answer this need, Microsoft enhanced the already capable Operations Manager solution by designing Operations Manager 2007 around these three pillars:

- End-to-end service management
- Best-of-breed for Windows
- Increased Efficiency and Control

Within these pillars, Microsoft has leveraged the best of existing technologies, such as Windows and Microsoft SQL Server, and embraced new technologies such as the System Definition Model (SDM) and Windows PowerShell scripting engine. System Center Operations Manager 2007 has answered the needs of our customers and the market.

This overview provides a high-level view of the key features of Operations Manager 2007. For more detailed information about these features, please see the Operations Manager 2007 product documentation.

## **End-to-End Service Management**

In Operations Manager 2007, Microsoft has introduced or improved features such as Distributed Application monitoring, Synthetic Transactions, Client monitoring, SDM-based system and health models, and Agentless Exception Monitoring to assist administrators with monitoring and managing end-to-end services.

### **Distributed Applications**

In today's enterprise IT environment, technology solutions are often made up of many separate components. For example, it is no longer the case that e-mail is handled by only one server. Instead, the e-mail service is typically made up of many servers and network devices. The distributed nature of today's applications challenges traditional server event and performance monitoring tools. Operations Manager 2007 allows an administrator to graphically define the components that make up a service. Once the service model is defined, services are managed like any other device. Events can be monitored, performance can be tracked, and overall health can be viewed and reported on. Services can also be combined to allow monitoring of more complex services that are made up of different sub-services.

### **End User Perspective Monitoring**

To gain an accurate view of a service's operation, you need to understand what an end user would experience when using the service. Operations Manager allows you to create synthetic transactions that act like an end user of the service and report back the success/failure and performance statistics of its execution. The synthetic transaction results can be used for reporting or as an alert to possible service problems.

## **Client Monitoring**

Operations Manager 2007 extends its monitoring scope to the client. This broadened scope allows for a true end-to-end view of services, extending from front end client systems all the way to back end application and database servers. An agent is deployed to a client system and events and performance are monitored based on the monitors and rules defined. While earlier versions of Operations Manager had the capability to monitor clients, Operations Manager 2007 adds specific support for monitoring Windows Vista and other client applications. Client monitoring in Operations Manager 2007 now allows administrators to include client systems in their services views to ensure that the service is fully functioning from end to end.

## **Agentless Exception Monitoring**

Operations Manager 2007 introduces the ability to capture and monitor application crashes. Agentless Exception Monitoring allows administrators to redirect the application crash information gathered by Dr. Watson or Windows Error Reporting and normally forwarded to Microsoft to an Operations Manager server for analysis. This data can then be used to create reports or alert administrators to problems impacting client systems and end users.

## **Best-of-Breed for Windows**

Operations Manager 2007 is the best of breed management solution for Windows. Improvements in Management Packs for Microsoft products have increased knowledge and reports based on the best practices of Microsoft IT and Product Support Services. Microsoft currently has more than 50 Management Packs for various Microsoft products, ranging from the Windows operating system to applications such as Microsoft Exchange Server and Internet Information Server.

## **Management Packs**

Management Packs are the building blocks which extend Operations Manager 2007 management capabilities to operating systems, applications, and other technology components. A Management Pack (MP) contains best practice knowledge to discover, monitor, troubleshoot report on, and resolve problems for a specific technology component. Management Packs include health models based on the Systems Definition Model (SDM) to analyze the performance, availability, configuration and security inputs, as well as the status of related components, to determine the overall status of components. Management Packs are available for Microsoft and third party operating systems, applications, and devices. **Microsoft Management Packs**

Microsoft provides MPs for more than 60 Microsoft products and Windows components. The MPs are developed by the same teams who develop the products so the expertise and knowledge included comes from the most knowledgeable source. All of the Microsoft MPs are included for licensed users of Operations Manager 2007. For a

complete list of Microsoft MPs please visit the Management Pack Catalogue on the Operations Manager website.

**Partner Management Pack Solutions** Management Packs for many third party products such as Linux, Oracle, SAP, and networking and server hardware are produced and offered by Microsoft Partners. There are more than one hundred Microsoft Partner Management Packs covering most technologies used by organizations today. For a complete list of Microsoft MPs, please visit the Management Pack Catalogue on the Operations Manager Web site. **Management Pack Tools** Microsoft provides several tools to develop or customize Management Packs for Operations Manager 2007.

The Distributed Application Designer is a graphical wizard to help IT administrators quickly create health models and MPs for their IT Services. The Management Pack Authoring Console is a graphical tool used to help IT administrators and developers build MPs for their custom applications and other technology components. The Operations Manager 2007 Software Development Kit (SDK) provides programming interfaces so developers can more deeply integrate with and automate Operations Manager 2007.

## **Increased Efficiency and Control**

System Center Operations Manager has added features to increase the operational efficiency of the management and monitoring environment. Improved designers and user interfaces, increased scalability, and Active Directory (AD) integration are all features that make Operations Manager more efficient and easier to use than its predecessors

## **Secure by Design**

Operations Manager is secure by design. The communication channel between server and agent is encrypted. Operations Manager refuses connections from manually installed agents by default.

## **Role-based Security**

In previous versions of Operations Manager, user rights were restricted to that of an operator or an administrator. This limited granularity did not allow for controlling what users had access to. Operations Manager 2007 allows for custom user roles to be created. These user roles can restrict the views and alerts to which users have access. The types and tasks an operator can execute can also be controlled as part of the custom user roles. This allows the Operations Manager console to be deployed to more IT teams responsible for LOB applications and client support in addition to the core operations team.

