

# **HP OpenView Service Desk 5.0**

## **Concepts Guide**

**Software Version: 5.0**

**For the Windows and UNIX Operating Systems**

**Manufacturing Part Number: None**

**Document Release Date: March 2006**



**i n v e n t**

**Software Release Date: March 2006**

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## Documentation Updates

The title page of this guide contains the following identifying information:

- Version number, which indicates the software version.
- Document release date, which changes each time the document is updated.
- Software release date, which indicates the release date of this version of the software.

To check for recent updates or to verify that you are using the most recent edition, visit the following URL:

**[http://ovweb.external.hp.com/lpe/doc\\_serv/](http://ovweb.external.hp.com/lpe/doc_serv/)**

You will also receive updated or new editions if you subscribe to the appropriate product support service. Contact your HP sales representative for details.





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## HP Open View Support

Visit the HP OpenView support web site at:

**<http://www.hp.com/managementsoftware/support>**

This web site provides contact information and details about the products, services, and support that HP OpenView offers.

HP OpenView online software support provides customer self-solve capabilities. It provides a fast and efficient way to access interactive technical support tools needed to manage your business. As a valuable support customer, you can benefit by using the support site to:

- Search for knowledge documents of interest
- Submit enhancement requests online
- Download software patches
- Submit and track progress on support cases
- Manage a support contract
- Look up HP support contacts
- Review information about available services
- Enter discussions with other software customers
- Research and register for software training

Most of the support areas require that you register as an HP Passport user and log in. Many also require a support contract.

To find more information about access levels, go to:

**[http://www.hp.com/managementsoftware/access\\_level](http://www.hp.com/managementsoftware/access_level)**

To register for an HP Passport ID, go to:

**<http://www.managementsoftware.hp.com/passport-registration.html>**



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## **Preface**

## Service Desk 5.0 Concepts Guide

The overall objective of this guide is to provide service desk managers, service desk personnel, potential users, and helpdesk administrators with an overview of HP OpenView Service Desk 5.0, and to illustrate how it can enhance and improve service desk or helpdesk processes in an organization.

The aims of this guide are:

- To discuss the key concepts and processes of HP OpenView Service Desk 5.0.
- For each process, to examine the issues a helpdesk user would need to tackle in order to successfully implement the process.
- To illustrate how HP OpenView Service Desk 5.0 can help the user to tackle these issues.
- To relate HP OpenView Service Desk 5.0 processes to ITIL guidelines for service desk operations.

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### IMPORTANT

As its title suggests, the emphasis throughout the guide is on underlying concepts rather than specific tasks. The guide is not a task-oriented manual, a set of 'how-to' instructions, or a user-guide. The intention is to outline how HP OpenView Service Desk 5.0 helps to implement successful service desk operations that will conform to ITIL guidelines. The emphasis throughout is on how the product helps users to implement best practices in a service desk or helpdesk environment.

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## Intended Audience

This guide is designed for:

- *Managers*, who need to get an overview of the concepts behind HP OpenView Service Desk 5.0.
- *Helpdesk Users*, who need to get an overview of the concepts behind HP OpenView Service Desk 5.0 before learning specific tasks.
- *Helpdesk Administrators*, who need to plan, set up and maintain HP OpenView Service Desk 5.0.

For a detailed overview of where to find information in this guide, see “Where to Find Information in This Guide” on page 15.

## Note on Terminology

Throughout this guide **Service Desk 5.0** refers to **HP OpenView Service Desk 5.0**. The terms are used interchangeably throughout the guide.

A **Customer** is a someone who either pays for or uses the IT services offered by Service Desk 5.0. That is, a customer can be the person who rings your helpdesk with a problem or the person, maybe a senior manager, who pays for the services offered by your service desk.

A **User** is an employee in your organization who uses HP OpenView Service Desk 5.0. The term **helpdesk user** is also used in this guide to refer to a user.

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**NOTE**

In the text, gender specific references (*his* account or *her* service call) are used for convenience only and refer to both sexes.

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## Where to Find Information in This Guide

**Table 1**

<b>Topic</b>	<b>Refer To...</b>
<p>Get a <i>general overview</i> of the HP OpenView Service Desk 5.0 modules.</p> <p>Get a brief overview of ITIL. Find out which ITIL processes can be enhanced in Service Desk 5.0.</p> <p>Get a summary of Service Desk 5.0 functionality.</p>	<p>Chapter 1, “Introducing HP OpenView Service Desk 5.0,” on page 19.</p>
<p>Find out how Service Desk 5.0 can help you manage <i>configuration items</i>. These include elements such as printers, routers, modems, monitors, software, and documentation.</p>	<p>Chapter 2, “Configuration Management,” on page 33.</p>
<p>Discuss the concept of a <i>service call</i> and an <i>incident</i>, and the difference between these items.</p> <p>Learn about items such as <i>work orders</i>, <i>work groups</i>, <i>approval processes</i>, <i>rules</i> and <i>actions</i> that can help you process a service call or an incident, while conforming to the relevant ITIL guidelines. These items are also relevant to other Service Desk 5.0 processes such as problem management and change management.</p>	<p>Chapter 3, “Service Call Management,” on page 49.</p> <p>Chapter 4, “Incident Management,” on page 69.</p>
<p>Discuss the concept of a <i>problem</i> in Service Desk 5.0. and its relation to service calls and incidents. Discuss aspects of Service Desk 5.0 that can help you to resolve a problem while conforming to the relevant ITIL guidelines.</p>	<p>Chapter 5, “Problem Management,” on page 77.</p>

**Table 1 (Continued)**

<b>Topic</b>	<b>Refer To...</b>
<p>Discuss the concept of <i>change management</i> in an organization. Consider issues you need to consider when implementing a change process.</p> <p>Learn about Service Desk 5.0 tools that can help you plan and implement a change process.</p> <p>View an example of how to implement a change in Service Desk 5.0.</p> <p>Consider the difference between a <i>change process</i> and a <i>project</i> in Service Desk 5.0, and when you would use these.</p>	<p>Chapter 6, “Change Management and Project Management,” on page 91.</p>
<p>Find out how a template can help you to streamline various Service Desk 5.0 processes such as generating service calls, planning changes, implementing work orders, and associated budgetary issues.</p>	<p>Chapter 7, “Using Templates in Service Desk 5.0,” on page 105.</p>
<p>Discuss the concept of a service and a service agreement in Service Desk 5.0. View examples of (multiple) services and agreements.</p> <p>Discuss the concepts of metrics in Service Desk 5.0.</p> <p>Learn about the life cycle of a service level agreement.</p> <p>Learn how service level agreements are evaluated.</p>	<p>Chapter 8, “Service Level Management,” on page 115.</p>



## Service Desk 5.0 Documentation

The following list is a brief overview of documentation related to HP OpenView Service Desk 5.0. For information on the current status of Service Desk 5.0 documentation, see “Documentation Updates” on page 7.

With the exception of the *HP OpenView Service Desk Online Help*, which is installed with the product, all the files listed below are available in PDF format on the HP OpenView Service Desk 5.0 installation media.

- The *HP OpenView Service Desk 5.0 Release Notes* contain last minute information, a description of known problems and related workarounds, where applicable.
- The *HP OpenView Service Desk 5.0 Installation Guide* contains information on installation requirements, and detailed instructions on installing and uninstalling Service Desk 5.0 components.
- *HP OpenView Service Desk 5.0 Administrator’s Guide* contains detailed information on maintaining and configuring Service Desk 5.0.
- The *HP OpenView Metric Adapter Developer Guide* contains information on using Open Metric Adapters (Open MA) to develop new Service Level Management (SLM) metric adapters.
- The *HP OpenView Service Desk Differences Guide (4.5 - 5.0)* contains information on differences between Service Desk 5.0 and Service Desk 4.5.
- The *HP OpenView Service Level Manager Guide* contains information on Service Level Manager (SLM) features that enable SLM personnel to monitor services and generate SLM reports on services that are subject to managed Service Level Agreements.
- The *HP OpenView Web API Programmers Guide* describes procedures for using the Service Desk Web Application Program Interface (Web API). The Web API enables you to develop web applications around HP OpenView Service Desk, integrate Service Desk into local applications, and add custom functionality to the Service Desk implementation.
- The *HP OpenView Service Desk Online Help* is an extensive information system providing:

- Procedural information to help you perform tasks, whether you are a novice or an experienced user;
- Background and overview information to help you improve your understanding of the underlying concepts and structure of Service Desk 5.0;
- Information about error messages that may appear when working with Service Desk 5.0, together with information on solving these errors;
- Help on help to learn more about the online help.

The online help is automatically installed as part of the Service Desk 5.0 application and can be invoked from within Service Desk 5.0.

## **Reading PDF Files**

You can view and print the PDF files with Adobe® Acrobat® Reader. This software is included on the HP OpenView Service Desk 5.0 CD-ROM. For installation instructions, see the `readme.htm` file on the CD-ROM.

The latest version of Adobe Acrobat Reader is also freely available from Adobe's Internet site at <http://www.adobe.com>.

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# **1 Introducing HP OpenView Service Desk 5.0**

## **In This Chapter**

This chapter contains an overview of the modules that make up Service Desk 5.0. These are:

- HP OpenView Help Desk Manager
- HP OpenView Change Manager
- HP OpenView Service Level Manager

### **Examples**

This chapter contains two short examples to illustrate use of the HP OpenView Help Desk Manager and the HP OpenView Change Manager.

### **Terms Introduced In This Chapter**

The terms listed below are introduced in this chapter. Note that each term is also discussed in detail in the succeeding chapters in this guide.

- Configuration item
- Configuration management database
- Workgroup
- Work order
- Approval
- Template
- Service
- Service level agreement
- Service types
- Service relations
- Service definition
- Service metrics
- Metric adapters
- Service hierarchy
- Service level agreement evaluation report

- Service compliance

## HP OpenView Service Desk 5.0 Modules

HP OpenView Service Desk 5.0 consists of the following modules:

- **HP OpenView Help Desk Manager**  
Functions as the interface between service consumers and the IT organization.
- **HP OpenView Change Manager**  
Manages change to your IT services and infrastructure.
- **HP OpenView Service Level Manager**  
Manages the entire life cycle of service levels in your organization, covering service level agreements and operating level agreements. For more information on these agreements, see Chapter 8, “Service Level Management,” on page 115.

Note also the following:

- HP OpenView Service Desk 5.0 is based on a unified configuration management foundation – a *configuration management database* (CMDB). The CMDB stores information on hardware devices, software, documentation, and other items that form part of the IT infrastructure (see Figure 1-1, “Overview of ITIL Processes in a Service Desk”). As the repository of your IT infrastructure, the CMDB provides the information that is required by HP OpenView Service Desk 5.0 processes.
- HP OpenView Service Desk 5.0 requires data from other sources, for example information on hardware devices, software, employees, customers, organizations, and performance and availability data (metric data). To enable this, HP OpenView Service Desk 5.0 has open interfaces to other applications, for example the product can be tightly integrated with HP OpenView Operations Service Navigator and HP OpenView Network Node Manager.

### HP OpenView Help Desk Manager

A helpdesk forms the interface between your customers and your IT organization. HP OpenView Help Desk Manager is an integrated solution for helpdesk operations that allows your employees to quickly

and accurately assess customer needs and solve their problems. To respond to these needs, you must equip your helpdesk users to track and link every customer service call or incident as it progresses through your support organization. The following example illustrates this.

For a detailed overview of service call management, see Chapter 3, “Service Call Management,” on page 49. For a detailed overview of incident management, see Chapter 4, “Incident Management,” on page 69.

### Helpdesk Example – Processing a Service Call

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#### NOTE

In the example below the term “Service Desk 5.0” is used to cover the term “HP OpenView Help Desk Manager” module.

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#### Example 1-1 Processing a Service Call

Amy, a help desk operator, takes a call from a customer requesting support for poor web server performance. The following section outlines how Amy can use HP OpenView Help Desk Manager to initiate processing and resolve the call.

*Identify the caller - identify the service level:* Amy uses a search dialog to identify the caller and to view information on the web server, for example data on its configuration, and on software releases or versions. Service Desk 5.0 uses the term *configuration item* for items in an IT infrastructure (see Chapter 2, “Configuration Management,” on page 33). Once Amy has identified the caller, Service Desk 5.0 automatically displays additional information, such as details on any service level agreements that may apply. A service level agreement (SLA) is a contract between the IT organization and customers that defines the services to be delivered, along with the quantity and quality characteristics, such as performance and availability (see Chapter 8, “Service Level Management,” on page 115). Amy asks the customer to describe the problem.

*Create the call:* using a default service call form, Amy uses a template – a blueprint for creating new objects – in this case a new service call – to enter data on the call. The caller’s SLA covers the provision of web hosting services, so Amy sees that responsibility for the problem has been automatically assigned to the web specialists group within the

organization's IT services (this assignment process is defined in the template). In this case the caller has only one SLA, so the service details are automatically inserted into the service call form. For more information on templates in Service Desk 5.0, see Chapter 7, "Using Templates in Service Desk 5.0," on page 105.

*Setting the impact:* the customer informs Amy about the impact of the problem on his work. Based on this information, Amy assigns an impact code to the call. This code automatically sets the call's priority, based on the customer's service level. In this case the highest level of service (Gold 24 x 7) applies, with a deadline ("resolution duration") of one hour. Service Desk 5.0 automatically enters a resolution deadline in the call.

*Further processing:* Amy knows that the standard response to symptoms like this is to reboot the web server, so she adds a work order to the service call and assigns it to the server specialists group. The work order appears in the list of tasks assigned to this group today. Note that if Amy is not aware of an immediate solution, she (or the workgroup) can retrieve resolved calls that displayed similar or identical symptoms, which may suggest a solution. The workgroup uses Service Desk 5.0 to select the optimum time to reboot the web server, that is, a time interval that produces the least burden to the service offered to the customer.

*Closing the call:* the customer is notified about the perceived resolution of the problem. He notifies the helpdesk if the web server is performing satisfactorily and the call is assigned the `closed` status.

## HP OpenView Change Manager

Many IT organizations struggle with serious production problems because of unplanned changes. The challenge is to manage these changes successfully with the minimum disruption ("outage") to the IT infrastructure or customers. You need a detailed understanding of the business impact of an outage, and you need full control of the change process in order to execute changes and maintain service availability and performance at agreed levels. For example, essential maintenance to large internal servers might result in some customers losing service for prolonged periods of time. In order to make the changes as painlessly as possible, Change Manager allows your help desk employees to see exactly who will be affected by the change, the appropriate time to make the change, and the best use of resources during the change.



## Change Management Example – Planning and Executing a Change Process

### Example 1-2 Planning and Executing a Change Process

Paul Adams, a manager at Invention Incorporated, decides to install an additional CPU on an overloaded web server in an attempt to improve server performance. To do this he uses HP OpenView Change Manager to initiate and implement the change process in his organization.

The change involves configuring a spare server to act as a temporary replacement for the web server, ordering a CPU, installing it, and evaluating the improvement in performance.

Using this information, Paul uses HP OpenView Change Manager to initiate a change process. The list below details some aspects of the change process.

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#### NOTE

In the example below, the term “Service Desk 5.0” covers the “HP OpenView Change Manager” module.

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- *Approval:* Paul uses Service Desk 5.0 to initiate an approval process for the change among several specialists. This involves an automated polling process in which a specialist votes for or against the proposed change. Paul assigns a response time of one week to the approval, during which each specialist must respond to the voting request.
- *Work orders:* Paul creates one or more work orders – tools to plan, assign and follow up on work – that detail the operations involved in the change. In each case he lists a ‘predecessor’ and a ‘successor’, that is, work orders that are executed before or after a specific work order has been completed. For example, the CPU cannot be installed until it has been ordered and delivered and a backup server configured as a temporary replacement. Paul assigns each work order to the relevant persons or workgroups in the organization. He is also aware of the CIs that will be temporarily impaired by the change, and can indicate in each work order how much outage is involved.

- *Related events*: Paul may enter the events that led to the change, for example, the problem or (series) of service calls that triggered the change. An example of a call would be ‘my web browser is not responding’ ; an example of a problem would be ‘the web server cannot handle the current volume of requests’.

## HP OpenView Service Level Manager

Service Level Management is the process of managing the quality and quantity of services delivered by a service provider organization to its service receivers. For example, if you agree to provide an e-mail service to your customers, you must guarantee that the services you provide conform to agreed service levels.

For a detailed overview of service level management, see Chapter 8, “Service Level Management,” on page 115.

### Service Level Management – Aims

The mission of service level management is to maintain and gradually improve service quality. This is achieved through a cycle of agreeing to, monitoring and reporting on IT service quality achievement while also taking actions to eliminate poor service quality. The end result is a better relationship between a service provider organization and its customers.

The HP OpenView Service Level Manager module allows organizations to control the complete life cycle of service level agreements, from definition to assessment – evaluating if the service fulfills the agreed service quality expectations.

To illustrate the need for service level management, consider the following scenarios:

*Scenario 1*: a crucial part of a service, for example an e-mail server, becomes unavailable. You need to monitor the resulting effect on e-mail services to customers. If you guarantee that your e-mail service delivers satisfactorily 95% of the time, how will this outage affect service agreements?

