

# Enhanced Telecom Operations Map<sup>®</sup> (eTOM)

## The Business Process Framework

*For The Information and Communications Services Industry*



**GB921**

*Version 3.6 (Public Evaluation)*

*November 2003*



## Executive Summary

The Enhanced Telecom Operations Map<sup>®</sup> is an ongoing TM Forum initiative to deliver a business process model or framework for use by service providers and others within the telecommunications industry. The TM Forum Enhanced Telecom Operations Map<sup>®</sup> (or eTOM for short) describes all the enterprise processes required by a service provider and analyzes them to different levels of detail according to their significance and priority for the business. For such companies, it serves as the blueprint for process direction and provides a neutral reference point for internal process reengineering needs, partnerships, alliances, and general working agreements with other providers. For suppliers, eTOM outlines potential boundaries of software components to align with the customers' needs and highlights the required functions, inputs, and outputs that must be supported by products.

A particular strength of eTOM as a business process framework is that it is part of the TM Forum NGOSS (New Generation Operations Systems and Software) program and links with other work underway in NGOSS.

The purpose of eTOM is to build on the recognition and status of the previous TM Forum Telecom Operations Map in setting a vision for the industry to enable it to compete successfully through the implementation of business process-driven approaches to managing the enterprise. This includes ensuring integration among all vital enterprise support systems concerned with service delivery and support. The focus of eTOM is on the business processes used by service providers, the linkages between these processes, the identification of interfaces, and the use of customer, service, resource, supplier/partner and other information by multiple processes.

The Business Process Framework begins at the Enterprise level and defines business processes in a series of groupings. eTOM uses hierarchical decomposition to structure the business processes according to which all of the processes of the enterprise are successively decomposed. Process descriptions, inputs and outputs, as well as other key elements are defined. The eTOM Business Process Framework represents the whole of a service provider's enterprise environment, and is defined as generically as possible so that it is organization, technology and service independent.

The eTOM Business Process Framework can be used as a tool for analyzing your organization's existing processes and for developing new processes. Different processes delivering the same business functionality can be identified, duplication eliminated, gaps revealed, new process design speeded up, and variance reduced. Using eTOM, you can assess the value, cost and performance of individual processes within your organization.

You can facilitate your relationships with suppliers and partners by identifying and categorizing the processes you use in interactions with them. In a similar manner, you can identify the all-important customer relationship processes and evaluate whether they are functioning as required to meet your customers' expectations.

As well as update to take account of evolution since the last main eTOM release, (GB921 v3.0) this GB921 Version 3.6 has been restructured into a main document and several Addenda. The overall package contains new process decomposition and process flow detail, together with a separate Application Note concerning eTOM-ITIL linkages and another under development on support for external (e.g. Business-to-Business) interworking.

## Notice

The TeleManagement Forum (“TM Forum”) has made every effort to ensure that the contents of this document are accurate. This document is a draft working document of TM Forum and is provided to the public solely for comments and evaluation. It is not a Forum Approved Document and is solely circulated for the purposes of assisting TM Forum in the preparation of a final document in furtherance of the aims and mission of TM Forum. Any use of this document by the recipient is at its own risk. Under no circumstances will TM Forum be liable for direct or indirect damages or any costs or losses resulting from the use of this document by the recipient.

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## Acknowledgements

### **Enhanced Telecom Operations Map<sup>®</sup> (eTOM) The Business Process Framework Release 3.6 Contributors**

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This release of the Enhanced Telecom Operations Map<sup>®</sup> (eTOM) Business Process Framework Version 3.6 is the result of the combined efforts of a large group of individuals from companies all over the world. Most noteworthy is the participation of numerous service providers. The knowledge and commitment in providing contributions and participating in discussions are greatly appreciated. For the core team, listed below with an asterisk before their names, significant time and commitment was involved and provided.

Contributors over the program leading to the previous approved release (GB921 v3.0) were acknowledged in that document. The main contributors for the current release who have input to the development of the current document (and the previous GB921 v3.5 Member Evaluation release), are:

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- Balbinder Dhami, Amdocs
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- Daniel Perez, Telefonica Moviles
- Greg Fidler, Telstra
- Roger Cutts, Vodafone
- Yigal Gur, Worldcom

Continuing thanks to Enrico Ronco, Telecom Italia, who is able to find a course through the variety of views and pressures brought to the work, and who has steered the eTOM Team to another major achievement with this release.

The team looks forward to continued input and involvement for ongoing work on the eTOM. Thank you for making the Enhanced Telecom Operations Map (eTOM), the acknowledged, best framework for Telecom and Information Services business processes.

## About TeleManagement Forum

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 written specifications.



## About this document

This is a TM Forum Guidebook. The guidebook format is used, for example, when the document lays out a 'core' part of TM Forum's approach to automating business processes.

### Document Life Cycle

The "Enhanced Telecom Operations Map<sup>®</sup> (eTOM) The Business Process Framework For The Information and Communications Services Industry" is being issued as a Public Evaluation Version Release 3.6 with a Guidebook Number of 921. The TeleManagement Forum ("TM Forum") expects to continue to develop this based on:

- Further research and alignment with other cross-industry process work
- Significant member comments and input
- Joint work with other TM Forum teams
- Additional work to provide additional process decompositions and flows

The enhanced Telecom Operations Map, referred to hereafter as the TM Forum eTOM Business Process Framework, or simply the eTOM, supercedes the TM Forum Telecom Operations Map (TOM), GB910 Version 2.1, as well as previous releases of eTOM itself.

All documents approved by the TM Forum (as well as those previously approved by NMF) undergo a formal review and approval process. The TM Forum Strategy Management Team, chaired by the President of TM Forum, approved this document for release to the TM Forum members.

This document will continue under change control. A document of this type is a "living document," capturing and communicating current knowledge, views and practices. Further updates will be made because of detailed work ongoing in the TM Forum and the industry.

At an appropriate point, individuals or companies who are not members of the TM Forum will be encouraged to provide comments on this document. However, in order for their comments to be considered, a signed waiver must be on file with TM Forum pertaining to intellectual property rights. To obtain this form, please contact the TM Forum.

## Time Stamp

This version of the eTOM Business Process Framework can be considered valid until it is updated or replaced.

## How to obtain a copy

An electronic copy of the eTOM Business Process Framework can be downloaded at the TM Forum Web Site (<http://www.tmforum.org>). Contact the TM Forum office (see previously for contact details, or via the web site) for any further information.

## How to comment on the document

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Please be specific, since your comments will be dealt with by a team evaluating numerous inputs and trying to produce a single text. Thus, we appreciate significant specific input. We are looking for more input than “word-smith” items, however editing and structural help are greatly appreciated where better clarity is the result.

## Document History

Version	Date	Purpose
TOM Evaluation Version 1.0	10/98	Evaluation Version released to public for comment Supercedes Service Management Business Process Model
TOM Evaluation Version 1.1	4/99	Update to Public Evaluation Version for member comments and work done to validate all input/output diagrams. Supercedes TOM 1.0
TOM	11/99	Update for Member Only Release and Member

<b>Version</b>	<b>Date</b>	<b>Purpose</b>
Evaluation Version 2.0		Approval TOM 1.1 Member and Public Comment Updates Updates to input/output diagrams Significant Edits and rewrites for clarity, reading ease Language update to be inclusive of IP, Mobile, Wireless Introduction of e-business direction Indication of 3 TOM Application Note Addenda: -GIA -Mobile/Wireless Performance Mgt., Fraud and Roaming Agreement Mgt. -Process Re-engineering and Development Simple Methodology Steps Supercedes TOM 1.1
TOM Version 2.1	3/00	Approved by Members Some editing updates Some updates and corrections on spiders Supercedes Evaluation Version 2.0
eTOM Evaluation Version 1.0	5/01	First release of eTOM Business Process Framework document with eTOM concepts, ebusiness integration, CRM process decompositions and Order Handling process flows with Level 1 and 2 process decompositions and descriptions for each Level 1 process
eTOM Evaluation Version 2.0	10/01	Second release of eTOM Business Process Framework document with an extended eTOM structure, including Strategy & Commit, and Infrastructure and Product Lifecycle Management, and Operations Support & Readiness, together with Level 1 and 2 process decompositions and descriptions for each process area.
eTOM Evaluation Version 2.5	12/01	Released for Public Evaluation with some reordering of chapters and minor content changes from v2.0
eTOM Version 2.6	03/02	Released with minor content changes from v2.5 to reflect comments received
eTOM Version 2.7	04/02	Formatted for release for member approval vote with full name "enhanced Telecom Operations Map (eTOM)"
eTOM Version 3.0	05/02	Released as TM Forum Approved document, with minor updates to reflect comments received. Changes include alignment of diagram and text naming.
eTOM Version 3.5	07/03	Updated to reflect Member and other comment received. Expanded and restructured to include new process decompositions and flows, and to accommodate more clearly interworking

Version	Date	Purpose
		arrangements between different enterprises.
eTOM Version 3.6	11/03	Minor updates, and material on interworking arrangements between different enterprises moved to new Application Note.

## Summary of Changes in this Version

This version of GB921 contains the following main changes from GB921 v3.0:

- Document divided into a core document (GB921) and two Addenda, D and F (see Chapter 1 for details)
- Further process decompositions provided (see Addendum D, (GB921D))
- Example process flows provided (see Addendum F, (GB921F))
- Some process names/details updated to reflect industry experience in applying eTOM (see Appendix 1 in this document)
- Overall, some redundant text removed and document shortened to provide more focus and to take account of evolution since last Release
- A separate Application Note (GB921L) concerning eTOM-ITIL linkages provided
- Another separate Application Note (GB921B) describing support for Business-to-Business interworking under development

## Expectations for Future Additions

The eTOM Business Process Framework is a living document and there are high member expectations for continued development of it. eTOM will be extended through release of separate addenda documents that address further process detail. The updates and additions to the eTOM will include:

- Continued, significant input, comments and issues from TM Forum membership.
- Continued linkage to other process work being done in the industry.
- Continued linkage to the TM Forum NGOSS work.
- Input and process work through implementation experience of TM Forum teams, especially the Catalyst projects.

- Continued work to further develop the process decompositions, flows and interaction with system and data application.
- Increasing emphasis of use of the eTOM Business Process Framework as a tool in analyzing process flows, and their linkage with real-world OSS operation

## **Use of Fonts**

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Very few font or style uses are applied in this document. The two keys font applications used are:

- *Italics* **and/or bold** are used for emphasis.



# References

## Related or Source Documents

The following Reference List provides information on documents and books that have contributed to the development of the TM Forum eTOM Business Process Framework.

## Reference List

1. Telecom Operations Map, TMF, GB910, Evaluation Version 2.1
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3. GR-2869-CORE, Telcordia Technologies Generic Requirements for Operations Based Telecommunications Management Network (TMN) Architecture
4. The e-Process Edge, Peter Keen and Mark McDonald, Osborne/McGraw-Hill, 2000
5. e-Strategy: Pure and Simple, Michel Robert and Bernard Racine, McGraw-Hill, 2001
6. e-Business 2.0: Roadmap for Success, Ravi Kalakota and Marcia Robinson, Addison-Wesley, 2001
7. NGOSS: Development and Integration Methodology, TMF, TR 127
8. 'Value Chain Issues facing the ICT industry', TMF, TR 128
9. "eTOM – ITIL Application Note: Using eTOM to model the ITIL Processes", TMF, GB921L
10. "eTOM – B2B Application Note: Modeling B2B with the eTOM", TMF, GB921B



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# Preface

## eTOM Business Process Framework

The eTOM Business Process Framework is a reference framework for categorizing all the business activities that a service provider will use. This is done through definition of each area of business activity, in the form of process components or Process Elements that can be decomposed to expose progressive detail. These process elements can then be positioned within a model to show organizational, functional and other relationships, and can be combined within process flows that trace activity paths through the business.

The eTOM can serve as the blueprint for standardizing and categorizing business activities (or process elements) that will help set direction and the starting point for development and integration of Business and Operations Support Systems (BSS and OSS respectively). An important additional application for eTOM is that it helps to support and guide work by TM Forum members and others to develop NGOSS solutions. For service providers, it provides a Telco industry-standard reference point, when considering internal process reengineering needs, partnerships, alliances, and general working agreements with other providers. For suppliers, the eTOM framework outlines potential boundaries of process solutions, and the required functions, inputs, and outputs that must be supported by process solutions. This document consists of:

- An introduction to the role of the eTOM Business Process Framework.
- An overview of the eTOM Business Process Framework, from both Intra-Enterprise and Inter-Enterprise viewpoints, that sets out the main structural elements and approach.
- The implications and impact of ebusiness for service providers and their business relationships, and how eTOM supports them.
- A description of extensions to eTOM for Business to Business Interactions.
- Several Annexes and Appendices, including terminology and glossary.
- An Addendum (Addendum D) describing the Service Provider enterprise processes and sub-processes in a form that is top down, customer-centric, and end-to-end focused. Process decompositions are provided for all processes from the highest conceptual view of the framework to the working level of the eTOM, and many selected lower level decompositions in the framework are also included.
- An Addendum (Addendum F) describing selected process flows at several levels of view and detail that provides end-to-end insight into the application of eTOM.
- A separate Application Note (GB921L) that shows how eTOM can be used to model the ITIL processes.

- Another Application Note (GB921B, currently under development) outlining implications and impact of ebusiness for service providers and their business relationships, and how eTOM supports them, including a description of handling of Business to Business Interactions by eTOM.

*Note: Annexes and Appendices both allow material to be removed from the "in-line" flow of the document main body, so that the reader does not become embedded in too much detail as they read. However, they have a different status within a document. Annexes contain normative material, i.e. they have equivalent status to the material within the main body of the document, while Appendices are non-normative, i.e. they contain material included for information or general guidance but which does not represent formal agreement and requirements for users of the document.*

*Addenda have a similar status to Annexes, but are presented as a separate document that is an adjunct to the main document. This is typically because otherwise a single document would become cumbersome due to its size.*

*Thus, a document body, together with its Annexes and Addenda (and their Annexes, if any), represents the normative material presented, while any Appendices in the main document or its Addenda represent non-normative material, included for information only.*

*Application Notes are a specific document type, used to provide insight into how a specification or other agreed artifact is used in a particular context or area of application. They are non-normative as they provide information and guidance only within the area concerned.*

The basic operations framework continues to be stable even as the Information and Communications Services industry continues to change, largely because, like the TM Forum's previous Telecom Operations Map (TOM), the eTOM Business Process Framework:

- Uses a high level and generic approach
- Reflects a broad range of operations and enterprise process model views
- Reflects the way service providers run and are architecting their businesses
- eTOM is already being widely used
- eTOM is accepted as the Telco industry standard by Service Providers, Vendors, Integrators and Consultants.

The eTOM significantly enhances the TOM, the previous 'de facto' standard for Service Provider operations processes for the industry. eTOM has become the enterprise process, ebusiness enabled, 'de facto' standard for the Information and Communications Services industry processes. For those familiar with the TOM, it may be helpful to refer to the prior release of this document (GB921 v3.0) that includes appendices covering TOM to eTOM Chapter Comparison, and TOM To eTOM Process Name Changes.

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## **Relationship to Standardization Activities**

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Much of the management infrastructures upon which systems will be built are expected to be based on standard interfaces. Relating business needs to available, or necessary, standards is a primary goal of the TM Forum in promoting a standards-based approach to information and communications services management. Where applicable, the TM Forum uses industry standards in its work to promote the acceptance of standards and to minimize redundant work. People active in management standardization (in the broadest sense) will find the eTOM useful in setting a top down, enterprise-level, customer-centric context of how management specifications need to work together.

TM Forum uses existing standards as much as possible. As a result of implementation experience through Catalyst projects, TM Forum provides feedback to appropriate standards bodies.

