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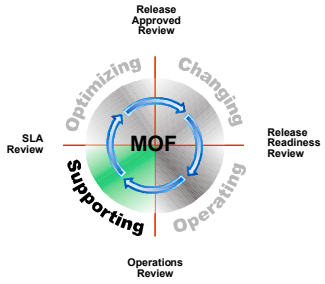
MOF Service Management Function Service Desk

patterns & practices



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Solutions for Management

Contents

Document Purpose

This guide provides detailed information about the service desk service management function (SMF) for organizations that have deployed, or are considering deploying, Microsoft technologies in a data center or other type of enterprise computing environment. This is one of the more than 20 SMFs defined and described in Microsoft® Operations Framework (MOF). The guide assumes that the reader is familiar with the intent, background, and fundamental concepts of MOF as well as the Microsoft technologies discussed.

An overview of MOF and its companion, Microsoft Solutions Framework (MSF), is available in the *Introduction to Service Management Functions* guide. This overview guide also provides abstracts of each of the service management functions defined within MOF. Detailed information about the concepts and principles of each of the frameworks is also available in technical papers available at www.microsoft.com/solutions/msm.

Executive Summary

Providing a high-level of service is expensive and time consuming. While business leaders are looking for economic ways to assist their customers, they are also looking for ways to realize their economic strategies. They want their support responses to be efficient and effective. When a customer has a problem, complaint, or question, the leaders want their customers to receive quick answers, straightforward resolutions, and accurate results.

The service desk is the first point of contact for the company; its efficient and effective response to customers' problems and concerns can do much to enhance the reputation of the company. The service desk also provides an organized and coordinated front line to its technical support staff members who are working independently in various geographical locations.

Processes and Activities

Service Desk Overview

A major advantage of a service desk is the fact that it is a single point of contact for customers and service technicians. It delivers quick and responsive resolutions to busy individuals located all over the world, and that small fact can be the difference between an organization's success and failure.

The service desk provides communication, information, and resolutions to customers who have issues with their IT infrastructure. Some of the company's problems might include:

- No structured customer support mechanism is in place.
- The customer has low confidence in the IT department.
- The organization has outgrown its support system.
- The support resources are under managed.
- The support resources continually spend time resolving mini-crises or solving the same problems.
- The support resources are interrupt-driven.
- There is an over dependency on key staff.
- The IT department lacks focus on the project at hand.
- Uncoordinated and/or unrecorded changes take place.
- The business leaders and/or workers are unable to cope with changes.
- Staff resources and cost requirements are unclear.
- The quality of call response and response times are inconsistent.
- There is a lack of management information on which to base decisions.

Defining support processes (including definition of roles and responsibilities) and adopting a consolidated approach to customer and user support helps overcome and enhance the organization's success ration.

Goals and Objectives

It is extremely important to clearly define and document the purpose and goals of the service desk. Creating a mission statement or a broad definition of the goals that clearly define the organization's approach to providing support is one way to accomplish this purpose.

Defining objectives early in the planning stage of the project enables all team members to be in alignment with what the company hopes to accomplish. Depending on the type of service the company intends to provide through the service desk, these objectives will be based on a number of factors, such as the size of the organization and the defined scope of the service desk function. Sample objectives might include:

- Providing a single and central point of contact between users and the IT department.
- Providing an interface for users to other service management functions, such as change management, problem management, configuration management, release management, and so on.
- Delivering the high-quality support required for achieving business goals.
- Identifying and lowering the total cost of ownership (TCO) of IT services.
- Supporting changes across business, technology, and process boundaries.
- Improving customer satisfaction.
- Retaining all customers.
- Identifying additional business opportunities.

Key Definitions

The following are key terms within the service desk function.

- *Call.* A call is any communication by a customer to the service desk, regardless of the method of communication (telephone, e-mail, voice-mail, and so on).
- *Incident.* An incident is an event, which is not part of the standard operation of a service, and could cause an interruption to or a reduction in the quality of service.
- *Major incident*. A major incident is an incident with a high or potentially high impact and requires a response that is above and beyond that given to normal incidents. Typically, major incidents require cross company coordination, management escalation, the mobilization of additional resources, and increased communications.
- *Service request.* A service request is a request for new or altered service. The types of service requests vary between organizations, but common ones include requests for change (RFCs), requests for information (RFIs), and service extensions.
- *Problem.* A problem is identified as the undiagnosed root cause of one or more incidents.
- *Known error.* A known error is an incident or problem for which the root cause is known and for which a temporary workaround or a permanent alternative has been identified. If a business case exists, an RFC will be raised, but, in any event, it remains a known error unless it is permanently fixed by a change.

- *Workaround.* The workaround is an identified means of resolving a particular incident by allowing normal service to be resumed; however, it does not actually resolve the issue that caused the incident in the first place.
- *Solution/ permanent fix.* A solution/permanent fix is an identified means of resolving an incident or problem that provides a resolution for the underlying cause.
- *Initial support team.* The initial support team is the team providing the very first line of support for processing incidents and service requests. The initial support team is responsible for trying to resolve incidents at first contact, either by identifying known workarounds, using diagnostic scripts, or their own knowledge. In many organizations the service desk acts as the initial support team.
- *Resolution group.* Resolution groups are specialist teams that resolve incidents and service requests that initial support cannot resolve. Support team structures vary between organizations, with some using a tiered structure (second-tier, third-tier), while others use platform- or application-oriented teams (mainframe team, desktop team, network team, database team).

Service Desk Structure

There are a number of different ways to provide service desk facilities within an organization. Deciding which structure to use must be made during the planning phase. (Other documents describe how to structure a service desk; however, a brief explanation is included here as some of the process considerations described later may depend on the selected structure.)

Table 1. Service Desk Structures

Service Desk Type	Requirements	Tools	Advantages
Centralized A centralized service desk supports all users within the organization, regardless of their geographical location.	Clear leadership and a coherent mission. **Note** Even centralized service desks might use resolution groups that may be decentralized and/or based where the users are based.	A telephone system that allows users to call a single number to access the service desk. This tool might include: Interactive Voice Response (IVR), Automatic Call Distribution (ACD), and Computer-Telephony Integration (CTI) to receive incoming calls. An e-mail account used by the service desk receives e-mailed calls from users and sends responses from the service desk. Access to the tools that support the service desk processes—call logging, monitoring, reporting, and so on. This will probably involve network connections to a server running the tools.	Users know where to call for support. Fewer staff may be required, which reduces training, equipment, and facility costs. Consolidated management overview.
Decentralized A decentralized service desk has a number of service desks located at various geographical locations.	When the business needs are common across multiple locations, it is efficient to create one service desk to service the common-need, multiple locations. It is important that clear channels of communication exist among the	It is possible that different tools will be used at different locations; however, it is recommended that the same basic set of tools be used by all distributed service desks in order to facilitate contingency arrangements whereby one	Provide customized support for specific location-based groups or staff. Staff can develop a deeper level of expertise specific to the location. Providing support in multiple languages is easier if the service desk supporting each

Service Desk Type	Requirements	Tools	Advantages
	sites. Localized skills should be known and made available to other service desk sites. This approach makes it easier to cover users based in multiple time zones. The hardware and software should be compatible. Common management reporting metrics should be used. Each service desk must have access to common documentation/ resource library. The ability to pass or escalate requests between service desks should be available. Common processes for logging calls, escalation, reporting, and so on. A common tool for supporting the service desk (or at least a shared database). Common values must be defined for impact, severity, priority, status codes, closure categories, and so on.	location can temporarily take on the work of another location in the event of a disaster.	language group can be staffed from local native speakers of that language. Each service desk provides backup to other service desks in the event that one should become unavailable (disaster, and so on). Distributing the service desks creates a broader labor pool to draw from.
Virtual Service Desk The virtual service desk is based upon	A common call logging and tracking tool must be used, which is accessible	A telephone system is required that allows all users, regardless of	This structure allows a “follow the sun” approach, where 24-hour

Service Desk Type	Requirements	Tools	Advantages
advances in network performance and telecommunications— the physical or geographical location of the service desk is immaterial. A virtual service desk combines elements of both the centralized and decentralized service desks in that users utilize a consistent route to access the service desk, but their call may be routed to any one of a number of locations, depending on a number of factors (time of day, local public holidays, call volumes, and so on).	from all service desks. The same processes and procedures must be used across all service desks to ensure consistency of service. These points are even more important in a virtual service desk environment than they are in a decentralized service desk structure since all service desks support the same user population, and calls are handed from one service desk to another. It is important to ensure that call ownership is maintained to consistent standards across all service desks. If a virtual service desk covers multiple language areas, a common language should be agreed upon for the logging of calls.	location, to access the virtual service desk by using a consistent telephone number. **Note** This does not necessarily mean that the same telephone number should be used from all user locations, since it is beneficial for each user to call a local number. It means that when one service desk takes over from another, users do not have to use a different telephone number to contact the service desk (each user has a single telephone number for the service desk), and they do not need to know the routing of the call. The telephone system must be capable of routing all calls made to all local service desk numbers through to the currently active service desk location. It must be possible to switch the target location either manually or on the basis of such conditions as time of day. If more than one service desk	coverage can be provided, with each service desk working only during the normal workday for its location. As each service desk finishes work for the day, the calls are then routed to another service desk in a different time zone where the staff is just starting their workday.

Service Desk Type	Requirements	Tools	Advantages
		location is active at the same time, the telephone system must be able to route incoming calls to the most appropriate location, based on such factors as origin of call, call queue lengths, and so on. All service desks *must* use the same centralized tools. Calls that are logged by one service desk must be available to all other service desks for reference and for updating. This will probably require each of the service desks to have adequate network connections to a central data center running the tools.	

Service Desks in Smaller Support Units

Smaller organizations may not have a separate service desk; however, the service desk processes would be provided by the staff that provides second line support.

The central point of contact might be a single telephone number within the support unit and/or an e-mail address for e-mailed calls. Responsibility for picking up calls (phone or e-mail) should be allocated to a rotation of support staff. There is a likelihood that a high percentage of calls will be fixed at first contact, since the people taking the calls are usually the support specialists.

Scaling Service Desks to Larger Organizations

Large organizations usually require full-range service desks. Providing service desk support on a large scale presents some unique challenges, as well as some opportunities for efficiencies.

The large-scale service desk has the opportunity and the obligation to make its operations more efficient. The opportunity is there because economies of scale become more significant as the size of the service desk increases, diversifies, and fine-tunes its workload in ways not available to smaller operations. It is also an obligation because inefficiencies develop on a much more significant scale. Inefficiencies that were either unavoidable or insignificant in a small service desk can quickly become costly for the larger service desk.

Optimizing the efficiency of the service desk is discussed later in this document (see Optimize Service Desk).

The Service Desk Within the IT Organization

The service desk provides the focal point for customer access to the IT organization. It acts both as an interface between customers and IT functions and as a filter ensuring that IT staff members can complete their work in a structured way without interruption.

The service desk also provides a front-end focal point for other service management functions and processes.

Figure 1 illustrates how the service desk interacts with other entities.

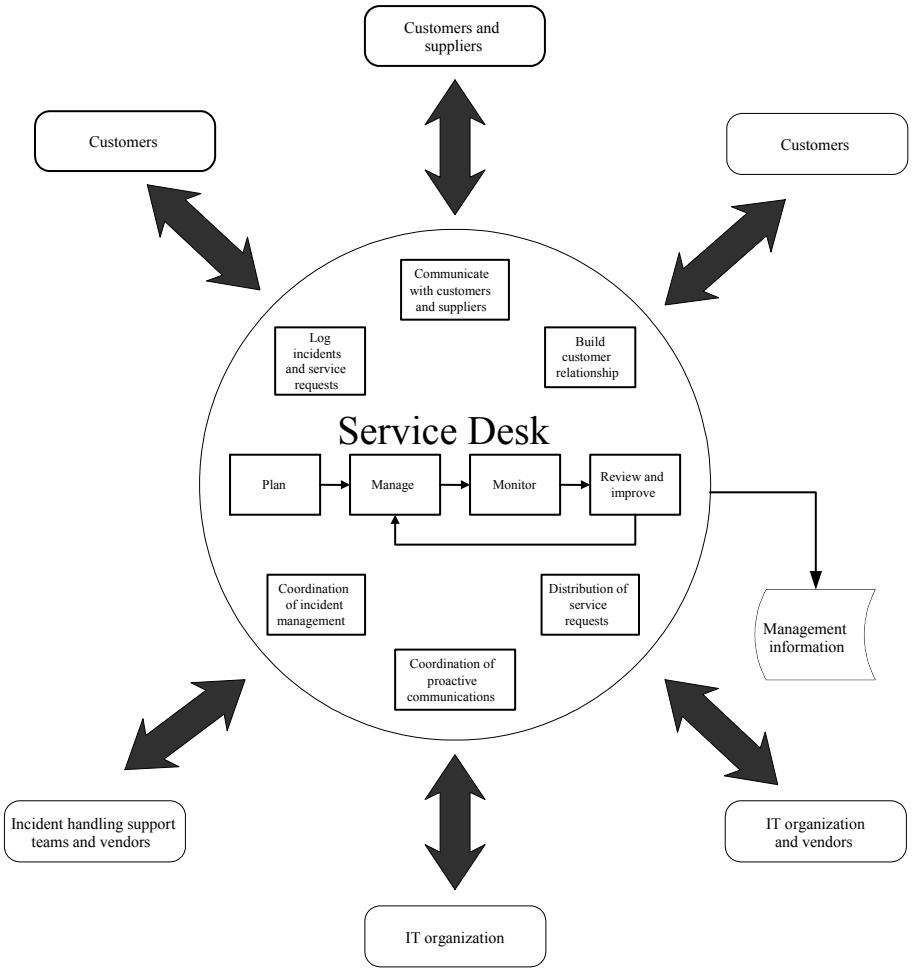

Figure 1
Service desk interactions

Scope

As mentioned, one of the goals of the service desk is to provide a single point of contact for the IT organization. The question of scope addresses who receives access and the types of contacts.

Who Does the Service Desk Support?

Many organizations implement some form of central point of contact for customer or user issues. This function can be known by any of a number of titles, such as a help desk or call center. The following table is a list of the various titles and a description of each:

Table 2. Central Points of Contact

Function	Description
Call Center	A call center is usually the term used for a function that handles a large volume of telephone-based transactions for the external customers of an organization—for example, banks, utility companies, mail order companies. Typically, there are two types of call centers: inbound and outbound. Inbound call centers typically take calls from customers in response to print, radio, or television advertising. Outbound call centers typically contact customers to make sales or telemarketing calls. Some call centers actually combine the two types by having the representatives divide their time between inbound and outbound activities.
Customer Hot Line	A customer hot line normally deals with calls from external customers—possibly complaints, product queries, product orders, help, and advice.
Help Desk	A help desk provides support to users or customers internal to the organization. Personnel from the help desk manage, coordinate, and resolve issues as quickly as possible. They also record all issues.
Service Desk	A service desk is primarily aimed at users of an organization's IT infrastructure; however, it extends the range of services to offer a more business-focused approach. This allows business processes to be integrated into the service management framework. The service desk not only handles incidents, problems, and requests for information, it also provides a route for customers to interact with all IT processes, including change requests, procurement, service level management, job scheduling, and so on. The customers supported by a service desk may be internal users of an organization's IT infrastructure, or they may be external customers who also have cause to access an organization's IT infrastructure.

What Does the Service Desk Do?

As to what types of contact are supported, there are two major categories: incidents and service requests. The following table describes each of these categories:

Table 3. Types of Contact

Category	Description	Function
Incident	An incident is a single occurrence of an event, which is not part of the standard operation of a service. An incident may cause an interruption to the normal operation of a service or a reduction in the quality of that service.	The function of the service desk in this case is to facilitate the restoration of the service to the affected users as quickly as possible.
Service Request	A service request could be any one of the following examples: A request for change. A request for information (that is, a query). An as-needed job request. A procurement request. Any communication between a user and the IT department (for example, a complaint, compliment, comment, or suggestion).	The function of the service desk in the case of a service request is to ensure that the request is dealt with to the satisfaction of the user, either by satisfying the request directly or by allocating the request to an appropriate resolution group.

Benefits of a Service Desk

The service desk provides vital day-to-day contact points between customers, users, IT services, and third-party support organizations. For customers, the service desk is very important, because it is their only exposure to the organization's level of service and professionalism.

A service desk is the bridge between the users and the technical staff supporting the services. Its objectives are to provide the following:

- Infrastructure management to ensure that changes are recorded and support is focused on problem areas.
- Positive experience with and perception of the IT department's capabilities.
- Proactive approach to provided service delivery.
- Fewer interruptions to business functions.
- Improved business productivity.

Implementing a service desk provides the following benefits to an organization:

- Improved customer service that augments the customers' perception of the IT department service delivery capabilities and increases customer satisfaction.
- Increased accessibility to the functions of the IT department through a single point of contact, providing a channel for communication and information.
- Better quality of responses and speedier turnaround of customer requests.
- Improved teamwork and communications both within the IT department and with customers of the IT function.
- Enhanced focus on support requirements.
- A proactive approach to service provisions.
- A better understanding of the business processes supported by IT services, leading to a reduced negative business impact.
- Better-managed IT infrastructure and better control of its development.
- Improved use of support resources and increased productivity of business personnel.
- A basis on which to charge for benefits provided by the support desk.

The service desk can provide meaningful management information to support the business decision-making process. Information that can be provided by the service desk includes:

- Staff resource usage
- Service deficiencies
- Service performance and target achievement
- Customer training needs
- Associated costs

In addition to the tangible benefits listed above, a service desk provides value to an organization in that it:

- Acts as a strategic function to identify and lower the cost of supporting the IT and support infrastructure.
- Supports the integration and management of change across distributed business, technology, and process boundaries.
- Reduces costs by enabling more efficient use of resources and technologies.
- Supports the optimization of investments and management of the business support services.
- Helps to ensure long-term retention and satisfaction of external customers.
- Assists in the identification of business opportunities.

Major Processes

The major processes within the service desk service management function (SMF) are:

- Operate service desk.
- Optimize service desk.

Operate Service Desk

The *operate service desk* process addresses the tasks required to manage day-to-day service desk activities, including:

Table 4. Process Tasks

Task	Description
Managing resources on a day-to-day basis.	Ensure that expected call volumes and profiles are monitored and tracked for numbers and skill levels of staff.
Communicating with customers.	Build customer relationships and is both proactive and reactive.
Performing service desk processes.	Provide the information and control required by other SMFs and manage the interfaces between the service desk and the other SMFs.
Promoting and marketing the service desk.	Encourage using the service desk facilities and advertise its capabilities.
Managing the costs	Record and track costs for having a service desk and recover the costs by charging customers and users.
Monitoring the performance of service desk staff.	Monitor resources, processes, tools, third parties, and customer satisfaction.
Preparing reports.	Prepare all reports required by management.

Figure 2 depicts the tasks that must be performed daily when managing a service desk.

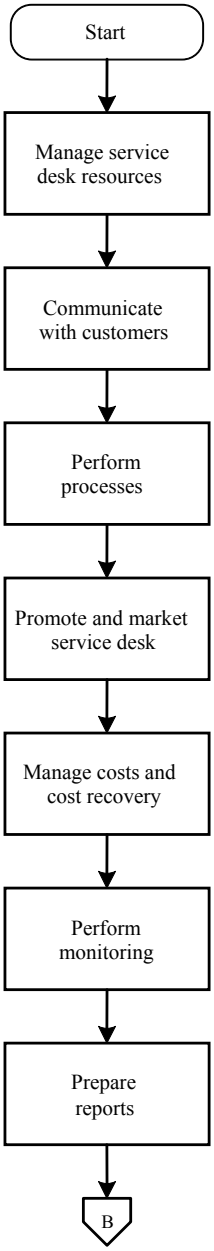

Figure 2
Day-to-day service desk tasks

Managing Staff and Resources

In order to deliver high-quality service through a service desk, it is necessary to provide properly trained staff to process the incoming calls. The service desk staff requires technical, communication, and even language skills, if the service desk provides an international service.

Scheduling Staff

Two of the various ways to schedule staff for the service desk are described in the following table:

Table 5. Scheduling Models

Scheduling Types	Description	Basis of Scheduling
Deadline-driven groups	Used to schedule computer support personnel who focus on software development or hardware maintenance. The group has a set of deliverables or tasks that must be completed by a specific date or time. Project management systems are typically used to schedule these milestones.	Achieving milestones, not performing the work at any specific time or day.
Demand-driven model	Used to schedule service desk resources. Requires accurate prediction of customer needs; this is typically based on historical data and known events/issues, such as new releases, implementing changes, or new business initiatives.	Being available to respond to users when issues occur, which reflect the hours the users are working with their equipment. The hours worked are often determined by the pattern of calls made by users.

While users may tolerate a certain amount of automated, front-end answering systems, it is important for them to be able to connect quickly to a *live voice* that can immediately respond to their problem. This live voice increases confidence in the service desk and usually decreases frustration. Both described methods require a live voice to receive a call. If most of the service desk personnel are away and user requests go unattended for long periods of time, service desk credibility and effectiveness are reduced.

A flexible, efficient, and user-friendly scheduling system is especially important for presenting a seamless infrastructure to customers. Service desks are typically established to reduce overall company costs by:

- Minimizing system downtime.
- Decreasing end-user learning curves.
- Reducing the dependence and cost associated with requiring external support from vendors, such as hardware companies, software companies, and consultants.

Unless efficiency is built in to ensure service desk resources are available at crucial work times, other departments might incur additional costs, which would negate the savings realized by the presence of the service desk.

Creating a Schedule

The number of people required to staff a service desk is usually determined during a planning phase. When assigning personnel to specific work schedules, the two most important considerations are:

- What hours will the service desk be open for business?
- How many individuals must be available to staff the desk for those hours?

Establishing the service desk's open hours is very important. A service desk can be scheduled to span specific times during regular business hours, or the services might be required 24-hours-a-day, 7-days-a-week (often referred to as 24/7). This information should be determined during the planning phases of the service desk project.

Once the hours are established, it is possible to assign individuals to work specific shifts and provide adequate coverage throughout the appropriate time frames.

Another possibility to consider when determining schedules is the personal preferences of staff members. If requirements for the service desk span more than the typical 8 A.M. to 5 P.M. business hours, it might be possible to allow various unorthodox schedules, such as:

- Individuals might work later or earlier shifts.
- Individual might work four 10-hour days as opposed to five 8-hour days.
- Other creative schedules that may benefit the individual and the organization.

Scheduling Models

A variety of theories and methodologies govern scheduling models. The following table describes five different approaches suitable for service desk organizations. There is no one *best-suited* scheduling method that is optimal for all organizations; therefore, an outline of each scheduling model is included in Figure 3. The outline is a guide and point of discussion to help plan the methodology that might be appropriate for an organization's service desk.

Table 6. Scheduling Approaches

Type	Description
Key	Refers to the column headings in the Scheduling Methods outline, where each scheduling method shown in the table row headings is described in detail.
Staff	Split into three categories, according to the number of staff a service desk might require.
Experience	Divided into three categories: new or temporary service desk analysts, regular service desk analysts, and senior, or very experienced, service desk analysts.
Type	Indicates two types of support provided: the first tier provides general assistance and the second tier provides specialized support.
Manager	Shows how much management time a given scheduling method requires. Management time spent on schedule implementation is broken down into time spent at startup (during the initial stages of the change) and time spent after the change becomes standard operating procedure. **Note** This is *not* the time it takes to build the schedule, but is its actual implementation by staff day-by-day.