*Scenario 2*: you receive a complaint from a customer stating that the number of “calls with outage” – service calls related to a failure in service – made by his organization in the past six months exceeds the agreed levels. To check this claim, you must have access to timely reporting facilities on the service.

## Service Level Management – Terminology

The list below provides a summary of terms used in the service level management process. These are explained in the following section.

- Service
- Service level agreement
- Service contract
- Service definition
- Metrics
- Metric adapters
- Service hierarchy
- SLM report
- Service compliance

A *service* is “a set of integrated functions that serve stated business needs and objectives”. For example, if you are an Internet provider delivering email facilities to customers, the term ‘service’ covers the collection of functions in your organization that support this facility.

A service contains information on a customer-based or user-oriented function, for example email and web access, or network operations. The information is usually provided by CIs or other services. If a CI is unavailable, you must be aware of its impact on a service, on related services, and on the service level agreements associated with the service.

The following list shows some examples of services:

- An Internet service provider delivers an e-mail service to its subscribers.
- An in-company desktop service supports a bookkeeping application running on a pool of PCs in the company.
- A webhosting service supports the following:
  - Home page of 20Mb
  - Three e-mail addresses
  - Internet access (7 x 24)

When you agree to provide a service, some issues you will probably consider are as follows:

- What resources does the service depend on?
- How will I know if the service complies with the service quality and quantity objectives agreed with the customer? For example, if I guarantee that my web service will be available 95% of the time, how do I measure this?
- Can I offer different levels of service quality? For example, can I provide services for office hours support and 7 x 24 hour support for the same facility? How can I configure HP OpenView Service Level Manager to do this?
- If a configuration item becomes unavailable, how do I view its effect on services delivered to customers?

A *service level agreement* specifies which services are to be delivered, the associated service quality, for example, performance aspects, and the associated quantity of each service, that is, the level of availability. The service level agreement forms the core of HP OpenView Service Level Manager.

A *service contract* reduces administrative overheads by enabling legal entities and common data shared by multiple service level agreements to be specified once instead of multiple times. The agreements and services specify the deliverables and the associated service provider and receiver parties. Service level managers may find service contracts useful when setting up multiple services and agreements, especially for organizations with many sub-divisions, each with their own service level requirements.

A *service definition* is a conceptual description of a service that provides a blueprint for structuring a service. The definition allows you to show how services, service levels (the degree of support provided to the customer), Service Level Agreements, CI definitions, and other service definitions relate to each other. The service definition allows you to create multiple service instances and associated service levels.

*Metrics* are the results of measurements that provide the basis for SLM reports on compliance and availability, and for compliance status monitoring in the OpenView console. Metric data values are collected from external monitoring applications (for example HP OV Performance Manager) or from analyzed data collected from Service Desk.

*Metric adapters* are software modules that you install and configure to collect metric data values from monitoring software applications.

A *service hierarchy* specifies the relationships between the services and configuration items that a particular service depends on.

*SLM reports* give an overview of the performance of a service over a period of time.

*Service compliance* refers to how the performance of configuration items, services and service level agreements are measured against the compliance objectives agreed with service receivers.

## ITIL and Service Desk 5.0

The IT Infrastructure Library (ITIL) is a public body of knowledge that provides a framework of service management best-practices. While ITIL describes the best practices that should be pursued, it does not define how to implement detailed processes and work-level procedures to enable these recommendations. In other words, it provides high-level guidance on what should be done but leaves it up to each business to develop and implement work-level procedures for daily service delivery and service support activities. ITIL has in time become the *de facto* industry guide for IT delivery and support processes.

For more information on ITIL procedures and practices, see [www.itil.co.uk](http://www.itil.co.uk).

Service Desk provides ‘out of the box’ coverage for the following ITIL processes:

- Configuration Management

See Chapter 2, “Configuration Management,” on page 33.

- Service Call Management

See Chapter 3, “Service Call Management,” on page 49.

- Incident Management

See Chapter 4, “Incident Management,” on page 69.

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### IMPORTANT

In contrast to ITIL guidelines, Service Desk 5.0 distinguishes between service calls and incidents. In ITIL terminology, an incident covers both a Service Desk 5.0 service call and a Service Desk 5.0 incident, whereas Service Desk 5.0 distinguishes between these two processes.

- Problem Management

See Chapter 5, “Problem Management,” on page 77.

- Change Management

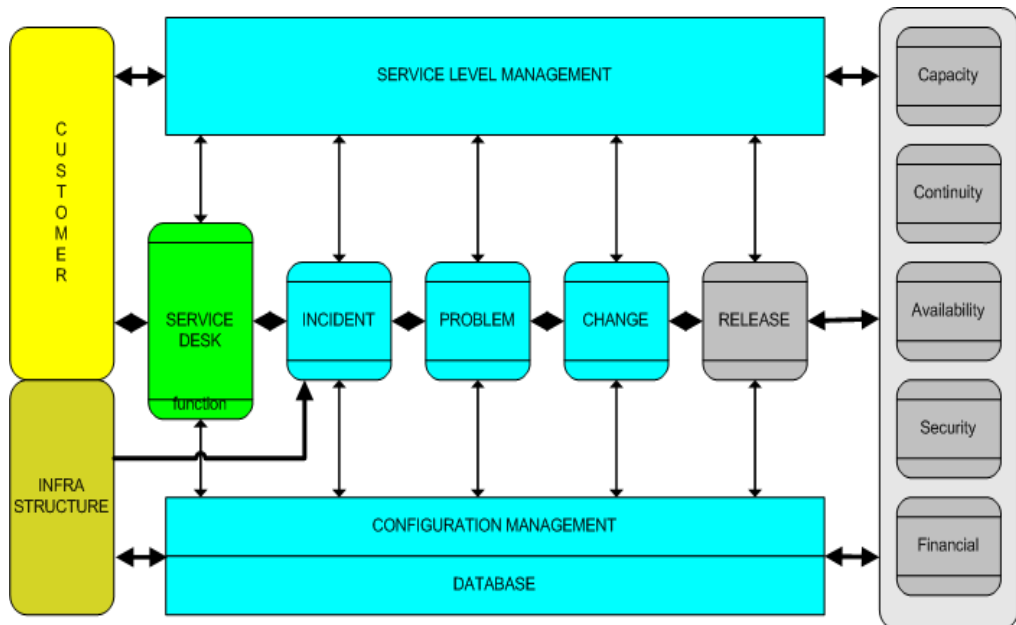
See Chapter 6, “Change Management and Project Management,” on page 91.

- Service Level Management

See Chapter 8, “Service Level Management,” on page 115.

Figure 1-1 illustrates the relationship of these processes to each other within Service Desk.

**Figure 1-1 Overview of ITIL Processes in a Service Desk**



Each process has its own procedures and relation with other service desk processes.

## A Summary of Service Desk 5.0

The examples and module descriptions in the previous sections have hopefully provided you with some insight into areas where Service Desk 5.0 can help your organization. The following section is a more formal description of Service Desk 5.0.

HP OpenView Service Desk 5.0:

- Is a structured, process-oriented application that allows you to control and automate business processes, services and infrastructure in your IT or service organization.
- Allows your IT organization to manage and streamline IT service processes and the IT service life cycle. You effectively control the delivery and quality of business-critical IT processes and services. Service-delivery and support can be streamlined into a single workflow.
- Displays the IT infrastructure components for each service you provide to your customers. It also shows which customers are receiving the service, and which person or group is managing and supporting that service. This allows your organization to manage the operational processes. Service Desk 5.0 also facilitates management of Service Level Agreements (SLAs) to ensure that service levels are met.
- Is “ITIL compliant”, that is, Service Desk 5.0 can be modified to fit into the procedures of a service or support organization that wishes to adhere to ITIL guidelines
- Can be integrated with a variety of tools to further extend service and support capabilities.

HP OpenView Service Desk 5.0 helps you to:

- Increase the quality and quantity of delivered services
- Reduce the time required to resolve incidents or service calls.
- Prevent incidents or service calls from occurring or recurring.
- Reduce the risk associated with an evolving IT infrastructure.
- Manage the processes that are involved in delivering high-quality service levels.



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# **2 Configuration Management**

## About Configuration Management

The aim of configuration management is to provide a logical model of the IT infrastructure in an organization by identifying, controlling, maintaining and verifying the components that make up the infrastructure. The term configuration item (CI) is used to cover these infrastructure components.

Configuration items include storage devices, screens, printers, network items such as a firewall, hub or router, and system components such as CPU or memory. It includes software, but also documentation, for example user manuals and job descriptions. The Configuration Management Database (CMDB) serves as the repository for configuration items.

If your job relates to IT management in any form, one of your basic considerations will be the need for information on the infrastructure that supports the processes in your company.

## **In This Chapter**

This chapter provides an overview of how Service Desk 5.0 helps an organization to ensure that its configuration management processes are ITIL-compliant.

We will discuss the following topics:

- If I am managing a helpdesk or service center, what are the configuration management issues that will arise? how do they arise?
- What are the ITIL guidelines for configuration management?
- How can Service Desk 5.0 help me to comply with these demands?

## **Terms Introduced Or Explained In This Chapter**

- Configuration item
- History line
- Generate CI wizard
- Schedule

## Configuration Management

### The Need For Configuration Management – Examples

Configuration items are fundamental to any IT-related organization. If you are running a service desk at a learning institution such as a university, the students and staff rely on the university’s technology for their teaching, learning, research, and administration activities. The following examples show how a service desk depends on adequate configuration management.

In the examples, we will briefly discuss the configuration management issues that are present in each example, and then list some Service Desk 5.0 configuration management aspects that can help to resolve these issues.

#### Example 2-1

#### An Service Level Agreement at a Medical Center

At a large nonprofit medical center, the IT department has entered into an Service Level Agreement with the Accounts and Payrolling department.

An Service Level Agreement (SLA) is a formal, negotiated agreement between a customer (for example, a department in an organization) and a service provider (for example, an IT Services department). An SLA defines the terms under which one or more services will be offered. A service, for example, is where an IT department agrees to maintain the department’s accounting software. Any disruption must be solved within two working days.

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#### NOTE

For a detailed account of Service Level Agreements, see Chapter 8, “Service Level Management” on page 115.

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### **Defining the infrastructure**

To create an effective service, the IT staff must be aware of the infrastructure currently in place – the CIs that are essential to delivering the service. So when the IT department creates the service, among other things, they specify the CIs that form the basis for measuring the service and they define the expectations (metrics and objectives) that will apply to these items.

In order to comply with the agreement, they will need information on a CI's performance over a specified time period, and ideally they should be immediately aware when a CI starts to 'underachieve'.

### **How are my configuration items related?**

The IT department must also be aware of the relation between the CIs that make up the IT infrastructure. A PC connected to a LAN segment is an example of a relation; in this case the relation "Is Connected To" applies. Other examples of relation types are "Installed On" (software installed on a machine) or "Backup To". When a helpdesk manager or specialist starts to investigate the reason for a CI's malfunction, one of the first steps in the process is to view the relation between the CI and other CIs.

### **Measuring a configuration item's performance**

To fulfill the agreement, the IT department must have the tools required to measure the effectiveness of the service specified in the SLA. Specifically, they must measure the performance of the CIs specified in the SLA, where 'performance' relates to parameters such as 'average downtime in the past six months'.

### **Who has responsibility for a configuration item?**

When a problem arises with a CI, the helpdesk user or IT manager needs to know who is ultimately responsible for solving the problem. The responsibility can be allocated to a single individual or, more likely, to a workgroup – a group of specialists focused on a specific area such as "network configurations" or "web development". So the IT department need to know which users or specialists are responsible for (own) the CI.

## **Example 2-2**

### **Change Management at an Accounting Firm**

In this example, a financial services firm intends to update the software (install a service pack) on a number of Windows 2000 servers deployed on the firm's network. To perform this operation successfully, the IT

Services Manager will need to predict and manage the impact of all aspects of the proposed change. In this example, we will focus on aspects related to changes in the CI infrastructure.

The following are some configuration management issues that the IT Services Manager will need to address:

- Where can he get an overview of the CIs that will be affected by the change?
- How can he best plan the change process? For example, can he identify the best time to effect the changes – the optimal “window of opportunity”.
- Is there some sequence in the changes that he must perform? How can he manage this?

For example, one possible sequence would be as follows: (i) purchase and register the software (ii) communicate date and time of installation to users (iii) install software on servers (iv) reboot servers (v) test server (vi) communicate successful installation to users.

- Can he allocate the changes to one or more workgroups? Is there a workgroup or specialist responsible for each CI? What is the workgroup’s relation, for example, “owner” or “administrator”, to the CI? How can he monitor the succession of changes as the workgroup performs its tasks?
- How and when will the planned changes affect the current service levels offered to customers, as specified in a SLA?

Other issues related to a change could be:

- What is the reason for this change? Does it involve an improvement, a replacement, or an exchange of a CI. Is the change due to some service call or incident? Can I track these change initiators?
- If I need approval for a change from several experts, how do I tackle this?

### **Example 2-3**

#### **A Helpdesk Service Call at an Internet Service Provider**

In this example, imagine that you manage the IT Support Services department at an internet service provider. A customer contacts your helpdesk because he cannot download his E-mail. You need to put the

call ‘into perspective’, that is, to process and solve the issues raised by the call, your helpdesk employee needs access to various items of information that are both timely and accurate.

These include the following:

- Details on the customer’s PC (configuration, operating system)
- Details on the software installed on the mail server
- Recent changes, updates, and modifications to the mailserver’s hardware or software (a history log of these events)
- Related CIs, for example, dependencies between the mail server and other CIs
- A history of calls made by the customer, and the accompanying solutions

All of the above may help your helpdesk user to solve the problem or at least initiate its solution, but an overriding aspect is “What is the time frame for resolving this call?”. This relates to service levels, to which the customer has subscribed. Service levels are discussed in Chapter 8, “Service Level Management” on page 115.

## **ITIL and Configuration Management**

This section provides an outline of the basic activities specified in the ITIL guidelines for configuration management. You may be already familiar with these guidelines. The section “Service Desk and Configuration Management” on page 41 considers how Service Desk 5.0 can help you to follow these guidelines.

The activities are as follows:

- **Planning:** specify the scope and detail of a CI
- **Identification and Naming:** each CI must be uniquely identifiable and manageable
- **Control:** use only authorized and identifiable CIs
- **Status Accounting:** maintain historical data on a CI
- **Verification and Audit:** ensure that the CI information is current

Below, we will consider each of these activities.

### **Planning**

ITIL demands that you plan the scope and detail for each CI in your system. Here, 'scope' refers to considering those parts of the IT infrastructure you want to manage. The term 'detail' refers to the level of granularity, for example will you consider a PC as one CI or its CPU, memory and storage components as separate CIs?

### **Identification and Naming**

ITIL demands that each CI be uniquely identifiable and manageable. You must perform the basic activity of identifying, labeling, and recording the names and versions of the CIs in your infrastructure.

### **Control**

ITIL makes the following demands with regard to controlling CIs:

- Ensure that only authorized and identifiable CIs are accepted, from receipt to disposal
- A CI should not be modified, replaced or removed without appropriate controlling documentation, that is, an approved change request and an updated specification.

### **Status Accounting**

This refers to the activity of maintaining historical and current data on a CI throughout the CI's life cycle.

Consider the following example. A site following ITIL best practice will analyze security incidents to identify and record underlying security problems. They will attempt to resolve the problems by ordering changes to the security system in order to prevent future incidents. A change resolving a security problem might involve additional security tools or a patch to a vulnerable operating system. To carry out this change successfully, company-wide, a Change Manager can use Service Desk 5.0 to provide versioning data and a history of the operating system and security software for each CI that will be affected by the change.

### **Verification and Audit**

This refers to the activity of reviewing and auditing to ensure the physical existence of a CI, and to check a CI's record in the CMDB. This is required because as a CI progresses through its life cycle, its record in the CMDB may not always be current, for example, the actual software versions or licenses may not match the corresponding value in the CMDB. As a result, your helpdesk or IT department may not be able to solve incidents and problems, or deliver upgrades or services.



## Service Desk and Configuration Management

The review below discusses aspects of Service Desk 5.0 that can help you conform to the ITIL guidelines listed above and manage the CIs in your organization. The overview also shows how you could tackle some of the issues raised in “The Need For Configuration Management – Examples” on page 36.

### Generating Configuration Items

Service Desk 5.0 allows you to quickly generate, identify and name a number of objects that will represent the CIs on your organization. This operation (a Generate CI wizard) uses a predefined template that you select during the generation process. For example, if your IT manager orders 25 new laser printers, the Generate CI wizard enables him to quickly generate CI objects for these items. Each CI can be uniquely identified, if required. In the template, you can define other aspects of the CI such as its relation to other CIs, or the service structure associated with the CI. For more information on templates and on the Generate CI wizard, see Chapter 7, “Using Templates in Service Desk 5.0” on page 105.

