
eTOM

The Business Process Framework

For The Information and Communications Services Industry



GB921

Public Evaluation Version 2.5

December 2001

Notice

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Acknowledgements

eTOM Business Process Framework Release 2.5 Contributors

This release of the eTOM Business Process Framework Evaluation Version 2.5 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. The main contributors over the program of work, including those involved with the previous Version 1.0 and 2.0 releases, are:

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A special recognition is also made to Don Batorsky, Telcordia, who provided the early team leadership for the eTOM work to begin and progress through the initial stages and who kindly arranged Telcordia conference bridges for the majority of team conference calls.

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

Note: Acknowledgements for development of the various versions of the Telecom Operations Map are included as an appendix.

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 paper specifications.

About this document

This is a TM Forum Guidebook. The guidebook format is used when:

- The document lays out a 'core' part of TM Forum's approach to automating business processes. Such guidebooks would include the Telecom Operations Map and the Technology Integration Map, but not the detailed specifications that are developed in support of the approach.
- Information about TM Forum policy, or goals or programs is provided, such as the Strategic Plan or Operating Plan.
- Information about the marketplace is provided, as in the report on the size of the OSS market.

Important Note:

This release of the eTOM is not complete. For member comment and direction, the focus of this release is to provide a view of:

- *The expansion of the TOM operations management business process framework to a Service Provider Enterprise business process framework.*
- *The initial advancements to augment TOM for the ebusiness environment, including a new business relationship model and Supplier/Partner processes.*
- *The evolution of TOM Customer Care Processes to Customer Relationship Management processes.*
- *Recognition of the need to support separation of Operations Support & Readiness from the core customer operations processes*
- *Consideration of Lifecycle Management processes.*

Despite the evolutionary nature of the eTOM work, it is already in use by Service Providers. However, it should not be considered the final reference framework at this point, as work is ongoing and some changes to the eTOM contents is likely as it continues to track the changing business environment..

Significant process work will continue in the eTOM team to develop further the processes of the eTOM. Significant input from TM Forum members is expected to direct the eTOM work to achieve for most value to members for subsequent eTOM releases. As a note, the eTOM team is accountable for the TOM and the eTOM in TM Forum.

Document Life Cycle

The eTOM: The Business Process Framework For The Information and Communications Services Industry is being issued as a Public Evaluation Version Release 2.5 with a Guidebook Number of 921. The TeleManagement Forum ("TM Forum") expects to continue to build the eTOM based on:

- Further research and alignment with other cross-industry process work
- Significant member comments and input
- Joint work with other TM Forum teams, including the Business Application Contracts and Shared Data Model teams
- Additional work to provide additional process decompositions and flows

The eTOM Business Process Framework, referred to as the eTOM, will supersede the TM Forum Telecom Operations Map, GB910 2.x Version, in its entirety in 2002. At that time, GB 910 will be retired.

As with the previous release of this document, the present release is a bit different than other document releases in that it is not complete. The eTOM is a significant undertaking for members. It is crucial that ongoing feedback is garnered and that the value of the eTOM is validated. The eTOM is being driven by a significant number of worldwide service providers. They expect this release, and future versions of the eTOM to encourage contribution and participation in eTOM development by more service providers.

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 as a Public Evaluation Version.

The purpose of a Public Evaluation Version is to encourage input based on experiences of the industry generally, as they review and/or use the document. Following the Public Evaluation Period, documents that are seen to deliver value, especially based on implementation experience, are candidates for formal approval by the TM Forum. For this document, comments will be used to further direct work on the e-TOM with the objective of increasing the robustness and general applicability of in 2002.

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. In many ways, ebusiness is still in its infancy. There are advances and setbacks, and changes continue to be expected as ebusiness becomes more mature.

Individuals or companies who are not members of the TM Forum are 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 May 31, 2002. At that time one or more updates adding to the eTOM will be available.

How to obtain a copy

An electronic copy of the eTOM Business Process Framework Evaluation Version 2.5 can be downloaded at the TM Forum Web Site (<http://www.tmforum.org>). If anyone would like a paper version of this document, please order via the TM Forum Web Site or contact the TM Forum office, +1 973 425-1900.

How to comment on the document

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Be specific. Consider that you might be on a team trying to produce a single text through the process of evaluating numerous comments. 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 Supersedes Service Management Business Process Model
TOM	4/99	Update to Public Evaluation Version for member

Version	Date	Purpose
Evaluation Version 1.1		comments and work done to validate all input/output diagrams. Supercedes TOM 1.0
TOM Evaluation Version 2.0	11/99	Update for Member Only Release and Member 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 Approved Version 2.1	3/00	Approved by Members Some editing updates Some updates and corrections on spiders Change from Evaluation Version to Approved Supercedes Evaluation Version 2.0
TOM Approved Version 2.2	7/00	Planned for updates and corrections to TOM
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

Summary of Changes in this Version

This version of the eTOM Business Process Framework includes some re-ordering of chapters from Release 2.0, to improve readability, and corrects some minor errors,. It significantly advances version 1.0 of the document to:

- Further develop eTOM as a total enterprise business process framework.
- Track the convergence of communications and information services technologies and services.
- Analyze the process and organizational division between Operations and Strategy, Infrastructure and Product management
- Accommodate a real-world need for Operations Support & Readiness alongside customer operations.
- Reflect ebusiness integration across the enterprise, and reflect the need for enterprise-wide management to support the business
- Continue to apply accepted process decomposition and flow methodology to the processes associated with the TOM.

The eTOM changes and additions are detailed in the document itself. The concepts underlying the TOM are used as a base. The eTOM builds on the strengths of the TOM.

Expectations for Future Additions

The eTOM Business Process Framework (eTOM) is a living document and there are high member expectations for continued development of it. eTOM will be updated and released with further detail in 2002. The updates and additions to the eTOM will include:

- Expected, significant input, comments and issues from TM Forum membership.
- Linkage to other process work being done in the industry.
- Linkage to the TM Forum NGOSS™ work, particularly the Business Application Contracts and Shared Data Model team.
- Input and process work through implementation experience of TM Forum teams, especially the Catalyst projects.
- Continued work to develop further the process decompositions
- 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

This eTOM Evaluation Version is being released in the TM Forum tradition of 'write a little, do a little and then write a little more.' Hopefully, it will be seen

that this version goes that “little more” step and shows a developing image of the complexity of the service provider business environment.

Document Template

Not applicable

Use of Fonts

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 eTOM originally used the Telecom Operations Map Version 2.1 as its base. The following Reference List provides information on this document and other documents and books that have contributed to the development of the TeleManagement Forum eTOM Business Process Framework.

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Preface

Relationship to Standardization Activities

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.

The TM Forum Approach: NGOSS™

TM Forum uses a business and customer services driven approach to achieving end-to-end automation using integrated Commercial Off-the-shelf (COTS) software. It enables product availability, along with development specifications needed to produce management systems that can work together to produce the operational results needed by service providers and network operators. TM Forum makes use of international and regional standards when available, and provides input to standards bodies whenever new technical work is done.

The TM Forum focus is on providing pragmatic solutions to business problems and is based on the business layering principles articulated in the ITU-T layered TMN model

The TM Forum approaches process automation from both a business context and a systems context in its technical programs, particularly within the NGOSS™ program. The key goals of NGOSS™ is to make Moore's Law a reality for Operations Business Systems Software, i.e., halve the time to market and double the functional richness. The eTOM is a key element of the Business Framework Services of the NGOSS™ program.

Through the work in NGOSS™ business frameworks area, members define the new business processes and requirement models and both technology neutral information models, as well as technology specific information models. In addition, the business models enable the development of business aware contract interface specifications and business aware elements of the Shared Data Model. The projects that develop the business frameworks work can be both modeling (requirement and information

modeling focused) projects, contract interface and shared data model (system to system focus) projects and catalyst (implementation focused) projects.

The systems frameworks work is also done under the umbrella of TM Forum's drive to create a New Generation of Operations Systems and Software (NGOSS™) that more truly delivers Plug and Play environments. NGOSS™ is driven by the business frameworks work and requirements for systems infrastructure. From a systems infrastructure perspective, it includes the business case for NGOSS™, the detailed requirements for NGOSS™, the development of the application contract framework and the infrastructure into which applications can plug and unplug. The NGOSS™ infrastructure is being developed as a technology neutral architecture with associated technology specific architectures and technology selections.

NGOSS™ work and frameworks drive TM Forum projects, e.g., projects that develop contract specifications and catalyst (implementation focused) projects. The most valuable TM Forum projects are those projects that combine solid modeling and specification work, use of common objects and both a business and systems context or frameworks in a catalyst implementation.

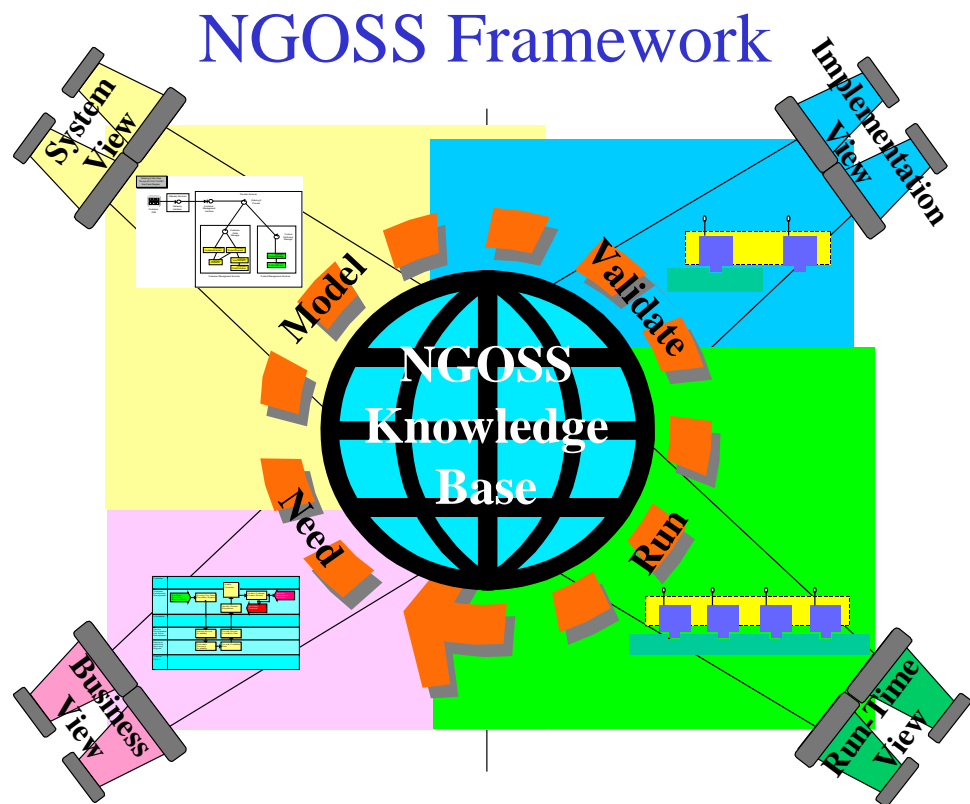


Figure P. 1: TM Forum NGOSS™ Framework

Figure P.1 is included for reference only. The NGOSS framework and methodology are described elsewhere (see reference 8: NGOSS: Development and Integration Methodology, TMF, TR 127, Member Evaluation Version 0.4 July 2001). It shows the overall NGOSS Framework, which aims to co-ordinate the elements involved in developing and delivering OSS solutions in an integrated structure.

The Business View, which eTOM represents, provides the driver for a development that works “around the wheel” in a clockwise direction. Other views, relevant to other interests in the development process are also shown. The business needs are translated into system requirements and implementation, with eventually an operational solution built to solve the business problem. Importantly, this figure shows the loop closed with feedback from these real-world solutions to inform and assist the formulation of the business needs. At the heart of this framework is the Knowledge Base, representing an overall repository for information, including that for the Business View. As the eTOM business model develops, its inclusion within this Knowledge Base allows it to be used as an interactive source for requirements, and means the decomposed processes and flows in the model can be linked directly to system and implementation components which satisfy the business process needs.

eTOM Business Process Framework

The eTOM Business Process Framework serves as the blueprint for process direction and the starting point for development and integration of Business and Operations Support Systems (BSS and OSS respectively) and, helps to drive TM Forum members work to develop NGOSS™ solutions. For service providers, it provides a neutral reference point as they consider internal process reengineering needs, partnerships, alliances, and general working agreements with other providers. For suppliers, the eTOM Framework outlines potential boundaries of software components, and the required functions, inputs, and outputs that must be supported by products. This document consists of:

- A description of the role of the eTOM Business Process Framework
- The ebusiness context of service providers and the more complex Business Relationship Context Model required
- A high-level business process framework and explanation Service Provider enterprise processes and sub-processes that are top down, customer-centric, and end-to-end focused.
 - With this evolution from TOM, the eTOM Business Process Framework now is a total enterprise framework for Service Providers
- Process Decompositions of 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
- Selected process flows and descriptions of the decomposed processes that include the process purpose or description, business rules, high level information and more. For the remainder of 2001 and 2002, more decompositions and flows will be developed with the objective for eTOM to develop all critical process decompositions and process flows in 2002.
- How the process framework can be put to use.
- Several Annexes and Appendices, including terminology and glossary, and related guidelines and standards.

The basic operations framework continues to be stable even as the Information and Communications Services industry continues to change, largely because, like the 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
- Will be widely used—eTOM is already in use in draft form

The eTOM significantly augments the TOM, the 'de facto' standard for Service Provider operations processes for the industry. It is expected that the eTOM will 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 TOM to eTOM Chapter Comparison (Appendix 3). This lists the chapter name changes, additions and deletions from TOM to eTOM with a brief note on why the change was made.

Chapter 1- eTOM Business Process Framework Introduction

As part of the introduction to the eTOM Business Process Framework, this section first addresses the purpose of the Business Process Framework, including objectives. These overarching objectives initially developed for the Telecom Operations Map (TOM) are equally applicable to the eTOM. The reasons for creating the eTOM Business Process Framework and its specific objectives are then addressed. This chapter also includes a brief review of how to use the eTOM Business Process Framework and its intended audience. For those unfamiliar with the TOM, some background on the TOM is also provided.

TM Forum uses the eTOM acronym for this business process framework name to represent many ideas in relation to the Business Process Framework:

- Enterprise processes
- eBusiness enabled
- Enhanced
- Expanded
- Everything, Everywhere, Everytime
- Etc.

For a quick answer of why eTOM, the eTOM Business Process Framework is the ebusiness, enhanced TOM that addresses the total Service Provider enterprise.

Purpose of the Business Process Framework

Service providers continue to 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. Service providers are faced with ever-increasing competition, a market experiencing dramatic change at an unprecedented rate, as well as an industry experiencing significant shakeup. Some are struggling with high growth from a start-up phase, others are struggling with the commoditization of key cash-cow services and, yet others are struggling to 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. For all service providers, the drive to introduce both new value-added services and dramatic improvements in customer support is intense. There is 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 information and communications services business and operations processes. The TOM and, now the eTOM Business Process Framework, is the business framework for accomplishing this mission.

The purpose of the eTOM is to continue to set a vision for the industry for competing 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 and 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 the progress made in establishing:

- An 'industry owned' common business process framework.
- Common definitions to describe processes of a service provider.
- Agreement on the basic information required to perform each process, sub-process and process activity, i.e., sufficient high level information to serve as the starting point for business requirements and information model development, and the satisfaction of those requirements through industry agreement in business aware contracts, 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 the processes and their 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. The eTOM focus is on the processes that are specific to information and communications services and technologies management. However, the model is also proving suitable to other types of business.

Service providers need this common framework of processes to enable doing 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.

The eTOM is not just an ecommerce or ebusiness process framework. The eTOM Business Process Framework 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 A 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, continuing with the eTOM, enables:

- Focused work to be carried out in TM Forum teams to define detailed business requirements, information agreements, business aware contracts and shared data model specifications (exchanges between applications or systems) and to review those 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?

The eTOM is a business process model or framework that provides the enterprise processes required for a service provider. 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.

At this time, the eTOM is a work in progress. eTOM Release 1.0 was issued to provide members with a view of the direction the eTOM was headed, in the TM Forum tradition of 'write a little, do a little,'. eTOM Release 2.0, and now Release 2.5, reflects the input received from members and others on this first release. The key objective for eTOM Release 2.0 was to stabilize the process framework from the highest conceptual level to the first working level. eTOM Release 2.0 stabilized the process definitions and hierarchy from the highest conceptual view of eTOM through successive levels of decomposition (referred to as Level 0, 1 and 2 in the process framework diagrams and model shown later). eTOM Release 2.5 has made some cosmetic changes to the document, to improve readability, but does not disturb these process definitions.

For two key reasons the eTOM is not complete. The initial eTOM outputs need feedback from a test case that uses the eTOM work as a linkage to the NGOSS™ business application contracts, shared data model and systems framework initiatives. The second reason is that developing 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.

The eTOM is based on the Telecom Operations Map (TOM). Background on the TOM and the strengths of the TOM that are carried forward in the eTOM are discussed later in this chapter for those who want more detail. The eTOM broadens the TOM to a total enterprise framework and addresses ebusiness impacts. Although the eTOM is more complex than the TOM, in some ways the eTOM is more straightforward than the TOM in that it closes gaps that the current TOM has in enterprise management (corporate-type) processes, marketing processes, customer retention processes, supplier and partner management processes, etc. With the need to integrate ebusiness opportunities and requirements and application of the Internet throughout the business, a focus purely on operations management is now too limiting and a recipe for failure.

Based on the large number of reviews to date, service providers, including system integrators, ASPs and vendors indicate they will work with the eTOM even before it is approved, since it better represents their real world. 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. For the first time in the history of TM Forum process work, service providers are contributing their process models because they recognize the need to have a broader industry framework that doesn't just address operations and doesn't just address traditional business processes. As mentioned, many service providers have adopted the TOM as their core process framework or the standard to which they assure consistency. However, most of them indicate that they have to add to the TOM to

reflect ebusiness integration and a full enterprise framework. They welcome this upgrade to TOM.

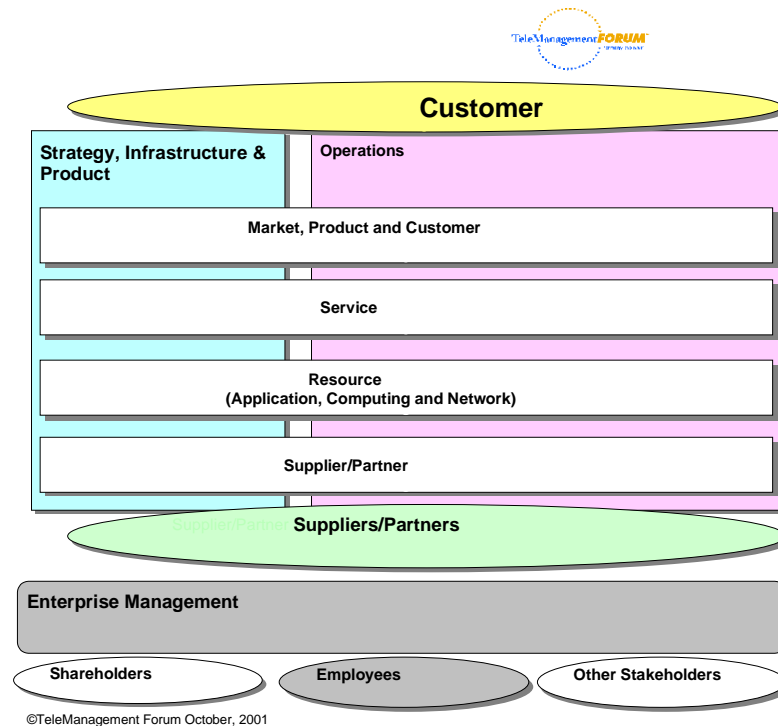


Figure 1.1: eTOM Business Process Framework—Level 0 Processes

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 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 shows the internal and external entities that interact with the enterprise.

Figure 1.2 shows the Level 0 view of Level 1 processes in the eTOM Framework. This view is considered the CEO level view of the enterprise process framework. Unlike the TOM, the next level of processes is not shown in this diagram but is shown in a subsequent diagram, due to the expansion of the eTOM to a total enterprise framework. The Level 1 View of Level 2 processes is important because it is the level at which people tend to work. This detail is discussed in later chapters.

Figure 1.2 shows seven vertical process groupings. These are the end-to-end processes that are required to support customers and manage the business. The focal point of the TOM and the eTOM are on the core customer operations processes of Fulfillment, Assurance and Billing. Operations Support & Readiness is now differentiated due to the processes within this vertical being critical to enabling on line and immediate support of customers. Strategy & Commit, as well as the two Lifecycle Management Processes are also now differentiated because they do not directly support the customer, are different than Operations processes and work on different business time cycles.

The horizontal process groupings in Figure 1.2 again distinguish between 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.

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 all organizations are 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 processes.
- Recognizes three enterprise process groupings that are distinctly different than functional operations and customer operations processes by identifying the SIP processes, i.e., Strategy, 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 Sales processes better and to integrate marketing fulfillment within Customer Relationship Management. 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 changing the Network and Systems Management functional process to Resource Management & Operations. It also moves the management of IT into this functional layer as opposed to having an outboard process grouping.

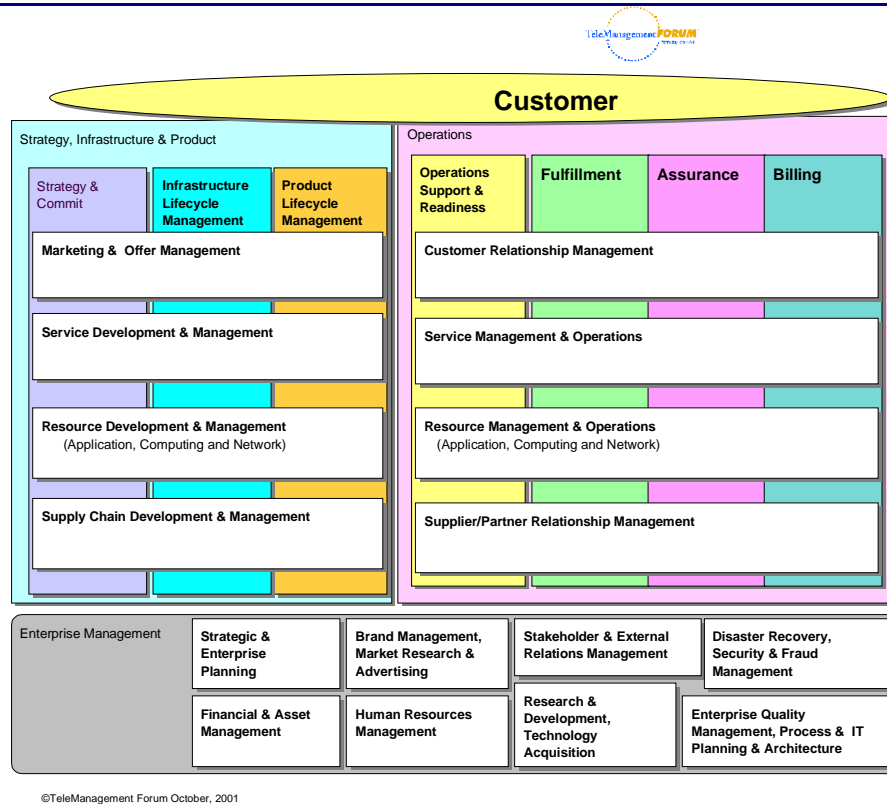


Figure 1.2: eTOM Business Process Framework—Level 1 Processes

TOM Background

The Service Management Business Process Model, subsequently the Telecom Operations Map, was developed to drive a consensus around the processes, inputs, outputs and activities required for service provider operations management. Its focus and scope were operations and operations management. It serves the telecommunications industry well, including more recently the Mobile and Information Services segments. It supports understanding service provider processes and driving solutions to service provider problems in business and operations systems and software. The TOM continues to be the core of the eTOM Business Process Framework as it evolves to deal with current issues, needs and trends, such as ebusiness integration.

