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STANDARDIZATION SECTOR
OF ITU

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Supplement 1
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SERIES M: TELECOMMUNICATION MANAGEMENT,
INCLUDING TMN AND NETWORK MAINTENANCE

Telecommunications management network

Enhanced Telecom Operations Map (eTOM)

**Supplement 1 – Interim view of an interpreter's
guide for eTOM and ITIL practitioners**

ITU-T Recommendation M.3050 – Supplement 1



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ITU-T Recommendation M.3050

Enhanced Telecom Operations Map (eTOM)

Supplement 1

Interim view of an interpreter's guide for eTOM and ITIL practitioners

Summary

ITU-T Recommendations M.3050.x series contain a reference framework for categorizing the business activities that a service provider will use. The Enhanced Telecom Operations Map® (or eTOM for short), which has been developed by the TeleManagement Forum, describes the enterprise processes required by a service provider and analyses them to different levels of detail according to their significance and priority for the business. This business process approach has built on the concepts of management services and functions in order to develop a framework for categorizing all the business activities.

This Supplement provides a mapping to the IT infrastructure library.

Source

Supplement 1 to ITU-T Recommendation M.3050 was agreed on 14 February 2007 by ITU-T Study Group 4 (2005-2008).

The ITU-T M.3050.x Recommendation sub-series is based on the Enhanced Telecom Operations Map® (eTOM) which has been developed by the TeleManagement Forum (TMF).

FOREWORD

The International Telecommunication Union (ITU) is the United Nations specialized agency in the field of telecommunications. The ITU Telecommunication Standardization Sector (ITU-T) is a permanent organ of ITU. ITU-T is responsible for studying technical, operating and tariff questions and issuing Recommendations on them with a view to standardizing telecommunications on a worldwide basis.

The World Telecommunication Standardization Assembly (WTSA), which meets every four years, establishes the topics for study by the ITU-T study groups which, in turn, produce Recommendations on these topics.

The approval of ITU-T Recommendations is covered by the procedure laid down in WTSA Resolution 1.

In some areas of information technology which fall within ITU-T's purview, the necessary standards are prepared on a collaborative basis with ISO and IEC.

NOTE

In this publication, the expression "Administration" is used for conciseness to indicate both a telecommunication administration and a recognized operating agency.

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ITU-T Recommendation M.3050

Enhanced Telecom Operations Map (eTOM)

Supplement 1

Interim view of an interpreter's guide for eTOM and ITIL practitioners

1 Scope

The Enhanced Telecom Operations Map® (eTOM) [b-TMF GB921] has been developed by the TeleManagement Forum as a reference framework for categorizing all the business activities that a service provider will use.

This Supplement is part of a series of ITU-T texts dealing with eTOM (Release 7.0), which has the following structure:

M.3050.0	eTOM – Introduction.
M.3050.1	eTOM – The business process framework. (TMF GB921 Release 7.0.)
M.3050.2	eTOM – Process decompositions and descriptions. (TMF GB921 Addendum D – Release 7.0.)
M.3050.3	eTOM – Representative process flows. (TMF GB921 Addendum F – Release 4.5.)
M.3050.4	eTOM – B2B integration: Using B2B inter-enterprise integration with the eTOM. (TMF GB921 Addendum B – Release 6.1.)
M.3050 Supplement 1	eTOM – An Interim View of an Interpreter's Guide for eTOM and ITIL Practitioners. (TMF GB921 Application Note V – Release 6.0.)
M.3050 Supplement 2	eTOM – Public B2B Business Operations Map (BOM). (TMF GB921 Addendum C – Release 4.)
M.3050 Supplement 3	eTOM to M.3400 mapping.
M.3050 Supplement 4	eTOM – An eTOM Primer (TMF GB921 Addendum P – Release 4.5).

Additional parts will be published as material becomes available.

This series of ITU-T Recs M.3050.x builds on the management services approach described in [ITU-T M.3010] and [ITU-T M.3200] by developing a business process framework.

This Supplement provides a mapping to the IT infrastructure library.