Scheduling Methods	Staff			Experience			Type		Manager	
	< 30 heads to schedule	30-150 heads to schedule	> 150 heads to schedule	New or temporary	Regular analysts	Senior analysts	1st tier	2nd tier	Manager time during initial months	Manager time once established
Half-hour schedules									high	medium
Self-managed teams									high	low
Triads (or triad-like system)									mediu m	low
Hybrid: some analysts self-managed, others scheduled									high	medium
Hybrid: some hours scheduled, others self-managed or triads									high	medium

Suitability: Good | OK | Poor

Figure 3
Scheduling model outline

The following sections contain broader descriptions for each of the scheduling models:

Half-Hour Schedules

Service desk managers may want to schedule staff members in half-hour increments for their entire phone day. This is possible if one has a known and forecasted phone call arrival rate based on half-hour increments. One can schedule the appropriate number of employees to staff the telephones in half-hour increments, which will meet the demand. The forecasted arrival rate is based on historical patterns and forecasts to determine the staff needed during any given 30-minute interval. In theory, this approach can deliver the correct number of personnel at the right time.

Table 7. Half-Hour Schedules

Advantages	Risks	Dependencies
Staff members know exactly when they are taking calls.	This system is time-intensive to implement.	A responsible person must create advanced schedules for each service desk group.
Managers know exactly who should be on the phones.	It is dependent on 100-percent schedule adherence, or service levels may suffer.	This model only applies to phone-based or immediate support.
A good forecast, coupled with knowledge of daily call patterns, can make the half-hour model extremely efficient for high volume queues.	Changes to the established schedule need to be adjusted with a new schedule or other compensating factor. These changes can significantly add to the effort expended in scheduling.	Where applicable, cross-site communication, cooperation, and policy agreement are needed for smooth execution.
The shorter the scheduling increment, the more effective the service desk is in meeting service level requirements.	This approach does not allow staff to take time off the phone without making additional arrangements. This level of availability can only be maintained if all related policies and procedures support the model.	The schedule must account for required work breaks as dictated by local employment laws.
Recommendations This system is most effective in fluctuating, high-volume, and demand-driven environments, where adherence to service delivery levels is the highest priority. It is labor intensive and rigid, which can be both advantageous and detrimental. It is best in queues where arrival and staffing are relatively predictable and not subject to large shifts in pattern. It is not the best solution for small groups with small service demands, as these are more likely to exhibit the largest demand variances (by percentage)—a phenomenon sometimes referred to as *small queue syndrome*. It is also not recommended for responsive delivery models such as callback or e-mail support.		

Self-Managed Teams (Pods)

While the self-managed team is the most ambitious strategy presented in this guide, it also has the potential for the largest return.

Each team (sometimes referred to as a *pod*) normally undertakes tier 1 calls and tier 2 (and possibly tier 3) support responsibilities, with members of the team moving between the roles as demand dictates.

A self-managed team is either unscheduled—the team has a shift time (for example, 8 A.M. to 5 P.M.) and a scheduled lunch break, but otherwise team members are responsible for taking calls when the calls need taking—or they develop their own schedule as required by the demand model and service levels. Service desk personnel in this model may or may not have specific phone hour goals. This is a departure from most models, and the scope of the philosophical change must not be underestimated. It has been proven to work in some organizations, but it takes a mature group of people to accomplish this successfully.

Table 8. Self-Managed Teams

Advantages	Risks	Dependencies
The effort required to schedule service desk resources may be reduced. With only shift and lunch breaks scheduled (although lunch breaks can be self-managed), service desk management focuses less on scheduling, more on productivity analysis.	Without commitment and occasional monitoring, the system might be subject to abuse.	This system is dependent on having a s*ervice culture* within the staff and people who feel compelled to *do the right thing*. There may be service delivery and other goals, but how these goals are met is up to the team and each individual member. Training employees to think about *what's best for the business* in addition to *what's best for meeting my metric-based goals* requires time and effort and might involve rethinking the company's reward or review system.

Advantages	Risks	Dependencies
Service desk resources would take the same number of calls spread out over a longer period of time (if staffed correctly). The number of staff taking calls can be adjusted so that all calls are answered within the agreed responsiveness targets without having analysts sitting around waiting for calls to arrive. This should be particularly apparent in morning and evening times when all staff members are available but call volume is below daily peak.	Service desks with large queues may find this system more challenging to implement because there is less control if service levels become a problem.	While there may no longer be a schedule, there most definitely needs to be accountability as well as strong guidelines to help people make the right phone decisions. Labor on and off the designated queue can be tracked and can serve as one possible method to ensure accountability. Managers need to coach service desk personnel on handling phone calls and on how to make decisions. Guidelines, such as how staff should manage themselves, what the goals of the group are, and so on, are critical to early success or failure.
Service desk personnel, who have first-hand knowledge of incoming call conditions, make their own decisions regarding other tasks they must do, such as scheduling meetings, callbacks, research, and so on.	Managers overseeing queues with large numbers of temporary, new, or inexperienced staff may find self-management difficult.	Management policies must be consistent, clearly communicated, and supportive at all levels. If management support is not strong and visible, self-management strategies will fail.
Call spikes can be handled much more consistently because all available staff can cover the phones as needed, resulting in higher service levels and less time waiting for calls.		The schedule must account for legal issues pertaining to breaks for temporary personnel.
Recommendations The potential gains for self-managed teams are fewer resources required for scheduling tasks and a more flexible work schedule for the staff, as well as more ownership in the business, while maintaining high levels of customer satisfaction. Self-managed teams are probably best suited to service desks with experienced staff and small queues, or in specialized groups with small teams, whose members are excellent communicators and more experienced.		

Triads (or Triad-like Models)

Triad models are similar to self-managed teams; however, they usually operate on a smaller scale and with increased accountability. Typically, three people, all on the same shift, form a triad that functions with at least two of the three people on the phones at any given time. They rotate throughout the day so that each spends a specific period of time on his or her respective activities (such as six hours on delivery and two hours on non-delivery activities), depending on the goal.

While triad methodology usually requires more staff scheduling than self-managed teams, utilizing triad models at multiple sites in multiple time zones can greatly help meet service demand. Triads give flat per-half-hour delivery and may not meet the service demand without some adjustments. Also, triads require several people to act as *floaters* to fill holes when a triad member is not available.

Table 9. Triads

Advantages	Risks	Dependencies
The service desk manager can significantly reduce the scheduling burden, both in making the actual schedules and in changing them once they are made.	Some scheduling and control are needed to ensure that the arrival pattern, or the rate at which phone calls are coming in, is met with the essentially flat distribution of triads. Maintaining shifts can improve control.	As with all plans, goals and guidelines need to be laid out and supported consistently by all concerned.
Service desk personnel have greater flexibility without necessarily sacrificing service delivery levels, and they can make changes in shift staffing at any time.	Managers need to be aware of anyone in the triad who needs to be monitored. Goals need to be established to ensure that members of a triad, at least over time, are pulling equal weight.	Triad members need to work well together as a team.
	For small queues, triads may not be an effective strategy in response to high service demand.	
Recommendations Triads are appropriate in a medium-sized queue, but a large group with an inexperienced staff may limit a purely self-directed team approach. Triads are effective for demand requirements that are somewhat flat and consistent throughout the day.		

Hybrid Peak-Scheduled/Off-Peak Self-Managed or Triads

Many service desks find a purely self-managed scheduling arrangement unsuitable for all staff or all demand scenarios. An alternative that helps guarantee coverage during critical times is to use formal schedules during peak hours only. For the remainder of the day, service desk managers can use self-managed scheduling or triads. This ensures control during the critical times and may be a good intermediate step toward full self-management.

Table 10. Hybrid-Peak Scheduled/Off-Peak Self-Managed or Triads

Advantages	Risks	Dependencies
Peak hours are covered.	This model still requires some scheduling effort and the scheduling interval is probably smaller than with fully self-managed teams.	The dependencies are the same as for self-managed and triad models.
Some of the advantages of self-managed teams may be realized in this system as well, such as improved call spike handling and reduced scheduling.	The risks are the same as for the self-managed model.	
Recommendations The Hybrid Peak-Scheduled/Off-Peak Self-Managed or Triad model is a good stepping-stone method for groups working towards self-managed models or for managers who are concerned about sufficient coverage during critical periods.		

Hybrid Scheduled/Self-Managed

Another alternative that provides some of the benefits of a self-managed schedule team is to use the half-hour schedule model for some employees, while allowing others to follow a shift-based, self-managed schedule. High volume business that uses only callbacks for second-tier support might find this model useful. However, for real-time second-tier support, managing this model is difficult because the first-tier staff needs a reliable, available second tier.

Table 11. Hybrid Scheduled/Self-Managed

Advantages	Risks	Dependencies
Again, some of the advantages of self-managed teams are present in this model as well.	If part of the organization is self-managed, they must self-schedule to meet the support requirements of the part that is not self-managed. Accountability for meeting service delivery levels must be owned by the team.	Dependencies for this model are the same as for self-managed.
Control and flexibility can be increased or decreased according to the service delivery requirements.	The hybrid scheduled/self-managed model still requires some close attention to scheduling.	
	Managers must remember who is following which type of schedule.	

Recommendations

This model may be effective for larger queues where both control and flexibility are needed to meet the customers' needs. First-tier support may require the half-hour schedule, whereas second-tier support may require more flexibility in enabling second-tier engineers to help with first-tier calls during high volume times, but continue to concentrate on non-delivery, research, or callback issues at other times. In this case, self-managed does not mean unscheduled. The self-managed team must develop a schedule that ensures support is available to the first tier when it is needed for live mentoring or escalation. It may also be effective when applied to a mixed demand model where both immediate and responsive delivery types are required.

The choice of scheduling model depends on many factors, including size of the group, personal and collective preferences, developmental levels of service desk personnel, and so on. There is no *best-fit* model for any group, and some groups need to revisit these decisions frequently in order to maximize their efficiency.

Staff Absence

Scheduling must make allowances for absentee employees (both planned and unplanned). It must also make allowance for unexpected peaks or valleys in service desk activities. Unexpected periods of low activity will result in temporary over-staffing, so arrangements should be considered for surplus staff to perform other duties.

Technology note:
The scheduling of the service desk staff activities may be done manually if the service desk is relatively small. For larger service desks, it is appropriate to use a tool for scheduling. Resource-scheduling tools for the service desk range from Microsoft Excel spreadsheets through planning tools such as Microsoft Project to applications designed specifically for resource scheduling and allocation. A good call logging-and-tracking system may also include a resource-scheduling system as part of the resolution management portion of the application.

Staff Satisfaction and Retention

It is important for organizations to maintain staff satisfaction as well as customer satisfaction. Answering customer calls for long periods of time can be tedious and psychologically draining, as most people call the service desk to register a problem or complaint. Rotating the staff so they perform other duties as well as answering calls is one way to avoid staff frustration.

It is beneficial to retain employees who are technically adept and have the required amount of skill, training, and experience to work the service desk. This benefits the organization, the service desk manager, and the customers.

Note Committed and motivated employees are less likely to pursue opportunities elsewhere; this retains experience and expertise for the service desk, reduces training costs, and provides solid continuity for the customers.

Individuals thrive in an environment that provides challenge, promotes open communication and teamwork, and facilitates success. Employee satisfaction influences customer satisfaction. Encourage employees to excel and provide the best possible product. It is important to monitor employee satisfaction regularly and address dissatisfaction issues as quickly as possible.

It is suggested that an organization focuses on three components that delineate the employee's relationship with the organization:

- **Employee-to-job.** Employee satisfaction with his or her job, environment, and processes is measured by getting answers to such questions as:
  - Do you feel challenged by this job?
  - Do you know the mission of your group?
  - Do you like what you are doing?

  Focus on determining how well the job matches the employee's needs. It is as important to identify what aspects of the job are rewarding as it is to identify the problem areas. Determine whether the job is meeting the employee's current expectations and how it fits into the employee's goals, which may include growing in the current position or moving up to the next level or on to new challenges.

- **Employee-to-manager.** These questions relate to the supervisor's or manager's leadership style. They include such questions such as:
  - Have you and your manager established goals for your performance?
  - Do you feel comfortable talking with your manager about problems you are having?
  - When your manager gives you an assignment, is it clear?

  This is also a good place to gather feedback on how the manager empowers the employee and how well the manager gives feedback, carries out daily tasks, and performs under deadlines.

- **Employee-to-coworker.** Employee satisfaction levels with other members of the team are measured by getting answers to questions, such as:
  - How is the communication within the team?
  - Do things get done faster and better when addressed by the team?
  - Are there things that can and should be improved?
  - Is it easy for team members to do their jobs?
  - Do other members of the team help you succeed in your current position?

  Organizations that effectively evaluate employee satisfaction are in a much better position to make improvements. The type of improvements necessary may vary; however, collecting information is a good place to start. Once the problem relationships are identified, it is easier to resolve the issue.

Involving Second-Line Support

In many organizations, there are dedicated staff who perform the service desk activities all of the time. In smaller organizations, it is possible that some functions might be completed by the same staff members who provide second-line support. Even in organizations where this is not the case, it is beneficial for second-line support staff to spend time on the service desk—this can have a number of benefits, such as:

- The support staff gains the experience of customer contact, allowing them to appreciate the customers' business needs and demands.
- The support staff sees what processes are followed in receiving and logging incidents that are subsequently passed to resolution groups, thereby encouraging empathy between initial support and second-line staff.
- The technical knowledge required to resolve incidents can be spread around the service desk staff, enabling a higher rate of incidents to be fixed by first-line support.
- Support staff can identify technical or procedural issues related to their specialty that might affect the efficiency or effectiveness of contact and communication between the service desk and the resolution groups.

Communicating with Customers

The service desk provides a channel of communications wherein users and the IT department can interact. Remember that it is a two-way channel, which provides a mechanism for the IT department to supply information to its customers as well as obtaining information from them.

Single Point of Contact

One of the main advantages of a service desk is that it provides a single point of contact to the customer for all interactions they have with the support unit and the entire IT department. The single point of contact gives the customer a sense of assurance that their problem is being handled. It also enables the service desk to build a relationship with the customer that would not be possible if the customer had to deal with a variety of departments. The single point of contact is also significant in outward communication between the IT department and users.

Communication Methods

A service desk provides a number of ways to communicate. Traditionally, contact is through the telephone, with a direct link to a support technician. However, alternatives include the facsimile machine (fax) and e-mail. These three ways to communicate allow a customer to register a call without direct contact with a technician. The use of Automatic Call Distribution (ACD) systems directing a customer to the most appropriate service desk is cost-efficient and saves time.

Depending on the physical location of the service desk, it is possible for users to visit the service desk in person. This is sometimes called a *walk-up contact.* However, it is possible that this type of distraction will prevent the service desk staff from providing services to others. It should be clarified that the walk-up contacts are not to receive preferential treatment just because they are physically there.

It is also important to consider providing services for the hearing impaired, visually impaired, or individuals with other types of physical disabilities. Many users with disabilities use specialized software and hardware. Service desk staff must be aware of these components and be trained in their use.

Communications Tools and Technologies

There are a number of tools and technologies available to enhance communication between the user and the service desk, including the following:

Table 12. Tools

Tools	Description	Examples
Telephone	The most common, and often the easiest and most familiar, method of communicating with the service desk remains the telephone. Opportunities for clearer definition and explanation of an issue exist when the customer reporting the issue is interacting directly with the service desk analyst.	Tools available for use with telephone systems include: **Automatic call answering**. The customer's call is answered and a pre-recorded message and/or music play while the call is placed in a queue waiting for an available service desk staff member. An advantage is that the user is not left with a ringing tone, which should reduce the number of abandoned calls. Disadvantages include: A prerecorded message might sound insincere, especially if the user has to hold the line for a long time and hears the message several times. If the user is not calling internally or by a toll-free number, the user will be charged for the call from when it is answered. **Interactive Voice Response (IVR**) is an extension of the concept of automatic call answering. It enables pre-recorded menus of options to be read to the caller and allows the caller to select options from the menu by using the telephone keypad or, in some systems, by speaking when the required menu option is spoken by the system. By following the menu options, the caller can be directed to an appropriate pre-recorded message, can be invited to leave a message, or can be directed to the most appropriate group of service desk analysts. **Automated Call Distribution (ACD).** When a call is received or when a call has been routed by an IVR system, ACD can be used to put the call through to the most appropriate service desk staff member. The choice could be based on a number of factors—appropriate skills, language, comparing the times since each analyst took a call, analysts dedicated to a particular customer or group of customers, and so on. **Caller Line Identification (CLI).** This is a facility provided by telephone companies (or by private exchanges for internal calls) that informs the recipient of a call of the telephone number of the caller. Usually the telephone number of the caller is displayed on the telephone receiving

Tools	Description	Examples
		the call. Internal telephone systems may also display the name of the person calling (assuming the caller is calling from his or her own desk). This facility enables a service desk staff member to know who is calling. **Computer-Telephony Integration (CTI).** This allows the telephone system to be used as an interface into computer systems. This could be used to integrate the CLI facility with a service desk tool so that when a user's call is answered, the user can be identified from the telephone he or she is calling from and information associated with that user, which is held on the tool, can be presented to the service desk staff member who handles the call. This mechanism is only useful for users who are based in a fixed location and does not work effectively for users who may call from a number of different locations. A more advanced use of CTI is to provide automated transactions so that a customer's call can be handled without reference to a service desk analyst, or it may be used to capture information from the customer prior to the call being passed to a service desk analyst. An example of an automatic transaction might be obtaining an account balance from a bank. The customer selects the required transaction from a menu by using the telephone keypad and then is prompted to enter authentication details such as an account number and a personal identification number (PIN). The account balance is then "read" to the customer. An example of capturing data prior to the call being passed to a service desk analyst might be to ask the customer to enter his or her identification or payroll number or the asset code of a faulty component. **Voice mail** can be used as an alternative to queuing users if there are no available service desk staff members to take the call. If voice mail is used, someone on the service desk must be made responsible for picking up the voice mails and responding to them within a reasonable time. The danger is that if the service desk is constantly busy with incoming calls, these will take priority over voice mail messages.

Tools	Description	Examples
Online submittal mechanisms	There are a number of alternate ways to submit requests to the service desk, such as: e-mail, electronic forms, Web-based HTML forms, and newsgroups.	**E-mail** is an increasingly common method of communicating with a service desk. The ubiquity of e-mail makes it easy for customers to submit calls to the service desk. This method can probably be used instead of the telephone for less urgent calls. The biggest drawback to e-mail is that it is essentially free-format; therefore, an e-mailed call may not provide a structured report of all the symptoms of an issue or the details of a request. However, e-mail forms can be developed for users to use to document all the relevant information. E-mail systems can be configured to automatically respond to incoming e-mails so that a user can be informed that his or her e-mail has at least been successfully received. **Web-based HTML** and electronic forms (e-forms) encourage customers to record the symptoms of problems and details of service requests in a detailed, structured way by providing a template that the customer can complete when submitting a call. Structured forms require the customer to provide the kind of information that would be requested in a typical telephone conversation. Using structured forms also eliminates much of the need for repeated requests for more information from the customer, thereby reducing the overall time required to resolve the incident or fulfill the request. A structured form also makes it easier for the service desk to analyze calls for support trends. Ideally, an organization has an online submittal system integrated with its call-tracking software. Such systems tie directly into the incident-tracking system, automatically creating a formal record of the transaction. Submitting an incident on an electronic form generates an incident report within the tracking system. Information taken from the electronic submittal form can be used to automatically assign and route the incident to the appropriate support group. However, as with voice mail, someone on the service desk must be given responsibility for monitoring incoming e-mails or forms input and responding to them.

Tools	Description	Examples
		Newsgroups, bulletin board system (BBS) forums, and public e-mail folders provide a way for customers to resolve queries without calling the service desk and opening a service call. Like the HTML and electronic forms, submittal by news forums and public folders creates an immediate electronic record of the transaction. When an article is posted to the forum, other users with the same query can read it and see for themselves how to resolve it. **Web-based HTML** submittal is easily linked to online self-help resources, alerts about system status, and notifications to apply patches or upgrades. Such resources help the user answer queries without the assistance of the service desk.
Facsimile (FAX)	The use of fax to communicate with a service desk is less prevalent since the increase in the use of e-mail, but it is still a mechanism that should be considered. Its one advantage is an extremely rapid transfer of documents and written communication from any point on the globe to another.	As with e-mails, the service desk can define standard forms to be used when raising a call by fax. If a standard form is provided in advance and submitted with appropriate information, faxes can be an acceptable choice for reporting issues or submitting requests. However, faxes have limited value because they usually require manual copying of the information into the call-logging system. Faxes are useful for acquiring written approval for certain diagnostic processes. Unfortunately, the quality of transmission often makes the content difficult to read and possibly less accurate than other online submittal mechanisms. Document scanning and imaging systems may also be used for submitting incidents. As with voice mail and e-mail, someone on the service desk should be made responsible for monitoring incoming faxes and responding to them.

Warning

The use of intelligent telephone systems, voice mail, e-mail, forms, and so on greatly benefit the service desk. They should not, however, be used as an electronic barrier. The careful set-up of automatic interactive systems is required to prevent the customer being passed around. If voice mail and e-mail are used, it is imperative that they be monitored regularly and responses sent promptly to the customer. Put service level agreements in place to maximize these technologies and ensure a consistent and high-quality service is maintained.

The acceptability of the use of such telephone system functions as automatic call answering, interactive voice response, and automatic call distribution can also be influenced by cultural considerations of the particular region or country.

Technology note:

Many system management tools provide the ability to detect problems or potential problems with the systems they monitor. They also enable the notification of these events to event management systems by Simple Network Management Protocol (SNMP) or other protocols.

These event management systems can be monitored by service desk staff who can resolve any relevant issues; however, in many cases service desk products have interfaces that allow other systems, such as event management systems, to automatically create (and in some cases to update) incidents. This allows for automatically detected issues to be raised as incidents, although it may still be necessary for the service desk to allocate them to the relevant support group. It is still the responsibility of the service desk to monitor and track these incidents.

Proactive Communications

The service desk should provide a channel for proactively providing information to customers. This information might include known issues that are likely to cause future problems or service interruptions, forthcoming changes (by means of the Forward Schedule of Changes), forthcoming releases of software (by means of the Release Schedule), maintenance activities, and so on.

If suitable tools are used to support the service desk function, the customers affected by specific infrastructure issues can be identified and advised of the situation. Advance warning of any potential problems minimizes the business impact of these issues and enhances the relationship between customers and the IT department.

Self-Tracking

Self-tracking is a mechanism that allows users to see the status of calls they have registered with the service desk. Users may want to see what progress has been made in resolving an incident or the progress of a change request through the change management process.

In some circumstances, it might be appropriate to allow users to record new incidents or service requests on the service desk system.

Many service desk tools have the ability to be accessed by means of a Web interface, allowing customers to view details held on the system without having to have proprietary client software installed on their computer. These tools may require users to log on, so that only those records associated with the specific user are displayed.

Role of the Service Desk in Major Incidents

In the event of a *major incident* occurring (a major incident is an incident that creates a major impact because it affects critical services and/or affects a large number of users), the role of the service desk as a channel of communications is extremely important.

The service desk staff is responsible for the following tasks:

- Defining the impact of the incident.
- Defining the effects of the incident.
- Describing what users are affected.
- Tracking all progress towards incident resolution.
- Providing estimated timescales for final resolution.
- Describing recovery actions that will be necessary after the incident is resolved.

This information should be provided to users as efficiently and effectively as possible. It should be supplied when users call the service desk and also provided through the proactive mechanisms described above.

When a major incident occurs, managers and technical staff must focus on incident resolution. This means that resources may not be available to conduct other issues that might occur, which in turn could result in service level agreements being breached. The service desk must take these issues into account when dealing with users of other services.

