

Australian Standard[®]

Information technology—Service management

Part 2: Guidance on the application of service management systems



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-

This Standard was issued in draft form for comment as DR AS ISO/IEC 20000.2.

Standards Australia wishes to acknowledge the participation of the expert individuals that contributed to the development of this Standard through their representation on the Committee and through the public comment period.

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Information technology—Service management

Part 2: Guidance on the application of service management systems

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PREFACE

This Standard was prepared by the Australian members of Standards Australia Committee IT-030, ICT Governance and Management and supersedes AS ISO/IEC 20000.2—2007, *Information Technology—Service Management, Part 2: Code of Practice*.

After consultation with stakeholders in both countries, Standards Australia and Standards New Zealand decided to develop this Standard as an Australian Standard rather than an Australian/New Zealand Standard.

The objective of this Standard is to provide standardization in the field of service management, and in particular guidance on the application of a service management system (SMS) based on AS ISO/IEC 20000.1.

This Standard is identical with, and has been reproduced from ISO/IEC 20000-2:2012, *Information technology—Service management, Part 2: Guidance on the application of service management systems*.

This second edition cancels and replaces the first edition (AS ISO/IEC 20000.2—2007), which has been technically revised. The main differences are as follows:

- (a) Closer alignment to AS/NZS ISO 9001.
- (b) Closer alignment to AS/NZS ISO/IEC 27001.
- (c) Change of terminology to reflect international usage.
- (d) New guidance on governance of processes operated by other parties.
- (e) More guidance on defining the scope of the SMS.
- (f) More guidance on continual improvement of the SMS and services.
- (g) More guidance on the design and transition of new or changed services.

As this Standard is reproduced from an International Standard, the following applies:

- (i) In the source text ‘this part of ISO/IEC 20000’ should read ‘this Australian Standard’.
- (iii) A full point substitutes for a comma when referring to a decimal marker.

References to International Standards should be replaced by references to Australian or Australian/New Zealand Standards, as follows:

<i>Reference to International Standard</i>	<i>Australian Standard</i>
ISO/IEC	AS ISO/IEC
20000 Information technology—Service management	20000 Information technology—Service management
20000-1 Part 1: Service management system requirements	20000.1 Part 1: Service management system requirements

The term ‘informative’ has been used in this Standard to define the application of the annex to which it applies. An ‘informative’ annex is only for information and guidance.

CONTENTS

1	Scope	1
1.1	General	1
1.2	Application	2
2	Normative references	2
3	Terms and definitions	2
4	Service management system general requirements	2
4.1	Management responsibility	2
4.2	Governance of processes operated by other parties	13
4.3	Documentation management	15
4.4	Resource management	17
4.5	Establish and improve the SMS	19
5	Design and transition of new or changed services	24
5.1	General	24
5.2	Plan new or changed services	25
5.3	Design and development of new or changed services	28
5.4	Transition of new or changed services	31
5.5	Documents and records	31
5.6	Authorities and responsibilities	32
6	Service delivery processes	32
6.1	Service level management	32
6.2	Service reporting	37
6.3	Service continuity and availability management	38
6.4	Budgeting and accounting for services	43
6.5	Capacity management	46
6.6	Information security management	49
7	Relationship processes	53
7.1	Business relationship management	53
7.2	Supplier management	56
8	Resolution processes	59
8.1	Incident and service request management	59
8.2	Problem management	62
9	Control processes	65
9.1	Configuration management	65
9.2	Change management	69
9.3	Release and deployment management	72
	Annex A (informative) Interfaces between processes and integration of processes with SMS	77
	Bibliography	84
 Figures and Tables		
	Figure 1 — PDCA methodology applied to service management	vi
	Figure 2 — Service management system	1
	Figure 3 — Example of relationship with lead suppliers and sub-contracted suppliers	58

Table 1 — Example matrix of incident resolution target times based on priorities	60
Table A.1 — Interfaces and integration for design and transition of new or changed services	77
Table A.2 — Interfaces and integration for SLM.....	77
Table A.3 — Interfaces and integration for service reporting	78
Table A.4 — Interfaces and integration for service continuity and availability management	78
Table A.5 — Interfaces and integration for budgeting and accounting for services.....	79
Table A.6 — Interfaces and integration for capacity management	79
Table A.7 — Interfaces and integration for ISM.....	80
Table A.8 — Interfaces and integration for BRM	80
Table A.9 — Interfaces and integration for supplier management.....	81
Table A.10 — Interfaces and integration for incident and service request management	81
Table A.11 — Interfaces and integration for problem management.....	82
Table A.12 — Interfaces and integration for configuration management.....	82
Table A.13 — Interfaces and integration for change management	83
Table A.14 — Interfaces and integration for release and deployment management.....	83

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.

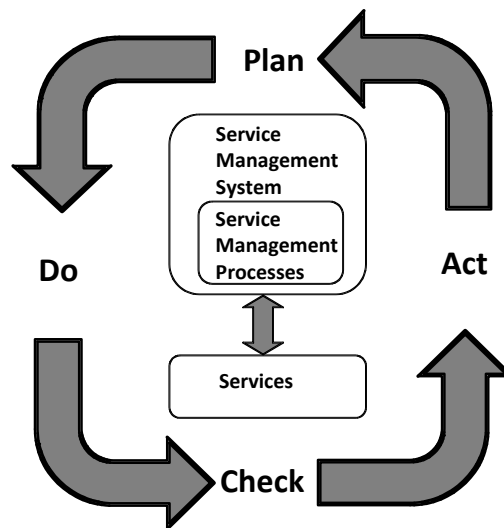


Figure 1 — PDCA methodology applied to service management

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.