At present, TOM 2.1 is the TM Forum member approved business process framework or model. It is widely accepted and recognized by service providers around the world as their operations business process framework, and many vendors use the TOM as the basis for product development and sales.. It will continue to be valid until members approve the eTOM. The augmentation of TOM is being called the eTOM for two basic reasons. First, members have long thought the TOM needed to expand to a total enterprise business process framework. Second, taking advantage of ebusiness and Internet opportunities is critical to success in today's environment. The TOM does not sufficiently address ebusiness impacts on the business environment and business drivers, the need for ebusiness integrated processes, nor the increased complexity of service provider business relationships. As importantly, the TOM did not use accepted

process modeling methodologies that begin to provide the linkage necessary for the NGOSS™ systems work. NGOSS™ programs drive to a common systems infrastructure framework, in which 'well behaved' components truly can plug and play. At the core of success in ebusiness is a flexible application infrastructure. Therefore, eTOM linkage to the systems context work of the TM Forum is critical.

The Telecom Operations Map high-level diagram from TOM 2.1 is shown in Figure 1.3.

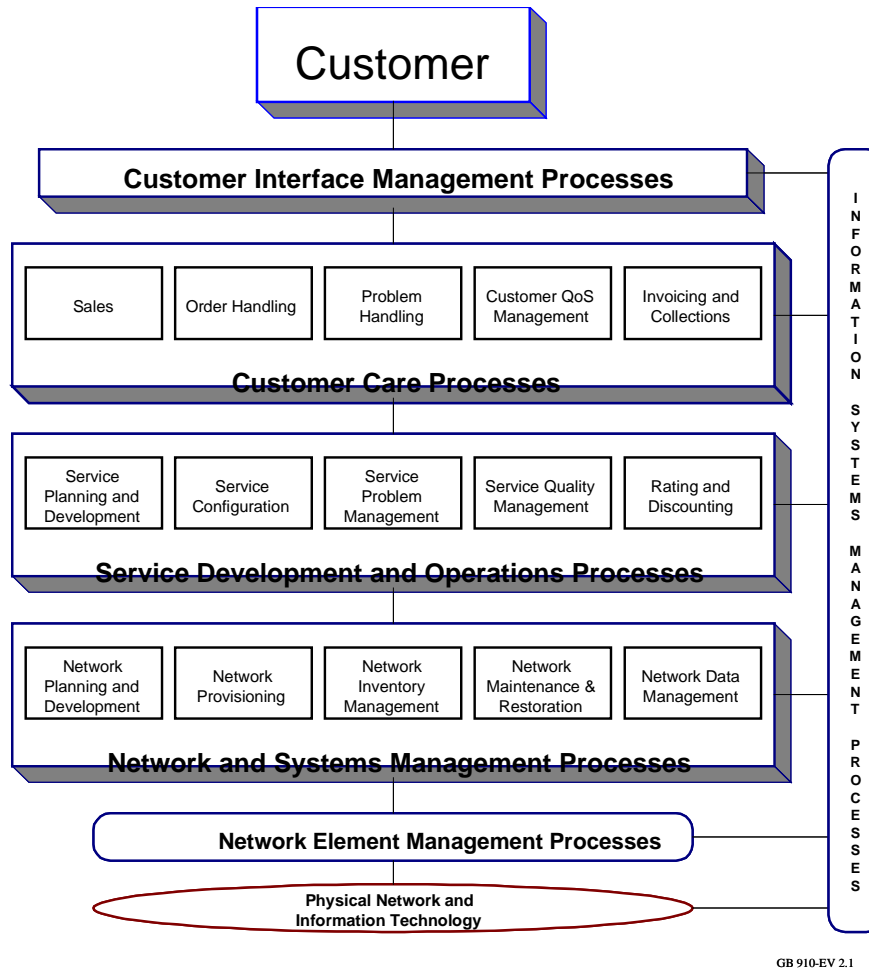


Figure 1.3: Telecom Operations Map, Business Process Model

Maintaining the Strengths of the TOM in eTOM

The TOM is the 'de facto' industry standard for service provider operations management due to the following strengths:

- Focus on business processes
- Customer Driven approach
- Top Down orientation
- Straightforward and common sense descriptions and approach

- Intuitive appeal; service providers immediately understand it as the way operations work or should work
- Operations Management focus at a time when operations management seemed forgotten
- Wide use among service providers, vendors and the media
- Flexible enough to support most SP process models

These strengths have propelled the TOM into being the driving framework for operations systems and software solutions for service providers.

The eTOM will not diminish these strengths. It will continue as a business process framework with even more process emphasis and discipline. In an ebusiness environment, the linkage among entities is first and foremost through processes. The eTOM will strengthen the customer driven approach, since today's and tomorrow's world puts the customer in control. eBusiness has shifted markets from a supply orientation to a demand orientation or push versus pull. The top down orientation will of course be retained in the eTOM not only because it is a core concept of the TOM, but also because it is sound business process modeling.

The draft framework of the eTOM is already being received as intuitive to the broad range of people that have reviewed it. Significant effort has been made to keep the eTOM simple and straightforward. However, it is a broader framework and more complex than the current TOM, so it cannot be as straightforward as the TOM.

Why Change to eTOM?

Standing still is a way to be sure of not continuing to provide leadership in business process modeling and management and, therefore not providing value to the industry. It is also a recipe for disaster in an ebusiness environment for any enterprise. Although the TOM has been extremely successful, it is necessary to evolve this to accommodate and anticipate industry changes, and the needs of organizations participating on this work. Alongside this, to feed the systems context work of the NGOSS™ initiatives, it is critical that the TOM evolves to a framework that integrates ebusiness and Internet opportunities. The business world is changing radically. We will be hard pressed to recognize the changes visible five years from now

Other objectives for the eTOM, not mentioned in any of the above, that will be accomplished in subsequent releases are:

- Create a library of process flow examples
- Encourage and enable process contributions to the eTOM
- Align process inputs, activities and outputs

eTOM is More Than One Document

eTOM Release 1.0 was issued as one big document that included all the process decompositions, descriptions and process flows developed at that point in time. It was issued as one large document to set the baseline from which to move forward. eTOM Release 1.0 was too 'big'. As a result, 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 the core document that explains the overall framework approach and all its elements, but only provides brief process descriptions for the eTOM highest conceptual view, Level 0, Level 1, Level 2 and selected Level 3 processes.
- The eTOM Executive Summary, intended for release in the near future, is a significantly briefer document that provides an overall view of the eTOM business process framework and highlights key concepts.
- Two appendices shown as part of the eTOM Release 1.0 document are now be separate documents, intended for release in the near future i.e.,
 - eTOM Related Standards and Guidelines
 - eTOM Business Process Modeling
- The eTOM Business Process Framework Model, intended for release before end- 2001, 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:
 - CASEwise Corporate Modeler
 - HTML
 - MS Word

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 processes 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.

The eTOM is expected to be the starting point of detailed work 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. It is a snapshot of industry views expected to continue to evolve based on changes in the industry. It is not intended to be too detailed, more a directional statement for the industry.

One of the strengths of the eTOM is that it can be adopted at a high level, at lower levels or even modularly 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.

Intended Audience

The Telecom Operations Map, and now the eTOM, aims at a wide audience of professionals in the Information and Communications Services Industry. For experienced Telecommunications professionals, the TOM and the eTOM prove to be intuitive; a strong, common framework of service provider enterprise processes. Through TM Forum Catalyst projects and other work, it has been verified that the TOM framework has strong application for IP Services and Mobile/Wireless Services. This applicability will only be enhanced by the eTOM.

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 business process re-engineering, operations, procurement and other staffs 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 processes defined in the eTOM are used by all providers. As mentioned earlier, the framework is flexible, so that the processes the specific service providers require can be selected on a modular basis and at the appropriate level of detail for their needs.

Chapter 2 – eTOM Concepts and Terminology

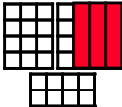
eTOM Concepts

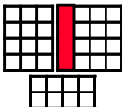
So that the eTOM Business Process Framework can be understood and used effectively, it is essential to review the key concepts that were the basis for creating eTOM. These concepts were used to make eTOM highly effective for the integration of ebusiness process design and assessment with traditional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

These concepts make use of terminology and ideas explained in more detail elsewhere in the document; for example, references to “levels” of decomposition, as introduced in the previous chapter and developed more fully in the next. Readers may wish to gain an initial view of these concepts, to provide context before reading later parts of the document, and then return to this chapter when more familiar with the application of the concepts as described later.

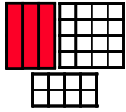
To assist the reader in locating the process area concerned within eTOM, a graphical icon of eTOM is provided alongside text to draw attention to the relevant eTOM area. This is highlighted in red to indicate the focus of the following text or discussion.

Business Concepts

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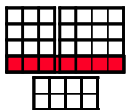
1. **eTOM focus is on the customer and the processes that directly support the customer.** In the Level 0 View of the eTOM Business Process Framework, the three vertical end-to-end process groupings of Fulfillment, Assurance and Billing are depicted. These processes are also referred to as Customer Operations processes or customer priority processes. These processes directly interface and support the customer and are the priority focus of the enterprise.
- 

2. **eTOM has an Operations Support & Readiness 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. Operations Support & Readiness processes prepare information, products, services and resources, as well as suppliers and partners to deliver and support individual customer service instances.

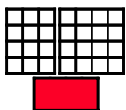


3. **Processes which are essential to drive and support the Customer Operations and Operations Support & Readiness groupings are referred to as Strategic, Infrastructure and Product (SIP). This grouping consists of three Level 1 process groupings, i.e., Strategy & Commit; Infrastructure Lifecycle Management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

- Each of these process groupings do not focus on direct interface with the customer.
- Each of these process groupings address business functions 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.

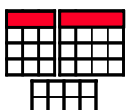


4. **eTOM focuses on ebusiness opportunities and therefore, integrates the processes occurring within the Enterprise with those of partners and suppliers.** The eTOM Framework supports both traditional business processes and those that are ebusiness enabled. eBusiness requires a heightened focus on Supply 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.

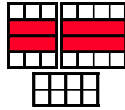


5. **The eTOM Business Process Framework includes an Enterprise Management process grouping so that all Service Provider processes are included.** Service Providers consistently employ enterprise or corporate level processes to manage and support their businesses. However, these processes are not the focus of the eTOM Framework, since most of the processes are common across industries. The eTOM Framework will not initially, and may never, address these processes in detail except for Disaster Recovery, Security and Fraud Management. 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

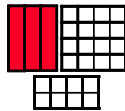


6. The eTOM Framework uses both the terms product and service and these terms focus on specific parts of the eTOM framework. The **Product view** focuses on what the Service Provider offers to its Customers. The processes to determine

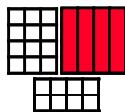


the Customer's needs and to match these to the offerings from the Service Provider are placed in the Market, Product and Customer grouping. The **Service view** focuses on the items and the details necessary to support and deliver a Product to the Customer. The processes to determine these details and to enable these items are placed in the Service and the Resource groupings. For a full definition of "Product" and "Service" as they are used in eTOM, see the Terminology and Glossary Annex.

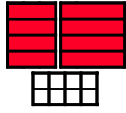
7. **The eTOM Business Process Framework is organized with both vertical and horizontal process groupings.** Below the very conceptual level, there are seven End-to-End Vertical processes that deliver for the enterprise. At Level 1 of the Framework, there are sixteen Functional horizontal process groupings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



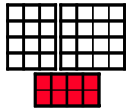
- Strategy & Commit
- Infrastructure Lifecycle Management
- Product Lifecycle Management



- Operations Support & Readiness
- Fulfillment
- Assurance
- Billing

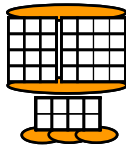


- The Level 1 Horizontal Functional Process groupings are:
- Marketing & Offer Management
- Customer Relationship Management
- Service Development & Management
- Service Management & Operations
- Resource Development & Management
- Resource Management & Operations
- Supply Chain Development & Management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



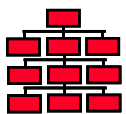
- Strategic & Enterprise Planning
- Financial & Asset Management
- Brand Management, Marketing Research & Advertising
- Stakeholder & External Relations Management
- Enterprise Quality Management, Process & IT Planning & Architecture
- Human Resources Management
- Research & Development, Technology Acquisition
- 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. The eTOM Framework is structured in hierarchical decomposition of all Processes in the Enterprise. For all processes the eTOM generally decomposes the processes into four levels below the very high conceptual view of the Framework.

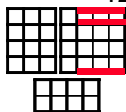


This allows the Framework to be adopted at varying levels by Service Providers and Suppliers.

10. The Processes in the eTOM Framework include every Process used by the Enterprise. All business process areas of the enterprise must be able to unambiguously identify where their key processes would be mapped. This is essential to having the Framework accepted by all units in the Enterprise.

11. The eTOM Framework clearly defines each Process. This modularized approach allows 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.

12. Processes can be included in more than one Vertical End-to-End Process Grouping, where it is necessary to deliver consistency across several Vertical End-to-End Processes. Processes that appear in more than one vertical, end-to-end process grouping may provide the same functionality in both 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 has a consistent look and feel.

13. **The eTOM Processes 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.

Process Flow Concepts

14. **All processes are decomposed on a functional basis to the process flow thread level.** Usually this occurs at Level 4, However in some cases, where the process is complex or has many disparate processes associated with the grouping, there may be more levels prior to reaching process flows. This approach allows recognition within the eTOM Framework of the different types of functional processes, e.g., customer, product, service, and resource.
15. **Each Service Provider will choose to implement their process flows differently; according to their business vision and mission, their target markets and strategies, etc.** The eTOM Framework has been designed to support vertical end-to-end processes that represent major areas of business activity – even though no flow is implied in the hierarchical framework.. These will serve as examples of process implementation based on the eTOM Framework.
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.

Terminology

This eTOM document provides the definition of 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.

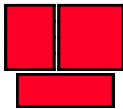
For the eTOM documentation to be understood and used effectively, it is essential that terminology and acronyms be interpreted using the meanings stated, rather than loose common or specific usage meanings.

Please review the Terminology and Glossary Annex briefly before reading this document in detail.

Chapter 3 - eTOM Business Process Framework

eTOM: The Enterprise Framework

The eTOM Business Process Framework positions the SP's enterprise within its overall business context: i.e. the business interactions and relationships which allow the SP to carry on its business with other organizations. Moreover, this work addresses the aspects of that business which are required for an eBusiness and eCommerce world. Later in this document, Chapter 5 addresses the implications of the eBusiness SP Enterprise, while Chapter 6 sets out the eTOM Business Relationship Context Model which links the SP's business with that of other organizations.



The eTOM Business Process 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 3.1.

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

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

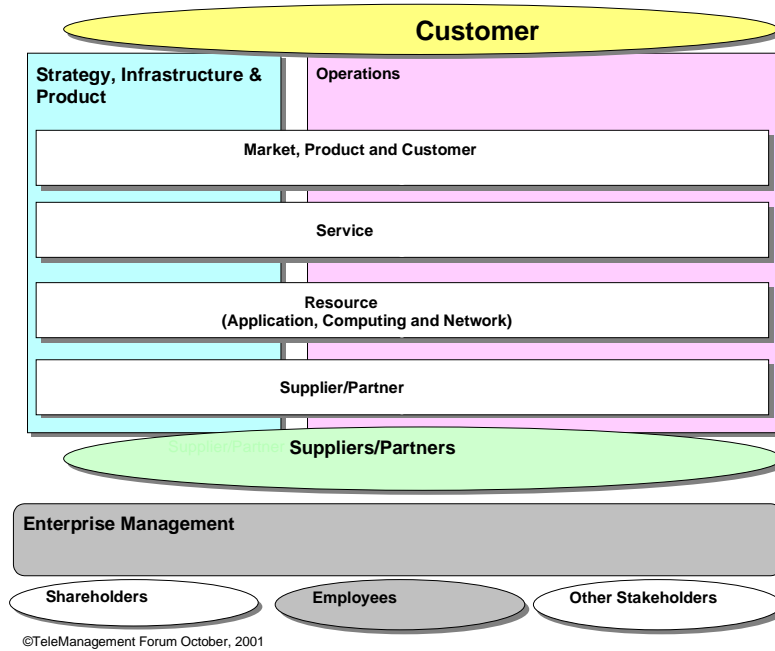
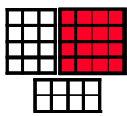


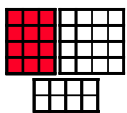
Figure 3.1: eTOM Business Process Framework Conceptual Structure

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 layers across the two upper process areas. In addition, Figure 5.1 shows the internal and external entities that interact with the enterprise.

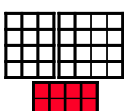
To understand the eTOM Business Process Framework, each process area is analyzed and decomposed into further groupings and processes. For each level of analysis or decomposition, the process area, grouping or process itself is presented with a brief, summary-level description. At this highest level,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



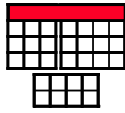
The **Strategy, Infrastructure & Product** Process Area includes processes that develop strategy, commit to the firm, build infrastructure, develop and manage products, and that develop and manage the Supply Chain. In the eTOM, infrastructure refers to more than just the IT and resource infrastructure 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.



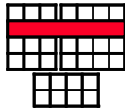
The **Enterprise Management** Process Area includes basic business processes required to run any business. These processes focus on Enterprise Level processes, goals and objectives. These processes have interfaces with almost every other

process in the enterprise, whether operational, product or infrastructure processes. These are sometimes considered corporate functions and/or processes, e.g., Financial Management, Human Resources Management processes, etc.

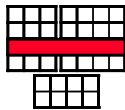
The conceptual view of the eTOM Business Process Framework addresses both the major process areas as above and, just as importantly, the supporting functional process areas, depicted as horizontal layers. The functional areas reflect the major expertise and focus required to pursue the business. The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



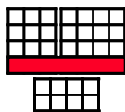
- The **Market, Product and Customer** processes include those dealing with sales and channel management, marketing management, and product and offer management, as well as Customer Relationship Management and ordering, problem handling, SLA Management and billing.



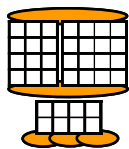
- The **Service** processes include those dealing with service development and configuration, service problem management and quality analysis, and rating.



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



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



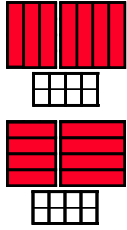
Additionally, in the diagram, the major entities with which the enterprise interacts are shown. These are the customers, the suppliers and partners, as well as employees, shareholders and other stakeholders.

- **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 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 groupings, which provide a first level of detail at which the entire enterprise can be viewed. These processes are considered the CEO level view, in that the performance of these processes determines the success of the enterprise.

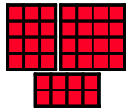
The eTOM Business Process Framework is defined as generically as possible, so that it is independent of organization, technology and service. Like TOM, the eTOM is basically intuitive, business driven and customer focused. To reflect the way businesses look at their processes, the eTOM supports two different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



- *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
- *horizontal* process groupings, which represent a view of functionally-related processes within the business, such as those involved in managing the supply chain.

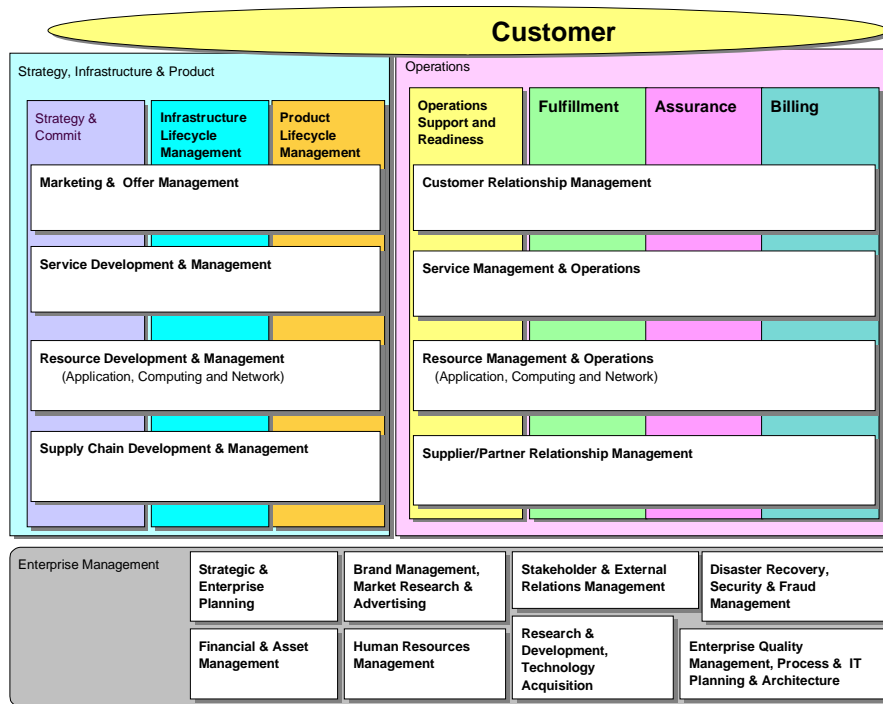
The Operations process area and the Strategy, Infrastructure & Product process area, include this two-dimensional structure.

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 3.2. As process decomposition proceeds, each level is decomposed into a set of constituent processes 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 3.2.

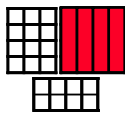


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Figure 3.2: eTOM Level 0 View of Level 1 Process Groupings

eTOM Operations Processes

“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 3.3). The “FAB” processes are sometimes referred to as Customer Operations processes.

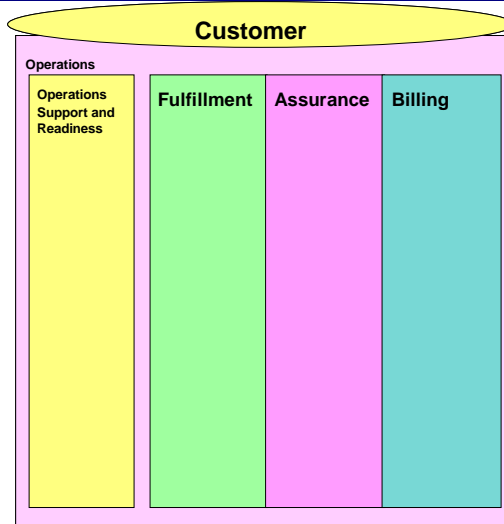
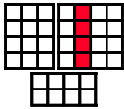
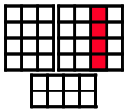


Figure 3.3: eTOM OPS Vertical Process Groupings

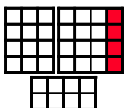
The TOM was focused only on the direct customer processes represented by FAB. However, FAB processes were not on the TOM framework map, they were rather an overlay. In an ebusiness world, the focus of the enterprise must be enabling and supporting these processes as the highest priority. Therefore, in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



Fulfillment: this process 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.



