# Part 1

Implementation and Administration

The first part of this book is going to present you with insight on how to install, configure, and manage System Center Operations Manager 2007. Microsoft had shipped earlier versions of Operations Manager, Microsoft Operations Manager 2000 and 2005, but Systems Center Operations Manager 2007 is a completely redesigned product. You will find only a few similarities between the products.

As you work through this first section you will read about topics that you may visit only once in the lifetime of your management group, and others that you will see on a day-to-day basis. With the complexity of this product, you may well find yourself returning to this part to assist you with duties you may not perform regularly, or you may want to see if there is another way of performing recurring tasks.

We open this part with an overview of Microsoft's MOF and DSI initiatives. These are the backbone of System Center Operations Manager. Once we have introduced you to those concepts, we move into installing the management servers and creating the management group. After the management group is created, you will need to fine-tune it by creating the objects that are used to monitor servers and services within the management group. All of this will be presented to you in an orderly fashion so you can follow along and build your environment to meet your needs.
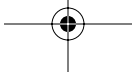
Chapter 1

Overview of Operations Management

Before we delve into the System Center Operations Manager product, we must define what oper-
ations management is, what it defines, and why we need it. Every day we talk to businesses about
the Microsoft System Center line of products. Only a small percentage of those clients actually
understand the concept and reasoning behind proactive IT service management.

In a meeting with a client, we were approached by an IT manager and asked, "Why should
I care about the business? I just run the IT department." IT service management is very much
ingrained in the business as a whole. IT service management is defined as a way to organize IT
services and provide constant improvement to the quality of those services. This is what caught the
manager's attention: IT service management should be tailored to delivering and supporting IT
services that directly affect the organization's business requirements.

He was correct in a way. As an IT manager, you are not responsible for certain key business
activities. When those activities are being processed on your servers, however, you become a
critical piece of the puzzle in overall IT systems management. You may control the SQL servers, but
they house information that is critical to day-to-day operation of the billing department, for
example. Suddenly, you start to see how everything ties together. A missing or damaged link in the
chain or an unplanned removal of the chain may cause much more damage than you originally
thought.

This is just one of the many reasons Microsoft created the Microsoft Operations Framework
(MOF), based on the IT Infrastructure Library (ITIL). The idea behind MOF and ITIL is to create a
complete team structure with the ultimate goal of service excellence. Numerous groups fall under
the IT Department tag, but we often see many of them acting as separate departments rather than
as one cohesive unit. Desktop support, application developers, server support, storage administra-
tors, and so forth are all members of IT, but they are not always as tight as they should be.

Operations Manager is so much more than just a centralized console view of the events and
processes in your network. Operations Manager was built with MOF in mind. We would like to
start the book with a background of both MOF and ITIL.

In this chapter you will:

◆ Define IT service management

◆ Learn how ITIL is the foundation of IT service management

◆ Understand how MOF expands ITIL

◆ Explore the Dynamic Systems Initiative

◆ Learn about the Microsoft System Center products

◆ Learn how to use System Center Operations Manager

Understanding IT Service Management

ITIL and MOF were introduced as a way to deliver consistent IT Service Management (ITSM). Some of the key objectives of ITSM are:

◆ To align IT services with current and future needs of the business and its customers

◆ To improve the quality of IT services delivered

◆ To reduce the long-term cost of service provisioning

Think of ITSM as a conduit between the business and the technology that helps run the business. Without a proper conduit in place, one cannot function properly without the other.

Exploring the IT Infrastructure Library (ITIL)

Before we dig into the guts of ITIL, it is important for the ITIL beginner to understand that ITIL and its counterpart, Microsoft Operations Framework (MOF), are not based on technology. Both ITIL and MOF are based on IT processes. This is important to understand before proceeding. For those readers interested in IT processes and procedures, as well as how the Microsoft System Center line of products fits into these processes, you may find the rest of this chapter very interesting. For those of you who yawned and rolled your eyes, we'll meet you at Chapter 2.