AUSTRALIAN STANDARD

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.

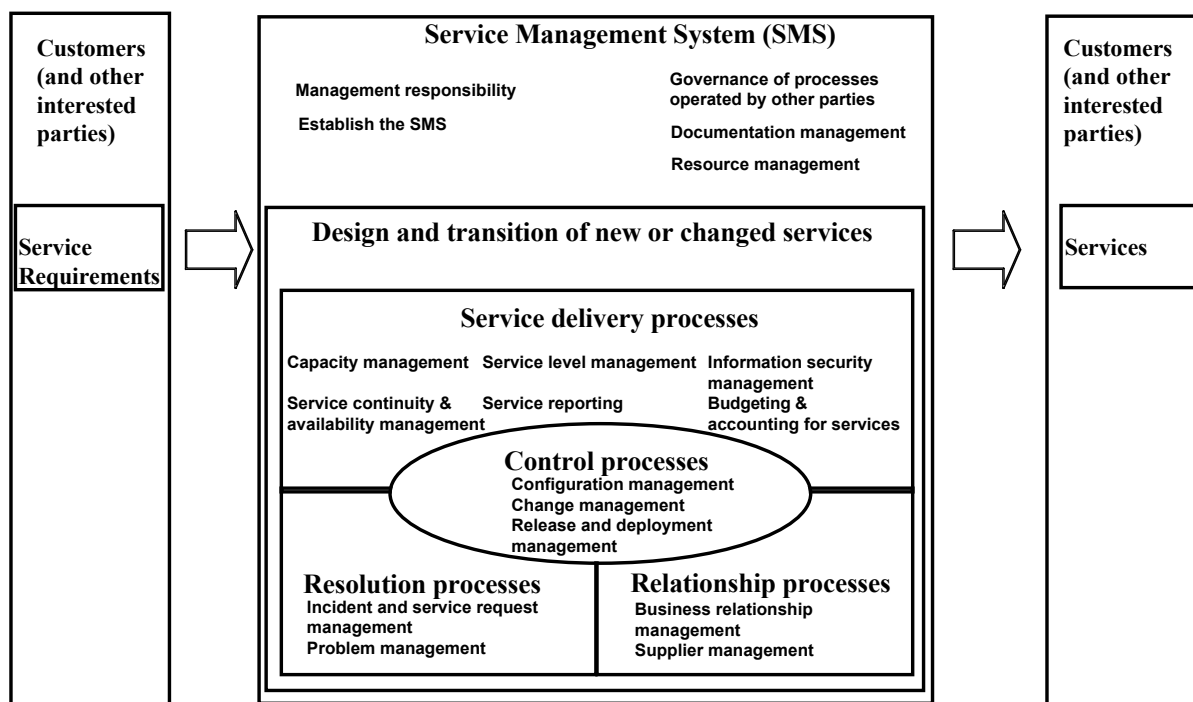


Figure 2 — Service management system

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 lifecycle 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.

EXAMPLE 3 Performance. A user may need to process one procurement transaction per minute and 50 transactions in an hour.

4.1.1.9 Service provider's needs

From the service provider's viewpoint, the service requirements should include those listed below.

- a) Requirements to ensure delivery of the business needs and wider interests of the organization that owns the service provider organization. For example, the requirements to fulfil policies, standards, statutory and regulatory requirements, and contractual obligations.
- b) Scope of the SMS to direct, monitor and control an integrated set of service management processes and activities. This includes the requirements for assets, capabilities and resources required for the design, transition, delivery and improvement of services. For example, the organizational units, people, process, information and technology required to support the SMS.
- c) Known limitations of the SMS, for example human, technical, information and financial resource constraints.
- d) Requirements for the measurement, auditing, reporting and improving of services delivered against the defined business objectives.
- e) Requirements for the measurement, auditing, reporting and improving the effectiveness of the SMS.

4.1.1.10 Conflicting requirements

If the service provider establishes that a conflict in requirements has occurred, action should be taken. Examples of conflicts in requirements include the following.

- a) If there are conflicts between customer requirements and customer business needs, the conflict should be resolved by the customer, e.g. a customer requirement that is in conflict with the strategic direction of the business. Alternatively, the service provider can analyse the differences and propose revised service requirements.
- b) Conflicts between customer requirements and the service provider's own business needs can occur when customer requirements are unrealistic in terms of priorities, costs or funds available. The nature of the conflict and why requirements are unrealistic should be clearly communicated to the customer.
- c) Service requirements conflicting with any statutory or regulatory requirements, or contractual obligations should be resolved. For example, the distribution of software can be restricted by a licence agreement in a way not compatible with the customer's requirements for access to new versions of software.

The service provider should ensure that any risks arising from conflicts are assessed and quantified in order to identify methods of minimizing risks. The assessment should include the risk to customer satisfaction and the ability to meet customer requirements and objectives.