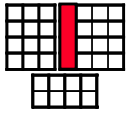
Assurance: this process is responsible for the execution of proactive and reactive maintenance activities to ensure that services provided to customers are continuously available and to SLA or QoS performance levels. It performs continuous resource status and performance monitoring to proactively detect 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 troubles reports from customers, informs the customers of the trouble status, and ensures restoration and repair, as well as a delighted customer.



Billing: this process 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 also supports prepayment for services.

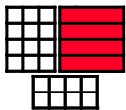
For a high-level view of the Fulfillment, Assurance & Billing process decompositions, please see Chapter 7, End-to-End Process Flow Concepts.

In addition to these FAB process groupings, the OPS process area of the eTOM Framework contains a fourth vertical process grouping: Operations Support & Readiness (see Figure 5.3).



Operations Support & Readiness: this process 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 organizations 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 tasks. Not all organizations 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 organizations. 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 3.4).

As the eTOM Business Process Framework is built as an evolution of the TOM Process Framework and because it is still a relevant layering approach, the ITU-T TMN layers continue to be loosely utilized to organize the functional process groupings (see reference 3 for further information on ITU-T TMN)

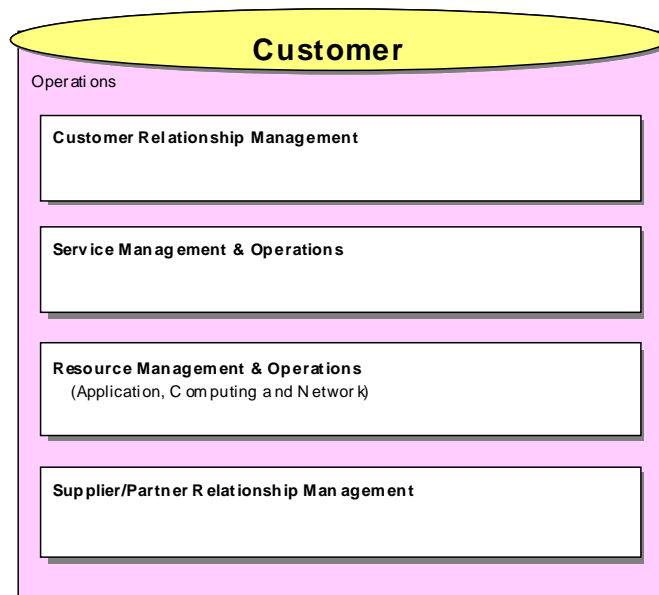
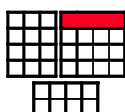


Figure 3.4: eTOM OPS Functional Process Groupings



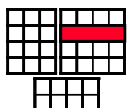
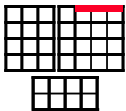
Customer Relationship Management (CRM): this process grouping considers the fundamental knowledge of customers needs and includes all functionalities necessary for the acquisition, enhancement and retention of a relationship with a customer. It is about customer service and support, whether storefront, 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 organizations 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 by staff 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.

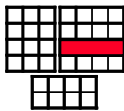


Service Management & Operations (SM&O): this process grouping focuses on the knowledge of services (Access, Connectivity, Content, etc.) and includes all functionalities necessary for the management and operations of communications and information services required by or proposed to customers. The focus 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 the business management layer function of product management (the profit and loss accountability) 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.

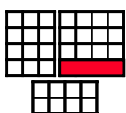


Resource Management & Operations (RM&O): this process grouping maintains knowledge of resources (application, computing and network infrastructures) and is responsible for managing all these resources.(e.g. networks, IT systems, servers, routers, etc.) utilized to deliver and support services required 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 job of these processes is to ensure that infrastructure runs smoothly, is accessible to services and staff, is maintained and is responsive to the needs, whether directly or indirectly, of services, customers and staff. 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

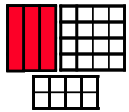
of Supplier/Partner Relationship Management processes in eTOM is one of the key ways that eTOM differentiates itself from the vertically integrated enterprise framework that was in the TOM. The existence of S/PRM processes enables the direct interface with the appropriate lifecycle, end-to-end customer 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.

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 Processes, together with the two Lifecycle Management Process Groupings, are shown as three vertical end-to-end process groupings (see Figure 5.5). 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.

In the SIP process area of the eTOM Framework, there are three SIP vertical process groupings (see Figure 3.5).

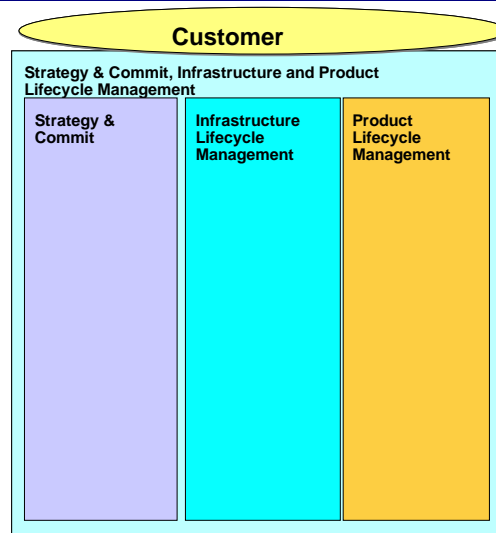
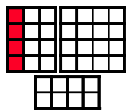
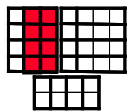


Figure 3.5: eTOM SIP Vertical Process Groupings



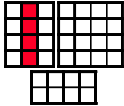
Strategy & Commit: this process grouping is responsible for the generation of strategies in support of the Infrastructure and Product Lifecycle processes. It is also responsible for establishing business commitment within the enterprise to support these strategies. This embraces all levels of operation 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.



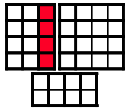
Lifecycle Management processes drive and enable core operations and customer processes to meet market demand and customer expectations. Performance of Lifecycle processes are viewed at the highest levels of the enterprise, due to their impact on customer retention and competitiveness. There are two end-to-end 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 understanding. 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., business processes not operations processes. Mixing these processes with the customer priority processes diminishes focus on the Lifecycle Management processes, enabling and supporting customer operations 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. Another key characteristic of the Lifecycle Management processes is that they interact with almost every other process of the enterprise. The Lifecycle Management processes also 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 ride 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.

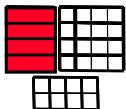


Infrastructure Lifecycle Management. this process grouping is responsible for the definition, planning and implementation of all necessary infrastructures (application, computing and network), as well as all other support infrastructures and business capabilities (operations centers, architectures, etc.). 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

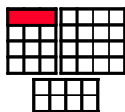


Corresponding to the Operations Functional Process Groupings (see above), there are four Functional Process Groupings in the Strategy Infrastructure & Product domain also (see Figure 5.6). These support the SIP processes described above and the management of operations to support marketing and offer, service, resource and supply chain interactions.

In the SIP process area of the eTOM Framework, there are four SIP functional process groupings that support the strategy & commit and lifecycle management processes discussed above (see Figure 3.6).

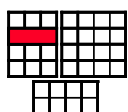


Figure 3.6: eTOM SIP Functional Process Groupings

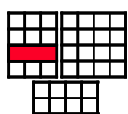


Marketing & Offer Management. this grouping focuses on the knowledge of running and developing the Core Business for an ICSP Enterprise. It includes functionalities necessary for defining strategies, developing new products, managing existing products and implementing marketing and offering strategies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

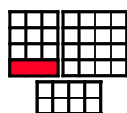
Marketing and offer management are well known business processes, especially in the more competitive ebusiness environment, where the rate of innovation and brand recognition determine success. Although most companies employ all these functions, depending upon the size of the company, they are combined 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.



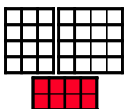
Resource Development & Management. this grouping focuses on planning, developing and delivering the resources needed to support services and products to the Operations domain. It includes functionalities necessary for defining the strategies for development of the network and other physical and non-physical 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 organization 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 involves the knowledge of Enterprise-level actions and needs, and encompasses all business management processes necessary to support the rest of the enterprise. These processes are necessary in any business because they are needed to run the business at the enterprise level, to direct the business, and are critical to support the direct and indirect Customer Processes. Enterprise Management processes include processes for financial management, legal management, regulatory management, etc. This area also sets corporate strategies and directions, and provides guidelines and targets for the rest of the business. These are sometimes considered as the “corporate” functions and/or processes. Enterprise Management also includes strategic planning for the enterprise as well as information systems strategy development and management. Enterprise Management processes in general do not have a customized aspect for information and communications service providers.

The Enterprise Management process groupings 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

Process Modeling Approach

A basic process modeling methodology was used to start the process modeling work of the 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 eventually be documented separately.

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 modeling also 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. For eTOM Release 1, process flow work has been drafted for Order Handling processes.

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 5.2). Each Level 1 process is decomposed into its Level 2 component processes. Decomposition is continued until the detail level of the process elements has reached the stage where it is appropriate to define a process flow.

Summary

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

It 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 TOM (the 'de facto' operations industry process model), but because its continuing development has extensive Service Provider involvement, including adoption by one or more Service Providers of the existing draft.

Chapter 4 – Level 2 Process Decompositions with Brief Descriptions

Overview

In the previous chapter, the overall eTOM Business Process Framework was described. In addition, brief descriptions of the Level 1 process groupings of the eTOM Business Process Framework were provided. This chapter provides the Level 2 processes of each of these high-level process groupings. Each horizontal and vertical process grouping is shown with its Level 2 processes. Brief process descriptions are provided for Level 2 processes in each of the major process areas: Operations; Strategy, Infrastructure & Product; and Enterprise Management. The descriptions are listed by the relevant functional (i.e. horizontal) process areas.

In the previous chapter, Figure 3.2 showed all the Level 1 processes within eTOM. To extend this diagram to show all the Level 2 processes within each Level 1 process grouping is possible, but is too graphically-complex a picture to be used directly in this document. In the following, each Level 1 process grouping is therefore shown in isolation, with its dependant Level 2 processes. It is to be understood that the aggregation of all these Level 2 processes, within the overall structure shown in Figure 3.2, represents the totality of the Level 2 processes within the eTOM.

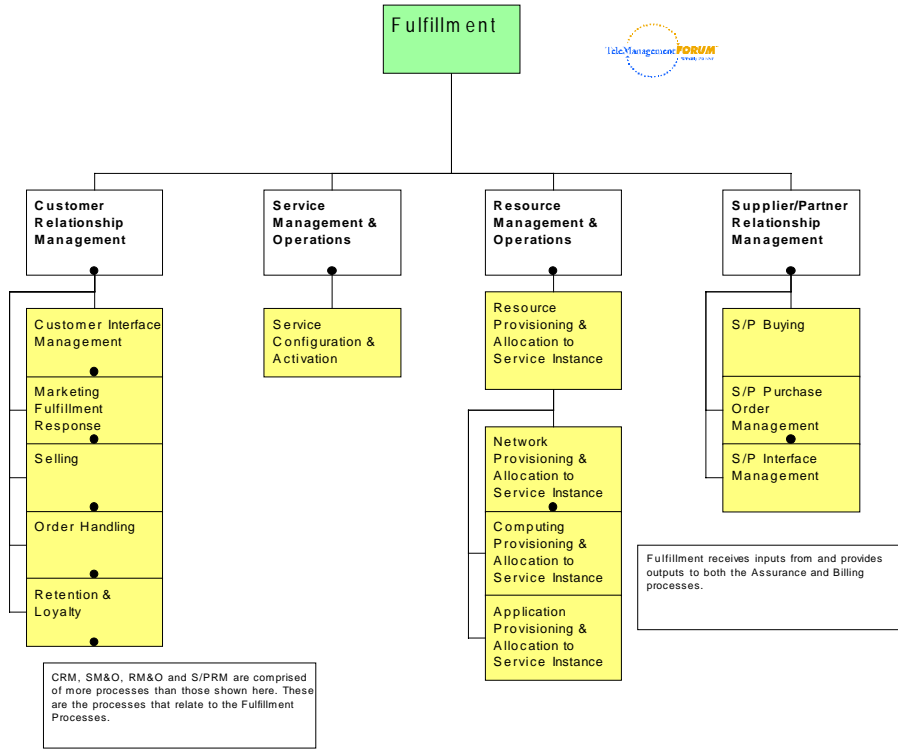
For completeness, the eTOM diagram with all Level 2 processes shown is included at the end of this Chapter, as Figure 4.32

Note that the process decomposition diagrams used in this Chapter can include black dots within some of the process boxes. These are not a graphical error, but are inserted automatically by the process modeling tool, to indicate that a further decomposition of that process has been made in the tool.

To aid understanding, each Level 2 and Level 3 process described in this chapter has an associated indication of its positioning within the particular vertical and horizontal Level 1 process with which it is associated. For example, CRM Operations Support & Process Management (shown under Customer Relationship Management Level 2 Process Descriptions, below) has the indication (CRM-OSR) to indicate it is within the horizontal Customer Relationship Management process, and the vertical Operations Support & Readiness process.

Operations Processes

Fulfillment (F) Processes



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Figure 4.1: Fulfillment Level 2 Processes

Assurance (A) Processes

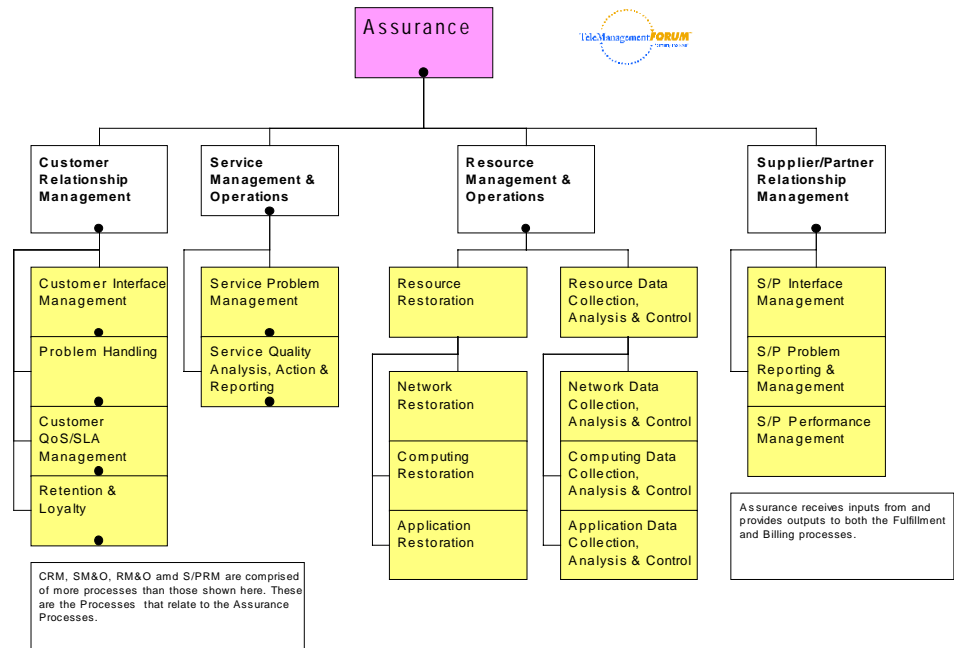
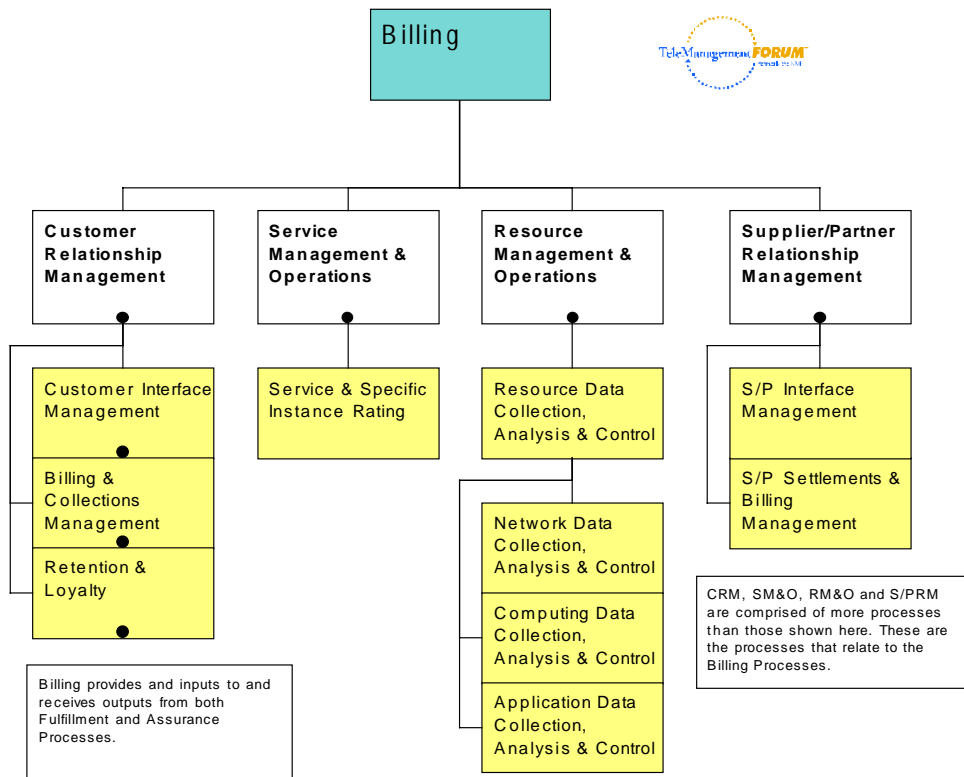


Figure 4.2: Assurance Level 2 Processes

Billing (B) Processes



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Figure 4.3: Billing Level 2 Processes

Operations Support & Readiness (OSR) Processes

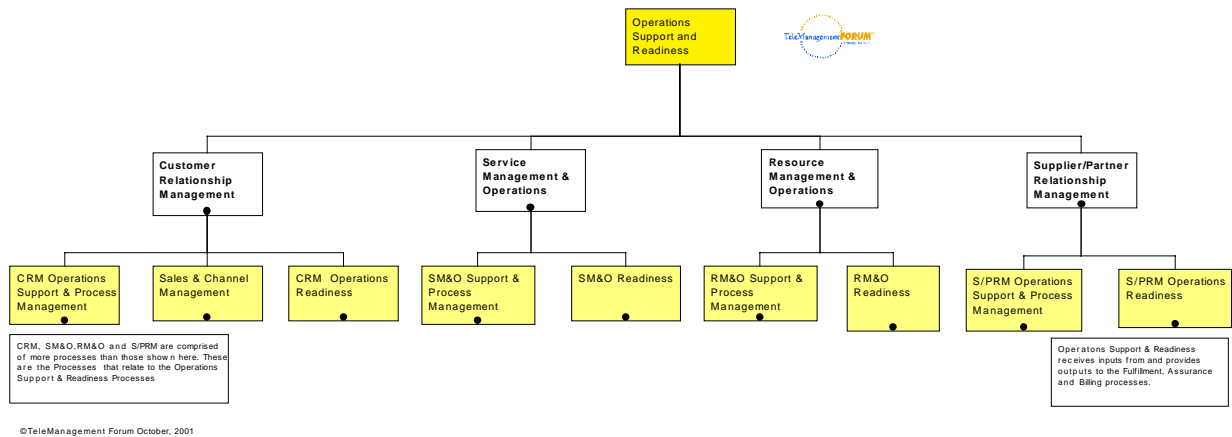


Figure 4.4: Operations Support & Readiness Level 2 Processes

Customer Relationship Management (CRM) Processes

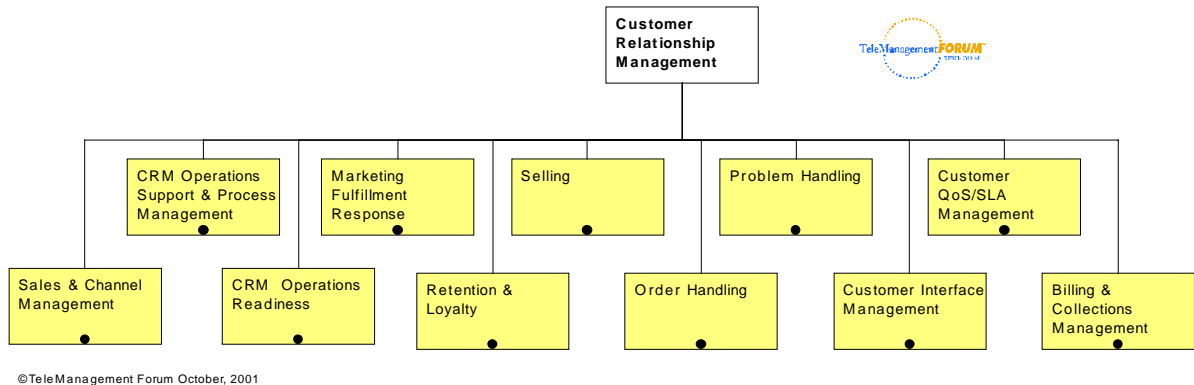
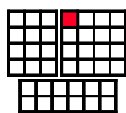


Figure 4.5: Customer Relationship Management Level 2 Processes

Customer Relationship Management Level 2 Process Descriptions

CRM Operations Support & Process Management (CRM – OSR)



CRM Operations Support & Process Management processes monitor and control the CRM processes, from a general, a cost, a Quality Performance and an Assurance point of view.

These processes also ensure the operability of the required IT and Communications Systems, and the Workplace facilities in support of CRM processes. They also include behavior that ensures that staff schedules are adapted to the day-by-day requirements of operations, as well as providing general support for the personnel.

These processes have been decomposed into Level 3 processes.

CRM Operations Readiness (CRM - OSR)

CRM Operations Readiness processes ensure that all CRM processes in FAB are able to respond to customer's requests without having to wait for resources or information. They ensure that application, computing and network resources are ready in support of customer-related operations, and of the CRM processes.

These processes are also responsible for supporting new product and feature introductions and the CRM and customer contact and touch-point aspects of product or service enhancements in development. They are also responsible for review of, and the efficiency of, CRM operational processes, methods and procedures, as well as conducting Operations Readiness Testing (ORT) and acceptance. Readiness processes develop the methods and procedures for the specific process and function and keep them up-to-date, including making improvements. Before Operations accepts a new product, feature or enhancement, operations readiness testing is required that is 'hands off' from the developers. After fixes identified in operations readiness testing are completed, these processes accept the new or enhanced product and features for full-scale introduction or general availability.

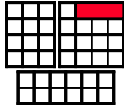
These processes have been decomposed into Level 3 processes.