If you start researching ITIL, you will find that it is a series of books that describe an approach to IT service management. Originally created in the United Kingdom to address strict operations management standards, it has become the accepted standard in IT service management. The library is owned by the UK government's Office of Government Commerce (OGC). If you want to get real cozy with ITIL, be prepared to spend a lot of time reading. In its original from, the ITIL volumes were at a count of 60 books. These books were created by industry leaders of the time and described best practices for IT processes.

There is much more to ITIL than just the books, however. ITIL as a whole includes the books, certification, ITIL consultants and services, and ITIL-based training and user groups. ITIL is mainly updated by its own user group, known as the IT Service Management Forum (itSMF). The last piece of the puzzle, ITIL certification, is administered by the Netherlands Examination Institute for IT (EXIN) and the Information Systems Examination Board (ISEB).

ITIL can be divided into two categories: service support and service delivery. Numerous processes are divided up into the two different categories. Service support is described as a user-focused interface point, whereas service delivery is considered a customer-focused interface point. The reasoning behind this is to differentiate what is considered a user of the system and what is considered an actual customer of the system. Now you may be thinking, "I run an internal network. Everyone on my network is a user; we don't have any customers who connect into the network."

In all actuality, every admin has both users and customers on their network, and often the same user can be both a user and a customer. For example, HallieM is a *user* of the network when she interacts with the service desk. HallieM is also a *customer* of the network when she obtains certain services from another department, such as services that she must pay for or services that have availability management in place. Table 1.1 shows the breakdown of the difference between service support and service delivery.

SERVICE DESK

We will first look at the service desk, as it is unique from the other items in Table 1.1. The service desk is a *function* as opposed to a *process*, as are the other items listed. All incident reporting and service requests go through the service desk. It is the function that ties the service providers with the users, keeping users informed of service events and actions that may impact their day-to-day activities. The service desk becomes a single point of contact for customers and users to interact with the IT department. This approach helps expedite the call process by managing it in a timely and satisfactory way.

TABLE 1.1:   ITIL Service Support and Service Delivery Differences

CATEGORY	FOCUS	TYPE	AREAS
Service support	user-focused	Operational	Service desk Incident management Problem management Configuration management Release management Change management
Service delivery	customer-focused	Tactical	Service-level management Financial management Capacity management IT service continuity management Availability management

INCIDENT MANAGEMENT

The incident-management process is mainly concerned with restoring normal service operations as soon as possible. This will help minimize any adverse effects on business operations and will ensure high levels of service quality and availability. Service-Level Agreements (SLAs) will determine what a "normal" service operation is. Information is collected about the incident to allow changes or enhancements in the environment to prevent future incidents. This information can also be used to compare against SLA compliance metrics and service quality information.

PROBLEM MANAGEMENT

The problem-management process is mainly concerned with minimizing the impact of incidents and problems. The goal is to reduce incident-resolution times by providing circumventions for known errors and removing the underlying causes. This strategy improves IT service quality by helping the service desk resolve incidents at the time of logging. If an incident can be resolved at the time of logging, business impact is reduced, business efficiency is improved, and IT efficiency is improved.

   The problem-management process should not only be considered a "reactive" approach, however. When dealing with incident management, problem control, or error control, it is very reactive. The problem-management process can be viewed as "proactive" when you consider how it is used for problem prevention.

Problem investigation and diagnosis is used when known errors are created. During this investigation and diagnosis time, circumvention details, or "work-arounds" of the known errors are documented and distributed to the service desk and other support personnel until a fix for the problem is found. This approach helps with the staffing of the incident-management process, thus ensuring there aren't too many IT staff members duplicating work while trying to fix the same issue.