Conflicts and their potential impact should be documented and discussed with the customer so that they can be resolved. If a conflict is identified after the design of the service is agreed the conflict should be resolved as a corrective action or as an opportunity for improvement.

4.1.1.11 Risks to the service

Top management should ensure that risks to the SMS and the services are identified, documented and assessed. Risks to a service can include the failure to fulfil regulatory and statutory requirements or contractual obligations. For example, failure to meet software licence requirements or failure to provide proof of financial probity.

Top management should also ensure that all identified risks are managed, including ensuring that:

- a) options are developed and documented to manage identified risks;
- b) preferred options are agreed with the customer;
- c) agreed options for risk mitigation are implemented when necessary.

NOTE The service provider will find the requirements and advice in ISO 31000 on risk management helpful.

4.1.2 Service management policy

4.1.2.1 Guidelines for the service management policy

The service management policy should be specific to the service provider's circumstances and have a customer focus. The policy should not be a generic, broadly applicable statement. Instead, the policy should reflect the circumstances and objectives of the service provider.

The policy should be based on the agreed scope of the SMS and therefore supportive of the service provider's service management objectives and the service management plan.

The policy should represent top management direction and commitment to fulfil service requirements. The policy should also ensure the fulfilment of the requirements for the design and transition of new or changed service process in Clause 5 of ISO/IEC 20000-1:2011.

The policy should give clear top management direction to the service provider's managers and personnel.

EXAMPLE 1 Services are aligned to the business objectives of the customer.

EXAMPLE 2 Changes to processes or procedures are only made through the change management process.

EXAMPLE 3 Roles and responsibilities for the service management processes are defined and documented in a consistent manner and personnel performance is measured against achievement of those responsibilities.

The service management policy should be structured so that it can be used to assess whether the service provider's service management objectives are being fulfilled. For example, it should be possible to demonstrate a link between the service management policy and what is being done to achieve the service provider's service management objectives. The service management policy should be structured to enable measurement of adherence to the policy.

The service provider should also be able to demonstrate that this link between the service provider's objectives and the service management policy has been effective since the service management policy was originally agreed.

The service management policy should clearly define levels of authority, e.g. making it possible to determine whether an improvement initiative should be approved by an individual process owner or by top management.

The service management policy should be communicated and understood within the service provider's own organization. The service management policy can also be made available to the customer and suppliers as required. References to the policy being discussed, understood and used appropriately can be used as evidence of fulfilment of this requirement. For example, meeting minutes, personnel surveys, supplier contracts, sub-contractor agreements, requests for change to the policy or requests for clarification, policy impact on processes, procedures and behaviours during standard and unplanned operations, customer surveys, supplier surveys.

Top management should also be responsible for ensuring that the service management policy is reviewed at suitable intervals, at least annually. This should identify any deficiencies and ensure continual alignment with business needs and customer requirements. Quality criteria applied during the review of the service management policy should take into consideration the following:

- a) the validity of the policy against service requirements;
- b) the adequacy of the review frequency;
- c) the alignment between the policy and the service management objectives;
- d) the alignment between the policy and the service management plan;
- e) the alignment between the policy and the service management processes;
- f) whether the review is documented, approved, tracked, appropriate and practicable;
- g) the adequacy of the framework for establishing, implementing, operating, monitoring, reviewing, maintaining and improving the SMS;
- h) remediation and improvement actions identified in previous reviews and audits of the SMS.

4.1.2.2 Improvements and other changes to the policy

Following a review of the service management policy, if a deficiency is found, top management should ensure that it is corrected. Deficiencies should be corrected either as a change to the policy, service management objectives, plan, processes or procedures.

The policy should also be updated to reflect any changes to the service management objectives or to the scope of the SMS.

4.1.3 Authority, responsibility and communication

4.1.3.1 Authority and responsibility

The service provider should ensure that the authorities and responsibilities for all aspects of the SMS are defined. Role descriptions should be agreed, allocated to individuals, communicated to all personnel and kept up to date through a document management procedure. The service provider should ensure that all personnel are encouraged to establish and maintain an awareness of how their activities contribute to the achievement of the service management objectives.

4.1.3.2 Communication procedures

Top management should be accountable for ensuring that communication procedures are designed, transitioned, implemented and used. Top management may delegate the actual design of the procedures. However, they should approve them in advance of implementation and enforce their use. Top management should be actively involved in the communication procedures.

Top management should understand the value of personnel awareness, motivation and participation in effective service management and continual improvement. The communication procedures should encourage personnel motivation. For example, communicating the successful results of personnel participation in improvement activities can have a significant motivational effect.

Communication procedures should cover at a minimum the method of delivery, the timing and/or frequency and the audience. The procedures should also cover escalation mechanisms, contact details, distribution list maintenance, communication methods, tools and information access, schedules and responsibilities.

Communication procedures should include the following.

- a) the method of delivery;
- b) the timing and frequency;

- c) the audience for specific communications;
- d) escalation mechanisms;
- e) contact details for audience of communication;
- f) distribution list maintenance;
- g) communication methods;
- h) tools and information access;
- i) schedules and responsibilities.

Communication may take different forms and will be dependent on the culture or the organization, the individual being communicated with and that person's role in the organization.

Top management communications methods can include personnel orientation material, briefings and workshops, internal personnel publications, email, social media, or personnel feedback forums.