### Identification and Naming Configuration Items

Service Desk 5.0 includes by default a number of standard CI categories and sub-categories, for example for printers the categories **Inkjet**, **Laser** or **Matrix**. Corresponding categories for application software are **Firewall**, **Database**, **Antivirus** and so on.

A CI also has relationships to other CIs, and attributes, for example a **status** attribute with values **in test** or **in maintenance**, which refer to the life-cycle of the CI. Other categories can be added with minimal effort and without programming. The new categories can be appended to dropdown boxes, forms and templates.

### Allocating Responsibility for a Configuration Item

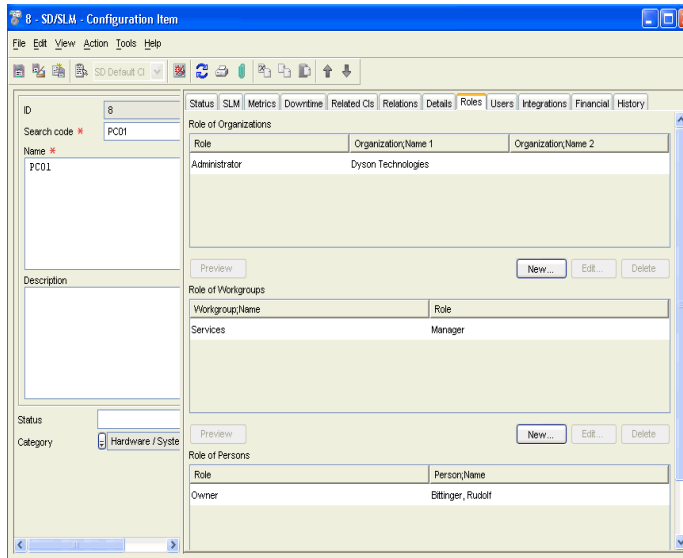
For each CI you generate, you will also need to be aware of the associated (levels of) responsibility, for example, who is responsible for financial aspects (purchase, upgrades) or who will answer day-to-day queries. This is an essential aspect of the ITIL control and planning guidelines. In Service Desk 5.0, you do this by allocating roles for departments, workgroups and persons within the organization for each CI. This allows you to quickly see who is responsible for, say, financial aspects of the CI, who evaluates the CI over a period of time, and who answers day-to-day

technical queries. A Sales and Marketing department may be responsible for purchasing and budgetary aspects (administrator role); a workgroup may be responsible for technical evaluation over a period of time (technical manager role), while a single member of the workgroup is responsible for day-to-day queries (owner role). Figure 2-1 “Viewing Configuration Item Roles” shows an example of different role allocations for a desktop PC.

## Viewing Configuration Item Roles

Figure 2-1

## Viewing Configuration Item Roles



## Tracking a Configuration Item’s Relation to Service Desk Processes

Here, ‘processes’ refers to items such as service call management, incident management, problem management. These topics are discussed in succeeding chapters in this guide, but for the moment, it’s sufficient to realize that every CI is associated with at least one of these processes during its life cycle. A CI will definitely be associated with a work order – the instruction to purchase the CI in the first instance. Over time, in a fully operational service desk, a CI’s relations with service calls, incidents, problems, and work orders is recorded and available to the helpdesk user. This could be called ‘putting a CI into perspective’.

When a helpdesk user receives a service call related to the CI, the association may provide access to information relevant to resolving the call. For example, when the helpdesk user records a service call specifying a request to reboot a server, the user can immediately refer to previous calls made in relation to the server, or to incidents that were generated in relation to the server. These aspects are discussed in Chapter 3, “Service Call Management” on page 49 and Chapter 4, “Incident Management” on page 69.

### **Tracking a Configuration Item’s History**

You can configure Service Desk 5.0 to automatically generate information on a CI when specific events occur, thus helping to conform to the ITIL guideline for status accounting mentioned above.

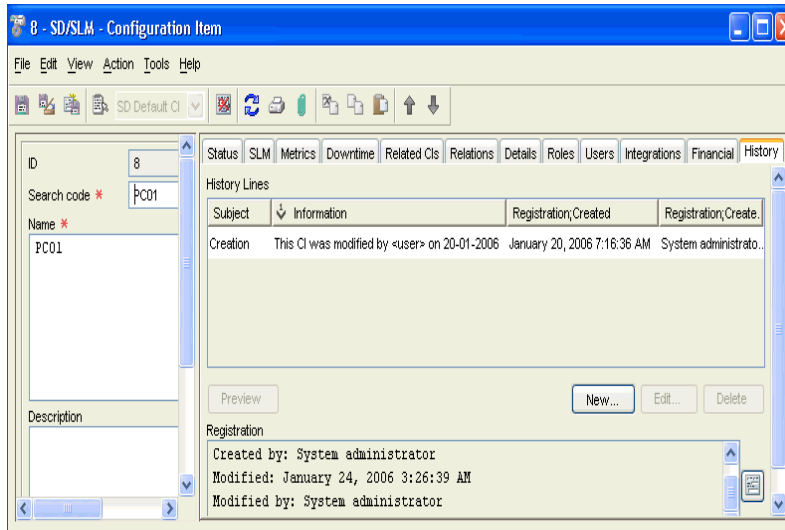
For example, when a CI is modified, Service Desk 5.0 can record information on the person who made the change and when this occurred. This is an example of a history line, in this case ‘system-generated’.

System-generated history lines cannot be changed by Service Desk 5.0 users, but a user can add extra information. Not everything that happens to an item needs to be registered in history lines – the system administrator controls what is registered and what is not registered.

Helpdesk personnel can also create history lines. These are an excellent means of passing on information that can be helpful when resolving issues related to the CI. User-created history lines can also record questions, contain copies of e-mail correspondence, hold a summary of a telephone call or reference other material used to handle the item. A user-created history line also shows when the line was created, and by whom. Users can modify the subject and the information contained in the history line. These items thus act as a diary by recording what happens to an item. They can also be used to keep track of the time users spend working on a CI. This information can be added up for project planning, or for tracking the amount of hours billed to customers, for example. Your organization’s audit policy can define what information

Service Desk 5.0 will write in the history lines. The default setup is based on what most Service Desk 5.0 clients consider to be minimum requirements.

**Figure 2-2** Viewing a Configuration Item's History

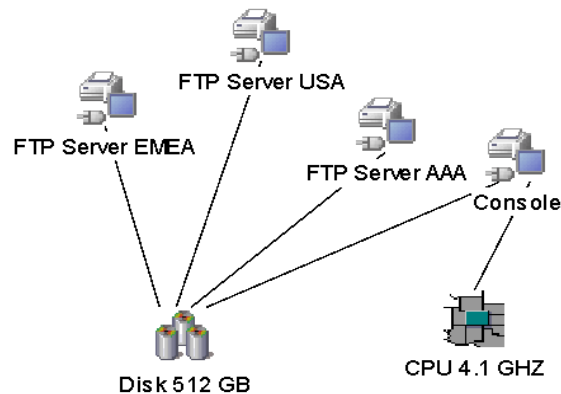


### Defining the Relation to Other Configuration Items

When you are planning a change to a CI or investigating a service call, you will need information on a CI's relation to other CIs (this is also an aspect of the ITIL Identification and Naming guideline listed in "ITIL and Configuration Management" on page 39). Service Desk 5.0 allows

you several methods to view the relations between CIs. For example, Figure 2-3 shows a graphical relationship between several FTP servers, a storage element and an internet console.

**Figure 2-3** Viewing Relationships between Configuration Items



In this case the a parent-child relationship applies, where the storage CI (Disk 512 GB) is a child element to its parents – the FTP servers and the Console. The CPU also serves as a child element to the Internet Console. Each CI can thus be a component of another CI by establishing the relevant hierarchy. Access to this information is essential in Service Desk 5.0 processes such as planning a change (see Chapter 6, “Change Management and Project Management” on page 91), or resolving a service call (see Chapter 3, “Service Call Management” on page 49).

### Tracking Expected Performance Levels

The IT services you deliver to customers do not perform independently – they depend on supporting services and on the configuration items that form the hardware and software components of these services. To monitor and fulfill a Service Level Agreement, you need constant access to information on a CI’s performance, for example its availability over time.

For a conceptual overview of Service Level Agreements, see Chapter 8 ‘Service Level Management’.

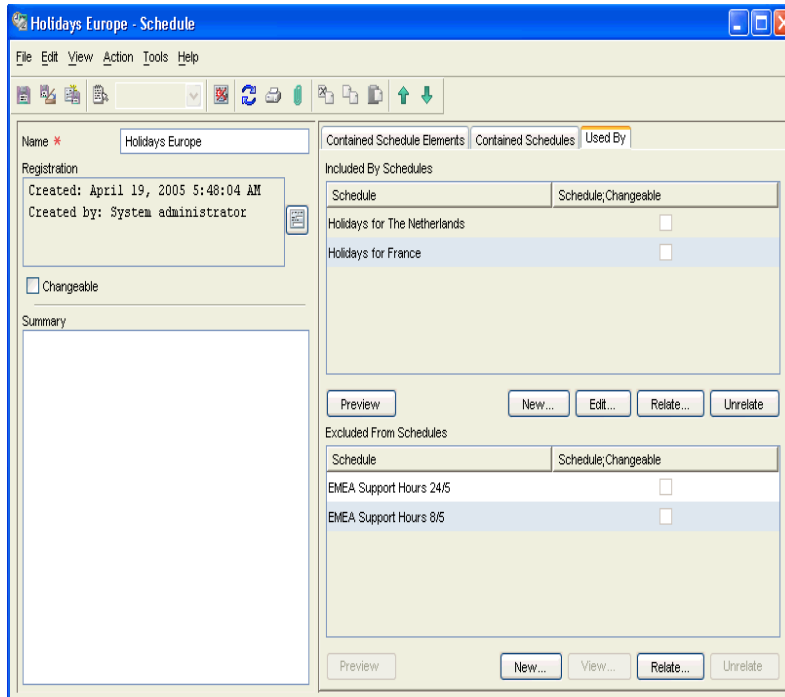
### **Plan Downtime and Changes**

As mentioned in “Tracking a Configuration Item’s History” on page 43, history lines are a useful tool for facilitating the entire management of the change process for a CI. ITIL demands that you track the entire life-cycle of a CI, from under development to live or withdrawn. In Service Desk 5.0, these demands can be fulfilled by the change management process. This covers the process of updating or replacing a CI, or performing some other modification to the CI. A CI can be linked to a request for change. Every change to a CI is saved in an audit or history log that captures data on the date, time and on person who made the change.

During their life cycle, most CIs will be out of operation or not available for maintenance, upgrades, testing, and so on at some stage during their life cycle. You will plan these ‘downtime periods’ or ‘outages’ as efficiently as possible. For example, you can schedule the maintenance period for a

web server located in Europe for one of the European public holiday periods. You do this by first creating a schedule and then associating the CI with the schedule.

**Figure 2-4** Viewing a Schedule



The change management process is described in Chapter 6, “Change Management and Project Management” on page 91.





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# **3 Service Call Management**

## About Service Calls

A service call can be defined as “any customer-generated event that deviates from the standard or expected operation of a system or a service”.

The following are examples of service calls:

- A customer rings your helpdesk because a printer on the network is defective.
- A customer receives an error message when he keys in certain data items on his PC.
- A customer requests a new password because he has forgotten his current password.

A call does not always represent a failure in the IT infrastructure, for example the third example above represents a request for support, not a failure.

### *Service Calls and Incidents*

In Service Desk 5.0, **service calls** originate from customers, whereas **incidents** refer to information originating from specialists, network management tools, or system management tools.

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### IMPORTANT

In contrast to the ITIL guidelines, Service Desk 5.0 distinguishes between service calls and incidents. In ITIL terminology, an incident covers both a Service Desk 5.0 service call and a Service Desk 5.0 incident, whereas Service Desk 5.0 distinguishes between these two processes.

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## In This Chapter

This chapter gives an overview of how Service Desk 5.0 can help an organization ensure that its service call management processes are ITIL-compliant.

We will discuss the following aspects:

- If I am managing a helpdesk or service center, what issues related to service call management may arise?
- What are the ITIL demands related to service call management?
- How can Service Desk 5.0 help me comply with these demands?

## Terms Introduced Or Explained In This Chapter

- HP OpenView Service Pages
- Checklist wizard
- Workgroup
- Work order
- Approval
- Predecessor-successor relation
- Actions
- Rules

## Service Call Management

### Processing a Service Call

If you are a helpdesk manager or helpdesk user, most likely your primary aims will be to:

- Resolve the call as quickly as possible. You will attempt to do this within the framework of any applicable Service Level Agreements with the customer.
- Communicate the status of the call to the customer while the call is being resolved.
- Evaluate the call in order to prevent its recurrence.

### ITIL and Service Call Management

This section provides an outline of basic activities specified in the ITIL guidelines for service call management. You may be already familiar with these guidelines.

For managing a the life cycle of a service call, ITIL specifies the following phases:

- Detection, Recording, and Classification

You should be able to:

- Record and classify the service call. This includes assigning a priority to the call, and estimating the call's impact on service level agreements with the customer.
- Track the service call throughout its life cycle
- Add useful information to a common knowledge base that will lead to speedier resolution of similar or related service calls in the future.

- Investigation and Diagnosis

You should be able to:

- Analyze the call with a view to finding a solution.

- Assign the call to one or more specialist support groups (workgroups)
- Track attempts to resolve the call.
- Resolution and Closure
  - You should be able to:
    - Resolve the issues raised by the service call or provide a workaround – a temporary solution – until a permanent solution is found.
    - Ensure that the events and actions that took place during this phase are recorded.

Below, we will consider these phases and discuss how Service Desk 5.0 can facilitate these. Keep in mind however that the actual life cycle of a service call depends to a large extent on your service desk configuration.

## First Steps in Resolving a Service Call

When you record a call, a logical first step is to try and interpret the call, that is, place the call in its setting within the infrastructure of the caller's organization. Some issues you will need to answer are listed below.

### Issues related to detection, recording, and classification

- Can I find information on the CI or CIs associated with the call? For example, what is the versioning and configuration data?
- Does the customer's organization have a Service Level Agreement (SLA) with my helpdesk? In this case, will the CI impact the service levels specified by the SLA?
- Is the issue raised by the call related to other service calls, incidents, or problems?
- Are there standard actions or procedures triggered once a call is recorded? For example, can I automatically generate an e-mail to acknowledge the call? Can I inform the customer on progress towards resolving the call? How do I define these procedures?
- Assuming the call is related to one or more CIs, to whom will I allocate the task of resolving the call? Can I configure Service Desk 5.0 to allocate the call to a support specialist or group of specialists?

### Issues related to investigation and diagnosis

- Can I find similar or recurring calls, that is, calls displaying a similar type of information? What is the most efficient way to find this information?
- Where can I view a list of changes made to this CI?
- Is the issue raised by the call related to another service call, an incident, a problem or a change process? Where can I find this information?
- What is the timeframe for reacting to and/or resolving the call? How can I track the resolution deadline?

### Issues related to resolution

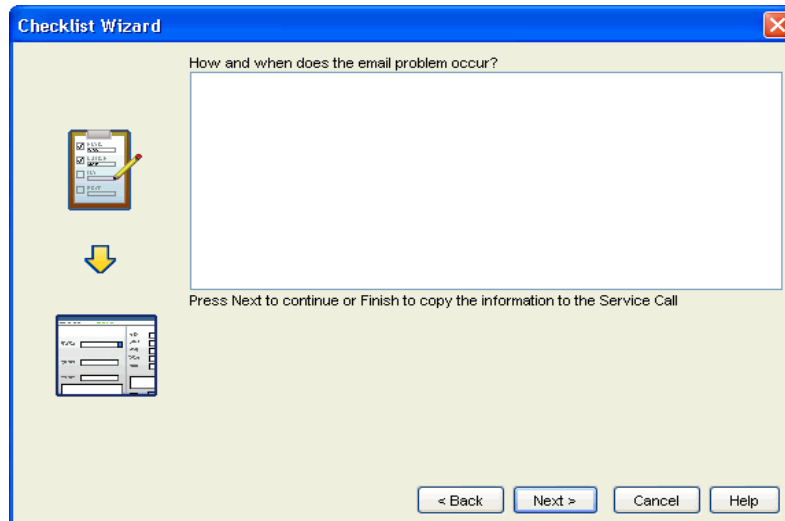
- How can I track the timeframe set for resolving the service call?
- Will service call resolution involve one or more discrete tasks? Is there a predictable sequence, or connection between the tasks to be performed?  
If this is the case, can I allocate the service call to a single workgroup or is it better to allocate the issue to several specialist workgroups? When this happens, how will I communicate the successful completion of one task from one workgroup to another?
- If I plan to change a CI in any respect, how do I plan downtime or outage? If the change is extensive and major, with several outage periods, for example, how can I consult and gain approval from experts before I start to implement the change? What is the best way to plan downtime (for CIs) while helpdesk users are resolving the call?