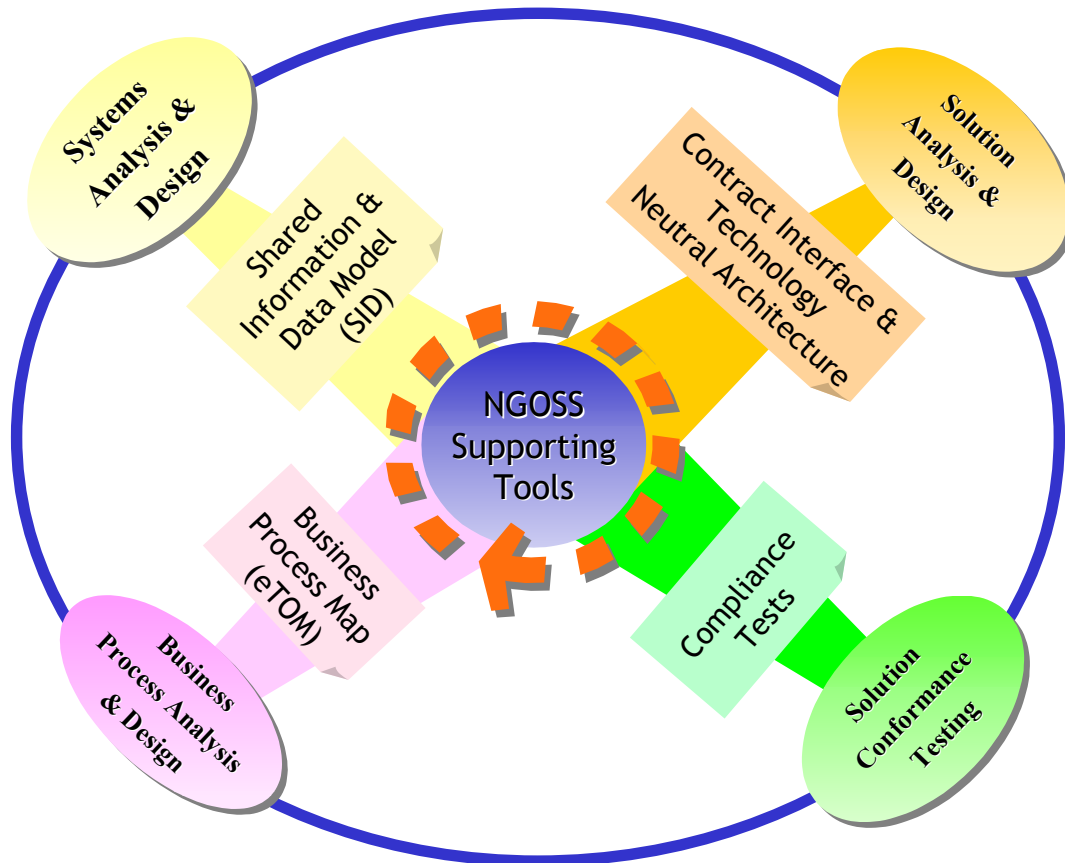
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## **NGOSS and eTOM**

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NGOSS is the TM Forum's New Generation Operations Systems and Software program, which delivers a toolkit to guide the definition, development, procurement and deployment of OSS/BSS solutions while also defining a strategic direction for a more standardized OSS marketplace.

NGOSS uses a common business process map, systems descriptions, and information models and couples them with pre-defined integration interfaces, architectural principles and compliance criteria. NGOSS's end-to-end approach enables service providers to redesign their key business processes in line with industry best practices while allowing suppliers to cost-effectively develop OSS software that can easily fit into a service provider's IT environment.



**Figure P. 1: TM Forum NGOSS Framework**

Figure P.1 shows the NGOSS Framework, and the vital role of eTOM within this. eTOM provides the Business Process Map for NGOSS. Moving around the NGOSS “wheel”, eTOM feeds requirements to the Information Model and thence to the Integration Framework and Compliance Criteria.

More information on NGOSS is available through the TM Forum website [www.tmforum.org](http://www.tmforum.org)

# Chapter 1- eTOM Business Process Framework Introduction

## Purpose of the Business Process Framework

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Traditionally in the telecommunications industry, service providers delivered end-to-end services to their customers. As such, the entire value chain was controlled by a single enterprise, if necessary via interconnection arrangements with other service providers. However in a liberalized marketplace, service providers are having to respond both to the customer's increased demands for superior customer service and to stiffer competition. They have therefore been expanding their markets beyond their self-contained boundaries and broadening their business relationships.

Service Providers face very different regulatory environments and their business strategies and approaches to competition are quite distinct, nevertheless they share several common characteristics:

- Heavily dependent upon effective management of information and communications networks to stay competitive
- Adopting a service management approach to the way they run their business and their networks
- Moving to more of an end-to-end Process Management approach developed from the customer's point of view
- Automating their Customer Care, Service and Network Management Processes
- Need to integrate new OSSs with legacy systems
- Focusing on data services offerings and
- Focusing on total service performance, including customer satisfaction
- Integrating with current technology (e.g. SDH/SONET and ATM) and new technologies (e.g., IP, DWDM)
- Emphasizing more of a "buy" rather than "build" approach that integrates systems from multiple suppliers

Some Service Providers choose to operate their own network and/or information technology infrastructure, while others choose to outsource this segment of their business. The effective exploitation of this information technology and network infrastructure, whether directly operated or outsourced, is an integral part of the service delivery chain and directly influences the service quality and cost perceived by the end customer. Service Providers will need to become skilled at assessing outsourcing opportunities whether in information technology and/or network infrastructure areas or other areas and then, be skilled at integrating and managing any outsourcing arrangements.

To meet both existing and new demands, Service providers still urgently require well-automated operations processes whether they are incumbent providers or new entrants, and whether communications service providers, application service providers, Internet service providers, etc. Some service providers are struggling with high growth from a start-up phase, others with the commoditization of key cash-cow services, and yet others with the move from a manual-intensive, inconsistent, inflexible environment to one that provides significant improvement in customer focus, service quality, unit cost, and time to market. Service providers have to pervasively do business electronically with trading partners, suppliers and wholesale and retail customers. For the growing Mobile/Wireless and IP Services markets, these service providers are focused on quickly provisioning new customers and supporting service quality issues, while continually reducing development and operating costs.. For all service providers, there is an intense drive to introduce both new value-added services and dramatic improvements in customer support. There is also an increasing need for Service Providers to manage the integration required in mergers and acquisitions activity due to the consolidation trend the industry is now experiencing.

For the full range of service providers and network operators, the leading focus of the TM Forum's mission is to enable end-to-end process automation of the business and operations processes that deliver information and communications services. The eTOM is the business process framework for accomplishing this mission.

The purpose of the eTOM is to continue to set a vision for the industry to compete successfully through the implementation of business process driven approaches to managing the enterprise. This includes ensuring integration among all vital enterprise support systems concerned with service delivery and support. The focus of the eTOM document is on the business processes used by service providers, the linkages between these processes, the identification of interfaces, and the use of Customer, Service, Resource, Supplier/Partner and other information by multiple processes. Exploitation of information from every corner of the business will be essential to success in the future. In an ebusiness environment, automation to gain productivity enhancement, increased revenue and better customer relationships is vital. Perhaps at no other time has process automation been so critical to success in the marketplace. The over-arching objectives of the eTOM Business Process Framework are to continue to build on TM Forum's success in establishing:

- An 'industry standard' business process framework.
- Common definitions to describe process elements of a service provider.
- Agreement on the basic information required to perform each process element within a business activity, and use of this within the overall NGOSS program for business requirements and information model development that can guide industry agreement on contract interfaces, shared data model elements, and supporting system infrastructure and products.
- A process framework for identifying which processes and interfaces are in most need of integration and automation, and most dependent on industry agreement.

This document, the eTOM Business Process Framework and its associated business process modeling, describes for an enterprise the process elements and their relationship that are involved in information and communications services and technologies management. Additionally, the points of interconnection that make up the end-to-end, customer operations process flows for Fulfillment, Assurance, Billing within Operations, and for Strategy, Infrastructure & Product are addressed.

Note that, although eTOM has been focused on information and communications services and technologies management, this work is also proving to be of interest in other business areas.

Service providers need this common framework of processes to enable them to do business efficiently and effectively with other entities and to enable the development and use of third-party software without the need for major customization. In an ebusiness environment, this common understanding of process is critical to managing the more complex business relationships of today's information and communications services marketplace. eBusiness integration among enterprises seems to be most successful through strong process integration. Recent industry fallout, particularly in relation to dotcoms, does not reduce the pressure for ebusiness automation – it strengthens the need to capitalize on ebusiness opportunities to be successful.

However, the eTOM is not just an ecommerce or ebusiness process framework, it supports traditional business processes with the integration of ebusiness.

## **Define Common Terminology**

The eTOM document also provides the definition of common terms concerning enterprise processes, sub-processes and the activities performed within each. Common terminology makes it easier for service providers to negotiate with customers, third party suppliers, and other service providers. See Annex B for the definition of eTOM acronyms and terminology.

## **Consensus Tool**

The TM Forum produced the TOM initially as a consensus tool for discussion and agreement among service providers and network operators. Its broad consensus of support, which has been built on and extended with the eTOM, enables:

- Focused work to be carried out in TM Forum teams to define detailed business requirements, information agreements, business application contracts and shared data model specifications (exchanges between applications or systems) and to review these outputs for consistency
- Relating business needs to available or required standards
- A common process view for equipment suppliers, applications builders and integrators to build management systems by combining third party and in-house developments

The anticipated result is that the products purchased by service providers and network operators for business and operational management of their networks, information technologies and services will integrate better into their environment, enabling the cost benefits of end-to-end automation. Furthermore, a common industry view on processes and information facilitates operator-to-operator and operator-to-supplier process interconnection, which is essential for rapid service provisioning and problem handling in a competitive global environment. This process interconnection is the key to ebusiness supply chain management in particular.

## What is the eTOM?

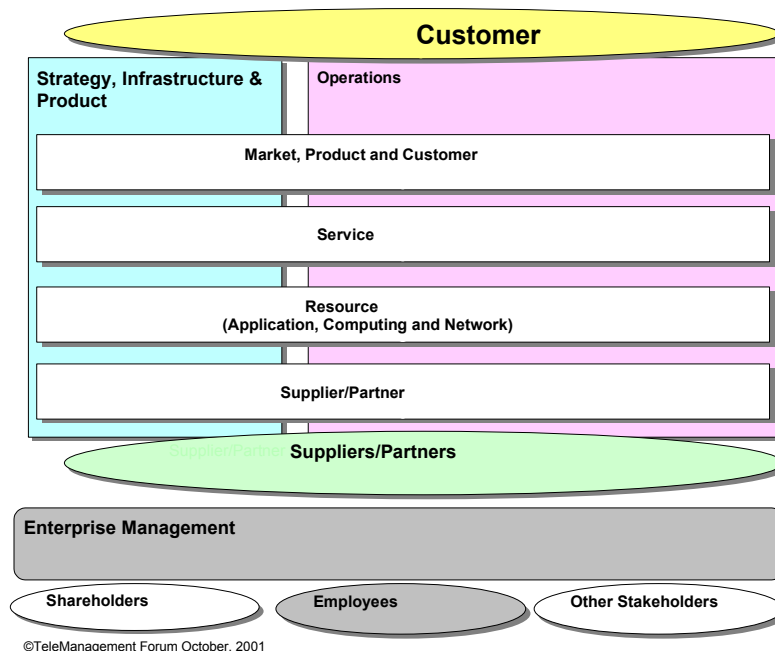
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The eTOM is a business process framework, i.e. a reference framework or model for categorizing all the business activities that a service provider will use. It is NOT a service provider business model. In other words, it does not address the strategic issues or questions of who a service provider's target customers should be, what market segments should the service provider serve, what are a service provider's vision, mission, etc. A business process framework is one part of the strategic business model and plan for a service provider.

The eTOM can be regarded as a Business Process Framework, rather than a Business Process Model, since its aim is to categorize the process elements business activities so that these can then be combined in many different ways, to implement end-to-end business processes (e.g. fulfillment, assurance, billing) which deliver value for the customer and the service provider.

eTOM Release 3.0 provided a member-approved eTOM Business Process Framework with global agreement from its highest conceptual level to its first working level. This eTOM Release 3.5 builds on this to take account of real-world experience in applying this work, and to incorporate new detail in process decompositions, flows and business to business interaction. However, eTOM is still developing in areas such as further lower-level process decompositions and flows, and ongoing feedback together with its linkage with the wider NGOSS program, will be used to guide future development priorities. Note that the development of a total process framework is a significant undertaking with process work that will be phased over time based on member process priorities and member resource availability. This is visible in eTOM's own history, from the original Telecom Operations Map (TOM) that was carried forward into the eTOM and broadened to a total enterprise framework, through several generations of detail and refinement, to the current Release. More information on TOM and its links with eTOM are provided in the previous release of this document (GB921 v3.0).

A great many service providers, as well as system integrators, ASPs and vendors, are working already with eTOM. They need an industry standard framework for procuring software and equipment, as well as to interface with other service providers in an increasingly complex network of business relationships. Many service providers have contributed their own process models because they recognize the need to have a broader industry framework that doesn't just address operations or traditional business processes.



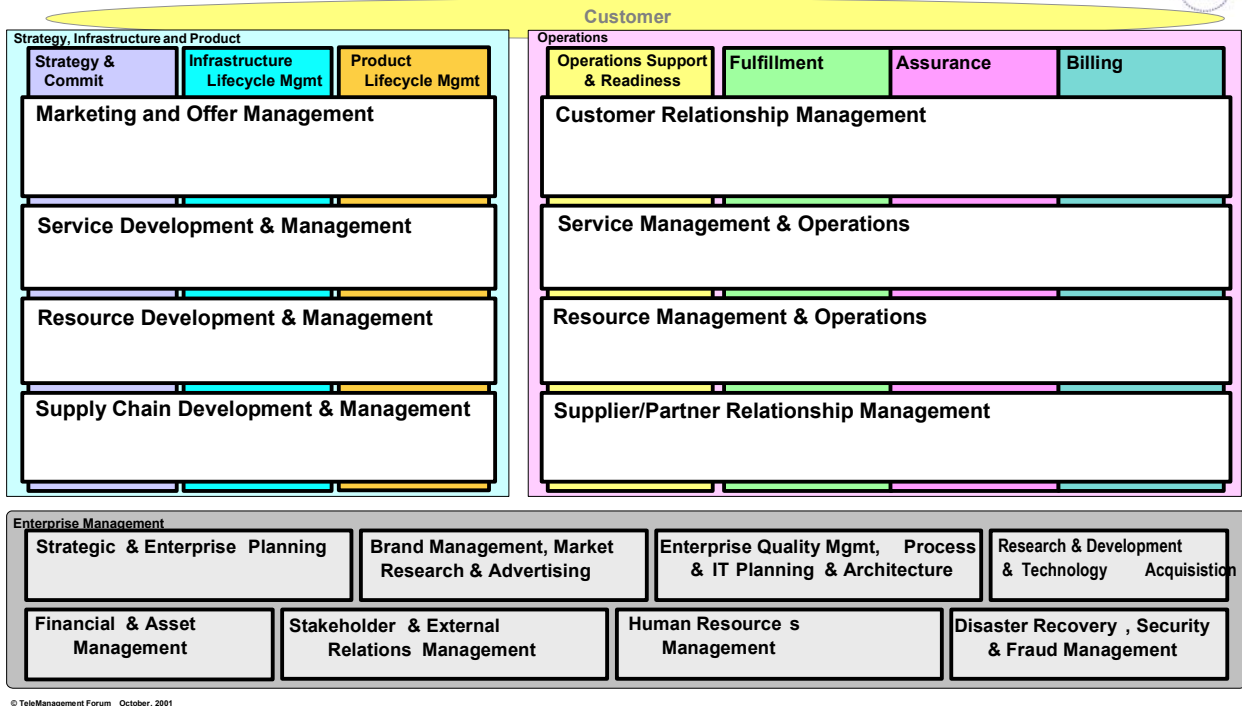
**Figure 1.1: eTOM Business Process Framework—Level 0 Processes**

Figure 1.1 shows the highest conceptual view of the eTOM Business Process Framework. This view provides an overall context that differentiates strategy and lifecycle processes from the operations processes in two large groupings, seen as two boxes. It also differentiates the key functional areas in five horizontal layers. In addition, Figure 1.1 also shows the internal and external entities that interact with the enterprise (as ovals).

Figure 1.2 shows the Level 0 view of Level 1 processes in the eTOM Framework. This view is an overall view of the eTOM processes, but in practice it is the next level – the Level 1 view of Level 2 processes - at which users tend to work, as this detail is needed in analyzing their businesses. This view is presented later in the document in a series of diagrams examining each area of the eTOM framework.

Figure 1.2 below shows seven vertical process groupings. These are the end-to-end processes that are required to support customers and to manage the business. The focal point of the eTOM (as it was for the TOM) is on the core customer operations processes of Fulfillment, Assurance and Billing (FAB). Operations Support & Readiness is now differentiated from FAB real-time processes to increase the focus on enabling support and automation in FAB, i.e.. on line and immediate support of customers. The Strategy & Commit vertical, as well as the two Lifecycle Management verticals, are also now differentiated because, unlike Operations, they do not directly support the customer, are intrinsically different from the Operations processes and work on different business time cycles.

The horizontal process groupings in Figure 1.2 distinguish functional operations processes and other types of business functional processes, e.g., Marketing versus Selling, Service Development versus Service Configuration, etc. The functional processes on the left (within the Strategy & Commit, Infrastructure Lifecycle Management and Product Lifecycle Management vertical process groupings) enable, support and direct the work in the Operations verticals.



**Figure 1.2: eTOM Business Process Framework—Level 1 Processes**

As can be seen in Figure 1.2, eTOM makes the following improvements to the high level TOM Framework:

- Expands the scope to all enterprise processes.
- Distinctly identifies Marketing processes due to heightened importance in an ebusiness world.
- Distinctly identifies Enterprise Management processes, so that everyone in the enterprise is able to identify their critical processes, thereby enabling process framework acceptance across the enterprise.
- Brings Fulfillment, Assurance and Billing (FAB) onto the high-level framework view to emphasize the customer priority processes as the focus of the enterprise.
- Defines an Operations Support & Readiness vertical process grouping, applicable for all functional layers, except Enterprise Management. To integrate ebusiness and make customer self-management a reality, the enterprise has to understand the processes it needs to enable for direct, and more and more, online customer operations support and customer self-management.
- Recognizes three enterprise process groupings that are distinctly different from operations processes by identifying the SIP processes, i.e., Strategy & Commit, Infrastructure Lifecycle Management and Product Lifecycle Management.
- Recognizes the different cycle times of the strategy and lifecycle management processes and the need to separate these processes from the customer priority operations processes where automation is most critical. This is done by decoupling the Strategy & Commit and the two Lifecycle Management processes from the day-to-day, minute-to-minute cycle times of the customer operations processes.