4.1.4 Management representative

4.1.4.1 Understanding of responsibilities

The management representative should be the member of the service provider's management team who has the authority to ensure that the SMS is established, used, improved over time and in alignment with the changing needs of the business. This authority should include ensuring the service management processes have appropriate interfaces with one another and are integrated with the rest of the SMS.

The service provider should ensure it is clear which person is the management representative and that the management representative's responsibilities and authority levels are understood by:

- a) process owners, who have the authority and responsibility for ensuring that the process, its interfaces to other processes and integration within the SMS are documented, adhered to, measured and improved;
- b) service owners, who have the authority and responsibility for a service throughout its lifecycle, including design, transition, implementation, improvement, and retirement;
- c) other service provider personnel;
- d) internal groups;
- e) suppliers, including lead suppliers;
- f) the customer.

NOTE For examples on interfaces between service management processes and integration with other components of the SMS, please see Annex A in this part of ISO/IEC 20000.

4.1.4.2 Responsibilities

The management representative should be responsible for ensuring that the following are achieved:

- a) all aspects of the management responsibilities specified in ISO/IEC 20000-1 are performed, including those required by top management;
- b) service requirements are documented;

- c) the SMS and the definition of scope fulfil the service provider's own needs, the needs of the customer and users of the services;
- d) the scope and details of the SMS are checked at suitable intervals to ensure that the service requirements continue to be fulfilled, e.g. if the needs of the customer change, it is possible that the SMS or the scope of the SMS also needs to change;
- e) the service management policy and objectives are used as the basis for decisions during initial planning of the processes to the design of the processes and operation and improvement of the processes;
- f) design of the processes starts with identification of the inputs and outputs and any activities performed as part of the processes;
- g) the policy and objectives dictate the criteria for prioritizing the improvements to service management processes;
- h) service management processes have appropriate and effective interfaces with one another and are integrated with the rest of the SMS;
- i) the PDCA methodology is implemented and used for continual improvement of the SMS and services;
- j) internal audits and assessments of the SMS are carried out at regular intervals, in order to measure the ability of the SMS to achieve service management objectives and to fulfil service requirements.

4.1.4.3 Asset management

Top management should be aware that ISO/IEC 20000-1 requires that all assets used to deliver services are managed according to relevant statutory, regulatory and financial requirements and contractual obligations. Assets should be managed by effective procedures.

Examples of assets that should be managed include software licences, mobile devices, infrastructure components, people, contracts, procedures and other documents. Service providers should be able to accurately identify the location, status and other relevant details about assets.

Top management should be aware that asset management requires an accurate configuration management database (CMDB), or equivalent means of record keeping, to be established and used effectively. Information in the CMDB should be kept current by effective service management processes, e.g. changes to the CMDB to be approved via the change management process.

Statutory requirements can include privacy and data protection laws as well as intellectual property and copyright laws. Other statutory requirements can relate to the protection of customer information assets or protection of financial information.

Regulatory requirements and contractual obligations can include ensuring assets comply with business licence requirements and standards, e.g. security standards for encryption of sensitive information on laptops.

NOTE The service provider will find the ISO/IEC 19770 series on software asset management helpful.

4.1.4.4 Reporting by the management representative

Reports to top management should include but not be limited to the topics in Clause 4.1.4.2. For example, the reports should identify continual improvement opportunities achieved using the PDCA methodology. This should be based on reports of the performance of the SMS and services.

The frequency and level of detail of reports should be suitable for the level of activity, categories of change and seriousness of any issues and risks identified by the management representative. Options for changes to correct deficiencies should be provided to assist the prioritization of action and the subsequent decision made by top management.

Reports to top management should clearly articulate the value delivered by the SMS in support of the business objectives.

4.2 Governance of processes operated by other parties

4.2.1 Guidance on processes operated by other parties

The service provider should be aware that it can fulfil the requirements of ISO/IEC 20000-1 by demonstrating governance of the processes operated by other parties, for a minority of the processes.

The service provider should be able to identify all service management processes or parts of processes that are operated by other parties. The service provider should have end-to-end visibility of the performance of other parties operating any of the processes in Clauses 5 to 9.

The service provider should be able to demonstrate control of all parties operating processes in the SMS, and this should be supported by all contracts and other documented agreements.

4.2.2 Other parties

Other parties include:

- a) internal groups who are organizational units inside the same organization as the service provider, but not within the direct control of the service provider, e.g. a data centre or a specialist security team;
- b) a customer acting as a supplier, e.g. the customer performing some of the activities of incident and service request management;
- c) suppliers, e.g. outsourcing of the testing done as part of the release and deployment management process.

Suppliers can also be lead suppliers with responsibilities for managing sub-contracted suppliers.

4.2.3 Demonstration of accountability and authority

The service provider should demonstrate process accountability and authority by providing evidence such as that described below.