## Recording - Detection - Classification

*Web based service calls:* in addition to the customary methods of contacting a helpdesk such as email, telephone, and fax, a customer can also enter a service call using HP OpenView Service Pages, a web-based application that provides a simplified front end to Service Desk 5.0. The customer uses Service Pages to create, view and edit service calls. After the initial Service Pages installation, the customer starts the application by clicking a link in a web browser.

*Checklist wizard:* you can use a predefined ‘Checklist Wizard’ to gather information from a caller. Part of a checklist wizard related to email server issues (“I cannot download my email”) is shown in Figure 3-1. The wizard uses a set of predefined questions or response options to request information.

**Figure 3-1** Using a check list wizard to record a service call



### Recording: putting a call in context

Once you record the initial details of a call, Service Desk 5.0 can automatically retrieve and display additional information that will help you to resolve the call, if you have configured Service Desk 5.0 to do this. For example, a value can be inserted in the call’s **Priority** field, based on the calling organization and the details of the service level agreement you have entered.

*Displaying information:* you can also configure Service Desk 5.0 to display additional relevant information on a call, for example, a list of all unresolved calls for the CI you record, or a list of all unresolved calls for the CI if the CI contains a specified phrase or string. For example, if the name of the CI contains a phrase such as London, Service Desk 5.0 will display a list of all the unresolved calls for this CI.

*Applying rules to a service call:* you can also assign the call to a specific workgroup, based on the values you enter on the service call form. For example, you can assign the call to a specific workgroup if the CI's **category** value equals antivirus (see "Actions and Rules" on page 64).

*Displaying relevant information:* the list below shows other examples of information that Service Desk 5.0 can provide, based on the data you enter and on your configuration.

- A list of CIs 'owned' by the calling organization
- Related CIs: if a CI is temporarily unavailable, you must be aware of its impact on other CIs. For example, if a web server is malfunctioning, you will need information on other CIs affected by this machine. Service Desk 5.0 can display information on the CI's relation to other CIs graphical form, and the relation type, for example, Parent or Used-By. See Figure 2-3 on page 45.
- If the calling organization has an SLA with your helpdesk, Service Desk 5.0 displays information related to the SLA. Based on these details, Service Desk 5.0 can calculate parameters such as call priority and resolution time.

If an organization subscribes to several categories of service (for example 'bronze' or 'gold'), Service Desk 5.0 will prompt you to select one of these categories. It then inserts the appropriate priority, service level and SLA in the call entry form. This information is essential for further processing the call.

- *Use a template to assign values to a service call:* if you use a template to create the service call, Service Desk 5.0 can enter values such as the workgroup to which the call is assigned, or a maximum number of hours allocated to resolving the call. For example, if your customer's call relates to a new employee setup (configure desktop PC, email and network connections), you can create a template designed to accomplish this. When you create the service call using this template, the call is assigned to a specific workgroup and the timeframe is set to two working days. See Chapter 7, "Using Templates in Service Desk 5.0," on page 105.



## Investigation and Diagnosis

Once you have entered a call's details, you can use this information to retrieve additional details that will help you investigate the issues raised by the service call. The list below shows some of these items:

You can view:

- All calls for the CI related to the service call; maybe the issue you are trying to solve has already existed for previous related calls
- All open calls for the calling organization; maybe a similar type service call has been made previously by the calling organization
- All open calls for the service related to the CI
- All open calls for the SLA related to the CI
- Information contained in the CI's history lines

History lines contain information about an object, for example details of when the CI or service call was created, when it was changed (if this happened), who made the change, for what reason, and so on. For more information on History Lines, see "Tracking a Configuration Item's History" on page 43.

- A list of the work orders related to the CI

A list of completed work orders for the CI associated with the service call. A work order (see "Resolution and Closure" on page 58) is a tool that allows a helpdesk user plan and follow-up on tasks required to resolve a service call.

- A list of similar calls retrieved using the advanced find utility

One approach to resolving a call is to look for similar calls. A similar call may have one or more of the following:

- It may contain similar text in the Description or Information fields
- It may belong to the same Category or Classification group
- The calling organization may have registered similar calls which have been already resolved

Service Desk provides a sophisticated Advanced Find utility which allows you to retrieve similar calls. This tool is accessible throughout the Service Desk 5.0 application. Advanced Find also functions as the default knowledge management tool for searching and browsing closed and resolved calls (or incidents, problems).

- Consult the list of Frequently Asked Questions

The issue(s) raised by the service call may have already been solved and documented. Service Desk also includes a set of FAQs to which resolved calls (also problems and incidents) can be published.

## Resolution and Closure

Service Desk 5.0 provides several features that can provide answers to the above questions.

These features are as follows:

- Workgroups

See Workgroups below.

- Work Orders

See “Work Orders” on page 59.

- Approval Processes

See “Approval Processes” on page 62.

- Actions and Rules

See “Actions and Rules” on page 64.

### Workgroups

A workgroup is a collection of helpdesk users or specialists that are collectively responsible for performing specific tasks. For example, a group of web specialists can form a Web Administrator workgroup; similarly you could create a Database Administrators workgroup, or an Escalations workgroup for handling emergencies or service calls with an extremely high priority.

What does a workgroup offer your helpdesk?

- You structure the skills and specialist knowledge available in your support organization. When the user receives a call, you assign it to a specific workgroup. This assignment can be on the configuration item to which the call is related. For example, if the call relates to a printer, you allocate the service call to the Printer Maintenance workgroup. You can configure Service Desk 5.0 to do this automatically, using a user interface rule or a template. For example, you can configure Service Desk 5.0 to allocate all calls that contain the CI Search Code `Server` to the Server workgroup, thus streamlining your call resolution process.
- A workgroup can be associated with a schedule, to facilitate planning. You first create a schedule and then associate it with the workgroup. For example, a schedule can be “24 x 7” or “Europe 8 x 5”. When you plan work for a service call, you can use the schedule to determine the planned start and end dates for resolving the call. A schedule can also take public holidays, personal holidays, team meetings, and so on into consideration during the planning process.
- A workgroup and associated schedule will provide a workgroup with an efficient system for viewing its workload and deadlines, on a daily or weekly basis, for example. The workgroup views the current status of service calls and related work orders (see Work Orders below).

## Work Orders

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### NOTE

In addition to service calls, a work order can also be related to an **incident** (for incident management) or to a **problem** (for problem management) or to a **change management** process. Therefore, the description of a work order below also applies to these processes.

---

A work order is a tool that allows helpdesk users to plan, schedule and assign tasks, and follow up on the resulting activities

Once a workgroup has been assigned a service call, a work order provides the workgroup with the planning details it needs to resolve the call. For example, the workgroup will need information on CIs affected by the work, the planned outage, the allocated time and costs, and other procedures associated with resolving the call.

A work order is used to record the following information:

- A list of CIs related to the service call
- The work order's current status (to be approved, pending, closed, etc.)
- Various parameters related to work planning. These include the following items:
  - Planned start and finish (dates), the planned duration and the maximum permitted duration (hours)
  - Actual start date
  - Deadline (in hours/minutes)
  - Number of hours remaining before the deadline

Some of these values are automatically generated by Service Desk 5.0. For example, if you change the planned duration, Service Desk 5.0 will change the Planned Finish value.

- A list of predecessor - successor relations. In such a relation, a predecessor must be finished before its successor can start. To streamline the sequence of work activities, you can automate this process, that is, a successor is automatically started when its predecessor is ready.
- The outcome of an approval process (see Approval Processes below)

*Planning Outage:* you need to plan CI outage – the period during which the CI is unavailable – with minimal disruption to your customers by selecting an optimal time period and entering this in the work order. Service Desk 5.0 can do this automatically for you.

The procedure used by Service Desk 5.0 to make the best planning suggestion is as follows:

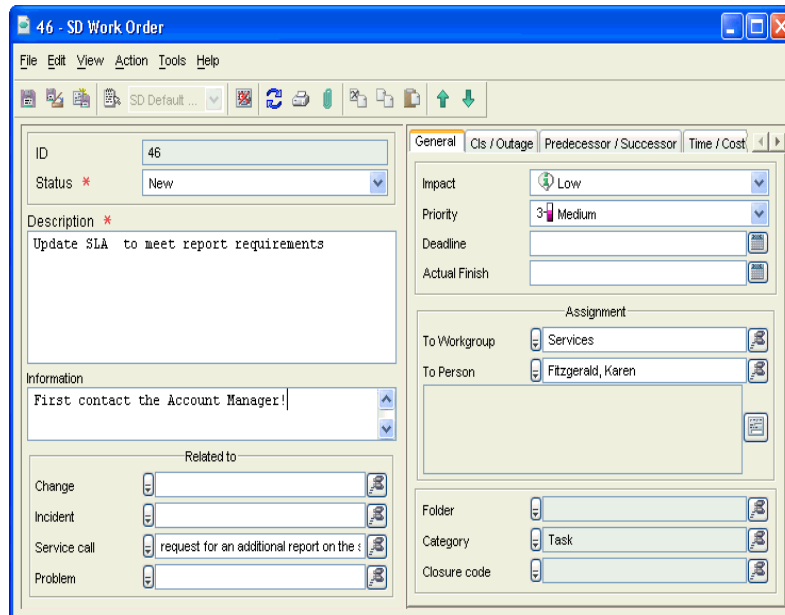
1. Service Desk 5.0 identifies the CIs that will be affected by outage and searches for the services related to those CIs that will be impacted by outage.
2. If service hour schedules are specified in the related services and the related SLAs, the service hours for services are used.
3. If service hours are not specified in services, the service hours from the SLAs related to the services are used.
4. Service Desk 5.0 then looks for windows of opportunity by searching for free slots – periods when none of the receivers need the service or configuration item. If there are no free slots, Service Desk 5.0

suggests the period when the lowest number of services are affected. If service hour schedules are not defined in services or SLAs, the information in the Planning Period Start and Planning Period End fields is used as the window of opportunity, or you can choose an alternative period.

*Work order benefits:* a work order and its outage planning schedule offer several advantages:

- The workgroup is provided with information relevant to setting its priorities.
- Workgroup members can track the progress of a service call.
- If the resolution deadline or the problem associated with a service call cannot be resolved by the currently assigned workgroup, the information in the work order is accessible, and can be reallocated to another workgroup.

**Figure 3-2 A Work Order related to a Service Call**



## Approval Processes

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### NOTE

In addition to service calls, an approval process can be also related to an **incident** (for incident management), to a **problem** (for problem management), to **project management** and to **change management** processes. Therefore, the description of approval below also applies to these processes.

---

While you are resolving a service call, you may need to consult with specialists. For example, if you decide that the solution to a web server fault is to install additional memory, you may decide that it's a good idea to ask other server specialists for a second opinion (maybe it's best to replace the server). Or you may need to request authorization for some other specific action. An approval process helps to ensure that your proposed actions are in tune with company or department strategy. Service Desk 5.0 provides a structured, process-oriented approval mechanism for resolving a service call.

The approval process is use an **approval form** (see Figure 3-3) that indicates a response deadline and identifies helpdesk personnel who will grant authorization.

**Figure 3-3** Approving a Service Call

Approver	Approved	Reason
Deneuve, Paul	<input checked="" type="checkbox"/>	
Scherehande, Edward	<input checked="" type="checkbox"/>	
Bradshaw, Mike	<input checked="" type="checkbox"/>	

Approvers can view the items awaiting their approval by selecting the appropriate view when they log onto Service Desk 5.0. They can also search for items that require their approval using the Advanced Search facility, or receive automatic e-mail notifications.

The approvers vote by selecting Yes or No on the approval form. The results are automatically tabulated. When sufficient votes have been registered for approval, the appropriate action can begin.

## Actions and Rules

As you progress a service call to its resolution, you can automate actions to help you monitor the service call's resolution progress and take appropriate action if required. For example, if a service call's resolution deadline is one week away and has not yet been resolved, you can set a rule to automatically generate an email to the Helpdesk Manager or to the workgroup handling the call.

You can set up a rule to send an email to an approver requesting a vote for an approval process when the details on the voting process are entered on the Approval sheet (see "Approval Processes" on page 62).

*Actions and Rules:* a rule triggers an action under specified conditions, for example you can create a rule that displays a popup showing a list of service calls related to a printer when a user enters the serial number of the printer in a specific field. In this case, the rule 'when a user enters a printer serial number in a specific field' triggers the action is 'display all service calls associated with the printer'.

---

### NOTE

Actions and rules are used to automate repetitive tasks and procedures throughout the entire Service Desk 5.0 application – in the examples below, we focus on streamlining a service call through to resolution. For a detailed overview of actions and rules, see the *HP OpenView Service Desk 5.0 Administrator's Guide*.

---

### Why should you create actions and rules?

- Your service call resolution procedure may contain a large number of repetitive processes. Rules help you to automate these, for example, when a service call's status is set to `closed`, you can create a rule that inserts the current date in the Actual Finish field.
- Other processes may be more specific, for example you may want to create a rule that displays a banner (a popup) on a specific computer when the status of a service call from a specific organization is set to High Priority.
- You can guide users to enter the correct data in a form.
- You ensure that data is automatically entered in a form.



- You prevent users from entering irrelevant or incorrect data in a form
- You provide data where this is needed, to resolve service calls, for example.

You can choose between *database rules* and *user-interface rules*. Database rules are evaluated by events taking place in the database; user interface (UI) rules are evaluated by events taking place in the user interface or in the business logic you have already created in Service Desk 5.0.

### How do I create a rule?

An overview of the procedure for creating a database or user-interface rule is described below. These procedures and technical information on actions and rules are described in detail in the *HP OpenView Service Desk 5.0 Administrator's Guide*.

1. Select an object type, for example a service call or a configuration item.
2. Specify the event that triggers the rule, for example “when a service call is modified” or “after a field has focus”.
3. Create a condition for the rule (this is optional), for example when the service call’s status is changed to `closed`, or its priority value is set to `top`, or a field contains the value `server`.
4. Add at least one action to the rule, for example “enter the current date in the appropriate field” or “send an email message to the Helpdesk Manager” or “display all service calls for the CI”.

### What kinds of actions are associated with rules?

- View actions

A view action is a shortcut to a view. You can specify conditions for a view action so that only certain objects appear in the view. This way, the view only shows information related to the object that the user is working with.

- Smart actions

A smart action launches an external application from within Service Desk 5.0. You can pass parameters to the external application. The parameters you pass depend on attributes associated with an object.

Some common examples of smart actions are:

- Opening a text editor using the ID attribute of the service call as the file name.
- Displaying a specific web page in a web browser.
- Sending an email to a specific party when conditions specified in a rule are met.
- Opening a knowledge base program when a user enters data into a specific field in a form.

- System actions

System actions are created by the HP OpenView developers. You cannot create your own system actions. You can, however, use system actions in UI or database rules. You can also block system actions for all users.

- Command Exec actions

A Command Exec action is used to execute a command with a set of parameters that you specify. This action can be used to send event information to a third-party application, or to start another application (for example, a banner program). A number of examples are provided with the demonstration data for Service Desk.

- Send E-mail Notification actions

A Send E-mail Message action can be used to send e-mail messages when an object is created, modified or deleted. For example, you can create a rule which sends an e-mail message to the person assigned to a service call, when that service call is within two hours of its deadline. The information that you specify in the parameters of the e-mail action determines the content of the e-mail subject heading and body.

- Update Data actions

An Update Data action is used to modify data in the Service Desk database (for example, to automatically set the status of a service call to Closed when an Actual Finish date of today or earlier is entered).

- Data Exchange with an External System actions

A Data Exchange with External System action is similar to an Update Data action, except for the source of the value used to update a field. A Data Exchange action allows you to send the fields of your database rule object to an external HTTP server, and to receive new values for these or other fields.

- Limit Field Value Range actions

You can use this action to limit the range of values that can be entered in a field. Values can be limited to fixed options, or the range of values can be dependent on the value entered in another field in the form.

- User Notification actions

User Notification Message actions allow you to automatically send a message to users notifying them of any problems and, depending on the severity of the problem, requiring a response. Typically, you use User Notification Message actions in combination with other actions to provide important information to the user about the progress of other actions. You might send a notification message to a user if an important field is empty.

---

**NOTE**

System, view, and smart actions must be defined *before* they can be associated with a rule. All other action types can be created only when you configure a database or UI rule.

---

### **Can I schedule tasks that are associated with rules?**

You can schedule a task to run at a later time period, if and when the conditions required to execute the task are met. You cannot schedule a UI rule.

### **Service Call Closure**

If the solution involved a workaround, you can include this information in an attachment that you include with the service call. You can relate a call to a known-error/resolution or problem record relationship type (is caused by, is solved by, is root cause of, and so on).

Service Desk can document how a call was resolved in a variety of ways. You can use any of the methods listed below.

- Free text field inputs

- Drop down pick lists
- Radio buttons
- Categorization of solutions

You can also specify if the call was sub-contracted to a third party.

---

# **4 Incident Management**

## Service Calls and Incidents

In Service Desk 5.0 **service calls** originate from customers, whereas **incidents** refer to information originating from specialists, network management tools, or system management tools. Incidents are often used to communicate between specialists, but you could also use the information contained in the incident to explain a situation to a customer, for example to notify the customer why a configuration item is not functioning correctly.