Performing Processes

The primary objective of the service desk is to act as a consistent interface between the users and the IT department. This section describes ways in which the service desk should interact and communicate with the IT functions of an organization.

Many of the functions performed by the service desk are performed on behalf of other service management functions (SMFs), most notably incident management and change management. However, several other SMFs are also affected. See Relationship to Other Processes for additional information.

Technology note:

The interfaces between service management functions (SMFs) can be made more efficient and effective if the tools used to support these functions can be integrated.

Tools are available that can support a number of service management functions, including the service desk. In this case, where the same tool is used, integration of the service management functions is straightforward.

Where different tools are used, some effort may be required to achieve the desired level of integration. Most tools have some sort of external interface—often in the form of an Application Programming Interface (API) or support for industry-standard interfacing mechanisms, such as XML.

Receiving and Recording Calls

The service desk receives calls from users, gathers the relevant information, and then logs the calls. This correlates to the detection and recording elements of the detection, self service, and recording processes within the incident management SMF.

There are a number of things to consider when completing this function:

- *Telephone protocol.* Service desk personnel should be given guidance on how to deal with customers when using a telephone. Standard greetings may be defined, such as "Good morning, IT service desk. Brian speaking. How may I help you?"

  When a service desk receives calls for a number of different clients, the greeting may vary depending on which client's customer is calling.

  It is important to note that telephone manners are very important. Service desk personnel must always be polite to callers, even when the caller is angry, upset, or abusive. Personnel should be trained to handle all types of caller—including extreme cases, such as excessively abusive callers—wherein the staff member must calmly terminate the call and report the issue to the service desk manager.

  Standard scripts may be defined for personnel to follow. This ensures that relevant information is obtained from the caller and reduces the chance that the subsequent investigation and diagnosis will require the service desk to contact the customer a second time.

- *Managing call queues.* Modern intelligent telephone systems allow calls to be directed to the appropriate individual who is available. These systems also enable personnel to indicate their availability for taking calls throughout the day. The staff member logs on to the telephone system at the start of his or her working day and logs off at the end of the day. However, during the day, the staff member can indicate when he or she is away from the telephone—for example, going to lunch, on a break, or performing an administrative function, such as completing the documentation from a previous call. This means that at any given time, several individuals who are nominally available to take calls have indicated that they are not available. This could lead to a situation where the number of incoming calls is greater than the number of personnel available to take the calls and the customer is queued to wait for the next free support representative. When this happens, immediately alert the supervisor of the situation, as the queued customer may decide to abandon the call, which could lead to an unsatisfied customer.

- *Maintaining accurate customer information.* When a customer calls, confirm that the customer's information is up-to-date and correct.
- *Data protection.* Understand that some information provided by a customer may be either personal or confidential information. There are legal requirements regarding personal information that varies from one country to another. Be cautious and seek legal advice on the information that is retained, the length of time it is retained, and the purposes for which the information is being used.
- *Call monitoring.* Many organizations record some or all of the calls they take. These are sometimes used for training purposes so that new staff can hear the types of calls that are received, the types of users making the calls, and how each type of call is handled by an experienced technician. Sometimes calls are recorded for the purposes of protecting the service desk from possible claims by customers concerning the information they were given or the way the calls were handled. Again, the legal requirements regarding the recording of calls vary from one country to another. Seek legal advice when planning this process.
- *Supervisory monitoring.* There are telephone systems that allow a supervisor or the service desk manager to listen in on calls being handled by a service desk staff member. This can be used as part of the monitoring or appraisal of the technician's performance.
- *Recording information.* The information recorded in the call logging system should be appropriate and sufficient to process the call. This can be accomplished by following pre-defined scripts or by using an expert system that leads the staff member through a structured set of questions.

The service desk should acknowledge receipt of each call by giving the user a unique reference that can be used to identify the call if the user calls to check progress or if a support engineer needs to contact the user for further information. For calls received by telephone, the call reference should be given to the user during the telephone conversation. For calls received by other methods, the call reference should be transmitted to the user by the most appropriate method—for example, for calls that originate by means of e-mail or a Web page, the call reference can be transmitted to the user by e-mail.

When a call is received at the service desk, the staff member must determine the type of call:

- Incident
- Service request

If it is a service request, the staff member must determine the type of request.

Incidents

An incident is any event that is not part of the standard operation of a service and might cause an interruption to that service or a reduction in the quality of the service.

If a call is determined to be an incident, the service desk personnel must secure and record information that is used within the incident management processes.

The incident *category* identifies the type of issue the user is experiencing; samples of incident categories might be:

- Application problems, such as:
  - The service is not available.
  - There is a flaw with the application that prevents the use of a transaction type.
  - The database is full.
- Hardware problems, such as:
  - The user is unable to connect to network.
  - The printer is not printing.
  - The file server is inaccessible.

For additional information on incident categories, see the incident management SMF guide.

Categories are used in:

- The generation of reports.
- When highlighting areas of the IT infrastructure that are causing incidents.

Deciding which categories to use depends on the requirements of the organization.

At this stage in the processing of an incident, the service desk should determine:

- What services and users are affected?
- What SLAs are or could be breached?
- What initial *priority* should be assigned to the incident?

  The priority is calculated from:

  - The impact of the incident on the business.
  - The urgency that a resolution or workaround is required.

Note The definitions of priority levels are usually linked to target resolution times recorded in the service level agreements (SLAs).

Initial Support

This section of the incident management process describes how to check for known fixes or workarounds already created for the reported incident.

Each incident should be checked against all known errors. If the service desk tool is integrated with the problem management tool, this can be done automatically. If a match is found, the resolution can be implemented.

Service desk personnel might use the following suggestions when implementing a resolution:

- Give the resolution details to the user to implement.
- Schedule a meeting between the user and an engineer.
- Apply a fix to the user's desktop. Service desk personnel can do this by using remote support tools, if they are in place.
- Initiate a change request if other resolution personnel need to be involved—for example, if a server needs to be rebooted.

Note Pass the incident to the relevant resolution group as soon as possible, since the activity may need to be carefully planned prior to initiating the change request.

- Confirm with the user who made the call that the resolution was successful. If it was, close the incident; however, if it was not resolved, restart the process.
- Link new incidents that match known errors to the known error record.

Note Incidents that do not match known errors should be checked against existing problems currently being processed by problem management.

A problem is a condition that creates a significant impact; however, the cause is not known. A problem may be created as a result of a single significant incident or a number of separate incidents that exhibit common symptoms. If an incident is found to match a current problem, that incident should be linked to the problem record. This indicates the severity of the problem and enables all related incidents to be addressed when a solution or workaround is found.

If an incident does not match a known error or a current problem, service desk personnel should review former incidents to see if the issue occurred previously. If a match is found, and the previous incident was resolved, use the same resolution. If the previous incident is unresolved, link the incidents and inform problem management.

If no matches are found, service desk personnel should attempt to resolve the issue. If the service desk staff have an appropriate level of technical expertise, it may be possible to identify the cause of the incident and resolve the issue. If a resolution is not readily available, but there are available remote support tools, it may be possible to diagnose the cause of the incident and recreate it in order to obtain additional information.

If the service desk personnel are not able to offer a resolution to the user, the incident should be escalated to the appropriate resolution group. That group will further investigate the incident and diagnose a resolution.

Service Requests

If a call received by the service desk is not an incident, it is treated as a service request. There are several types of service requests; some of the common types are:

- Request for change
- Request for information
- Request for an as-needed job to be run
- Complaint/compliment/suggestion

The types of service requests handled by a particular service desk depend on the type and size of the organization and the service desk's defined scope.

In some cases, the service desk may be able to fulfill the service request. If this is not possible, service desk personnel should secure as much relevant information as possible and then initiate the appropriate interface for the service request type. It is recommended that scripts or templates be provided for personnel to follow for each type of service request.

See the incident management SMF guide for additional information on handling service requests.

Ownership, Monitoring, and Tracking

The service desk retains ownership of all received calls from inception to closure, regardless of whether they are closed at the first call or are passed to another resolution group.

The service desk must ensure that the record of each call is updated appropriately at each stage of its progress, indicating to whom the call has been passed and when, any contacts with the originating user, diagnostic exercises, actions taken by the resolution groups, and any proposed resolution.

It is the service desk's responsibility to ensure that incidents and service requests are dealt with in a timely manner by each resolution group, especially if a service level agreement might be breached. The service desk should track and monitor the status of all open calls. Furthermore, the service desk should keep users informed of progress with their calls.

Delegation Procedures

It is important to define procedures on how calls will be delegated from the service desk to other resolution teams. Ideally, it should be possible to electronically transfer the information from the calls, and the other team should be able to acknowledge receipt of the transfer. The resolution team should also indicate that it will accept responsibility for the call. If a call is incorrectly assigned, the receiving team may reject the call and pass it back to the service desk for further research on who might resolve the issue.

Note If there is a dispute over the call's assignment, a senior service desk staff member with the appropriate authority and responsibility should resolve the dispute. Typically, this role can be assigned to the incident manager.

When an incident is transferred to a resolution group, depending on the priority of the incident, it may be acceptable for the group to receive the incident when monitoring its incident queues. However, depending on the priority of the incident, it may be appropriate to telephone them and inform them of the incident, its priority, and the fact that it has been sent to them.

Interface to Service Level Management

Service desk personnel should refer to the service level agreements if the incident requires information from the agreement. If the service level agreement is being affected in any way by an unresolved incident, inform the appropriate service desk manager. Service desk personnel and their manager should continue to track and monitor the incident until it is resolved.

Closing Incidents

Service calls or incidents should always be closed by the service desk, even if other groups resolved the issue. The service desk closes the issue as part of its tasks in the incident management process. In many cases, the service desk is responsible for communicating the resolution details to the user who initiated the call.

It is important for the service desk to confirm that the resolution was satisfactory by checking with the initiating user. The incident should be closed only after the user has accepted the resolution.

Promoting and Marketing the Service Desk

Improving the overall reputation of the service desk is critical to the success of the IT support organization. Develop a strategy for promoting and marketing the service desk and include the following elements:

- Determine the target audiences.
- Identify their key requirements.
- Position services and set appropriate expectations—for example, what requirements will the service desk fulfill, and which requirements will not be offered?
- Communicate with customers and their management to identify what they consider to be value from the service desk.

Defining the Customers

It is important to clearly identify and understand customers' requirements. Depending on the size and nature of the customer base, several customers may share the same common needs; however, it is important to understand each customer's unique business requirements. This enables the staff to send individualized messages regarding service desk offerings, resulting in a better experience and increased customer satisfaction. The target market may be divided into the following groups:

- Expertise level (novice, average user, expert)
- Responsiveness requirements
- Hardware, software, or networking systems service needs
- Departmental function
- Geographic area
- Applications used (office productivity, vertical applications, development tools, and server systems)

Identifying the reason for segmenting the customer base, particularly for a high-priority department, is crucial. For example, order entry, which typically requires a 24/7, on-site response, differs from a less time-critical department such as human resources, which may require only 8 A.M. to 5 P.M. telephone-only support.

Understanding Customer Needs

Prior to building the service desk, it is important to understand what the customer might require. This is usually accomplished through research.

There are several approaches to determining this type of information. One approach is to conduct a needs assessment survey with representatives of the target market to learn their immediate, day-to-day concerns. A survey distributed to all potential service desk users can provide a sampling of basic concerns. The survey should ask open-ended questions about the customer's greatest day-to-day support challenges. At that time, the service desk planners can outline what the service desk plans to provide and give customer respondents an opportunity to provide their expectations of the service desk.

Another research approach is to interview key users and department heads to identify company trends in support requirements and how these needs may change in the future.

These strategies help build a solid customer-needs information base for use in developing target messages and communication plans. In addition, the strategies provide the basis for setting expectations and managing user perceptions and demands on an ongoing basis. These analyses should be a continual activity in order to maintain up-to-the-minute services for customers.

Positioning the Services

When positioning the service desk, the primary task is to clearly delineate the functions provided by the service desk and match them to customer requirements. Setting appropriate expectations provides knowledge to the users that eventually saves them time.

It might be useful to create a feature/function/benefit worksheet that maps service desk functions to customer requirements. Consider preparing a quick information sheet that describes what services are offered by the service desk, including how to request services, procedures, and forms. It might also be useful to include a section entitled "What the Service Desk Does Not Provide" that prevents customers from wasting their time and effort by directing them to the appropriate department. If possible, include lists of other resources for services not covered by the service desk.

Transmitting information to the Customers

Once the service desk audience has been defined and the service desk responsibilities described, the next step is to determine how to convey the information to customers.

What is the best method for transferring information to customers? There is a variety of ways, depending on who the customers are and their location. The following table has a few suggestions on how to transfer information:

Table 13. Transferring Information

Recipient	Description
Internal personnel	Intranet communiqués
	E-mail or fax messages
	Presentations at staff meetings
	Brown bag luncheons
	Individual or group orientations for new personnel
External personnel	Electronic mail (e-mail or fax)
	Fliers or brochures in heavy traffic areas
	Service desk literature for new employee packages
	Presentations at high-level meetings

What Information Should Be Transferred

As described in the positioning section, it is important to tell customers just what the service desk can do for them. The following is a list of possible subjects to share with the customer:

- The range of products the service desk supports.
- The type of assistance provided (phone-only, phone and on-site, e-mail, and so on).
- Response time commitments.
- How to initiate service requests.
- Where to first look for answers before calling.
- The telephone number to call and identify what information is required for the call.
- Escalation procedures (how to escalate issues that aren't resolved).
- Hours of operation (what to do for off-hours emergencies).
- Where to go for up-to-the-minute information on:
    - Systems status.
    - Service desk status information.
    - Changes or new additions to service desk offerings (for example, new products, new on-site services, and so on).

In order to publicize the benefits of the service desk, publish information about the successes of the service desk—show employees of the business what the service desk is doing to improve their work life. Demonstrate how the service desk has aided cost savings through reduced support and maintenance costs, improved purchase decisions, better relationships with external suppliers, improved customer satisfaction, and so on.

Describe the areas that require improvements, what has been done, and what future plans are in place.

When to Communicate

It is important to remember that users tend to take service desk services for granted. They do so despite the critical role the service desk plays. Continuing to promote the service desk by educating users about its successes and the services it offers ultimately results in increased user satisfaction.

First of all, whenever a new service desk is started or any services are changed, it is important to immediately advise the users.

Continual communication with users is important, especially in the following two areas:

- Regular feedback on a weekly or monthly basis on the profile of incidents is important. This information lets customers know that the service desk is committed to them and helps them be proactive by avoiding known issues, rather than reactive in resolving such issues as training or system redesign.
- Telling customers how well the service desk meets its goals (hold-times, customer satisfaction, responsiveness) also helps customers see it as their partner, committed to their success.

The final product need not be an expensive, full-color brochure. A simple desktop publishing program can create a low-cost, eye-catching brochure or flyer to publicize the services and educate the customer base.

Where to Communicate

There are various ways to get information to the customer. Organizations use road shows, printed materials, e-mail, the corporate intranet, company newsletters, and presentations (from formal seminars and workshops down to brown bag luncheons). Publicity material can be provided through posters, mouse mats, screensavers, pens—any type of promotional materials. The most important thing is to make sure it is available to the customer.

Training seminars and classes provide an excellent forum for talking about the service desk and how to most effectively use its resources. The efforts spent educating users contributes to improving their self-sufficiency.

Managing Costs and Cost Recovery

When planning and developing a service desk, it is essential to consider the costs involved and how to charge the costs back to the customer. This section briefly describes high-level recommendations regarding service desks costs. However, additional information on charging for IT services (including the service desk) is described in the financial management SMF guide.

Generally, support organizations such as service desks must quantify and control costs and demonstrate a reasonable return on investment (ROI). Ultimately, the questions to answer are:

- Is the service desk saving or generating more money for the company than it costs?
- Does the service desk provide the needed level of support for the least amount of investment?
- Can some other organization (like an outsourcer) provide some or all of the support as effectively but with lower costs?

In many cases, service desks are in the challenging position of being a cost center. They cost their companies money to operate; however, they are not generating revenue, or if they are generating revenue, it is less than the costs they incur.

It is possible to organize service desks that provide external support so that they produce a profit. Regardless of whether the service desk is a cost or profit center, monitoring and tracking any costs for providing services involves senior management.

Cost Analysis

There are several steps to consider when creating cost analyses for the service desk. The following table lists ways to start an analysis:

Table 14. Cost Analysis

Step Number	Task	Comment
1	Isolate specific cost categories associated with operating the service desk.	Organize the categories into logical groups and subgroups. Typically, one can do this by assigning unique department codes to each type of expense.
2	Organize all expenses and assign to appropriate category.	These are usually direct expenses (salaries, benefits, and supplies) generated by the service desk, plus any indirect costs (general business expenses, such as hardware, utilities).

Once the data is secured, start the analysis. To be effective, the information must be presented in a way that makes it easy for the senior managers to understand and use to make decisions. There is a wide variety of ways to analyze data; however, the following two categories are typically used by service desks:

- Cost-per-person analysis
- Activity-based allocation analysis

The following figure is a sample Cost Estimating Worksheet that might be used by a service desk when starting a cost analysis:

Cost Estimating Worksheet

Staffing	
Direct delivery service desk staff	10
Non-delivery service desk staff	2
Total service desk staff	12
Direct Delivery Costs	
Salaries of support staff (including tax and benefits)(1)	$250,000
Temporary employee expenses(1)	-
Depreciation for any capital equipment used by support staff(1)	16,666
Supply expenses for direct delivery staff(1)	1,000
Other direct support staff expenses(1)	500
Total Direct Delivery Cost	$268,166
Direct Delivery Cost/Person/Year (2)	$ 26,817
Fully Burdened Cost	
Salaries (including tax and benefits) of non-delivery staff (managers, administrators, and so on)(1)	$ 75,000
Facilities expenses related to service desk(1)	75,000
Telecom expenses related to service desk(1)	10,000
Other non-delivery staff expenses(1)	2,000
Senior management and company allocation of corporate cost	30,000
Total Overhead Expenses	$192,000
Fully Burdened Cost/Person(3)	$ 46,017
Overhead Percentage(4)	42%

Notes

(1) These calculations should be reviewed on a monthly or quarterly basis to help identify expense trends.
(2) Direct Delivery Cost/Person/Year = (Total Direct Delivery Cost)/ (Direct Delivery Service-Desk Staff).
(3) Fully Burdened Cost/Person = [(Total Direct Delivery Cost) + (Total Overhead Expenses)]/ (Direct Delivery Service Desk Staff).
(4) Overhead Percentage is the percentage of the Fully Burdened Cost/Person that is overhead driven.

Figure 4
Sample cost estimating worksheet

Cost-per-Person Analysis.

It is prudent to evaluate the cost per person for service desk staffing, since staffing determines the majority of service desk costs. Direct cost per person only includes the people providing service desk support to users and the expenses associated with them, such as salary, benefits, supplies, and so on. This measure helps a company manage per-person expenditures and gives it a baseline for evaluating other, potentially less-expensive, delivery options such as temporary or outsourced staff. Direct cost per person and fully burdened cost per person should be evaluated on a regular basis (either monthly or quarterly) to identify and explain variances.

Fully burdened cost per person includes all the direct costs per person plus the costs for all of the remaining staff and management. Fully burdened cost per person measures the total service desk cost per delivery person and helps identify increases in overhead expenditures. The sample costing estimation worksheet shown above provides an example of a spreadsheet that can be used to organize this information.

Activity-based Allocation Analysis

Activity-based cost allocations associate the cost of providing the service desk services (the activity) with the departments using the resource and/or with the support type being offered. The main objective of activity-based costing is to associate cost with the activity driving it in order to facilitate cost-effective decision making. This type of cost allocation can provide a large amount of valuable costing information; however, depending on the level of detail needed, it can also require a large amount of time and effort to maintain.

The activity-based cost of the service desk can then be allocated to the appropriate departments. Allocation methods (used individually or combined to create a charging method specific to a particular organization) include:

- Cost per call, which could vary depending on the type of incident or service. Some examples are:
  - Desktop services (that is, word processing).
  - Application.
  - Installation/upgrade request.
  - Business service (that is, payroll).
- Cost of time and materials expended by support staff, for example:
  - Unit cost per time unit (that is, per minute).
- Fixed charge.
- A combination of the previous two examples: a fixed charge for handling the call at the service desk plus a variable cost, based on time expended, for calls passed to support groups.
- Purchased number of support hours.
- Service entitlement based on a purchased maintenance contract:
  - Gold, silver, or bronze service levels.
- Cost apportioned to user departments as part of the corporate overhead in providing IT services.
- Alternatively, the service desk could be provided to user departments as a "free" service funded from the corporate center.
- Time (in minutes) spent receiving support from the service desk is generally a fair and equitable basis to use because time is an element that is constant across all departments.

Charging by the number of incidents submitted, however, may cause some problems, because the length of time and amount of effort involved in resolving each incident can vary. This could lead to an apparent inconsistent allocation of costs. Also keep in mind that charging per call can deter customers from using the service desk, resulting in attempts to bypass the service desk or to resolve incidents themselves before making a call. This could lead to increased diagnosis and resolution times at the service desk because of the need to determine the action(s) that have been taken, which may increase the complexity of the incident.

Technology note:
When planning the service desk, consider the type of data required for an activity-based costing system. This is important when defining the information that must be recorded by a service desk tool. If one adds a field to the incident logging process that records the department where the incident initiated, it assigns that cost to the appropriate department.

In addition to providing a method for charging other departments, an activity-based allocation system can capture other key metrics, such as cost per minute of support or costs for each different type of support. This information can be used to justify additional training, identify the need for alternative support models, and facilitate traditional cost/benefit analysis.

Monitoring

The best time to assess the service desk's monitoring requirements is during the initial stages of planning or building the service desk. Any issue that can impact service desk productivity, quality, or cost is a candidate for being monitored. The service desk manager needs monitoring information to help manage and evaluate individual staff, control resource allocation, and oversee service delivery quality.

What Does a Service Desk Monitor?

When determining which items to monitor, the following questions may prove helpful:

Table 15. Service Desk Monitoring

Question	Clarification
What are all of the support delivery vehicles and what are the critical success factors for each?	If the service desk provides support using the telephone, it may be useful to monitor the amount of time the customer waits and the length of time it takes to resolve an incident. Other metrics might include the volume of calls, the arrival pattern, and the amount of resources spent on phone delivery. Useful metrics may vary for callback-based support, electronically submitted requests (by e-mail, intranet, or other online tool), walk-up requests, and so on. Examine the service commitments for each type of support and create appropriate metric measurements around them.
What determines the support demand?	How is incident volume affected by the number of active desktops within the organization or by changes resulting from the introduction of new products? How about the impact of specific product issues or policy changes? What information about these issues is important, and how can it be quantified? Things to consider might include incident volume, length, time-of-arrival patterns, types of customer, prevalent issue types, and so on.
Is there a service delivery goal or performance target for each kind of support provided?	Such goals may be referred to in service level agreements (SLAs). Because many service desks rely on these goals for measuring group productivity, these goals should be defined early. Examples can include resolving 90 percent of incidents in one hour or less, answering all telephone calls in an average of 20 seconds or less, or responding to all electronically submitted requests in under four hours. Service goals are a balance of what the customer needs and would like and what the service desk can reasonably provide. While it is possible to provide a service level of 100 percent of phone calls answered in 10 seconds or less, it may cost significantly more than a service level of 90 percent in 30 seconds or less. Moreover, this small difference in service level, while significant to the service desk organization, might have little real impact on customers. When determining the appropriate service level, the incremental cost of the increased service should be measured against the gain that the customer would realize by being serviced more rapidly. Because this gain may vary depending on the type of customer or the type of issue, it may be appropriate to assign different service levels depending on the priority of each incident.