CONFIGURATION MANAGEMENT

The configuration-management process is responsible for keeping an accurate and up-to-date model of the entire IT infrastructure. It uses this information to help support a number of areas:

◆ Allows for assessment of change- or problem-management functions

◆ Allows financial information to be gathered to help determine lease, rental, maintenance, and support costs for IT infrastructure components

◆ Supplies information about component performance and reliability to support capacity and availability management

◆ Improves security by identifying the location and details of assets, making it difficult for unauthorized changes to be carried our or undetected

◆ Helps with legal obligations by identifying the location of unauthorized software, determined by enabling authenticity checks on software and making sure current, correct versions of the software are being used

Configuration management uses this information to identify relationships between items that are going to be changed and any other components of the infrastructure that an item is tied to. Such a strategy enables the owners of the other components to be notified and involved in the impact-assessment process.

CHANGE MANAGEMENT

The change-management process is used to ensure standard methods are used when implementing change, and for developing and documenting reusable processes. You can reduce the possibility that a change in the environment could cause a failure, thus resulting in an incident, by having proven methods in place.

The IT infrastructure is changing all the time. Patches, service packs, updates, bios updates, and so forth are released on an almost daily basis. Having a safe and repeatable process in place is vital to service management.

RELEASE MANAGEMENT

Changes in the environment often result in the need for new versions of software, new hardware, new documentation, and so forth. The release-management process works closely with change management and configuration management to produce a secure and managed rollout of the new item. Consequently, physical changes to the environment are taken into account and the transition to live operation is successful—including both hardware and software releases.

The quality of a new version of software is tested in this process, along with tests to determine whether patches and updates are going to affect a piece of "approved" software. In this way, the process guarantees that only the authorized versions of software releases are being installed.

Service-Level Management

The Service-Level Management (SLM) process is responsible for creating SLAs and making sure Operation-Level Agreements (OLAs) are met at all times. During this process, changes to the environment are assessed to determine the effect on SLAs.

SLAs play an important role in SLM. They help set expectations for IT by determining what the customer's service-level requirements are, and they help customers by having a measurable understanding of what "good" service is. Both sides can agree on time lines for deliverables for everything from service upgrades, to updates, to incident resolution. SLAs also provide a clear understanding of what value customers are receiving from IT and can be used as a basis for charging for IT services. This brings us to the financial-management process.

Financial Management

The financial-management process is responsible for determining the costs of IT services as well as figuring the return on IT service investments. It is also a key in the role of recovering costs from customers if you charge for your services. As mentioned earlier, having SLAs in place to manage expectations is very important.

Budgeting can become much more accurate as well, because financial management is responsible for tracking costs of IT assets and resources. Financial management allows you to break down the money spent on IT services so you can clearly view where IT budget money went. Since budgeting is so much more precise, it helps support future business decisions on IT investments.

If you are considering charging for IT services, a fair recovery system is determined by data gathered through the financial-management process. Charging for internal services has its advantages and disadvantages. One advantage to charging for IT services is that it helps customers and users see the value of IT. Customers and users may also behave differently if they are faced with a "charging" model. Such a model helps the customers decide whether the services they are receiving are cost-justified. Using a model could lower the demands on the IT department.

One of the disadvantages of charging for services is that the customer has the ability to take their business elsewhere, which could have a severe effect on budgeting. Also, charging systems are often expensive, and the cost of such a model could offset the money that is generated by the system.

Capacity Management

The capacity-management process involves determining the required service delivery, determining the current service delivery for the IT infrastructure, and ensuring that all current and future capacity and performance requirements from the business are met. Capacity management also needs to take into account changes in new technology and the increase in performance that new technology brings to the table. Basically, this process is responsible for identifying the current service delivery as well as the service delivery potential at any given time.

Capacity management is responsible for making sure business requirements for system capacity are met at all times. Again, taking off the technical cap for a second, this does not directly relate to a technical capacity. It is related to the business requirements for the system, not necessarily the performance of the system.

IT Service Continuity Management

The IT service continuity management process ensures that an organization can continue to function with predetermined and agreed-on levels of IT services to support the minimum business requirements following an interruption to the business. The idea behind this process is that the organization will always have a base level of IT services that are required at all times.

Each IT service is examined to determine the minimum level it can function at to meet the business requirements. A plan is then put in place to guarantee that this level of service can be reached at all times under any circumstances.