- a) The service provider's accountability for effectiveness of the service management processes operated by the service provider or another party, e.g. the matrix of decision makers, proof of authorisation levels within the service provider's own organization.
- b) That the service provider has the power to require adherence to a process. For example, establishing the information security policy, using controls, detecting breaches and initiating corrective actions. Another example includes providing evidence that practices have been changed at the request of the service provider.
- c) Analysis of process records, including measurements by the service provider. For example, considering a complete set of incident records or an incident report and taking decisions based on the content, even if the incident records are provided by another party that operates the incident management process.
- d) Controlling the definition of all processes in the SMS, including any processes in Clauses 5 to 9 operated by other parties. This includes the interfaces between each process. For example, documenting, agreeing and operating the interfaces and dependencies of the change management process with the configuration management process. Additional detail is provided in Clause 4.2.4.
- e) Controlling the planning of and setting priorities for improvements to all processes in Clauses 4 to 9 of ISO/IEC 20000-1:2011. For example, assessing and prioritizing an improvement in the capacity management process, even if the process is operated by another party.

The service provider can request other parties to operate processes designed and documented by the service provider. Alternatively, the service provider can approve the processes that the other parties design, document and operate.

The service provider should be aware that if it relies on other parties for operation of the majority of its processes, it is unlikely that it will be possible to demonstrate adequate governance of the processes.

NOTE The governance of processes operated by other parties is described in ISO/IEC TR 20000-3:2009.

4.2.4 Process performance and compliance

The service provider should ensure each process described in Clauses 5 to 9 delivers the desired outcomes and contributes to meeting the service management objectives.

Governance of processes operated by other parties should include a definition of the process, including:

- a) identification of process ownership, e.g. what group or manager within the service provider's organization is responsible for the process;
- b) responsibility for operation, e.g. what group or manager is responsible for the operation of the process;
- c) the objective of the process, outcomes of the process and contribution to service requirements and service management objectives being met;
- d) process inputs and outputs and which party generates these;
- e) definition of the interfaces to other processes, including the service management processes, e.g. data passed between processes or the handover of activities or information from one party to another;
- f) definition of the interfaces between processes and other components of the SMS, e.g. between the processes and the service management policy and objectives;
- g) the frequency and method by which information passes to and from each process;
- h) documents and records required by the service provider for governance of processes operated by other parties and who generates these;
- i) clear accountabilities and responsibilities for all required activities.

The definition of interfaces between SMS components should include the methods by which the service management processes are established and continually improved to support the service management policy and objectives, and the changing needs of the business. For example, how the SMS components including processes should be measured against their alignment with and support of the service management policy.

4.2.5 Determining process performance and compliance

The service provider should ensure that all processes are effective by:

- a) documenting and agreeing with the other parties the frequency and format of documents and records to be made available to the service provider and to other parties;
- b) establishing the review cycle and criteria for process assessments;
- c) conducting an assessment of the process against the requirements of ISO/IEC 20000-1;
- d) defining the obligations of other parties within the process review activity;
- e) analysis of process performance;

- f) analysis of interfaces between processes or parts of processes operated by other parties and other processes, as well as policies and plans;
- g) analysis of alignment between processes or parts of processes operated by other parties and service management objectives;
- h) setting priorities and planning activities for improvements or corrections to optimise processes.

4.2.6 Controlling the planning and prioritization of process improvements

The service provider should be able to demonstrate that they control the priority given to improvements of all processes, including those operated by other parties.

EXAMPLE 1 A proposed improvement to the change management process can be considered to have greater benefits to the organization than a proposed improvement to the release and deployment management process. The prioritization of process improvements should be aligned with the business objectives and the service requirements.

EXAMPLE 2 An improvement to the incident management process operated by another party should be directed by the business objectives and service requirements of the service provider and the service provider's organization.

4.3 Documentation management

4.3.1 Establish and maintain documents

4.3.1.1 Documents as evidence

The service provider should ensure that evidence is available for any audit of the SMS. Much of the evidence should exist in the form of documents. Documents may be any type, form or medium suitable for their purpose, e.g. paper based, electronic files, in a database or word-processor.

The following documents can be considered as evidence for an audit of the SMS:

- a) service management policies, objectives and plans;
- b) process and procedure documents;
- c) a catalogue of services;
- d) service documents including designs, requirements specifications, SLAs, acceptance criteria and service reviews;
- e) contractual documents, including specification of requirements and change control;
- f) audit planning activities and reports;
- g) documents describing or associated with a particular change, such as change planning activities.

The service provider should be aware that some documents, such as policies, are required by ISO/IEC 20000-1 to fulfil the requirements of specific processes. In addition, an organization may wish to consider additional documents, including policies, to provide further clarity or ensure effective operation or improvement of the SMS and delivery of the services.

Records are a special type of document and should also be made available as evidence.

4.3.1.2 Production of documents, including records

The service provider should understand that an effective procedure is essential for the production of documents, including records. This includes the use of a naming and numbering system that aligns with the

purpose and revision history of documents. The use of templates and standardised format can reduce the effort of creating, accessing, updating and using the content.

There should be evidence of an acceptance procedure for documents in accordance with the roles and responsibilities for documents defined in the SMS.

The service provider should also understand that documents, such as SLAs, policies and plans, can be interdependent, e.g. an information security policy defining what information can be stored on mobile devices or a server that supports the delivery of an email service. These interdependencies should be understood and managed when changes are made to documents.

Records, which show what has actually been done or what has happened, do not always require an acceptance procedure, e.g. an incident record. An incident record should be updated as the incident is progressed to closure. To operate an acceptance procedure each time an incident record is updated would cause unacceptable delays in the resolution of incidents.

