# INTERNATIONAL STANDARD

## ISO/IEC 20000-2

Second edition
2012-02-15

# Information technology — Service management —

## Part 2:
# Guidance on the application of service management systems

*Technologies de l'information — Gestion des services —*

*Partie 2: Directives relatives à l'application des systèmes de management des services*

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# Foreword

ISO (the International Organization for Standardization) and IEC (the International Electrotechnical Commission) form the specialized system for worldwide standardization. National bodies that are members of ISO or IEC participate in the development of International Standards through technical committees established by the respective organization to deal with particular fields of technical activity. ISO and IEC technical committees collaborate in fields of mutual interest. Other international organizations, governmental and non-governmental, in liaison with ISO and IEC, also take part in the work. In the field of information technology, ISO and IEC have established a joint technical committee, ISO/IEC JTC 1.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of the joint technical committee is to prepare International Standards. Draft International Standards adopted by the joint technical committee are circulated to national bodies for voting. Publication as an International Standard requires approval by at least 75 % of the national bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO and IEC shall not be held responsible for identifying any or all such patent rights.

ISO/IEC 20000-2 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 7, *Software and systems engineering*.

This second edition cancels and replaces the first edition (ISO/IEC 20000-2:2005), which has been technically revised. The major differences are as follows:

— closer alignment to ISO 9001 and ISO/IEC 27001;

— changes in terminology to reflect international usage;

— new guidance on governance of processes operated by other parties;

— more guidance on defining the scope of the SMS;

— more guidance on continual improvement of the SMS and services;

— more guidance on the design and transition of new or changed services.

ISO/IEC 20000 consists of the following parts, under the general title *Information technology — Service management*:

— *Part 1: Service management system requirements*

— *Part 2: Guidance on the application of service management systems*

— *Part 3: Guidance on scope definition and applicability of ISO/IEC 20000-1* [Technical Report]

— *Part 4: Process reference model* [Technical Report]

— *Part 5: Exemplar implementation plan for ISO/IEC 20000-1* [Technical Report]

# Introduction

This part of ISO/IEC 20000 provides guidance on the application of service management systems (SMS) based on ISO/IEC 20000-1. This part of ISO/IEC 20000 does not add any requirements to those stated in ISO/IEC 20000-1 and does not state explicitly how evidence can be provided to an assessor or auditor. The intent of this part of ISO/IEC 20000 is to enable organizations and individuals to interpret ISO/IEC 20000-1 more accurately, and therefore use it more effectively.

An SMS is defined in ISO/IEC 20000-1 as a management system to direct, monitor and control the service management activities of the service provider. The SMS should include what is required for the planning, design, transition, delivery and improvement of services. At a minimum this includes service management policies, objectives, plans, processes, process interfaces, documentation and resources. The SMS encompasses all the processes as an over-arching management system, with the service management processes as part of the SMS.

Coordinated integration and implementation of an SMS provides ongoing control, greater effectiveness, efficiency and opportunities for continual improvement. It enables an organization to work effectively with a shared vision. The operation of processes as specified in Clauses 5 to 9 requires personnel to be well organized and coordinated. Appropriate tools may be used to enable the service management processes to be effective and efficient. The most effectual organizations consider the impact of the SMS through all stages of the service lifecycle, from planning and design to transition and operation, including continual improvement.

This part of ISO/IEC 20000 provides examples and suggestions to enable organizations to interpret and apply ISO/IEC 20000-1, including references to other parts of ISO/IEC 20000 and other relevant standards.

Users of International Standards are responsible for their correct application. It is important for organizations and individuals using ISO/IEC 20000 to understand the points listed below.

— ISO/IEC 20000-1 does not purport to include all necessary statutory and regulatory requirements, or all contractual obligations of the service provider. Conformity to ISO/IEC 20000-1 does not of itself confer immunity from statutory obligations.

— ISO/IEC 20000-1 is applicable to internal and external, large and small, and commercial and non-commercial service providers.

— ISO/IEC 20000-1 promotes the adoption of an integrated process approach when planning, establishing, implementing, operating, monitoring, measuring, reviewing, maintaining and improving an SMS for the design, transition, improvement and delivery of services that fulfil service requirements.