- Moves from a customer care or service orientation to a customer relationship management orientation that emphasizes customer self-management and control, increasing the value customers contribute to the enterprise and the use of information to customize and personalize to the individual customer. It adds more elements to this customer operations functional layer to represent better the selling processes and to integrate marketing fulfillment within Customer Relationship Management. Note that eTOM Customer Relationship Management is very broadly defined and larger in scope than some definitions of CRM.
- Acknowledges the need to manage resources across technologies, (i.e., application, computing and network), by integrating the Network and Systems Management functional process into Resource Management & Operations. It also moves the management of IT into this functional layer as opposed to having a separate process grouping.

## eTOM is More Than One Document

It is intended that the eTOM Business Process Framework will become a collection of documents and models. The current view is as follows:

- This document - the eTOM: The Business Process Framework - is structured as a core document that explains the overall framework approach and all its elements. In addition, two Addenda are associated with the core document:
  - Addendum D provides process descriptions for the eTOM at Level 0, Level 1, Level 2 and selected Level 3 processes
  - Addendum F provides examples of process flows that use the eTOM Business Process Framework and its component process elements to address high-priority business scenarios
- The eTOM Overview/Executive Summary is a “single sheet” document that provides an overall view of the eTOM business process framework and highlights key concepts.
- The eTOM Business Process Framework Model provides a version of the eTOM framework, processes and flows intended for automated processing by modeling tools, etc. This is intended to be available in several formats:
  - Tool-based (e.g. XML for import into a process analysis environment)
  - Browsable (e.g. HTML)

## Using This Document

A service provider’s specific process architecture and organization structure are highly specific and critical aspects of a provider’s competitiveness. The eTOM provides a common view of service provider enterprise process elements or business activities that can easily translate to an individual provider’s internal approaches. The document is *not* intended to be prescriptive about how the tasks are carried out, how a provider

or operator is organized, or how the tasks are identified in any one organization. It is also not prescriptive about the sequence of Process Elements that are combined to implement end-to-end business processes.

The eTOM provides a starting point for detailed work coordinated through TM Forum that leads to an integrated set of specifications that will provide real benefit to both suppliers and procurers in enhancing industry service provider enterprise management capability. This document is not a specification, in the sense that vendors or operators must comply directly. However, it does represent a standard way of naming, describing and categorizing process elements. It will enable unambiguous communication and facilitate the development of standard solutions and reuse of business processes. It is not intended to incorporate all the detail of eventual process implementation, but is more a guiding reference for the industry.

One of the strengths of the eTOM is that it can be adopted at a variety of levels, in whole or in part, depending upon a service provider's needs. The eTOM can also act as a translator by allowing a service provider to map their distinct processes to the industry framework. As the process examples are developed, service providers can use and adapt these examples to their business environment.

The eTOM Business Process Framework can be used as a tool for analyzing an organization's existing processes and for developing new processes. Different processes delivering the same business functionality can be identified, duplication eliminated, gaps revealed, new process design speeded up, and variance reduced. Using eTOM, it is possible to assess the value, cost and performance of individual processes within an organization.

Relationships with suppliers and partners can also be facilitated by identifying and categorizing the processes used in interactions with them. In a similar manner, it is possible to identify the all-important customer relationship processes and evaluate whether they are functioning as required to meet customers' expectations.

## **Intended Audience**

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The eTOM aims at a wide audience of professionals in the Information and Communications Services Industry. For experienced Telecommunications professionals, the eTOM has proven itself to be intuitive; and a strong, common framework of service provider enterprise processes. Through TM Forum Catalyst projects and other work, it has been verified that the eTOM framework has strong application in many applications and throughout many companies.

More information on use of eTOM within the industry is available at the TM Forum website [www.tmforum.org](http://www.tmforum.org)

The eTOM is aimed at service provider and network operator decision makers who need to know and input to the common business process framework used to enable enterprise automation in a cost efficient way. It is also an important framework for specialists across the industry working on business and operations automation. The document or framework supports, and is consistent with, many efforts under way in the industry supporting the need to accelerate business and operations automation in the information and communications services marketplace.

The eTOM will continue to give providers and suppliers a common framework for discussing complex business needs in a complex industry with complex technologies. For both service providers and network operators additional complexities arise from:

- Moving away from developing their own business and operations systems software, to a more procurement and systems integration approach.
- New business relationships between service providers and network operators

The creation of new business relationships and the move away from developing internally are a reaction to market forces. These market forces require service providers and network operators to increase the range of services they offer, reduce time to market for new services, increase speed of service, as well as to drive down systems and operational costs.

The eTOM is also aimed at service provider and network operator employees involved in business process re-engineering, operations, procurement and other activities for:

- Understanding the common business process framework being used to drive integration and automation
- Getting involved in providing processes, inputs, priorities and requirements

The eTOM Business Process Framework is also aimed at designers and integrators of business and operational management systems software and equipment suppliers. They can benefit from understanding how management processes and applications need to work together to deliver business benefit to service providers and network operators.

An equally important and related audience is suppliers of management applications, management systems, and networking equipment, who need to understand the deployment environment for their products and solutions.

The eTOM Business Process Framework provides a common framework useful in supporting the significant amount of merger and acquisition activity. Common process understanding and a common process framework can greatly improve integration performance for mergers and acquisitions. eTOM is applicable for an established service provider or a new entrant, 'green field' provider. It is important to note that not all areas defined in the eTOM are necessarily used by all providers. As mentioned earlier, the framework is flexible, so that the process elements the specific service providers require can be selected on a modular basis and at the appropriate level of detail for their needs.

## **Benefits of Using eTOM**

- eTOM makes available a standard structure, terminology and classification scheme for describing business processes and their constituent building blocks
- eTOM supplies a foundation for applying enterprise-wide discipline to the development of business processes
- eTOM provides a basis for understanding and managing portfolios of IT applications in terms of business process requirements

- Use of the eTOM enables consistent and high-quality end-to-end process flows to be created, with opportunities for cost and performance improvement, and for re-use of existing processes and systems
- Use of the eTOM across the industry will increase the likelihood that off-the-shelf applications will be readily integrated into the enterprise, at a lower cost than custom-built applications

## Chapter 2 - eTOM Business Process Enterprise Framework

The main purpose of this Chapter is to provide a formal description of the eTOM Business Process Framework, with two distinct viewpoints:

- The **Internal Viewpoint**, which considers the processes that characterize the “internal behavior” of a Service Provider;
- The **External Viewpoint**, which considers the processes necessary for a Service Provider to handle external interactions (e.g. execute electronic transactions) with Customers, Suppliers and Partners in a Value Chain.

In the following sections both of these viewpoints are presented. The Internal Viewpoint follows the structure of former releases of GB921, the External Viewpoint is new material and a general overview is provided.

### Internal viewpoint

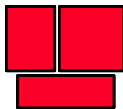
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The eTOM Business Process Element Enterprise Framework considers the Service Provider's (SP's) enterprise, and positions this within its overall business context: i.e. the business interactions and relationships, which allow the SP to carry on its business with other organizations. These wider aspects, together with the implications for an eBusiness and eCommerce world are introduced in Chapter 3.

This section introduces the eTOM Business Framework and explains its structure and the significance of each of the process areas within it. It also shows how the eTOM structure is decomposed to lower-level process elements. This explanation is useful for those who decide where and how an Enterprise will use eTOM, and those who may be modifying it for use in their Enterprise.

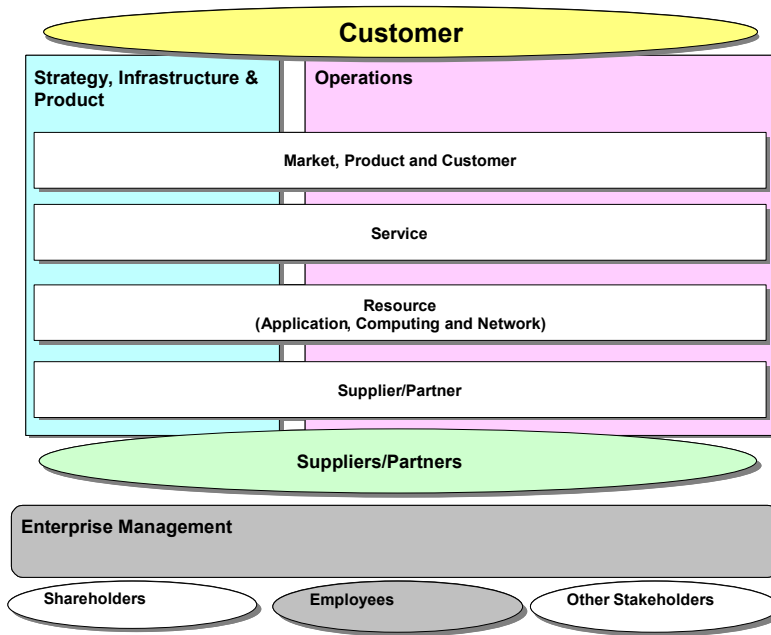
To assist the reader in locating the process area concerned within eTOM, a graphical icon of eTOM, alongside the text, is provided to draw attention to the relevant eTOM area. This is highlighted in red to indicate the focus of the following text or discussion.

### eTOM Conceptual View



The eTOM Business Process Element Enterprise Framework represents the whole of a service provider's enterprise environment. At the overall conceptual level, eTOM can be viewed as having three major areas of process, as shown in Figure 2.1.

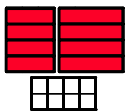
- Strategy, Infrastructure & Product - covering planning and lifecycle management
- Operations - covering the core of operational management
- Enterprise Management - covering corporate or business support management



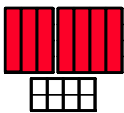
© TeleManagement Forum October, 2001

**Figure 2.1: eTOM Business Process Framework Conceptual Structure**

The Conceptual Structure view provides an overall context that differentiates strategy and lifecycle processes from operations processes in two large process areas, seen as the two large boxes towards the top of the diagram, together with a third area beneath which is concerned with enterprise management. It also differentiates the key functional areas in four horizontal groupings across the two upper process areas. In addition, Figure 2.1 shows the internal and external entities (as ovals) that interact with the enterprise.



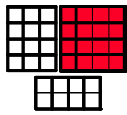
eTOM is a structured catalogue (a taxonomy) of process elements, which can be viewed in more and more detail. When viewed in terms of the **Horizontal Functional groupings**, it follows a strict hierarchy where every element is only associated with or parented to a single element at the next higher hierarchical level. In a taxonomy, any activity must be unique, i.e. it must be listed only once. Figure 2.1 shows the top level (Level “0”) Groupings that eTOM is decomposed into.



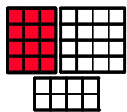
Because the purpose of the eTOM framework is to help SPs to manage their end-to-end Business processes, the eTOM enhances the TOM practice of showing how process elements have a strong association with one (or several) end-to-end business processes (e.g. Fulfillment, Assurance, Billing, Product Development etc., which are introduced later in this Chapter). These **Vertical End-To-End groupings** are essentially overlays onto the hierarchical top-level horizontal groupings, because in a hierarchical taxonomy an element cannot be associated with or parented to more than one element at the next higher level.

Because eTOM was developed to help build and implement the process elements for a Service Provider, it was decided from the start that the primary top-level hierarchy of process elements would be the functional (horizontal) groupings, rather than the end-to-end process (vertical) groupings.

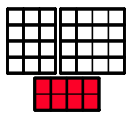
To understand the eTOM Business Process Framework, each process area is analyzed and decomposed into further groupings and processes. For each level of analysis or decomposition, the process area, grouping or process element itself is presented with a brief, summary-level description. At this highest level, the three basic process areas are outlined below.



The **Operations** Process Area is the heart of eTOM. It includes all operations processes that support the customer operations and management, as well as those that enable direct customer operations with the customer. These processes include both day-to-day and operations support and readiness processes. The eTOM view of Operations also includes sales management and supplier/partner relationship management.

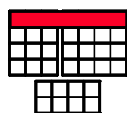


The **Strategy, Infrastructure & Product** Process Area includes processes that develop strategies and commitment to them within the enterprise, that plan, develop and manage infrastructures and products, and that develop and manage the Supply Chain. In the eTOM, infrastructure refers to more than just the IT and resource infrastructure that supports products and services. It includes the infrastructure required to support functional processes, e.g., Customer Relationship Management (CRM). These processes direct and enable the Operations processes.

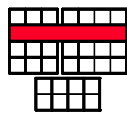


The **Enterprise Management** Process Area includes those basic business processes that are required to run any large business. These generic processes focus on both the setting and achieving of strategic corporate goals and objectives, as well as providing those support services that are required throughout an Enterprise. These processes are sometimes considered to be the corporate functions and/or processes. e.g., Financial Management, Human Resources Management processes, etc... Since Enterprise Management processes are aimed at general support within the Enterprise, they may interface as needed with almost every other process in the Enterprise, be they operational, strategy, infrastructure or product processes.

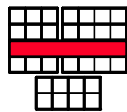
The conceptual view of the eTOM Business Process Framework addresses both the major process areas as above and, just as importantly, the supporting functional process groupings, depicted as horizontal groupings. The functional groupings reflect the major expertise and focus required to pursue the business. The four functional groupings are described below:



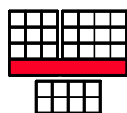
➤ The **Market, Product and Customer** processes include those dealing with sales and channel management, marketing management, and product and offer management, as well as Customer Relationship Management and ordering, problem handling, SLA Management and billing.



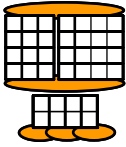
➤ The **Service** processes include those dealing with service development and configuration, service problem management, quality analysis, and rating.



➤ The **Resource** processes include those dealing with development and management of the enterprise's infrastructure, whether related to products and services, or to supporting the enterprise itself.



➤ The **Supplier/Partner** processes include those dealing with the enterprise's interaction with its suppliers and partners. This involves both processes that manage the Supply Chain that underpins product and infrastructure, as well as those that support the Operations interface with its suppliers and partners.



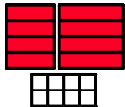
Additionally, in the diagram (Figure 2.1), the major entities with which the enterprise interacts are shown. These are:

- **Customers**, to whom service is provided by means of the products sold by the enterprise: the focus of the business!
- **Suppliers**, who provides products or resources, bought and used by the enterprise directly or indirectly to support its business
- **Partners**, with whom the enterprise co-operates in a shared area of business
- **Employees**, who work for the enterprise to pursue its business goals
- **Shareholders**, who have invested in the enterprise and thus own stock
- **Stakeholders**, who have a commitment to the enterprise other than through stock ownership.

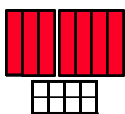
### eTOM CEO Level View

Below the conceptual level, the eTOM Business Process Framework is decomposed into a set of process element groupings, which provide a first level of detail at which the entire enterprise can be viewed. These process groupings are considered the CEO level view, in that the performance of these processes determines the success of the enterprise.

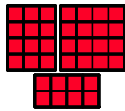
The eTOM Business Process Framework is defined as generically as possible, so that it is independent of organization, technology and service. The eTOM is basically intuitive, business driven and customer focused. To reflect the way businesses look at their processes, the eTOM supports two different perspectives on the grouping of the detailed process elements:



- **Horizontal** process groupings, which represent a view of functionally-related processes within the business, such as those involved in managing contact with the customer or in managing the supply chain. This structuring by functional groupings is useful to those who are responsible for creating the capability that enables the processes. The IT teams will look at groups of IT functions which tend to be implemented together e.g. the front-of-house applications in the Customer Grouping, back-of-house applications which focus on managing information about the services sold to customers, the network management applications which focus on the technology which delivers the services. For processes delivered by people there is a similar separation of workgroups - the front-of-house workgroups in the Customer Grouping, back-of-house workgroups which focus on managing information about the services sold to customers, the network management workgroups which focus on the technology which delivers the services.

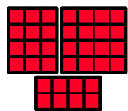


- **Vertical** process groupings, which represent a view of end-to-end processes within the business, such as those involved in the overall billing flows to customers. This end-to-end view is important to those people who are responsible for changing, operating and managing the end-to-end processes. These people are more interested in the outcomes of the process and how they support customer need - rather than worrying about the IT or the workgroups that need to work together to deliver the result.



The overlay of the Functional (horizontal) groupings of process elements and the end-to-end process (vertical) groupings forms the inherent matrix structure of eTOM. This matrix structure is the core of one of the innovations and fundamental benefits of eTOM – it offers for the first time a standard language and structure for the process elements that are understood and used by both the people specifying and operating the end-to-end business, as well as those people who are responsible for creating the capability that enables the processes (whether automated by IT or implemented manually by workgroups).

The integration of all these processes provides the enterprise-level process framework for the information and communications service provider. This is the ‘Level 0’ view of the enterprise and shows the vertical and horizontal process groupings that are the decompositions of the process areas introduced above. These groupings are ‘Level 1’ process groupings in the parlance of the eTOM business process model, e.g. Customer Relationship Management, Fulfillment. The Level 0 view, which reveals the Level 1 process detail, is shown in Figure 2.2. As process decomposition proceeds, each level is decomposed into a set of constituent process elements at the level below. Thus, Level 0 is decomposed into Level 1 processes, Level 1 into Level 2, and so on.