Question	Clarification
How can the collected data be summarized and presented in an easy-to-follow format without losing important information?	Often, this means reporting averages and percentages rather than the individual detail of actual incident information. For example, many help desks report the percentage of incidents that were resolved within the service delivery goal. Be cautious, however, in relying solely on statistics that report the averages. It is equally important to have an idea of the general patterns (or distribution) of incidents and to be aware of the unusual cases. A statistical summary might report that 90 percent of all calls are being answered within 60 seconds.
How can one track labor, one of the key cost factors in any help desk?	Most help desks will want to consider tracking labor by individual type of support given (using categories such as telephone, walk-up, and callback) to facilitate cost allocations and understand the costs associated with resolving various types of incidents. Where possible, it is usually helpful to work in conjunction with a finance or accounting group to ensure the completeness and consistency of the data being collected.
Does the service desk staff have individual labor or productivity goals that the service desk management will measure, in whole or in part, by metrics?	Make sure to identify all personal productivity measures that will be used for evaluating and assisting service desk staff and make sure the goals are in line with service delivery goals. As always, be cautious with applying pure metrics as an evaluation method.
What information needs to be tracked manually, and under what conditions might this happen?	Having staff members record additional data manually reduces the overall resources available to provide support delivery. Make sure that the data collected is more valuable than the effort expended to collect it. Most companies require their service desks to monitor costs for budgeting and planning and to allocate resources as effectively as possible. Most also want data about the demand for service desk services, data about the service desk's responsiveness in meeting that demand, and measurements of the service desk's productivity. Finally, many find that gathering information about the types of problems resolved by the service desk can help in analyzing other types of data collected. However, the data needs of service desks do differ. Determining company management expectations, service desk management needs, business measurement needs, employee evaluation needs, and customer experience all help to create a workable set of metrics.

Monitoring the Demand for Services

Although tracking costs provides information about the fiscal aspect of the service desk, it is important to look at the services provided to the customers (the benefits). One way to look at the benefits of the service desk is to look at the demand for the service desk services—how much *business* is being brought to the service desk.

Tracking demand provides information about when, how often, and how much the service desk is being sought for assistance. Getting answers for the following questions can help to determine the demand:

- How many calls were received during a certain interval (one day or one month, for example)?
- What was the pattern of arrival during that interval?
- What is the average amount of effort it takes to resolve an incident of a given type?
- How many service desk contacts does it take to resolve a given incident?

The demand data can then be analyzed to discover patterns or trends in the way the service desk is used. For example, do more incidents arrive at certain times of the day (such as just after lunchtime), on a specific day of the week (such as Monday morning), or during events unique to the company (such as the end of the month or the end of the fiscal year)? Comparing current trends with historical demand metrics can help plan for surges, such as those experienced during the rollout of a product or the addition of staff. A simple report charting call arrival rates against time can provide a summary of this type of information.

Presented as a chart, the call arrival over time statistics are easily reviewed and problem areas more easily identified. Armed with this information, the service desk manager can better estimate resource requirements and plan resource allocation. By being able to predict how the demand will vary over the course of the day, the service desk manager can make appropriate staffing decisions to meet the support needs. On the other hand, predicting slow periods allows the service desk to reduce staff or reapply staff to other tasks during periods of low demand. Knowing how many calls to expect and when, as well as the expected duration of the calls, allows the service desk manager to schedule staff more efficiently, increase talk ratios (labor use), and ensure a productive service desk that keeps costs lower. In identifying trends in demand data, be sure to distinguish between genuine trends and temporary or insignificant variations.

In addition to identifying trends, it is important to analyze changes in demand. Fluctuating demand may indicate a need to increase, decrease, or reallocate staff; provide additional training;2 or identify product problems. Early attention to problems of this type can be of great benefit to the company. This is part of the relationship between the service desk SMF and the problem management SMF. Demand should also be monitored by type of support provided. If there are multiple means to send requests to a service desk, such as online through an intranet or e-mail, or directly by telephone call or walk-up, demand can shift from one type of support to another.

The measured levels of demand should be used to validate the assumptions and calculations used when forecasting the demand for service. Forecasts will never be absolutely accurate, but any significant deviation from the forecast should prompt a review of the forecasting process or an investigation into the reasons for demand being higher or lower than expected.

Monitoring Responsiveness

To meet demand, it is necessary to identify more than volume of demand. In a support model such as telephone support, where customers arrive and are ready for immediate support—or may have to wait for support—it is important to measure how quickly the service desk responds. Responsiveness is often measured in terms of the primary response time: the interval between contacting the service desk and receiving support. Note that this is different from the amount of time it takes to resolve a request. Primary response time measures how long it takes to pick up the telephone (in a telephone support model), to acknowledge receiving an electronic request, or to arrive for an on-site visit. It is the measure of how quickly service desk staff responds to support requests—the time it takes to actually begin helping.

Responsiveness goals are typically specified as part of the service agreement for various categories of problems and are used when creating service delivery goals. Keep in mind that accessibility can be as important to the reputation of the service desk as the quality of the support provided. Having long delays can result in a frustrated customer, regardless of the quality of the service actually rendered after waiting. Furthermore, the time a customer waits with an unresolved issue can also be an expense—the issue may impede the customer's workflow. There can also be other side effects of wait times. For example, the incident time may increase because customers complain to the analyst that they've waited and they're not happy about it. They may be more likely to insist that the analyst spend more time with them resolving an incident (rather than try tests on their own) for fear of the time it will take to get back in touch. This causes a snowballing effect as incident times get longer than expected when a group is already behind.

The service delivery goals should take into account the cost of providing immediate access, the cost of customer wait time, and how satisfied the customer is with the responsiveness. Providing immediate response requires more service desk staff to be available, which causes staff productivity levels to decrease during inactive times while service desk analysts wait for incoming calls. Generally, high service levels correspond to lower staff usage rates. However, for the internal service desk, making users wait may cost the company directly or indirectly, because employees waiting on hold are prevented from getting their work done.

There are several ways to measure responsiveness, each with its own advantages and disadvantages:

Table 16

Type of Measurement	Description	Advantage	Disadvantages
Service Level	Defined as a percentage of incidents responded to in a given time interval.	It is simple to measure and gives some sense of customer experience.	It fails to describe the experience of the percentage of calls outside the range.
Average Wait	Defines the average wait time for calls.	Determines what the average experience for wait was in each queue, but gives no sense of proportion.	No understanding of what the majority experience is. A related metric is a median wait. Average wait alone is of limited value.
Longest Wait	Defines the worst case scenario, the longest time anyone had to wait.	This metric is useful when coupled with service level.	It can be misleading if only a few incidents had a long wait time.

How the responsiveness goal is stated may vary depending on the way in which problems are reported. For example, in a telephone support model, a responsiveness goal might be answering 80 percent of the calls within two rings or within three minutes of hold time. For walk-up support, a responsiveness goal might be meeting with 80 percent of the users within one minute. For scheduled support, the responsiveness goal might be stated in terms of variation from the appointment time.

By comparing the responsiveness measurement against delivery goals, especially during specific times of the day, it is possible to identify times when staff struggle to meet service levels, periods when the service desk may be overstaffed, and places to re-deploy resources. When responsiveness is consistently below goal, it can indicate insufficient or inefficient support resources. Fluctuating responsiveness patterns, at some times exceeding and at other times falling below service-level goals, may indicate that the service desk is not properly allocating staff according to demand or does not sufficiently understand the causes of support demand. Consistently exceeding service-level goals can suggest overstaffing.

After analyzing the responsiveness data, patterns and trends may be uncovered that make it necessary to develop alternatives to immediately answering requests—for example, during an unexpected increase in volume. Some possible alternatives include sending calls to voice mail for later callbacks instead of leaving the users on hold, using the call system to direct callers to self-help resources, and using prioritization to serve the most important requests first.

Monitoring Accuracy

In order to achieve maximum effectiveness and efficiency by the service desk and any supporting resolution groups, the information that is obtained and recorded by the service desk must be as complete and accurate as possible. Any inaccuracy in the recording of an incident may misdirect the investigation and diagnosis of the incident.

Inaccuracies can be caused by the service desk recording erroneous or incomplete data, but can also include the recording of irrelevant data, the incorrect categorization of an incident, assignment of the wrong priority to an incident, the use of an incorrect closure code, and the resolution group incorrectly recording the details of a resolution.

Ensure that there is a process whereby any inaccuracies in recording can be highlighted and reported. One might also check a sample of incidents for their accuracy.

Measuring Productivity

Productivity metrics are those that show the amount of work done, such as staff hours, number of incidents closed, and ratio of support delivery time to nonsupport delivery time (also called the utilization rate, or talk ratio in the case of telephone support). Productivity data can indicate how much support is being given, how much the support costs, which issues are more time consuming to resolve, how much service desk analyst time is spent in resolving a particular issue, and where resources are going in general.

It is important for most help desks to track the amount of time spent providing support compared to total work hours. Measuring how much staff time is actually spent on delivering service can be a helpful tool in determining how effectively staff resources are being deployed or how much overhead is involved. Staff headcount-related costs are typically the largest expense for a service desk organization, so measuring and monitoring productivity is key to controlling costs.

The productivity of service desk staff can depend greatly on the support tools used. Monitor the availability and accessibility of the tools—if the call logging system or the telephony system is not working, the ability of service desk staff members to perform their duties is seriously affected.

Of course, to measure productivity, there must first be a way of identifying the type of support rendered. In the case of the service desk, this means measuring something that indicates how much service is being provided. The answer is tracking issues and incidents.

Tracking by Issue

An *issue* is a problem that a user presents to the service desk to resolve. An *incident*, on the other hand, is a contact or interaction concerning an issue. For example, several users might call the service desk to report that a particular printer is not working. Each of the users reporting the problem counts as a separate incident. The printer that isn't working is the issue.

Tracking by issue facilitates comparison of data, which is especially critical for validating expenses and for targeting areas as the most or least expensive. For example, there are often very limited resources to invest in training. By tracking data on the types of issues for two specific products, such as Microsoft® Windows® and Microsoft Outlook®, it is possible to determine which topic would be the most cost-effective for user training to help to reduce calls for the product.

Examining specific topics of incident reports can also help with planning how to allocate resources. By quantifying incident volume by issue type (such as Microsoft Excel financial function questions or intranet connection problems), along with staff effort per incident, it is possible to identify the most frequently encountered problem types and their respective staff costs in total. This identifies which issues are less or more time-consuming or which have a high impact on productivity but may or may not have high incident volumes. Additionally, these data are useful for staffing and training purposes.

Finally, if the service desk provides feedback to a product development team, it is advisable to group the information by specific problems. This makes it possible to rate the severity or importance of a particular problem in light of call volumes, staff costs, and the scope of the problem. This information can then be used to recommend changes or solutions that would have the greatest impact.

Another option that may be advantageous is to track who generates the greatest number of incident reports. For example, if certain groups generate many incidents, consider targeting those specific user groups for customized support or specific training. Additionally, it may be possible to identify groups whose special needs would be best met by support from a group other than the service desk. For example, if one group is consistently the only group that needs a certain type of support, the best solution might be to provide a dedicated, on-site support engineer. Or perhaps outsourcing support for that group or purchasing a service contract with the software vendor might be more cost-effective. If departments within the company subsidize the service desk's cost, tracking the percentage of labor that is expended by department can provide the basis for a cost-allocation model.

Customer Satisfaction Analyses and Surveys

Achieving customer satisfaction is the measure of success for any support operation. Rather than availability statistics or transaction rates, it is the customers' perception of the service they are receiving that defines whether the service desk is meeting their needs.

Satisfaction surveys are an excellent method of monitoring customer perceptions and expectations and can also be used as a powerful marketing tool. However, several key points should be addressed to ensure a successful customer survey:

- Decide on the scope of the survey:
  - Will it cover all services provided by the service desk or just a subset?
  - Will it cover all attributes of the service—for example, speed of call answering, helpfulness of service desk analyst, timeliness of incident resolution?
- Decide on the target audience:
  - Will it cover all customers or just a selected business unit, geographical location, and so on?
- Define the questions in the survey to avoid any ambiguity. Ensure that the questions being asked are appropriate to the target audience.
- Make the survey easy to complete. Keep the questions simple and reduce the risk of ambiguous answers—for example, Yes or No, or ratings on a scale of 0 to 5.
- Make sure the customers understand the benefits of completing the survey.
- Publish the results as soon as possible after the survey so that it is still fresh in the customers' minds.
- Communicate survey results and translate the survey results into actions.
- Provide progress reports on the actions. If customers see no results from a survey, they will be reluctant to participate in future surveys.

Senior management determines the frequency of surveys; that decision is based on the rate of change within the organization and other business drivers. One way to collect customer satisfaction data on a continuous basis is to include a short questionnaire in the call closure procedure; the service desk might ask the customer if the resolution was successful or if a service request has been satisfied. The customer might be asked at the same time to indicate their satisfaction with the way the call was handled. In order to avoid burdening the customer with too many requests, the satisfaction check could be carried out only for a small percentage of closed calls. To improve the speed of data capture and reduce the resources needed to analyze survey data, the usage of electronic-based surveys should be considered.

When measuring the level of customer satisfaction, ensure that any unsolicited comments, compliments, or complaints from customers are taken into consideration as well as the solicited responses to satisfaction surveys.

Certification

One possible reason for monitoring and reporting on the performance of a service desk is to enable the support organization to achieve certification against a recognized industry standard. This is particularly the case with vendor companies who provide outsourced support services to client companies.

Many companies require that outsourced service desk providers be certified in order to be considered as a vendor. If a service desk offers outsourced services to clients, one should determined what the client requirements are with respect to vendor certification and what relevant standards, organizations and certification programs exist in the regions in which the service desk operates. For a vendor organization that operates internationally, it may be necessary for the service desk to be certified against various standards.

Each certification standard specifies the criteria for achieving the certification and defines what necessary evidence must be provided to the certification body as proof of compliance. This in turn influences which elements of the service desk are monitored and reported. It is likely that the certification requirements will include:

- Measurements of the service desk operation.
- Measurements of the service desk management operation.
- The maturity of the supporting processes.

Conclusion

Monitoring and measuring a service desk, whether it provides internal or external support, is crucial to efficiently managing the function. It is necessary for anyone establishing or re-engineering a service desk to assess:

- What are the needs?
- What avenues are available to measure those needs?
- Does the cost factor of gathering and processing the data justify the benefit it provides?

In addition to understanding the metrics used, it is important to retain a clear understanding of what impacts each measurement. This information helps a service desk analyze the generated data.

Preparing Reports

Once monitoring data has been obtained, it is important to put the information into a readable format that allows managers to review the information and use it to make business decisions. Providing high-quality reports of monitoring and measurement information illustrates an important level of maturity from the support organization.

During the early implementation of a new service desk, formal reporting is typically not in place. As the service desk matures, however, there is an expanding requirement to clearly understand request histories, trends, and workloads and be able to report the findings. Monitoring information is often the only method available to adequately justify additional resources and expenditure for this function.

Controlling all the gathered data can be a major challenge to service desk management. Reports provide the distillation and organization of the information and are an excellent tool for enabling the service desk to present and manage:

- Overall business (volume, resource expended, and so on).
- Performance (how effective the service desk is in delivering solutions).
- Changes and trends over time.
- Correlations between pairs of measurements and models of cause-and-effect relationships.
- Staff productivity and goals.
- Cost reporting.

Report types and procedures vary depending on the audience, the purpose of the report, and the format of the data. Reporting is often subjective and needs to be focused on providing information that is of practical use within the business of the company or organization. It is important that reports are not just filed away and forgotten, but are used as an essential business tool to justify, develop, and continually improve the service.

Knowing when to use a particular type of report is difficult and depends heavily on the kinds of support provided and what the management expects to see. Factors to keep in mind when planning and designing reports are the cost, time, and the required presentation quality. Consider using spreadsheets or database packages when the volume of data being tracked is low and the cost (or time) required to track and report it is otherwise prohibitive. If the volume of data is high or when a greater consistency is needed, automatic reporting is often the best solution. An additional advantage to automatic reports is that once they are generated, updates are usually time-efficient.

Selecting the Report Type

Once the data has been gathered and consolidated, it is important to determine which type of report is most appropriate for the individuals who need the information:

- Are one-on-one verbal reports appropriate?
- Are mailed hard copies to a specified distribution list acceptable?
- Should the reports be made in formal presentations?
- Should the material be posted to the intranet?

Very often, different recipients require different report formats. There are three common types of reports, described in the following table:

Table 17. Types of Reports

Type of Report	Description	Drawbacks
Standard	Standard reports are produced on a regular basis, often for a specific purpose. They answer such questions as: What is the monthly labor utilization? What is the average number of issues each division generates in a week? How many issues did each support engineer resolve? What was the average length of a call from receipt to resolution? Which call took the longest to resolve? What was the shortest call to resolve? Because reports of this type are regular and consistent, they are reliable for use in problem area analysis, trend recognition, and comparison against one another.	Their major drawback is the rigidity of the format and content; but if constructed carefully, standard reports are quite useful and easy to interpret.
As-needed	As-needed reports are not produced on a regular basis or under any particular schedule, but are produced as and when they are required or when a specific circumstance dictates it. They are not compiled often enough to warrant the effort needed to formulate a standard report, or their content and structure may need to vary from report to report. Typically, as-needed reports have a specific purpose—for example, responding to an inquiry from management, providing analysis of an unusual event, or determining the breakdown of resource usage for a particular group during a specific interval. A specific type of as-needed report is an exception report, which may be generated if an exceptional circumstance arises, such as a serious breach of agreed service levels.	As-needed reports are usually prepared manually and can be time consuming to create. Also, because they are produced manually, as-needed reports possess increased potential for human error or misinterpretation. Creating the same report for a different set of data can be quite difficult because it is unlikely that the original report documented how the information was collected and processed the first time or the data may no longer be available.

Type of Report	Description	Drawbacks
Flash	Flash reports are short, bottom-line summaries that present a snapshot of a business situation. These are commonly used to report status to upper management. Flash reports are also used to distribute information to groups that may not need the detail included in standard reports.	The disadvantage of a flash report is that it may require an "interpreter" to explain any underlying assumptions, provide context for the information, and answer necessary questions if the reader is unfamiliar with the information or format.

The service desk manager may also use reports for individuals, teams, or other groupings within the service desk; these reports can be very useful for productivity management. Furthermore,, reports can be matched to the grouping of the company or be constructed to show how groups use service desk resources.

Determining Frequency

Reports should be provided only as often as needed. It is easy to get caught up in reporting and manage by metrics. Consider the following questions when determining frequency:

- What does upper management need to know on a regular basis? What is the interval? Daily, weekly, monthly, quarterly, annually? Another interval?
- What does the service desk manager need to see on a daily, weekly, and monthly basis?
- What does the service desk staff need on a daily, weekly, and monthly basis?

Remember that the service desk manager is running the business in addition to managing the staff. For business needs, weekly or monthly reporting is usually adequate. The only daily reports required usually quantify staff performance, which is often summarized in a weekly report that contains daily productivity measures. Incident arrival data is often detailed to the half hour (to help plan scheduling); however, it is also reported daily.

Daily reporting. For a busy service desk, daily reports for individual productivity or group productivity (issues, incidents, and labor) may be useful. Daily reports are especially helpful for the service desk manager who is evaluating the metrics for resource deployment, either for specific support engineers or for the staff in general. Daily reports are also used to develop historical demand patterns. Demand patterns are required to forecast and to allocate staff.

Weekly reporting. Weekly reports are typically summaries of daily reports. Weekly reports are usually distributed for internal service desk needs and are quite useful in helping the staff manage the organization. Weekly reports often take a flash format, so that accompanying explanations may be helpful. Weekly reports generally do not provide a good vehicle for reporting overall trends to upper management because of the short time frame covered.

Monthly reporting. Monthly reports are usually summary reports of the key items being measured during the month, such as issues and incidents, costs, and customer satisfaction. Monthly reports might also include breakdowns of which groups received support, what the major topics were, and other information useful for other than the day-to-day management of the business. Monthly reports are the typical format provided to higher management for review and usually cover enough time to be a good indicator of change.

Whatever the frequency or method of reporting, it is important to remember that metrics are indicators or approximations of a real-world situation that may be too complex to express in a small number of variables. This is particularly true for service organizations, where communication skills and empathy with the user are important components of service delivery.

Proactive Service Reports

Reporting is essential for proactive support at the service desk. The following list of reports aids proactive support:

- Planned changes for the following week.
- Major incidents/problems/changes from the previous week, along with any workarounds, fixes, and so on.
- Unsatisfied customer incidents from previous weeks.
- Poorly performing infrastructure items from previous weeks (for example, server, network, application).

Managing Report Accuracy

Regardless of what is being measured, one needs to make sure that the sample is large enough to be representative of all data. For example, for a help desk that receives reports on over 100 incidents a day, averaging any 10 incidents to determine an accurate estimate of the overall response time is questionable at best. The larger the sample, the more likely it is to represent the true picture.

Optimize Service Desk

This process covers the tasks performed in parallel with the day-to-day operational tasks required to ensure that the service desk operates as efficiently and effectively as possible. Furthermore, it is important to optimize service desk tasks in order to continually improve the level of service provided to its customers. It addresses the following tasks:

Table 18. Optimizing the Service Desk

Tasks	Description
Review service desk operation	Review information in relation to SLAs, OLAs, and underpinning contracts. Also review internal targets and measures of customer satisfaction.
Optimize processes	Include interfaces to other processes. Feedback from customers, practitioners, and other service management functions are fed into this process.
Determine outsource requirements	Even if there are no immediate plans to outsource any of the service desk functions, the option should be considered.
Optimize staff levels	Optimizing staffing levels, ensuring that a sufficient number of employee resources are available to handle forecasted workloads.
Optimize staff skills	Optimizing staff skills, ensuring that the available staff has the appropriate skills for the forecasted workloads.
Optimize physical workspace	Optimize the physical workspace to ensure that adequate capacity and technology are available, the area is conducive to the service desk's work, and access is provided to documentation and reference material.
Optimize technology	Ensure that the tools are appropriate for the service desk's requirements in terms of functionality, capacity, and interfaces to other tools, support, and training availability.
Review and optimize monitoring	Ensure that the correct data is being monitored, review key performance indicators (KPIs). Also ensure that metrics are appropriate to satisfy acceptable standards.

Figure 5 is a flow chart highlighting the primary steps for optimizing the service desk.

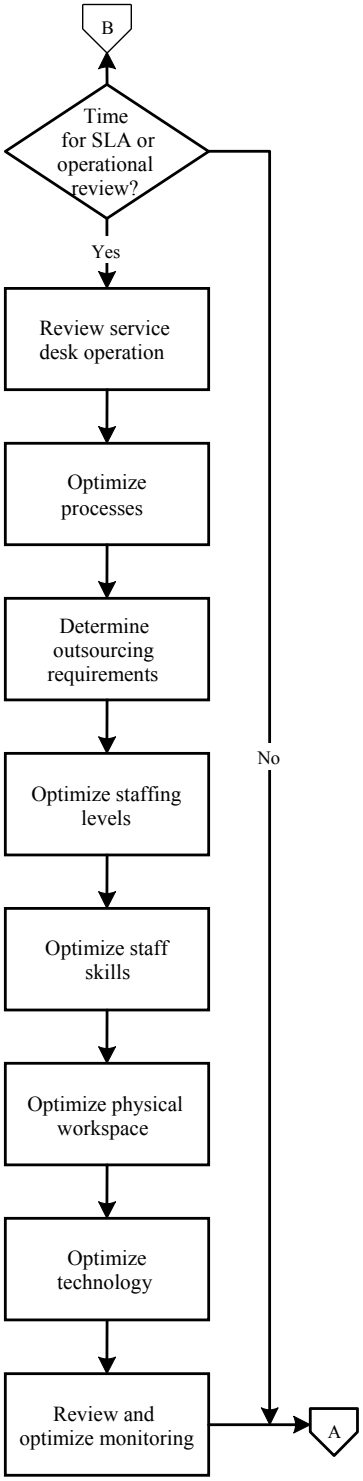

Figure 5
Optimizing the service desk

Review Service Desk Operation

Continuously review how the service desk is operating in order to verify that it is providing an appropriate level of efficient and effective service to its customers. Based on the reports produced as part of the service desk process, many aspects of the operation can be scrutinized on a regular basis.