ISO/IEC 20000 promotes the application of the methodology known as "Plan-Do-Check-Act" (PDCA) to the SMS and the services. The PDCA methodology, shown in Figure 1, can be briefly described as follows:

Plan: establishing, documenting and agreeing the SMS including the policies, objectives, plans and processes necessary to design and deliver services in accordance with business needs, customer requirements and the service provider's policies.

Do: implementing and operating the SMS for the design, transition, delivery and improvement of the services.

Check: monitoring, measuring and reviewing the SMS and the services against the plans, policies, objectives and requirements and reporting the results.

Act: taking actions to continually improve performance of the SMS. This includes the service management processes and the services.

When used within an SMS, the following are the most important aspects of an integrated process approach and the PDCA methodology:

a) understanding and fulfilling the service requirements to achieve customer satisfaction;

b) establishing the policy and objectives for service management;

c) designing and delivering services based on the SMS that add value for the customer;

d) monitoring, measuring and reviewing performance of the SMS and the services;

e) continually improving the SMS and the services based on objective measurements.

Where other management systems are present, the implementation of an SMS, with the adoption of a process approach and the PDCA methodology, enables the service provider to align or fully integrate the organization's management systems. For example, it is possible to integrate ISO/IEC 20000 with a quality management system based upon ISO 9001 and/or an information security management system based upon ISO/IEC 27001. An integrated management system approach increases efficiency, establishes clear accountability and traceability and enhances organizational planning, communication and control.
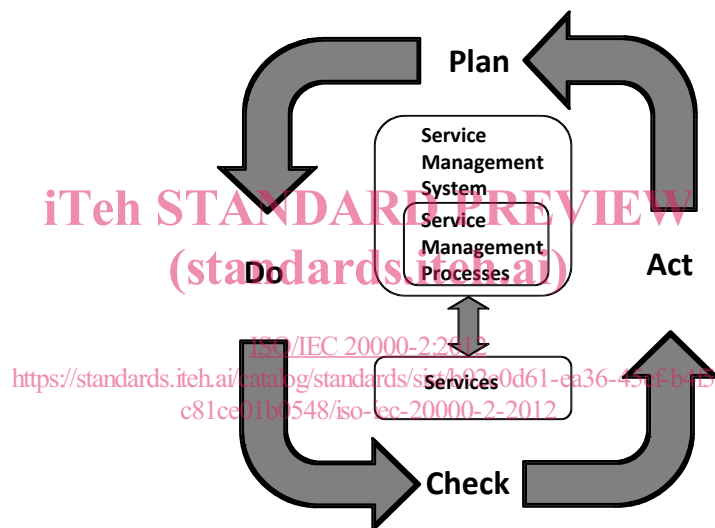


**Figure 1 — PDCA methodology applied to service management**

As stated in ISO/IEC 20000-1:

*"ISO/IEC 20000 can be used by:*

a) *an organization seeking services from service providers and requiring assurance that their service requirements will be fulfilled;*

b) *an organization that requires a consistent approach by all their service providers, including those in a supply chain;*

c) *the service provider that intends to demonstrate its capability for the design, transition, delivery and improvement of services that fulfil service requirements;*

d) *a service provider to monitor, measure and review its service management processes and services;*

e) *a service provider to improve the design, transition, delivery and improvement of services through the effective implementation and operation of the SMS;*

f) *an assessor as the criteria for a conformity assessment of a service provider's SMS to the requirements in this part of ISO/IEC 20000."*

This part of ISO/IEC 20000 can be used by an organization looking for guidance on how to improve service management, whether or not it is interested in seeking certification.