## **Active Directory Integration**

Operations Manager 2007 now has tight integration with AD for functions such as user authentication and agent discovery. Operations Manager custom user roles link to AD groups to grant users access. After a user has been added to the appropriate AD group, they automatically have the rights granted to that group's role in Operations Manager. Organization Units (OU) can be management enabled so that when a new device is added to the OU, it is automatically detected by Operations Manager and the agent is deployed and configured to communicate with the appropriate management group. Operations Manager leverages the LDAP search capabilities in AD for its managed device discovery process. Integration with AD makes Operations Manager 2007 easier to deploy and configure.

## **Audit Collection**

Operations Manager 2007 has the ability to securely and efficiently extract and collect security logs from Windows operating systems and store them for later analysis and reporting. The extracted logs are stored in a separate Audit Collection database. Operations Manager will ship with reports that can be used for the Audit Collection data. Audit Collection can be used to produce various compliance reports, such as supporting Sarbanes-Oxley audits. Audit Collection can also be used for security analysis, such as intrusion detection and unauthorized access attempts.

## **Improved User Interfaces and Designers**

Operations Manager 2007 improves on the user interface (UI) from previous versions. The Operator Console and Administration Console have been combined into a single console. The user roles now determine what functionality the console has for each user. Users see only the features and functionality that have been granted to them. Operations Manager 2007 has a new Web Console for easier access from any system with a Web browser installed. Like the Operator Console, the Web Console uses the user roles to determine what users have access to. Microsoft has added designers and wizards where possible to make this task easier to complete. A new reports designer makes it easier than ever to create or modify Operations Manager reports. Wizards have been added to make tasks such as device discovery easier.

## **Increased Scalability**

The ability to manage more devices with fewer management servers is always a goal for Microsoft. In Operations Manager 2007, scalability has been dramatically improved. Operations Manager scales to manage thousands of servers or clients with a single management group and management groups can be tiered to achieve higher levels of scalability. Agentless server monitoring performance has also been improved over previous versions. This increased performance of Operations Manager means organizations can monitor their entire infrastructure with a small number of integrated management servers.

## **Better Together – Best Manager of Windows**

One of the strengths of Operations Manager has always been its focus on being the best manager of Windows-based systems available. Microsoft believes so strongly in this need for manageable software that all enterprise software products we develop must have an Operations Manager Management Pack to be considered “Release Ready.” This means that before a product can ship it must have a Management Pack created so it can be managed by Operations Manager. Each product group builds their Management Packs to include the events and alerts the developers and product support teams feel are most important.

Detailed knowledge, including tasks and troubleshooting steps about each event, are included by the product group. For many organizations, Operations Manager and its Management Packs have made it possible to deploy large distributed services, such as Exchange, Windows Active Directory, or SQL Server, with the confidence that they have management knowledge direct from the developers and subject matter experts at their fingertips. Microsoft has Management Packs for more than 50 Microsoft technologies, including the following:

- Exchange Server
- Windows Active Directory
- SQL Server
- Windows XP/Windows Vista
- Office client/Office servers
- Internet Information Server

## **Extending Operations Manager**

ITSM solutions are very seldom made up of only one technology product; in fact, they often have two or more technologies that need to work together to achieve the overall goal of ITSM.

### **Microsoft Operations Manager Connector Framework**

Operations Manager 2007 continues support for the Microsoft Operations Manager Connector Framework (MCF). MCF is an extensible framework allowing connectors to be developed to integrate Operations Manager with other technologies. MCF connectors can be created by customers or partners for technologies such as enterprise consoles, helpdesk, or configuration management tools. Operations Manager can even use an MCF connector to talk with other service monitoring tools. MCF allows customers to leverage the best-of-breed Microsoft management solution without removing any existing management tools they have already invested in for other technologies.

## **Cross-Platform Monitoring**

Operations Manager 2007 may be the best manager of Microsoft, but it is not limited to management of only Microsoft technologies. Operations Manager offers a wide variety of out-of-the-box features as well as an extensive list of partner MPs for managing non-Microsoft technologies.

## **SNMP, Syslogs, and WS-Management**

Operations Manager supports the collection of SNMP messages. SNMP messages can be used similar to any other event for the creation of alerts. Operations Manager supports the redirection of Syslogs to the management server for analysis and alerting. New to Operations Manager 2007 is the support for the WS-Management (WS-Man) standard. WS-Management is a SOAP-based protocol that provides a standard language that allows systems to interact with management information. WS-Management allows systems to send and receive event and performance information and execute tasks on managed systems. As the specification matured, the working group grew to include BMC, CA, Fujitsu, NEC, Novell, Symantec, and WBEM solutions, and the latest specification has been submitted to the Desktop Management Task Force (DMTF) for ratification.

## **Partner Management Packs**

The strength of a Management Pack is the expert knowledge it contains about the technology it is designed to manage. To extend Operations Manager to technologies in which Microsoft is not an expert, Microsoft relies on its partners. Microsoft partners have created Management Packs for various hardware platforms, non-Microsoft applications, and even non-Microsoft operating systems, such as Linux and UNIX. For more information on which partner Management Packs are available, visit the Management Pack catalog at the Operations Manager Web site at <http://www.microsoft.com/windowsserversystem/dsi/default.mspx>.

## **More Information**

System Center Operations Manager 2007 information is available online at <http://www.microsoft.com/opsmgr>.

For support, newsgroups, blogs, and Knowledge Base articles, visit the Operations Manager Community Page at <http://www.microsoft.com/mom/community>

Additional information on the Microsoft System Center family and DSI vision is at <http://www.microsoft.com/dsi>