When reviewing service desk operations, the following customer-oriented factors should be considered:

- Are the business requirements of the customers/users understood by the service desk staff? Are there any business plans that might affect the customers' needs? It is important that the service desk is aware of business plans; this ensures that the service desk services and staffing levels continue to support the business requirements.
- Do the IT service level agreements (SLAs) with the customers reflect the customers' business requirements?
- Do the IT operational level agreements (OLAs) with the service desk support the SLAs? If not, these agreements should be renegotiated.
- Are the SLAs being achieved? If not, what elements are not being achieved? What is the impact of the non-achievement? Are the SLAs too ambitious? Can the service levels be improved to satisfy the SLAs? Would the cost of the improvement be justified?
- Are the customers and users of the service desk satisfied with the service they are receiving? What aspects of the service being provided could be improved to increase levels of customer satisfaction?
- Is there a plan in place for improving the services provided by the service desk? If so, is the service improving according to the plan? If it is not, can corrective action be taken?
- Has the plan been modified since the last review? If so, what new actions need to be implemented to achieve the planned targets?
- If customers are being charged for their use of the service desk, are the charges fair and reasonable?
- Do the charges accurately reflect the cost of providing the service? Is the basis for the charging appropriate (for example, charge per call, by resource expended, flat rate)?

Factors that affect the ability of the service desk to provide the required service include:

- Do the operating level agreements (OLAs) provide for the levels of service necessary for the service desk to fulfill its own commitments? Do these OLAs and contracts need to be renegotiated? Can the additional cost of improved contract terms be cost justified?
- Are the OLAs and underpinning contracts being achieved? If not, what actions can be taken to ensure they are achieved?
- What sanctions are available to be taken against external suppliers who are not meeting their contracted levels of service? Should alternative suppliers be sought?

Factors internal to the service desk include:

- Are internal targets being achieved? Can the performance be improved?
- Are levels of staff satisfaction and staff retention acceptable?
- Are the tools being used to support the service desk function still adequate for the current level of requirements? Could they be improved or should they be replaced?
- Are the costs of providing the service desk acceptable? Is the service cost-effective in that it is saving the organization more than it is costing?
- Could the costs for services be more cost-effective? Would outsourcing the services be more cost-efficient?

Optimizing Processes

Consider the following functions when optimizing the service desk processes.

Interfaces to Other SMFs

The function of the service desk is closely integrated with several other service management functions (SMFs) and their processes. The service desk performs many tasks related to the incident management and change management processes and also has links to problem management, service level management, and several other service management functions (SMFs). These are further described in the "Relationship to Other Processes" section.

The interfaces between the service desk and these other processes are very important if the service provided to users is to achieve the required standards. The service desk manager should examine the operation of these interfaces to determine if they can be more efficient. Reviewing the interfaces may involve the owner of the service desk making recommendations for changes to processes within other SMFs, and the owners of other SMFs might suggest changes to the service desk processes.

Reaction to Changes

All SMFs must be capable of adapting to changes in the organization. The service desk is no exception, and since it provides a bridge between the business functions and the IT department, changes affect the service desk more than other SMFs. Possible changes include:

- Business or organizational changes—the introduction of new business streams, acquisitions or mergers, company reorganizations, and so on.
- Technological changes—the introduction of new technology to the organization, which may affect the components that the service desk supports and also the technology that the service desk itself makes use of.
- Legislative or regulatory change.

Feedback from Practitioners

Request suggestions and opinions from the service desk staff, since they are involved in the daily operation of the service desk. Their feedback can provide vital information for optimizing service desk processes.

The service desk is at the hub of customer communications, and its staff has day-to-day contact with the users and the staff performing the other processes that interact with the service desk. Therefore, the service desk staff has vital feedback on how to improve its operational activities.

Awareness of Industry Trends

It is important to be aware of new developments in the technologies and techniques available for operating a service desk. This information can be obtained in a number of ways:

- Reading industry magazines, newsletters, and so on.
- Becoming a member of relevant industry groups and associations, such as user groups.
- Attending industry exhibitions and conferences.
- Becoming a member of various industry Internet newsgroups.
- Researching new technology on the Web.

Determining Outsourcing Requirements

Outsourcing occurs when an organization contracts with another company to provide specialist services rather than provide those services internally. As an organization becomes more complex, especially when undergoing a merger or diversifying, outsourcing is typically considered. There are many advantages to outsourcing; however, be aware that there are also some disadvantages.

Table 19. Outsourcing Advantages and Disadvantages

Advantages	Disadvantages
Outsourcing allows an organization to concentrate on its core business.	Client company provides resources to monitor contractor's quality of work.
Outsource providers are able to spread their fixed costs over several clients and, because of their specialized business focus, the general outcome is that service provision is of a higher quality while at a lower cost than an internal service provider can achieve.	During peak time, when additional outsourced staff is required, their skills and knowledge may be inferior.
Special service providers can pool resources and typically have access to a larger skill and knowledge base.	The providers have many clients and may run short of personnel for each of their clients.
Special service providers are often able to provide training support staff faster and with more flexibility.	Lost of contact with customers.
Using outsourcing personnel gives an organization more flexibility to meet peaks when demanded, while helping reduce large capital infrastructure expenditures.	The level of business may fall significantly over the lifetime of the contract, resulting in the cost benefit being considerably reduced. Without a minimum business threshold clause, an organization might be locked into an expensive contract.

Organizations that are considering outsourcing usually do so because of the cost-reducing benefits. However, there are a number of potential advantages, as well as a number of potential risks to consider.

Cost Considerations

To determine the cost considerations, it is vital to identify the current and anticipated future cost base of the service. The organization must compare the costs of providing internal service desk functions over a projected time frame in order to form a baseline. These costs should include a realistic allowance to cover expected growth, recruitment and retention costs, retraining, accommodations, technology refreshers, and so on.

Once that information is established, it is necessary to verify the required costs for managing the outsourced contract. To reiterate the issues: consider the actual cost of the contract, the salary and burdens for a full-time contract manager, and perhaps the costs for increasing the role of the service management team, which will offset any perceived loss of direct customer contact. The cost of letting the contract should also be taken into account, as that is a recurring cost whenever the contract becomes due for renewal. An easily overlooked consideration is whether the saving can be realized.

Risk Transfer

Maintaining an internal service carries risks that need to be managed. Provision of appropriate resources, both in number and quality, is vital if support is to be effective. Maintaining the balance between cost and quality is not necessarily easy and the real risk is that resources are overly provided to accommodate peak loading. While additional resources can be obtained to cover short term needs through agency or temporary staffing arrangements, the temporary staff is not likely to be as skilled as permanent staff or as familiar with the design of the organization's support framework. The effect of these risks is that the service might degrade for a period. Risk can only be effectively transferred if there is an open working relationship between the service provider and the customer, and this is something to work toward at all times. Development of a joint service improvement program can be an effective way of building a strong partnership, as well as a means for improving quality of service delivery.

Loss of Contact with Customers

Outsourcing the service desk generally means that a third party becomes the primary point of contact between customers and the service provider. The outsource staff immediately acquires a vital role that has to be carefully monitored to ensure that the service provider is properly represented. The outsourced service desk might be collocated with the customer, in which case the loss of contact is minimized—for example, it might still be the original staff that provides the technical service. However, the services could be geographically remote and staffed by a mix of experienced staff transferred to the outsourcing company, while the organization recruits new staff to service the contract. Equally possible, however, is that the service will be provided from a geographically remote site by existing outsourcer's staff. Whatever the scenario, the effect of this loss of contact with customers should not be underestimated, as there may be unforeseen consequences. An internal service provider may be able to gain extremely valuable, albeit informal, information about future business trends that helps to anticipate future service needs. This information may not be available to a third party.

Business Volumes

An internally provided service carries the burden of maintaining appropriate resource levels. When an outsourced contract provides services, it is likely to contain threshold clauses concerning transaction volumes so that if the level of business transactions exceeds agreed future levels, the outsourcer is protected from any service penalties that might normally apply (but could extend to contract change or renegotiation). In this case, the client retains a significant degree of risk, particularly if the organization is in a dynamic business environment.

Outsourcing Viability

When considering outsourcing viability, review the profile of incident volumes. The volume of incidents may not justify the cost of the exercise or may not deliver adequate savings. There may be specialized applications that are more expensive for an outsourcer to support than for the in-house provider. There may be security considerations that prevent third parties from being involved; there may be contracts that specify that only directly employed staff should be used in fulfilling the contract terms.

License and Infrastructure Considerations

Consider the implications of any potential outsourcing contract on underpinning contracts. If continuing to use the legacy tool set, there may be restrictions on the location at which it can be used. This can be particularly important if a proposed business continuity site is based in a different country or if 24/7 support is required and the service provider proposes a virtual service desk solution.

There may be limitations on third parties using the application on behalf of the license holder, or there may be a requirement for additional licenses if they are issued on a named basis. It may be possible to transfer the contract but transfer of the assets introduces a significant restriction on future business options.

Operational Level Agreements

When a service desk is outsourced, it is particularly important to be clear about what is included in the contract. It is unusual if all customer support has been included; more likely, the outsourcing contract covers call handling and a degree of initial support. It is vitally important to be clear about the relative responsibilities. The in-house service provider is likely to retain responsibility for provision of second- and third-tier support, and it is not unusual to retain the provision and support of the service desk tool. In such cases, the in-house provider is retaining a significant responsibility, and there is a critical dependency on the outsourcer in order for the in-house provider to meet its service level requirements. Operational level agreements should exist to detail and document the responsibilities and agreed service levels to be provided by each party.

Infrastructure Issues

There may be a requirement for infrastructure change to support outsourcing, such as network connectivity, technical compatibility, training, tools, hardware, software, and so on. As a practical example, if the supplier proposes to use the supplier's own tool set, how will that integrate with the client's infrastructure, what training will be required for client support staff, will there be any impact on network capacity, how will it be implemented on client desktops, and will there be any contention with other applications?

Costs and Implications of Outsourcing

Outsourcing costs can vary considerably. Such considerations as the relationship between the organization and supplier, the kinds of support provided, and the incident volume are obvious factors and it is usual for the organization to bear its internal infrastructure costs. It is sometimes the case that the organization retains ownership and associated costs of the helpdesk tool set, particularly if specifying which tool set should be used by the provider, but it should be recognized that in practice the client also retains considerable risk throughout the lifetime of the contract. Where such an arrangement is in place, it is probable that achievement of agreed service levels is dependent on the performance of the tool and the quality of its support. The outsource provider is likely to supply all infrastructure for the outsource provider's own site, together with the costs of ensuring business continuity. If using client accommodation, however, the client retains responsibility for providing physical continuity.

While physical entities are relatively easy to identify and cost, costs associated with data are less obvious. Traditional data management costs are well understood and should feature in the contract as a characteristic of service availability. Data ownership, too, should be easily defined, but an easily overlooked issue concerns legacy data. Does the client want the supplier to take responsibility for historic data? This is any data that predates the contract start-up date. Much of this involves ongoing incident management and cannot be ignored; more will be used for trend analysis and performance reporting. Looking forward, what will happen to the data at the end of the contract, particularly if the vendor owns the tool set and wants the data removed?

For the sake of continuity, the company may implement many of its own support, tracking, and contract management tools at the outsource provider's site. The company may direct incidents straight to the outsource provider, bypassing its own internal mechanisms. All such details should be explicitly outlined in the outsourcing contract.

It is always important to consider the implications of outsourcing. Although outsourcing may be less costly, the company sacrifices some control over potentially important customer interactions. If the company and the outsource provider dissolve their business relationship, the costs of replacing that relationship or moving the telecommunication infrastructure may be high. During this transition, it could be challenging to maintain consistent experience and support for the customer. This should be a component of the cost benefit/analysis of any outsource project.

Selecting an Outsourcer

Selecting an outsourced service provider is easy; selecting the right outsourced service provider is not. There are three main stages to letting a service contract:

1. The requirement must be established.
2. Suppliers are invited to bid to meet the requirement.
3. The bids are evaluated and a selection made.

Establishing the Requirement

There are two broad approaches to establishing a requirement; these approaches are known as input- and output-based requirements.

Table 20. Approaches to Establishing a Requirement

Approach	Description
Input-based requirements	The client defines what is wanted and how it should be provided—for example, compliance with ITIL or MOF processes or which tool set should be used.
Output-based requirements	An output-based contract focuses on the end results rather than the means of achieving them.

While an input-based approach provides very specific requirements delivery criteria, it is also more likely to require the client to change processes or undergo retraining for second-tier support staff, and so on. In both situations, the service levels, transaction volumes, and growth profile must be established.

Requesting Vendor Bids

Prior to formally requesting a request for proposal (RFP) from outsourcing vendors, it is beneficial to publish a request for information (RFI) to test the market and see what type of experience the bidders possess. This might take the form of a broad statement of requirement, including volumetric data, quality standard requirements, and broad service requirements and can act as an early filter so that full bids are sought from a more limited range of companies. This can make the detailed evaluation stage more manageable and, more importantly, give an early indication about any difficulties ahead in achieving a competitive bid.

Ideally, there should be a choice of prospective vendors available at this stage; if that is not the case, then serious consideration should be given to the viability of continuing or it may simply be that the requirements need to be reviewed to open the field to additional vendors. Every organization has its own approach to seeking bids: government organizations are often constrained to adopting full public tender exercises. Private sector organizations, on the other hand, may have considerably more freedom to adopt a more restricted invitation to submit a proposal. Once a list of prospective suppliers has been established, a more detailed request for proposal (RFP) or invitation to bid (ITB) should be sent to them.

Evaluating Bids

Evaluating bids is one of the most important stages of the process since it is the point where a choice is made. A vendor is selected against a range of pre-determined criteria relating to various requirements, including:

- Service requirements.
- Costs.
- Company performance.
- Company stability.

Some high-level criteria to use might include:

- Can they deliver the requirement to the stated quality levels?
- Can they demonstrate claimed performance with existing customers?
- Can the supplier demonstrate a flexible approach to change?
- Is the company stable?
- What quality standards do they adopt?
- Does the company fit the service delivery model?
- How does the company propose to add value?

Monitoring Quality of Outsourced Support

Monitoring the quality of the service delivered by the vendor is important to the success of the partnership. The contract agreed to between the company and the outsource vendor must specify service levels, service standards, key performance indicators, and/or a range of performance metrics. The way that the metrics will be determined must be agreed upon, as must the steps to be taken if the metrics fall below agreed-upon standards.

If the support provided is for internal customers, feedback using service level reviews and formal customer surveys provides a ready source of information and can easily be collected. This can be supplemented throughout the year by a limited survey following randomly selected incidents or by reviewing incident records.

Tracking support quality is more difficult when outsourced support is provided to the company's external customers. Dissatisfied customers may not complain, they may just stop using the support or buying the company's products. They may also share their dissatisfaction with others, further reducing future revenue opportunities. This is an increasing issue with the growth of large call centers dealing with multiple clients.

It is often possible to monitor incidents in progress, for example, by monitoring the telephone calls or reading the incident records. This can be a difficult area and any such arrangements need to be spelled out in the contract and governed under strict controls. The use of test calls to experience service quality directly is often undertaken but, again, use of this technique must be agreed to in the contract. (This can work effectively for both an internally or externally focused service desk.)

There should be regular and frequent review meetings between the vendor and the company so that any degradation or shortfall in performance is identified and can be remedied as early as possible. This shows good faith and can become an elemental component of a service improvement program. It is probable in the early days of a new outsource contract that service will degrade for a period before picking up to acceptable levels. It does not help anyone to wait until an annual contract meeting if problems develop during the year.

If, despite this, the outsource vendor does not meet service standards during the contractually agreed measurement period, then the contract manager must formally advise this to the outsource vendor and develop an action plan for improvement as defined in the contract. If outsourcing performance still falls short, it is vital to take whatever noncompliance steps are described in the contract. The important point is that poor performance issues must be addressed immediately.

Avoiding Common Outsourcing Pitfalls

The following suggestions can help avoid many of the common pitfalls in outsourcing a service desk.

- Ensure that incident volumes and service level requirements are explicit. Provide a formal change procedure, however, that can be used to modify the requirements because factors related to the client's business may change over time.
- Ensure there is a quality monitoring program and the outsource provider understands and agrees with it. The contract should clearly define transactions to be measured and measurement periods, agreed service levels, and any penalties for failing to deliver within the guidelines, as well as any incentives for achieving service improvements.
- Roles and responsibilities must be clearly defined. The client has contractual responsibilities as does the supplier and there needs to be clarity about both.
- Delays and problems are likely in the early days of any contract. Be realistic about what is acceptable and what is not. Working closely with the supplier minimizes the impact and reinforces the partnership approach to the contract.
- Be realistic about the transition of support; it will probably take longer than expected.
- Ensure that customers understand what is happening and why; do not let it come as a surprise to them.
- Be realistic about what to expect from an outsourcing relationship and any anticipated cost savings. Can they be realized or are they theoretical?
- Remember: the lowest bid is not necessarily the best bid. The most cost-effective is not necessarily the cheapest.
- Ensure that the outsource vendor supplies all the data the company requires in order to manage business effectively.
- Ensure that there is a clear communication path, both for incidents that the outsource provider cannot handle and for administrative issues.
- Make sure that internal technical expertise does not disappear because of outsourcing.
- Involve the vendor in business planning so that early understanding of new requirements is possible.

Optimizing Staff Levels

The aim of this part of the service desk optimization process is to ensure that sufficient staff with appropriate skills is always available to handle the number and type of calls received at the service desk. Maintenance of such staffing levels should occur in conjunction with maintenance of any service levels that have been agreed with the customers of the service desk, while also minimizing the cost to the organization.

Forecasting Staff Requirements

For planning purposes, most service desks try to anticipate future demand to predict the required resources. An accurate projection of required resources helps to facilitate a closer mapping of demand to staffing levels. This process, referred to as forecasting, can be used to estimate the staff, labor, and other resources required to provide a given level of service. Larger support organizations generally find that accurate forecasting is vital to maintaining cost-effectiveness, allocating support resources, aiding in the fiscal budgeting process, and maintaining agreed service levels.

A technique for accurate (but flexible) forecasting is an important component in making the service desk productive and efficient and keeps its costs to a minimum. Although forecasting can involve higher mathematics, statistics, probability studies, and queuing theory (queuing theory involves the mathematical study of queues, or waiting lines), there are simpler approaches that can go some way toward meeting the needs of the typical service desk. To provide a starting point for understanding forecasting and to provide a glimpse into how forecasting can be used, a simple model is presented here. This model is based on a few relatively simple formulas and can be adapted for a variety of sizes and types of service desks. Simplifying the model, however, does not lessen the importance of the process; the accuracy of the forecast can be a major influence on the success or failure of the service desk.

Although this model is adequate for calculating reasonable estimates of staff requirements, it may be too simplistic for some service desk operations. Some managers of very large service desks may need to apply more advanced and sophisticated forecasting modeling. Even so, the principles described here are still applicable to more sophisticated models.

Depending on the available resources and expertise, some companies may choose to hire an outside consultant to help with the initial information gathering and analysis for establishing a service desk. Generally, this isn't required but is an option that may be worth exploring.

The Basics

Very small service desks (those staffed with only a few people) should find this forecasting model helpful as a guide, although it is more useful to larger service desks. There are two reasons for this. First, smaller service desks have fewer resources to allocate, so the model may provide less useful information because there are fewer choices. For example, everybody may have to work the same schedule throughout the week regardless of demand. Second, forecasting models are generally based on probability, and the accuracy increases as the support volume increases. This means that with very small support volumes, the model may not provide as accurate information as with large support volumes. Under normal circumstances, the day-to-day support demand, as a percentage, changes more significantly for lower volumes than for higher volumes.

It is important to keep in mind that forecasting is based on probabilities, and the interpretation of the results (although initially mathematically derived) must be guided by experience on the part of the forecaster. The forecast is also completely dependent on the accuracy of the inputs and assumptions used for its derivation. Forecasting uses a formula to create or model a pattern for predicting random events. Even with large support demands and when all of the values used in the formula accurately represent the sample, the predicted pattern may not exactly match what actually occurs, but that is the nature of random events.

Furthermore, forecasting should be done separately for each type of support provided. This means it is necessary to identify each type of support given. One can group types of support into categories based on the specific software product—for example, Microsoft Word or Microsoft Access. Or one can organize support according to type of support customer, type of support (such as application support, software setup, network problems, or new computer installations), or how the support is delivered (such as by telephone, on-site, or e-mail), or some combination. It is best to make a separate classification for each type of support provided that is distinctly different or that has different staffing requirements.

There is a balance to be struck between the details provided by having multiple categories and the complexity of the information that must be managed. More distinct categories increase the forecasting complexity, but they may give greater accuracy based on the type of support and may allow better staff allocation, although as mentioned above, smaller queues tend to have higher natural variation and less efficiency. This needs to be balanced. One option is to start with what seems like a reasonable number of categories and then calculate the forecast. If the numbers provide usable information, the categories are reasonable. On the other hand, if the numbers are either too large or too small, or otherwise absurd (such as trying to schedule one-third of an employee), consider adjusting the categories.

There are four basic processes, or steps, involved in optimizing staff levels. They are:

- Demand basics
- Staffing quantification
- Determining utilization rate
- Predicting staffing needs

Step 1. Demand Basics

Before one can estimate demand, one must understand what factors drive or influence demand for the service desk's services. Depending on the size and type of service desk, the following are some of the possible drivers of demand:

- Number of active desktops and the number of users who may need service desk support (some departments may be heavier users than others).
    - The competency, skill levels, and levels of training of the users.
- The IT infrastructure being supported—its architecture, reliability, size, age of components.
- The services being supported—in-house developed or proprietary, customized or off-the-shelf.
- Purchase of new hardware or software products.
- Cyclical or seasonal events such as the end of a fiscal period.
- Rollout of a major new software upgrade.

It may be helpful to chart historical volumes and explain the movement in service desk calls from one period to the next. Depending on the amount of historical data available, monthly, weekly, or daily measurements are all appropriate. This process confirms the existence of a relationship between service desk calls and the drivers of those calls. The next step is to analyze and quantify that relationship. Microsoft uses linear regression techniques to estimate this relationship; however, simple ratios based on recent historical data might be the most readily available method. To estimate the number of calls that a group of users of a particular product generate, the service desk may research a sampling of users and then apply the results from the sample across the organization as a whole. This value also varies from company to company, depending on such factors as the level of use, experience with the product, and so on. It may also be helpful to generate predicted call volumes during a historical period and compare the results to what actually occurred during that same time frame. This helps to illustrate how well the model is working.