2 References

The following ITU-T Recommendations and other references contain provisions which, through reference in this text, constitute provisions of this Recommendation. At the time of publication, the editions indicated were valid. All Recommendations and other references are subject to revision; users of this Recommendation are therefore encouraged to investigate the possibility of applying the most recent edition of the Recommendations and other references listed below. A list of the currently valid ITU-T Recommendations is regularly published.

The reference to a document within this Recommendation does not give it, as a stand-alone document, the status of a Recommendation.

[ITU-T M.3010] ITU-T Recommendation M.3010 (2000), *Principles for a telecommunications management network*.

[ITU-T M.3200] ITU-T Recommendation M.3200 (1997), *TMN management services and telecommunications managed areas: overview*.

3 Definitions

This Supplement uses the following term defined elsewhere:

3.1 eTOM: ITU-T Rec. M.3050.0.

4 Abbreviations and acronyms

This Supplement uses the following abbreviations and acronyms in addition to those defined in ITU-T Rec. M.3050.1:

CI	Configuration Item
CMDB	Configuration Management Database
DHS	Definitive Hardware Store
IT	Information Technology
ITIL	IT Infrastructure Library
itSMF	IT Service Management Forum
OGC	Office of Government Commerce
OLA	Operational Level Agreements
UC	Underpinning Contracts

5 Introduction

This Supplement is intended to provide users of either eTOM or ITIL (or potential users for either or both of these) with an overview of how the eTOM and ITIL processes can be related, and information on mapping from one view to the other.

This Supplement is an interim report from the team, showing work in progress, and is intended to show the analysis carried out and to invite comments on the approach taken. Thus, the approach taken to the analysis is general, and the form of the detailed artefacts for each process is still to be decided.

It should be stated clearly to begin with that the analysis carried out supports the understanding that these two perspectives are compatible and that a common, integrated view can be derived so that either an eTOM-based or an ITIL-based solution can be understood in terms of the other perspective. This analysis is ongoing and so final results have not been developed in all areas as yet, but the general direction of the work done gives good grounds for optimism that no serious conflicts will arise in bringing together the two views.

It is important, in looking at this, to recognize that the two areas of work are not attempting to address exactly the same scope. The eTOM provides a top-down hierarchical view of business processes across the whole enterprise and does not itself address how these processes are supported by automated or human action (this is, however, addressed in the wider NGOSS programme of the TM Forum). The ITIL processes represent flows in a number of key operational areas, with a strong orientation towards how these processes will map onto IT support environments. Thus, the scope of ITIL is on a part of the enterprise business space, while eTOM looks more widely, but it focuses more directly on how these processes will operate in practice. Nevertheless, there is a large area of overlap of interest and this Supplement aims to define this more precisely and indicate how this overlap will work.

Potential audiences for this Supplement therefore include both eTOM and ITIL practitioners who want some grounding in how their area relates to the other, and also those actively seeking to manage the mapping between the two perspectives. This Supplement will not provide answers in every area and in full detail, but it provides an umbrella for further work that will progressively illuminate the issues involved.

It should also be noted that this work considers a generic mapping, and the implementation for specific service providers may differ in detail, depending on their particular use of eTOM and ITIL processes. Both eTOM and ITIL are intended as frameworks, and so will be further developed and specialized for individual applications. It therefore follows that the contents of this Supplement would then also require further development and specialization in line with the detail that emerges.

6 Document structure

This Supplement is structured in the following way:

- Background to the work and previous work carried out by TMF and itSMF.
- The goals of the TMF and itSMF, respectively the industry organizations responsible for the eTOM and promoting best practice in service management.
- History and business context of the eTOM and ITIL.
- Similarities and differences in approach and scope.
- The ITIL approach to service management.
- The business view of a combined approach, using eTOM and ITIL.
- Discussion on terminology differences and similarities (further information in Annex A).
- Presentation of mappings between the eTOM and ITIL frameworks (with further information in Annex B for incident management). Includes an explanation of how ITIL processes support eTOM processes.
- Flows for key scenarios in ITIL change management and incident management, showing how the eTOM process steps and ITIL process are related.
- Introduction to the business benefits of using a combined eTOM and ITIL approach (see Annex C).
- Next steps, discussing future work, standardization and certification.
- Annex A: Table of terminology comparisons.
- Annex B: Mapping between eTOM for incident management.
- Annex C: The business benefits of using a combined eTOM and ITIL process approach.