The Enterprise Level 0 view decomposes into seven Vertical (or “end-to-end”) Level 1 process groupings as well as eight Horizontal (or “functional”) Level 1 process groupings in four layers. These Vertical and Horizontal process groupings represent alternative views relevant to different concerns on the way that processes should be associated. Note that we will see that these alternatives have been selected to yield a single, common view of the Level 2 processes defined at the next level of decomposition, and hence do not represent a divergence in the modeling.

In addition, there are eight additional enabling and support Level 1 process groupings within Enterprise Management. This full view of the Level 1 processes is shown in Figure 2.2.

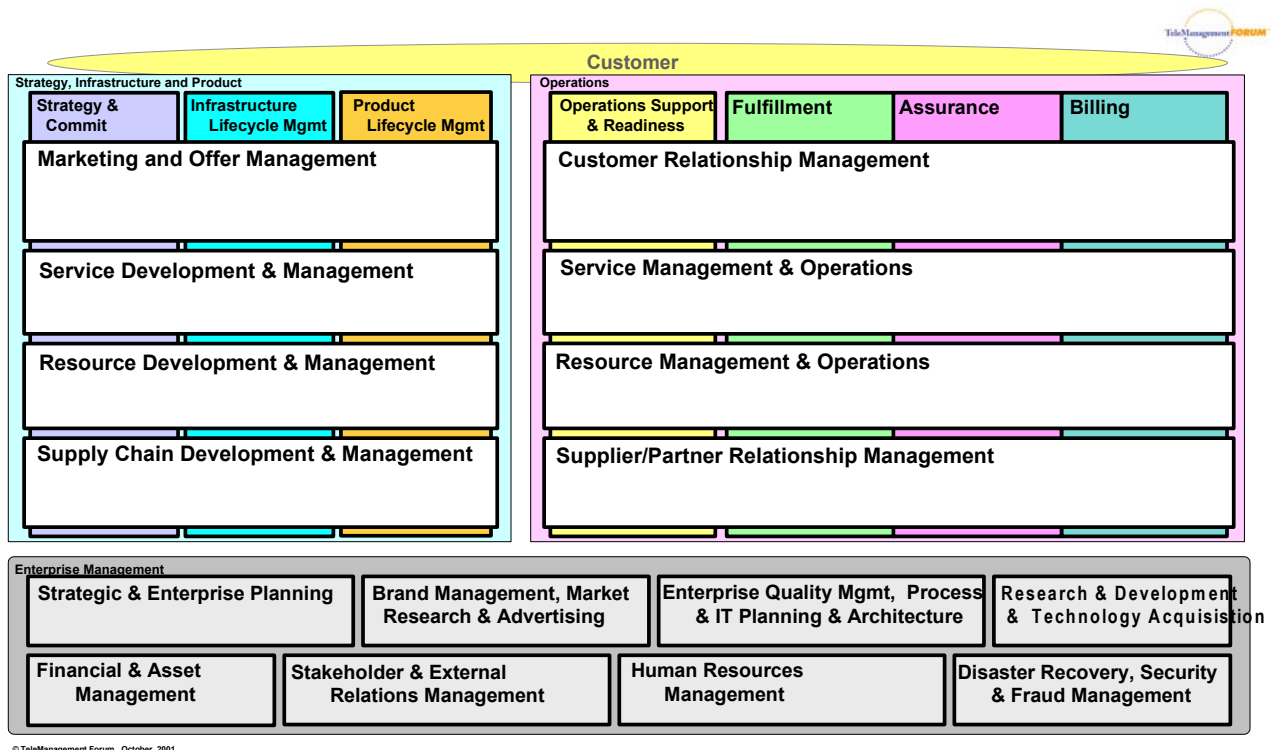
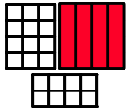


Figure 2.2: eTOM Level 0 View of Level 1 Process Groupings

## eTOM Operations Processes

To be useful to a Service Provider, the eTOM Process Element Framework must help the SP to develop and operate their business processes. This sections shows how the matrix structure of eTOM offers for the first time a standard language and structure for the process elements that are understood and used by both the people specifying and operating the end-to-end business, as well as those people who are responsible for creating the capability that enables the processes (whether automated by IT or implemented manually by workgroups).

### “OPS” Vertical Process Groupings



The Operations (OPS) process area contains the direct operations vertical process groupings of Fulfillment, Assurance & Billing, together with the Operations Support & Readiness process grouping (see Figure 2.3). The “FAB” processes are sometimes referred to as Customer Operations processes.

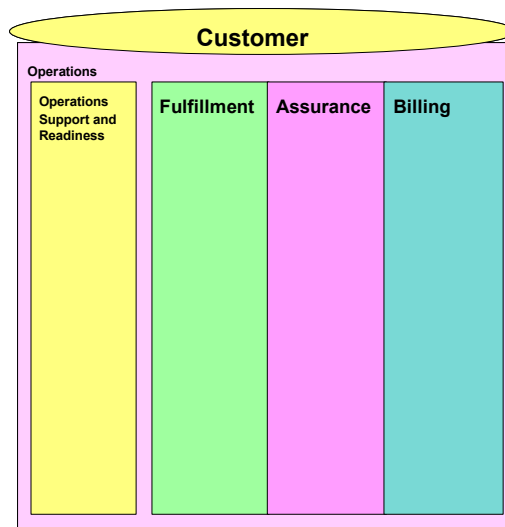
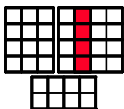
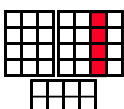


Figure 2.3: eTOM OPS Vertical Process Groupings

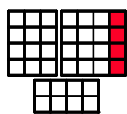
The TOM was focused only on the direct customer processes represented by FAB. However, FAB processes were not on the TOM framework map, they were rather an overlay. In an ebusiness world, the focus of the enterprise must be enabling and supporting these processes as the highest priority. Therefore, in the eTOM, Fulfillment, Assurance & Billing are an integrated part of the overall framework.



**Fulfillment:** this process grouping is responsible for providing customers with their requested products in a timely and correct manner. It translates the customer's business or personal need into a solution, which can be delivered using the specific products in the enterprise's portfolio. This process informs the customers of the status of their purchase order, ensures completion on time, as well as a delighted customer.



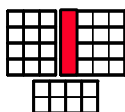
**Assurance:** this process grouping is responsible for the execution of proactive and reactive maintenance activities to ensure that services provided to customers are continuously available and to SLA or QoS performance levels. It performs continuous resource status and performance monitoring to proactively detect possible failures. It collects performance data and analyzes them to identify potential problems and resolve them without impact to the customer. This process manages the SLAs and reports service performance to the customer. It receives trouble reports from the customer, informs the customer of the trouble status, and ensures restoration and repair, as well as a delighted customer.



**Billing:** this process grouping is responsible for the production of timely and accurate bills, for providing pre-bill use information and billing to customers, for processing their payments, and performing payment collections. In addition, it handles customer inquiries about bills, provides billing inquiry status and is responsible for resolving billing problems to the customer's satisfaction in a timely manner. This process grouping also supports prepayment for services.

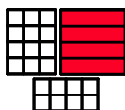
For a high-level view of how the eTOM Process Elements can be used to create Fulfillment, Assurance & Billing process flows, please see document GB921 v3.5 Addendum "F", Process Flow Examples.

In addition to these FAB process groupings, the OPS process area of the eTOM Framework contains a new, fourth vertical process grouping: Operations Support & Readiness (see Figure 2.3).



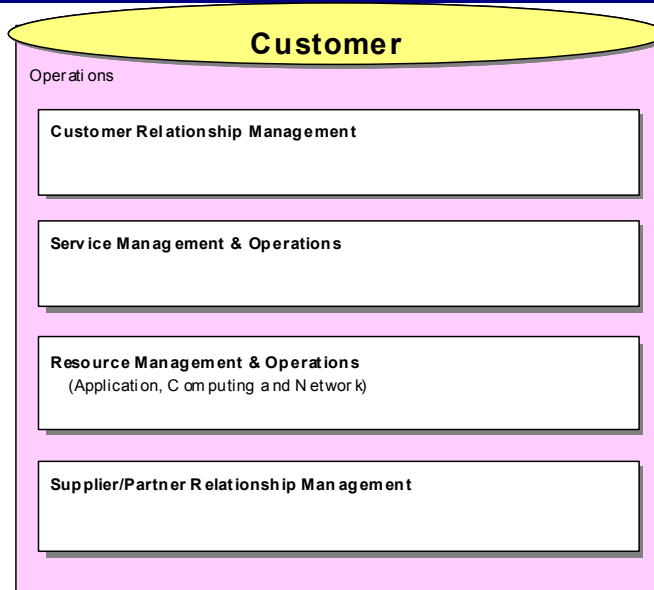
**Operations Support & Readiness:** this process grouping is responsible for support to the "FAB" processes, and for ensuring operational readiness in the fulfillment, assurance and billing areas. In general, the processes are concerned with activities that are less "real-time" than those in FAB, and which are typically concerned less with individual customers and services and more with groups of these. They reflect a need in some enterprises to divide their processes between the immediate customer-facing and real-time operations of FAB and other Operations processes which act as a "second-line" in carrying out the operational support tasks. Not all enterprises will choose to employ this split, or to position the division in exactly the same place, so it is recognized that in applying the eTOM Business Framework in particular scenarios, the processes in Operations Support & Readiness and in FAB may be merged for day-to-day operation. Nevertheless, it is felt important to acknowledge this separation to reflect a real-world division that is present or emerging in many enterprises. The separation, definition and execution of the Operations Support & Readiness processes can be critical in taking advantage of ebusiness opportunities, and is particularly important for successful implementation of Customer Self Management.

### "OPS" Horizontal Process Groupings

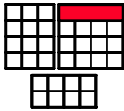


In the OPS process area of the eTOM Framework, there are four OPS functional process groupings that support the operations processes discussed above, and also the management of operations to support customer, service, resource and supplier/partner interactions (see Figure 2.4).

The original TOM Process Framework used the ITU-T TMN Logical Business, Service, and Network Layers to organize the core business processes. This facilitated mapping of the Management Functions defined in TMN, to the TOM processes. As the eTOM Business Process Framework is an evolution of the TOM Process Framework and because the TMN layering approach is still relevant, the TMN Logical Layers continue to be loosely coupled to the functional process groupings. The TM Forum is working with ITU-T to harmonize the eTOM and TMN models. See reference 3 for further information on ITU-T TMN.



**Figure 2.4: eTOM OPS Functional Process Groupings**

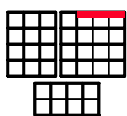


**Customer Relationship Management (CRM):** this process grouping considers the fundamental knowledge of customers needs and includes all functionalities necessary for the acquisition, enhancement and retention of a relationship with a customer. It is about customer service and support, whether storefront, telephone, web or field service. It is also about retention management, cross-selling, up-selling and direct marketing for the purpose of selling to customers. CRM also includes the collection of customer information and its application to personalize, customize and integrate delivery of service to a customer, as well as to identify opportunities for increasing the value of the customer to the enterprise.

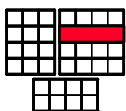
CRM applies to both conventional retail customer interactions, as well as to wholesale interactions, such as when an enterprise is selling to another enterprise that is acting as the 'retailer'.

The introduction of CRM is a key feature of eTOM over TOM. At the highest, most general level, the TOM Business Process Framework included two process groupings to manage relations with customers, "Customer Interface Management" and "Customer Care". In the TOM, it is explicitly mentioned that Customer Interface Management may effectively be a distinct process within Customer Care or may be performed as part of the lower level Customer Care processes. However, eTOM advances the TOM in several key ways:

- It expands Customer Care to Customer Relationship Management (CRM), which is a management approach to supporting and interacting with customers, that enables enterprises to identify, attract and increase retention of profitable customers. CRM focuses on collection and application of customer data and managing relationships with customers to improve customer retention and customer value contribution to the enterprise. CRM is more than Customer Care or Customer Interface Management, it is the integration of customer acquisition, enhancement and retention through managing the customer relationship over time. For eTOM, CRM also represents the integration of Sales and Service processes and ensuring a consistent customer interface across all CRM functional processes.



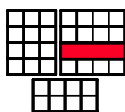
- eTOM integrates Customer Interface Management for Fulfillment, Assurance & Billing across all the CRM functional processes and with customer processes. Customer Interface Management represents any type of contact, e.g., phone, email, face-to-face, etc. It expects an integration and coordination across these different interface types, to provide a consistent interface and highlights the requirement for customer process control and customer self management. eTOM also encourages the design of solutions so that systems interfaces used within the enterprise are the same as those used by customers.
- eTOM CRM processes include an expansion of TOM Customer Care processes to:
  - Focus on customer retention
  - Improve enterprise process exception customer response
  - Integrate marketing fulfillment execution
  - Better represent the billing function at the customer level and the need to assure revenue.



**Service Management & Operations (SM&O):** this process grouping focuses on the knowledge of services (Access, Connectivity, Content, etc.) and includes all functionalities necessary for the management and operations of communications and information services required by or proposed to customers. The focus is on service delivery and management as opposed to the management of the underlying network and information technology. Some of the functions involve short-term service capacity planning, the application of a service design to specific customers or managing service improvement initiatives. These functions are closely connected with the day-to-day customer experience.

These processes are accountable to meet, at a minimum, targets set for Service Quality, including process performance and customer satisfaction at a service level, as well as Service Cost.

eTOM differentiates day-to-day operations and support from planning and development and other strategy and lifecycle processes. In the TOM, these service layer processes were not differentiated or were not addressed. The eTOM structure better depicts the structure of an enterprise, especially in an ebusiness era.



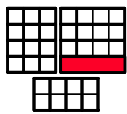
**Resource Management & Operations (RM&O):** this process grouping maintains knowledge of resources (application, computing and network infrastructures) and is responsible for managing all these resources.(e.g. networks, IT systems, servers, routers, etc.) utilized to deliver and support services required by or proposed to customers. It also includes all functionalities responsible for the direct management of all such resources (network elements, computers, servers, etc.) utilized within the enterprise. These processes are responsible for ensuring that the network and information technologies infrastructure supports the end-to-end delivery of the required services. The purpose of these processes is to ensure that infrastructure runs smoothly, is accessible to services and employees, is maintained and is responsive to the needs, whether directly or indirectly, of services, customers and employees. RM&O also has the basic function to assemble information about the resources (e.g.. from network elements and/or element management systems), and then integrate, correlate, and in many cases, summarize that data to pass on the relevant information to Service Management systems, or to take action in the appropriate resource.

In the original TOM Business Process Framework, the “Network and Systems Management” processes were included at the highest, most general level. This is no

longer adequate in an ebusiness world. Application and computing management are as important as network management. Moreover, network, computing and applications resources must increasingly be managed in a joint and integrated fashion. To cope with these needs, eTOM has introduced the Resource Management & Operations process grouping (together with the corresponding Resource Development & Management grouping within SIP), to provide integrated management across these three sets of resources: applications, computing and network. These areas also combine the Network Element Management processes of the TOM, since these processes are actually critical components of any resource management process, as opposed to a separate process layer.

The RM&O processes thus manage the complete service provider network and sub-network and information technology architectures.

eTOM differentiates day-to-day operations and support from planning and development, and other strategy and lifecycle processes. In the TOM, these resource layer processes were not differentiated or were not addressed. The eTOM structure better depicts the structure of an enterprise, especially in an ebusiness era.



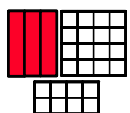
**Supplier/Partner Relationship Management (S/PRM):** this process grouping supports the core operational processes, both the customer instance processes of Fulfillment, Assurance and Billing and the functional operations processes. Supplier/Partner Relationship Management (S/PRM) processes align closely with a supplier's or partner's Customer Relationship Management processes. The inclusion of Supplier/Partner Relationship Management processes in eTOM is one of the key ways that eTOM differentiates itself from the vertically integrated enterprise framework that was in the TOM. The existence of distinct S/PRM processes enables the direct interface with the appropriate lifecycle, end-to-end customer operations or functional processes with suppliers and/or partners. The processes include issuing RFPs as part of the buy process, issuing purchase orders and tracking them through to delivering, handling problems, validating billing and authorizing payment, as well as quality management of suppliers and partners.

It is important to note that when the enterprise sells its products to a partner or supplier, this is done through the enterprise CRM processes, which act on behalf of the supplier or the enterprise in such cases. . Supplier/Partner processes only cover the buying of services by the enterprise.

Note also that, although TOM addressed other providers in showing Other Providers as providing inputs or receiving outputs, this is insufficient in an ebusiness environment. S/PRM processes need to be systematically defined with clear interfaces from the enterprise to its suppliers and partners.