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# Information technology — Service management —

# Part 2:
# Guidance on the application of service management systems

## 1  Scope

### 1.1  General

This part of ISO/IEC 20000 provides guidance on the application of an SMS based on ISO/IEC 20000-1. This part of ISO/IEC 20000 provides examples and suggestions to enable organizations to interpret and apply ISO/IEC 20000-1, including references to other parts of ISO/IEC 20000 and other relevant standards. This part of ISO/IEC 20000 is independent of specific best practice frameworks and the service provider can apply a combination of generally accepted guidance and their own techniques.
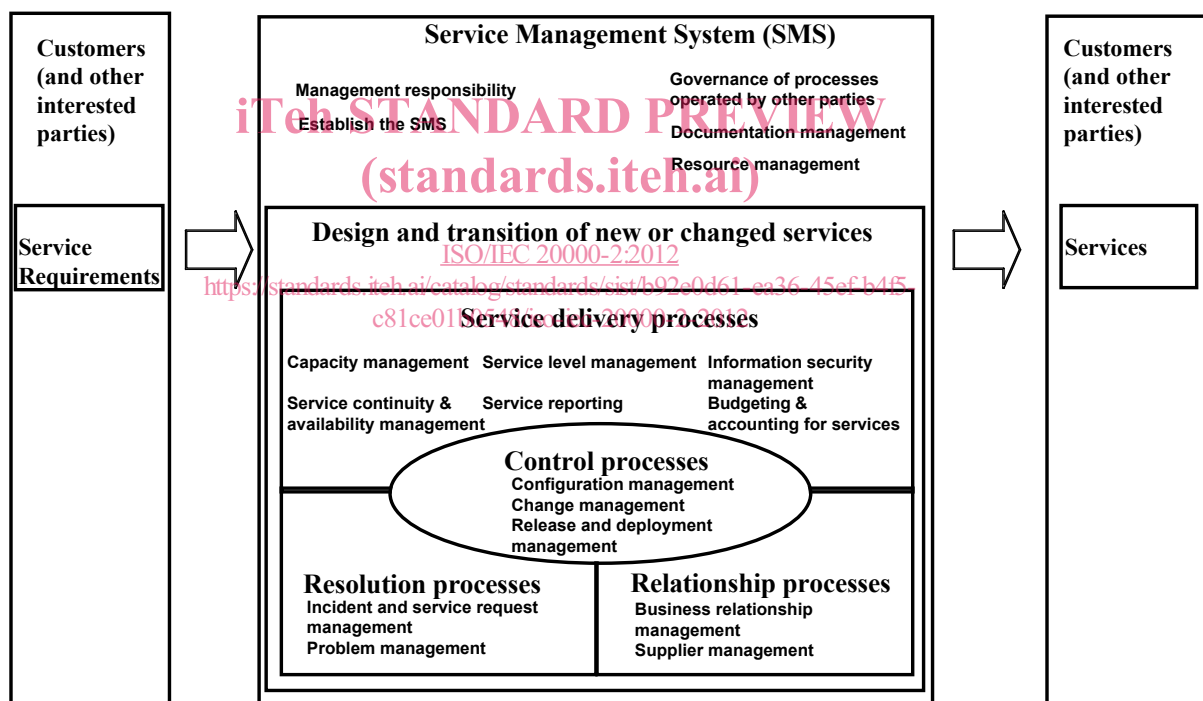


**Figure 2 — Service management system**

Figure 2 shows the processes from Clauses 6 to 9 in the central box. The Clause 5 design and transition of new or changed services process surrounds the Clause 6 to 9 processes. This shows that the new or changed services are operated by the processes in the central box. When there are no new or changed services to which Clause 5 applies, all services can be delivered directly by Clauses 6 to 9.

The interfaces between the service management processes and the relationships between different components of the SMS may be implemented differently by different service providers. The nature of the relationship between the service provider and the customer can also influence how the SMS is implemented to fulfil the requirements of ISO/IEC 20000-1. For these reasons the interfaces between processes are not represented in Figure 2.

## 1.2 Application

The service provider is accountable for the SMS and therefore cannot ask another party to fulfil the requirements of Clause 4 of ISO/IEC 20000-1:2011. For example, the service provider cannot ask another party to provide the top management and demonstrate top management commitment or to demonstrate the governance of processes operated by other parties.