Availability Management

The availability-management process deals with the design, implementation, and management of IT services to guarantee that certain business requirements for availability are obtained. This requires information from both incident management and problem management to determine why an IT service failed and the time it took to resume service. This process can help IT departments meet SLAs that define availability levels. These SLAs cannot be met without a thorough understanding of the availability and reliability of IT components.

Availability management is a very high-profile process. Take an accounting server offline during a month-end run and see what kind of attention it gets. Because of this high-profile status, it is beneficial to have a single process owner for all availability issues to ensure consistent and comprehensive measures are taken for managing and improving availability of IT systems.

Exploring the Microsoft Operations Framework (MOF)

As stated earlier, MOF is the basis of Operations Manager. MOF was developed by Microsoft and a group of partners to expand on the best practices developed by ITIL. MOF includes a plethora of resources that are available to help you achieve mission-critical system reliability, manageability, supportability, and availability with Microsoft products and technologies. These resources are in the form of white papers, operations guides, assessment tools, best practices, case studies, templates, support tools, courseware, and services. All of these resources are available on the official MOF website at `http://www.microsoft.com/mof`.

How MOF Expands ITIL

While ITIL is based on IT operations as a whole, MOF has taken the route of providing a service solution as its core. MOF focuses on the release and life cycle of a service solution, such as an application or infrastructure deployment.

Since ITIL was based on a philosophy of "adopt and adapt," Microsoft decided to use it as its basis for MOF. Although Microsoft supports ITIL from a process perspective, Microsoft decided to make a few changes and add a few things when they built MOF. One of these changes and additions includes moving to a "prescriptive" process model. Microsoft defines the ITIL process model as "descriptive." It has more of a "why" approach, whereas MOF has more of a "prescriptive," or "how," approach.

MOF also introduced the concept of Service-Management Functions (SMFs). As Table 1.2 illustrates, there are now 21 SMFs that describe the series of management functions performed in an IT environment. All of these SMFs map to an ITIL-based best practice for performing each function.

TABLE 1.2:   MOF Quadrants Breakdown

QUADRANT	SMF	OMR (AT END OF QUADRANT)
Optimizing	Service-Level Management Financial Management Service Continuity Management Availability Management Capacity Management Workforce Management Security Management Infrastructure Management	Change Installation Review
Changing	Change Management Configuration Management Release Management	Release Readiness Review
Operating	System Administration Security Administration Service Monitoring and Control Job Scheduling Network Administration Directory Services Administration Storage Administration	Operations Review
Supporting	Service Desk Incident Management Problem Management	SLA Review

MOF also introduced the Team model. This gives MOF two core models; the other is the Process model. The Team model was added to fill a gap in ITIL. ITIL identifies roles for process owners of each operation process, whereas MOF creates seven distinct role clusters that describe the functional role or team:

Service   Primary responsibility is to make sure all IT services are at a satisfactory level to customers and users. This is done by creating SLAs and ensuring that they are being met on a regular basis.

Infrastructure   Responsible for ensuring plans are in place to keep networking, telecommunications, hardware, and software running in order to satisfy business requirements.

Support   Maps to the service desk, incident management, and problem management functions in ITIL.

Operations   Responsible for making sure that the day-to-day tasks of running the IT systems are met, according to SLAs.

Partner   This is more of a "virtual" team in the IT department, usually made up of outsource vendors, IT partners, resellers, service providers, consultants, and so forth.

Security   Responsible for data confidentiality, data integrity, and data availability.

Release   Transitions a release between development or test environments into production. A release could be a new software package, an update, a patch, and so forth. The Release role also has the responsibility of maintaining accurate inventory management and asset management.

The Risk Management discipline was added to provide the management of risk to its own management discipline. ITIL provides only theory discussion, not detailed steps, about handling of risk for each IT operations process.

Explicit management review checkpoints are also built into MOF to guarantee that there is involvement by management at each key step in the process. The ITIL books do not include these checkpoints. This is another value-add that Microsoft provides with MOF.