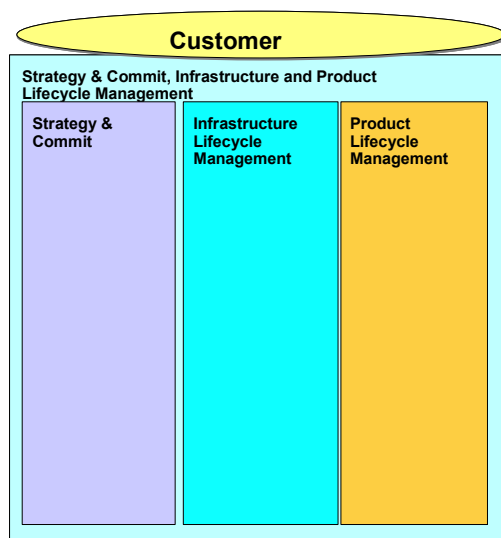
## eTOM Strategy Infrastructure and Product Processes

### “SIP” Vertical Process Groupings

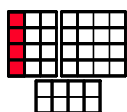


The Strategy and Commit Process Grouping, Infrastructure Lifecycle Management and Product Lifecycle Management Process Groupings, are shown as three vertical end-to-end process groupings (see Figure 2.5). The Strategy and Commit processes provide the focus within the enterprise for generating specific business strategy and gaining buy-in within the business for this. The Infrastructure Lifecycle Management and Product Lifecycle Management processes drive and support the provision of products to customers. Their focus is on meeting customer expectations whether as

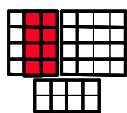
product offerings, the infrastructure that supports the operations functions and products, or the suppliers and partners involved in the enterprise's offering to customers.



**Figure 2.5: eTOM SIP Vertical Process Groupings**



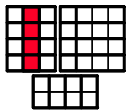
**Strategy & Commit:** this process grouping is responsible for the generation of strategies in support of the Infrastructure and Product Lifecycle processes. It is also responsible for establishing business commitment within the enterprise to support these strategies. This embraces all levels of operation from market, customer and products, through the services and the resources on which these depend, to the involvement of suppliers and partners in meeting these needs. Strategy & Commit processes are heavily focused on analysis and commitment management. These processes provide the focus within the enterprise for generating specific business strategy and gaining buy-in within the business to implement this strategy. Strategy & Commit processes also track the success and effectiveness of the strategies and make adjustments as required.



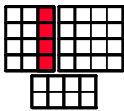
**Lifecycle Management** processes drive and enable core operations and customer processes to meet market demand and customer expectations. Performance of Lifecycle processes are viewed at the highest levels of the enterprise, due to their impact on customer retention and competitiveness. There are two end-to-end Lifecycle Management processes introduced in the eTOM, i.e., Infrastructure and Product. Both processes have a development and deployment nature, in terms of introducing new infrastructure, or a new product. Infrastructure Lifecycle Management deals with development and deployment of new infrastructure, assessing performance of the infrastructure and taking action to meet performance commitments. Product Lifecycle Management deals with introducing new products, in the form of services delivered to Customers, and assessing and taking action on product performance.

The eTOM consciously decouples the Lifecycle Management processes from day-to-day operations processes represented by the Operations Processes (Operations Support & Readiness, Fulfillment, Assurance & Billing). In the past, the TOM integrated some of these processes in the core operations framework and this sometimes resulted in some confusion and lack of guidance for designing processes. Lifecycle Management processes have different business cycle times, different types of objectives for the enterprise and are inherently different processes than operations processes, i.e., enabling processes rather than operations processes. Mixing these

processes with the customer priority processes diminishes focus on the Lifecycle Management processes. Processes in an ebusiness environment must all look to how they are enabling and supporting interaction with the customer. In addition, Lifecycle Management processes need to be designed to meet cycle time and other performance characteristics critical to the success of the enterprise, e.g., new product time to market, and infrastructure unit cost. The Lifecycle Management processes interact with each other. The Product Lifecycle Management process drives the majority of the direction for the Infrastructure Lifecycle Management processes either directly or indirectly, for example. These processes prepare the customer and functional operations processes to support customer interaction for products, providing the infrastructure for the products to use and providing the supplier and partner interface structure for the enterprise offers. To enable and support customer and functional operations, these processes often have to synchronize for on-time and quality delivery.

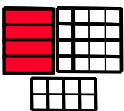


**Infrastructure Lifecycle Management:** this process grouping is responsible for the definition, planning and implementation of all necessary infrastructures (application, computing and network), as well as all other support infrastructures and business capabilities (operations centers, architectures, etc.). This applies in connection with the resource layer or any other functional layer, e.g., CRM Voice Response Units, required to provide Information and Communications products to the Customer and to support the business. These processes identify new requirements, new capabilities and design and develop new or enhanced infrastructure to support products. Infrastructure Lifecycle Management processes respond to needs of the Product Lifecycle Management processes whether unit cost reductions, product quality improvements, new products, etc.



**Product Lifecycle Management:** this process grouping is responsible for the definition, planning, design and implementation of all products in the enterprise's portfolio. The Product Lifecycle Management processes manage products to required profit and loss margins, customer satisfaction and quality commitments, as well as delivering new products to the market. These lifecycle processes understand the market across all key functional areas, the business environment, customer requirements and competitive offerings in order to design and manage products that succeed in their specific markets. Product Management processes and the Product Development process are two distinct process types. Product Development is predominantly a project-oriented process that develops and delivers new products to customers, as well as new features and enhancements for existing products and services.

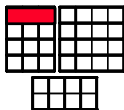
### “SIP” Horizontal Process Groupings



Corresponding to the Operations Functional Process Groupings (see above), there are four Functional Process Groupings in the Strategy Infrastructure & Product domain also (see Figure 2.6). These support the SIP processes described above and the management of operations to support marketing and offer, service, resource and supply chain interactions.

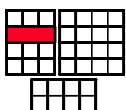


**Figure 2.6: eTOM SIP Functional Process Groupings**

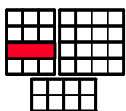


**Marketing & Offer Management.** this grouping focuses on the knowledge of running and developing the Core Business for an ICSP Enterprise. It includes functionalities necessary for defining strategies, developing new products, managing existing products and implementing marketing and offering strategies especially suitable for information and communications products and services.

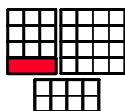
Marketing and offer management are well known business processes, especially in the more competitive ebusiness environment, where the rate of innovation and brand recognition determine success. Although most companies carry out all these activities, depending upon the size of the company, they are combined in a variety of ways. These processes are enabling processes, but also the key processes that are accountable for commitment to the enterprise for revenue, overall product performance and profit and loss. These processes deal with product, markets and channels; they manage market and product strategies, pricing, sales, channels, new product development (and retirement), marketing communications and promotion.



**Service Development & Management.** this grouping focuses on planning, developing and delivering services to the Operations domain. It includes functionalities necessary for defining the strategies for service creation and design, managing and assessing the performance of existing services, and ensuring that capabilities are in place to meet future service demand.



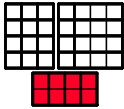
**Resource Development & Management.** this grouping focuses on planning, developing and delivering the resources needed to support services and products to the Operations domain. It includes functionalities necessary for defining the strategies for development of the network and other physical and non-physical resources, introduction of new technologies and interworking with existing ones, managing and assessing the performance of existing resources and ensuring that capabilities are in place to meet future service needs.



**Supply Chain Development & Management.** this grouping focuses on the interactions required by the enterprise with suppliers and partners, who are involved in maintaining the supply chain. The supply chain is a complex network of relationships that a service provider manages to source and deliver products. In the ebusiness world, companies are increasingly working together with suppliers and partners (synergistic clusters, coalitions and business ecosystems) in order to broaden the products they offer and improve their productivity. These processes ensure that the

best suppliers and partners are chosen as part of the enterprise supply chain. They help to support sourcing decisions made by the enterprise, and ensure that the capabilities are in place for interaction between the enterprise and its suppliers and partners. They ensure that the contribution of suppliers and partners to the supply chain is timely and delivers the required support, and that their overall performance and contribution is as good or better than for vertically integrated enterprises. These processes include establishing and maintaining all the information flows and financial flows between the provider and supplier.

## eTOM Enterprise Management Processes



**.Enterprise Management.** this grouping includes those processes that have a knowledge of Enterprise-level actions and needs, or have application within the Enterprise as a whole. This grouping encompasses all business management processes necessary to support the rest of the enterprise, including processes for financial management, legal management, regulatory management, process cost and quality management, etc.

Enterprise Management processes are, in part, responsible for setting corporate strategies and directions and providing guidelines and targets for the rest of the business. This includes strategy development and planning for areas such as Information Systems that are integral to the direction and development of the business.

Enterprise Management also contains those processes that are responsible for providing support services required throughout the rest of the enterprise. These services are centralized within Enterprise Management to avoid unnecessary duplication, and to provide a clearer focus for the relevant process responsibilities.

Many process groupings within Enterprise Management will contain elements that relate to both areas. For example, Human Resource Management is concerned with both strategy and direction as well as supporting the management of Human Resources throughout the enterprise. Note that functionality associated with a process grouping that is not required throughout the enterprise will not normally be located within Enterprise Management (for example, Human Resource Management issues specific to Call Centers are likely to be associated with the processes in Operations directly involved in this area).

These processes are sometimes collectively considered as the “corporate” functions and/or processes. The specific process groupings included within Enterprise Management are:

- Strategic & Enterprise Planning
- Brand Management, Market Research & Advertising
- Financial & Asset Management
- Human Resources Management
- Stakeholder & External Relations Management
- Research & Development, Technology Acquisition
- Enterprise Quality Management, Process & IT Planning & Architecture
- Disaster Recovery, Security & Fraud Management

## External viewpoint

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External interaction from an SP to other areas can be achieved by a variety of mechanisms including:

- Exchange of emails or faxes
- Call Center
- Web Portals
- Business to Business (B2B) automated transactions

Note that the use of B2B interaction implies a certain structure and discipline in the way that processes and transactions between a Service Provider and its Suppliers/Partners are structured, defined and sequenced.

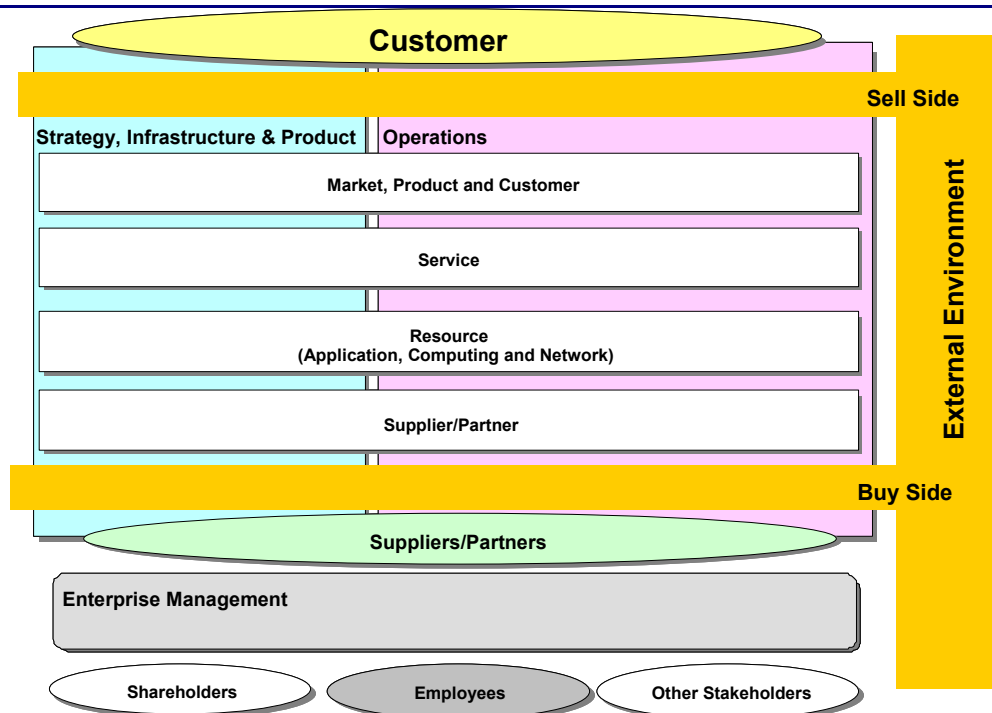
Note also that the focus when considering external interaction is solely on the processes between organizations, whereas eTOM in previous versions (v1.0 to v3.0) focused primarily upon the processes within an organization.

The external environment that must then be considered is based on the concept of shared public processes, which synchronize the internal processes amongst trading partners. These shared processes have a “*buy*” and a “*sell*” side, which interact in a trade between a Service Provider and its Suppliers/Partners. Complex interactions of this kind can then be considered to consist of an appropriate set of “*buy*” and “*sell*” interactions/transactions.

In order to show how the eTOM Business Process Framework accommodates processes and transactions amongst a Service Provider and its Trading Partners, it is useful to visualize eTOM within this external environment, and Figure 2.7 tries to illustrate this.

In this Figure, the External Environment is shown diagrammatically by:

- **two horizontal “bars”**, the first one positioned above the “Market, Product and Customer” process area (the *Sell* Side), and the second one positioned under the “Supplier/Partner” process area (the *Buy* Side). These represent the two aspects of trading interactions in the external environment, and
- **one vertical bar**, representing that the Sell side and Buy side may be logically linked in some circumstances, e.g. for external transactions between trading partners. This area can be extended to illustrate that an entire value chain can be linked together.



**Figure 2.7: the eTOM framework and the External Environment**

When the Enterprise is trading externally, involving the use of Application to Application integration based on public processes, these are modeled by the added “bars”. They represent the agreed industry processes to support trading with customer and partners. Some of these trading relationship with partners may involve third parties such as marketplaces, agents, trust providers, etc. which also form part of this external environment.

The detail of the process components that support this form of external interaction is currently under development, and will be documented in a separate Application Note [ref 10].

## Process Flow Modeling Approach

A basic process flow modeling methodology was used to show how the eTOM Process Elements should be used to design process flows consistent with eTOM. The methodology is available in draft form at this time and is being updated based on what worked well for the activity to date. This business process modeling methodology will be documented separately in an Addendum.

A top-down approach was adopted in the framework development phase. This enabled the definition of the Business Process Framework at the Enterprise level in a series of Level 1 process groupings. These Level 1 processes are split into Vertical (i.e. “end-to-end”) and Horizontal (i.e. functional) groupings, with the dependant Level 2 processes positioned within the Vertical and the Horizontal grouping appropriate to the process concerned. As described in the process methodology, eTOM uses hierarchical decomposition to structure the business processes.

Through hierarchical decomposition, complex entities can be structured and understood by means of the formalization of their components. Hierarchical decomposition enables detail to be defined in a structured way. Hierarchical decomposition also allows the framework to be adopted at varying levels and/or for different processes.

For the eTOM, each process element has a detailed description that provides the process purpose, its basic inputs and outputs, its interfaces, high level information requirements and business rules.

The eTOM process flow modeling depicts process flows in a swim lane approach that drives end-to-end process and process flow-through between the customer and the supporting services, resources and supplier/partners.

Based on the above-described process modeling approach, the eTOM process work starts at the Enterprise level, called Level 0, and shows the Level 1 processes (see Figure 2.2). Each Level 1 process is decomposed into its Level 2 component processes.

## Summary

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The eTOM Business Process Framework is an enterprise process framework for service providers. The processes of the enterprise fall into four major categories with twelve enterprise level process groupings in all.

The main strengths of the eTOM framework are that it:

- enhances the TOM Business Process Framework.
- addresses not only operations and maintenance aspects, but covers all significant enterprise process areas.
- is eBusiness oriented, introducing concepts such as Retention and Loyalty, a new Business Relationship Context Model, Supplier/Partner Relationship Management, etc.
- covers not only the area of network management, but enlarges its scope to application and computing management and the management integration beginning to be required.
- decouples lifecycle management, including development processes, from operations and day-to-day processes.
- can represent both the Framework (static) and be used for the process flow (dynamic) view, including high level information requirements and business rules for strong linkage to automation solutions.
- provides a process Framework reflecting the most current thinking in designing and documenting processes.

provides a sound reference process framework for the Information and Communications Services industry in the eBusiness era. The eTOM already has this standing, not only because it enhances the previous TOM, but because its continuing development has extensive Service Provider involvement, including adoption by many Service Providers, Vendors, Integrators and Process Tool developers.



## Chapter 3 – The emergence of eBusiness within the ICT Market

The application of the latest technologies is transforming access to information, which in turn is revolutionizing the ways companies can share the information and can use it to interact with their customers. This process is resetting customer expectations and as they experience and adapt to this new way of conducting business, with its improvements in both service and levels of control, they are becoming increasingly intolerant of organizations that are incapable of delivering to these new standards.

In this new paradigm, the distinction between products and services often blurs. Success depends on creating new 'product offerings and experiences' in which customers see value. Value is now defined in terms of the whole customer experience. Customers value one-stop shopping, selection choices, personalization of service and the empowerment gained from self-service. The common denominator is making life easier and simpler for the customer.

To meet and deliver against these new customer expectations, information-centric business designs have to be developed and investment in technology is required to support their implementation. Priorities include the need to integrate and share data with partners to give both a better integration of the supply chain and a unified approach to order entry, fulfillment and delivery.

This chapter introduces eBusiness, what it is and the impact its emergence is having on Service Providers. A simple model is then presented that helps clarify the main concepts that relate to eBusiness and some of the standardization related activities that have emerged in response to this phenomenon are introduced. The issues that are raised for the eTOM business process framework by these developments are then summarized as a prelude to Chapter 4.