Forecasting is dependent on several given metrics that form the basis for the support model. To forecast staffing needs, the service desk manager must be able to provide accurate values representing these metrics. For the established service desk using a call-tracking system, this isn't usually a problem because the metrics are frequently collected by the call-tracking system. For a new service desk or a service desk that hasn't been collecting this information, it may be a bit more of a challenge, but all is not lost—each metric can be estimated initially and corrected later as more precise metrics become available. Keep in mind that forecasting is an evolutionary process that requires occasional adjustment and should improve over time. Below are two fundamental metrics used to forecast staffing requirements:

Table 21. Forecasting Metrics

Metric	Description
Average number of calls for a fixed interval	In most cases, it is easiest to calculate (or estimate) the number of calls for a one-day period; however, other intervals can be used.
Average labor required for a single call	This is the amount of time the service desk staff member is devoted to working on a single call. This can be calculated by dividing the total amount of time the service desk staff member is available by the number of calls that are dealt with by that individual. For example, it may take an average of 12 minutes to resolve an incident, and each service desk staff member may spend an average of 3 minutes between calls documenting the incident, for a total of 15 minutes. This will vary according to the company's usage and experience with the support type. It is extremely important to remember that these initial estimates may be off the mark, possibly significantly so. When formulating a service desk forecasting (and staffing) plan, it is best to formulate a low, expected, and high estimate for each metric. Plan for each of them as a worst-case, anticipated, and best-case scenario and be ready to change them.

Step 2. Basics of Staffing Quantification

Once the basics of the demand are established, the service desk manager can begin to estimate the staffing needs for each support type. As with the values collected for demand, a variety of information must be collected and specific decisions must be made to accurately estimate the required staffing. These values must be determined for the average service desk analyst within each category used for Step 1. To determine the staffing needs:

- *Determine the number of available hours.* This is how many hours each service desk analyst is actually scheduled to provide support during the day. Keep in mind that this is the average that each person actually provides support, not the hours that overall service desk support is available or the length of the typical workday. For example, each service desk analyst may be responsible for responding to requests for support, whether answering phones or answering e-mail, six to seven hours a day, spending the other one or two hours on indirect delivery activities.
- *Estimate the rate of support staff absences.* This is the percentage of staff estimated to be sick, on vacation, in training, or absent for whatever reason on any given day. This is an average of the resources that one can routinely expect to be missing from the total support organization. The estimate is necessary in situations in which training or vacation cannot be scheduled reliably. If one can schedule planned vacations or training, the estimated rate of support staff absences does not need to be included in the forecast calculation. However, in general, it is simpler to just include vacation and training time as unexpected absences. For most organizations, 15 percent is a good starting point, but a different figure may be more appropriate for other organizations. This is particularly true for a small service desk, which experiences a higher variation in staff absences from day-to-day than a large organization. For example, if the service desk has three analysts and one is on vacation, the service desk is missing 33 percent of its staff. Some organizations may choose to address staff absences outside of the forecast. Including these numbers in the forecast makes studying them more difficult later on because they are subsumed in the overall delivery picture. If one needs to analyze costs based on how many analysts are in training or on vacation at any given time, one needs to account for them in a separate plan.

Step 3. Determining Utilization Rate

Examine the categories being used and identify which support types have their support provided immediately (such as telephone support) versus those that are controlled, meaning a response is forthcoming but does not immediately follow the request (for example, a callback, e-mail, or a faxed response). Then, for each category of service, estimate the desired *utilization rate* (a value representing how much of the service time made available by the service desk is actually being used to provide service). For example, in a telephone model, an average call may take 12 minutes with an average of 3 minutes of idle time between calls, or a total of 15 minutes per call. The utilization rate for this support type is 12/15, or 80 percent. A support type where requests are faxed may have a utilization rate as high as 100 percent because work can be prioritized and analysts need not wait for the next incident to arrive.

Controlled support is based on the schedule of the service desk, within the guidelines of service delivery appropriate for the assigned severity. This can include responding to e-mail requests, scheduled on-site visits, and any other method in which the service desk has complete control over the availability of the service. Utilization rates for controlled support are usually assumed to be 100 percent because there is no need to wait to serve a user—calls can be selected from an already-existing group of pending service requests, as appropriate. This means that all of the analyst's available time is spent providing service. In the event that there are more resources than service requests on a consistent basis, it is probable that this support type has excess resources that could be diverted elsewhere for more cost and productivity effectiveness.

Immediate support delivery is provided directly to the customer at the time of the request—for example, in person at a service desk or by telephone. The response to each call for service is not controllable by the service desk but instead must generally begin when the call arrives. Usually, whatever the delivery mechanism, immediate support is delivered within a queue-based model, where individuals may wait in line (or on hold) for service. Utilization rates are particularly important with such a support model because there is a need to balance the time the service desk analyst spends waiting against the time the user spends waiting.

Remember that service level (responsiveness) and utilization rates are inversely related. In a telephone queue, a shorter targeted average wait time, or *delay*, necessitates a lower utilization rate of the service desk analysts. The higher the utilization rate, the less time support engineers sit waiting to serve someone, but the greater the chance that the user will have to wait. Lowering the utilization rate, for example, by having more service desk analysts available, decreases the chance of delay when a user does call, but results in a loss of engineer productivity because the analyst spends time waiting for calls. This in turn drives up costs for the service desk.

To determine an estimated utilization rate from the service desk analyst's perspective, first establish the target service delivery allocation average —what percentage of the total time scheduled should the average service desk analyst spend delivering service? This is the total time the service desk analyst interacts with users divided by the total amount of time the analyst is available to provide service. In general, this calculation can be based on historical data or established as a target goal. It is expressed as the percentage of time the service desk analyst is actually interacting with the user. For example, a service desk may determine that each analyst should be working with a user 80 percent of the time. In a telephone model, this value is often called the *talk ratio.*

The value for the target service delivery can be a goal, an estimate, or it can reflect the actual history of the service delivery. It is calculated by dividing the total time actually spent with users by the total time the analysts are available to the users over a long period of time. Keep in mind that the actual time will vary from day to day and can be affected by the average wait between calls, the average call length for this service desk analyst, call pattern (high or low demand), and other such factors. Use caution when using actual utilization rates in the staffing calculation of a forecast because this method will perpetuate any overstaffing or understaffing. For example, if the service desk is overstaffed, then actual talk ratios will be very low. The use of these low talk ratios in calculating the staffing forecast results in an overestimate of the number of staff needed to handle the projected demand.

In any organization, users develop expectations for the service they receive from the service desk. These expectations may be based on an explicit service level agreement that articulates the response times for each category of service, or they may be based on previous experience. In either event, users evaluate the service desk based on their expectations for service delivery.

To create a model based upon a standard of service delivery, it is necessary to estimate the utilization rate from the user's perspective. This requires the use of a queuing model to account for the random occurrence of calls. A queuing model is a mathematical method of representing the pattern of the distribution of resources over time as a single percentage value. With such a model, it is possible to estimate a utilization rate in terms of target service level. For example, a utilization rate could be calculated for a target service level at which 90 percent of all calls are handled in one minute or less. This type of utilization rate is representative of the amount of time the user may have to wait.

Note that immediate and controlled support delivery each has very different staffing requirements. With controlled support delivery, all of the service desk analyst's available time can be spent delivering support as long as the available time does not exceed demand. With immediate support delivery, the pattern in which calls arrive cannot be known, only predicted. Thus controlled support delivery generally permits more accurate staff allocations and requires fewer staff because there is less unproductive time waiting for a call. Using controlled support delivery rather than immediate support delivery is one means of controlling the costs of a help desk—if such a support model is acceptable given its possible effects on customer satisfaction.

Step 4. From Incident Demand to Staffing Needs

Using the information collected, estimated, or calculated in the previous steps, it is then possible to predict the staffing requirements of the service desk for each category of support. The values that are needed for the formula are:

Table 22. Support Categories

Category of Support	Staffing Requirements
Calls	This value represents the number of calls over the interval (generally a single day) and is calculated as part of the demand basics in Step 1. The interval used for this value determines the interval for the result. In other words, if using calls *per day,* then the result is the number of staff needed *per day*.
Average Time	This is the average time spent on a call and is also calculated in Step 1. This is the labor required for a single call and should be expressed in hours.
Available Time	This is the amount of time each service desk analyst is scheduled to deliver support and is determined in Step 2 as the number of available hours. The unit for this value is the unit used for staffing, generally for a single service desk analyst.
Absence Rate (SVT%)	This value (called SVT%) is the estimated rate of absences due to sickness, vacation, and training and is determined in Step 2.
Utilization Rate	This value is calculated in Step 3. For an immediate support model, this value represents the percentage of time the service desk analyst actually interacts with the user. These values are then inserted into the following equation: Calls x Average Time Available Time x Utilization Rate x (1 – SVT%) The top portion of the equation calculates the predicted amount of time necessary for dealing with all of the calls for the interval. The bottom portion calculates the average amount of time spent interacting with a user. The total available time is reduced by the utilization rate (to account for when the service desk analyst is waiting to respond to a call) and by the percentage of time the service desk analyst is actually expected to be on the job (100 percent minus the percentage of time estimated to be lost to absences). As an example, suppose the service desk at Trey Research is providing Microsoft Excel support by telephone. Each call is estimated to take 15 minutes (.25 in hours) to resolve, the desired utilization rate for the average service desk analyst is 65 percent, and each service desk analyst is scheduled to be on the telephone six hours a day. The service desk assumes that, on the average, 15 percent of their support delivery resources are lost to sickness, vacation, and training each day. They also anticipate an average of 100 calls each day. How many staff do they need? 100 calls x 0.25 hours 6 hours/day x 65% utilization x (1-15%SVT) which equals 25 39 x (85%) or 25/3.3 = 7.5 Inserting the working assumptions into the forecasting equation finds that approximately 7.5 staff will be needed to meet the forecasted demand with the above constraints and goals. In reality, this is 7 or 8 staff, unless part-time resources are available.

The table below shows the hypothetical staffing needed with the above constants but with variable average minutes per call (average time) and volume (incidents). Creating such a table based on working assumptions can be very helpful, especially when initially planning staffing for the service desk.

Table 23 Daily Staff Estimation, by Number and Length of Incidents

Number of incidents \ Average minutes/call	5	6	7	8	9	10	12	15	20	25	30	45	60
50	1.3	1.5	1.8	2.0	2.3	2.5	3.0	3.8	5.0	6.3	7.5	11.3	15.1
60	1.5	1.8	2.1	2.4	2.7	3.0	3.6	4.5	6.0	7.5	9.0	13.6	18.1
70	1.8	2.1	2.5	2.8	3.2	3.5	4.2	5.3	7.0	8.8	10.6	15.8	21.1
80	2.0	2.4	2.8	3.2	3.6	4.0	4.8	6.0	8.0	10.1	12.1	18.1	24.1
90	2.3	2.7	3.2	3.6	4.1	4.5	5.4	6.8	9.0	11.3	13.6	20.4	27.1
100	2.5	3.0	3.5	4.0	4.5	5.0	6.0	7.5	10.1	12.6	15.1	22.6	30.2
110	2.8	3.3	3.9	4.4	5.0	5.5	6.6	8.3	11.1	13.8	16.6	24.9	33.2
120	3.0	3.6	4.2	4.8	5.4	6.0	7.2	9.0	12.1	15.1	18.1	27.1	36.2
130	3.5	4.2	4.9	5.6	6.3	7.0	8.4	10.6	14.1	17.6	21.1	31.7	42.2
140	4.0	4.8	5.6	6.4	7.2	8.0	9.7	12.1	16.1	20.1	24.1	36.2	48.3
150	4.5	5.4	6.3	7.2	8.1	9.0	10.9	13.6	18.1	22.6	27.1	40.7	54.3
160	5.0	6.0	7.0	8.0	9.0	10.1	12.1	15.1	20.1	25.1	30.2	45.2	60.3

Note Observe in the table above the wide range of staffing variance possible with just a few minutes of average call length or volumes being 20 percent lower or higher than forecasts. This is where worst-case, expected, and best-case scenarios should be computed, both in terms of calls arriving and average call length. Also, this table does not take queue efficiencies into account.

Using the Forecasting Information

This model of forecasting provides information about the total number of staff needed at the service desk during the interval (usually a day). It is still necessary to distribute the staff's hours over the hours that the service desk provides service. It is important to realize that the process of distributing the staff over the service intervals may require recalculating the staffing forecast. For more information about scheduling individual staff, see the section, "Manage Service Desk Staffing," earlier in this SMF.

Actually attempting to schedule individuals may reveal issues that require an increase in staffing. For times when fractional staff is needed at various portions of the day, a decision has to be made to overstaff or understaff during that interval. This is particularly true of small service desks (fractional needs decrease in significance as total staff increases).

Once the demand has been forecast and scheduled, it may be best to do a common-sense evaluation. Is there anything obviously wrong or impractical for the company? Is there anything out-of-the-ordinary going on that may impact volume or length of the calls? Below is a list of suggestions for things to consider.

Table 24. Consideration Points for Scheduling Staff

Event	Description
Holidays, vacation	Scheduled holidays and periods when the company has an unusually high or low number of people taking vacations (such as around holiday periods or school breaks).
Company events	Company events that may increase service desk usage, such as budget planning, reorganizations, regular team meetings, and so on. These are temporary, scheduled events that may have predictable impacts and may make it necessary to adjust resources or reset expectations about the level of support that will be available.
Installation of new products, hardware	New products, hardware, or other supported tools that may require devoting time to installation or setup, require additional training, or introduce new complexities or issues for users. If the service desk has tracked support metrics during similar events in the past, a more educated estimation of the impact may be possible. It is never too late to start collecting information as long as the cost of collecting the information is justified by the gains.
Staff	Significant numbers of new staff members, who are more likely to make requests of the service desk. Again, experience helps here. Work with departments with large numbers of new hires to help minimize these impacts or to estimate the increase in help desk services needs.
New service desk employees	New service desk employees, who will initially require more time to resolve issues. Increasing the average time per call during these periods can help account for this.
Extended hours	Extended-hours support, such as 24-hour support, weekend support, or continual support (7 days a week, 24 hours a day). Such offerings are handled and forecasted exactly as a regular forecast, but it may be beneficial to calculate forecasts separately for different time periods (standard business hours, evening hours, weekends, and so on) to best define staffing needs.

When these types of problems are encountered, experience guided by intuition can help adjust the forecast, the service delivery expectations, and the staffing schedule. Many of these considerations can be addressed outside the forecast by incorporating a hiring plan as a step in the staffing process. The hiring plan can also account for other anomalies that are difficult to forecast, such as space limitations and administrative work. There is a complete discussion of creating a hiring plan later in this SMF.

Ongoing Monitoring

Monitoring staffing, scheduling, and support delivery is crucial, particularly for resolution groups where the assumptions driving the staffing forecast are not based on historical data. Determine if the service desk is overstaffed or understaffed, if resources have been properly allocated, or if the underlying assumptions are incorrect is critical. Service desks should collect the following as a minimum for adequate ongoing forecasting (and forecasting adjustment) of staffing needs:

- Call arrival by interval (half-hour or hour)
- Labor per call
- Type of support associated with the call
- Service level

Additional information that may help later analysis is helpful but not absolutely necessary for forecasting. It may, however, allow additional fine-tuning of the service desk organization or aid in managing individuals or groups.

While monitoring, it is imperative to avoid overreacting to daily changes or differences. Focus on distinguishing the true trends from the daily variances and don't rush to fine-tune the model or to make minor adjustments. It is difficult to determine whether a few days' or a week's worth of metrics are representative of the truth, and it may take a few weeks to learn what normal daily variances are.

Service desks with a small staff and small service demands are more likely to exhibit the largest daily variances (by percentage). This phenomenon, sometimes called *small queue syndrome,* is normal and to be expected. Although there are statistical methods for computing the significance of changes or differences, they can be complex and are generally best left as a tool, as described earlier, for very large service desks or support organizations.

On the other hand, when reality is consistently higher or lower than the forecast, some analysis and adjustments are probably called for. Some flags that may indicate changes are needed include:

- Service levels or unusually high delays that are consistently or significantly above or below the target. This is the best single measure of how well an organization is delivering support and tells whether the service desk is delivering on what it promises.
- Significant differences or changes in forecasted labor per incident or in call volume. Whenever possible, identify the cause of the change; this will help to determine the nature of any changes that may be needed for the service desk.
- Utilization rates that are consistently and significantly above or below the goal. These indicate that the staff may be working harder than (or not as hard as) forecasted to meet demand. This may also be an indicator that the goal needs to be re-evaluated or staffing adjusted.
- Service complaints from customers, particularly those that are for specific times of the day. This should be monitored especially closely for a service desk being managed as a profit center, where it may pay to react quickly to avoid the risk of losing clients or breaching support contracts.
- Sudden or gradual shifts in any metric that prove to be significant, either by observation or through statistical testing. Always remember that small samples may show large variations under normal circumstances and generally should be used only with caution. Usually it's best to wait for a larger volume of data if statistical validity is uncertain.

When making a change to a forecast, take things slowly until the real trends are identified, and avoid making sudden, radical modifications. Make changes conservatively. If frequent, major changes are made, it will be difficult to analyze the historical data later for future use or to be sure which change produced the desired result.

When Reality Does Not Match the Forecast

Once the forecast is completed, the hiring plan successfully implemented, and a demand-driven schedule in place, the service desk has the opportunity to see if everything works as planned. Like any complex process based on estimations of the future, there is always the chance that reality will not cooperate with what the model has produced. More often than not, the service desk manager has to make adjustments as changes occur.

Usually one of two metrics quickly tell the manager that he or she has a problem—service level or service delivery goals aren't being met properly (or are being exceeded drastically) or talk ratio isn't within the forecasted range. In the event that the service desk finds either metric at variance with acceptable limits of its service level, the service desk manager has a number of options.

Forecasts, along with their resulting staffing plan and schedules, are based on two metrics that can only be assumed when forecasting the future: call duration and call volume. If the real-world call duration and volume do not match the call duration and volume stipulated in the forecast, it is likely that the forecast is incorrect, and thus the hiring plan and the schedule derived from the forecast are also incorrect.

It is still possible to have problems that appear to be forecasting issues when the above forecast assumption metrics agree acceptably with reality. The next things to examine are the staff needed in a given time interval and the schedule. Is the service desk receiving the number of calls it expected over specified intervals, for example, does the number of calls received between 9 A.M. and 10 A.M. match the forecast? If call duration and expected volume are correct, but the demand is not being met appropriately, there is probably a scheduling problem. If, however, the interval arrival and staffing are correct but the service level is still incorrect (usually low), it is likely that the staff is not deployed in the way they were actually scheduled. This may call for an exercise demonstrating the importance of being at appointed support stations when scheduled. Schedule adherence can have a profound effect on ability to deliver support.

Increase the delivery staff's service delivery goals. That is, if they are scheduled to deliver support six hours a day, consider temporarily increasing that to seven. This gives more resources to deal with the higher demand for a short period without having to find, hire, and train staff. It also won't require any additional facilities or capital purchases. Be cautious, however; this can contribute to employee burnout if sustained too long at times when other duties still require attention. One way of coping with the increase in service delivery goals is to curtail ancillary duties until the crisis is past, although this is not always an optimal solution. Overtime pay may be necessary.

Ask service desk staff to be aware of how they spend their time. While it is not recommended that one manage around call times, focusing on the periods when the service desk is busy with incoming calls can help. Sometimes it may be possible to reschedule non-critical tasks and meetings to shorten the call times slightly, giving the service desk greater capacity.

If there are times in the day where the service desk is meeting demand effectively, consider shifting resources to average out problems. Additionally, the service desk may have staff in other areas that can pitch in and help during the crisis. Of course, this removes them from other duties, but it provides a quick fix to a temporary problem. This must be done carefully, or solving one problem by shifting resources may contribute to other problems.

Encourage users to use alternative support options like a knowledge base, Web resources, online help in products, manuals, FAQs (frequently asked questions) posted in easy to find places like Web pages, and so on. Letting them know that the service desk has limited resources can help reduce call volume temporarily. Focus on the critical support. The issue of self-service facilities for customers is discussed in detail in the incident management SMF.

Consider accepting lower service levels for the duration. It may be that it is not cost-effective to maintain a high service level during some events for some service desks. This must be approached very carefully as it can easily irritate customers—especially external customers. Be sure it is within the service commitments made to the customers. Internal service desks can communicate this to management teams for the users it supports.

Some telecommunication systems allow a busy signal to be played. This can be set up so that customers hear a busy signal and cannot enter the queue to wait when a certain number of customers are already waiting in one queue, or after the average wait time has reached a certain threshold. This is a last-resort solution but prevents customers from having to endure long waits, especially if they are on a toll phone line.

If the service desk uses outsourcing, it may be possible to negotiate for extra outsourcing staff. Of course, this service has a price because the outsourcer will likely need to have staff available for this eventuality.

If the service desk has the opposite problem and finds itself temporarily with a surplus of staff for the desired service level, the primary problem is not with the service desk's ability to provide the customer with a good experience. The problem is that the cost of delivering support goes up because staff is usually the most expensive resource of a service desk. In dealing with a temporarily overstaffed situation, there are several options to consider:

- Re-allocate extra people to parts of the service desk that can use the staff. This gives more cost-benefit to those staff members that are in excess and also retains the training investment of the staff.
- Find other value-adding or proactive work for the staff to do, such as creating knowledge base articles, training materials, and white papers; testing software and equipment; conducting an inventory; and so on.
- Offer some extra unpaid vacation time off.
- Enjoy the reprieve. Sometimes a short lull in demand happens and redeployment may not be worth the effort. Be sure, though—extra staff can be expensive.
- If contracts allow it, consider a reduction in outsourcing or temporary staff. This can be dangerous for a short-term shift if the demand for support begins increasing again.

After demand problems such as those described above occur, some long-term planning needs to take place to ensure that the same problem doesn't arise again or that the service desk is prepared if it can't be prevented. This is critical to building a solid forecasting model for a specific service desk. Key steps to take after a demand problem occurs include:

- Learn and understand what happened and why it wasn't incorporated into the forecast. Learn what a change in business cycle, seasonal change, or new product rollout can do to service desk demand. Building this into the forecasting model continually improves the econometric modeling.
- Adjust headcount to demand. This may include a full re-forecast or just a staffing change. It may include adjusting current staffing levels appropriately.
- Reevaluate the service desk's service level commitments. Is it still appropriate and cost-effective, and are there more acceptable alternatives, given the new data? Changing service commitments should be approached with great caution.

Special Forecasting Issues for Larger Organizations

Extremely large support organizations generally find that their forecasting needs to be more detailed and may have additional aspects. For example:

- Large organizations may need to forecast future support expansions, support-contract sales and renewals, or impacts of marketing activities.
- Large support organizations will find increasing efficiencies in direct-delivery support models; utilization rates will naturally increase, making more support resources available.
- Contract-based support may require more detailed call tracking according to the terms of the contract, which is often a fixed number of calls, time intervals, access privileges, and response times. Fee-based support will involve monitoring billing and billing methods. Customer representatives who can collect and/or verify much of this information may be needed, adding a second tier of staff with forecasting needs.

- Formal incident escalation paths or tiered support may require specialized staffing and separate forecasting.
- Training needs may differ from those of small service desks and the impact of staff attending training may be more severe.
- Attrition of staff will be more common; regular training and missing staff time will need to be accounted for.

Additionally, operations research textbooks, papers, and books relating to queuing theory and qualitative analysis should be useful. Many MBA programs, colleges, and business schools offer courses in these fields. One may find that pure statistical analysis courses are somewhat less useful for forecasting but provide useful knowledge for managing the statistical and probability-related aspects of the service desk.