Some activities in Clause 4 may be performed by another party under the management of the service provider. For example, service providers can engage other parties to conduct internal audits on their behalf. Another example is where a service provider asks another party to create the initial service management plan. The plan, once created and agreed, is the direct responsibility of and is maintained by the service provider. In these examples, the service provider is using other parties for specific short-term activities. The service provider has accountability, authorities and responsibilities for the SMS. The service provider can therefore demonstrate evidence of fulfilling all of the requirements of Clause 4 of ISO/IEC 20000-1:2011.

The service provider can show evidence of fulfilling all requirements directly or can show evidence of fulfilling most of the requirements directly as well as the governance of processes operated by other parties. If the service provider relies on other parties for operation of the majority of the processes in Clauses 5 to 9, the service provider is unlikely to be able to demonstrate governance of the processes. However, if other parties operate only a minority of the processes, the service provider can normally fulfil the requirements specified in ISO/IEC 20000-1.

The defined, agreed and documented accountability, authorities and responsibilities for the SMS are readily accessible to both the service provider and other relevant parties. To fulfil the requirements of ISO/IEC 20000-1 the service provider can agree changes to the terms of existing contracts or other documented agreements.

ISO/IEC 20000 excludes the specification of, or specific guidance about, any product or tool. However, organizations can use this part of ISO/IEC 20000 to help them use or develop products or tools that support operation of the SMS.

## 2 Normative references

The following documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO/IEC 20000-1, *Information technology — Service management — Part 1: Service management system requirements*

## 3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO/IEC 20000-1 apply.

## 4 Service management system general requirements

### 4.1 Management responsibility

#### 4.1.1 Management commitment

##### 4.1.1.1 Top management responsibilities

Top management should be the management who direct, monitor and control the service provider at the highest level.

Top management should be aware that fulfilling the requirements of ISO/IEC 20000-1 includes:

a) demonstrating their commitment to be involved at all stages of the SMS, starting with the planning and establishment of the SMS and continuing through the operation, monitoring, measurement, review, maintenance and continual improvement of the SMS;

b) demonstrating their accountabilities and responsibilities for the SMS;

c) ensuring that the service requirements, scope of the SMS, service management policy and objectives are understood and acknowledged by all interested parties of the SMS;

d) ensuring that the service management plan is created, implemented, maintained and aligned with business objectives;

e) ensuring the provision of adequate resources to fulfil the service management objectives and to adhere to the service management policy;

f) ensuring that the performance of the SMS is reported to the top management level;

g) achieving the objectives of service management, including when these vary due to changing business needs or service requirements;

h) ensuring that risks to services are minimised, e.g. by assessing risks associated with changes and taking action.

Top management should also ensure that all service lifecyle stages are delivered to the agreed levels, as defined in the service requirements. The service lifecycle includes planning, implementation, operation, monitoring, measurement, review, maintenance and continual improvement. The service lifecycle also includes transfer of the service to a customer or a different party or eventual removal of the service.

Top management should be aware that they are accountable for ensuring that the SMS and the services delivered by the SMS are assessed and reviewed. Assessments should include the service provider's own reviews and internal audits, as well as external audits. Further information about management reviews can be found in Clause 4.5 of this part of ISO/IEC 20000.

### 4.1.1.2 Evidence of top management commitment

Without management commitment, it is possible that management decisions can be made that conflict with requirements for an effective SMS. Examples can include reallocation of resources to other projects, lack of communication about the SMS and unresolved conflicts in process design.

There should be evidence of management commitment and accountability available for review by an assessor. Top management should be able to provide evidence based on records of their involvement in:

a) regular meetings about the SMS, e.g. chairing planning meetings so that the SMS remains aligned with business needs and new or changed service requirements;

b) ensuring the SMS includes a definition of the scope, the service management policy, service management objectives and the service management plan;

c) approval of the service management policy, service management objectives and of the service management plan;

d) approval of processes and procedures consistent with, and supportive of, the SMS policies.

Top management approval of the service management plan is important because the plan can have implications for commitments to the customer, planning activities for suppliers and the allocation of resources for improvements and other changes.

The alignment between policies, processes and procedures enables top management direction to be cascaded to all service provider personnel. This should align management decisions with the way the service provider's personnel operate on a day to day basis.