MICROSOFT OPERATIONS FRAMEWORK PROCESS MODEL

The MOF Process model breaks down a complex environment into an easy-to-manage and easy-to-understand set of functions. This is accomplished by the numerous SMFs there were added by Microsoft when they created MOF. SMFs are just a portion of the overall Release Cycle that MOF employs.

Microsoft defines a release as any change, or set of changes, that is incorporated into a managed environment. A release includes not only changes in applications or operating system updates, but also changes in operations processes or changes in the physical environment. These releases have a defined life cycle. The life cycle is defined by quadrants, Operations Management Reviews (OMRs), and SMFs. The four quadrants are divided by the different SMFs that relate to each quadrant. SMFs are groups of best practices. These SMFs are broken into four categories that explain the activities of an operations environment. Graphic 1.1 shows the four MOF quadrants in the MOF life cycle.
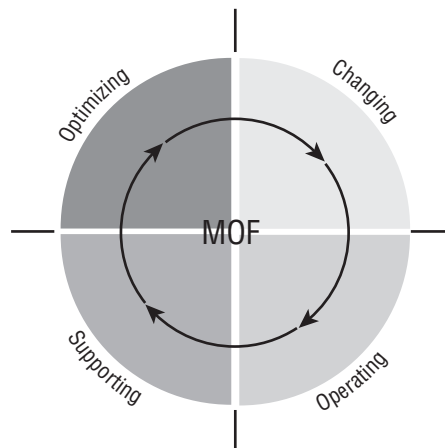

Changing Quadrant

The Changing quadrant is a group of SMFs that define the proper introduction of approved changes into a managed IT environment. This can include changes in applications, hardware, and systems, as well as changes in policies and procedures. The Changing quadrant maps to the ITIL discipline

of service support. The three SMFs that reside in the Changing quadrant are Change Management, Configuration Management, and Release Management.

Operating Quadrant

The Operating quadrant is a group of SMFs that are used to monitor, control, manage, and administer service solutions to achieve and maintain service levels. All of the SMFs in the Operating quadrant are items that Microsoft has specifically added to expand ITIL.
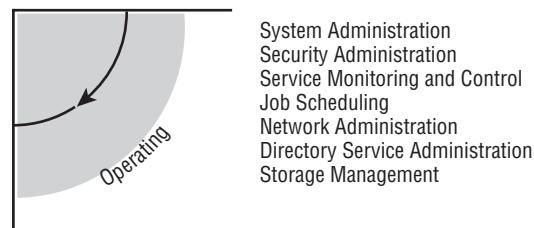
System Administration   The day-to-day administration of services and systems in an IT infrastructure. This could include user and group account administration; administration of file, print, database, and applications servers; low-level monitoring; and troubleshooting of the systems in the IT infrastructure.

Security Administration   The administration of security in an IT infrastructure. This includes monitoring the environment in both a reactive and a proactive way, thus ensuring that the environment is safe from attack. This is done through many facets, including identification and authorization control, access control, and auditing, to name a few.

Service Monitoring and Control   The administration and monitoring of the health of an IT service. This SMF ensures that SLAs are in place and that business requirements for IT services are being met.

Job Scheduling   The administration and scheduling of jobs and processes so that an efficient sequence is utilized. This could include scheduling batch jobs to maximize system throughput and utilization and to meet SLAs.

Network Administration   Administration of the network to ensure that the network operates at an efficient level at all times. This includes the administration of people, processes and procedures, vendors and service providers, as well as the administration of the network hardware.

Directory Services Administration The administration of resources in Active Directory, such as users, applications, servers, printers, and so forth. The goal of this SMF is not only to make sure that directory access is always available, but also to ensure that information from the directory is available via a simple and centralized process.

Storage Management The administration and control of data, both electronic and physical, for the purposes of restoration and historical archiving. This includes both onsite and offsite storage. Storage Management was put into place to help guarantee the physical security of backups and archives.

Supporting Quadrant

The Supporting quadrant is a group of SMFs that identify, assign, diagnose, track, and resolve incidents and problems in a timely manner within SLAs. The Supporting quadrant maps to the ITIL discipline of service support. The three SMFs that reside in the Supporting quadrant are Service Desk, Incident Management, and Problem Management.