7 Background to this work

This Supplement builds on previous work carried out by the TM Forum to provide a very high-level view of the relationship between eTOM and ITIL. This previous work was published as Addendum L of the eTOM documentation, as [b-TMF GB921L] (eTOM-ITIL application note).

[b-TMF GB921L] provided only a first level of mapping detail, and this Supplement develops this further with mappings for each of the major ITIL processes (in this release, only incident management and change management have been addressed). [b-TMF GB921L] is superseded by this Supplement which incorporates relevant material from the earlier application note. Note that ITIL v2 has been used in preparing this Supplement.

8 Goals and business context

This Supplement develops further the first level of mapping detail provided by [b-TMF GB921L], with mappings from each of the major ITIL processes (in this interim release, only incident management and change management have been addressed).

8.1 The goals of TMF and itSMF

8.1.1 TMF

TeleManagement Forum is an international consortium of communications service providers and their suppliers. Its mission is to help service providers and network operators automate their business processes in a cost- and time-effective way. Specifically, the work of the TM Forum includes:

- Establishing operational guidance on the shape of business processes.
- Agreeing on information that needs to flow from one process activity to another.
- Identifying a realistic systems environment to support the interconnection of operational support systems.
- Enabling the development of a market, and real products, for integrating and automating telecom operations processes.

The members of TM Forum include service providers, network operators and suppliers of equipment and software to the communications industry. With that combination of buyers and suppliers of operational support systems, TM Forum is able to achieve results in a pragmatic way that leads to product offerings (from member companies) as well as paper specifications.

TeleManagement Forum supports several kinds of projects, including process automation and technology integration projects, as well as Catalyst projects that support both process automation and technology integration projects through real-product integration.

The TeleManagement Forum has existed since the late 1980s as an industry focus for OSS/BSS issues, with the aim of encouraging and facilitating easier interoperability between service providers and other enterprises (other SPs, customers, suppliers, partners, etc.), and also of easing integration of OSS/BSS solutions in the ICT arena. It is a non-profit global consortium, currently of some 400 companies with most of the major players and many others involved in and applying the work. TMF supports TeleManagement World, a twice-yearly industry expo and conference event focused specifically on OSS/BSS, as well as market-oriented analysis that feeds into a technical work programme, a Catalyst programme for members to collaborate on proof-of-concept, and increasingly early product, demonstrations, and a comprehensive website offering a range of resources for the industry. The technical work programme is member led and resourced, delivering specifications and designs across a range of high-priority areas, and notably includes the Enhanced Telecom Operations Map (eTOM) as the primary industry business process framework.

8.1.2 itSMF

The IT Service Management Forum is the only internationally recognized and independent organization dedicated to IT service management. It is a non-profit organization, wholly owned, and principally operated, by its membership.

The itSMF is a major influence on, and contributor to, industry "best practice" (represented by the IT Infrastructure Library – ITIL) and standards worldwide (BS15000, AS8018 and ISO/IEC 20000-1/2:2005), working in partnership with a wide range of governmental and standards bodies.

Formed in the UK in 1991, there are now national chapters in an ever-increasing number of countries. The aims are:

- to develop and promote industry best practice in service management;
- to engender professionalism within service management personnel;
- to provide a vehicle for helping members improve service performance;
- to provide members with a relevant forum in which to exchange information and share experiences with their peers on both sides of the industry.

Approximately 80% of the membership represents organizations striving to implement and sustain high quality IT service management solutions, with the remainder being organizations providing products and services to assist in those endeavours. Organizations range from large multi-nationals through small and medium local enterprises to individual consultants and cover both the public and private sectors.

While, broadly speaking, all chapters offer very similar services, the range and sophistication does vary according to the size and maturity of the chapter. To find out more about itSMF and its services go to www.itsmfi.org/.