Sales & Channel Management (CRM - OSR)

Sales & Channel Management processes deal with the administration of the Selling Process. Sales Management works in concert with all other marketing processes to determine the appropriate selling route or channel, and the required selling method and mechanism for specific market segments and channels, by product or product family, e.g., face-to-face contact, telemarketing, etc.

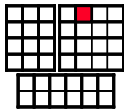
These processes develop and manage the processes associated with distribution of the enterprise's products and services (this process group is, however, not responsible for day to day product distribution and logistics of product shipping and supply). Channels may be retail storefronts, e.g., a third-party retailer or an enterprise's own storefront, various web sites or ISPs, distributors for that product family, etc. These processes develop Channel strategies for the enterprise's products and services.

Customer Interface Management (CRM - FAB)



Customer Interface Management processes are responsible for managing all interfaces between the enterprise and potential and existing customers. They deal with contact management, understanding the reason for contact, directing customer contacts to the appropriate process, contact closure, exception management, contact results analysis and reporting. CRM contact may be related to one or several of Service Fulfillment, Service Assurance (service quality management and trouble or problem management) and Billing related customer enquiries or contacts.

Marketing Fulfillment Response (CRM - F)



Marketing Fulfillment Response processes are responsible for issue and distribution of marketing collateral (i.e., coupon, premium, sample, toys, fliers, etc.) directly to a customer and the subsequent tracking of resultant leads. These processes include campaign management activities from lead generation to product and literature fulfillment, and hand-off of leads to the selling processes.

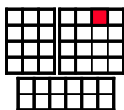
Selling (CRM - F)

Selling processes are responsible for managing prospects, qualification and education of the customer and to the matching of customer's expectations to the enterprise's products and services and ability to deliver. These processes also manage response to customer RFPs.

Order Handling (CRM - F)

Order Handling processes are responsible for accepting and issuing orders. They deal with pre-order feasibility determination, credit authorization, order issuance, order status and tracking, customer update on order activities and customer notification on order completion

Problem Handling (CRM - A)

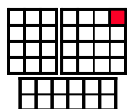


Problem Handling processes are responsible for receiving trouble reports from customers, resolving them to the customer's satisfaction and providing meaningful status on repair and/or restoration activity to the customer. They are also responsible for customer contact and support in relation to any service-affecting problems detected by the resources or through analysis, including proactively informing the customer and resolving these specific problems to the customer's satisfaction.

Customer QoS/SLA Management (CRM - A)

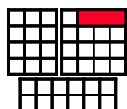
Customer QoS/SLA Management processes encompass monitoring, managing and reporting of delivered vs. contractual Quality of Service (QoS), as defined in the organization's Service Descriptions, customer contracts or product catalogue. They are also concerned with the performance of the organization and its products and services in relation to its Service Level Agreements (SLA) for specific service instances, and other service-related documents. They include operational parameters such as network and resource performance and availability, but also encompass performance across all of a service's contractual or regulatory parameters, e.g., % Completion on Time for Order Requests, time to repair commitments, Customer contact performance. Failure to meet a contracted SLA may lead to billing adjustments, which are handled by Billing and Collections Management.

Billing & Collections Management (CRM - B)



Billing & Collections Management processes encompass creating and maintaining a customer's billing account, sending bills to customers, processing their payments, performing payment collections, monitoring the status of the account balance, and the handling of customer generated or systems reported billing and payment exceptions. These processes are accountable for assuring that enterprise revenue is billed and collected.

Retention & Loyalty (CRM - FAB)



Retention & Loyalty processes deal with all functionalities related to the retention of acquired customers, and the use of loyalty schemes in the potential acquisition of customers.. They establish a complete understanding of the needs of the customer, a determination of the value of the customer to the enterprise, determination of opportunities and risks for specific customers, etc. These processes collect and analyze data from all enterprise and customer contact.

Service Management & Operations (SM&O) Processes

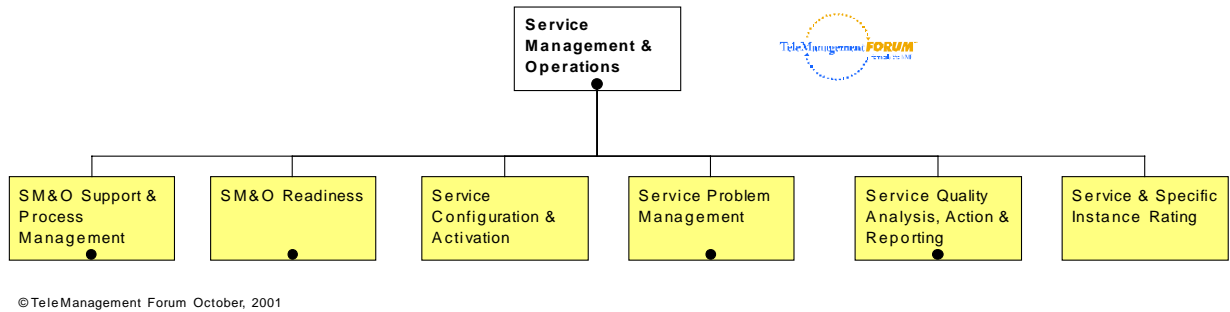
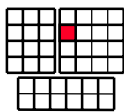


Figure 4.6: Service Management & Operations Level 2 Processes

Service Management & Operations Level 2 Process Descriptions

SM&O Operations Support & Process Management (SM&O - OSR)



SM&O Operations Support & Process Management processes monitor and control the SM&O processes, from a general, a cost, a Quality Performance and an Assurance point of view.

These processes are also responsible for supporting new product and feature introductions and enhancements, in development and/or review of processes, methods and procedures in support of new products deployment, as well as conducting Operations Readiness Testing (ORT) and acceptance. Readiness processes develop the methods and procedures for the specific process and functions and keep them up-to-date, including making improvements. Before Operations accepts a new product, feature or enhancement, operations

These processes have been decomposed into Level 3 processes.

SM&O Operations Readiness (SM&O - OSR)

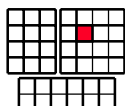
SM&O Operations Readiness processes ensure that all SM&O processes in FAB are able to respond to customer's requests without having to wait for resources or information. They ensure that application, computing and network resources are ready in support of provisioning and maintenance of services, and of the SM&O processes.

These processes are also responsible for supporting new product and feature introductions and enhancements in development and/or review of processes and methods and procedures, as well conducting Operations Readiness Testing (ORT) and acceptance. Readiness processes develop the methods and procedures for the specific process and function and keep them up-to-

date, including making improvements. Before Operations accepts a new product, feature or enhancement, operations readiness testing is required that is 'hands off' from the developers. After fixes identified in operations readiness testing are completed, these processes accept the new or enhanced product and features in full-scale introduction or general availability.

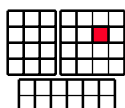
These processes have been decomposed into Level 3 processes.

Service Configuration and Activation (SM&O - F)



Service Configuration and Activation processes encompass the installation and configuration of the service for customers, including the installation of customer premises equipment. They also support the re-configuration of the service (either due to customer demand or problem resolution) after the initial service installation. This can include modifying capacity and reconfiguring in response to requests from other providers.

Service Problem Management (SM&O - A)

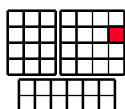


Service Problem Management processes respond immediately to customer affecting service problems or failures in order to minimize their effects on customers, and invoke the restoration of the service as soon as possible. They encompass the reporting of problems, making a temporary fix or workaround, isolating the root cause and acting to resolve it.

Service Quality Analysis, Action and Reporting (SM&O - A)

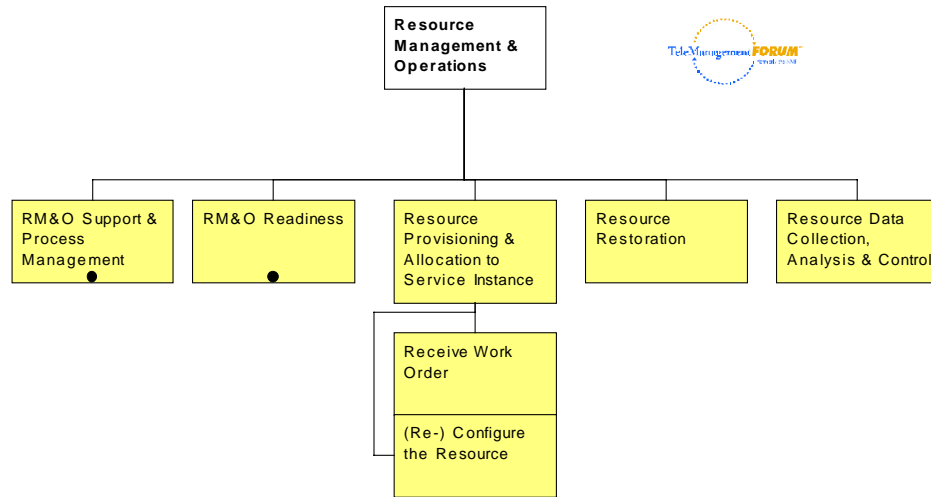
Service Quality Analysis, Action and Reporting processes encompass monitoring, analyzing and controlling the performance of a service perceived by all customers of a service class. These processes are responsible for restoring the service performance to a level specified in a SLA or other service descriptions as soon as possible.

Service and Specific Instance Rating (SM&O - B)



Service and Specific Instance Rating processes manage service events by correlating and formatting them into a useful format. These processes include the service level rating of usage information. Investigation of service related billing event problems is also part of these processes. These processes provide information on Customer-related and Service-related events to other process areas. This includes reports on unchargeable Events and overcharged Events and analysis of Event records to identify fraud and prevent further occurrences.

Resource Management & Operations (RM&O) Processes

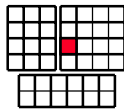


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Figure 4.7: Resource Management & Operations Level 2 Processes

Resource Management & Operations Level 2 Process Descriptions

RM&O Operations Support and Process Management (RM&O - OSR)

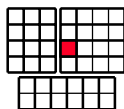


RM&O Operations Support and Process Management processes monitor and control the RM&O processes, from a general, a cost, a Quality Performance and an Assurance point of view.

These processes also ensure the operability of the required IT and Communications Systems, and the Workplace facilities in support of RM&O processes. They also include assuring that staff schedules are adapted to the day-by-day requirements of operations, as well as providing general support for the personnel.

These processes have been decomposed into Level 3 processes.

RM&O Operations Readiness (RM&O - OSR)



RM&O Operations Readiness processes ensure that application, computing and network resources are able to support the required provisioning and maintenance of resources to provide service processes. This includes the configuration of the resources, and provisioning of logical resources, to be able to support specific service types.

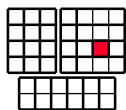
These processes are also responsible for supporting new product and feature introductions and enhancements in development, and/or review of processes and methods and procedures in support of these new products, as well conducting Operations Readiness Testing (ORT) and acceptance. Readiness processes develop the methods and procedures for the specific process and function and keep them up-to-date, including making improvements. Before Operations accepts a new product, feature or enhancement, operations readiness testing is required that is 'hands off' from the developers. After fixes identified in operations readiness testing are completed, these processes accept the new or enhanced product and features in full-scale introduction or general availability.

These processes have been decomposed into Level 3 processes.

Resource Provisioning and Allocation to Service Instance (RM&O - F)

Resource Provisioning and Allocation to Service Instance processes encompass the configuration of resources, and logical resource provisioning for individual customer instances. This involves updating of the Resource Inventory Database to reflect the resource being used for a specific customer.

Resource Problem Management (RM&O - A)



Resource Problem Management processes are responsible for the day-to-day management of problems with groups of resources (resource classes), and ensuring that the resources are working effectively and efficiently. The objective of these processes is to proactively deal with resource problems, before complaints are received about affected services.

Resource Restoration (RM&O - A)

Resource Restoration processes deal with resolving problems with groups of resources, so that the resource capability is restored.

Resource Data Collection, Analysis and Control (RM&O - AB)

Resource Data Collection, Analysis and Control processes encompass the collection of usage, network and information technology events, including resource information, for customer usage reporting and billing.

This also includes analysis of the collected information to understand the impact on resource performance, and based on analysis of this, installs controls to optimize this performance.

These processes collect and format data for use by many other processes within the enterprise.

Supplier/Partner Relationship Management (S/PRM) Processes

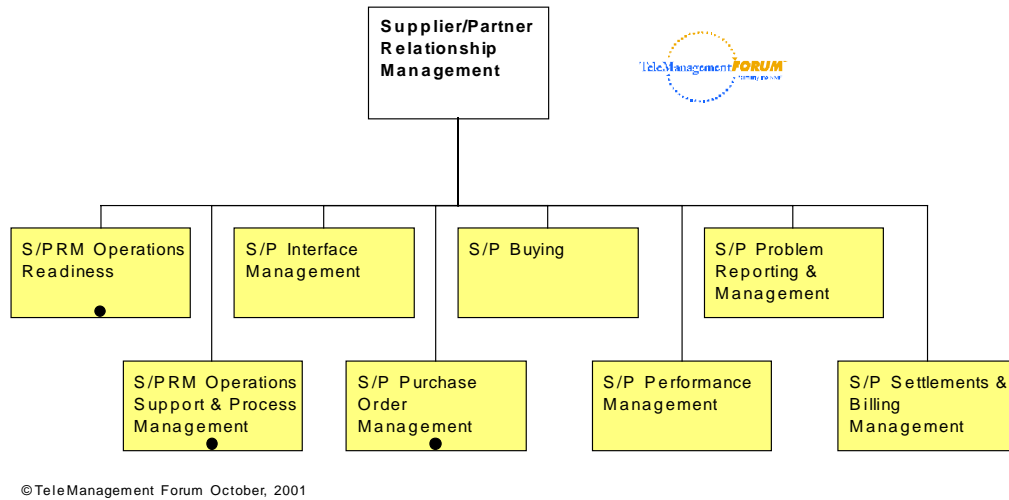
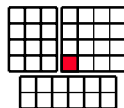


Figure 4.8: Supplier/Partner Relationship Management Level 2 Processes

Supplier/Partner Relationship Management Level 2 Process Descriptions

S/PRM Operations Support and Process Management (S/PRM - OSR)



S/PRM Operations Support and Process Management processes monitor and control the S/PRM processes, from a general, a cost, a Quality Performance and an Assurance point of view.

These processes also ensure the operability of the required IT and Communications Systems, and the Workplace facilities in support of S/PRM processes. They also include assuring that staff schedules are adapted to the day-by-day requirements of operations, as well as providing general support for the personnel.

These processes have been decomposed into Level 3 processes.

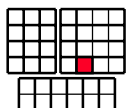
S/PRM Operations Readiness (S/PRM - OSR)

S/PRM Operations Readiness processes are responsible for ensuring that all necessary facilities related to the interaction with Suppliers and Partners are ready and functioning. Moreover these processes are responsible for the resolution of problems related to these facilities.

These processes are also responsible for supporting new product and feature introductions and enhancements in development and/or review of processes and methods and procedures, as well conducting Operations Readiness Testing (ORT) and acceptance. Readiness processes develop the methods and procedures for the specific process and function and keep them up-to-date, including making improvements. Before Operations accepts a new product, feature or enhancement, operations readiness testing is required that is 'hands off' from the developers. After fixes identified in operations readiness testing are completed, these processes accept the new or enhanced product and features in full-scale introduction or general availability.

These processes have been decomposed into Level 3 processes.

S/P Buying (S/PRM - F)

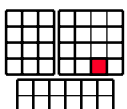


S/P Buying processes are responsible for understanding what is needed from Suppliers and Partners and making the purchase decisions. These processes issue RFPs to suppliers and assess responses. These processes negotiate specific purchases and request a purchase order be issued. This S/PRM process of S/P Buying interfaces with the supplier's CRM process of Selling.

S/P Purchase Order Management (S/PRM - F)

S/P Purchase Order Management processes manage the purchase orders or other ordering vehicles used with partners to ensure on-time and correct delivery of the product or service requested by the enterprise. This S/PRM process of S/P Purchase Order Management interfaces with the supplier's CRM process of Order Handling.

S/P Problem Reporting and Management (S/PRM - A)

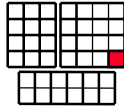


S/P Problem Reporting and Management processes manage trouble, whether identified within the enterprise or as notified by the supplier. The processes issue trouble reports or trouble tickets to supplier and partner organisations within the value chain, track them, and ensure timely and correct restoration and repair. These S/P Problem Reporting and Management processes interface with the supplier's CRM process of Problem Handling.

S/P Performance Management (S/PRM - A)

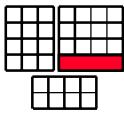
S/P Performance Management processes track, measure and report supplier and partner performance. These S/PRM process of S/P Performance Management processes interface with the supplier's CRM process of Customer QoS/SLA Management.

S/P Settlements and Billing Management (S/PRM - B)



For a value network and particularly, for service providers, settlements and billing management is complex. In many cases, the supplier cost can be the largest single cost and incorrect settlement or billing can mean the difference between profit and loss. S/P Settlements and Billing Management processes manage all settlements and billing for the enterprise, including bill validation and verification and payment authorization. These S/P Settlements and Billing Management processes interface with the supplier's Customer Relationship Management process of Billing and Collection Management.

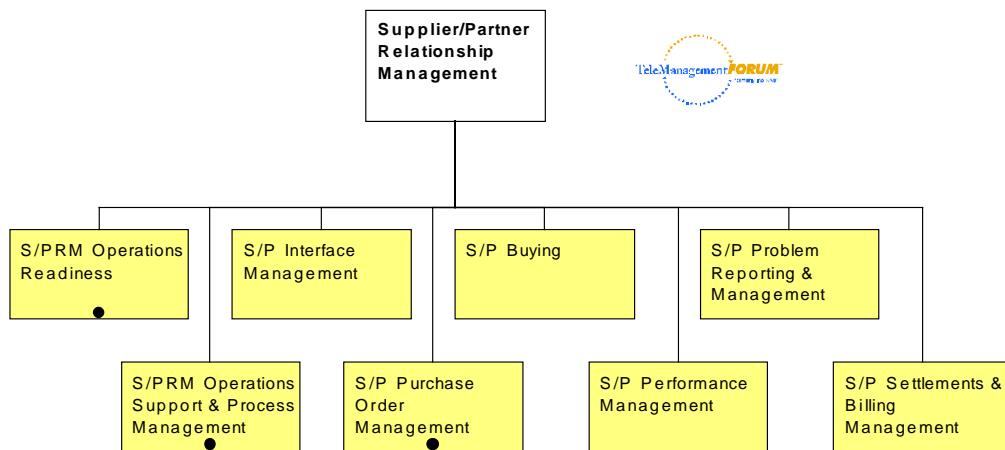
S/P Interface Management (S/PRM - FAB)



S/P Interface Management processes manage the contacts between the enterprise and its current or future suppliers/partners for products or services. These processes are basically contact management and tracking processes. These S/P Interface Management processes interface with the CRM process of Customer Interface Management.

Strategy, Infrastructure and Product Processes

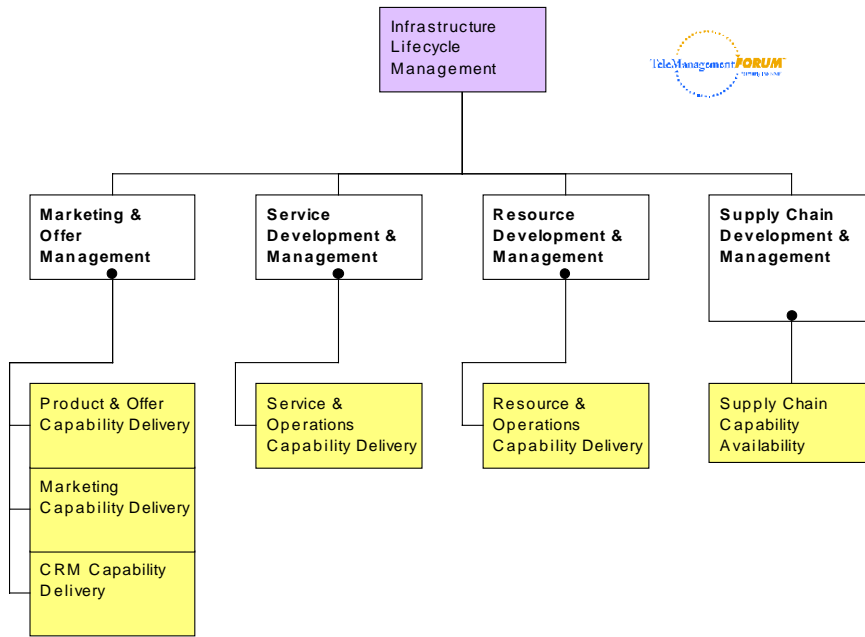
Strategy & Commit Processes (SC)



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Figure 4.9: Strategy & Commit Level 2 Processes

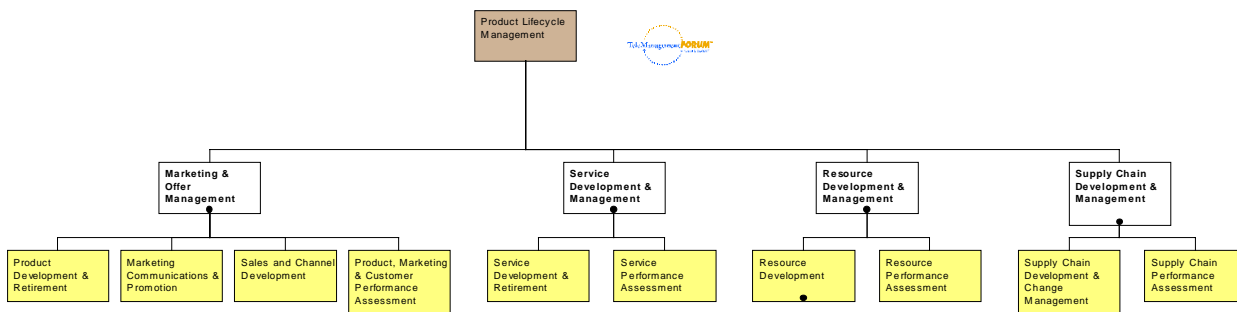
Infrastructure Lifecycle Management (ILM) Processes



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Figure 4.10: Infrastructure Lifecycle Management Level 2 Processes

Product Lifecycle Management (PLM) Processes



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Figure 4.11: Product Lifecycle Management Level 2 Processes

Marketing & Offer Management (M&OM) Processes

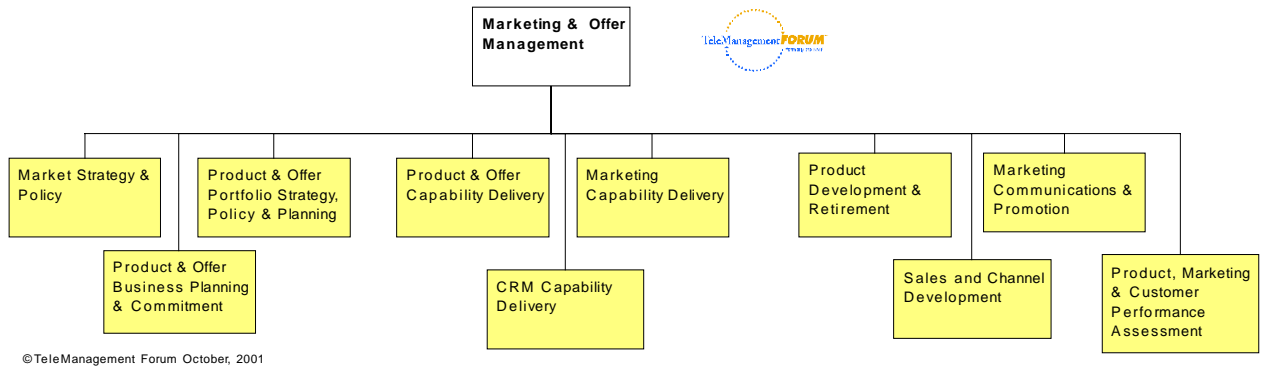
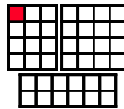


Figure 4.12: Marketing & Offer Management Level 2 Processes

Marketing & Offer Management Level 2 Process Descriptions

Market Strategy & Policy (M&OM - SC)



Market Strategy & Policy processes enable the development of a strategic view of an organization’s existing and desired market-place, activities and aims. Market segmentation and analysis is performed, to determine an organization’s target and addressable markets, along with the development of marketing strategies for each market segment or set of target customers. The decision is made as to which markets the enterprise wants or needs to be in, and how it plans to enter or grow in these markets and market segments. This will be achieved through multiple inputs: including Enterprise Strategies, Market Research, Market Analysis.