Service Desk
Incident Management
Problem Management
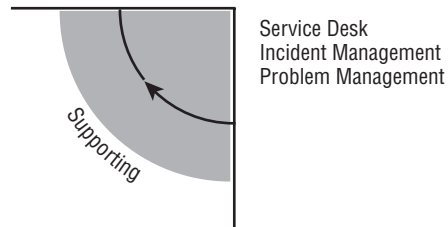
Optimizing Quadrant

The Optimizing quadrant is a group of SMFs that help maintain business and IT alignment by attempting to decrease IT costs while maintaining or improving service levels. The Optimizing quadrant introduces three new SMFs to help expand the base ITIL disciplines.

Workforce Management
Security Management
Infrastructure Management
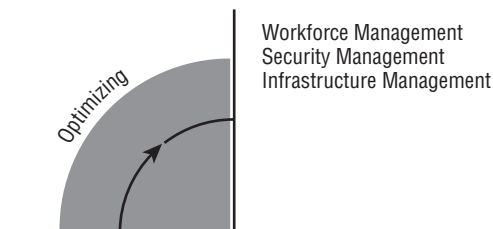
Workforce Management This function was added to specifically address staffing issues in the IT infrastructure team. It helps with the process of attracting, developing, and retaining a properly trained and prepared IT staff. It also ensures that the work environment is safe and efficient.

Security Management This function was created to help an IT infrastructure define and communicate the business's security plans and policies, based on the guidelines and regulations that apply to that business.

Infrastructure Engineering Think of this function as the "project manager" of MOF. The processes and tasks in the Infrastructure Engineering SMF could be linked to any other SMF to help coordinate engineering policies and standards.

OMRs are either event-based or time-based. The Change Initiation and Release Readiness reviews are event-based and occur at the initiation and final installation of a review into the target environment.

Change Initiation Review   The Change Initiation Review is triggered when approval has been requested for a proposed change to the environment. This begins the process for actually implementing the release. Investments in money, time, equipment, and staff will now begin to work on the process and get it ready for release.

Release Readiness Review   The Release Readiness Review determines when a release is confirmed as ready for production. The proposed release is checked to ensure standards, policies, and quality metrics are in place to support the release.

The Operations Review and Service Level Agreement Review occur at regular intervals to assess the internal operations as well as performance against customer service levels.

Operations Review   The Operations Review is a regularly scheduled review to assess and improve IT operations based on business need and SLAs. Operations reviews use information from operations guides, company policies and procedures, and operating-level agreements to measure and evaluate the performance of the operations staff.

Service Level Agreement Review   The Service Level Agreement Review is a regularly scheduled review to assess and improve the alignment of business needs with IT service delivery defined in SLAs. During this review, the operations staff and service-level management take current information and measure that against published SLAs to determine whether the service has met its service-level requirements.

Inside these four quadrants is a collection of 21 SMFs. Each quadrant consists of a group of SMFs that break down the quadrant into logical procedures and tasks. Each SMF is assigned to a home quadrant, but SMFs are by nature cross-functional and cross-quadrant. If you look back at Table 1.2, you can see how these processes define an SMF, each of which is a series of actions or operations that are designed to achieve a goal. Each process is then broken down into procedures, which allows for coordination between departments. Each procedure has a series of tasks that must be performed to complete the procedure. The task is the lowest level of effort on a project.

⊕ Real World Scenario

MIXING IT UP

So you say you don't have enough coworkers to fill all of the positions for your project? According to MOF recommendations, you don't need to have one person for every role. Looking at any of the MOF guides for services, you will find role clusters that define the responsibilities for each of the roles. The separation of responsibilities is meant to define who is allowed to perform each action, which also grants a level of accountability. When one administrator needs to make a change, there are others who can validate that the change is required, and still others who can verify that the change was made appropriately. Not every organization can have enough personnel to fulfill every one of the roles. If your company has a small staff, you will need to assign multiple roles to each of your administrators. The best option is to look at each of the role clusters and have one administrator take on all of the actions that are defined for a cluster. Not enough personnel to assign one person per role cluster? Look at each role cluster and determine which role clusters do not pose a possible conflict of interest. You want to maintain some accountability, so assign responsibilities so that there are checks and balances in place.