Planning for New Workloads

When planning the staffing requirements of the service desk, it is extremely important that any business plans the organization has, and which affect the service requirements of the service desk, are taken into account. Elements of the organization's business plans that may affect the service desk include:

- New business streams, possibly involving the recruitment of new staff to an existing or new business unit. Any large influx of new staff will have an effect on the number of calls made to the service desk as the new staff get to know the systems and infrastructure in use within the company.
- Company reorganizations involving an increase or decrease in staff numbers, relocation of users, new locations being opened, or existing ones being closed.
- Mergers and acquisitions may increase the number of users supported by the service desk. This might also require the merging of two or more service desks. It will almost certainly involve supporting additional hardware and software components, which requires that service desk staff be trained in the support of these components.
- The introduction of new infrastructure components or the release of new software. This has two types of impact on the service desk: first, it means that the service desk staff needs to be trained in the support of the new components or software; and second, there is the probability that the number of calls received by the service desk will increase as customers start to use the new components and software.

All of these issues emphasize how important it is to keep the service desk informed of any planned business changes. Furthermore, it is important that the business planners are advised of the potential impact of these changes on the service desk operation so that it can be included in the evaluation of the business plan.

Recruitment

The actual recruitment process, which includes advertising positions, interviewing candidates, making job offers, and so on, is described in the workforce management SMF. However, the service desk SMF must establish the recruitment requirements and develop a hiring plan to work with the workforce management processes.

The Hiring Plan

The forecast provides service desk management with a plan for *direct* delivery of technical support. It says that, for a given product on a particular day, the service desk will need a certain number of analysts who are consistently and directly involved with solving customers' individual problems. But a service desk is much more than analysts handling incoming calls. The typical service desk is a concentration of expertise: knowledgeable service desk analysts handling customer requests and who are in turn supported by a complex infrastructure. While the staff members are answering the telephones, there are *non-delivery* staff members performing other duties (such as research, administration, and tools development) that support the entire operation. In very large organizations, there may be dedicated marketing or analysis and reporting teams who are there to optimize service desk support. Most service desk analysts also perform or participate in regular activities not considered direct support. Writing knowledge base articles, for example, is an analyst activity that relates to customer support but is considered *indirect* because the analyst is not then directly engaged in resolving a particular customer's request. The analyst is, however, engaged in an activity that helps the customer in the longer term. There may be other functions, such as developing and delivering training, that remove analysts from direct support responsibilities for long periods. The hiring plan is developed after the delivery forecast to account for these indirect and non-delivery staff functions.

The forecast is a quantifying tool that uses known or predictable data for analysis and, as such, is required to make sound staffing decisions. In reality, however, the service desk manager cannot increase or decrease the support staff by relying on forecasted numbers alone, as discussed in the "Ongoing Monitoring" and "When Reality Does Not Match the Forecast" sections above. Before one can act on the forecast, there are other factors (part of which is the support delivery plan) that must be taken into account, factors that affect the entire service desk team. A staffing plan, or "hiring plan," is the bridge that takes the service desk from theory (forecast) to practice and from delivery requirements to a fully functioning service desk.

Building a Simple Hiring Plan: Delivery Types

Before building a hiring plan, one must consider such conditions as an analyst's non-delivery time, dedicated non-delivery staff requirements, and the kinds of indirect support that are involved in service desk operations. Non-delivery, direct, and indirect are collectively called delivery types. Once one is satisfied that all relevant conditions have been accounted for, one can fine tune the plan and prepare it for presentation to management. Be prepared, however, to make continual adjustments to the planning methodology as time goes by and as further knowledge is obtained from experience. The following sections discuss the kinds of issues to consider in developing an effective hiring plan.

Non-Delivery Time

Non-delivery time, as discussed earlier, is time spent by service desk staff members on activities not related to support. Some of these activities may be predictable enough to be included in the forecast, for example, vacation time; but one will still want to address the possibility of fluctuating rates of vacation from month to month. To account for non-delivery time, consider the following:

- Determine how much time, on average, an employee takes off for illness. Consider the company's vacation policy and when the peak vacation times occur. Two to three weeks of vacation, plus several national holidays, can add up to 10 percent of a working year.
- Work with the workforce management and human resources departments to find out if there are company-wide statistics for rates of employee leave-of-absence.
- Make sure to be kept informed about upcoming extended leaves, such as maternity or paternity leave, or jury duty. Accounting for this in the hiring plan saves time and money.
- Consider how long it takes to train a new employee.
- Determine how much time a service desk analyst will spend developing or delivering special training materials.
- Determine how much time a service desk analyst will spend learning new technology, formally and informally.

Indirect Support

Indirect support is time spent by analysts on activities related to delivering support, but does not necessarily involve direct contact with the customer. Some indirect support activities are listed below:

- Include special customer service coordinators or duty managers to assign incoming service requests. Perhaps this role is performed only part-time or is divided among the team members.
- Include coaches and mentors to provide walk-up support or backup telephone support, part-time or full-time, whose time is not calculated in the forecast.
- Consider these other services that service desk analysts often provide:
    - Writing knowledge base articles.
    - Providing on-site support (requiring travel time). This is certainly direct support, but is often too unpredictable to be included in the forecast.
    - Working with the IT and product development departments to troubleshoot new tools.
    - Providing services or support to third-party support organizations or support partners.

Support Staff

Including non-delivery staff in the hiring plan is a sound practice. It allows the organization to review on a regular basis the ratio of delivery to non-delivery personnel. It affords the opportunity to quantify, in some cases, the effectiveness of adding a non-delivery staff position. For instance, in a large organization, with a little history and some good record keeping, it is possible to recommend a particular number of knowledge base article writers to support upcoming new product releases or to optimize support delivery during a critical period.

Here too, support staff may be assigned to the service desk full-time or part-time. A small service desk might share the company's training resources but have a dedicated team of business analysts. Building this information into the hiring plan makes it available when determining the fully burdened cost of support for a given future time frame.

With delivery type support conditions in mind, it is possible to start building the plan. The example Hiring Plan A, shown below, is a section of a hiring plan that takes into account several of the factors mentioned above. (In the hiring plans shown below, FTE means "full-time equivalent," that is, one staff member or the equivalent, two part-time staff members.)

Table 25. Hiring Plan A

Hiring Plan A			Number of FTEs Required						Assumptions
Delivery Type	Product	FTE Breakout	Jul	Aug	Sep	Oct	Nov	Dec	
Direct	Database	Forecast	70	75	70	72	74	69	Upgrade release July; 1st rev. Oct; mid-year analysis Nov; holidays Dec.
Direct	Database	Planned direct delivery	70	75	70	72	74	69	Delivery engineers match forecast
Indirect and non-delivery	Database	Planned indirect and non-delivery	33	34	31	31	27	25	Sum of the below non-delivery requirements, rounded up to whole FTEs
All	**Database**	**Total Support Requirement**	**103**	**109**	**101**	**103**	**101**	**94**	
Non-delivery	Database	Sick	2.0	2.1	1.9	2.0	2.0	1.8	2.5% of total delivery time per HR dept
Non-delivery	Database	Vacation	3.1	3.3	3.1	3.1	4.7	4.4	4% avg Summer; 6% Nov and Dec
Non-delivery	Database	Leave of absence	1.2	1.3	1.2	1.2	1.2	1.1	1.5% of total delivery time per HR
Non-delivery	Database	In training	11.8	12.5	11.6	11.8	7.9	7.3	15% of total delivery time = approx 6 weeks training (10% Nov and Dec)
Indirect	Database	Training development and delivery	2.0	2.0	2.0	1.0	1.0	1.0	2 FTE/day to develop and deliver integration training; Oct-Dec unknown
Indirect	Database	Knowledge base	2.0	2.0	2.0	2.0	0.5	0.5	2 FTE for product rollout, reduced to 0.5 after update
Indirect	Database	Partner support	1.0	1.0	1.0	1.0	1.0	1.0	Dedicated liaison for hardware vendor
Indirect	Database	Dispatcher	0.5	0.5	0.5	0.5	0.5	0.5	
Indirect	Database	On-site support	3.0	3.0	2.0	2.0	2.0	1.0	Increase in July/Aug to cover upgrade; decrease Dec due to holidays
Non-delivery	Database	Team manager	5	5	5	5	5	5	14:1 ratio, rounded up
Non-delivery	Database	Group administrator	1.0	1.0	1.0	1.0	1.0	1.0	Dedicated admin asst

Some factors can be determined with a formula, others are more accurately determined by the input of an experienced service desk manager. Note that the times for "Sick," "Vacation," "Leave of absence," and "In training" are a percentage of the sum of "Direct" and "Indirect" full-time equivalents (FTEs). Formulated factors do not necessarily represent discrete individuals, but the amount of time in FTEs it takes to perform a function. They do translate into individuals, however, in the final analysis, and someone who is writing a knowledge base article is just as likely to take a vacation as someone taking an inbound call.

Whenever possible, build the hiring plan template with embedded formulas; it simplifies future adjustments to the plan and allows one to experiment with "what if" scenarios.

Fine-Tuning the Hiring Plan

The hiring plan above indicates a bumpy ride, with direct delivery requirements increasing and then decreasing twice in a six-month timeframe—exactly in keeping with the forecast. In reality, a hiring manager relying on permanent, full-time employees would have a difficult time staffing to the forecast. He or she could not hire and then fire employees in order to meet the exact forecast demands. In this case, the hiring planner would smooth out the plan to reflect more accurately both the hiring process and the actual rate of attrition, if known. Adjusting for these factors, the hiring plan might look like one of the examples below, shown in the charts Hiring Plan B and Hiring Plan C.

Table 26. Hiring Plan B

Hiring Plan B			Number of FTEs Required					
Delivery Type	**Product**	**FTE Breakout**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**
Direct	Database	Forecast	70	75	70	72	74	69
Direct	Database	Planned direct delivery	70	72	72	72	74	74
Indirect and non-delivery	Database	Planned indirect and non-delivery	33	33	32	31	27	26
All	**Database**	**Total Support Requirement**	**103**	**105**	**104**	**103**	**101**	**100**

Hiring Plan B, built from the same forecast as Hiring Plan A, accounts for a steady attrition rate, counterbalanced by a steady hiring rate, except in August and November, when hiring activity is increased. This is a more usable plan because it does not require or assume that full-time employees will leave the service desk. Note that indirect and non-delivery staff are lower in August and higher in September than in Hiring Plan A due to their calculated dependence on the number of direct delivery FTEs. The most salient statistics of Hiring Plan B are listed below:

- Average forecasted delivery FTEs = 72
- Average planned delivery FTEs = 72
- Average indirect and non-delivery FTEs = 30
- Average total support requirement = 103

Table 27. Hire Plan C

Hiring Plan C			Number of FTEs Required					
Delivery Type	**Product**	**FTE Breakout**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**
Direct	Database	Forecast	70	75	70	72	74	69
Direct	Database	Planned direct delivery	70	72	71	71	73	72
Indirect and non-delivery	Database	Planned indirect and non-delivery	33	33	32	30	27	25
All	**Database**	**Total Support Requirement**	**103**	**105**	**103**	**101**	**100**	**97**

Hiring Plan C also assumes a steady attrition rate, but with less counteractive hiring than in Hiring Plan B, allowing the service desk to be slightly understaffed for three months. The most salient statistics for Hiring Plan C are listed below:

- Average forecasted delivery FTEs = 72
- Average planned delivery FTEs = 72
- Average indirect and non-delivery FTEs = 30
- Average total support requirement = 101

Both hiring plans represent very aggressive hiring for August and assume that attrition, balanced with hiring activity, will effect the desired decrease in staffing through the remainder of the year. The second example represents less cost over the six-month period, but slightly greater risk of customer dissatisfaction due to lowered service levels over a longer period of time. Note, however, that both plans maintain an average delivery staff of 72. If January is "back to normal," requiring the average 103 full-time staff, there will be less hiring and training to accomplish with Hiring Plan B. By January, Hiring Plan B may actually be the more cost-effective model.

If the service desk is staffed wholly or in part by temporary or outsourced personnel, the hiring planner has two more factors at his or her service to help smooth out the peaks and valleys caused by new product releases and mature product knowledge. Keep in mind, however, that contracts with outsourced providers may be based on a minimum number of calls per day, requiring the hiring planner to prioritize accordingly.

Other factors to keep in mind when hiring planning involves temporary and outsourced personnel:

- Who is responsible for training? One may or may not have access to a pre-trained workforce.
- Account for sick and vacation time for temporary staff if fully trained replacements are not available and standing by. It probably won't be practical to replace temporary personnel for short-term illness or vacation.
- If there is a mixture of permanent and temporary staff, take into account whether or not the part-time staff will perform the same indirect services as the permanent employees. Conversely, one may want to hire temporary staff specifically to cover some of the indirect (and inconsistent) services.

One final consideration for fine tuning the hiring plan is called *front-loading.* Front-loading refers to the practice of shifting the hiring plan numbers ahead of the forecast by two to three months to account for analysts who are not fully trained. If the forecast doesn't adjust call resolution length to account for new employees not fully trained, one needs to account for this phenomenon in the hiring plan. This is the time it takes to define a position, search for candidates, recruit and hire, and then train the employee in a complex technical environment. It gives a more accurate picture of what the organization needs to look like in real time. For small organizations, this may not be necessary. For large organizations, or organizations that use the hiring plan to conduct a cost analysis or do fiscal budget planning, this practice is very useful. An example of front-loading is shown in Hiring Plan D below.

Table 28. Hiring Plan D

Hiring Plan D			Number of FTEs Required					
Delivery Type	**Product**	**FTE Breakout**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**
Direct	Database	Forecast	70	75	70	72	74	69
Direct	Database	Planned direct delivery	72	72	74	74	75	75
Indirect and non-delivery	Database	Planned indirect and non-delivery	33	33	33	2	27	26
All	**Database**	**Total Support Requirement**	**105**	**105**	**107**	**76**	**102**	**101**

In this front-loaded plan, the average direct delivery FTE will be higher than the forecasted average. The total support requirement is higher than in Hiring Plans B and C above because it is a given that January and February will require increased support. A month-to-month cost analysis based on this plan will be significantly different from the previous examples.

The Hiring Plan Reality Check

The hiring plan may be a perfect reflection of the forecast, delicately balancing temporary and full-time staff, accounting for every nuance of indirect delivery, and still be unworkable.

For example, in the hiring plans above, approximately 28 percent of the support team performs non-delivery type functions at any given time. Is this a reasonable percentage? Is it cost-effective? If the organization did very well the past year with a non-delivery staff equaling 23 percent of the organization, the hiring planner must determine whether this increase supports a strategic change in company policy or is the result of an inefficient plan. If this information is not quantifiable, look at the performance of other resolution groups to see if they perform very well with less indirect support. It's a good idea to track this and other hiring plan statistics in order to develop a benchmark against which future judgments can be made.

Consult with the workforce management and human resources departments to determine if there are qualified candidates in the local area or if they must be recruited nationally. In the process, one may find out that the human resources department may not be able to meet the hiring needs. If a little research reveals that, realistically, one can only hire at a rate of two to four employees per month locally, and if one does not have the option of recruiting from outside the local area, then training inexperienced people hired locally must be considered. This increases the front-loading requirements. There is also the option of developing a hiring plan that has an understaffed condition as an assumption and then front loading accordingly, as suggested in the discussion of Hiring Plan D above.

If the hiring plan is to be used as a tool for judging the organization's performance, that is, for comparing "plan" to "actual," parts of the hiring plan are more critical than others. A team manager who has years of experience with new product rollouts may disagree with the forecast and request additional delivery staff. If this manager is responsible for customer satisfaction and costs, the experience of the manager should be carefully considered.

An obvious consideration for the hiring planner is whether the company has space to accommodate growth. If not, this factor should be built into the plan at the outset, so as not to set false expectations for others involved in the hiring plan process. The same applies if moving to new quarters in the near future.

Ensure that the hiring plan does not run counter to the overall vision of the company. Is senior management expecting the company size to level off or decrease, while the hiring plan for the service desk follows a growth pattern?

If the hiring plan passes the reality check, it's ready to be used by several parts of the company. The wise planner will note the nature of the foregoing questions, however, and quickly realize that the most important reality check takes place before the hiring plan is begun.

The Hiring Plan As a Tool

The hiring plan should be a reliable tool for many kinds of cost analysis: by product, resolution group, FTE, locale, delivery type, and so on. It is also useful for growth analysis, space planning, and planning for training. These different functions require the data to be shown in different configurations. Teams that specialize in different products may require more or less training time than their counterparts, which could be reflected in a hiring plan that provides detail at the product level. Teams that perform different services, for instance an inbound call team versus an escalation team, will have different training requirements and different non-delivery duties, which would show up clearly in a hiring plan detailed by service type.

Before developing a hiring plan template, know what view of the data will be expected. Will the facilities manager need the same information as the service desk team managers? The facilities manager is interested in who will occupy what space. The team manager wants to know how many resources can be applied to a particular product segment or customer base. What information needs to be provided to senior management or the human resources manager? One can make the plan accommodate disparate audiences by ensuring that all conditions are accounted for and by using the right tool to document and display the data. A simple spreadsheet works very nicely for small to medium organizations. For working with many departments and conditions, or where many iterations may be necessary to arrive at a hiring plan acceptable to all levels of the organization, it may be a good idea to develop a pivot table or a database application or both.

The hiring plan is a tool with potential for great flexibility. It can be used to perform "what if" scenarios during the budget planning process and can be updated at any time to reflect changes. Flexibility, however, can also be a challenge. The more heavily the hiring plan is used to define the service desk organization goals for staffing, costs, space planning, and training, the more carefully the elements covered in the plan must be defined. Because the service desk is such a central part of an organization, affecting many other parts, several people may be using the plan as the foundation for their own organizational planning. Careful definition becomes pointless and widespread dependence upon the plan becomes a real problem if the plan has to be changed frequently after it is approved. Define these policies or, even better, define a change control and communication policy for the plan in advance, so if changes are necessary, their implementation can be controlled. If analysis is important, one should plan on a standard number of controlled revisions per year, based on the ability to forecast upcoming product releases, changes in the support policy, and so on. If the plan is revised on an as-needed basis, it will not be an effective tool for measurement and, even then, the changes still need to be communicated to all concerned.

If one has a change control process, it should define the grounds for change, what is negotiable and what is non-negotiable once it is approved, and who has the authority to override the plan. A common understanding of change requirements will reduce the number of changes made for the wrong reasons. This is not to say that the hiring plan can, or should, be followed to the letter. The point of establishing management policies is not to put a straightjacket on the organization; rather, it is to aid in the use of the hiring plan as a benchmark for making decisions.

In setting out to define the plan, consider how it will be used and by whom. All of these factors contribute to the design and level of flexibility of the final hiring plan.

Optimizing Staff Skills

Front-line service desk staff members are generally the ones who are under the most pressure from customers and users and who often take the brunt of users' sometimes unreasonable demands. It can be a seemingly thankless task, but it is also perhaps the most important and challenging role in IT. For many users, the relationship forged with the service desk defines their perceived level of service and satisfaction with the IT organization as a whole. Having the correct service desk skills set is therefore critical not just to the service desk but to the entire IT organization.

Selecting and retaining the correct staff with appropriate skills is critical to the success of the service desk. It is no longer enough to have "technical skills," professional skills are also vital. In fact, many successful service desks recruit staff from the "business" or employ staff from other service-based industries, who are then, if required, technically trained in the required areas.

Basic Service Desk Skills

Details of the responsibilities of each member of the service desk staff are described in the "Roles and Responsibilities" section of this SMF. To accomplish even the most basic level of service for service desk tasks, some basic personal skills are necessary.

A service desk professional needs to be master of many essential skills, with a mindset to match. Some of the skills and attributes that a service desk member should have include:

Table 29. Required Skills for Service Desk Personnel

Skills	Description
Communication	The ability to express thoughts and ideas in a way that is easy to understand, using language and terms that are appropriate for the level of experience and expertise of customers. Multi-language skills may be necessary. The ability to clearly and succinctly provide others with the information they need in order to get their jobs done. A methodical approach to resolving issues.
Composure	The ability to remain cool under pressure. Not becoming cynical, moody, or hostile in difficult situations. Ability to cope effectively with stress, change, risk, and uncertainty. Ability to "multitask" in a fast-paced environment and to remain tolerant of others, even when provoked.
Empathy	Genuine concern for the needs and welfare of the customers. An understanding of the business impact of the issues a customer reports. The ability to listen carefully to other people and view things from their perspective. Ability to provide emotional and verbal support to individuals having problems or difficulties.
Forthrightness	Willingness to tell others "bad" news as well as "good." The ability to be honest, even though others may be upset or disappointed, and the ability to communicate intentions clearly, so that others know exactly what to expect.
Helpfulness	Responding quickly to requests for information or assistance. An enjoyment of troubleshooting and solving problems. Following through on commitments, even if it takes more time or proves more difficult than expected. Approachable and easy to talk to, and treating others with courtesy and consideration.
Flexibility	The ability and willingness to adapt quickly to change. Openness to new and different ways of doing things and the ability to shift quickly as priorities and circumstances change.
Loyalty	Speaking well of the company, the team, and other team members. Presenting a favorable view of the company or team to members of the public and giving team and company goals higher priority than individual goals.
Passion for technology	A real passion for computer technology and enjoyment of figuring out how things work. A love of reading technical periodicals and publications and a genuine interest in staying abreast of the latest and newest technologies.
Aptitude for acquiring new skills and knowledge	Resourcefulness and an ability to learn from many angles.

Assessing knowledge and aptitude is harder than evaluating skills, but considering both results in a better hire. Skills are acquired; they are teachable. At the pace the technology supported by the service desk is changing, the skills and knowledge the employee begins with are likely to become obsolete in the next two years.

Personal skills are developed rather than taught. The personal skills of service desk staff can be developed by providing training in such areas as:

- General interpersonal skills
- Telephone techniques
- Writing techniques (letter, e-mail)
- Active listening and questioning
- Stress and complaint management

Service Culture

Utilizing and building on the basic skills required for a service desk employee results in the development of a service culture within the service desk team.

The service desk manager must ensure that the service desk staff members operate as a team. Teamwork is critical to the success of the service desk. The service desk team must be customer-focused and understand and accept that:

- The customer's problem affects the business.
- Without the customer, there is no support department.
- The customer is an expert in his or her own field.

The team must present a consistent and professional image of the service desk to their customers. This helps to develop the customers' trust and confidence in the service desk, which improves customers' perceptions and leads to a more beneficial relationship.

The service desk team must accept ownership of their customers' problems and treat the customers' concerns as if they were their own. Customers must be kept informed of all progress with their issues. This clearly demonstrates that the customers' concerns are important to the service desk, and whether the solution to their problem is simple or complex, the service desk is "here to help."

Service desk personnel are generally in the best position to review and/or amend service desk processes and procedures. They should be encouraged to provide feedback on ways in which the customer experience of the service desk can be enhanced.

Technical Skills

The technical skills required by the service desk staff can be determined by looking at:

- The types of questions currently being asked by users.
- The applications and equipment being supported.
- The level of expertise of the user community being supported.
- The level of service to be offered by the service desk in general. If the scope of the service desk is that it simply logs calls and passes them to the appropriate resolution group, then the service desk staff does not need in-depth technical knowledge. If, on the other hand, the aim is for the service desk to resolve a high proportion of issues at the first call, then the service desk staff will require considerable technical skills.

Technical skills can be acquired by service desk staff in a number of ways. Attending formal training courses is the most obvious method. As well as improving the skill levels of service desk personnel, this also contributes to staff satisfaction as it demonstrates a willingness to invest in the staff. If it is not possible to send all the service desk staff on training courses, either because of budget constraints or the problems caused by staff absence, selected staff could be sent on training courses and then be asked to convey the salient points of the training course to the other staff. The attainment of professional qualifications through training and examinations is beneficial not only to the personal development of staff, but also to the perception of the service desk by its customers; if a service desk can publicize the qualifications held by its staff, this is likely to increase customers' confidence in and respect for the service desk.