### 4.1.1.3 Top management communications

Top management should be actively involved in an ongoing programme of communications. Communications should be directed by approved communications procedures as described in Clause 4.1.3.2.

Top management should be actively involved in an ongoing programme of communications to explain how the established SMS is aligned with business objectives and customer expectations. This is important to the success of the SMS because personnel who understand the purpose and importance of the SMS are less likely to resist changes due to fear or lack of knowledge. Top management communications about the SMS can be an opportunity for the service provider to motivate their own organization. Additionally, an appreciation of the importance of the SMS by both management and personnel, should reduce the risk or likelihood that decisions will be made or solutions delivered that are in contradiction with the SMS.

The programme of communications should explain the following:

a) organizational changes, policies, standards, vision and mission as well as business targets;

b) business needs, e.g. the relationship between the SMS and the services delivered, as well as how these support the defined organizational goals and objectives;

c) how the established SMS is aligned with business objectives and customer expectations;

d) how the service management policy, service management objectives and service management plan support fulfilment of service requirements;

e) customer requirements, e.g. service targets, predicted capacity based upon predicted demand, information security and service continuity to support business continuity;

f) statutory requirements, such as working hours, health and safety and data protection, which vary by country;

g) regulatory requirements, e.g. that records are kept for a specific period of time;

h) contractual requirements, e.g. a requirement to sign a non-disclosure agreement before having access to the service provider's information;

i) documented agreements with the customer;

j) regular analysis of data gathered through measurement of the SMS and components, e.g. process measurements.

Additionally, communications can be an opportunity for the service provider to motivate their own organization.

A programme of communications is important to the success of the SMS because personnel who understand the purpose and importance of the SMS are less likely to resist changes due to fear or lack of knowledge. Communications should generate an appreciation of the importance of the SMS by both management and personnel and reduce the risk or likelihood that decisions will be made or solutions delivered that are in contradiction with the SMS.

The outcome of these communications activities should be that people understand their role in service management and how they contribute to fulfilling the service requirements and meeting the service management objectives.

#### 4.1.1.4 Service management objectives

Top management should define the agreed objectives for service management. Objectives should be aligned with the business objectives and with the service management policy.

For example, generic service management objectives can include the following:

a) enable increased business agility through faster delivery of new or changed services;

b) reduce unplanned non-availability for business critical services;

c) optimize the cost of the services delivered through operational efficiency;

d) increase quality of services while reducing risk.

Actual service management objectives should be defined so that achievements against the objectives can be accurately measured. Measurement should also enable opportunities for improvement to be prioritized.

Objectives should be a key input into the service management plan. The plan should identify actions for achievement of the objectives and alignment with other components of the SMS.

Service management objectives should be reviewed at regular intervals to enable top management to decide how and when they should be revised.

The service provider should ensure that the effectiveness of each component of the SMS is measured to assess the effectiveness of support for the service management objectives. For example, measurement of the effectiveness of the support of the objectives by a specific process. The measurements should also demonstrate value of the SMS in supporting the business objectives.

The service provider can find it useful to measure the contributions of individuals towards achievement of the objectives. This will facilitate personnel supporting the SMS to work in an integrated way toward the same goals.

#### 4.1.1.5 Service management plan

The service management plan should facilitate the coordination of all SMS initiatives to ensure the achievement of the service management objectives. The plan and policies should also be aligned.

The plan can be a powerful mechanism for enabling end to end visibility and control. It should also prevent incompatible initiatives from being approved or implemented. The plan should enable the utilization of resources and capabilities to be as efficient and effective as possible.

The plan should be communicated to all interested parties. This should ensure a common understanding of the scope of initiatives, the tasks, timeframes and allocated responsibilities. Allocated responsibilities should be included in the performance measurements of everyone involved in the SMS, including those involved in initiatives of the service management plan.

The plan should not be considered to be completed when the SMS is implemented. It should exist indefinitely by being amended to accommodate the changing business needs, customer requirements or priorities of the service provider.

The service management plan can consist of one single plan or a programme of coordinated changes managed centrally with some changes implemented locally.