Tying It All Together

Microsoft set out to provide you with tools that help you manage your IT systems. They achieved this aim by integrating systems-management tools and knowledge of the systems to help you with day-to-day operations of the environment, as well as ease your troubleshooting efforts and time and improve planning capabilities. Microsoft took ITIL and MOF, and created a "family" of products—known as the System Center—that helps you in your quest to align with the practices set forth in those documents.

Dynamic System Initiative

The System Center suite of products helps IT organizations capture and use information to design more manageable systems and automate IT operations. As software becomes more and more complex, thus introducing new components and systems to the infrastructure, the infrastructure will in turn become much more complex. For example, an inventory application moves from being client server–based, to multitier, to a web service–based application. As the application grows and more users start using it, the decision is made to install a hardware load balancer in front of it. Then the data is moved to a Storage Area Network (SAN) to give the IT department better control over backup and recovery options.

All of these changes result in many different "teams" in the IT department being involved with this "application." You quickly see how a change to the application can affect more than just the application developers. You now have to coordinate changes with the Web Server team, the database administrators, the Networking team, and the Storage team.

Whether these teams are made up of one person (you), or they are made up of dozens of people on each team, you quickly realize how complex the infrastructure can become, and why there is a need for management of these distributed systems. The Dynamic Systems Initiative (DSI) is a plan to build software that incorporates ITSM capabilities and MOF best practices with the software (System Center) in order to match IT capabilities and operations with business needs.

DSI will help IT organizations deliver end-to-end offerings that will:

- ◆ Increase productivity and reduce costs across the entire IT organization

- ◆ Reduce time and effort required to troubleshoot and maintain systems

- ◆ Improve system compliance with business and IT policies

- ◆ Increase responsiveness to changing business demands

Currently, the goals of DSI are accomplished through management packs in Operations Manager, which we will discuss in greater detail in Chapter 5. In the future, this strategy will be achieved through a process called the System Definition Model (SDM).

The SDM is at the heart of DSI components and products. It is an XML-based schema that is used to create "models" of IT systems. The SDM can then manipulate these models using software tools. The SDM will be able to capture data that is vital to the operations of the system. This approach will give IT departments end-to-end solutions that are integrated across applications, operating systems, hardware, and management tools and will provide reduced costs, improved reliability, and increased responsiveness in the entire IT life cycle.

SYSTEM CENTER

Before we look at the System Center line of products, let's first look at the different System Center management disciplines that were introduced by Microsoft to help define IT service management:

- Operations Management
- Change Management
- Configuration Management
- Release Management
- Asset Management
- Data Protection Management
- Problem Management
- Capacity Management
- Incident Management

Looking at this list and considering Microsoft's plan for the System Center family of products, you can quickly see how they have embraced this framework. Through internal products, close work with partners, and acquisitions of software from other companies, Microsoft has addressed each one of these disciplines with a product in the System Center suite.

System Center Operations Manager   Formerly Microsoft Operations Manager (MOM). This product provides you with tools to help you proactively monitor your network as well as reduce the complexity associated with managing an IT infrastructure.

System Center Configuration Manager   Formerly Systems Management Server (SMS). This product provides a comprehensive solution for the Change Management and Configuration Management disciplines. It touches Release Management and Asset Management as well since it is often used to roll out patches and updates and has a widely used inventory feature.

System Center Data Protection Manager   Data Protection Manager (DPM) is a backup and recovery product from Microsoft that gives the end user some recovery options to help take some of the burden off the IT staff. DPM is a centralized backup solution that captures changed files to disk, providing rapid and reliable recovery.