The following are examples of incidents:

- A security message is transmitted to a Helpdesk Manager when a user cannot log onto Service Desk 5.0 due to insufficient licenses at the customer's site.
- A message is generated automatically to notify the Systems Manager when the disk usage threshold is exceeded on a mail server.
- A message is generated automatically when a printer is not working.
- A transmitted incident can also contain information concerning the status of a CI or a service.

---

### IMPORTANT

In contrast to the ITIL guidelines, Service Desk 5.0 distinguishes between service calls and incidents. In ITIL terminology, an incident covers both a Service Desk 5.0 service call and a Service Desk 5.0 incident, whereas Service Desk 5.0 distinguishes between these two processes.

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## In This Chapter

In this chapter we discuss the following topics:

- How are incidents generated in Service Desk 5.0?
- What kind of information does Service Desk 5.0 display concerning an incident?
- How are incidents related to service calls?

---

### IMPORTANT

Many aspects of service call management also apply to incident management. For example, an incident may be related to work orders, approval processes or to time/cost aspects. The ITIL related processes and the issues you need to resolve for service call management are also applicable to incident management. For information on these features, see Chapter 3 'Service Call Management'.

---

## Terms Introduced Or Explained In This Chapter

- HP OpenView operations agents
- Event

## Incident Management

### How are incidents generated?

Service Desk can be integrated with HP OpenView Operations – distributed client-server software that helps system administrators detect, solve and prevent problems occurring in networks, systems and applications. This process involves OpenView Operations agents – monitoring software distributed throughout the environment – that check the status of CIs on the system and register incidents (here called events) as they occur. An event can be a change in status (for example, no paper left in a printer tray) or a threshold violation (for example, a hard disk is full).

Service Desk (actually the Service Desk Management Server) collects data on events from ‘managed nodes’ (CIs) and displays messages on a web browser. Depending on the type of action-response configured for the event, the message may send a message to the system operator, who then needs to perform some corrective action, or the corrective action may take place automatically.

### What kinds of information can Service Desk 5.0 display on an incident?

As with many of the features discussed in this guide, the information presented on an incident form will be determined by the Service Desk 5.0 configuration in your organization. Service level agreements and service levels are major factors in determining the incident deadline (see the note on service levels and service level agreements below)

The information displayed will include the following:

- Details on service levels and services affected by the incident

When you save the information on an incident, the service level associated with the incident is a key factor in determining the resolution deadline. Service Desk 5.0 assesses and determines the most relevant service level, that is, it can determine the most stringent service level to which the incident will be related. This in turn determines the resolution deadline. On the incident form, you can also ‘manually’ relate an incident to a services or a configuration item.

- You can display a view that shows details on services impacted by the incident



- You can view details on configuration items related to the incident
- You receive information relevant to problem management

The root cause of the incident, when you have determined and resolved this, can provide input for problem management, a process which, in general terms, manages and resolves “service calls or incidents that cannot be solved and which require further investigation” (see Chapter 5, “Problem Management,” on page 77). For example, if your configuration generates a series of incidents related to a mail server, and the cause is not immediately apparent, you can initiate a problem management process to find the root cause of the incidents.

---

**NOTE**

An **Service Level Agreement (SLA)** can be defined as:

“An agreement between an (IT) support organization and a customer community which defines the responsibilities of all participating parties, and binds IT Service Management to provide a particular service of a specific agreed-upon quality and quantity for a specific duration.”

A **service level** contains information that defines the specific “agreed-upon quality”, that is, an acceptable level of support.

These topics are discussed in Chapter 8, “Service Level Management,” on page 115.

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## **Processing an Incident**

If you are a helpdesk manager or helpdesk user, most likely your primary aims will be to:

- Resolve the incident as quickly as possible. You will attempt to do this within the framework of any applicable Service Level Agreements with the customer.
- Evaluate the incident in order to prevent its recurrence.

## ITIL and Incident Management

As discussed in “Service Calls and Incidents” on page 70, ITIL does not distinguish between incident management and service call management. Taking this difference into consideration, the ITIL guidelines for service call management, described in “ITIL and Service Call Management” on page 52 also apply to incidents.

## Resolving an Incident

In addition to information related to services and configuration items, the issues you will need to tackle are similar to those described for service calls in “First Steps in Resolving a Service Call” on page 53.

You can also record information, or link to features such as work orders as you do for service calls. The features listed below are described in Chapter 3, “Service Call Management,” on page 49.

- **Work Orders**

See “Work Orders” on page 59

- **An Approval Process**

See “Approval Processes” on page 62.

- **History Lines**

See “Tracking a Configuration Item’s History” on page 43.

- **Relations**

As with service calls, you can relate incidents to other items, for example to any of the following:

- Other incidents
- Service calls
- Problems

See Chapter 5, “Problem Management,” on page 77.

- Change processes

See Chapter 6, “Change Management and Project Management,” on page 91.

- **Rules and Actions**

You can create database rules that act upon the creation of alarm incidents. The rules you create can trigger actions, such as sending an e-mail to a service level manager or workgroup specialist, or generating an HP OpenView Operations message.

For more information on rules and actions, see “Actions and Rules” on page 64.

### **Are Service Calls linked to Incidents?**

The section above emphasizes the distinction between a service call and an incident. However, an incident can be linked to a service call, as shown by the following example.

Your Helpdesk Manager receives a series of automatically generated incident messages relating to CPU usage on a specific computer, for example telling you that the CPU usage has exceeded 80% for 5 minutes on ten occasions. At the same time you receive a service call from a customer relating to these incidents. The service call and the incidents are thus related, so you can enter this fact in the incident form.



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# **5** **Problem Management**

## **In This Chapter**

This chapter discusses the following topics:

- The concept of a problem in Service Desk 5.0.
- The relation between problems, service calls, and incidents.
- The relation between a problem and a request for change (RFC), which initiates a change management process.
- How you can track a problem Service Desk 5.0 – the tools available to streamline a problem management process.
- An example problem to illustrate how a helpdesk user tackles a problem in Service Desk 5.0.

## **Terms Introduced Or Explained In This Chapter**

- Problem (the Service Desk 5.0 definition)
- Known error
- Request for change (RFC)

## About Problem Management

Problem management investigates the underlying causes of service calls and incidents. Problem management is also concerned with attempts to prevent the same incident recurring. Problem management provides information relevant to other ITIL processes such as change management, and generates management information on the effectiveness and performance of the problem management process in the organization.

### What is a Problem in Service Desk 5.0?

The Service Desk 5.0 definition of a problem is:

“The unknown root cause of one or more service calls or incidents”

This is adapted from the ITIL definition, and is modified slightly to include the Service Desk 5.0 distinction between service calls and incidents. The definition implies that the problem has arisen from one or more service calls and incidents, in other words, an error has occurred in the IT infrastructure, which has been reported by service calls or incidents.

*Known Errors:* related to the idea of a problem is the concept of a *known error*. In Service Desk 5.0 a known error is:

“A problem or incident for which a workaround – a temporary solution – has been found”.

### What Are the Sources of Problems?

A problem may originate from a variety of sources. The following list shows some examples.

- Your helpdesk or a workgroup cannot resolve a service call or an incident. They create a problem in order to fully investigate and resolve the issue.
- Your helpdesk receives several service calls or incidents that exhibit common symptoms. You decide to investigate the root cause.

- After an initial investigation, your helpdesk or workgroup decide that they can solve an incident or service call, but this requires a change to the current infrastructure. The workgroup initiates a change procedure (request for change).
- Your helpdesk can produce a workaround for a service call or incident, but the error requires a long term solution. To achieve this, the problem is registered.
- The increased use of IT infrastructure in your company leads to structural problems that may compromise agreed service levels.

## **How does Problem Management Relate to Other ITIL Processes?**

### **Service Call and Incident Management**

For these processes, problem management will help you to:

- Provide feedback to the incident owner or service call owner on progress and resolution of the service call or incident.
- Determine the priority of outstanding service calls or incidents
- Indicate the changes necessary to permanently resolve known errors.

See Chapter 3, “Service Call Management,” on page 49 and Chapter 4, “Incident Management,” on page 69.

Figure 5-1 on page 86 illustrates the link between incidents, problem management, and change management.

### **Change Management**

For this process, problem management provides input to the change management process by issuing requests for change.

Essentially, a request for change (RFC) means that someone wants to change (part of) the existing infrastructure and/or a service to meet his requirements. A RFC can be a request to implement a new feature, for example a new configuration item, or to modify or remove an existing feature.

The change management process needs to assess the RFC. The assessment serves two goals: risk management and the overall planning of all authorized changes. If the risks of the RFC for the operational services is acceptable and there are no conflicts with other changes, the RFC will be approved by the Change Manager. If risks are too great or if



implementing the change leads to conflicts with other changes. then authorization can be denied. For more information on change management, see Chapter 6, “Change Management and Project Management,” on page 91.

### **Service Level Management**

For this process, problem management can identify the underlying cause of incidents and service calls, which in turn will reduce the risk of breaching applicable service agreements. If the error or problem results in a breach of the agreement, problem management can notify the service desk when this has occurred.

See Chapter 8, “Service Level Management,” on page 115.

## Resolving a Problem

As a helpdesk manager your primary aims for problem management will be to:

- Minimize the adverse impact of the problem in the organization
- Prevent recurrence of the incident or error that led to the problem

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### NOTE

Unlike service call management, for example, there is no actual process flow for problem management because it contains aspects that are both *reactive* – attempting to reach the root cause of a service call or incident, and *proactive* – identifying and solving incidents and known errors before they occur.

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## Issues You Will Need To Consider

- Which CIs are involved?
- Which customers are involved?
- What are the incidents or service calls that have led to the problem?
- What are the symptoms?
- What are the causes?
- What are the current workarounds?
- What changes are related to the CI associated with the problem?
- What service levels are related to the CI?
- What is the effort involved in resolving the problem, and what is the associated timeframe?

## ITIL and Problem Management

This section provides an outline of the activities specified in the ITIL guidelines for problem management. You may be already familiar with these guidelines. The Service Desk 5.0 tools that help you to conform to these guidelines are described in “Service Desk Tools for Problem Management” on page 83.

- **Recording and Identification**  
When a problem occurs you must have the tools to identify, classify, and record its root cause, and you must be aware of its implications for customer operations. For example, you must be aware of the problem with the highest business impact. You must be aware of the impact of the problem on applicable service levels.
- **Analysis and Classification**  
You analyze the causes of (recurring) service calls and incidents with a view to their permanent removal. This process may involve submitting a request for change (RFC) to initiate a change process (see Chapter 6, “Change Management and Project Management,” on page 91). Your approach must be both reactive (identifying the underlying causes of an error) and proactive (identifying problems before they occur).
- **Investigation and Diagnosis**  
You must have the tools and/or the information to establish the error – the cause of the problem.
- **Assigning Resources**  
You must be able to assign a problem to the appropriate resource.
- **Reporting**  
You analyze trends in order to improve performance.

### Service Desk Tools for Problem Management

The Service Desk 5.0 features that can assist you to follow ITIL problem management guidelines are summarized in the list below.

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**NOTE**

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You can configure many of the features listed below, based on Rules and Actions. See “Actions and Rules” on page 64.

You can:

- Assign the problem to a *category*, for example structural or proactive.
- *Classify* the problem, for example indicate that the problem is related to performance, security, operating system, and so on. This makes it easier for workgroups and managers to prioritize problems and schedule problem solutions.
- *Relate service events to the problem*: you can associate incidents, configuration items or service calls with a problem.
- *Consult a database of known errors*: known errors are stored in the Configuration Management Database (CMDB). If the problem is diagnosed as a known error (maybe this becomes apparent from an initial diagnosis or the user is familiar with the error) the user or workgroup to which the problem is assigned can consult the database and implement the recommended workaround.
- *Workgroups*: you can assign the problem to a workgroup in order to use their skills and specialist knowledge.

For more information, see “Workgroups” on page 58.

- *Work orders*: you can create work orders for the problem in order to streamline planning and deadline calculation.

For more information, see “Work Orders” on page 59.

- Initiate an *approval process*, for example if you want to consult with specialists regarding a workaround or gain approval for a proposed course of action.

For more information, see “Approval Processes” on page 62.

- View the problem’s *history lines*: you can maintain a record of information (system generated or user generated) related to the problem.

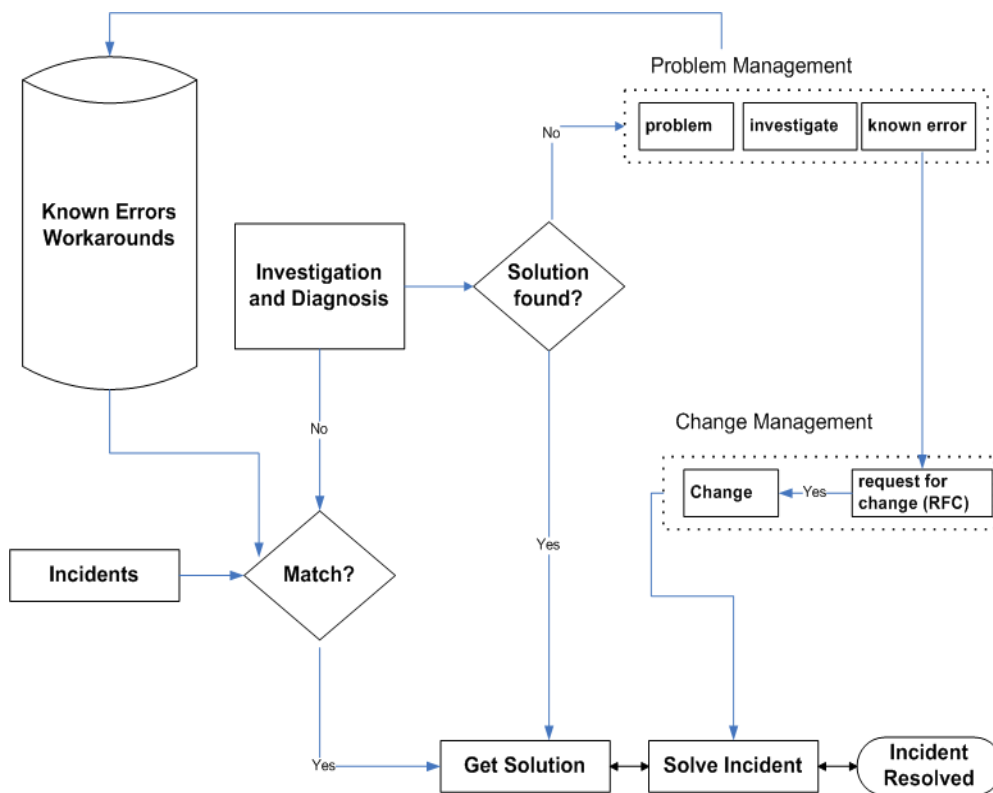
For more information, see “Tracking a Configuration Item’s History” on page 43.

## Incidents, Problems and Changes

Figure 5-1 shows a model that illustrates the relation between incidents, problems and change management.

As the diagram shows, an incident, a problem and a change can exist simultaneously. If the root cause of the incident cannot be found, the Incident Manager requests help from the Problem Manager. Problem Management consults the database of known errors and workarounds; if a match is found the problem can be resolved. If the known error is defined, the Problem Manager may submit a request for change (RFC) to Change Management in order to resolve the error.

**Figure 5-1** The relation between incidents, problem management, and change management

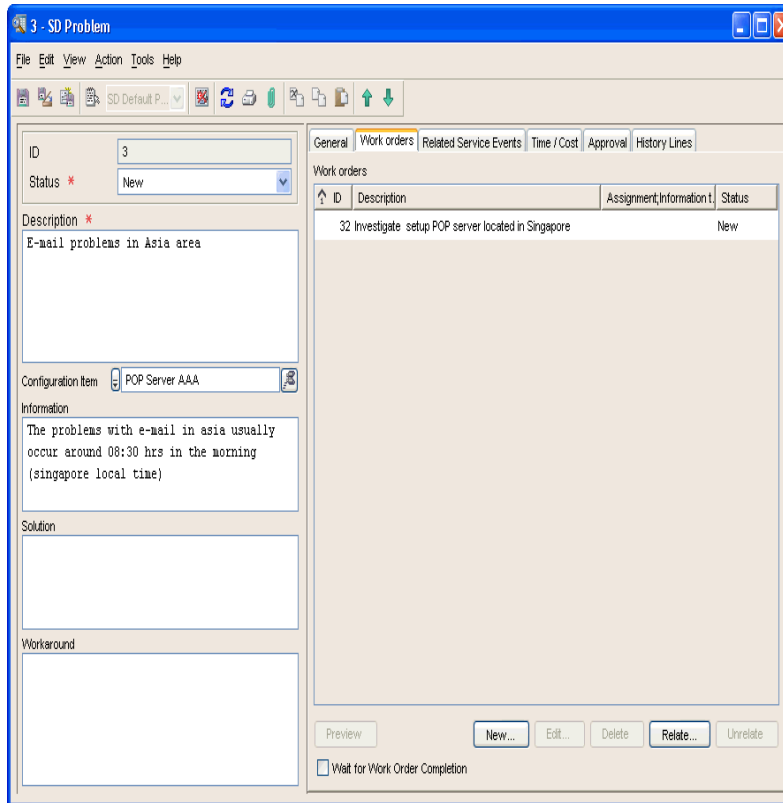


## **Scenario: Investigating a Problem**

Stan Barns, a member of the server specialists workgroup at Invention Incorporated, is assigned the task of investigating the root cause of a web server's low performance. He opens the problem form (see Figure 5-2)

and view the related work order (see Figure 5-4). On the form, Stan can see that the problem is also related to a number of service calls (see Figure 5-3).