8.2 History and business context of eTOM and ITIL

8.2.1 eTOM

The eTOM framework was originally developed in the early 1990s based on input from a range of service providers (SPs) to provide the original business process model that developed into the Telecom Operations Map (TOM). This concentrated on the real-time operations processes, under the general headings of fulfilment, assurance and billing. In the late 90s, this was expanded to provide a total enterprise model and the original "FAB" processes can still be observed as part of this Enhanced Telecom Operation Map, but the overall scope is now much wider and embraces areas such as strategy, infrastructure and product lifecycles, and the enterprise management processes that can be seen in any company.

The eTOM framework has been evolved through several TM Forum membership and then public releases. In 2004 the eTOM Framework was accepted by ITU-T in toto and is published as the ITU-T Recommendations M.3050.x series, which is part of the ITU-T TMN set of Recommendations.

Widely used in the industry as the most comprehensive view of SP processes, eTOM is applied by SPs themselves as a reference and a basis for internal and external discussion around business needs and interoperability, as well as by suppliers and others as a means of understanding and discussing SP behaviour and requirements. It includes a hierarchy of process definitions, offering a structure and model to understand and develop areas of process, and a repository of process elements at various levels of detail that can be combined and applied in specific applications. It also provides examples of process flows showing how the eTOM framework can be used, user guides, and information on relationships with other industry work (such as ITIL and the ITU-T TMN).

8.2.2 ITIL

The IT Infrastructure Library (ITIL) is a public domain 'standard' for IT/ICT production operations and is the most widely accepted approach to IT service management in the world. It provides a comprehensive and consistent set of best practices for IT service management, promoting a quality approach to achieving business effectiveness and efficiency in the use of information systems.

Developed in the UK during the 1980s and now being evolved by a global community, it is being adopted worldwide. ITIL took root during the challenge of client server, distributed, departmental computing and increasing IT operational complexity. It is now represented and revised by the itSMF, which has branches in about 30 countries. It has been adopted in North and South America,

UK and Europe as well as Africa, India, South East Asia, including Japan, Australia and New Zealand. However, the heartland for adoption remains Europe. While it remains a public domain standard, the copyright is owned by the UK Office of Government Commerce.

ITIL comprises a fairly simple set of logical processes and a standardized vocabulary. It replaces all other operational methods that may have been introduced into an IT service delivery environment, giving them a common definition of services. These are available as CDs or books.

The core set of processes is contained in a 6 book set: service support, service delivery, ICT, application, planning to implement and security management (ISO/IEC 17799-aligned). Also, separate publications deal with business management and software asset management aspects. There are about another 25 associated documents in the complete set. The two most popular publications are service delivery and service support.

These methods are size-, technology- and industry-independent and ITIL has been applied to small IT shops, huge multi-national companies' IT operations and government departments. Interestingly, it has also been adopted in a few organizations, such as UK area health organizations and London Underground transport operations purely for generic service management to the public.

The current release of ITIL is v2 and this has been used in this Supplement.

8.3 Approaches and distinctions

8.3.1 eTOM

- Business context is a total enterprise model for telcos.
- International standard through ITU.
- Constitutes the business view section of NGOSS, TMF's initiative on OSS/BSS solutions.
- A common language for business processes.
- A hierarchy of process definitions.
- A repository of process elements at various levels of detail that can be combined and applied in specific applications.
- Provides examples of process flows.
- Flow diagrams are used in eTOM to illustrate end-to-end processes, e.g., fulfilment.
- Technical content now mature, with an increasing emphasis on guidelines for its application and usage.

8.3.2 ITIL

- Business context is IT/ICT service management.
- Included in various national standards, and slated to be adopted by ISO in 2005/2006.
- A comprehensive and consistent set of best practices.
- A set of methods for delivering controlled and optimizable services.
- Common language, e.g., incident is used for any event which causes an interruption or reduction of service.
- Aim is to provide high quality services with a particular focus on customer relationships.
- Is built on agreements where the IT organization should provide whatever is mutually agreed with customers.
- Service delivery processes are partially concerned with setting up agreements and monitoring the targets within these agreements. On the operational level, the service support processes can be viewed as delivering service as laid down in these agreements.