On-the-job training is a way of transferring skills through practice rather than through coursework. By placing a service desk staff member in a support unit or a business unit for a period of time, he or she will learn about technical issues and how those issues are relevant in the context of the organization. On-the-job training also works in the opposite direction—where support staff or business staff spend time working on the service desk—and can serve two purposes. First, the specific skills of the employees can be transferred to the other service desk staff. Second, the employees learn how the service desk operates so that when they return to their regular jobs, they better understand the processes, issues, and concerns of the service desk. This experience will also reduce any "us and them" feelings and improve communications and relations between the service desk and other units.

Mentoring can be used to transfer skills within the service desk. Experienced service desk staff or those with specific technical skills can be asked to act as a mentor to less-experienced staff. This can be used for the transfer of specific skills or more generally for the development of basic service desk skills of new staff.

When considering the skills that the service desk personnel possess, it is important to understand that there is *explicit* knowledge and *implicit* knowledge. Explicit knowledge is that which derives from documented sources: training courses, knowledge bases, or available documentation. This knowledge is quite straightforward to duplicate or transfer from one employee to another. Implicit knowledge describes the knowledge that certain members of staff have in their heads—it probably comes from their past experiences of addressing issues or previous work experience—the significant point is that it is not available in an easily transferable form to other staff. Some staff members can be very protective of their unique knowledge as it makes them feel indispensable. This generally only becomes an issue when the staff member with the implicit knowledge is not available because he or she leaves the company or is sick or on vacation—and at that point it is too late to do anything about it. Every effort should be made to ensure that all the knowledge and skills used by service desk staff are documented in a form that can be used by other staff if necessary. One way of doing this is to ensure that when calls are closed, a detailed description of the investigation, diagnosis, and resolution is added to the call records so that these can be referred to if the same issues arise later.

Optimizing Physical Workspace

When designing or reviewing the physical workspace to be occupied by the service desk, take into consideration any relevant regulatory or legislative requirements. In many countries, especially within Europe, there are laws governing the ergonomic requirements of workplaces and the health and safety measures that must be adopted.

The physical and logical layout of the service desk workspace is dependent on the scope of the services to be provided.

When considering the location of the service desk, be sure to check the reliable availability of electrical power, network connections, and so on. Telephone and equipment demands may require additional space for wiring panels and switchboards. If the scope of the service desk includes having testing or diagnostic equipment, carefully investigate arrangements for climate control to minimize hardware downtime.

For a small organization, consider forming tightly knit teams of service desk analysts whose desks, cubicles, or workstations are physically situated close together. Such an arrangement can save valuable time during problem-solving sessions, technical team briefings, and incident escalations. In larger organizations, it may be necessary to consider a different configuration that minimizes redundant activity and maximizes the dissemination of information.

Examine how the service desk area itself is arranged for individual service desk analysts. Make sure that the selected space is sufficient to accommodate all of the service desk equipment. This may include a dedicated workstation for each staff member, status displays for monitoring call activity, and areas with supervisory monitoring capabilities. The structure selected depends on the extent of the services provided.

Many resolution groups find that a high-walled, three-sided cubicle with the open side of the cubicle facing a common area often works well. The high walls help muffle sound and provide space for attaching the many shelves needed for books and training manuals. Opening onto a common area provides a forum for group interaction, allowing service desk analysts to sit in their cubicles and still talk to everybody on the team. This physical arrangement promotes open discussion of issues and can be an essential element of skill development and team building.

Other options to consider include a common area with a worktable, storage cabinets, and room for storing resource material. The service desk staff probably needs access to a copy machine, a fax machine, and a printer. Whiteboards provide a relatively inexpensive medium for note taking and diagramming for group discussions. Consider providing a small whiteboard in each cubicle and a larger one in the common area for use during meetings and for posting important information such as schedules.

When arranging the environment, be sure to look at issues of access. While it may be important for the service desk team to be in an open environment to facilitate sharing information, it is disruptive for the team to be too accessible to the rest of the company. On the other hand, if the service desk provides walk-up service, then ensuring easy access is vital. However, only such staff as allocated for that function should be accessible so as to ensure that otherwise occupied service desk personnel are not impacted by inappropriate walk-up requests. Additionally, team resources, both hardware and software, should have controlled access to prevent theft or mishaps affecting a single customer or the entire organization. Hardware resources would include such items as:

- Spare parts—floppy disk drives, hard disk drives, drive controllers, video cards, monitors, network interface cards, spare system motherboards, and so on.
- Supplies—floppy disks, network cabling, connectors, drive cables, print supplies, and so on.
- Test equipment—Volt-Ohm meters, continuity testers, decibel loss meters, cable noise testers, TDR devices, network packet analyzers, RAM testers, system diagnostic cards, and so on.
- Software resources that should have controlled access might include:
- Diagnostics—hard disk drive, CPU and system, network card, video card and monitor, and so on.
- Control and Management—server, network devices (bridges, switches, routers), and so on.

Optimizing Technology

The technology used by the service desk depends to a large extent on the scope of the services provided. Regardless of what technology is in use, it is important to periodically review the technology to ensure that it remains suitable for the requirements of the service desk.

Telephone System

Possibly the most important piece of technology used by the service desk is the telephone system. This is the primary means of communication by the customers with the service desk.

In a very small organization, the telephone system requirements may be no more sophisticated than those provided by a standard company PABX system. However, it is likely that the requirements of the service desk will be considerably greater than the facilities provided by such a system.

The features and configuration of the telephone system should be checked to ensure that it still supports the business requirements (which may have changed since the system was first installed) and to determine whether any currently unused features could be utilized as the service desk function matures. Items to be reviewed include:

- Are there sufficient lines in to the service desk to avoid customers getting a busy signal when they call? The volume of calls expected may vary over time. The system must be capable of handling the peaks of incoming calls, unless a policy decision is taken that it is acceptable for customers to get a busy signal.
- Are facilities such as automatic call answering being used so that callers get a recorded message rather than a ringing signal? This facility can be used for service status messages that may satisfy the caller's requirements before his or her call gets through to a service desk analyst.

- Are Interactive Voice Response (IVR) and Automatic Call Distribution (ACD) available and, if so, are they being used? If they are being used, are they being used effectively? Remember that these facilities should not create a barrier between the customers and the service desk. There is a tendency to use these features heavily simply because they are there and, unless they are used wisely, this can prove to be counter-productive. Also keep in mind that these features may not be appropriate in some regions or cultures, and their use may discourage people from calling the service desk.
- Are queue management facilities available and being used? Are these linked to some sort of alerting mechanism, such as a display board, so that unanswered calls can be identified and addressed quickly?
- Are the monitoring and reporting facilities of the telephone system being used to identify any issues around call arrival rates, call lengths, staff responsiveness, and so on.?

Standard Office Technology

All service desk staff will require some standard office equipment. At minimum, they will require:

- A desktop computer with network connections to supporting tools.
- Access to e-mail.
- Access to a printer.

Staff may also require access to the Internet if the scope of the service desk includes, for example, accessing supplier Web sites to download patches.

Most organizations operate some sort of technology refresh program to ensure that the office equipment in use by the service desk is kept up-to-date and appropriate to the task.

Diagnostic and Test Equipment

As part of the investigation and diagnosis of a customer's problem, it may be necessary to utilize some diagnostic equipment or attempt to reproduce the problem in a controlled environment.

For the reproduction of customer problems, the main consideration is whether the service desk's equipment is similar enough to the users' equipment to allow service desk staff to reproduce users' problems.

Depending on the variety of hardware used, it may be very difficult to ensure that the service desk has a computer similar to each and every user's computer. Organizational standardization of computer-related purchases could make this less difficult. The best solution is to arrange to have at least a representative selection. Some things to consider are:

- Hardware platforms supported: Macintosh, Alpha, Intel, PPC, and so on.
- CPU types required.
- Amount of RAM needed for each computer—largest operating system and application(s) are key to determining this.
- Hard disks, type, and size—multiple operating system (OS) boot options need to be considered.
- Controller types.
- Tape units.
- CD-ROM drives.
- Miscellaneous items such as backup systems, power, and so on.

Further complicating the issue are considerations about what software should be installed on the service desk computers. Different users may be running entirely different software. In addition to the variety of commercial products used, users may be running some programs that were developed in-house. If the service desk is responsible for supporting the software, then it is important that the service desk have access to copies of each program. Some considerations are:

- Operating system: third-party "multiple boot" utilities may be of use in this case.
- Network operating system (NOS) and protocols: boot menu systems may be of use in this case.
- Installed applications.
- Application installed on a server or on a local user computer.
- File systems used (for example, file allocation table [FAT]).
- Software tools required (for example, disk-repair utilities, hardware diagnostics, OS reporting).
- Media delivery (for example, floppy disk, compact disc, network install).
- Most companies also have some type of network associated with its computer equipment. If supporting the network is also a responsibility of the service desk, there are additional considerations, including:
    - Type of network card(s)
    - Network cabling tools
    - Number and length of network cables
    - Topology standards
    - Network operating system standard
    - Protocol standards
    - Networking software
    - Network sniffer
- Monitoring tools required, such as Microsoft Systems Management Server.

In addition to the basic equipment needed by the service desk, it is helpful to assemble a collection of *hot spares* of commonly used disk drives, video cards, and other internal components to be kept in the service desk's storage room. (A hot spare is an item that is known to work and that can be used to quickly replace a malfunctioning component to quickly get a user back up and running.) This is especially important for service desks that provide hardware support but is also important for testing software issues. The storage room should be near the service desk and, to reduce the risk of theft, should have a door that can be locked.

Because the service desk may need access to hardware and software of all types and in all commonly used configurations, it is often convenient to centralize this equipment in a test lab facility. The size of the service desk (and of the organization itself) determines the amount of equipment necessary and the space requirements for housing the equipment.

For smaller organizations, where only a small amount of equipment is required, the "lab" can be centralized or dispersed throughout the working environment, depending on the structure of the resolution groups and the products they support.

Technical Resources

Service desk personnel need access to the latest technical reference materials, including books, copies of software, documentation, and technical training materials. If the company cannot afford a dedicated library and library staff, some of the least-used or more expensive materials can be stored in a common area, but it may be necessary to purchase the most commonly used materials for each service desk analyst.

Depending on the breadth and depth of support required of the service desk, reference materials may cover such topics as:

- Computer hardware and peripherals: systems, disk drives, printers, video devices, and so on.
- Computer troubleshooting: hardware, operating system, network, applications.
- Network devices and hardware: net adapters, hubs, bridges, switches, routers, cabling, standards.
- Network protocols: vendor-supplied or third-party references for each protocol supported.
- Network troubleshooting: for the NOS, the protocol, and in general.
- Network modeling and planning.
- Network management: utilities, theory, and application.
- Operating systems, including manuals, resource kits, third-party after-market publications.
- Applications and utilities: vendor-supplied with internal documentation; also, third-party and after-market applications.

Much important information is available on compact disc, and it may be important for each service desk analyst to have immediate access to the information.

If particular compact disc titles are referenced often by the various analysts staffing the service desk, the purchase and use of a CD-ROM jukebox or tower may be a better investment than purchasing many individual copies. The CD-ROM server can provide access to its contents to everyone on the local network, and site licenses can be purchased for many software tools and reference materials.

Ensure that every collection of materials has a checkout system for tracking purposes and to help limit the length of time the collection is out of the library and unavailable to others.

Software Tools

Normally, software tools for the service desk would be specified and procured as part of the initial implementation of the service desk function. However, if a service desk has evolved out of other support functions or its scope has increased due to an increase in the organization's business or its application to additional business areas, there may be a requirement to implement a software tool in an existing service desk environment.

It also happens occasionally that a tool purchased for an initial implementation of the service desk has been outgrown or has been found to be inadequate or inappropriate and so has to be replaced. (The specification of requirements for software tools and the evaluation, procurement, and implementation process is not covered in this document.)

The optimization of existing software tools involves the following considerations:

- The tool has the required functionality for the current and forecasted needs of the service desk.
- The tool has sufficient capacity to support the current and forecasted requirements of the service desk. This includes consideration of database size, throughput, response times, and other performance measures. It also includes consideration of the number of user licenses that have been purchased for its use.
- There is adequate support available, either from internal sources or from the supplier.
- The tool has adequate interfaces to other tools in use within the organization. For example, interfaces to the change management or problem management tools.
- The tool is being used appropriately by service desk staff. They are aware of and are using all of the relevant features of the tool. Service desk staff has been adequately trained in the use of the tool.

It is important that the people responsible for the management and development of the service desk function are aware of developments in the area of service desk tools. This can be achieved by reading industry magazines, newsletters, and so on, attending conferences, exhibitions, seminars, workshops, and so on, and/or membership of user groups and other organizations.

Reviewing and Optimizing Monitoring and Reporting

The monitoring and reporting of service desk processes is fundamental to evaluating and improving the effectiveness and efficiency of those processes.

Review What Is Being Monitored and Reported

The owner of the service desk processes should periodically review the monitoring being carried out on its operations and the reports being produced.

Based on the premise that it is better to have too much information than not enough, there is often a tendency to monitor and measure everything that is possible to monitor and measure and to report the measurements in great detail, regardless of whether anyone actually finds this information useful.

In practice, if there is too much information provided, the really important information tends to get lost, with the consequent risk that important problems are missed and are not acted upon.

It is therefore important to ensure that only relevant information is provided to the relevant people. The issues of what to monitor and who needs to have the information are discussed earlier in this document in the sections, “Perform Monitoring” and “Prepare Reports.” In order to optimize these processes, it is necessary to ask the following questions:

- Is relevant information being monitored? It is important to monitor information that is useful, if there is no interest in certain information, discard the monitoring request. However, if you are not monitoring specific information that is required, make sure those items are included in the monitoring process. Obtain feedback from key stakeholders as to what information is considered useful, what is not useful, what additional information would be useful, and so on.
    - Ask customers if the reports on their services are adequate. Ask senior management if the information they receive provides a clear view of the information they require, such as costs, staff utilization, customer satisfaction, and so on.
    - Ask service desk personnel what type of information callers ask them. This type of information should be included in regular monitoring and reporting. In addition, ask service desk personnel if they receive sufficient information about their own performance and that of the service desk as a whole.
- Are the key performance indicators (KPIs), (indicating the adequacy of the performance of the service desk processes), still appropriate or should other indicators of performance be used? KPIs are generated summaries of the service desk’s performance and might be used as an early warning of potential problems. Senior management would review KPIs and act on the information received. KPIs are only useful if they are objective and unambiguous measures and are accurately calculated. Ensure that KPIs are not “manipulated” in order to present the service desk in a better light.
- Is the monitoring frequency correct? For example, counting the number of calls received in a day is useful, but it might be more beneficial for profiling purposes to count the number of calls in certain intervals of time, for instance, ten minute durations.

- Is the appropriate amount of information being collected? Is the level of detail appropriate for each item being monitored?
- Is the reporting frequency correct? Some reports will be required on a daily (or even more frequent) basis; however, others may be required on a shorter time frame, such as monthly or quarterly reporting cycle.
- Is the monitored information being distributed to the correct audience? There is a tendency to send everything to everybody, with the result that the majority of distributed reports are discarded without being read.
- Is the information being presented in a suitable format? Are large amounts of detailed data being distributed when a simple summary would be adequate? Would information be more useful if it were presented as a table, spreadsheet, pie chart, and so on?
- Is the method of distributing reports appropriate? Are printed versions of reports being distributed when they could be e-mailed or placed on an intranet?

Requirements for Certification Programs

Earlier in this guide, the issue of certifying the service desk operation was discussed. The requirements for optimizing the monitoring and reporting of the service desk are influenced by the requirements of any certification program being undertaken.

A certification program is unlikely to consist simply of providing information on one occasion to the certification agency. It is more likely that it will be necessary to provide evidence of service desk performance over an extended period so that trends can be identified.

Obtain feedback from the certification agency involved as to the items being monitored, the level of detail being captured and reported, the frequency of monitoring and reporting, and the method of delivering the reports, and so on.

Roles and Responsibilities

MOF defines the principal roles and their associated responsibilities for the service desk according to industry best practices. However, some organizations might need to combine some roles, depending on the organization's size and structure and the underlying service level agreements existing between the IT department and the business it serves. It is important to remember that these are roles rather than job descriptions.

The following roles are required to perform the service desk processes:

- Service desk manager
- Service desk analyst

Definition of Roles

Service Desk Manager

The service desk manager role is critical because it supervises tasks that are associated with the daily operation of the service desk, the continual development of the service desk function, and troubleshooting issues. These tasks are described below:

Table 30. Service Desk Manager Responsibilities

Task	Description
Managing day-to-day activities	Managing staff. Producing staffing rosters. Managing the service desk analysts. Carrying out staff appraisals. Producing and maintaining staff training plans. Recruiting new staff. Providing advice and guidance to customers and service desk analysts. Producing management reports. Representing the service desk by attending meetings as the service desk representative. Maintaining the processes used within the service desk.
Developing new functions and processes	The management role also strives to develop new functions and processes for the service desk, these activities might include: Creating a service culture within the service desk. Running awareness programs and campaigns to publicize the service desk and the services it provides. Developing processes and agreeing interfaces to other SMFs. Liaising with incident and problem management processes regarding any changes in coding systems. Planning the take-on of new services and workloads. Providing input to SLA negotiations and reviews. Working with other SMFs to ensure the availability and continuity of the service desk function. Working with capacity management to ensure that sufficient capacity exists in order for the service desk function to meet service targets. Defining and implementing new or improved working practices.

Task	Description
Troubleshooting issues	The service desk manager role also provides an important troubleshooting function. As the service desk is the focal point for customer contact, it is also frequently the place where customer dissatisfaction will be voiced. The service desk manager needs to be able to handle and troubleshoot issues raised by users, service desk staff members, or other SMFs, with regard to the IT services provided. These activities might include: Listening and responding to instances of dissatisfaction. Liaising with customers and service level managers where service targets have not been met. Discussing and liaising where incident or problem escalation is felt necessary. Representing customer issues within the support organization. It is important that a person filling the troubleshooting position is always available during the working hours of the service desk. Therefore, it is typical for a service desk manager to delegate some of the day-to-day tasks. However, the service desk manager should retain overall responsibility of managing the operation of the service desk.

Service Desk Analyst or Technician

The service desk analyst or technician role is responsible for executing the day-to-day tasks of the service desk processes.

This role is primarily involved with performing the incident management process. During the initial phases of the incident life cycle, service desk analysts are responsible for ensuring that the incident is properly recorded, classified, and given initial support. During initial support, they are responsible for resolving as many incidents as possible, within the timescales allowed. Their actions at this stage have a very direct impact on customer satisfaction and determine how the incidents will be dealt with by the rest of the support chain.

Service desk analysts/technicians are responsible for assigning incidents that have not been resolved by initial support. However, their responsibility does not end at that point and they should retain ownership of the incidents, remaining responsible for ensuring that incidents continue to be progressed and escalated in accordance with service targets.

The analyst/technician provides progress updates to customers throughout the life of an incident. Once the incident is resolved, the analyst/technician will confirm that the initiator is happy with the resolution, prior to closing the incident record.

The role also involves the initial processing of all types of service requests, proactive communication with the business, and often the maintenance of self-service facilities, such as FAQ lists.

Table 31. Service Desk Analyst/Technician Responsibilities

Role	Main Responsibilities
Service desk analyst/technician	This role is responsible for the following activities: Incident recording. Routing requests to resolution groups when incidents are not resolved during initial support. Initial support and classification. Monitoring the status and progress toward resolution of all open incidents. Keeping affected users informed about progress. Escalating the process if necessary. Resolution and recovery of incidents not assigned to resolution groups. Resolution confirmation and closure of incidents. Detecting potential trends and liaising with problem management where applicable.

Relationship to Other Processes

Overview

The service desk is an important service management (SMF) function that deals with most of the SMFs.

Service Management Functions

The following table names other SMFs and their connection to the service desk:

Table 32

SMF	Relationship with Service Desk
Configuration Management	The service desk function uses the information from the configuration management database (CMDB), when performing many of its processes. When calls are initially received, customer details may be acquired from within the CMDB. The service desk function checks these details with the customer to ensure that records are accurately maintained. When processing incidents and service requests, the service desk function checks the configuration item (CI) details against those held within the CMDB and notifies configuration management where discrepancies are found so that they can correct the errors and investigate why the discrepancies arose. The service desk function also utilizes the information within the CMDB to accurately target the supply of proactive communications to customers.
Release Management	Release management informs the service desk function about new releases or upgrades (hardware and software) in order to: Ensure the service desk staff secures or maintains appropriate training to enable them to handle calls on the new release or upgrade. Ensure staffing levels are considered when rolling out the new release. Ensure that diagnostic scripts are developed. Ensure that the service desk informs customers of new releases. Ensure that the service desk advises release management of any implementation issues.
Change Management	Change management informs the service desk of any upcoming changes in order to ensure the service desk makes necessary preparations. The service desk should be represented at CAB meetings in order to give their perspective to the assessment of changes and at post-implementation reviews to give their perspective on the success of changes. As part of their role in proactive communications, the service desk can circulate the Forward Schedule of Changes (FSC) and Projected Service Availability (PSA) documents to customers.

SMF	Relationship with Service Desk
Security Administration	The security administration function is involved with setting policies on how the service desk reacts to security/access requests, such as password resets, new accounts, access to applications, and deletion of old accounts.
Storage Management	The service desk should process backup and restore requests in accordance with storage management policies. This includes identifying the request details that need to be obtained, the authority that needs to be given, and the rules on who is authorized to carry the requests.
Directory Services Administration	The directory services administration function, in association with the security administration function, should promulgate the policy on how the service desk handles account and password type requests.
Print and Output Management	The print and output management function interfaces with the service desk function to determine how to handle: Reports of undelivered printout. Requests for reprints. Requests for new output forms to be designed.
Job Scheduling	The job scheduling function interfaces with the service desk in order to process requests for as-needed job runs and job schedule changes and to allow investigation of failed jobs.
Incident Management	The service desk acts as the initial gateway into many of the IT processes, including the incident management process. The service desk acts as the interface between the business and IT and, in this case, between the business and the incident management process. The service desk is responsible for the coordination of the incident management process. The service desk performs the recording, classification, and initial support phases of incident management. When incidents are assigned to resolution groups, the service desk retains responsibility for ownership, monitoring, and tracking of all incidents. If the service desk is functioning successfully, many service requests and incidents may be handled and resolved without ever going outside of the service desk function.
Problem Management	The service desk, with its responsibility for coordinating the incident management process, is ideally placed to identify recurrent or multiple incidents that point toward an underlying problem. As such, the service desk is an important source of information for problem management. In return, problem management works to identify and document workarounds and solutions that the service desk can use while performing initial support on new incidents. When resolutions or workarounds are identified by problem management, the information is then passed to users by means of the service desk. Problem management also aims to identify information that the service desk can use to proactively advise users. In the long run, effective problem management should reduce the number of incidents being reported to the service desk.

SMF	Relationship with Service Desk
Financial Management	The financial management function provides details on the costs of running the service desk and, if appropriate, provides a mechanism for charging for use of the service desk.
Capacity Management	Capacity management assists the service desk by ensuring there is always sufficient capacity for service desk tools, incident diagnosis tools, and self-service facilities.
Availability Management	The service desk helps provide availability management with details of service interruptions by ensuring that incident details are accurately logged. Availability management works with the service desk manager to plan for service desk availability.
Service Continuity Management	Service continuity management works with the service desk manager to plan for continuity of the service desk function. Service continuity management plans and agrees upon the role the service desk should play during disasters.
Service Level Management	As the point of contact between customers and the IT organization, the service desk uses information from the service level management function to determine what the agreed levels of service should be and coordinates with service level management when service targets have been breached or are in dispute. In instances where breaches have occurred, the service desk may participate in customer review meetings with service level management.

Contributors

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