**Figure 5-2 Problem Management – viewing a problem**

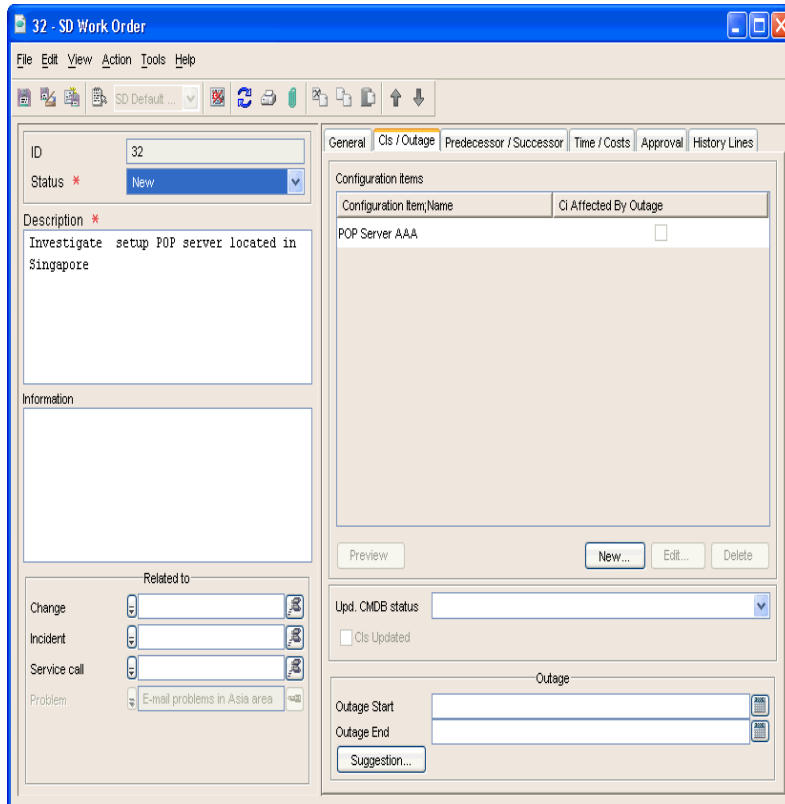


**Figure 5-3 Problem Management – related service events**

To, Object type	To, ID	To, Description	Relation Type
Service call	31	E-mail is slow	Is root cause of
Service call	32	I don't get my from the mail server	Is root cause of
Service call	33	E-mails from Asia are very slow	Is root cause of
Service call	34	I am losing my e-mail connection every day a...Is symptom of	



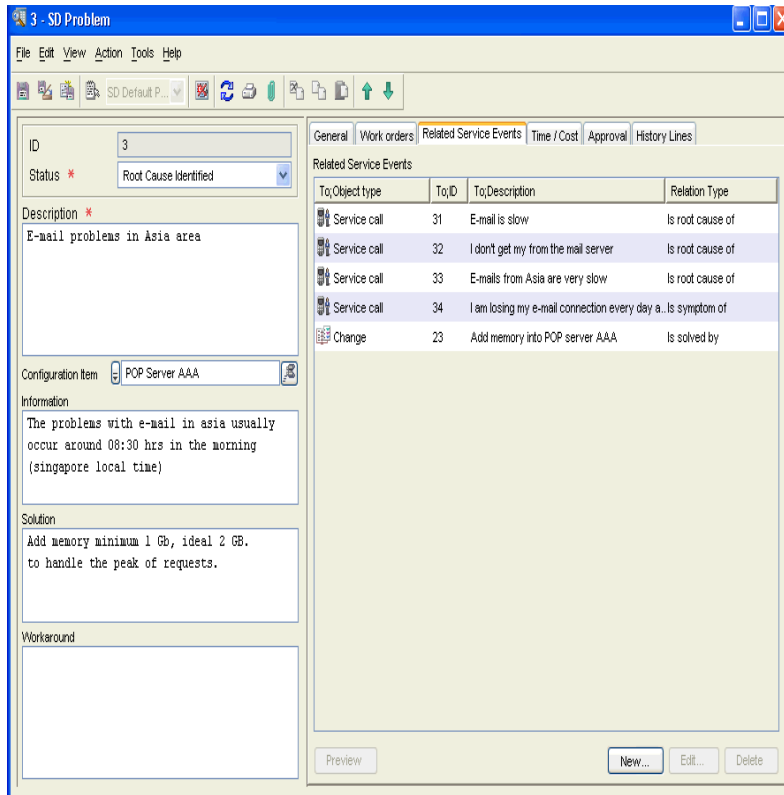
**Figure 5-4** Problem Management – viewing a work order



Based on the information supplied in the service calls, Stan uses log file entries and diagnostics information to create a report showing the pattern of server loading throughout the week. The report shows that during certain periods, the web server receives requests to deliver web pages at a rate higher than it can handle. The web server hosts a commercial e-commerce web site, and its popularity was underestimated at the business planning stage.

Stan attaches the report to the work order, changes its status to Ready, and reassigns it to the originator, who then initiates a change process (add memory) in order to handle the request peaks.

**Figure 5-5 Problem Management – adding a change process to the problem**





## About Change Management

A change in Service Desk 5.0 can be defined as:

“The addition, modification, or removal of approved, supported or baselined hardware or software components. This can include network, application, environment, and system components, or other IT components, including documentation”.

Change management can be defined as:

“A structured process and approach toward making changes to the IT infrastructure”.

In practice, you will need to regularly implement a change management process because the IT environment is dynamic and constantly changing in response to changing business needs, the introduction of new technologies, and normal business growth. But you must also ensure that changes are authorized and prioritized, and that all impacts have been recognized and considered, thus reducing the potential for support incidents.

If you want to ensure that your IT services are delivered efficiently, you must be able to manage and control changes systematically. Your aim will be to minimize any undue disruption to the IT services you offer the customer.

## In This Chapter

This chapter discusses the following topics:

- What are the reasons for performing a change in an organization, in other words, where does a change originate from?  
What is the relation between a change and an incident, between a change and a problem?
- What are the ITIL guidelines for change management?
- What are the issues that I need to consider when I plan a change in my organization?
- What are the Service Desk 5.0 tools available for change management?
- When would I use a project in Service Desk 5.0, and when will I use a change?

## Sources of Change

*Request For Change:* the initial impetus for a change process in Service Desk 5.0 is a request for change (RFC).

A request for change can originate from:

- A service call
- An incident
- A problem
- Any other aspect of the infrastructure or any service or activity.

For an overview of the relation between incidents, problem management and change management, see Figure 5-1 on page 86.

*Example:* at a travel agency, the printer resources are shared among a group of employees. After several employees have created service calls relating to a specific printer, a detailed report on the printer reveals that it has been failing repeatedly, and must be changed. A request for change is planned and submitted for approval.

However, there are many other sources of change. For example, you may be required to start a change process because of software patches that must be installed, or because of software maintenance releases, hackers, and the results of outage.

## How Does Change Management Relate to Other ITIL Processes?

### Configuration Management

To ensure a successful change management process, the configuration management database (CMDB) must be up-to-date and accurate. Change management depends on the accuracy of the configuration data in order to assess the full impact of proposed changes.

### Service Level Agreements & Service Level Management

If your change process is documented as part of a service level agreement, it ensures that customers are aware of the procedure for initiating a change process, the deadlines for the change, and the impact of the change.

### Incident Management

Change management assists the incident management process by:

- Providing information on current and future change activity as well as change history
- Providing controlled implementation of changes
- Providing up-to-date information to customers on the progress of a change process.

For a graphical overview of the relation between incidents, problem management, and change management, see Figure 5-1 on page 86.

## Planning Change in your Organization

### Issues you will need to consider

- What are the reasons for the change? Can I view related information before I initiate the change process? If the change originated from a problem, is the problem information useful to me when I am managing the change?
- Do I have information that will allow me to predict the impact of the change? For example:
  - Which configuration items (CI) will be impacted and for how long?
  - How will the change affect customers and for how long?
  - What is the optimal time period (“window of change”) for the change?
  - How will the change impact service levels and other aspects of my support organization?
  - Do I need to gain approval for the change? What is the best way to do this?
  - How will I communicate any proposed changes to others?
  - Will the change affect data on my system? For example, if a travel agency generates a new list of destinations and accompanying price structures how can I manage this type of change?
- Is there a predefined or recommended sequence of changes? How can I plan these? If a series of changes are involved, is it easier to create a project?



## ITIL Guidelines for Change Management

The ITIL guidelines are summarized below. You may be already familiar with these guidelines. The Service Desk 5.0 tools that help you to follow these guidelines are described in “Service Desk tools for Change Management” on page 98.

Briefly, the ITIL processes are as follows:

### **Logging the RFC**

A helpdesk user or a Change Manager submits a request for change.

### **Registering and Classifying the Proposal**

The change is registered, that is, you specify the items scheduled for change, and determine the impact of the change.

### **Planning**

You plan the schedule for making the change, together with a system for monitoring the change.

### **Approving**

You submit the change for approval.

### **Building and testing:**

The RFCs are assigned to the relevant technical personnel, who schedule and perform the change.

### **Authorizing and Implementing**

You check to see if all the changes have actually taken place. You authorize the change for release, and implement the change. This phase also contains a ‘backout’ option, to rollback the change if required.

### **Evaluating**

You evaluate the change after a predefined period.

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## Service Desk tools for Change Management

The Service Desk 5.0 features that can assist you to follow ITIL change management guidelines are summarized in the list below.

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### NOTE

You can configure many of the features listed below, based on Rules and Actions, see “Actions and Rules” on page 64.

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You can:

- *Categorize* the change, for example standard or urgent.
- *Classify* the change, for example indicate that the change relates to an existing CI or to a new CI, to a problem, security issue, critical incident, and so on. This makes it easier for workgroups and managers to prioritize and schedule changes.
- *Create work orders*: you can create one or more work orders for the change and associate these with the change. This facilitates change management planning and scheduling. You can also configure a work order so that it must be assigned the status `complete` before the change is closed.

*Relate work orders*: you can also specify the sequence of work order activities, that is, a work order (the predecessor) must be completed before the following scheduled work order (the successor) begins. You can also specify that a series of work orders will not be time dependent.

A workgroup responsible for implementing a change may plan a series of tasks to be performed in succession. For example, for an update of server software, you first inform the customers of any potential server outage, shutdown the server, perform the update, reboot the server, test the server, and inform customers that the server is operational again. You can automate this process in Service Desk 5.0, that is, a successor task can be automatically scheduled to start when its predecessor is completed. This sequence will be shown on the work order.

For more information, see “Work Orders” on page 59.

- *Relate service events to the change*: you can associate service events such as other changes, incidents, problems or service calls with the change.
- *Assign the change to a workgroup*: you can assign the problem to a workgroup in order to use their skills and specialist knowledge.

For more information, see “Workgroups” on page 58.

- *Initiate an approval process* for the change: for example if you want to consult with specialists regarding a workaround or gain approval for a proposed course of action.

For more information, see “Approval Processes” on page 62.

- *View the change history*: you can maintain a record of information (system generated or user generated) concerning the life cycle of the change.

For more information, see “Tracking a Configuration Item’s History” on page 43.

## Scenario: Implementing a Change

Paul Adams, a change manager at Invention Incorporated receives an email concerning a proposed change that resulted from a problem investigation. The problem is as follows: a large number of new users are scheduled to receive email accounts. The problem assignment was to investigate the likely impact of adding 200 new email users to the existing email service (the current usage was limited to 100 users).

The recommended change resulting from the problem investigation was to add additional (internal) memory and data storage facilities to the server. In order to manage the change, Paul implements a change process. The general sequence of steps that Paul will follow is provided below:

- Enter general information on a change form. The form may already exist – it may have been created from the problem investigation associated with the change.

See Figure 6-1, “Change Management – entering information on a change”.

- Select relevant approvers for the change and enter these on the change form.

See Figure 6-2, “Change Management – setting up an approval process”.

- The voters approve or disapprove the proposed change.
- If the change is approved, Paul decides on, and creates a logical sequence of work orders for the change, notes the dependencies among the work orders, and assigns each work order to one or more workgroups. The work orders include topics such as ‘decide on optimal outage period’ (the server must be shutdown and subsequently rebooted as part of the change), ‘communicate the outage time to customers’, and ‘configure a backup server as temporary replacement’ (the approvers, see below, may insist on this in order to avoid outage).

Each work order is associated with one or more CIs. Once Paul has entered the relevant information, he can view the impact of the

change on related CIs.

See Figure 6-3, “Change Management – creating work orders”

**Figure 6-1** Change Management – entering information on a change

The screenshot shows the 'SD Change' application window. The title bar reads '22 - SD Change'. The menu bar includes 'File', 'Edit', 'View', 'Action', 'Tools', and 'Help'. The toolbar contains various icons for file operations and navigation. The main window is divided into several sections:

- Header:** 'Due in 43 days.'
- Left Panel:**
  - ID:** 22
  - Status:** Requested
  - Requestor:** Brice, AI
  - Description:** Add memory and data storage to E-mailserver #2; initiate new change process following successful completion.
  - Configuration Item:** Web Server 2
  - Information:** The server needs memory upgrade 2 GB and 5 GB additional data storage
  - Solution:** (Empty text area)
- Right Panel (General tab):**
  - Impact:** Low
  - Priority:** Medium
  - Deadline:** March 30, 2006 2:55:11 AM
  - Actual Finish:** (Empty)
  - Assignment:**
    - To Workgroup:** Services
    - To Person:** Fitzgerald, Karen
    - Assignment Status:** New
  - Folder:** Folder A
  - Category:** Standard
  - Classification:** Modify / Update CI
  - Closure code:** (Empty)
  - Project:** (Empty)

**Figure 6-2 Change Management – setting up an approval process**

Due in 43 days.

ID: 22  
 Status: Requested  
 Requestor: Brice, Ali

Description: Add memory and data storage to E-mailserver #2; initiate new change process following successful completion.

Configuration Item: Web Server 2

Information: The server needs memory upgrade 2 GB and 5 GB additional data storage

Solution:

General | Work orders | Related Service Events | Predecessor / Successor | Time / Cost | **Approval** | Hist

Initiator: Brice, Ali  
 Requestor: Brice, Ali

Description: Resulting from problem investigation (see Related Service Events)

Approval Status: Active  
 Deadline: February 22, 2006 3:24:09 AM  
 #Approvers Requi.: 3  
 Strategy: 3 Out of 3  
 Result: Incomplete

Approval group: [empty]

Approval Votes

Approver	Approved	Reason
Ashley, Hal	<input checked="" type="checkbox"/>	
Caldwell, Vince	<input checked="" type="checkbox"/>	
Bittinger, Rudolf	<input type="checkbox"/>	

Buttons: Preview, New..., Edit..., Delete

**Figure 6-3 Change Management – creating work orders**

Due in 43 days.

ID: 22  
 Status: Requested  
 Requestor: Brice, Ali

Description: Add memory and data storage to E-mailserver #2;

Configuration Item: Web Server 2

Information: The server needs memory upgrade 2 GB and 5 GB additional data storage

Solution:

General | **Work orders** | Related Service Events | Predecessor / Successor | Time / Cost | Approval | Hist

Work orders

ID	Description	Status
58	Investigate optimal outage period	To be approved
59	Communicate determined optimal outage period to users	To be approved
62	Shutdown mail server	To be approved
63	Add additional memory and data storage. Reboot and test email server	To be approved
64	Communicate that email server is ready to accept additional users	To be approved
69	Configure backup server as temporary replacement.	To be approved

Buttons: Preview, New..., Edit..., Delete, Relate..., Unrelate

Wait for Work Order Completion

## About Project Management

The change management scenario described in “Scenario: Implementing a Change” on page 100 involved one change – adding additional memory to a mail server. In other situations a series of changes are involved. Some examples are listed below.

- In addition to adding memory to the email server, you must also create email accounts for each new user, and organize training for the new users.
- You are responsible for moving an entire department from one location to another. A few of the changes would be as follows: planning the software and hardware configuration for the new location, ordering new equipment, and installing the hardware and software at the new location.