- Flow charts are used in ITIL¹.
- Inclusion of closed feedback quality loops for continuous improvement.
- It supports and drives 'quality' or repeatability.
- The underlying philosophy is to know what you are doing, what you are doing it to, take control and optimize the service. It is for this reason that it can be applied to many circumstances, not just IT operations.
- ITIL applies and maps specifically to eTOM operations assurance and touches fulfilment and billing².

9 Service management in ITIL

The two "core" documents of the ITIL set are the two ITIL service management components: service support and service delivery. The decomposition of these components into processes and functions is covered below.

9.1 Service support

The content is adapted from the service support and service delivery guidebooks (© OGC).

¹ While flowcharts are used to illustrate some of the processes in the ITIL documents, ITIL does recognize the need to develop processes (Annex C to service support, for example).

² It also maps to many of the SIP processes. Availability and capacity management are mainly concerned with ILM and PLM.

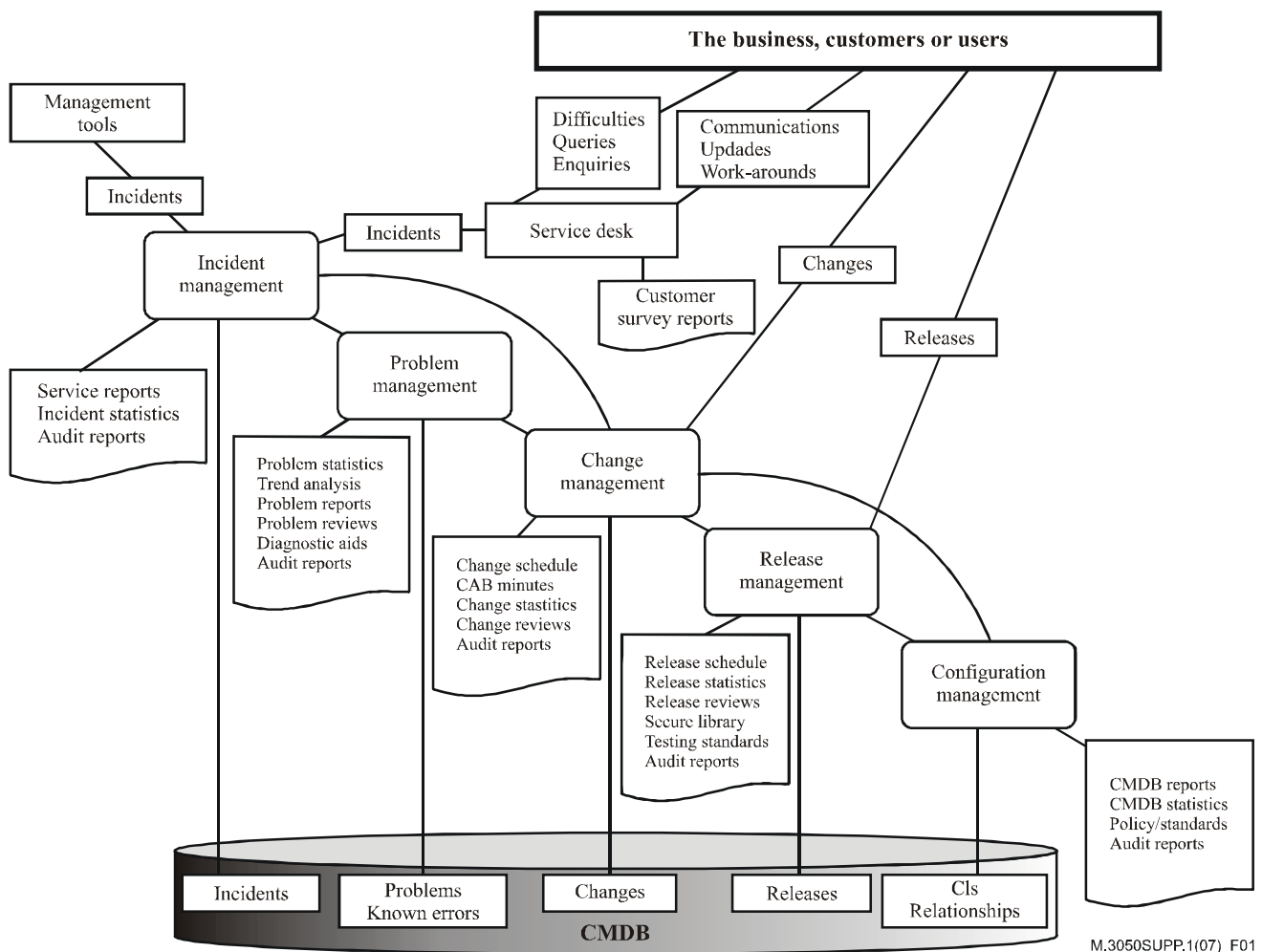


Figure 1 – ITIL service support diagram (© OGC)

Service support decomposes into the following functions and processes.

9.1.1 Service desk

The service desk is the only function within ITIL service management and provides a single point of contact between the IT service customer/user and all the other processes within the ITIL service management.

9.1.2 Incident management

The incident management process handles service requests (new service requests, change requests, etc.) as well as incidents. An incident is any event that affects the required service levels as defined by a relevant SLA. The aim of incident management is to return IT service delivery to the required service levels as quickly as possible while minimizing any negative impact upon business operations.

9.1.3 Problem management