NOTE Documents and records need not be unique to the SMS. Provided they meet the requirements of ISO/IEC 20000-1, they may also cover the requirements of standards such as ISO 9001 or ISO/IEC 27001.

4.3.2 Control of documents

Control of documents should be recognised as essential. Control of documents should include periodic review, with updating or archiving if necessary. The review should be at least annual. Documents should be protected from damage, e.g. due to poor environmental conditions and hardware malfunction.

Control can provide visibility of the impacts of changes, e.g. a change to an SLA which impacts contracts with other parties or the availability requirements. The service provider should ensure that documents are controlled through the use of:

- a) version naming and numbering;
- b) assigned responsibility for writing, editing, reviewing, approving, updating, removing and archiving documents;
- c) change records that indicate the date, author, approval of change and nature of revisions;
- d) assessment of changes to identified documents by the change management process prior to approval;
- e) identification of the relationships between specific documents and other components of the SMS;
- f) document access control mechanisms and distribution;
- g) a procedure to approve documents for use;
- h) a procedure to review and update as necessary and re-approve documents;
- i) a procedure to ensure that documents of external origin determined by the service provider to be necessary for the planning and operation of the SMS are identified and their distribution controlled;
- j) a procedure to ensure that documents are disposed of in accordance with the information security policy and regulatory and statutory requirements;
- k) a procedure for archiving out-of-date documents.

To achieve control of documents, techniques from document management, knowledge management, change management and configuration management can be used, e.g. a policy on how document versions are shown.

The service provider should identify those documents subject to the document control procedures. This can include documents of external origin such as standards, regulations or customer documents. The service provider should distinguish between the different types of control to be applied to different types of items, e.g. between those of internal and external origin or documents requiring different security due to the different content.

Documents that should be controlled include all those listed in Clause 4.3.1.1. Many documents are classed as CIs, which are therefore also controlled through the configuration management process. Where document control is achieved by electronic means, special attention should be given to appropriate approval, access, distribution, media, and archiving procedures.

NOTE 1 The service provider will find ISO 9001:2008, Clauses 4.2.3 and 4.2.4 helpful.

NOTE 2 For further information, see ISO/IEC TR 20000-4:2010, Clause 5.10, Information item management process.

4.3.3 Control of records

Records associated with the SMS should be aligned to the requirements of ISO/IEC 20000-1, statutory and regulatory requirements and contractual obligations. For example, retention of records, archival and disposal practices. Records that should be retained include the record of document reviews and the tracking of review comments to resolution. These requirements and obligations should influence the design of the SMS.

Any conflicts between the statutory and regulatory requirements or contractual obligations and the requirements of ISO/IEC 20000-1, should be resolved. This should apply to all records that are created and used as part of the SMS. This includes but is not limited to documentation, logs and database records, known error records, CIs, incident records and request for change records.

Records established to provide evidence of conformity to requirements and of the effective operation of the SMS should be controlled. The organization should establish a documented procedure to define the controls needed for the identification, storage, protection, retrieval, retention and disposition of records. Records should remain legible, readily identifiable and retrievable.

NOTE Further information on record management can be found in ISO/IEC 15489-1.

4.4 Resource management

4.4.1 Provision of resources

4.4.1.1 Resources to implement the SMS

The service provider should make available all resources agreed in the plan to establish, implement, maintain and improve the SMS and the agreed services. The resources include at least the following:

- a) human resources, e.g. people to design, implement and operate the SMS, top management and personnel involved in the management of the SMS and services;
- b) technical resources, e.g. infrastructure and sufficient capacity to achieve the service requirements, tools to support the processes in the SMS, office accommodation and facilities and service continuity facilities;
- c) information, e.g. details of customer requirements, the customer's business needs and business plans, the service provider's business needs, service management policies, measures and other reports;
- d) financial resources, including both funds for projects and funds for continuing operation of the SMS.

4.4.1.2 Approval of resources

Procedures should exist to approve the use of agreed resources, such as people, infrastructure, tools and funds. These include:

- a) funds to be agreed and budgeted in advance of the implementation of the service management plan;
- b) allocation of people required for the project to implement the service management plan and for the longer term continual improvements and day to day operation of the processes;
- c) identification and development of skills, approved recruitment and/or by training existing people;
- d) identification, agreement and approval of new roles and technologies;
- e) the required infrastructure which can include office and data centre facilities, telecommunications such as local LAN and WAN access points, servers, storage, and power and cooling distribution;
- f) service management tools which may include tools for monitoring or measuring and service reporting or support of specific processes.

EXAMPLE Resourcing procedures can be supported by specific capacity modelling tools or by information taken from a CMDB. Although tools are not a requirement for ISO/IEC 20000-1 they can make processes more effective and efficient. Tools can assist with providing evidence of conformance to the requirements of ISO/IEC 20000-1.

4.4.2 Human resources

4.4.2.1 General

The service provider's commitment to provision of resources should include defining what each role and individual contributes to the SMS and the service. The service provider should also define and agree the levels of authority and responsibility for each type of role. This includes the competence, education, training, skills and experience required for each role. The service provider should define, agree and communicate this information within the service provider's organization. Where it is deemed relevant, the service provider should also communicate this information to other parties.