If a procedure involves one or more distinct changes like those described above, you can group these change as a project. Project management has the following features, some of which are similar to change management:

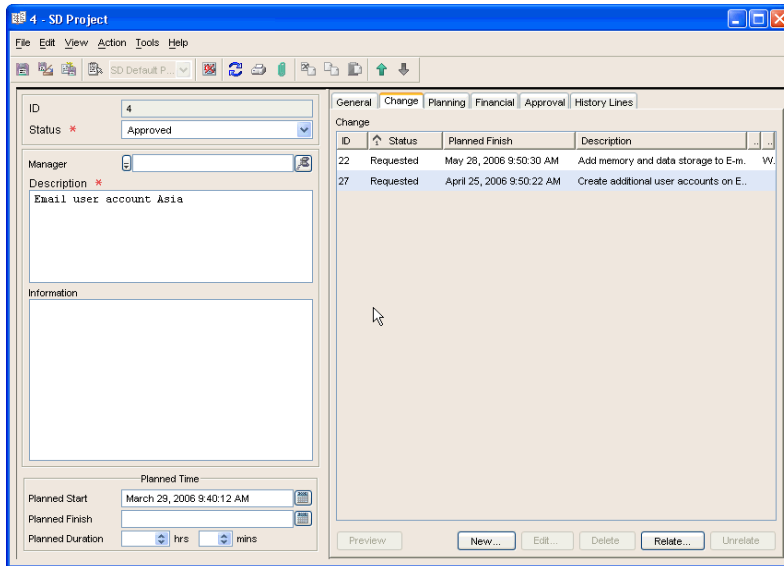
- In a project, you can relate a series of changes to the project. A change is related to one or more work orders. Figure 6-4, “Project Management – relating changes to a project” shows a project form related to two change processes.
- In a project, you can relate changes to each other with predecessor - successor relationships.
- Similar to change management, you can initiate an approval process for the project.

For more information, see “Approval Processes” on page 62.

- Similar to change management, you can view the project history, a record of information (system generated or user generated) concerning the life cycle of the project.

For more information, see “Tracking a Configuration Item’s History” on page 43.

**Figure 6-4** Project Management – relating changes to a project





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## **7 Using Templates in Service Desk 5.0**

## About Templates

Templates allow users to create objects that contain one or more default values for the object's attributes. For example, a service call has an attribute `media` that records the means of contact used by the customer. The attribute value can be any of the following: `telephone`, `fax`, `email` or `web-based`.

When a user creates a service call using a template, the object receives attribute values specified in the template. For example, you can create a template designed for customers who submit service calls through a web based interface. When the customer submits the service call, the helpdesk user uses the template to create the call, with an attribute value `medium` automatically set to `Web`.

## In This Chapter

This chapter discusses:

- Some of the processes you can streamline by using a template.
- Template attributes, and a description of how the attribute can be used in Service Desk 5.0.
- How you can use a template to quickly generate multiple configuration items.
- How you can use a nested template, for example a change template with related work order templates.

## Terms Introduced Or Explained In This Chapter

- Template
- Nested template
- Template configuration wizard

## Using Templates In Service Desk 5.0

Templates allow you to streamline many processes you will encounter in Service Desk 5.0, for example, for *change management* you can create templates designed specifically to set up a new employee's office equipment, or to move an existing employee and his equipment to a new location.

For *service calls*, you can create templates based on the caller's access medium (web, phone, email, and so on) or you can create templates that handle frequently occurring calls such as 'password reset' or 'install antivirus software'.

For *work orders*, you can create templates for tasks such as 'set up a new email account' or 'set up network connections for a new user'. Figure 7-1 shows a list of work orders templates.

Depending on your requirements, a template can also help you tackle various Service Desk 5.0 processes such as generating configuration items for multiple CIs, for a new batch of printers, for example. You may decide that a change process such as 'set up a new employee's hardware and software configuration' must be completed within a maximum number of hours. You configure the template to specify this time limit.

Some Service Desk 5.0 issues which a template can help to resolve are listed below.

- How much time should I allocate to a specific type of service call, work order, change, or project?
- Do I frequently create configuration items for certain objects? For example, if I purchase a large number of switches, routers, or laptop PCs, can I streamline the registration and installation procedures for these items?
- Are there budget constraints for a specific type of change or work order?
- For a change process, can I specify (a set of) work orders that will be automatically related to the change?

- Do I outsource specific change processes (or service calls, work orders)? Are there conditions under which this is appropriate? For example, you may decide that a service call related to a specific network server will always be automatically assigned to an external workgroup.

In Service Desk 5.0, a template can help you resolve many of these issues. For example, you can relate one or more work order templates to a change template. When a user creates a change object using the change template, the relevant work order objects are also created (see “Nested Templates” on page 111).

Table 7-1 lists a number of attributes present in templates, with examples of how these are used.

**Table 7-1**      **Template Attributes**

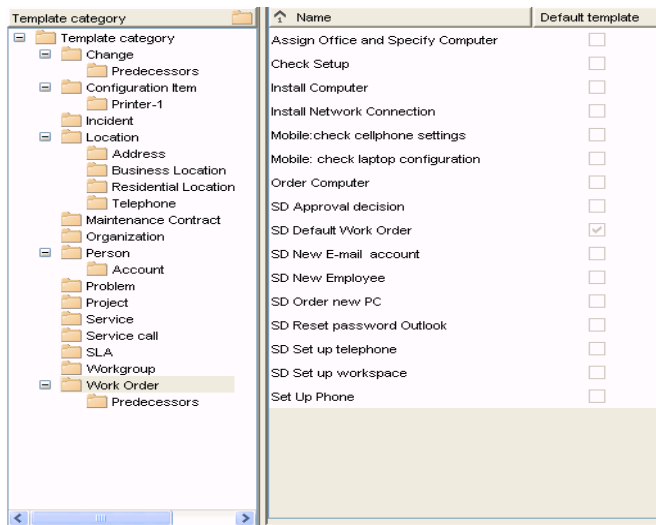
Attribute	Planning
Planned Cost	Set a fixed amount for the object; for example, if you create a template for installing network server software, you set the costs in advance.
Planned Duration	You set the planned duration of installation, call resolution etc.
Deadline	You set a deadline for concluding an installation process, for example, based on today’s date.
Work orders	You relate work order templates to another template (see the change template, service call template etc.
Predecessor / Successor	Relate work orders in a predecessor-successor relation.
Assignment, to Workgroup / Person	Assign the object to a workgroup or a person.
Classification	Classify the object (for example, new CI, critical incident, problem)
Category	Categorize the object (for example, standard, urgent)

**Table 7-1**                      **Template Attributes**

Attribute	Planning
Priority	Assign a priority (low, medium, high)
Configuration items	Assign the object to a specific CI.

Figure 7-1 shows examples of work order templates, set up for tasks such as ‘set up a new email account’ or ‘install a desktop computer’.

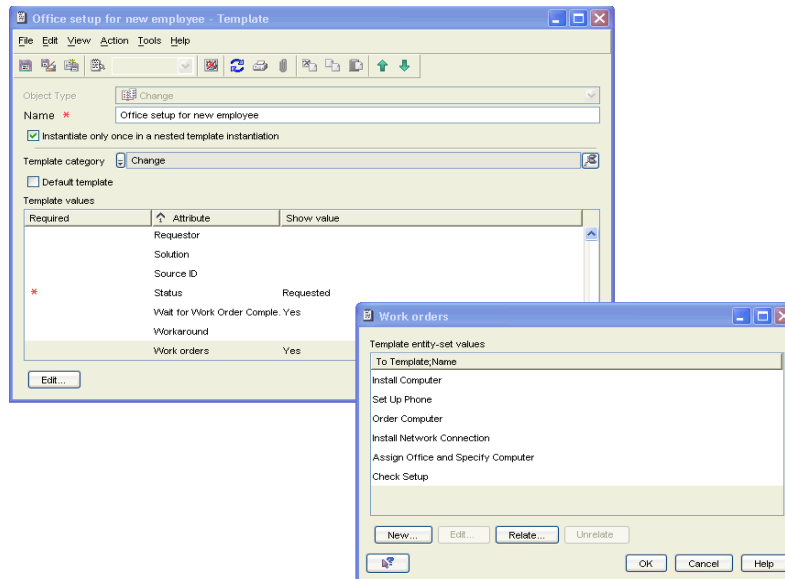
**Figure 7-1**                      **Work Order Templates**



## Nested Templates

You can configure a template to refer to other templates. For example, in a change template, you can enter an attribute value that refers to one or more work order templates, as shown in Figure 7-2. When you create a new object using the change template, the work order objects are also created, and are referenced by the change object.

**Figure 7-2** Relating Work Orders Templates to a Change Template



## Using a Template to Generate Multiple Configuration Items

Service Desk 5.0 offers you a wizard that allows you to generate multiple configuration items. For example, if you are replacing a large number of monitors or network hubs, the wizard allows you to generate the required configuration items in one operation.

The procedure is as follows:

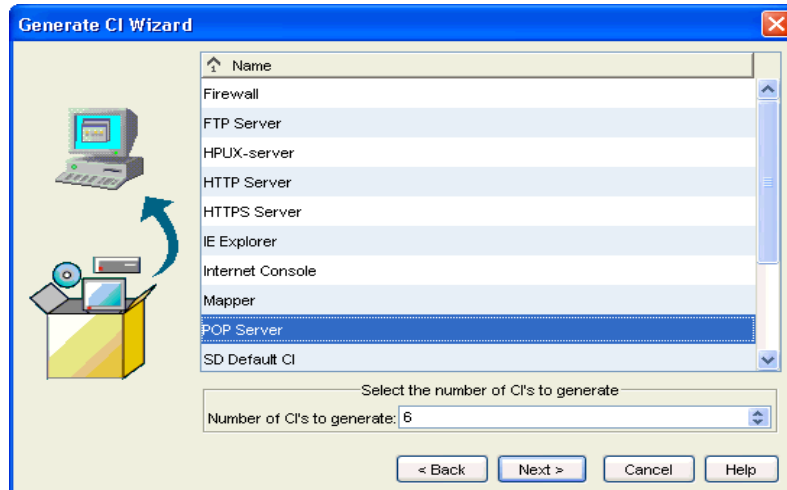
1. You select a template from which to generate the configuration items, and enter the number of configuration items you want to generate.
2. If required, you can modify the fields in the template. The changes you enter will apply only to the configuration items you generate during the current operation.
3. You decide on and enter a search code that will uniquely identify every generated configuration item. You can use the search code that is specified in the template, or enter a personal code, or use a



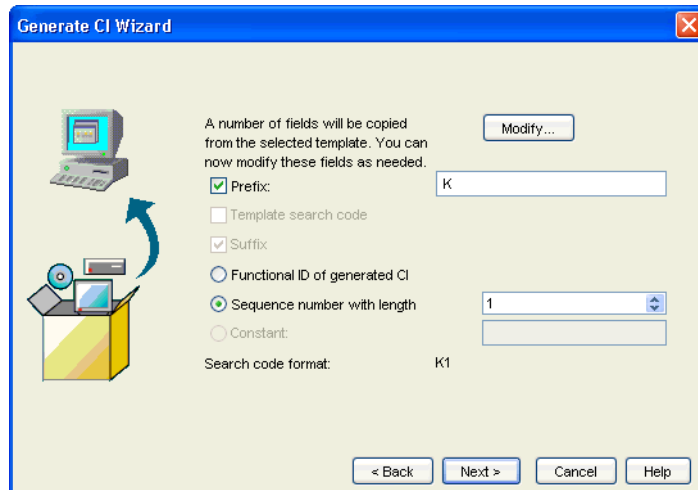
## Using a Template to Generate Multiple Configuration Items

combination of personal code and template code. For each configuration item generated, the wizard will increment the code, in order to uniquely identify the configuration item.

**Figure 7-3 Configuration Wizard – Selecting a Template**



**Figure 7-4 Configuration Wizard – Modifying the Template and Entering a Search Code**





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# **8 Service Level Management**

## In This Chapter

This chapter discusses the following topics:

- Services in Service Desk 5.0 – the different kinds of service
- An example of a service structure that supports these service types
- Relating multiple services to a single service level agreement – scenarios where this is applicable
- Relating multiple agreements to a single service – scenarios where this is applicable.
- Service definitions – specifying the resources available to provide the service.
- Measuring the quality of service – metrics
- Assigning objectives to a service
- The life cycle of a service level agreement. This consists of the following phases:

Definition: discuss the requirements with the service receiver.

—

— Configuration: ensuring that the services and resources can be monitored

— Assurance: measuring and managing compliance with the service level objectives and service level agreements.

— Assessment: assessing the measured levels of service quality

- Tips on implementing a service level management process

### Before you read this chapter

You should be familiar with the topics covered in the section “HP OpenView Service Level Manager” on page 26.

### Terms Introduced Or Explained In This Chapter

- Business service
- Operations management service

- Underpinning service
- Work order
- Operational level agreement
- Underpinning contract
- Service catalogue
- Helpdesk metrics
- Operational metrics
- Custom-designed metrics
- Service level objectives
- Service level agreement definition
- Service level agreement configuration
- Service level agreement assurance
- Service level agreement assessment

## Services and Agreements

This section describes the types of service and agreement that Service Desk supports, as well as the options for measuring and setting performance objectives.

### Types of Service and Agreement

Service level management best practice processes often distinguish between different types of service and the corresponding types of contractual agreement that articulate service quality and quantity characteristics. Table 8-1 lists the types of service and agreement that can be registered in Service Desk.

**Table 8-1**      **Types of Service and Agreement**

Service	Agreement
Business	Service level agreement (SLA)
Operations management	Operational level agreement (OLA)
Underpinning	Underpinning contract (UC)

Service types are defined as follows:

- *Business services* are services delivered to customers in accordance with agreed service levels, and services acquired from external providers. These are the facilities that provide transaction processing capacity or system resource capacity. In Figure 8-1, an Internet company supplies two business services – e-mail and web hosting – to its customers. Other examples of business services are application services and network services.

Business services can have *parent-child* relations to other business services. The child service can be considered to form ‘part of’ the parent. For example, an Internet service provider may offer a suite of facilities to its customers that include both web hosting and e-mail services. Some customers subscribe to both facilities, others use e-mail facilities only. This is illustrated in Figure 8-1.

A business service may *use* (that is, depend on) other business services and configuration items, and it may itself be a resource *used by* other business services. These relations form a hierarchy that contains business services towards the top, lower level business services lower down, and configuration items at the bottom. See Figure 8-1.

- *Operations management services* provide support for administering and fault-handling the hardware and software resources used by business services.

Operations management services can have *parent-child* relations to other operations management services. The child service can be considered to form ‘part of’ the parent.

An operations management service has a *manages* relation to at least one configuration item. In Figure 8-1, a configuration item representing an HP server is *managed by* an operations management service called UNIX Server Management.

If the provider of an operations management service outsources specific areas of responsibility (such as the repair or replacement of hardware) to an external group, the operations management service has an *underpinned-by* relation to the outsourced service. In Figure 8-1, the UNIX Server Management service is underpinned by the Hardware Maintenance service.

An operations management service cannot have a used or used-by relation with other services regardless of their type.

- *Underpinning services* represent services outsourced by operations management service providers to external organizations. Examples include maintenance and repair of resources managed by the provider of an operations management service.

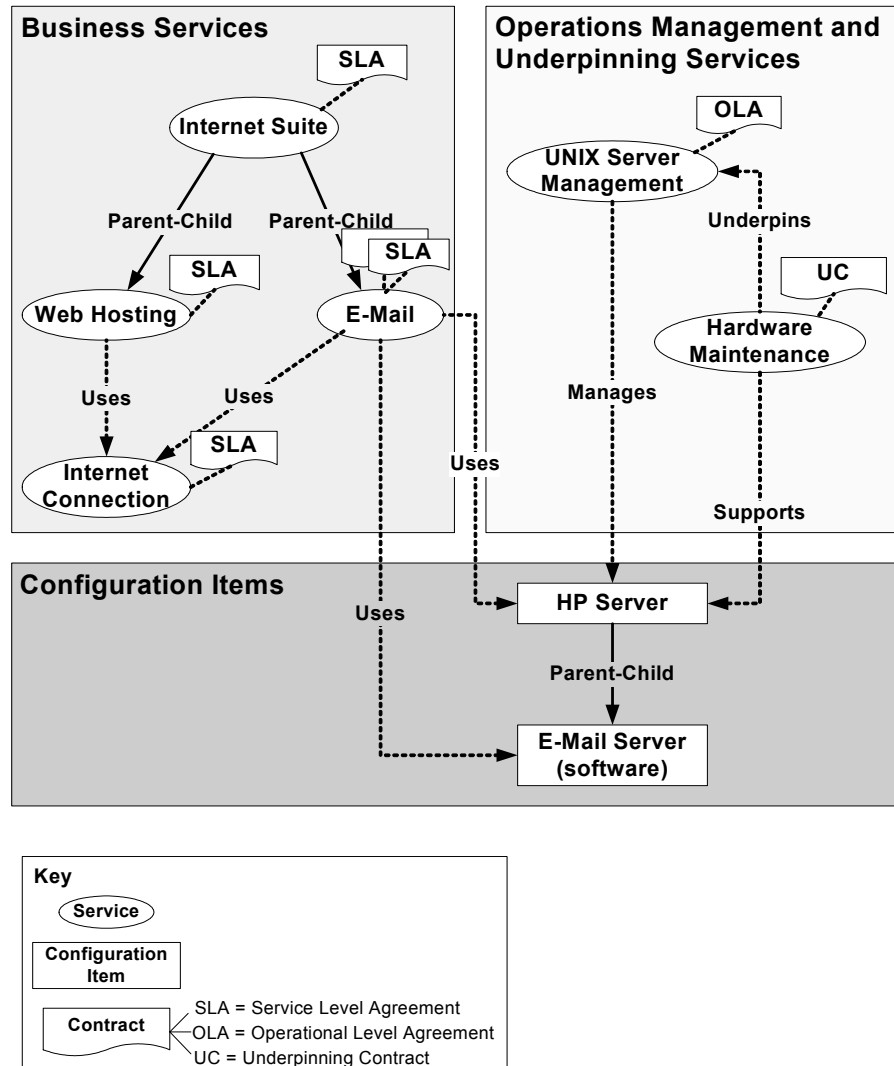
An underpinning service has a *supports* relation to the configuration items for which it assumes specific areas of responsibility. In Figure 8-1, an underpinning service called Hardware Maintenance supports a configuration item called HP Server.