The problem management process is comprised of two aspects; proactive problem management and reactive problem management. Proactive problem management involves the detecting and resolving of problems and known errors before they lead to Incidents. Reactive problem management responds to major incidents and problems as they occur, again providing problem resolution. There are two stages to the problem management process; the first, problem control, involves investigating and establishing a root cause of a problem and providing a resolution; the second,

error control, is the investigation and elimination of known errors so that they do not reoccur. Once the root cause of a problem has been identified and the problem resolved, then it becomes a known error.

9.1.4 Configuration management

The configuration management process is the underpinning discipline to all the other service management processes. The aim of the process is to document all the configuration items (CIs) within an organization and the relationship between them all in the configuration management database (CMDB). The configuration management process is also responsible for keeping the CMDB up to date. The CMDB is used by the other processes to hold reports, plans, records, etc., since these also can be related to CIs.

9.1.5 Change management

The change management process is responsible for the implementation of changes to both IT services and infrastructure. All changes should show a benefit to the business; be it the resolution of a problem, service improvement or cost reduction. The change management process provides a structured method for the approval and management of all changes. This approach allows the resources required to implement a change, the business impact of a change (both benefits and incidents that may arise because of the change).

9.1.6 Release management

The release management process is an output of the change management process since release management is the implementation of any change. The release management process is concerned with all types of IT service or system change and takes a wider view of a change so that all aspects of a change are considered. The release management process is also responsible for the definitive software library (DSL) and definitive hardware store (DHS) within the CMDB.

9.2 Service delivery

The content is adapted from the service support and service delivery guidebooks (© OGC).