The service provider should always be aware of the need to keep all changes implemented locally under the overall management of the service management plan. For example, an improvement to a process may be performed locally, under the local control process owner, but it is included in the centrally managed overall programme.

Plans for a specific purpose, e.g. for the service continuity and availability management process, may be referenced from the overall service management plan rather than included within it. The specialist plans and their alignment with the overall plan should be reviewed at a frequency that is suitable for the rate of change. This should be at least annually.

Any changes resulting from reviews or changes to service requirements or individual plans should be documented in the overall service management plan. For example, office hours changing to full 24 hour operation, replacement technology or changes to skills.

The contents of the service management plan should include:

a)  an introduction;

b)  a description of the organizational functions of the service provider;

c)  priorities of initiatives;

d)  expected outcomes aligned to business objectives;

e)  performance measures;

f)  service targets;

g)  project plans;

h)  tasks and dependencies;

i)  benefits realisation achieved as the result of previously implemented improvements;

j)  timeframes and persons responsible for carrying out the initiatives of the plan;

k)  risks and risk mitigation options.

Risks to the service management plan should be identified, assessed and managed both initially and as part of the PDCA methodology. The risk assessment should cover the inputs, outputs, activities and the responsibility and accountability for mitigation of risks. The plan should also be designed to ensure the agreed objectives and service requirements will be achieved.

### 4.1.1.6    Resources to support the service management plan

The resources necessary to achieve the service management objectives should be documented in the service management plan. The following should be considered:

a)  human resourcing should take into account the skills and experience of the individuals and not just be based solely on the number of people;

b)  technical resources, e.g. infrastructure and capacity to achieve the required performance;

c)  tools to support the processes in the SMS;

d)  office accommodation, other facilities and facilities for service continuity;

e)  data and information, e.g. details of customer requirements, the customer's business plans, the service provider's business needs, service management policies, performance measurements and other reports;

f)  financial resources, budgeted at a level of detail suitable to manage the planning, implementation, operation and improvement of the SMS;

g)  quantity and availability of the personnel of the service provider, and their hours worked;

h) processes, procedures and timescales for the introduction, retention and succession planning of suitably skilled personnel.

### 4.1.1.7    Contents of the service requirements

Clause 3.34 of ISO/IEC 20000-1 includes the needs of the business, the customer and the users of the service and needs of the service provider in the definition of service requirements. Top management should be responsible for ensuring that the services delivered fulfil the agreed service requirements.

Both the customer's requirements and the business needs should be documented, monitored, reviewed and managed to ensure ongoing alignment with new or changed services as well as with services in the live environment.

Service requirements should include required service targets and quality expectations. The needs of the service provider should include details of resource and capability requirements. The service requirements are an input into the SMS, shown in Figure 2.

Examples of service requirements can include:

a) a service in use, including the service level requirements;

b) quality criteria for the design of new or changed services;

c) priorities for the business criticality of services;

d) requirements for availability;

e) regulatory requirements;

f) information security requirements.

### 4.1.1.8    The role of top management in agreeing and meeting service requirements

Top management should ensure that the service requirements are defined in terms of:

a) desired results that customers expect e.g. improved effectiveness, efficiency, satisfaction;

b) the constraints that the service will remove;

c) functionality of a service from the customer's perspective, including the needs of the users of the service, often referred to as 'fit for purpose';

d) patterns of business activity and demand that the service should support;

e) assurance that the service and products will be provided or will meet certain agreed specifications, often referred to as warranty.

A typical characteristic of warranty is that it is defined in terms of service continuity, availability, capacity and security. For example, warranty ensures that the service will remain fit for purpose even at degraded service levels due to major disruptions or disasters. Warranty should also ensure security for the services.

The needs of the users of the service should be defined within the context of the needs of the customer. This should describe the benefit a user will gain from using the service as part of performing their work activities. Examples are given below.

EXAMPLE 1    Removing constraints. A desired change to a service may enable users to access a service remotely instead of only from fixed locations.

EXAMPLE 2    Functionality. A desired improvement in the processing time for business transactions.