An underpinning service cannot have a used or used-by relation with other services regardless of their type.

Figure 8-1 shows an example service structure that includes the supported service types and relations.

Figure 8-1

Example Service Structure



Service level managers should at least register business services and SLAs in Service Desk. A service level manager may also choose to register other service types and contracts, especially in organizations with relatively complex IT infrastructures where the management of



resources is split into specialist areas of competency (for example, separate departments responsible for network, database, and server management).

SLAs, OLAs, and UCs are all represented by the service level agreement object type in Service Desk. You identify the type of agreement that a particular service level agreement object represents according to the type of service related to it

## Service Providers and Receivers

Registering service providers and receivers correctly ensures that expectations and obligations are properly understood.

Service receivers can be individual persons, organizations, or locations. Only organizations can be registered as service providers.

In complex IT infrastructures that include operations management and underpinning services as well as business services, organizations may be registered as providers of some services and receivers of others. For example:

- The receiver of an operations management service is typically the provider of a business service that depends on the resources covered by the associated OLA.
- The receiver of an underpinning service is typically the provider of the operations management service that depends on the underpinning services covered by the associated UC.

## Multiple Services and Agreements

You can relate multiple services to a particular service level agreement. You can also relate multiple service level agreements to a particular service. Consider the following scenarios.

### Scenario 1: Multiple Services Related to an Agreement

A service level manager wants to set up an SLA for a global business service delivered to multiple sub-division receivers within the same organization. Each receiver wants the same service level, support hours and service hours. Support and service hours need to be applied to the time zone of each receiver.

The service level manager creates one service level agreement and multiple business services, and relates each service to the same service level agreement.

### **Scenario 2: Multiple Agreements Related to a Service**

A service level manager wants to set up an SLA for a global service delivered to multiple sub-division receivers within the same organization. Each receiver has distinct service level requirements.

The service level manager creates multiple service level agreements and one business service, and relates a distinct service level to each service level agreement according to the requirements of the associated receiving organization. The service level manager relates each service level agreement to the same business service.

### **Providers and Receivers in Multiple Agreements and Services**

When working with multiple services and agreements, SLM personnel should ensure that receivers are registered in the services they receive as well as the associated agreements. For example, if a receiver is only registered in a service level agreement and not in a service, SLM personnel cannot schedule regular Service Desk metric collections that are specific to that receiver.

## **Service Catalogues**

If an organization offers a set of standard services, the service level manager should consider having service definitions created to represent them in the OpenView database. This task would typically be performed by a service designer. A service definition specifies the resources that are required to provide the service, the way in which the resources are related, the key performance indicators that should be used to monitor the availability and compliance status of the service, service level objectives that the chosen metrics should achieve, and so on.

The benefit of creating service definitions to represent standard services is that it simplifies the task of agreeing the terms of the associated service level agreement, as well as the task of creating the monitored service.

Service designers can use service categories and CI categories to simplify the task of specifying the configuration items employed in the service definition hierarchy.

Customer relationship managers can use service definition views to display the service catalogue to customers. This can be useful when discussing and agreeing the nature of the service on offer and the available service levels.

## Metrics

Metrics enable SLM personnel to measure the quality of service delivered to service receivers over a period of time. Judgement must be used in choosing suitable metrics according to the nature of the service being delivered. Metrics that SLM personnel can choose from fall into the following general categories:

- Helpdesk metrics

This type of metric measures quality of service and support characteristics such as mean time between failure (MTBF), mean time to repair (MTTR), number of calls over deadline, and so on. All helpdesk metrics are gathered by Service Desk based on service calls and incidents registered against a particular service. Helpdesk metrics can be particularly useful as a basis for measuring service quality characteristics of operations management services and underpinning services.

For a complete list of Service Desk metric definitions, see the Service Desk Online Help.

- Operational metrics

This type of metric measures some aspect of the operational performance of a resource on which a service depends. Metric adapters collect operational metrics from external monitoring software applications. Service Desk provides metric adapters for a range of OpenView products. Between them, they are capable of measuring performance characteristics of clients, systems, networks, and software applications.

- Custom-designed metrics

These metrics are collected by metric adapters developed using the Open Adapter Developer Toolkit. The toolkit enables you to create custom metric adapters capable of collecting metric data values from any monitoring software application your organization uses.

## Service Level Objectives (SLOs)

Assigning metrics to configuration items and services enables metric data values to be collected for monitoring and reporting purposes.

Setting objectives for the assigned configuration item metrics enables IT infrastructure availability to be measured.

Setting objectives for the assigned service metrics provides a means by which Service Desk can calculate the compliance status of services and service level agreements. Objectives offer the following benefits:

- SLM personnel can monitor the availability and compliance status of services and the resources on which the services depend.
- SLM reports present information about the compliance status of services and service level agreements not just for the current evaluation period, but for previous evaluation periods.

Objectives are optional. Service level managers can do any of the following:

- Set no objectives for any of the metrics that have been assigned to a service and its resources
- Set objectives for a subset of the assigned metrics
- Set objectives for all assigned metrics

When creating service definitions, service designers can apply the above flexibility across the range of service levels offered with a service.

Consider a service definition for a web service offered with service levels Gold, Silver, and Bronze. Suppose service designer assigns the following service metrics:

- Mean time between failure (MTBF)
- HTTP response time (to measure the speed at which a specific web page is served up)
- IT infrastructure availability percentage

For service level Gold, the service designer assigns objectives for all three metrics. For service level Silver, the service designer assigns objectives for HTTP response time and IT infrastructure availability, but not for MTBF. For service level Bronze, the service designer only assigns an objective for IT infrastructure availability.

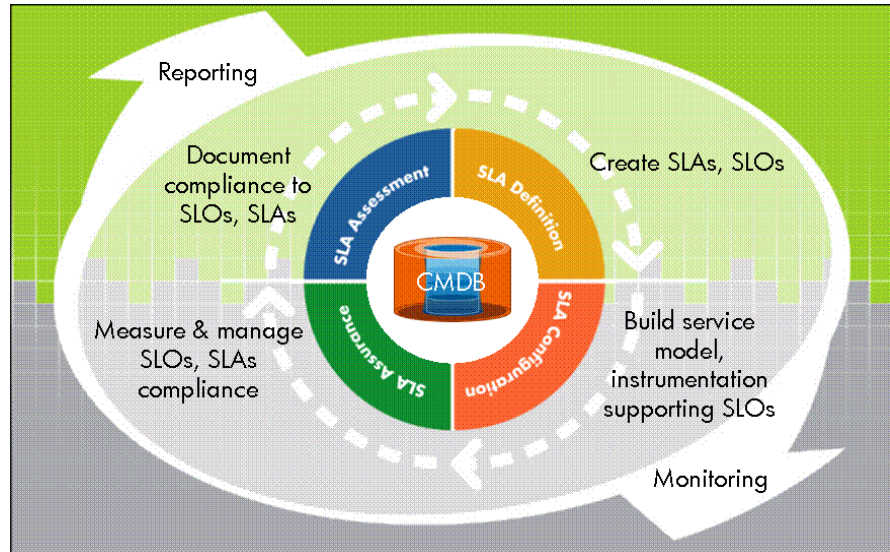
In addition to the above differentiation between the service levels, the service designer can apply more or less demanding objectives according to the service level. In the case of the web service, the service designer assigns an IT infrastructure availability objective of 99.9% for service level Gold, 99.5% for service level Silver, and 99.0% for service level Bronze.

A service level manager should avoid setting objectives until metrics have been collected and analyzed to determine realistic targets.

## The Service Level Agreement Life Cycle

Figure 8-2 illustrates the main phases in the life cycle of a service level agreement. The following sections describe each phase.

**Figure 8-2** The Service Level Agreement Life Cycle



### Service Level Agreement Definition

During the definition phase, SLM personnel (service level manager, service manager, service designer, customer relationship manager, and so on) discuss the service level requirements with the service receiver. This is an information-gathering exercise. The outcome of these discussions should identify any tasks that need to be performed before the configuration phase (see “Service Level Agreement Configuration” on page 130).

SLM personnel should identify factors to be discussed by the parties that sign the contract. For standard business services listed in the service catalogue (see “Service Catalogues” on page 122), SLM-related attributes may be pre-defined in the service definition. The emphasis is likely to be

on agreeing their suitability with the customer. If certain attributes (such as service hours or support hours) are unacceptable to the customer, SLM personnel may consider offering a custom service.

Factors to discuss with the customer may include the following:

Type of contract.

- Service level agreement (SLA) for a business service
- Operational level agreement (OLA) for an operations management service
- Underpinning contract (UC) for an underpinning service

Type of service covered by the agreement.

- Standard business service listed in a service catalogue (see “Service Catalogues” on page 122)

Many service level factors are specified in the service definition.

- New business service to be added to a service catalogue

Arrange to have a new service definition created, or have a hierarchy filter created with the intention of establishing a service definition at a later date when the service proves to be successful.

- Custom one-off business service

Check that the current CMDB includes the resources required by the service. If resources are not present in the CMDB, arrange to have them added.

If the intention is to place the service level agreement under SLM management, a hierarchy filter is required as a basis for the service hierarchy. If a suitable hierarchy filter does not exist, discuss requirements with the service receiver and arrange to create a hierarchy filter that fits the requirements.

If the intention is not to place the service level agreement under SLM management (for example, if the initial intention is only to gather helpdesk metrics measuring quality of service factors such as mean time to repair), a hierarchy filter is not necessary. A hierarchy filter can be created and added later if a decision is made to add objectives and metrics other than helpdesk metrics.

- Operations management or underpinning service

In most circumstances, operations management and underpinning services will not be included in a service catalogue, so it is unlikely that they will be based on a service definition.

- Service level

Discuss event resolution time scales associated with the service levels.

- Service hours

Discuss the hours when the service receiver needs to be able to make use of the service.

- Planned downtime schedules

Identify the least inconvenient times to schedule regular maintenance of the key resources used by the service.

- Support hours

Establish whether the customer requires different support hours depending on the impact of the supported event, or uniform support hours regardless of the impact.

- Service receivers

Discuss whether to register individuals, organizations, or locations as receivers (see “Service Providers and Receivers” on page 121).

- Metrics

Review whether to include helpdesk metrics as key performance indicators. Configure the appropriate metric definitions.

Review what infrastructure and application management tools are available to provide operational metrics. Appropriate key performance indicators depend on the nature of the service being provided, and the performance characteristics of the configuration items on which the service depends. If appropriate, liaise with incident managers to add additional monitoring software tools.

For any new monitoring software tool you arrange to have installed and configured, you need to arrange to have the appropriate metric adaptor installed and configured. The metric adaptor collects metric data values from the monitoring software tool and delivers them to the Service Desk management server.



After arranging for the appropriate monitoring software tools to be available, review the types of measurement these tools are currently configured to make. If necessary, arrange for them to collect additional metrics suitable for measuring the performance characteristics of the service and the resources on which the service depends.

- Service level objectives

Discuss the availability and compliance criteria and associated objectives. For example, availability is expressed as a percentage value. It is worth pointing out the number of hours of unavailability during a monthly evaluation period represented by setting an availability objective of 99.5%.

- Evaluation period

At the start of each evaluation period, compliance and availability calculations discard the successes or failures of the previous evaluation period and start anew. You can specify evaluation periods ranging from weekly to yearly. Service receivers may prefer shorter evaluation periods with more frequent review meetings. Service providers may prefer longer evaluation periods on the grounds that frequent reviews involve more work in preparing reports and attending review meetings.

- Evaluation reports

Decide on which reporting capabilities to use:

- Service Desk metric collections report on helpdesk metrics such as service availability, mean time to repair, and number of outages, based on service calls and incidents registered against the service. They do not compare metrics against objectives. Nevertheless, by choosing to configure Service Desk metric collections, SLM personnel can monitor the information provided throughout an evaluation period by viewing scheduled collection results, or by running an ad-hoc collection at any time.
- The SLM reports available in the SLM Report Pack provide more sophisticated reporting capabilities compared with Service Desk metric collections. To make the most of them, objectives need to be set for the selected key performance indicators.

## **Service Level Agreement Configuration**

During the configuration phase, SLM personnel are involved in activities to ensure that the services and resources associated with the service level agreement can be monitored throughout each evaluation period. Activities include the following:

- Service Hierarchy Configuration
- Metric and Service Level Objective Configuration
- Compliance Violation Alerting Configuration
- SLM Report Configuration

### **Service Hierarchy Configuration**

For standard services available in the service catalogue (see “Service Catalogues” on page 122), the service manager specifies which resources in the CMDB are to be used to deliver the service.

Services based on hierarchy filter are automatically configured according to the configuration items and services that the filter retrieves from the CMDB.

### **Metric and Service Level Objective Configuration**

For a standard service based on a service definition, metrics that are already defined in the definition are automatically inherited by the resources in the service hierarchy. If required, additional metrics can be assigned to a particular service hierarchy.

For a custom service based on a hierarchy filter, metrics need to be configured according to discussions with the customer during the SLA definition phase (see “Service Level Agreement Definition” on page 126).

### **Compliance Violation Alerting Configuration**

The SLM administrator can configure SLM alarms to notify the appropriate personnel whenever an availability or compliance status change occurs. The advantage of doing this is that it doesn't rely on SLM personnel to notice status changes while monitoring availability and compliance status information in the OpenView console.

## SLM Report Configuration

The SLM administrator performs tasks required to ensure that the appropriate SLM personnel have the correct access permissions to view SLM reports. It may be necessary to have new user accounts created for internal SLM personnel and have them assigned to the relevant roles.

## Service Level Agreement Assurance

The assurance phase begins as soon as a service level agreement becomes active. An assurance phase ends at the end of each evaluation period. During the SLA assurance phase, SLM personnel do the following:

- Monitor the availability and compliance status of monitored services related to a managed service level agreement.
- View the latest Service Desk metric collections and check them for negative indications.
- Monitor the progress of efforts to resolve the events causing negative indications in the Service Desk metric collections.
- Respond to alerts that indicate a change in availability or compliance status. This may require following established incident escalation procedures to ensure that the root cause of a deterioration in service quality is correctly identified and rectified.

## Service Level Agreement Assessment

Assessment usually consists of periodic service review meetings. These typically take place shortly after the end of each evaluation period.

The main purpose of review meetings is to assess the measured levels of service quality.

The level of service quality experienced by the customer may not match the reported levels. This may be as a result of insufficient or unsuitably chosen metrics. The assessment phase should identify improvements in the metrics used to measure service quality.

The assessment phase may reveal that assigned service level objectives are unrealistic. If so, SLM personnel should initiate a service improvement program.

## Implementation Tips

The SLM features of Service Desk are designed with flexibility in mind. When planning to implement an SLM process, service level managers can take advantage of this flexibility by adopting a gradual implementation approach. This section suggests different ways of doing this.

### Service Model

In complex IT infrastructures that include operations management and underpinning services as well as business services, it may be beneficial to start by registering only SLAs and business services and not OLAs or UCs and their accompanying operations management and underpinning services. Service hierarchies can be extended to include operations management and underpinning services at a later date.

### Performance Indicators

Service level managers and service designers may be advised to start by configuring monitored services to be measured with a small number of basic performance indicators. Additional metrics can be added if the existing ones prove inadequate.

When first registering operations management and underpinning services, service level managers may be advised to measure their performance using only helpdesk metrics. This approach minimizes the consumption of monitored services in the Services Pack license count.

### Service Level Objectives

Service level managers and service designers may be advised to start by set a small number of compliance objectives, or perhaps no objectives at all.

You do not need to specify an objective for each metric. Collecting metric data values without setting objectives enables SLM personnel to use the collected metrics as a basis for establishing realistic objectives.

An alternative approach might be to set objectives for metrics, but agree with the service receiver to use the first evaluation period as a trial run. During the assessment phase towards the end of the first evaluation period, service providers and receivers should reevaluate the objectives and agree on realistic and acceptable targets.



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