The service provider should understand the risks arising from uncertainty as to which roles, and therefore which individuals, have particular levels and types of authority and responsibility. When the level of authority, accountability and responsibility of each role has been defined, this information should become an integrated component of the SMS. The service provider can find a responsibility matrix, e.g. RACI useful to document authority, accountability and responsibility. Once the information becomes a component of the SMS it should then be included in the SMS review cycle.

Resources should include the top management who have overall responsibility and accountability for the SMS and the services delivered by the SMS. This resource requirement will continue indefinitely after the SMS implementation project.

The authorities and responsibilities for each service management process in the SMS should include:

- a) a process owner, responsible for:
 - 1) the design of the process;
 - 2) ensuring adherence to the process;
 - 3) the measurement and improvement of the process;
- b) a process manager, responsible for the operation of the process and the management of the process management resources;
- c) personnel who perform the procedures of the process.

Other roles that are specific to individual service management processes are described in Clauses 5 to 9 of this part of ISO/IEC 20000.

NOTE It is acceptable practice for a single individual to have more than one service management role, particularly for smaller organizations.

4.4.2.2 Competence, skills, training and experience

The competence required for a role should be based on analysis of the specific characteristics and requirements of that role. This should include but not be limited to: education, training, skills and experience.

The competence required for each role relevant to the fulfilment of Clause 4.4.2 of ISO/IEC 20000-1:2011 should be identified. The level and type of responsibility and authority of a role should also be taken into consideration. This includes the roles of top management.

The service provider should also give consideration to the workload involved in each role and how each role will change over time. The allocation of roles and responsibilities to individuals should take these aspects of the role into account when allocating roles and responsibilities.

The service provider should allocate roles to individuals who meet the capability criteria for that role to be performed successfully.

A decision on the suitability of an individual for a role should be based on a comparison of the actual competence and required competence for that role. Where there is a disparity between the agreed competence requirements and the competencies of the individual being considered for, or already in a role, the service provider should ensure that the disparity is corrected.

Disparities may be corrected by several methods, e.g. the individual is provided with education and training to correct the disparity. Alternatively, the service provider may allow for missing skills or experience to be gained through the person working with another who already has the correct skills and experience. After this corrective action has been taken, the service provider should re-assess the competence of the individual or individuals to check that the actions taken have corrected the disparity.

Service providers should align the key performance indicators and/or key result areas of personnel to the achievement of the service management objectives. By doing this, personnel will not only be made aware of their obligations, but better understand how they can contribute to the desired service outcomes.

The service provider should establish and keep current records of competence, including education, training, skills and experience. The service provider should ensure that personnel are aware of how they contribute to the achievement of service management objectives.

There should be a documented procedure to ensure that the personnel records are kept up to date.

4.5 Establish and improve the SMS

4.5.1 Define scope

The service provider should establish whether ISO/IEC 20000-1 is applicable to their circumstances early in the planning stage. Similarly, the service provider should define the scope of the SMS early in the planning stage. The service provider should be aware that neglecting either of these activities can lead to a failed or inefficient SMS that does not fulfil the requirements of ISO/IEC 20000-1.

For the SMS to be effective, the service provider should continually improve the SMS and the services using the PDCA methodology. The scope of the SMS should be understood before improving the SMS.

When defining the scope of the SMS the following parameters should be considered:

- a) organizational units providing services, e.g. a single department, group of departments or all departments;

- b) services offered, e.g. a single, group of, or all services, financial services, retail services, email services;
- c) geographical location from which the service provider delivers the services, e.g. a single office or group of offices, regional, national or global;
- d) customers and their locations, e.g. one customer, many customers, external or internal customers;
- e) technology used to provide the services.

The scope statement should not include the names of other parties contributing to the delivery of the service.

The service provider should take the guidance of ISO/IEC TR 20000-3 into account when planning how to fulfil the requirements of ISO/IEC 20000-1. This gives advice on defining the scope of the SMS and checking the applicability of ISO/IEC 20000-1 to the service provider's circumstances.

4.5.2 Plan the SMS (Plan)

4.5.2.1 Important planning aspects

The plan for the SMS should cover all aspects of service management and delivery of services and include but not be limited to the aspects given below.

- a) The service management objectives. The service provider's prioritized objectives in implementing the necessary changes and improvements should be unambiguous.
- b) The service management plan. Where possible the plan should be sub-divided into stages, with benefits identified for each stage.
- c) The service provider's service management policy. For example, policies related to all sub-plans such as change management policies, information security policies, service continuity policies. Defining policies early in the planning of the SMS enables verification of the scope of the SMS and makes it possible to identify important considerations.
- d) Service requirements. Policies, standards or business key performance indicators should be compatible with service requirements and should meet customer requirements and business needs. For example, service requirements should not result in a nonconformity to an information security policy, putting the entire business at risk.
- e) Known limitations which can impact the SMS. For example, the service provider's personnel having insufficient skills in how to implement and manage the SMS. The plan should identify appropriate actions such as providing training and awareness, hiring new personnel with the relevant skills and experience and using the expertise of other parties to mentor personnel.

4.5.2.2 Alignment of planning and agreements

The service management plan should include the agreement and documentation of service requirements. The service targets should be documented in both the plan and agreements between the service provider and relevant groups. The agreements should take into consideration the aspects listed below.