Product & Offer Portfolio Strategy & Policy Planning (M&OM - SC)

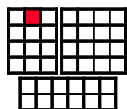
Product & Offer Portfolio Strategy & Policy Planning processes develop strategies for products at the portfolio level. The decision is made as to which product types the enterprise wants or needs to offer, and how it plans to enter or grow in these sectors. This will be done based on multiple inputs: including Enterprise Strategies, Market Research and Market Analysis.

Product & Offer Business Planning & Commitment (M&OM - SC)

Product & Offer Business Planning & Commitment processes provide cross-product and service coordination and management functions at the Product family, Business Unit or Enterprise level. These processes develop annual and multi-year product and/or offer plans for a product or service that includes

product or service take-up forecasts, negotiation for required level of resources, gaining interdepartmental, process, infrastructure and supply chain commitment and executive approval, as well as communicating the plan. The output from these activities is in the form of approved Business Cases which will initiate delivery or development activities.

Product & Offer Portfolio Capability Delivery (M&OM - ILM)



Based on the Product strategy for the enterprise, the Product & Offer Portfolio Capability Delivery processes manage the delivery and build of new or changed Product offering and delivery capabilities with an organization. It also handles their requisite infrastructure, where the technologies, scope or type/depth of infrastructure is significantly different to that currently employed in the organization. e.g. introduction of Third-generation Mobile Telephony networks.

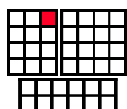
Market Capability Delivery (M&OM - ILM)

Based on the market strategy for the enterprise, the Market Capability Delivery processes manage the delivery and build of new or changed market capabilities e.g. on-line channels and sales channels. These are created and delivered in line with the Market Strategy. For example, one strategy may be to create more on-line channels to allow for customer self-service.

CRM Capability Delivery (M&OM - ILM)

Based on the Market and Product strategy for the enterprise, the CRM Capability Delivery processes manage the delivery and build of new or changed CRM capabilities e.g. ability to identify, save, manipulate and retrieve and apply new types if knowledge about customers

Product Development and Retirement (M&OM - PLM)



Product Development and Retirement processes develop and deliver new products or services and product or service enhancements and new features, ready for implementation by the Operations processes. Additionally they handle the withdrawal of product offerings from the marketplace. Product Development and Retirement processes are project oriented (day to day management of product offerings are handled by the Operations processes). The key measures of this process are how effectively are the enterprise's products and services broadened and the time to market for new products and services or features. These processes also manage major product and service updates and enhancement. Business Case development tracking and commitment are key elements of this process, as are project management discipline with defined quality gates.

Sales & Channel Development (M&OM - PLM)

Sales & Channel Development processes develop the Sales and Channel support and response for new and existing products and services, as well as existing and potential customers. Sales Development is heavily related to Sales Management in the Operations process area. Sales Development processes develop product related compensation plans, define product revenue targets, develop product related sales training, develop prospect identification methodology, develop selling processes/methods and procedures for new products. Channel Development processes define channels for selling the enterprise's products. It develops or ensures development of channel ability to sell and support products. Channel Development processes include negotiating for the specific channel, defining or updating the account management process, developing pricing for a specific channel, etc.

Marketing Communications & Promotion (M&OM - PLM)

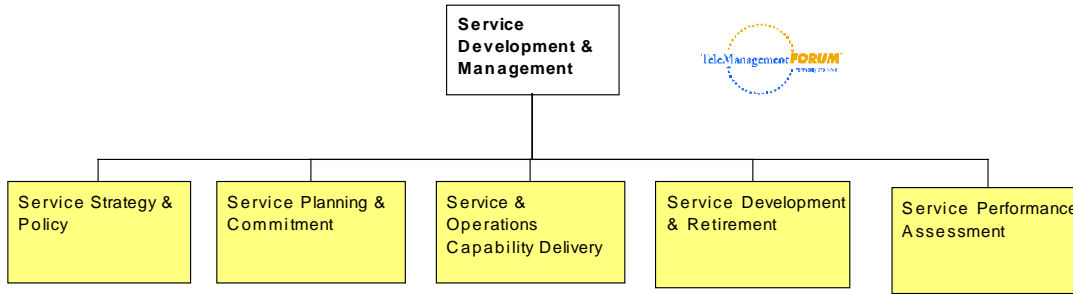
Marketing Communications & Promotion processes deal with overall communication to customers and markets. Marketing Communications processes develop and manage communications to the market, prospects and existing customers. Communications involves both the message and the media. Marketing Communications can develop a message and manage its delivery through a bill insert, phone communication with customers, a magazine advertisement, or any other appropriate mechanism.. Marketing Communications develops and manages interfaces with press/news, e.g., schedules press interviews, manages an editorial calendar to plan placements, etc.

Marketing Promotion on the other hand is the development of specific promotions to sell products, retain customers, and bring in new customers. Marketing Promotion processes create the promotional campaigns and advertising to reach the market, customers and channels. They develop the campaigns and collateral, whether direct mail, newspaper ad, etc. Marketing Promotion processes work with all other processes of Marketing, Sales and Offer, Brand Management, Market Research and Advertising Management to design marketing promotions and advertising, to determine trade show participation and presence, to support product introductions, etc. Marketing Promotions processes interface with Marketing Fulfillment Response processes in Customer Relationship Management to execute the campaign. One of the key roles of these processes is to position the product in the market, especially versus competitive products.

Product, Marketing & Customer Performance Assessment (M&OM - PLM)

Product, Marketing & Customer Performance Assessment processes assess whether the Marketing & Offer Management processes are meeting their goals of delivering changes and improvements to the CRM Processes.

Service Development & Management (SD&M) Processes

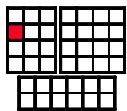


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Figure 4.13: Service Development & Management Level 2 Processes

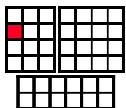
Service Development & Management (SD&M) Level 2 Process Descriptions

Service Strategy and Policy (SD&M - SC)



Service Strategy and Policy processes define service standards, key capabilities required, support required, design elements as well as cost parameters. These processes define the policies relating to technical services

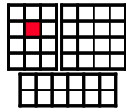
Service Planning & Commitment (SD&M - SC)



Service Planning & Commitment processes deliver and develop annual and multi-year service plans in support of products and offers that include volume forecasts, negotiation for required levels of resources, gaining service development and management as well as supply chain commitment and executive approval for the plans.

Forecasting of service demand, and capturing of new opportunities, are both essential to ensure that the enterprise can implement the services necessary for the future needs of their customers and potential customers.

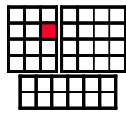
Service Operations & Capability Delivery (SD&M - ILM)



Service Operations & Capability Delivery processes plan and deliver the total capabilities required to deliver changes to service, as necessary. This involves integration of capability delivered from within the enterprise, and capability delivered from a partner/supplier.

Service demand forecasting and capturing of new opportunities, are both essential to ensure that the enterprise can implement the services necessary for the future needs of their customers and potential customers.

Service Development and Retirement (SD&M - PLM)

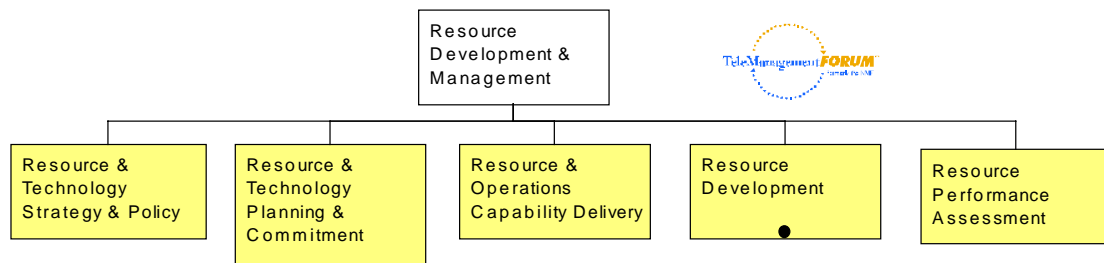


Service Development and Retirement processes are project oriented in that they develop and deliver new or enhanced services. These processes include process and procedure implementation, systems changes and customer documentation. They also undertake rollout and testing of the service, capacity management and costing of the service. It ensures the ability of the enterprise to deliver services according to requirements.

Service Performance Assessment (SD&M - PLM)

Service Performance Assessment processes assess whether the Service Development & Management processes are meeting their goals of delivering changes and improvements to the Service Management & Operations Processes.

Resource Development & Management (RD&M) Processes

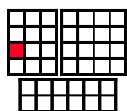


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Figure 4.14: Resource Development & Management Level 2 Processes

Resource Development & Management Level 2 Process Descriptions

Resource & Technology Strategy & Policy (RD&M - SC)

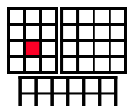


Resource & Technology Strategy & Policy processes understand the enterprise infrastructure, the requirements on the infrastructure of the organization's activities, and how new or enhanced infrastructure may be deployed. These processes develop technology and resource strategies and policies for the enterprise, based on the long-term business directions of the enterprise.

Resource & Technology Plan & Commitment (RD&M - SC)

Resource & Technology Plan & Commitment processes develop the high level annual and multi-year plans for the enterprise infrastructure for both resources that directly support customer products and services, and the resources that support the Enterprise. They commit service, technology and resource capabilities, but do not determine whether it is to be sourced internally ("build") or externally ("buy").

Resource & Operations Capability Delivery (RD&M - ILM)



Resource & Operations Capability Delivery processes use the capability definition or requirements to deploy new and/or enhanced technologies and associated resources.

These processes ensure that network, application and computing resources are deployed, according to the plans set by Resource Development. They deliver the physical resource capabilities necessary for the ongoing operations, and long term well-being of the enterprise, and ensure the basis on which all resources and services will be built

Logical network configurations (such as resource elements integration) are as important to the network resources as the physical aspects. All aspects must be planned and considered in the design and implementation of the network, including infrastructure owned by the enterprise, and by supplier/partners, other physical resources and logical elements.

Resource Development (RD&M - PLM)

Resource Development processes develop new, or enhance existing technologies and associated resources, so that new Products are available to be sold to customers. They use the capability definition or requirements defined by Resource & Technology Plan and Commitment. They also decide whether to acquire resources from outside, taking into account the overall

business policy in that respect. These processes also retire or remove technology and associated resources, which are no longer required by the enterprise.

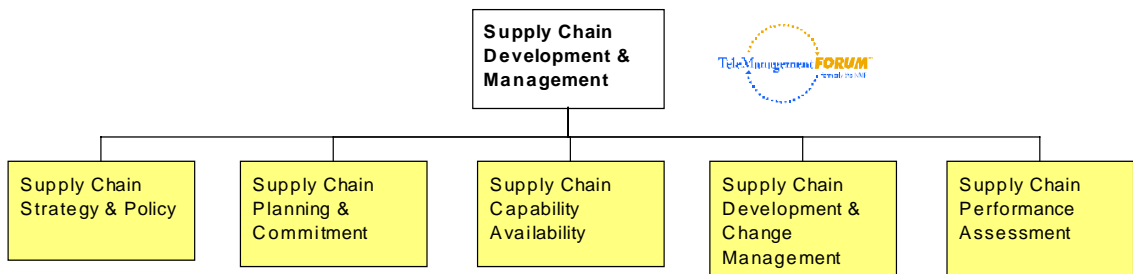
Resources may be built, or in some cases leased from other carriers or suppliers. To ensure the most efficient and effective solution can be used, negotiations on network level agreements with suppliers or partners are paramount for both building and leasing.

These processes interact strongly with Product and Supply Chain Development processes.

Resource Performance Assessment (RD&M - PLM)

Resource Performance Assessment processes assess performance of the infrastructure from a cost, availability and quality goals standpoint. They assess whether the Resource Development & Management processes are meeting their goals of delivering changes and improvements to the Resource Management & Operations Processes., and identify updates required to plans.

Supply Chain Development & Management (SCD&M) Processes

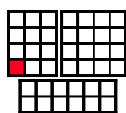


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Figure 4.15: Supply Chain Development & Management Level 2 Processes

Supply Chain Development & Management Level 2 Process Descriptions

Supply Chain Strategy & Policy (SCD&M - SC)

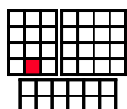


Supply Chain Strategy & Policy processes develop the Supply Chain strategies and policies of the enterprise, and the enterprise policies for supplier/partner engagement and interaction. E.g. the Enterprise decides that it will outsource the supply of all Mobiles Networks. Both the functional processes, as well as Infrastructure and Product Lifecycle Management processes, drive the Supply Chain Strategy and Policy processes.

Supply Chain Planning & Commitment (SCD&M - SC)

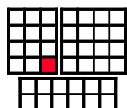
Supply Chain Planning & Commitment processes develop the annual and multi-year plan for the enterprise's supply chain resulting in commitment to enterprise. This includes input from, and commitment to, other processes and/or functions. E.g. The Enterprise plans for the supply of a Third-generation Mobiles Network and obtains commitment from all internal stakeholders.

Supply Chain Capability Availability (SCD&M - ILM)



Supply Chain Capability Availability processes manage the evaluation of new supplier/partners, to determine those with the best services and resources to meet the Enterprise's needs. These processes also initiate and complete business agreements with the supply chain, to allow the delivery of business and technical capabilities required to meet the organization's needs. For example, the Enterprise signs contracts with a supplier of a Third-generation Mobile Network and puts in place links between the IT Systems of the Supplier and the Enterprise, ready to allow specific processes and products to be developed.

Supply Chain Development & Change Management (SCD&M - PLM)



Supply Chain Development & Change Management processes are basically project processes associated with the development of a supply chain, to support service catalogue extension or modification.. New suppliers may be required to broaden the services a service provider offers its customers, to improve performance, for outsourcing and out-tasking requirements, etc. These project-oriented processes identify new suppliers or partners, develop agreements and implement with the supplier or partner. In addition, these processes drive automation and change management for the supply chain. e.g. Processes and IT Applications are developed so that Mobile Number Portability can be for Third-generation Mobiles can be offered.

Supply Chain Performance Assessment (SCD&M - PLM)

Supply Chain Performance Assessment processes assess whether the Supply Change Development & Management processes are meeting their goals of delivering changes and improvements to the Supplier/Partner Relationship Management Processes.

Enterprise Management Processes

The TM Forum does not intend to develop further process decompositions and flows for these processes, beyond the level described here, since they are not processes that require significant specialization for information and communications service providers. It is hoped cross-industry models can be referenced where more detail is required.

Strategic & Enterprise Planning (S&EP) Processes

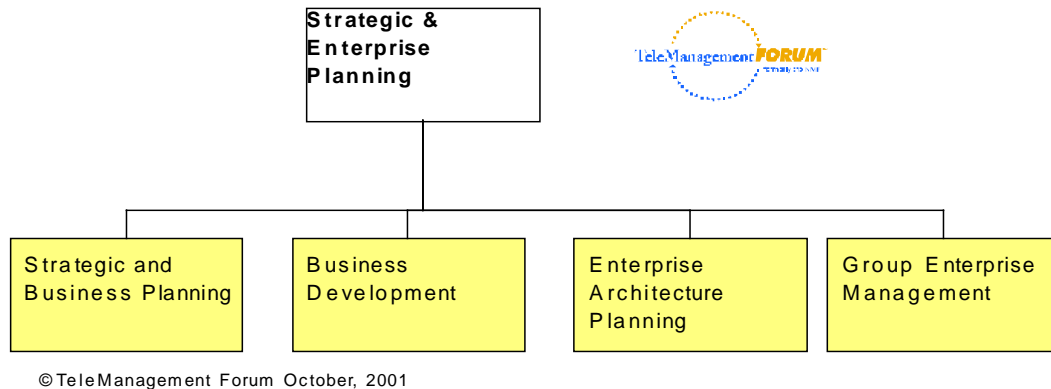
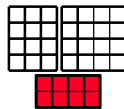


Figure 4.16: Strategic & Enterprise Planning Level 2 Processes



Strategic & Enterprise Planning processes encompass all of the functions required to provide strategic direction to the enterprise, to create executable plans based on the strategy, and to provide high level program management of their implementation.

This area also includes support for Enterprise Architecture Planning, reflecting the developing trend towards a focus on Enterprise Architecture in pursuing business strategy and planning.

Strategic & Enterprise Planning Level 2 Process Descriptions

Strategic & Enterprise Planning (S&EP- EM)

Strategic & Enterprise Planning processes encompass all of the functions required to provide strategic direction to the enterprise, to create actionable plans based on the strategy and to provide high level program management of their implementation.

Business Development (S&EP- EM)

Business Development processes develop concepts for new revenue streams, diversification of revenue streams and focusing or broadening of the customer base via investigating new markets, as well as different products and services for the enterprise. Business Development processes understand what enterprise processes are critical to the identity of the firm as priority processes and look for higher quality and lower cost solutions for these high priority processes. In many cases, these processes would identify the opportunity for a 'surgical' outsourcing of a function or process that is not a priority of the firm, or is a process the firm cannot deliver at competitive benchmarks. Business Development processes are closely related to Strategic Planning. To realize certain enterprise strategies, Business Development processes manage investigation of potential merger and acquisition options and facilitate negotiation and implementation of mergers or acquisitions.

Enterprise Architecture Planning (S&EP- EM)

Enterprise Architecture Planning processes focus on the development of the Enterprise Architecture, which is the model describing the enterprise in all its facets. The enterprise architecture provides a framework for organizational design, business process architecture, information systems architecture, computer architecture, data modeling and knowledge management.

These processes ensure the Information Systems support the business processes in such a way that the business objectives can be met, while at the same time, the entire enterprise and the Information Systems in particular, can easily change to cope with evolving business requirements.

The Enterprise Architecture Planning processes impact other areas within the eTOM model, such as Knowledge Management, Process Architecture Management and Information Systems Strategy and Planning. The details of these relations have not yet been investigated in detail, but are being considered for addition in future releases of the eTOM model.

Group Enterprise Management (S&EP- EM)

Group Enterprise Management processes are responsible for planning and management of coordination across business units within the enterprise, and between the enterprise and its subsidiaries (note that similar interactions concerning outsourcing involving suppliers and partners is handled elsewhere, through Supply Chain and Supplier/Partner processes). The focus is on processes concerned with the co-ordination within the firm's own organization, including subsidiaries, from an Enterprise-wide point of view.

This includes planning and implementation of cross-business unit operations, harmonization of processes and communication systems; funding and cross-

subsidies, investment for business development; and planning, execution and management of existing and new business activities.

Brand Management, Market Research & Advertising (BM&A) Processes



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Figure 4.17: Brand Management, Market Research & Advertising Level 2 Processes

Brand Management, Market Research & Advertising processes manage the company's brand in the market, including trademarks and names, logos, corporate "look & feel", etc. These processes also support market research and analysis in support of the rest of the enterprise, as well as for corporate-wide strategy and information. In addition, advertising is coordinated within this area, including campaign strategy, scope and targets.

Brand Management, Market Research & Advertising Level 2 Process Descriptions

Brand Management (BM&A - EM)

In today's very global competitive environment, especially with the growth of ebusiness application, brand management is critical. In many cases, it is the most important asset differentiating a company from a growing list of competitors. Brand Management processes develop and ensure the strength of the enterprise brand or brands. Management of brand equity is more than brand recognition. It includes processes to oversee the way that the enterprise identity and brands are aligned with the corporate vision, e.g., specific product naming, use of brand in certain circumstances, use of logo, etc. Brand Management addresses both the formal ways of building and maintaining the brand and the informal processes that build the brand through word-of-mouth. Brand Management ensures that individual business units, products and/or functions do not detract from the enterprise brand(s) but, in fact, help to build it/them through consistent and high quality interactions with customers, employees, or partners.

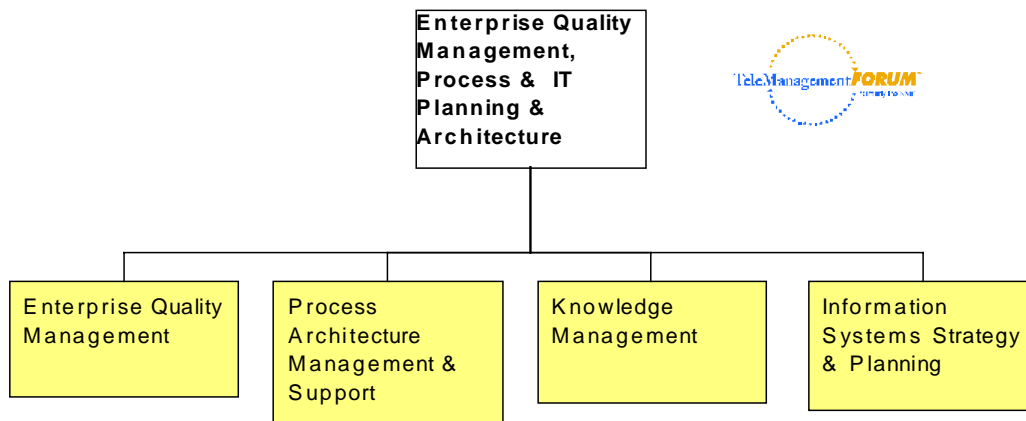
Advertising (BM&A - EM)

Advertising processes develop and execute advertising strategies in support of the overall enterprise, business unit and specific products. Advertising processes develop target customer segments, create relevant advertising programs, execute these programs, and evaluate the effectiveness of these programs once they are run. Advertising processes are responsible for creating specific ads for the enterprise, business units and products. Through advertising processes companies interface with advertising agencies and/or media companies to make and follow through on media decisions. There are very strong interfaces with Marketing Communications and Promotion.