System Center Capacity Planner   Capacity Planner is a tool to be used in a predeployment scenario when planning a new deployment, infrastructure changes, or upgrades. It provides best-practice guidance and hardware-specific knowledge to help planning around Exchange 2003 and 2007, as well as MOM 2005 and Operations Manager.

System Center Reporting Manager   Reporting Manager is a data warehouse and reporting program that gives you reporting capabilities and management data from products in the System Center line, such as SMS 2003 and Configuration Manager, MOM 2005 and Operations Manager, and other data sources, such as Active Directory. Reporting Manager gives IT managers the ability to support decisions that will affect the corporation.

Service Desk   This is another product that touches more than one management discipline. Service Desk is an incident management tool (think help desk) that gives the end user a direct interface to the IT department to provide information about IT infrastructure issues. Service Desk can also be used as a repository for tracking information about IT assets and processes, allowing it to also touch the Change Management and Asset Management disciplines.

Defining Operations Management

There is often some confusion when it comes to the actual definition of *operations management*. Microsoft's System Center family of products comprise several products that span a wide range of "management" ground. The most confusing portions of this area are between systems management and operations management. We will look at the difference between the two.

Systems Management

Systems management is typically defined as software that is used to centrally manage large groups of computer systems. This software contains the tools to control and measure the configuration of both hardware and software in the environment.

   Microsoft's entry into this arena is with a product called System Center Configuration Manager. Configuration Manager provides remote control, patch management, software distribution, hardware and software inventory, user activity monitoring, capacity monitoring, and much more.

Operations Management

Now that you have an understanding of what falls under the category of systems management, we will focus on operations management. *Operations management* is mainly focused on ensuring that business operations are efficient and effective through processes that are aimed at improving the reliability and availability of IT systems and services. You accomplish this by gathering information from your current systems, having the proper people in place to decipher that data, and having proper procedures in place to carry out any tasks that may arise if there is a current or potential problem in your environment.

   The System Center product that addresses this need is System Center Operations Manager. This is the product that will be the focus of this book. Operations Manager is based on MOF, which in turn is based on ITIL. System Center Operations Manager is a product that allows centralized monitoring of numerous computers on a network. Many hardware and software products can be monitored by Operations Manager, such as Active Directory, SQL Server, and Exchange Server. Operations Manager provides you with the information you need to help reduce time and effort in managing your IT infrastructure by automating tasks and giving you a proactive approach at determining possible problems.

The Bottom Line

Define IT service management.   Start thinking in terms of the customer's and user's perspective when it comes to IT systems and how they operate. Along with the technical approach to IT, consider implementing a process-based approach to complement the technical side. This will help minimize downtime and help your business meet requirements set forth in SLAs.

Learn how ITIL is the foundation of IT service management.   ITIL was created by the United Kingdom's Office of Government Commerce to create a framework of best-practice procedures to help support business. This increases quality and value of both IT systems and services through the creation of a set of policies for service support and service delivery.

Understand how MOF expands ITIL.   Using ITIL as its foundation, Microsoft set out to customize this set of best practices and tune them to fit the Microsoft philosophy. MOF takes the ITIL processes in service delivery and service support and breaks them out into SMFs. The SMFs are located in four quadrants: Changing, Operating, Supporting, and Optimizing.
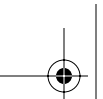
Explore the Dynamic Systems Initiative.   To help support MOF, Microsoft has started to build systems that will ease the administrative burden of managing the growing complexity of the IT infrastructure. This is known as the Dynamic Systems Initiative (DSI). DSI will help IT administrators tie together the MOF best practices with the software and systems that they manage.

Learn about the Microsoft System Center products.   Microsoft has aligned a suite of products under the title of System Center to help an IT organization meet the best practices set forth in MOF. All of the current and future System Center products align perfectly with the MOF quadrants and SMFs.

Learn how to use System Center Operations Manager.   Focusing on the Operating quadrant of MOF, this product is a management tool that helps administrators gather information from the Windows servers and software in your environment. This information can then be viewed from a central console. This information can help IT administrators make decisions for the management, tuning, and security of the servers and software that they manage.