### What is eBusiness?

In general eBusiness is understood as the interaction amongst business partners with the help of information technologies. It refers not only to buying and selling over the Internet (or other computer network), but also to servicing customers and collaborating with business partners.

The term eBusiness has often been interchanged with the term eCommerce. However, it is becoming increasingly accepted that the use of eCommerce should be restricted to referring to just those web transactions (mainly

business-to-consumer) which are used while buying and selling services and goods over the Internet.

An eBusiness Enterprise is then, an enterprise that utilizes Internet and related technologies to compete effectively in its business space. The technologies enable it to act more efficiently and effectively by facilitating better customer interactions, streamlining interfaces with partners and suppliers and in general, improving the quality and competitiveness of their offerings.

eBusiness's can be characterized as communities of complementary organizations linked together to create unique business entities that are easy to re-configure in response to evolving customer needs. The central theme of eBusiness becomes the delivery of "value" by creating and utilizing end-to-end value streams that are based on an integrated and customer-centric technological foundation. Communities of complementary organizations are tied by these streams and form an extended enterprise that is transparent to the customer. These communities are effectively in competition with each other and not just the fronting companies.

A core focus for eBusiness is therefore on relationships between organizations, in part, because relationships that were previously not possible are now feasible; but also because it also makes possible the streamlining and automation of the existing value network, resulting in significant productivity gains for all parties.

## **Implications of eBusiness on the for Service Providers**

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As new technologies and markets emerge, enterprises have to adapt or die. Technologies affect customer needs while customer needs influence business designs. As business designs emerge, they affect processes and processes influence both customer expectation, and the next generation of technology.

In response to this new paradigm, it is imperative that enterprises integrate business, technology and processes. They must redefine the way in which they operate by using new technology-based business designs, creating new inter-enterprise processes, and integrating operations to support changing customer requirements. A Service Providers business management team has to understand what can be enabled by the application of technology to their business and then realize a strategy that can underpin the transition. Failure to do so will result in an inability to meet changing customer demands, offerings that lack in quality, and ever increasing costs. Competition from more agile and efficient rivals will lead to the organization's demise.

The three principal reasons Service Providers must integrate eBusiness and traditional business processes are therefore:

- **Customer expectations** and the need to move to an approach that focuses on the management of Customer Relationships and the importance of improving customer retention and increasing the value customers contribute to the enterprise.
- **Productivity gains** and the need to ensure that these can continue to be obtained.
- **Provision of a broader range of products and services** to customers - this, for the Information and Communications Services industry (more than almost any other industry) requires a focus on better collaboration between and integration of processes.

The processes required in an eBusiness environment are fundamentally different from those in a traditional business environment. An enterprise that is to transition successfully to eBusiness must determine the processes they implement based on criteria such as:

- Their relevance to their customers needs
- The contribution they make to providing an integrated and unique identity for the enterprise,
- How critical they are to the enterprises operational performance

Other considerations that should influence process design include:

- Exceptions should be handled excellently. In other words, process problems are identified in real time and actions to support the customer are taken real time.
- Business rules should be easily configured and applied automatically
- The ability to treat a process as an asset that can be assessed, replaced, outsourced, as appropriate to improve the operation of the business.

### **How can a Service Provider migrate towards eBusiness**

There are several alternative approaches to implementing eBusiness. Some companies are treating eBusiness (and eCommerce) as separate units. Some are overlaying eBusiness on traditional business operation. Yet other businesses are approaching eBusiness as a replacement of traditional business channels. The most successful eBusiness enterprises integrate eBusiness and traditional business channels where cost, quality and profit can be best rationalized. This is much more than just throwing together a set of web-pages to front an organization, although integrating storefront and Web operations is clearly a key part of the model for some businesses.

The integration of eBusiness and traditional business channels is the model that is most applicable to Information and Communications Service Providers . Undertaking such an integration is typically a substantial exercise. The use

of systematic Business Process Frameworks as a basis for structuring the existing business and to help understand and guide the integration of eBusiness into an existing business can have major benefits.

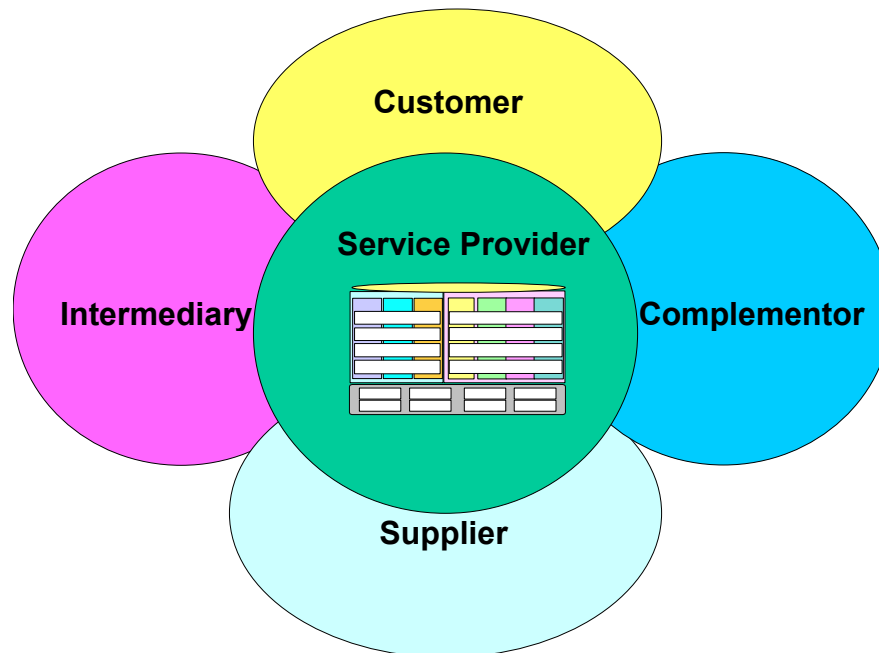
The TM Forum mission of Business Process Automation based on standards and common frameworks/models with plug and play flexibility has never been more relevant. eTOM addresses the total business process framework required for a service provider enterprise operating in the Information and Communications Services industry. It recognizes the need to integrate traditional business and eBusiness processes. And it provides a basis for understanding how to migrate from a current to a desired organizational structure.

The use of systematic Business Process Frameworks, like the eTOM, also makes it easier to evaluate and improve the processes themselves. Employing business process modeling techniques contributes to the goals and profitability of Service Providers. Using consistent modeling techniques for Business Development and Information Systems Development brings noticeable efficiency improvements and removes barriers within those enterprises and across cooperative, inter-corporation projects.

Service Providers that use systematic business process modeling to manage and improve their businesses have a much greater chance of migrating their existing organizational structure to encompass new challenges, the current of which is fully embracing the eBusiness paradigm.

## **An eBusiness Reference Model**

eBusiness involves increasingly complex networks of relationships to operate. Figure 3.1 depicts the sets of relationship groupings involved in a value network in the ICT industry. The value network must operate with the efficiency of a self-contained enterprise, which requires managing the network on a process rather than an organizational basis. The model explicitly shows the use of the eTOM Business Process Framework by the Service Provider at its core. It is only shown here to simplify the figure and its presence is not intended to imply that its use by the Service Provider is prescribed, just that the Service Provider would probably benefit from its use. Likewise, it is not intended to preclude the use of eTOM by the other entities shown within the value network. These entities may or may not make use of the eTOM Business Process Framework.



**Figure 3.1: The eBusiness Reference Model<sup>1</sup>**

The roles of the entities in the Value Network shown in Figure 3.1 are described below.

### Customer

The **Customer** is responsible for ordering, using and (usually) paying for service products. The Customer may represent an end Customer, where the product provided by the value network is consumed, or a wholesale Customer that resells the product provided, generally with some added value. Depending on the Customer's activities, there may be a further refinement of this role as follows:

- The **Subscriber** role is responsible for concluding contracts for the service products subscribed to and for paying for these products.
- The **End User** role makes use of the products.

### Service Provider

The **Service Provider** presents an integrated view of service products to the Customer. It is responsible for the contractual interface with the Customer to, sell products to the Customer, provide the Customer with contact and support, and bill the Customer for the products supplied. The Service

<sup>1</sup> Based on P. Keen and M. McDonald, *The e-Process Edge*, Osborne/McGraw-Hill, Berkeley, CA, 2000.

Provider can deliver some or all of a service product to the Customer itself, or it might subcontract out provision of parts, or even all, of the product to other service providers while maintaining the Customer-facing role of the one-stop shop. The Service Provider is responsible for acting on behalf of the value network it represents in relationships with Intermediaries as well as with the Customer.

## **Complementor**

The Complementary Provider extends the product provided by the Service Provider and offers additional capability that the Service Provider is not itself offering to the Customer, i.e. it complements the product being provided by the Service Provider and adds value to it, but is not essential for provision of the product itself. It could act, for instance, as a specialist Content Provider to a Service Provider that is operating a mobile phone service. The Complementary Provider is in a partnership with the Service Provider and can enhance the Service Provider's product to the Customer with its own products, thus making interactions with the Service Provider more attractive and convenient for the Customer. A business relationship between the Complementary Provider and the Customer may exist, depending on the nature of the product being provided and possibly on the business culture of the environment. Frequently, products offered by a Complementary Provider are co-branded.

## **Intermediary**

The Intermediary supplies a service for a fee. For example, a localized selling function in a market where the Service Provider has a limited presence and/or understanding of, is a typical service provided by an intermediary. The service provided could be an information service enabling Customers to locate Service Providers most appropriate to their specific needs, or the provision of an environment in which providers can make their products known to Customers in an electronic marketplace or trading exchange (infomediary).

At a time of Internet globalization an Intermediary can play an important role as it can promote market transparency by overcoming the geographic constraints that used to limit knowledge about the products available. Functional intermediaries provide a specific function, such as selling, electronic payment or authentication.

## **Supplier**

The supplier interacts with the Service Provider in providing hardware, software, solution and services which are assembled by the Service Provider in order to deliver its solutions or services to the Customer. The Service Provider is bounded by its Suppliers' ability to deliver.

Note that individual enterprises can adopt multiple roles in different value networks. For example a service provider may be the customer-facing service provider in one value network and a complementor or intermediary in another. In today's fast-moving marketplace, these relationships can be very short-lived compared with the more static relationships of the traditional telecommunications market.

The implications of eBusiness developments, and how these are supported by eTOM, are discussed in a separate Application Note [Ref 10].



## Annex A – eTOM Concepts

### Overview

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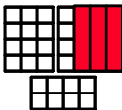
So that the eTOM Business Process Framework can be understood and used effectively, it is essential to review the key concepts that were the basis for creating and evolving eTOM. These concepts were used to make eTOM highly effective for the integration of ebusiness process design and assessment with traditional business processes.

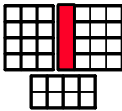
These concepts make use of terminology and ideas explained in more detail later; for example, references to “levels” of decomposition. Readers that are not familiar with eTOM, may wish to gain an initial view of these concepts, to provide context before reading the main document.

To assist the reader in understanding the process area within eTOM that relate to a particular paragraph or section, a graphical icon of eTOM is provided alongside text to draw attention to the relevant eTOM area. This is highlighted in red to indicate the focus of the following text or discussion.

### Business Concepts

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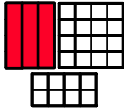
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1. **eTOM focus is on the customer and the processes that directly support the customer.** In the Level 0 View of the eTOM Business Process Framework, the three end-to-end (vertical) process groupings of Fulfillment, Assurance and Billing are depicted. These processes are also referred to as Customer Operations. These processes directly interface and support the customer and are the priority focus of the enterprise.
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2. **eTOM has an Operations Support & Readiness end-to-end (vertical) grouping that includes those processes needed to ensure that Customer Operations processes can respond with what the customer requires, in a timeframe and cost the customer requires, including delighting the customer with delivery and support.** The Fulfillment, Assurance and Billing (FAB) processes, supported by the horizontal functional processes, need to be enabled and supported to function for the customer on an online and immediate basis. To support FAB Processes, Operations Support & Readiness

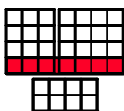
processes prepare information, products, services and resources, as well as suppliers and partners to deliver and support individual customer service instances.

3. **Processes which are essential to drive and support the Customer Operations and Operations Support & Readiness groupings are referred to as Strategic, Infrastructure and Product (SIP). This grouping consists of three Level 1 end-to-end (vertical) process groupings, i.e., Strategy & Commit; Infrastructure Lifecycle Management and Product Lifecycle Management. The processes in these groupings are separated from Operations because they are characteristically different than Operations processes as listed below.**

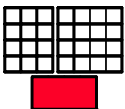


- These process groupings do not focus on direct interface with the customer.
- These process groupings address business activities which are critical to the enterprise, understanding its markets and developing what is required to enable delivery to customer expectations.
- Each of these process groupings in Strategic, Infrastructure and Product (SIP) have different business time cycles. , i.e., as you move from right to left, generally the time cycle becomes longer. E.g. strategies change less often than Infrastructures, which change less often than Products, which change less often than Operations Support Processes, which change less often than Customer Fulfillment, Assurance or Billing requests. The Business time cycles in Strategic, Infrastructure and Product (SIP) are quite different to those of the Operations processes.
- Each of the process groupings in Strategic, Infrastructure and Product (SIP) have process similarities among them, but they are very different compared with the Operations processes.

4. **eTOM focuses on ebusiness opportunities and therefore integrates the processes occurring within the Enterprise with those of partners and suppliers.** The eTOM Framework supports both traditional business processes and those that are ebusiness enabled. eBusiness requires a heightened focus on Supply Chain Management. The Supplier/Partner process grouping consists of Supplier/Partner Relationship Management and Supply Chain Development & Management. Supplier/Partner Relationship Management provides the operational interface and support between the enterprise and its suppliers and partners. Supply Chain Development & Management processes include the developing of relationships and managing the service provider's supply chains.



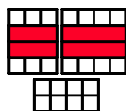
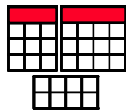
5. **The eTOM Business Process Framework includes an Enterprise Management process grouping so that all Service Provider processes are included.** Service Providers consistently employ enterprise or corporate level processes to manage and support their



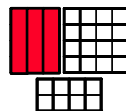
businesses. These processes have significant importance for service providers and have unique or custom requirements for Information and Communications Service Providers.

**eTOM Framework and Process Implementation Concepts**

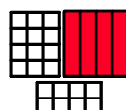
6. The eTOM Framework uses both the terms “product” and “service” and these terms focus on specific parts of the eTOM framework. The **Product view** focuses on what the Service Provider offers to its Customers. The processes to determine the Customer’s needs and to match these to the offerings from the Service Provider are placed in the Market, Product and Customer functional (horizontal) grouping. The **Service view** focuses on the hardware and the information necessary to support and deliver a Product to the Customer. The processes to determine these details and to enable these items are placed in the Service and the Resource functional (horizontal) groupings. For a full definition of “Product” and “Service” as they are used in eTOM, see the Terminology and Glossary part of this Addendum.



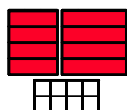
7. **The eTOM Business Process Framework is organized with both end-to-end (vertical) and functional (horizontal) process groupings.** Below the very conceptual level, there are seven End-to-End (vertical) processes that deliver for the enterprise. At Level 1 of the Framework, there are sixteen Functional (horizontal) process groupings which support the execution of the vertical processes. The eTOM Business Process Framework Level 1 End-to-End (Vertical) Processes are:



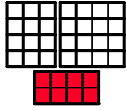
- Strategy & Commit
- Infrastructure Lifecycle Management
- Product Lifecycle Management



- Operations Support & Readiness
- Fulfillment
- Assurance
- Billing

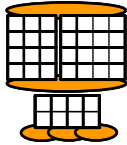


- The Level 1 Functional (Horizontal) Process groupings are:
- Marketing & Offer Management
- Customer Relationship Management
- Service Development & Management
- Service Management & Operations
- Resource Development & Management
- Resource Management & Operations
- Supply Chain Development & Management
- Supplier/Partner Relationship Management



- Strategic & Enterprise Planning
- Financial & Asset Management
- Brand Management, Marketing Research & Advertising
- Stakeholder & External Relations Management
- Enterprise Quality Management, Process & IT Planning & Architecture
- Human Resources Management
- Research & Development, Technology Acquisition
- Disaster Recovery, Security & Fraud Management

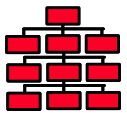
**8. Service Providers interact with many external and internal entities. The eTOM groups these into five entity groupings:**



- Customers (the SP sells to them)
- Suppliers/Partners (the SP buys from them or co-operates with them)
- Shareholders (the SP obtains financial resources from them)
- Employees (the SP obtains their services to execute the processes of the enterprise)
- Other Stakeholders (include Regulators, Media, Local Community, Government, Labor Unions, Competitors, etc.)

**9. Business to Business** Application of eTOM can be viewed as consisting of internal (private) processes within the Enterprise, and external (public) processes shared between the Enterprise and others. A mapping between private and public processes must be supported within the eTOM structure.