Market Research & Analysis (BM&A - EM)

Market Research & Analysis processes are Marketing Processes, but can be initiated from almost any other process or function in the enterprise. Requests for market research, assessment of market research, identification of a market shift, changes in customer satisfaction and a host of other triggers can initiate Market Research and Analysis processes.

Enterprise Quality Management, Process & IT Planning & Architecture (EQPIA) Processes



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Figure 4.18: Enterprise Quality Management, Process & IT Planning & Architecture Level 2 Processes

Enterprise Quality Management, Process & IT Planning & Architecture processes define and manage the enterprise's quality control and assurance, define the enterprise process architecture and methodology, and define the enterprise strategy for information systems and develop the information systems plan, including its e-strategy. They also deal with knowledge

management for the enterprise., and are responsible for managing the information resources of the enterprise.

Enterprise Quality Management, Process & IT Planning & Architecture Level 2 Process Descriptions

Process Architecture Management & Support (EQPIA - EM)

Process Architecture Management & Support processes define the enterprise process architecture and methodology, drive commitment to process ownership and management, and determine whether the enterprise can provide the required process performance. These processes set priorities for process resources and assure that process management and continuous quality improvement are pursued.

Information Systems Strategy & Planning (EQPIA - EM)

Information Systems Strategy & Planning processes define the enterprise strategy for information systems and develop the information systems plan, including its e-strategy. These processes set Information Systems policies and standards that support the operation of the enterprise. Information Technology Management takes direction from these processes, including information technology selection to support the Information Systems strategies.

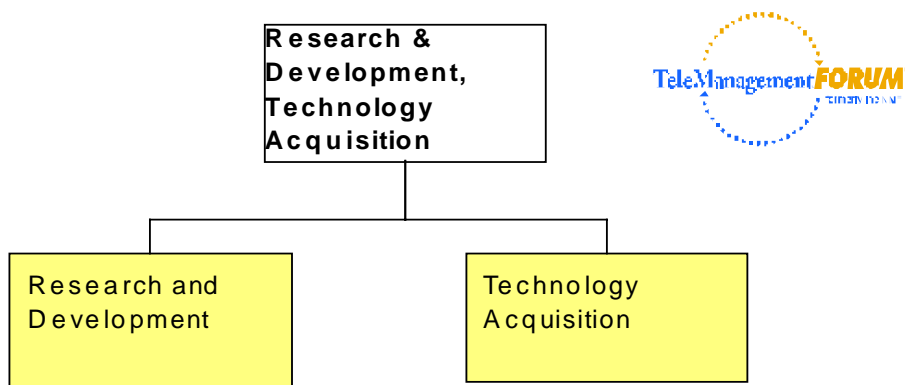
Quality Management (EQPIA - EM)

Quality Management processes define the enterprise quality management policies and the enterprise model for quality management. They support all operations and lifecycle processes in the implementation and control of this model.

Knowledge Management (EQPIA - EM)

Knowledge Management processes are responsible for managing the information resources of the enterprise. This includes patent management, Intellectual Property Rights management, standards for information and information capture and storage, assigning and providing direction for data stewardship, minimizing instances of the same data, etc.

Research & Development, Technology Acquisition (R&DTA) Level 2 Processes



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Figure 4.19: Research & Development, Technology Acquisition Level 2 Processes

Research & Development, Technology Acquisition processes perform research and development of technology within the enterprise, and evaluation of potential technology acquisitions from outside the enterprise.

Research & Development, Technology Acquisition Level 2 Process Descriptions

Research and Development (R&DTA - EM)

Research and Development processes perform research and development of technology within the enterprise. This includes identification and evaluation of the business value of existing and new technologies and their market application as a guide to R&D investment. It also includes commitment of financial and other resources to the pursuit of areas of R&D, and management of R&D programs and ongoing assessment of their value and priority. These processes include development of enhancements to existing technologies as well as development of new technologies. This area cooperates with Technology Acquisition for corporate-level decisions on “make vs. buy” concerning R&D or technology acquisition.

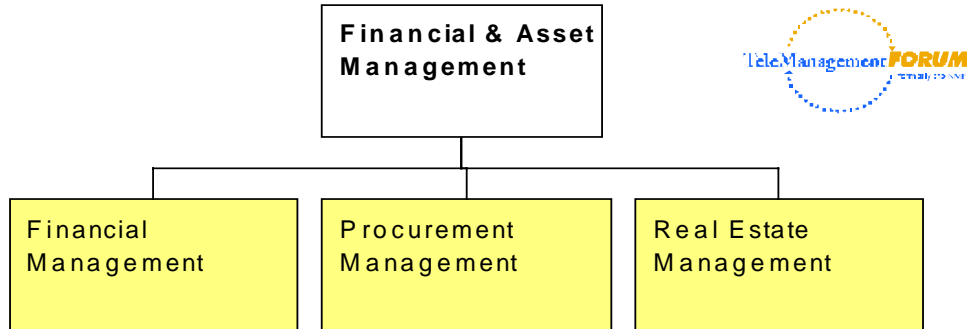
Technology Acquisition (R&DTA - EM)

Technology Acquisition processes perform acquisition of technology from external sources for the enterprise. This includes identification and evaluation of potential technologies, and sources of technologies, and comparison with the “in-house” R&D capabilities. It also includes determining the business

value of potential technology acquisitions, and financial and other commitment to actually acquire specific technologies where this is appropriate.

This area cooperates with Research and Development for corporate-level decisions on “make vs. buy” concerning R&D or technology acquisition.

Financial & Asset Management (F&AM) Processes



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Figure 4.20: Financial & Asset Management Level 2 Processes

Financial & Asset Management processes manage the financial aspects of the enterprise. In addition, these processes manage all aspects of corporate real estate, and procure the necessary goods and services for the non-production needs of the enterprise.

Financial & Asset Management Level 2 Process Descriptions

Financial Management (F&AM - EM)

Financial Management processes manage the financial aspects of the enterprise such as Treasury, Banking, Payroll, Financial Planning, Auditing and Accounting Operations functions, e.g., Accounts Receivable and Payable. These processes are accountable for the financial health of the enterprise, managing cash flow, auditing for compliance to financial and expense policies, etc.

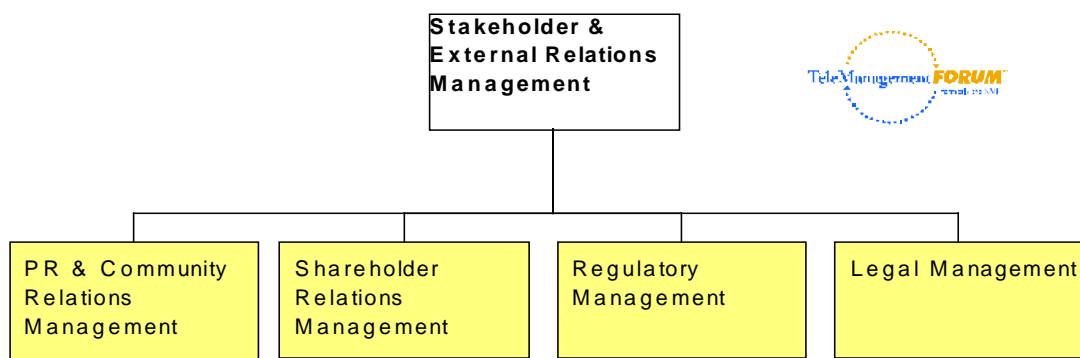
Real Estate Management (F&AM - EM)

Real Estate Management processes manage all aspects of corporate real estate such as planning for future needs, purchase and lease of real estate, build-out, maintenance and disposal.

Procurement Management (F&AM - EM)

Procurement Management processes procure the necessary goods and services for the non-production needs of the enterprise. For the most part, Procurement Management does not deal with the purchasing of goods and services required for the infrastructure for delivering products and services to customers.

Stakeholder & External Relations Management (S&ER) Processes



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Figure 4.21: Stakeholder & External Relations Management Level 2 Processes

Stakeholder & External Relations Management processes manage the relationship between the enterprise and its stakeholders (including stockholders), and for compliance with government regulations and legal requirements.

Stakeholder & External Relations Management Level 2 Process Descriptions

PR and Community Relations Management (S&ER - EM)

PR and Community Relations Management processes are responsible for communicating the required messages to the general public and the community that the enterprise operates in, as well as to employees from a

global enterprise standpoint. These processes handle public relations and community relations contacts made to the enterprise.

Shareholder Relations Management (S&ER - EM)

Shareholder Relations Management processes manage the relationship between the enterprise and its shareholders consistent with all business, financial, legal, and regulatory requirements. This includes incoming and outgoing communication with shareholders.

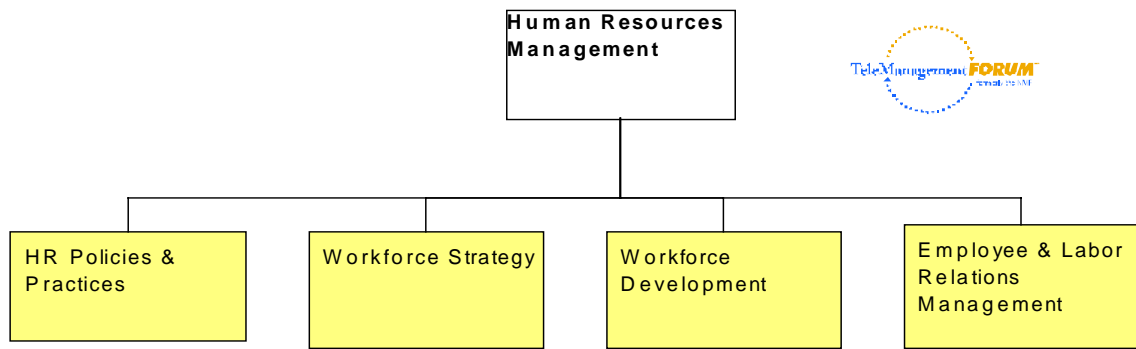
Regulatory Management (S&ER - EM)

Regulatory Management processes ensure that the enterprise complies with all existing government regulations. Additionally, this process is responsible for legally influencing pending regulations and statutes for the benefit of the enterprise and to inform the enterprise of potential consequences of pending legislation or regulations. In addition, these processes are responsible for tariff filings as required.

Legal Management (S&ER - EM)

Legal Management processes are responsible for ensuring that the enterprise complies with all relevant legal requirements. They are also responsible for carrying out legal requests within the enterprise, supporting the enterprise by providing legal advice related to business decisions, and proactively notifying the enterprise of relevant changes or trends that can effect the legal environment that the enterprise operates within. These processes deal with any legal action taken on behalf of or against the enterprise.

Human Resources Management (HR) Processes



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Figure 4.22: Human Resources Management Level 2 Processes

Human Resources Management processes provide the human resources infrastructure for the people resources that the enterprise uses to fulfil its objectives. For example, Human Resources Management processes provide salary structures by level, performance appraisal and compensation guidelines, set policies in relation to people management, supports employee benefit programs, safety program development, etc. Human Resource processes include union/labor relations and employee relations processes. At the enterprise level, Human Resources Management includes the workforce strategy and workforce development processes both at the corporate level and at the level that support specific business unit and/or functional needs. Organization design and redesign support permeates all of the HR processes, including participating in the Enterprise Architecture processes.

Human Resources Management Level 2 Process Descriptions

HR Policies & Practices (HR - EM)

HR Policies & Practices include the processes that support people management throughout the enterprise, e.g., performance appraisal, benefits, occupational health and safety, equal employment opportunity, compensation guidelines, code of conduct, hiring and termination guidelines, employee satisfaction measurement and management, etc.

Workforce Strategy (HR - EM)

Workforce Strategy processes drive overall enterprise workforce strategies, including their development and execution at the individual business unit level. Workforce Strategy processes include understanding the requirements of the business and defining the competencies and skills required of the human resources. The processes define the requirements for competency modeling, application of profiling, overall job design, approach to employee satisfaction, etc. These processes create the strategies needed to ensure that the correct type, quantity and quality of staff will be available in right locations for future business. These processes, working with all areas of the business, determine the changes required in the enterprise's workforce and the strategies required to make the necessary changes.

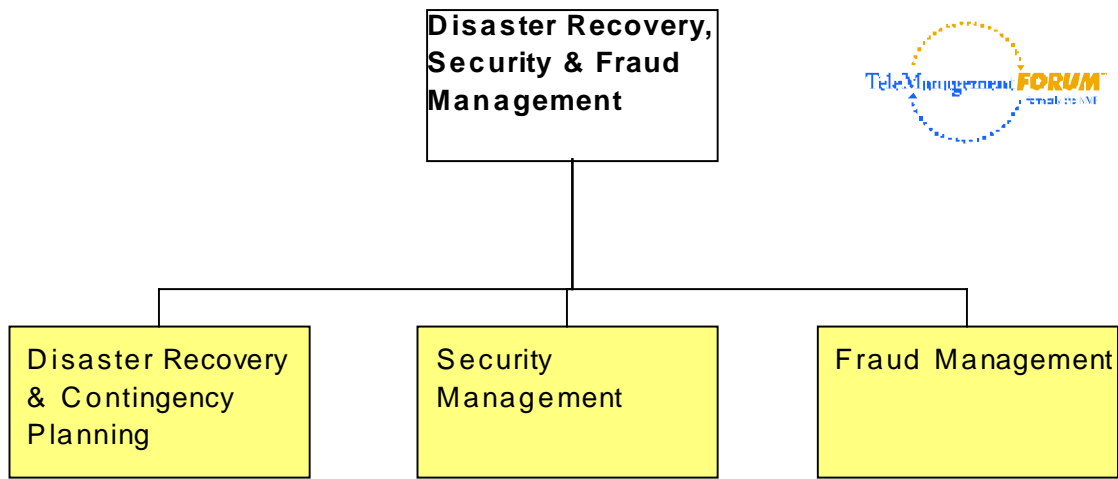
Workforce Development (HR - EM)

Workforce Development processes focus on development of employees to meet the needs of the business. These processes include competency modeling, skills assessment, job and employee strength profiling, succession planning, training development and delivery, career development, work design, employee recruitment, etc. These processes support both the overall enterprise and the needs of individual business units or functions.

Employee & Labor Relations Management (HR - EM)

Employee & Labor Relations Management processes focus on relationships with employees at an enterprise and employee group level. Labor Relations processes include definition of terms of employment, labor contracts development, union contract negotiations, arbitration management, etc. Employee Relations processes cover a variety of processes, e.g., counseling programs, interface to employee groups, employee involvement in the community and charities in the name of the company, etc.

Disaster Recovery, Security & Fraud Management (DRS&F) Processes



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Figure 4.22: Disaster Recovery, Security & Fraud Management Level 2 Processes

Disaster Recovery, Security & Fraud Management processes are responsible for corporate policies on disaster recovery and restoration, including contingency planning. They are also responsible for setting Security and Fraud Management corporate policies, concerning both internal and external sources of security violations and fraud.

Disaster Recovery, Security & Fraud Management Level 2 Process Descriptions

Disaster Recovery & Contingency Planning (DRS&F - EM)

Disaster Recovery & Contingency Planning processes are responsible for setting corporate policies, guidelines, best practices and auditing for compliance by all entities for disaster recovery and restoration, including

contingency planning. These processes are accountable for ensuring disaster recovery plans are in place and tested to ensure continuity of service to customers and revenue to the enterprise in case of a disaster.

Security Management (DRS&F - EM)

Security Management processes are responsible for setting Security Management corporate policies, guidelines, best practices and auditing for compliance by all entities. Security Management addresses internal and external sources of security violations. These processes strongly interact with Fraud Management and have common elements and information services and communications specific elements. Security processes are implemented at many levels of the enterprise and at the user, system/network, etc. levels.

Fraud Management (DRS&F - EM)

Fraud Management processes are responsible for setting Fraud Management corporate policies, guidelines, best practices and auditing for compliance by all entities. Fraud Management addresses internal and external sources of security violations. These processes strongly interact with Security Management and have common elements and information services and communications specific elements. Fraud processes are implemented at many levels of the enterprise and at the user, system/network, etc. levels.

Operations Support & Readiness Level 3 Process Decompositions with Brief Descriptions

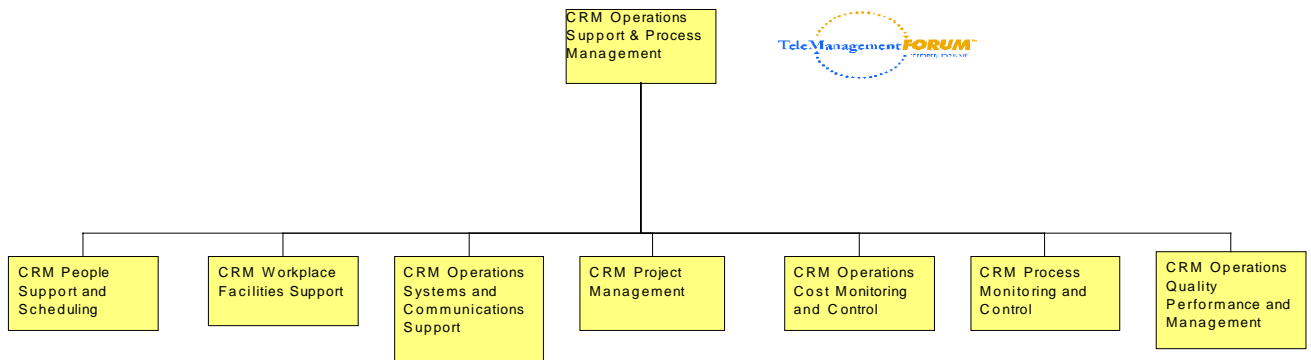
In general the eTOM processes are decomposed only to Level 2 in this document. However, the process structure in the Operations Support & Readiness (OSR) area means that it is necessary to decompose to the next level, Level 3, so that the correspondence between the OSR processes and those in FAB is visible.

This situation is a natural consequence of the way in which process decomposition proceeds, since it is not generally the case that all areas reach an equivalent level of detail in the same number of process decomposition steps.

The decompositions to Level 3 for OSR represent work in progress. In some areas, such as Resource Management & Operations, the division between OSR and FAB has been analyzed more thoroughly than in others (e.g. Supplier/Partner Relationship Management). The following therefore represents a proposed decomposition, which will be developed further in future releases.

Note that there is some repetition of process description at this level of decomposition, because similar processes are required in each of the four functional process groupings of Customer Relationship Management (CRM), Service Development & Operations (SM&O, Service Development & Operations (SM&O, and Supplier/Partner Relationship Management (S/PRM). This is particularly the case for the Operations Support and Process Management processes, within each of these four functional process groupings. To avoid needless repetition, the relevant description text is not repeated but is provided once only under RM&O as this is the area where the decomposition was analyzed most deeply. A reference to these descriptions is provided in the appropriate part of the other three functional process groupings. It is to be understood that this does not mean that the same processes are used in each process grouping, but that the processes in each grouping have a high degree of similarity and that therefore a common description can be used.

CRM Operations Support & Process Management Processes (CRM – OSR)



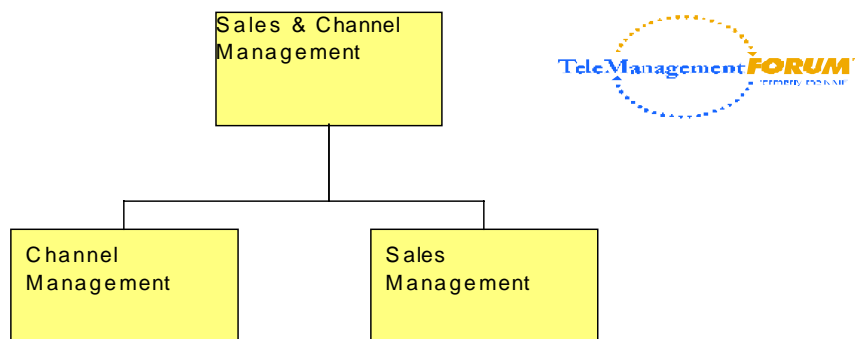
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Figure 4.23: CRM Operations Support & Process Management Level 3 Processes

CRM Operations Support & Process Management Level 3 Process Descriptions

See under RM&O Support and Process Management Level 3 Process Descriptions for descriptions which apply also to CRM, if “RM&O” is replaced by “CRM” for each occurrence in the text.

Sales & Channel Management Processes (CRM – OSR)



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Figure 4.24: Sales & Channel Management Level 3 Processes

Sales & Channel Management Level 3 Process Descriptions

Sales Management (CRM – OSR)

Sales Management processes manage the sales processes and personnel of the enterprise. This includes processes that manage the compensation program(s), sales reporting, win/loss reviews, proposal development, contract administration, etc. Sales Management processes include individual customer or group of customer pricing and discounting.

Channel Management (CRM – OSR)

Channel Management processes manage the distribution processes of the enterprise for its products and services. Channels could be retail storefronts, e.g., a third-party retailer or an enterprise's own storefront, various web sites or ISPs, distributors for that product family, etc. Channel Management processes manage contracts with distributors, retailers and other distribution channels. Channel Management processes forecast required product volumes, feeds back product change requirements and develops incentive plans to meet channel Sales targets. Channel Management processes can be thought of as managing the Selling Chain.

CRM Readiness Processes (CRM – OSR)

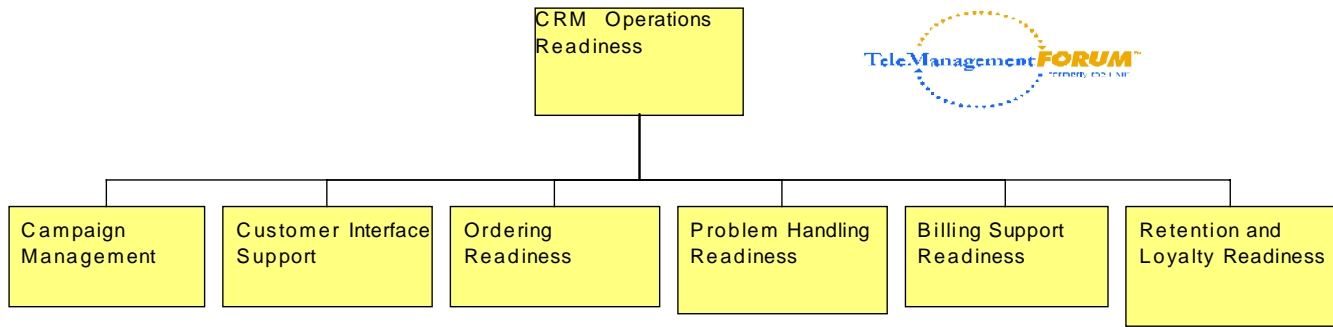


Figure 4.25: CRM Readiness Level 3 Processes

CRM Readiness Level 3 Process Descriptions

Campaign Management (CRM – OSR)

Campaign Management processes manage individual Marketing Campaigns developed by Marketing Promotion processes. These processes monitor the effectiveness of the campaign, make modification and report results. Campaign Management assures that Marketing Fulfillment response is staffed, trained and equipped appropriately to support the specific campaign, whether direct mail, TV ad, etc.