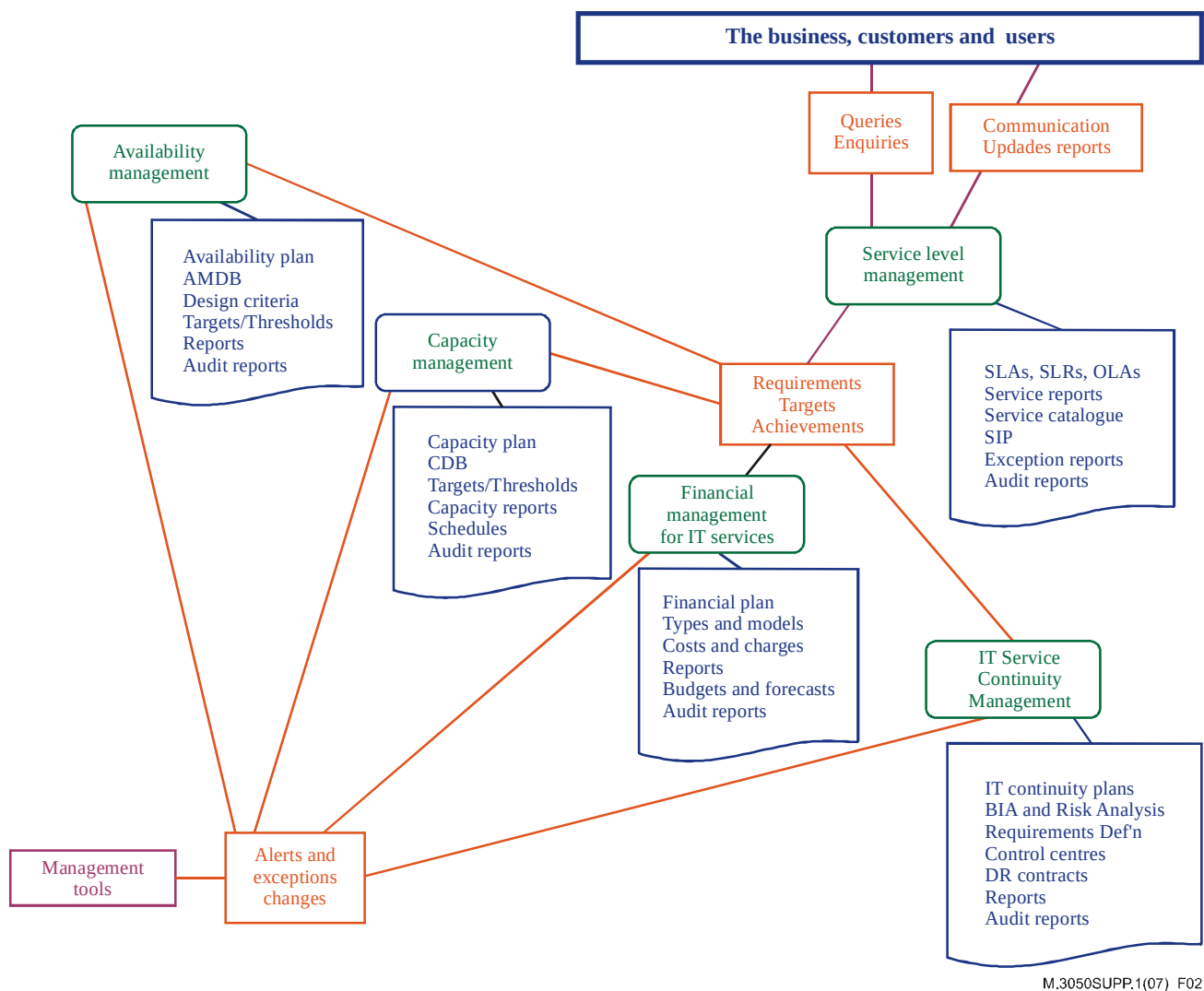


Figure 2 – ITIL service delivery diagram (© OGC)

Service delivery decomposes into the following main processes.

9.2.1 Service level management

The aim of the service level management process is to ensure that IT service quality is maintained and improved. The service level management maintains the relationship between the customer and the IT service provider (who can be either internal or external to the customer's organization) through service level agreements (SLAs), operational level agreements (OLAs) and underpinning contracts (UCs).

9.2.2 Financial management for IT services

The financial management for IT services process is concerned with the budgeting, accounting and charging of IT services. It considers both internal IT service provision and external third party providers.

9.2.3 Capacity management

The aim of the capacity management process is to ensure that the IT infrastructure can meet current and future IT service requirements and, consequently, business requirements can be met cost effectively. The capacity management process also looks at improving IT service delivery through the introduction of new technology and continuous monitoring and improvement of the IT service.

9.2.4 IT service continuity management

The IT service continuity management process underpins the organizations' business continuity requirements and is responsible for ensuring that the required IT services (including infrastructure, telecommunications, applications and support) can be restored in the required time to ensure business continuity.

9.2.5 Availability management

The aim of the availability management process is to ensure that the availability of the IT services meet the SLA and, consequently, the business requirements through the continuous monitoring of and improvement to the IT services. The availability management process is also responsible for the implementation of security policy.

9.3 Application management

Application management overlaps service management as shown in Figure 3 below and divides into two areas:

- 1) Application development – those activities needed to plan, design and build the application.
- 2) Service management – which sub-divides into:
 - service delivery;
 - service support.

Application management is split into six processes which are distributed between application development and service management as shown in Figure 3.