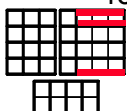
**10. The eTOM Framework is structured in hierarchical decomposition of all Processes in the Enterprise. For all process elements the eTOM generally decomposes the process elements into three levels below the very high conceptual view of the Framework.** This allows the Framework to be adopted at varying levels by Service Providers and Suppliers.



**11. The Process Elements in the eTOM Framework include every Process Element or Activity used by the Enterprise.** All areas of the enterprise must be able to unambiguously identify where their key activities would be mapped. This is essential to having the Framework accepted by all units in the Enterprise.

**12. The eTOM Framework clearly defines each Process Element.** Each Process Element in the Framework is a Category that allows actual activities in the Enterprise to be unambiguously assigned to a category. This modularized approach makes it easier for processes to be re-used, updated or replaced independently. The solutions based on this framework can then be built by using Commercial-off-the-Shelf (COTS) product, since solution vendor increasingly structure and describe their offerings consistently with the eTOM Framework.

**13. Process Elements can be included in more than one End-to-End (Vertical) Process Grouping, where it is necessary to deliver consistency across several End-to-End (Vertical) Processes.** Processes that appear in more than



one end-to-end process grouping may provide the same functionality in several groupings or may provide somewhat different functionality, to support each specific process grouping. For example, Customer Interface Management processes are used in Fulfillment, Assurance and Billing, with the content of the interaction being different, but overall the interface must have a consistent look and feel.

14. **The eTOM Process Elements are defined as generically as possible to support all Products, Services and Channels that are used within the Enterprise.** The eTOM Business Process Framework is Technology, Organization and Service Independent.
15. **Each Service Provider will choose to implement their reference process flows differently; according to their business vision and mission, their target markets and strategies, etc.** A methodology for building reference Process Flows using the eTOM Process Elements as building blocks is described in Addendum F. There is no intent to make Reference Process Flows prescriptive as there will be numerous different implementations of flows. What is essential to ensure clear communications between Service Providers is that each one builds up their Reference using the industry-standard eTOM Process Elements as building blocks.
16. **The eTOM Process Flows and Decompositions are designed to link Input, process element and output, and to provide a high-level definition of information requirements and business rules.** This level of process information and discipline creates the opportunity for better linkage to systems work.

## End-to-End Process Flow Concepts

The eTOM includes a considerable amount of process flow modeling to support and apply the process decompositions. This modeling will continue to be developed for the process areas of the eTOM which have a high priority for member organizations. Process flow modeling, definition of high level information requirements and business rules are essential elements in linking to systems analysis and design for development and delivery of automation solutions. The process decomposition and flow modeling are also critical linkages to the NGOSS systems initiatives.

This chapter addresses end-to-end process flow concepts in relation to the eTOM. It first gives some general information on how the process flow work is done in eTOM and then looks at the Operations Processes separately from the Strategy, Infrastructure and Product Processes.

## eTOM Process Flows

eTOM process flow modeling follows the hierarchical process decomposition and description of each process element in the hierarchies. There are two types of process flow in the eTOM. First, there are the process flows for an individual process that has been decomposed to a level where it is convenient for a process 'thread' to be developed, e.g., Credit Authorization. In this context, thread is used to encompass the local process flow concerning the individual process concerned. The second type of process flow has a larger scope, and is more of a picture that connects the most important elements of several process threads to provide an 'end-to-end' process flow, e.g., service request. This type of process flow typically represents an area of business solution, and will begin to be added to the eTOM in subsequent releases of the eTOM.

Whether a process thread or an end-to-end process flow, each process involved is initiated by an event(s), e.g., a customer inquiry, and ends with a result(s), e.g., credit approved. The sequence of process steps to achieve the required overall result(s) is shown, with an association made to the high level information involved as inputs or outputs. In the original TOM input/output diagrams, each high level process showed its high level input and output. The inputs and outputs were not defined and were not tied to a specific process activity. The eTOM will provide this information as more and more process flow modeling is completed.

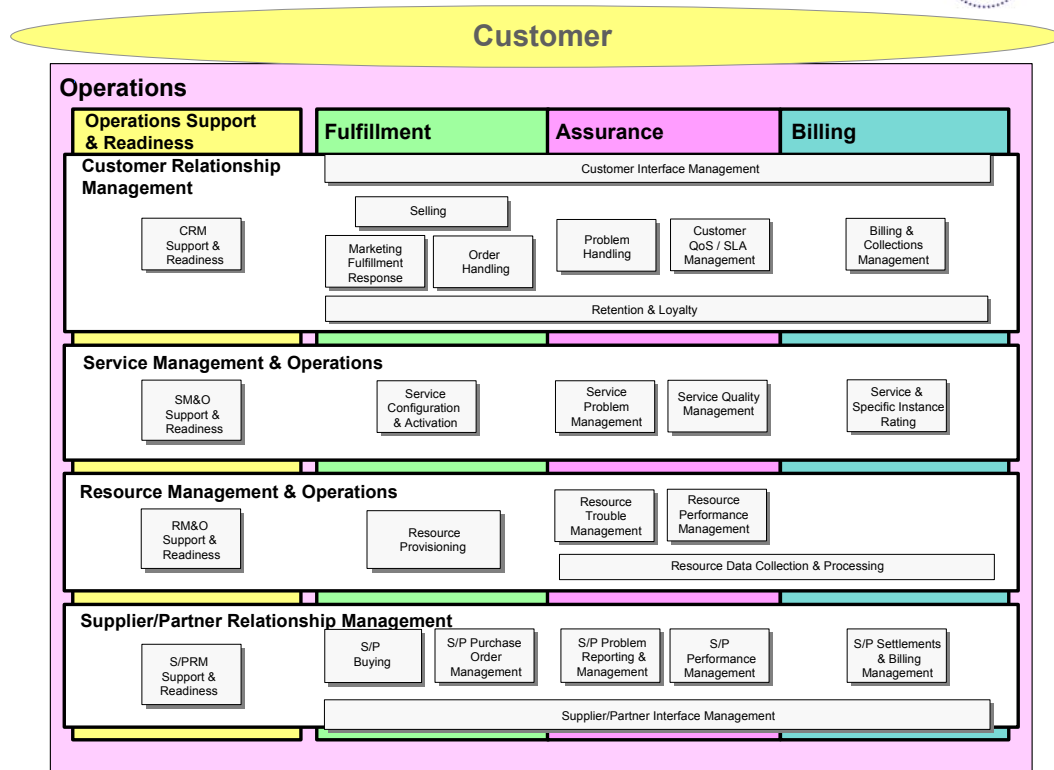
Current process modeling methodologies use a swim lane approach to process flow diagramming, and so does the eTOM. For the most part, the swim lanes are the functional layers of the eTOM, e.g., CRM, SM&O, RM&O, S/PRM within the Operations area. Swim lanes are the horizontal layers into which the process elements and their flows are mapped. The top swim lane represents the customer. Using a swim lane approach to process flow modeling enables better:

- End-to-end process flow design, e.g., from customer request to correctly provided service
- Process flow through design, e.g., from customer to resource element
- Customer contact and interface process design, due to better visibility of the interfaces with the customer and the gaps between them
- Value add process element focus in process design
- Visibility of too many hand-offs, too much specialization, etc.

## Operations Processes

Figure A.1 shows the Operations portion of the eTOM Business Process Framework decomposed into the Operations Support & Readiness process grouping plus the three Customer Operations process groupings of Fulfillment, Assurance and Billing. The purpose is to show in more detail the

predominant processes that need to be involved - integrated and automated - to support the vertical end-to-end, Customer Operations processes of Fulfillment, Assurance and Billing as well as the Operations Support & Readiness processes.



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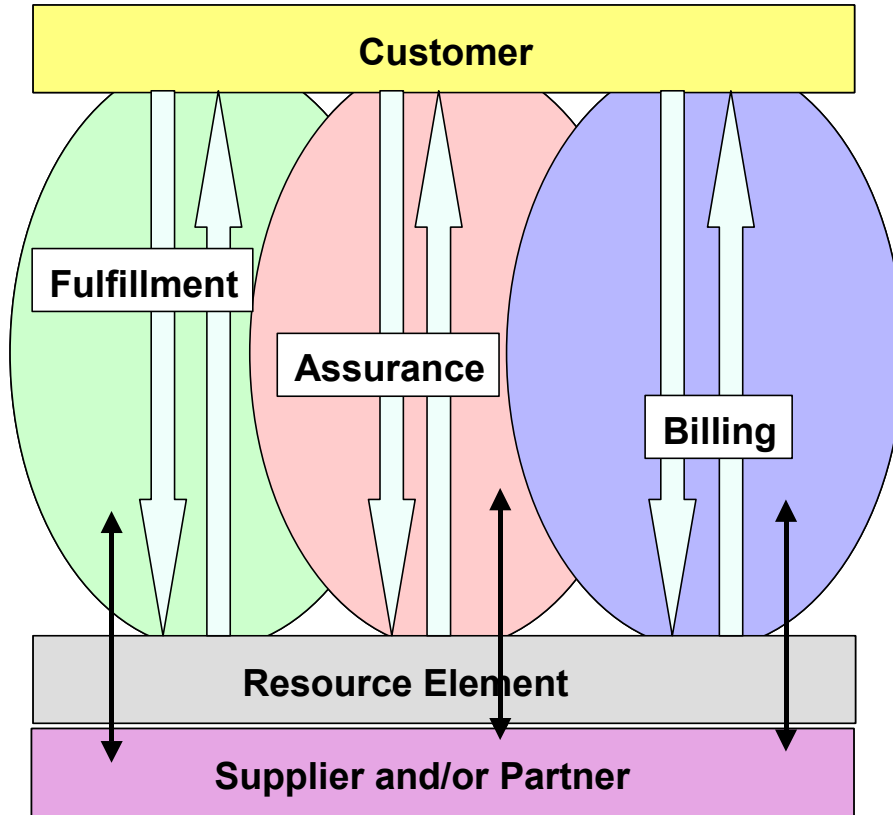
**Figure A.1: The Operations End-To-End Process Breakdown**

Even though the end-to-end process breakdown in Figure A.1 provides a sound image of which component process belongs to which end-to-end process, it does not get across the dynamic, *end-to-end process flow* required to support, for example, the Customer Operations processes of Fulfillment, Assurance and Billing. Figure A.2 shows the three essential flow elements:

- Between the customer interface and support in a resource element and/or supplier/partner
- From selling through billing
- Between other providers and network operators

The vertical arrows represent the process interactions between the customer interface and the resource elements, i.e., *process flow through*. The overlapping balloons indicate that Fulfillment, Assurance, and Billing predominantly include specific processes from the framework. However, all three end-to-end processes have interfaces among many processes across the framework. The directionality of the white vertical arrows shows end-to-end flow. The customer predominantly initiates the Fulfillment process. The

Assurance process can be triggered by the customer or resource elements, and the Billing flow is predominantly from data collection in the resource elements to bills presented to the customer. The black arrows show the process flow interfaces required with other providers and operators. All three flow elements are required for integration and automation.



**Figure A.2: FAB End-To-End and Flow-through Process Flows**

The end-to-end process flow for Operations Support and Readiness will be shown in a subsequent release of eTOM.

### Strategy, Infrastructure and Product Processes

To be developed for a subsequent release of eTOM.

## Annex B – Terminology and Acronym Glossary

### Terminology

Definitions are provided here for common terms concerning Business processes and the activities occurring within them. Common terminology makes it easier for Service Providers to communicate with their Customers, Suppliers and Partners.

For the eTOM documentation to be understood and used effectively, it is essential that the wording listed here be interpreted using the meanings provided, rather than common usage or specific usage.

#### **Complementary Provider**

The Complementary Provider provides additional products and services to extend the attractiveness of an enterprise's products and services and scope of its of the value network. Frequently, these products and services are co-branded.

#### **Customer**

The Customer buys products and services from the Enterprise or receives free offers or services. A Customer may be a person or a business.

#### **Customer Operations Process**

A Customer Operations Process is a process that focuses totally on directly supporting Customer needs, i.e., Fulfillment, Assurance or Billing. It may be initiated by the Customer or be initiated by the Service Provider.

#### **eBusiness**

eBusiness includes the Internet presence and buy and sell transaction over digital media of ecommerce. It also includes the integration of front- and back-office processes and applications to provide support and bill for the product or service. For eTOM it is even more expansive. eBusiness is the integration of traditional business models and approaches with ebusiness opportunities.

## eCommerce

eCommerce is Internet presence and business buying and selling transactions over digital media.

## End-to-End Process Flow

End-to-end process flow includes all sub-processes and activities and the sequence required to accomplish the goals of the process. Note that the top-level views of eTOM do NOT show end-to-end process flow since there is no indication of sequence. The eTOM shows End-to-end Process Groupings (see definition below)

The End-to-End, Customer Processes recognized in eTOM are generic sequences of activities that need to occur in the enterprise to achieve desired results. (i.e. they are not specific to a particular ICSP Business, Product, Channel or Technology).

eTOM does not direct or constrain the way End-to-end Processes can be implemented, rather it only guides the definition of standardized Process Elements to be used within the enterprise. In this way Process Elements can be assembled for a specific service provider's End-to-end Process requirements. eTOM does not mandate a single way the Process Elements should be organized or sequenced to create End-to-end Processes.

## End-to-End Process Grouping

The top-level view of the eTOM Business Process Framework shows End-to-end Process Groupings. At this level of the process framework, flow is not appropriate. However, these groupings represent processes that have end-to-end results that are key measures for the enterprise.

Also termed as vertical process grouping(s).

## End User

The **End User** is the actual user of the Products or Services offered by the Enterprise. The end user consumes the product or service. See also Subscriber below.

## Enterprise

Enterprise is used to refer to the overall business, corporation or firm, which is using eTOM for modeling its business processes. The enterprise is responsible for delivering products and services to the Customer. It is assumed that the enterprise is an Information or Communications Service Provider (see ICSP explanation below).

## Enterprise Management Process Grouping

This Process grouping involves the knowledge of Enterprise-level actions and needs, and encompasses all Business Management functionalities necessary

to support the operational processes, which are critical to run a business in the competitive market. These are sometimes thought of as corporate processes and support. Some functions such as Security and Fraud Management have to be more tailored to Information and Communications Service Providers, but most (e.g., Financial Management, Public Relations) are not significantly different for the ICSP industry.

## **Entity**

Entity, is used to mean a person, a business, technology, etc. with which a process interacts. The Customer is the most important Entity. The Enterprise Management processes interact with Government, Regulators, Competitors, Media, Shareholders, the Public, Unions and Lobby groups. The Supplier and Partner Management Processes interact with Dealers, Retailers, Partners, Brokers, Third-Party Providers, Complementary Provider, Financial Provider, Service Suppliers, and Material Suppliers.

## **Flow-through**

Flow-through is automation across an interface or set of interfaces within an end-to-end process flow. For the eTOM Fulfillment, Assurance and Billing processes, process flow-through is between the customer and the resource elements.

## **Functional Process Groupings**

The Functional Process Groupings (e.g. Customer Relationship Management, Service Management & Operations, etc.) aggregate processes involving similar knowledge. As in TOM, the eTOM Functional Process Groupings are the highest level decomposition of the Enterprise. Functional Process Groupings are shown horizontally in eTOM.

These Functional Process Groupings are not hierarchical and are not built one above the other (i.e., one is not a decomposition of the one above), e.g., 'Service Management & Operations' is NOT a decomposition of 'Customer Relationship Management'.

Also termed as horizontal process grouping(s).

## **Hierarchical Process Decomposition**

Hierarchical Process Decomposition is the systematic approach to modeling processes above the level suitable to process flow. The Hierarchical Process Decomposition approach allows processes to be developed more modularly. See Levels below.

## **Information and Communications Service Provider (ICSP)**

A Service Provider Enterprise that sells Information and/or Communications Services to other parties.

## Intermediary

Within the Value Network, the Intermediary performs a function on behalf of the Enterprise that is a part of the Enterprise's operational requirements. Intermediaries provide products and services that the enterprise either cannot provide itself or chooses not to due to cost and quality considerations. There are typically three categories of intermediaries: sales, fulfillment, and information and communication.

## Levels

The best way to structure a large amount of content and detail, while still allowing the higher-level views to present a summary view, is to structure the information in multiple Levels, where each Level is decomposed into greater detail at the next lower Level. This is Hierarchical Decomposition.

By having eTOM structured into multiple Levels it enables Framework users to align their enterprise framework or their process implementations with the eTOM Framework at different levels e.g., Align at Level 1 and 2 or align at Level 1, 2 and 3.

To summarize how levels are used in eTOM.

1. The whole-of-Enterprise view (i.e., all of eTOM) is Level 0.
2. Each Vertical (End-to-End) Process Grouping is Level 1.
3. Each Horizontal (Functional) Process Grouping is also Level 1.
4. All the Process Elements, e.g., Order Handling (which appear in the End-to-End Process and the Functional Process Groupings) are Level 2.
5. Level 2 Process Elements may be decomposed into Level 3 Process Elements.
6. Level 3 Process Elements may be decomposed into Level 4 Process Elements.
7. For eTOM all subsequent levels of process decomposition are Level 4, since decomposition level does not necessarily mean the same level of detail from one process decomposition to another. The number of levels of decomposition required has more to do with the complexity of the process and the level at which process flow makes sense.

## Offer

An offer is an aggregation or bundling of Products or Services for sale to a Customer.