Customer Interface Support (CRM – OSR)

Customer Interface Support processes ensure that all information, materials, systems and resources are available so that the Customer Interface Management processes can be completed without delay, when a contact with a Customer occurs. E.g. information on how to handle unusual requests based on temporary situations, systems needed to accept and track Customer contacts, requesting provisioning of additional resources where it has been identified that current levels will impact on timely contact handling.

These processes are responsible for making generic and specific changes to customer interfaces. This support could be in updating agent scripts, IVR announcements, Web pages, etc. Customer Interface Support processes keep all information for the customer current.

Ordering Readiness (CRM – OSR)

Ordering Readiness processes make sure that all information, materials, systems and resources are available so that the Order Handling processes can be completed without delay, when a request is received from a customer. Examples are information on how to process orders for specific products and services, information needed to carry out designs, materials needed to confirm order requests, systems needed to validate product and service availability, requesting provisioning of additional resources where it has been identified that current levels will impact on timely order completion.

These processes update product intervals, update product pricing and ordering codes, etc. They manage blocks of numbers provided for assignment, updates for correct ordering, etc. These processes ensure orders can be prepared and released per order issuance metrics.

Problem Handling Readiness (CRM – OSR)

Problem Handling Readiness processes make sure that all information, materials, systems and resources are available so that the Problem Handling processes can be completed without delay, when a request is received from a customer. Examples are information on current problems needed to analyze customer problem reports, materials needed to analyze customer problems, systems needed to analyze customer problem reports, requesting provisioning of additional resources where it has been identified that current levels will impact on timely problem handling.

Billing Support Readiness (CRM – OSR)

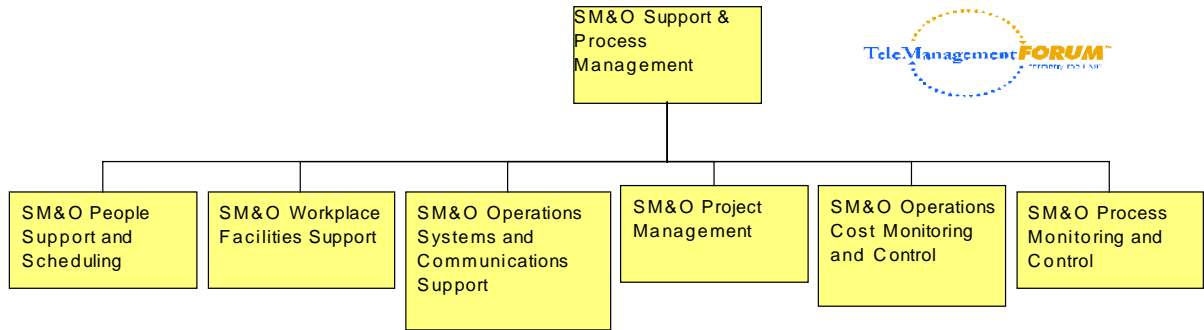
Billing Support Readiness processes make sure that all information, materials, systems and resources are available so that the Billing & Collections Management processes can be completed without delay. Examples are information on how to respond to current billing issues being raised by customers, materials needed to deliver bills to customers, systems needed to create bills or analyze customer billing concerns, requesting provisioning of additional resources where it has been identified that current levels will impact on timely bill preparation and billing complaint handling.

Retention & Loyalty Readiness (CRM – OSR)

Retention & Loyalty Readiness processes make sure that all information, materials, systems and resources are available so that the Retention & Loyalty processes can be completed without delay, when a request is received from a customer. Examples are information on current requests for analysis and collection of Customer profile information, materials needed to analyze customer retention and loyalty information, systems needed to analyze

customer retention and loyalty information, requesting provisioning of additional resources where it has been identified that current levels will impact on timely retention and loyalty information collection and delivery.

SM&O Support & Process Management Processes (SM&O – OSR)



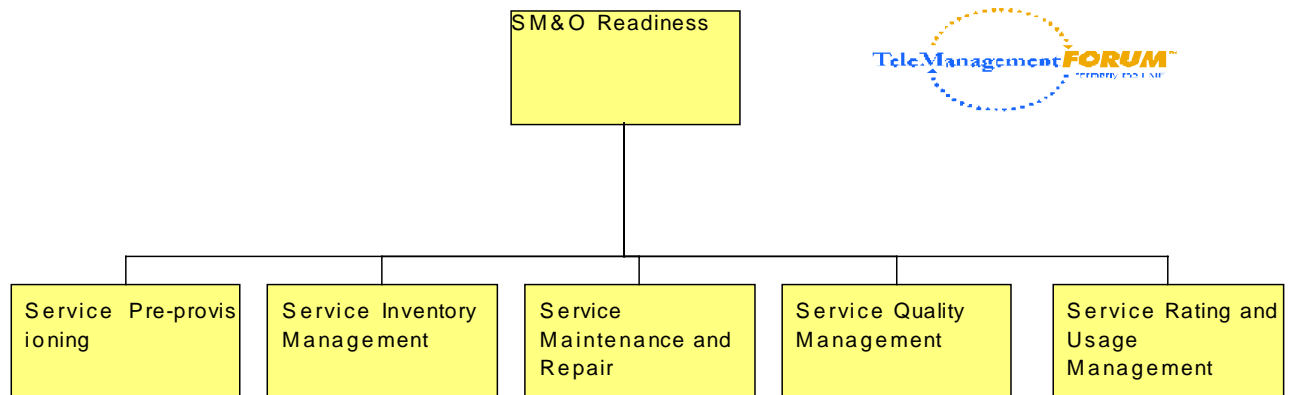
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Figure 4.26: SM&O Support & Process Management Level 3 Processes

SM&O Support & Process Management Level 3 Process Descriptions

See under RM&O Support and Process Management Level 3 Process Descriptions for descriptions which apply also to SM&O, if “RM&O” is replaced by “SM&O” for each occurrence in the text.

SM&O Readiness Processes (SM&O – OSR)



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Figure 4.27: SM&O Readiness Level 3 Processes

SM&O Readiness Level 3 Process Descriptions

Service Pre-provisioning (SM&O – OSR)

Service Pre-provisioning processes ensure that the service is available for allocation to a customer when an order arrives. They are responsible for ensuring the availability of the resources required for configuring a service and for undertaking reconfiguration in order to maintain the satisfactory operation of the service or to add service-specific capacity.

Service Inventory Management (SM&O – OSR)

Service Inventory Management processes, which support all SM&O and SD&M processes, manage the administration of the enterprise's service inventory, as embodied in the Service Inventory Database.

These processes ensure the Service Inventory Database is synchronized with the actual deployed services, and also manages their association with resources, through interaction with Resource Inventory Management.

Service Maintenance & Repair (SM&O – OSR)

Service Maintenance & Repair processes ensure that the class of service is maintained in order to prevent customers to be affected by service problems. They deal with statistical trouble analysis, maintenance scheduling, chronic failure analysis etc. and initiate corrective actions.

Service Quality Management (SM&O – OSR)

Service Quality Management processes ensure that a specific service class is performing according to specified requirements. It encompasses monitoring the performance, analyzing the root cause of performance problems, reporting to other processes and initializing appropriate actions to make sure that classes of service are working efficiently. These processes are responsible for "total service class quality" i.e. they manage both dependability and financial implications of service classes.

Service Rating & Usage Management (SM&O – OSR)

Service Rating & Usage Management processes ensure that rating and tariffing information is maintained for each service class, for use by Service & Specific Instance Rating. They are also responsible for processing of this information related to administration of the services.

RM&O Support & Process Management Processes (RM&O – OSR)

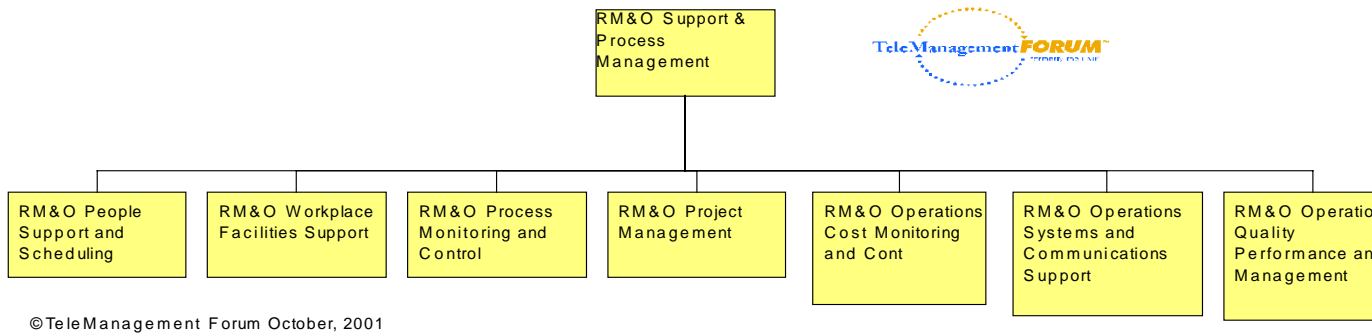


Figure 4.28: RM&O Support & Process Management Level 3 Processes

RM&O Support & Process Management Level 3 Process Descriptions

RM&O People Support and Scheduling (RM&O – OSR)

RM&O People Support and Scheduling processes cover all activities which assure the RM&O staff can perform their role in an optimal manner, such as for Training Delivery.

These processes also ensure that the duty schedule of staff members takes into account the specific current requirements. For example, the regular schedule might need to be adapted if an unexpected event causes additional operations workload.

RM&O Workplace Facilities Support (RM&O – OSR)

RM&O Workplace Facilities Support processes take care of environmental aspects related to RM&O, making sure the workplace facilities are adequate to guarantee an optimal performance of the operations staff.

RM&O Operations Systems and Communications Support (RM&O – OSR)

RM&O Operations Systems and Communications Support processes ensure that the systems and communications capabilities required for RM&O are up and running at all times. These activities are a first level support in addition to the enterprise wide ICT support.

RM&O Project Management (RM&O – OSR)

RM&O Project Management processes cover all project management activities related RM&O, ensuring tasks are executed in the most efficient manner. This typically involves balancing the varying and competing demands on operations from a time, cost, risk and quality point of view, and satisfying the differing needs and expectations of the all those involved.

RM&O Operations Cost Monitoring and Control (RM&O – OSR)

RM&O Operations Cost Monitoring and Control processes monitor the RM&O processes based on Key Performance Indicators associated with RM&O process activities. The focus is the economic or cost effectiveness point of view. This includes reporting when process activities are performing against associated budgets.

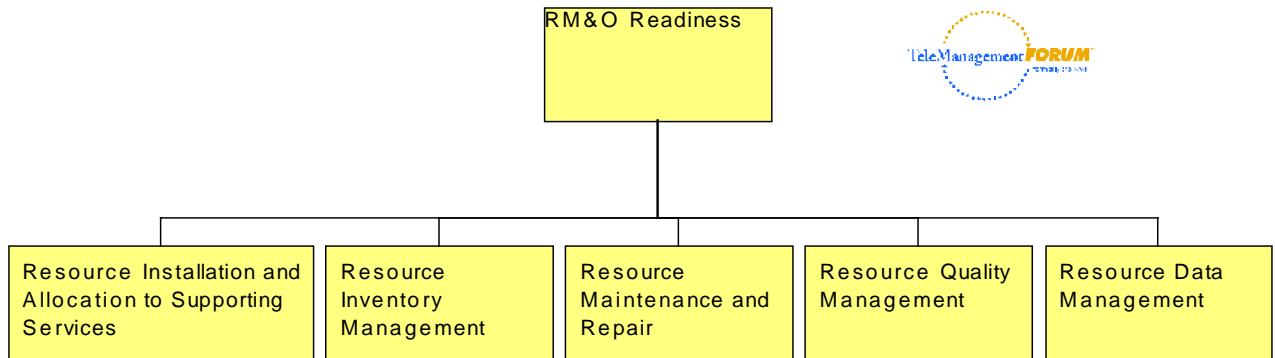
RM&O Process Monitoring and Control (RM&O – OSR)

RM&O Process Monitoring and Control processes monitor the RM&O processes based on Key Performance Indicators associated with RM&O process activities. The focus is on “dependability” (time related), i.e. meeting timescale targets. This includes reporting and, if needed, recommending and implementing process improvements.

RM&O Operations Quality Performance and Control (RM&O – OSR)

RM&O Operations Quality Performance and Control processes cover Quality Management activities, ensuring that the RM&O processes are carried out in a consistent, methodical and reproducible way. This includes the activities related to Quality Management standards such as the ISO9000 family.

RM&O Readiness Processes (RM&O – OSR)



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Figure 4.29: RM&O Readiness Level 3 Processes

RM&O Readiness Level 3 Process Descriptions

Resource Installation & Allocation to Supporting Services (RM&O – OSR)

Resource Installation & Allocation to Supporting Services processes are responsible for testing and acceptance of new resources as part of the handover process from the Resource & Operations Capability Delivery process. These same processes will also be triggered in order to restore repaired resources. If there is not enough resource capacity available to support services at any given time, these processes attempt to make available additional resources by re-configuring unused resources.

Upon successful testing and acceptance, the application, computing or network resources will be registered as being available to support end-user services. Resource status will be updated in the Resource Inventory Database, to reflect that the resource is available to support services.

Resource Inventory Management (RM&O – OSR)

Resource Inventory Management processes, which support all RM&O and RD&M processes, manage the administration of the enterprise's resource inventory, as embodied in the Resource Inventory Database.

These processes ensure the Resource Inventory Database is synchronized with the actual installed resource base. This can be achieved by means of audits and, if supported, auto-discovery mechanisms.

These processes also encompass the constant monitoring of the level of resource availability. If pre-set thresholds are exceeded, the resource will need to be registered in the Resource Inventory Database as no longer having spare capacity to meet service demands. This will either trigger the reconfiguration of unused resources or the build of additional resources through Resource & Operations Capability Delivery.

Resource Maintenance & Repair (RM&O – OSR)

Resource Maintenance & Repair processes cover statistically-driven preventative and scheduled maintenance activities, and the resulting repair activities.

Resource Quality Management (RM&O – OSR)

Resource Quality Management processes proactively monitor and maintain resources, according to performance parameters, whether technical, time, economic or process related. They also manage the day-to-day monitoring and analysis of groups of resources to ensure that services that depend on these resources are working efficiently. Resource Quality Management supports Service Quality Management.

Resource Data Management (RM&O – OSR)

Resource Data Management processes encompass the collection of usage, network and information technology events, including resource information, for traffic engineering and capacity planning.

This also involves the collection and formatting of data for use by many other processes in the enterprise.

The co-ordination of the actual collection of resource information between this area and FAB may differ in different organizations, and will be considered further as the eTOM work continues.

S/PRM Support & Process Management Processes (S/PRM – OSR)

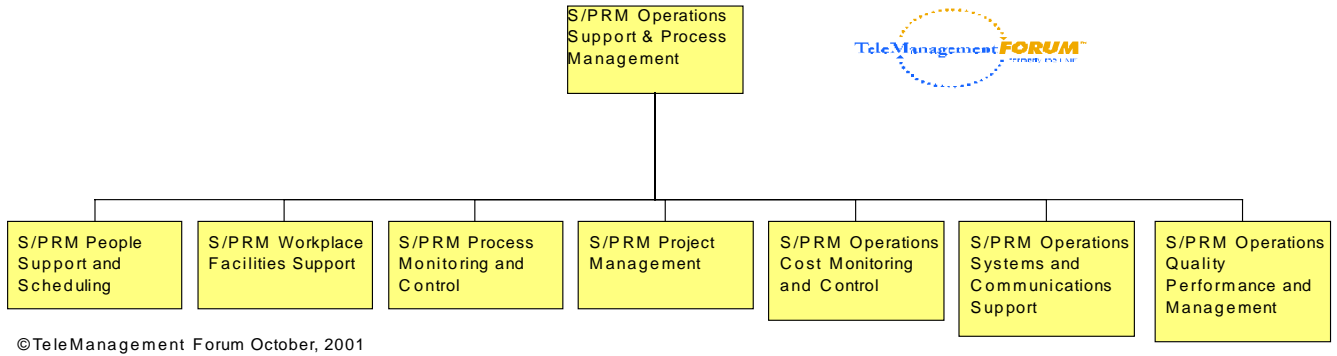


Figure 4.30: S/PRM Support & Process Management Level 3 Processes

S/PRM Support & Process Management Level 3 Process Descriptions

See under RM&O Support and Process Management Level 3 Process Descriptions for descriptions which apply also to S/PRM, if “RM&O” is replaced by “S/PRM” for each occurrence in the text.

S/PRM Readiness Processes (S/PRM – OSR)

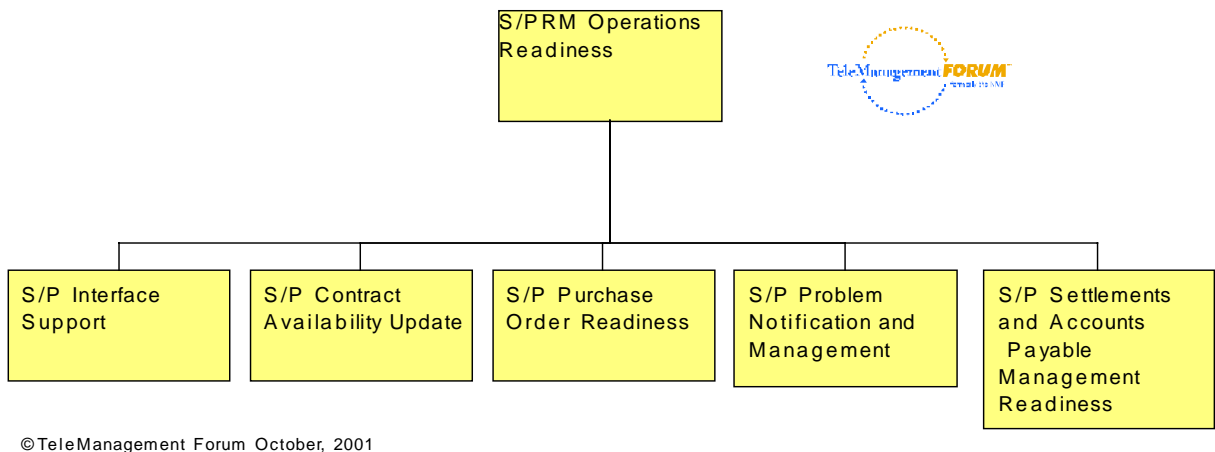


Figure 4.31: S/PRM Readiness Level 3 Processes

S/PRM Readiness Level 3 Process Descriptions

Note that the analysis of S/PRM Readiness Level 3 processes is at an early stage compared to that in other areas. The following descriptions should be regarded therefore as preliminary only.

S/PRM Interface Support (S/PRM – OSR)

S/PRM Interface Support processes are responsible for ensuring that all necessary interfaces between the enterprise and its suppliers/partners are set up and available when necessary. Moreover, these processes are responsible for the resolution (identification, diagnosis, tracking, closure) of problems related to these interfaces.

S/P Contract Availability Update (S/PRM – OSR)

S/P Contract Availability Update processes are responsible for defining, preparing and signing contracts between the enterprise and its suppliers/partners. These processes are also responsible for updating these contracts, should changes become necessary.

S/P Purchase Order Readiness (S/PRM – OSR)

S/P Purchase Order Readiness processes are responsible for ensuring that all necessary facilities related to S/P Purchase Order Management are ready and functioning. Moreover, these processes are responsible for the resolution of problems related to these facilities.

S/P Problem Notification and Management (S/PRM – OSR)

S/P Problem Notification and Management processes are responsible for ensuring that all necessary facilities related to S/P Problem Management are ready and functioning. Moreover, these processes are responsible for the resolution of problems related to these facilities.

S/P Settlements and Accounts Payable Management Readiness (S/PRM – OSR)

S/P Settlements and Accounts Payable Management Readiness processes are responsible for ensuring that all necessary facilities related to S/P Settlements and Accounts Payable are ready and functioning. Moreover, these processes are responsible for the resolution of problems related to these facilities.

Full eTOM View of Level 2 Processes

For completeness, Figure 4.32 shows the whole eTOM Framework with processes to Level 2. Although this is a very complex diagram with which to work, it can be useful to have it as a reference, to provide an overview of the entire process decomposition to this level.

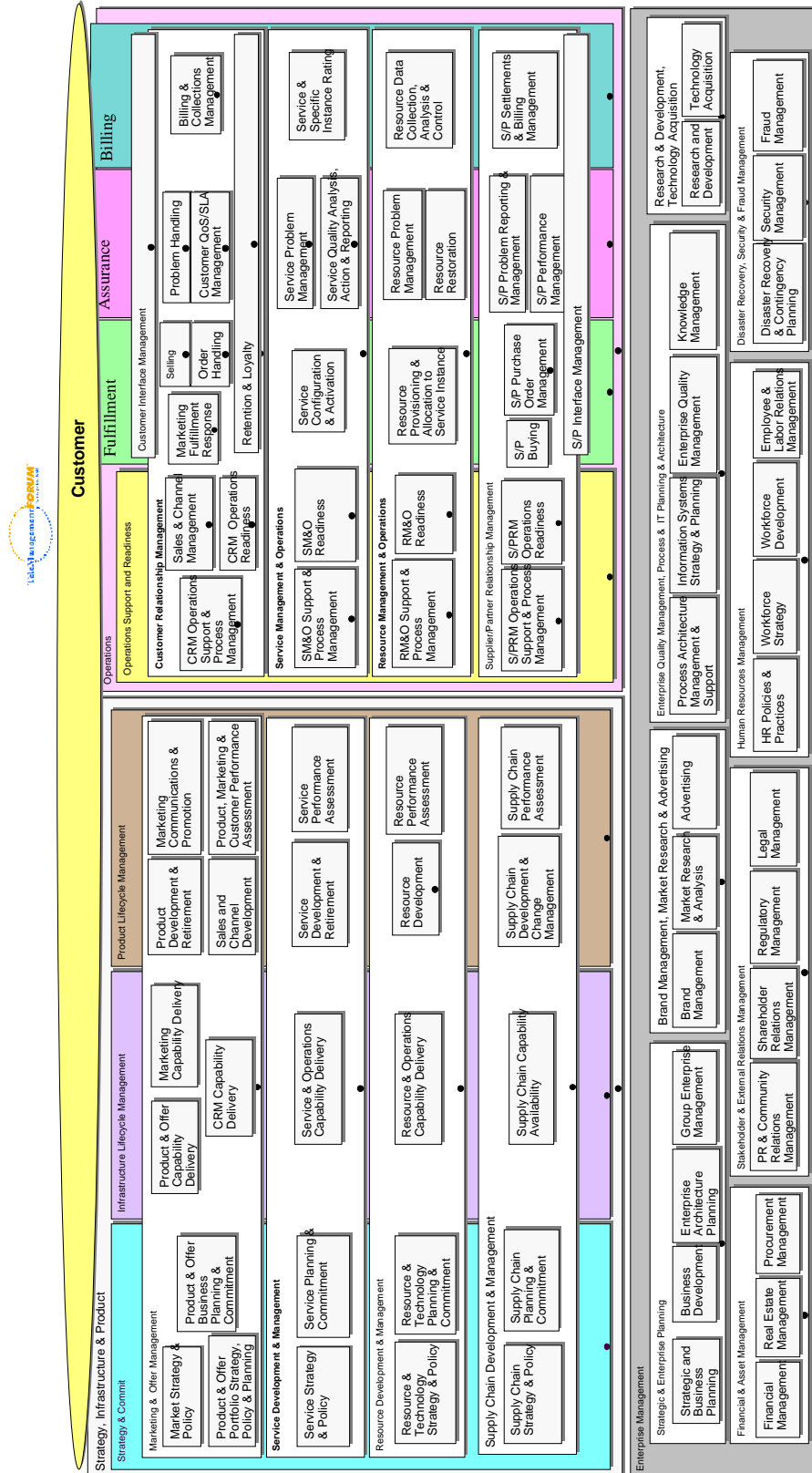


Figure 4.32: eTOM View of Level 2 Processes

Chapter 5 – The eBusiness SP Enterprise

As mentioned in the eTOM objectives, the 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. This section sets the ebusiness context that drove the evolution of the TOM Framework to the eTOM Business Process Framework.