- a) Customer, e.g. SLAs, requirements of new or changed services. This should be considered even if the documented agreement with a customer is not a legally binding contract.
- b) Internal groups, e.g. operational level agreements with a facilities group, systems development group, human resources group, or finance group. This cannot be a legally binding contract because the service provider and internal groups are part of the same legal entity. However, the internal groups may not be part of the service provider's direct line management. Internal groups can be an important aspect of defining the scope of the SMS as they can contribute a significant portion of the overall service.
- c) Suppliers and lead suppliers, e.g. service or resource subcontracts.

- d) Other standards, regulatory and statutory requirements, e.g. industry-specific, such as medical, automotive, telecommunications or country-specific compliance to laws for software licensing.

4.5.2.3 Management roles, authorities and responsibilities

The management roles, authorities and responsibilities within the scope of the SMS should be documented in both the service management plan, process documentation and relevant agreements, including:

- a) all roles for which management are individually or collectively accountable and responsible;
- b) management representative, including any limits on the authority of this role, and the relationship to the top management that this person represents;
- c) service or process owners.

The authorities and responsibilities for the roles in the SMS should be checked to ensure that there are no conflicts of interest e.g. the same role proposing and also approving a change. The framework of authorities, responsibilities and process roles in the plan should include the details of which role is accountable and responsible for all components of the SMS.

4.5.2.4 Process interfaces

The information on interfaces between processes should include the type, method and frequency of information passed from one process to another process. The service provider should be aware that this is an important part of their process definition and ensures that the processes and the SMS will function effectively and efficiently.

Clause 5 of ISO/IEC 20000-1:2011 includes requirements for interfaces between the processes in Clauses 6 to 9 and the design and transition of new or changed services.

Requirements for new or changed services include the project stage at which service requirements are defined and when the service is designed and transitioned. The service provider should be aware that effective project management is important for managing some interfaces. The interface between the SMS and any projects should be defined, agreed and recorded in the plan.

The integrated components of the SMS, including processes, policies, objectives and plans, should be measured so that the efficiency and effectiveness of the SMS and the services can be identified, managed and improved.

In order to facilitate integration and interoperability between the customer and service provider the service provider can establish standardized process descriptions. Process descriptions define the purpose, outcomes, activities, policies, roles and responsibilities, information items and interfaces for each service management process within the SMS. Each process can also require documented procedures or work instructions to further define how to undertake activities.

The service provider should be aware that overall management and coordination of the SMS is particularly important when it is being improved or changed for any other reason. Changes to the processes that form part of the SMS should only be made after the impact of the change on the rest of the SMS is understood and is considered acceptable. This includes the impact on other processes or the organization's service delivery capability.

EXAMPLE Changes to parameters or targets used in the incident and service request management process can have an unintended and detrimental effect on other processes, such as the service level management (SLM), reporting and information security management (ISM) processes.

Understanding the interdependencies between processes and between all components of the SMS can reduce risk and enable effective management of the SMS. Examples of interfaces between service management processes and of integration within the SMS can be found in Annex A of this part of ISO/IEC 20000.

4.5.3 Implement and operate the SMS (Do)

The service provider should implement and operate the SMS in alignment with the service management plan and as a means of achieving the service management objectives.

The service provider should be aware of the benefits of ensuring that the authorities and responsibilities of both the service provider and customer are documented and agreed for activities that impact both parties.

The service provider should be aware that a person who is appropriate for the planning and initial implementation is not always suitable for the operation of the SMS. Different skills are required for planning, implementation and operation.

4.5.4 Monitor and review the SMS (Check)

4.5.4.1 General

The service provider should monitor, measure and review the service management objectives and plan the necessary activities to ensure they are being achieved. Top management should be aware of the outcomes of reviews. If changes to the service management plan and objectives are considered necessary, these changes should be approved in accordance with the change management process.

In accordance with the PDCA methodology, the service provider should regularly identify, collect, analyse, and report information on the processes and the services delivered. These activities should support effective management of the SMS and the services, and should enable the ability to objectively demonstrate the quality and value of the services delivered.

NOTE See ISO/IEC 15939 for further information on measurement, ISO/IEC 15504 for process assessment and performance evaluation, ISO/IEC 14598 for product evaluation and ISO/IEC 9126 Parts 2 and 3 for examples of software product metrics.

4.5.4.2 Internal audit

The service provider should ensure internal audits are performed according to a documented procedure that includes authorities and responsibilities for the audits. Those responsible for carrying out internal audits should be suitably knowledgeable and independent of the areas being audited, e.g. they should not audit their own work. The roles required should be documented. They can include a project manager, the sponsor, the steering committee, other interested parties and the independent auditors.

There should be an agreed internal audit programme identifying when each service and which clauses of ISO/IEC 20000-1 are to be audited. There should be a rationale for the planning decisions, including why services or clauses of ISO/IEC 20000-1 are included or excluded for each internal audit. Factors that should be taken into account include the degree of risk involved in a process, its frequency of operation and its past history.

The intervals at which internal audits are performed should be planned and not only done when there are known risks or other issues. The interval selected should take into account the rate of change of the:

- a) SMS and services;
- b) customer requirements and customer's organization;
- c) service provider personnel and organization;
- d) technology used for delivery of the service;
- e) major changes to service management tools, when tools are used.

Management should ensure that audits are completed to plan, unless rescheduled for documented reasons.