## Outsourcing

Outsourcing is when an enterprise contracts out one or more of its internal processes and/or functions out to an outside company. Outsourcing moves enterprise resources to an outside enterprise and keeping a retained capability to manage the relationship with the outsourced processes.

**Out-tasking**

Out-tasking is when an enterprise contracts with outside enterprise to provide a process, function or capability without transfer of resource. The enterprise begins using the other enterprise's capabilities directly and electronically.

**Partner**

A Partner has a stronger profit and risk-sharing component in their Business Agreement with the Enterprise, than a Supplier would have. A Partner generally is more visible to the Enterprise's customer than a Supplier would be. A partner might be part of an alliance, a joint service offering, etc.

**Process**

A Process describes a systematic, sequenced set of functional activities that deliver a specified result. In other words, a Process is a sequence of related activities or tasks required to deliver results or outputs.

**Product**

Product is what an entity (supplier) offers or provides to another entity (customer). Product may include service, processed material, software or hardware or any combination thereof. A product may be tangible (e.g. goods) or intangible (e.g. concepts) or a combination thereof. However, a product ALWAYS includes a service component.

**Process Element**

Process Elements can also be considered as the Building Blocks or Components, which are used to 'assemble' End-to-end Business Processes. Therefore, a Process Element is the highest level of the constructs within eTOM, which can be used directly by the Enterprise. Process Elements first become visible when either a Functional Process Grouping or an End-to-End Process Grouping is decomposed into the second level, e.g., Order Handling,

Process elements are modular for potential reuse and independent update and/or replacement.

**Resource**

Resources represent physical and non-physical components used to construct Services. They are drawn from the Application, Computing and Network domains, and include, for example, Network Elements, software, IT systems, and technology components.

**Service**

Services are developed by a Service Provider for sale within Products. The same service may be included in multiple products, packaged differently, with different pricing, etc.

**Service Provider (SP)**

See under Information and Communications Service Provider (ICSP)

**Subscriber**

The Subscriber is responsible for concluding contracts for the services subscribed to and for paying for these services.

**Supplier**

Suppliers interact with the Enterprise in providing goods and services, which are assembled by the Enterprise in order to deliver its products and services to the Customer.

**Supply Chain**

'Supply Chain' refers to entities and processes (external to the Enterprise) that are used to supply goods and services needed to deliver products and services to customers.

**Swim Lane**

A way of depicting process flow in two dimensions by showing sequence horizontally and different actors or process types vertically. Using swim lanes to depict process flow allow for better process design in better end-to-end flow, better flow-through and better visibility of customer interactions in the process.

**Third Party Service Provider**

The **Third Party Service Provider** provides services to the Enterprise for integration or bundling as an offer from the enterprise to the Customer. Third party service providers are part of an enterprise's seamless offer. In contrast, a complementary service provider is visible in the offer to the enterprise's customer, including having customer interaction.

**TMN - Telecommunications Management Network**

The Telecommunications Management Network (TMN) Model was developed to support the management requirements of PTOs (Public Telecommunication Operators) to plan, provision, install, maintain, operate and administer telecommunication networks and services. As the communications industry has evolved, use of TMN also evolved and it has influenced the way to think logically about how the business of a service provider is managed. The TMN layered model comprises horizontal business, service, and network management layers over network hardware and software resources, and vertical overlapping layers of Fault, Configuration, Accounting, Performance and Security (FCAPS) management functional areas. The latter should not be considered as strictly divided "silos" of management functions, but inter-related areas of functionality needed to manage networks and services. Indeed, ITU-T Recommendations M.3200

and M.3400 define a matrix of management services and management function sets (groups of management functions), which in turn are used to define more detailed Recommendations on specific management functions.

## **TOM**

The Telecom Operations Map, GB910 Version 2.1 published by the TeleManagement Forum.

## **Total Enterprise Process View**

The Total Enterprise Process View Includes all business processes within the Enterprise. In eTOM, the Total Enterprise Process View is also referred to as Level 0, since it includes all Level 1 process groupings.

## **User**

See End User above.

## **Value Network**

The enterprise as the hub a value network is a key concept of ebusiness. The value network is the collaboration of the enterprise, its suppliers, complementors and intermediaries with the customer to deliver value to the customer and provide benefit to all the players in the value network. eBusiness success and, therefore part of the definition of a value network, is that the value network works almost as a vertically integrated enterprise to serve the customer.

## **Vendor**

Synonymous with Supplier above.

## **Acronyms**

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ADSL	Asymmetric Digital Subscriber Line
ANSI	American National Standards Institute
ASP	Application Service Provider
ATM	Asynchronous Transfer Mode
B2B	Business to Business
BM&A	Brand Management, Market Research & Advertising
BOM	Business Operations Map
BPSS	Business Process Specification Schema
BSS	Business Support System

BTA	Business Transaction Activity
CAM	Content Assembly Mechanism
CBL	Commerce One Business Library
COTS	Commercial Off-the-shelf
CRM	Customer Relationship Management
DRS&F	Disaster Recovery, Security and Fraud Management
DSL	Digital Subscriber Line
DTD	Document Type Definition
DWDM	Dense Wavelength Division Multiplexing
E2E	End-to-end
ebXML	Electronic Business Extensible Markup Language
EDI	Electronic Data Interchange
eTOM	enhanced Telecom Operations Map
EM	Enterprise Management
EQPIA	Enterprise Quality Management, Process & IT Planning & Architecture
FAB	Fulfillment, Assurance and Billing
F&AM	Financial & Asset Management
GTDD	Generic Telecom Data Dictionary
HDSL	High-bit-rate Digital Subscriber Line
HR	Human Resources
HTML	Hyper Text Markup Language
ICSP	Information and Communications Service Provider
ICT	Information and Communications Technology
ILM	Infrastructure Lifecycle Management
IP	Internet Protocol
ISP	Internet Service Provider
ITU-T	International Telecommunication Union – Telecommunication Standardization Sector
KPI	Key Performance Indicator
KQI	Key Quality Indicator
M&OM	Marketing & Offer Management
NMF	Network Management Forum (predecessor of TM Forum)
NGOSS	Next Generation Operations Systems and Software
OAGIS	Open Applications Group Integration Specification
OASIS	Organization for the Advancement of Structured Information Standards

OPS	Operations
ORT	Operations Readiness Testing
OSR	Operations Support & Readiness
OSS	Operations Support System
PIP	Partner Interface Process
PLM	Product Lifecycle Management
QoS	Quality of Service
R&DTA	Resource & Development, Technology Acquisition
RD&M	Resource Development & Management
RFP	Request for Proposal
RM&O	Resource Management & Operations
RNIF	RosettaNet Implementation Framework
S&EP	Strategic & Enterprise Planning
S&ER	Stakeholder & External Relations
SC	Strategy & Commit
SCD&M	Supply Chain Development & Management
SD&M	Service Development & Management
SDH	Synchronous Digital Hierarchy
SID	Shared Information & Data Model
SIP	Strategy, Infrastructure and Product
SLA	Service Level Agreement
SM&O	Service Management & Operations
SOAP	Simple Object Access Protocol
SONET	Synchronous Optical Network
SP	Service Provider (see also ICSP)
S/P	Supplier/Partner
S/PRM	Supplier/Partner Relationship Management
TM Forum	TeleManagement Forum (see also TMF)
tML	Telecommunications Markup Language
TMF	TeleManagement Forum (see also TM Forum)
TMN	Telecommunications Management Network
TOM	Telecom Operations Map
UML	Unified Modeling Language
UN/CEFACT	United Nations Center for Trade Facilitation and Electronic Business
VC-MC	Value Chain Market Center

W3C	World Wide Web Consortium
XML	Extensible Markup Language

To find Acronyms expansions go to <http://www.acronymfinder.com>.



## Appendix 1 – eTOM version 3.0 to 3.5/3.6 Process Name Changes

The table below provides a list of process name changes introduced in this version of eTOM from the previously-published version 3.0.

These changes are the result of feedback from TMF members and others suggesting improvements to the previous names to improve clarity and understanding. In some cases, there are changes to the scope or positioning of process content within the eTOM., again based on feedback and the evolving analysis within the eTOM work.. A brief explanation of the change or addition is provided in the table..

Both eTOM Level 1 and Level 2 processes are included, with Level 1 process names in bold text to assist readers. As in the GB921D document, Level 2 processes are shown associated with the corresponding “horizontal” (i.e. functional) Level 1 process grouping.

eTOM v3.0 Name	eTOM v3.5/v3.6 Name or Treatment	Change Status	Comment
<b>Fulfillment</b>	<b>Fulfillment</b>	No name change, but see next Level	
<b>Assurance</b>	<b>Assurance</b>	No name change, but see next Level	
<b>Billing</b>	<b>Billing</b>	No name change, but see next Level	
<b>Operations Support &amp; Readiness</b>	<b>Operations Support &amp; Readiness</b>	No name change, but see next Level	
<b>Strategy &amp; Commit</b>	<b>Strategy &amp; Commit</b>	None	
<b>Infrastructure Lifecycle Management</b>	<b>Infrastructure Lifecycle Management</b>	None	
<b>Product Lifecycle Management</b>	<b>Product Lifecycle Management</b>	No name change, but see next Level	

<b>eTOM v3.0 Name</b>	<b>eTOM v3.5/v3.6 Name or Treatment</b>	<b>Change Status</b>	<b>Comment</b>
<b>Customer Relationship Management</b>	<b>Customer Relationship Management</b>	No name change, but see next Level	
Customer Interface Management	Customer Interface Management	None	
Marketing Fulfillment Response	Marketing Fulfillment Response	None	
Selling	Selling	None	
Order Handling	Order Handling	None	
Problem Handling	Problem Handling	None	
Customer QoS/SLA Management	Customer QoS/SLA Management	None	
Billing and Collections Management	Billing and Collections Management	None	
Retention & Loyalty	Retention & Loyalty	None	
CRM Operations Support & Process Management	-	Relocated	As with other "layers" in OSR, some support processes in V3.0 have been absorbed into Enterprise Management (see GB921D for details)
Sales & Channel Management	-	Relocated	This process has been absorbed into the M&OM/PLM area of SIP as being more appropriate (see GB921D for details)
CRM Operations Readiness	CRM Support & Readiness	Name change	As with other "layers" in OSR, this name change is because some support processes in V3.0 have been absorbed into Enterprise Management (see GB921D for details)
<b>Service Management and Operations</b>	<b>Service Management and Operations</b>	No name change, but see next Level	
Service Configuration & Activation	Service Configuration & Activation	None	
Service Problem Management	Service Problem Management	None	

<b>eTOM v3.0 Name</b>	<b>eTOM v3.5/v3.6 Name or Treatment</b>	<b>Change Status</b>	<b>Comment</b>
Service Quality Analysis, Action & Reporting	Service Quality Management	Name change	Name change provides simpler name
Service & Specific Instance Rating	Service & Specific Instance Rating	None	
SM&O Support & Process Management	-	Relocated	As with other “layers” in OSR, some support processes in V3.0 have been absorbed into Enterprise Management (see GB921D for details)
SM&O Readiness	SM&O Support & Readiness	Name change	As with other “layers” in OSR, this name change is because some support processes in V3.0 have been absorbed into Enterprise Management (see GB921D for details)
<b>Resource Management and Operations</b>	<b>Resource Management and Operations</b>	No name change, but see next Level	
Resource Provisioning & Allocation to Service Instance	Resource Provisioning	Name change	Name change provides simpler name
Resource Problem Management	Resource Trouble Management	Name change	Name change reflects industry usage and allows easier distinction with Service Problem Management
Resource Quality Analysis, Action & Reporting	Resource Performance Management	Name change	Name change provides simpler name
Resource Data Collection, Analysis & Control	Resource Data Collection & Processing	Name change	Name change provides simpler name
RM&O Support & Process Management	-	Relocated	As with other “layers” in OSR, some support processes in V3.0 have been absorbed into Enterprise Management (see GB921D for details)

<b>eTOM v3.0 Name</b>	<b>eTOM v3.5/v3.6 Name or Treatment</b>	<b>Change Status</b>	<b>Comment</b>
RM&O Readiness	RM&O Support & Readiness	Name change	As with other “layers” in OSR, this name change is because some support processes in V3.0 have been absorbed into Enterprise Management (see GB921D for details)
<b>Supplier/ Partner Relationship Management</b>	<b>Supplier/Partner Relationship Management</b>	No name change, but see next Level	
S/P Buying	S/P Buying	None	
S/P Purchase Order Management	S/P Purchase Order Management	None	
S/P Problem Reporting & Management	S/P Problem Reporting & Management	None	
S/P Performance Management	S/P Performance Management	None	
S/P Settlements and Billing Management	S/P Settlements and Billing Management	None	
S/P Interface Management	S/P Interface Management	None	
S/PRM Operations Support & Process Management	-	Relocated	As with other “layers” in OSR, some support processes in V3.0 have been absorbed into Enterprise Management (see GB921D for details)
S/PRM Readiness	S/PRM Operations Readiness	Name change	As with other “layers” in OSR, this name change is because some support processes in V3.0 have been absorbed into Enterprise Management (see GB921D for details)
<b>Marketing &amp; Offer Management</b>	<b>Marketing &amp; Offer Management</b>	No name change, but see next Level	
Market Strategy & Policy	Market Strategy & Policy	None	
Product and Offer Portfolio Strategy Policy	Product and Offer Portfolio Strategy Policy & Planning	None	

eTOM v3.0 Name	eTOM v3.5/v3.6 Name or Treatment	Change Status	Comment
& Planning			
Product and Offer Business Planning & Commitment	Product and Offer Business Planning & Commitment	None	
Product & Offer Capability Delivery	Product & Offer Capability Delivery	None	
Marketing Capability Delivery	Marketing Capability Delivery	None	
CRM Capability Delivery	CRM Capability Delivery	None	
Product Development & Retirement	Product Development & Retirement	None	
Marketing Communications & Promotion	Marketing Communications & Promotion	None	
Sales & Channel Development	Sales & Channel Development & Management	Name change	Name change reflects absorption of Sales & Channel Management from OSR
Product, Marketing and Customer Performance Assessment	-	Relocated	As with other “layers” in PLM, this performance assessment process in V3.0 has been absorbed into Enterprise Management (see GB921D for details)
<b>Service Development &amp; Management</b>	<b>Service Development &amp; Management</b>	No name change, but see next Level	
Service Strategy & Policy	Service Strategy & Policy	None	
Service Planning & Commitment	Service Planning & Commitment	None	
Service & Operations Capability Delivery	Service & Operations Capability Delivery	None	
Service Development	Service Development & Retirement	None	

eTOM v3.0 Name	eTOM v3.5/v3.6 Name or Treatment	Change Status	Comment
& Retirement			
Service Performance Assessment	-	Relocated	As with other “layers” in PLM, this performance assessment process in V3.0 has been absorbed into Enterprise Management (see GB921D for details)
<b>Resource Development &amp; Management</b>	<b>Resource Development &amp; Management</b>	No name change, but see next Level	
Resource & Technology Strategy and Policy	Resource & Technology Strategy and Policy	None	
Resource & Technology Planning and Commitment	Resource & Technology Planning and Commitment	None	
Resource & Operations Capability Delivery	Resource & Operations Capability Delivery	None	
Resource Development	Resource Development	None	
Resource Performance Assessment	-	Relocated	As with other “layers” in PLM, this performance assessment process in V3.0 has been absorbed into Enterprise Management (see GB921D for details)
<b>Supply Chain Development &amp; Management</b>	<b>Supply Chain Development &amp; Management</b>	No name change, but see next Level	
Supply Chain Strategy and Policy	Supply Chain Strategy and Policy	None	
Supply Chain Planning and Commitment	Supply Chain Planning and Commitment	None	
Supply Chain Capability Delivery	Supply Chain Capability Delivery	None	
Supply Chain Development & Change Management	Supply Chain Development & Change Management	None	

<b>eTOM v3.0 Name</b>	<b>eTOM v3.5/v3.6 Name or Treatment</b>	<b>Change Status</b>	<b>Comment</b>
Supply Chain Performance Assessment	-	Relocated	As with other “layers” in PLM, this performance assessment process in V3.0 has been absorbed into Enterprise Management (see GB921D for details)
<b>Enterprise Management</b>	<b>Enterprise Management</b>	No name change, but see next Level	
Strategic & Enterprise Planning	Strategic & Enterprise Planning	None	
Financial & Asset Management	Financial & Asset Management	None	
Brand Management, Market Research & Advertising	Brand Management, Market Research & Advertising	None	
R&D/Technology Acquisition	R&D/Technology Acquisition	None	
Stakeholder & External Relations Management	Stakeholder & External Relations Management	None	
Human Resources Management	Human Resources Management	None	
Enterprise Quality Management, Process, IT Planning & Architecture	Enterprise Quality Management, Process, IT Planning & Architecture	None	
Disaster Recovery, Security & Fraud Management	Disaster Recovery, Security & Fraud Management	None	
-	Displaced support processes from OSR, and performance assessment processes from SIP		These processes are positioned within Enterprise Management but their final disposition within Level 2 processes has not yet been decided (see GB921D for details)

## Appendix 2 – ITIL links with eTOM

This is the subject of a separate Application Note [ref 9]. See this for further information.