Why does business seem more difficult?

Business life is more difficult than it has been for old-economy businesses and new businesses. Prior to the Internet, prior to ebusiness, change was fast and constant, but more predictable than the complexity of today. The focus of the recent past has been on running the business well, with the focus on Quality Management practices. Business leaders knew to take action, e.g., reduce costs, launch new products, acquire, merge, etc. Now, change is not only at Internet speed, but more complex and all encompassing. Companies are not sure who their competitors are, what their core strengths and skills are and whether the business they have done well in for a number of years will keep them profitable in the future. Underlying this uncertainty is the Internet and all the technologies that can be associated with it. Although it is now in use basically to mimic traditional activities, it has begun to impact business perhaps more pervasively and in more varied ways than the arrival of most new technologies before it.

The 'chameleon' like qualities of the Internet and the ebusiness world that it enables can lead to uncertainty. One of the key reasons for this is that the Internet's impact is iterative on the business goals, the actual Business Model itself and the processes of a business. There is a feeling or pressure to apply the Internet and/or ebusiness to most aspects of the business all at once.

Two more issues heighten the feeling of risk and portend actual risk of failure today, i.e., the high cost of IT investment for ebusiness and the high rate of failure of IT projects. The amount of potential business and IT investment required to take advantage of ebusiness opportunities is huge for any enterprise. This investment is probably larger than any IT investment a firm has had to make to date. Unfortunately, the track record for IT investment in general is not good. IT investment decisions are one of the highest risk decisions that executive managers make based on IT project performance and size of investment required. 84% of IT projects are late, over budget, or cancelled. Of the \$184B spent per year on IT in 1999 just by U.S. corporations, completed projects only achieved 60% of their objectives. The track record for ebusiness initiatives is not much better, i.e., one in three ebusiness initiatives fail and more than half of ebusiness initiatives come in over budget.¹

¹ e-Strategy Pure & Simple

by M. Robert and Bernard Racine, McGraw-Hill 2001

The TM Forum mission of Business Process Automation based on standards and common models with plug and play flexibility has never been more relevant. The eTOM will try to demystify some of this environment. Although it will not and should not address what business model a service provider should adopt, it will provide some ways to understand the impact of the Internet and will emphasize the importance of an ebusiness strategy as a significant element of developing the enterprise strategic business model and strategies (what markets, what targets customers, what products, etc.). The business model and strategies, including the ebusiness strategy, drive both the Business Process Framework and the Information Systems strategy.

eBusiness Environment

Business is being revolutionized by ecommerce and ebusiness. eCommerce is buying and selling over digital media. eBusiness includes all aspects of ecommerce, but includes both front- and back-office processes and applications. The streamlining of interactions, products and payments from customers to companies and from companies to suppliers is fundamentally altering business models and approaches. It is radically changing interaction with customers. eBusiness impacts nearly all parts of a business. To meet this new paradigm, organizations are setting new rules via new technology-based business designs, new inter-enterprise processes, and integrated operations to support changing customer requirements. It is imperative to have integration of business, technology, and process. The business management team of a service provider has to understand what technology can enable as applied to their business. This needs to be realized in a strategy that forms the basis for the strategies of the enterprise and its business model.

There are several alternatives for implementing ebusiness. Some companies are treating ebusiness or ecommerce as separate units. Some are overlaying ebusiness on traditional business operation. Yet other businesses are approaching ebusiness as a replacement of traditional business. The most successful ebusiness enterprises integrate ebusiness and traditional business where cost, quality and profit can be best rationalized. This isn't just 'clicks and bricks' or throwing up Web pages, although integrating storefront and Web operations is clearly a key part of the model for some businesses. The integration of ebusiness and traditional business is the model that is most applicable to Information and Communications Service Providers and therefore, is the underlying assumption of the eTOM. The three major reasons Service Providers must integrate ebusiness and traditional business processes are:

- Customer expectation and the need to move to a customer relationship management approach that increases retention of customers and increases the value customers contribute to the enterprise.
- To ensure continued productivity gain.
- To provide a broader range of products and services to customers that for the Information and Communications Services industry (more than almost any other industry) requires more collaboration and integration of processes. See Table5.1.

If it were simply a matter of linking emerging technologies to existing markets or vice versa, the management challenge would not be as difficult and more than familiar to service providers. However, the challenge is that both technologies and new markets are emerging simultaneously and at a rapid rate. As technologies emerge, they affect customer needs; customer needs influence business designs. As business designs

emerge, they affect processes; and processes influence the next generation of technology.

eBusiness also has at its core a focus on relationships because it enables relationships that were not possible before. There are many interesting business relationships being tried in the market. eBusiness enterprises move from monolithic, vertically integrated entities to virtual corporations that must manage a complex value network with the same or better performance than the vertically integrated organization. A significant element of ebusiness is the streamlining and automation of the value network for significant productivity gain across all resources and players.

There is a burgeoning amount of material being published daily on ebusiness. There are numerous perspectives, assessments of the environment and recommended actions. It is not useful to provide a lengthy discussion here on today's environment and the world of service providers. To set the stage, the environment in which service providers live is captured briefly in the objectives chapter and this introduction to the ebusiness service provider enterprise. In addition, this environment, especially Business-to-Business (B2B) models, is so new and dynamic that to provide more detail is too limiting a snapshot.

The remaining parts of this chapter outline the ebusiness assumptions and success criteria that have been applied when developing the eTOM. This is based on TM Forum market research with successful ebusiness enterprises, member input and review of current literature on the topic.

What is an eBusiness Enterprise?

An eBusiness Enterprise sits at the core of a value network that is focused on the exchange of value to support a customer's requirements through relationships. The exchange of value is enabled electronically, but is not exclusively electronic. A successful eBusiness Enterprise integrates the exchange of value across various media and venues among the players in the value network, i.e., customer, service providers, intermediaries, suppliers and complementors. Successful eBusiness Enterprises integrate value from suppliers, partners and other providers as a virtual enterprise that is perceived by the customer as having the benefits of a vertically organized entity.

An eBusiness Enterprise is not solely a business that does ecommerce. An eBusiness Enterprise is not only a dotcom company. eBusiness isn't about having a web page up, just as it is not just businesses that are totally electronic interface based.

An eBusiness Enterprise is one that integrates traditional business with ebusiness opportunities and makes use of the Internet and related technologies where they fit the purpose, can increase productivity, increase revenues, improve customer relationships and/or improve quality or competitiveness.

eBusiness Strategy and Service Provider Business Models

Business Management has to understand what technology can enable for their business models and processes. This does not mean knowing bits and bytes, but rather means understanding how technology can impact the Enterprise Business Model in making it more or less viable.

As mentioned earlier, an ebusiness strategy at the highest levels of the enterprise is required for success. This is basically because the Internet can radically affect the business model and strategies of the enterprise. A simple way to think about this is to look at key interfaces of the enterprise and imagine what a 'killer' ebusiness could do with that interface to take business away. Leading Strategy experts² have identified 12 basic capabilities (or e-nablers) of the Internet, which can be applied when looking into a Service Provider's Business Model and Processes, really any business for that matter. The idea is to understand these and identify where and when the Internet and its enabling capabilities will affect the enterprise's Business Model. Using these 12 basic Internet capabilities is very useful when looking at a process because you can see where one of these capabilities can radically change the process and perhaps the driving business model. The Internet enhances the ability to conduct these capabilities.

The eTOM begins to apply some of these Internet capability concepts in process design and will continue to develop the application of these capabilities to processes in future releases. To help with understanding how the basic capabilities of the Internet can be used to change the rules of play in the Information Communication Services Market, brief descriptions of key capabilities are listed in Table 5.1.

Internet Capability	Description
Aggregation	Ability to recruit large groups of buyers and/or sellers to obtain better costs or prices—Addresses both demand and supply sides
Build to Order	Ability for a customer to place an order for a product configured to his/her specific requirements
Customer Self-Service	Ability for the customer to conduct his or her own ordering and servicing
Producer Direct (also called disintermediation)	Ability for a producer or a manufacturer of a product or service to sell directly to the end user, bypassing the traditional methods of selling and distributing through third party agents, reps or distributors
Channel Integration	Ability to integrate diverse channels into a coherent sales and distribution system—opposite of producer direct
Syndication	Ability to sell products or services to customers who then package them with other products that have been "syndicated"

² Michel Robert and Bernard Racine in their book e-Strategy Pure & Simple: Connecting Your Internet Strategy to Your Business Strategy, McGraw Hill

	from other suppliers who, in turn resell or deliver the package to a third party. There are 3 basic roles, i.e., the originator, the syndicator and the distributor
Marketable Knowledge	Ability to turn internal knowledge into a valuable asset by digitizing it and making it available on the Web.
Product Rebundling	Ability of an entity to use the Internet to bundle closely related but separate and different products or services in combinations that would not be possible on a standalone basis.
Dynamic Pricing	Producers aggregate production volumes in an industry to let customers know how much product is available and where. This may include bidding-- opposite of demand aggregation.
Portals	Web capability developed by an organization in which a company offers its own products as well as products from competitors and complementors.
One-to-One Marketing	Ability to collect and store enormous amounts of information that can be used to zero in on a prospect with a clearly defined profile, one-to-one.

Table 5.1: Business Capabilities Enabled By the Internet and Associated Technologies³

To employ any of these capabilities requires significant IT investment, but also a significant re-architecting of business processes. Deploying a new business strategy, especially one that changes parts or all of a business model and requires a significant process redesign and IT investment, is the kind of risks service providers face in this new ebusiness environment. Through a use of a common Business Process Framework for ebusiness that addresses the whole enterprise this risk can be reduced. In addition, application of the principles and approaches of TM Forum NGOSS™ for systems analysis, design and implementation can further reduce these risks. However, the most important work for the service provider is the analysis of how Internet capabilities can be applied to its business, in terms of its model and processes, to enable success. Some companies choose to do this analysis based on where a competitor can take away business, since it can make vulnerabilities and actions clearer. As with any set of strategies, the most critical part of the strategy or plan is setting priorities for the actions required resulting from the analysis.

Business Model Focus is critical. Attributes of each focus are defined in Table 5.2 from a past, present and future standpoint. Having clear direction of a service provider's business focus will allow it to develop its process infrastructure based on the eTOM Framework. Although obvious, in today's environment a service provider has to support high expectations in each of the three areas to succeed in the marketplace. As further processes are developed for the eTOM both the application of Internet capabilities to process design and flexibility to support each one of these focus areas will be broader than in Release 1 of eTOM.

³ e-Strategy Pure & Simple by Michel Robert and Bernard Racine, McGraw-Hill, New York 2001

Business Model Focus

Changing Expectations

	Past	Present	Future
Innovation	<ul style="list-style-type: none"> • Inhouse Research • Steady Improvement • Risk Averse 	<ul style="list-style-type: none"> • Aquisitions of New Ideas • Changing the Rules of the Game • Embracing Risk 	<ul style="list-style-type: none"> • Culture of Innovation • Market Education • Constantly Delight the Customer
Operational	<ul style="list-style-type: none"> • Inhouse Research • Steady Improvement • Risk Averse 	<ul style="list-style-type: none"> • Delivery • High Quality • Price 	<ul style="list-style-type: none"> • Customized Solutions • Outsourcing • End-to-End Process Effectiveness
Customer Service	<ul style="list-style-type: none"> • Ease of Use • Reliability • Basic Functionality 	<ul style="list-style-type: none"> • Excellent Support • Quality of Products • Service Orientation 	<ul style="list-style-type: none"> • Self-Service • One-to-one Marketing • Value

Table 5.2: Business Model Focus—Changing Expectations⁴

eBusiness Success Consensus

Based on TM Forum market research with successful ebusiness firms, current literature on ebusiness and member input, for eTOM purposes an initial consensus was reached on what attributes are most important to be a successful ebusiness enterprise and are shown below. This list is not exhaustive and includes some attributes that are obvious, but was a good list to use as a base for initial development of the eTOM.

- Marketing and Customer
 - Strong Marketing with a focus on brand to drive visibility and loyalty.
 - Since customer retention and customer value management are now one of the largest determinants of profitability, excel at managing the relationship with the customer and understanding the customer to the point that products and services can be personalized, customized and integrated for a customer.
 - Understand and enable customer priority processes and the customer's ability to control the service provider's process and self-manage his or her support.
- Value Network Management
 - Astutely define the enterprise value network and excel at managing it. This includes understanding the need for specific value network processes and accountability for value network performance.
 - Integrate and streamline the Supply Chain, a part of the Value Network.

⁴ The e-Process Edge by Peter Keen and Mark McDonald, Osborne/McGraw-Hill, Berkeley 2000

- Build collaboration and community, so that the value network delivers value to all players. This includes high attention to cross-value network change management and a commitment and drive for automation of the value network.
- Technology and Operations Management
 - Operations Management processes matter as much as or more than online management processes due to the high customer expectations for service delivery.
 - Technology management means more than setting up Web sites. Executive Management understands what technology can enable and that automated processes are imperative.
- Enterprise
 - Integration of Clicks and Bricks is the new model.
 - eCommerce cannot be an island within an enterprise.
 - Organizational capabilities and processes must transform.
 - Relationships are imperative with employees, customers and suppliers.

eBusiness Processes are Different

Processes in an ebusiness environment are different than in a traditional business environment. Successful ebusiness enterprises prioritize and source their processes based on the processes that contribute to their identity, those that are critical to their operational performance and those that are high priority to customers.

Some of the differences in process design or approaches in an ebusiness environment are:

- The customer determines process priority and value to the enterprise. Processes are assessed as assets and liabilities.
- Customer processes are built around the customer rather than the technology, organization, customer care staff, etc. with customer self-management as priority.
- Exceptions are handled excellently. In other words, process problems are identified in real time and actions to support the customer are taken real time.
- Focus on processes that contribute to the identity of the enterprise, the processes that are high priority to the customer, or are critical to the operational performance and outsource the rest.
- Out-task processes, if the service provider cannot meet best of breed expectations or market windows. In-source where the service provider needs to control and develop new competencies.
- Processes are modular and based on business rules.
- Application of business rules is automated and configurable.
- Processes are much more integrated.
- Sales and Service processes converge for consistent look and feel, including customization, personalization and integration
- Processes enable ease of use—competition is one click away.

- Processes need to be managed to high levels of service delivery consistency and reliability.
- Processes are made more visible—kill the black box, make back-office activities an asset.
- Processes enable flexible fulfillment and proactive support that is convenient, fast and done right is the standard.

The ebusiness environment is complex and moving at a frenetic pace. Processes are the basis for relationship management with customers, suppliers and employees. There is clear evidence that processes are the basis for integration and automation throughout the industry and in other industries to capture ebusiness opportunities. eTOM continues to build on the TOM legacy of enabling process integration and automation.

ICSP Business Drivers

A business must address new questions:

- How does this e-business environment change customer priorities?
- What does our new business design need to be in order to meet these priorities?
- What kind of investment in technology is necessary?

The accelerated flow and access of data and information has allowed the streamlining of interactions between customers and companies. This has reset customer expectations. Customers now have higher expectations of service and control and lower tolerance for companies that cannot offer the new level of service.

Information-centric business design now has to meet new customer priorities and technology investment must support changing designs. The gap between sales and service is closing. The strategy is to sell to customers while serving them. There is also a need for companies to integrate and share data with their partners as well.

In the e-business world, 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 and personalizing each customer experience. Customers value one-stop shopping, which implies integrated service offering businesses, and better integration along the supply chain for order entry, fulfillment and delivery. Selection choices and personalization is very important to customers, as is empowerment or self-service. The value lies in making life easier and simpler for the customer.

The ICSP Business Challenge

The Information and Communications Services industry is rapidly changing with new rules, new competitors, new customers, unprecedented demands and the emerging requirements for e-business. Service providers face all the issues and decisions outlined above for successful e-business integration. Information and Communications Service Providers perhaps face more than enterprise's face in other industries, e.g.. major service shifts and large growth in the number of services offered in the industry (See Figures 5.2 and 5.3).

The Information and Communications Services industry faces massive changes in services and technologies simultaneously as shown in Figure 5.3. Many disruptive events, which would traditionally have been thought to occur on very long timescales are upon us contemporaneously. The effect is like the "100 year wave" where an unusual combination of factors produces a wave at sea able to swamp large vessels, but happening on multiple fronts within the industry.

Monopolies _ open markets

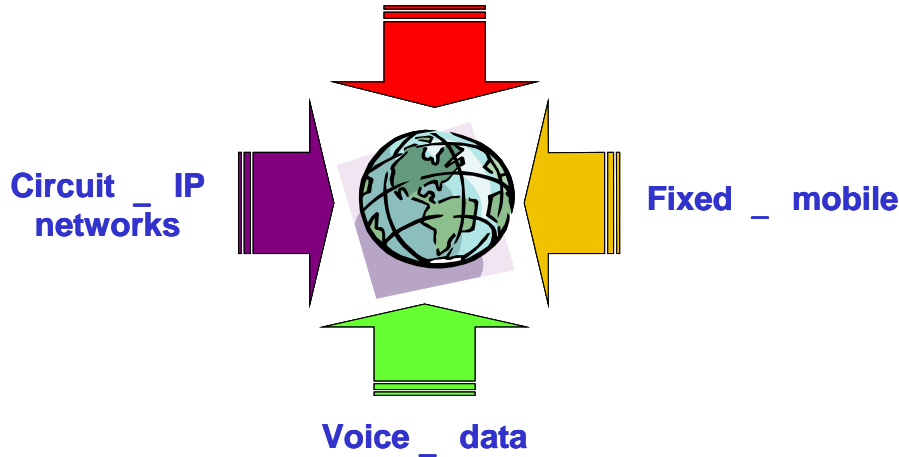
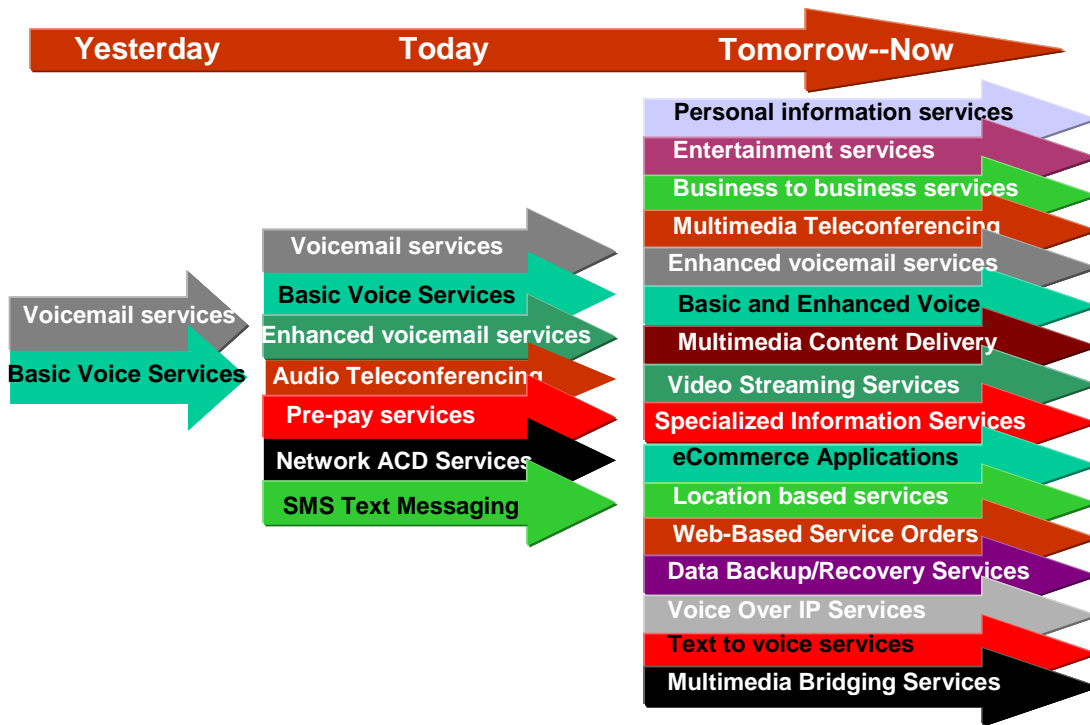


Figure 5.3: Multiple '100 Year Events' are Colliding

However, this unprecedented level of change creates both opportunities and risks. As mentioned above, Service Providers are broadening the array of services they offer and face a large number of new service types in the market as shown in Figure 5.4.



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Figure 5.4: Services in the ICS Industry are Multiplying

Information and Communications Service Providers worldwide all face similar challenges, risks, and struggles to remain profitable in the face of more competition, higher customer expectations, falling market share and price pressures. As the providers face these challenges, their suppliers must find innovative ways to deliver value or they may also risk going out of business.

ICS Service Providers also face very different regulatory environments and their business strategies and approaches to competition are quite distinct. In general however, Service Providers 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

The importance of service

Information and Communications Service Providers have a history of commitment to service. Now, as historically, the core of an Information and Communications Service Provider's success is rapid response to the service needs of the customer. As the market develops the key objectives are 'more for less' -- faster service introduction, improved Quality of Service at a lower cost. Achieving these objectives requires automation of customer support and the with all of operations management processes, a strong automated linkage between the management of customer service offerings and the underlying information technology and networking assets, as well as automated linkage with enterprise applications. The level of automation and integration in the current environment of almost all service providers, existing and new entrants, is lower than what providers need to remain competitive. Many existing service providers that are facing new competitive pressures or facing restructuring are now actively engaged in re-engineering their business processes to integrate and automate, thereby decreasing costs and improving customer perceived value and performance. New entrants are developing operational processes based on automation of critical processes while planning to increase automation and integration as the business grows.

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.

With the growth of data or information services, it is becoming evident that the end customer perception of quality requires service providers to expand traditional measures of quality and to move more to proactive Service Management and interactive Customer Relationship Management. Customer applications now inherently provide sophisticated measures of quality. Service Providers have to go

beyond information technology- and/or network-centric views of Quality of Service and support to meet customers' expectations. It means pushing the limits of service and customer support process performance.

Linking objectives and requirements

Making a link between Service Provider Business Objectives and the requirements typically stated for Business and Operations Support Systems is a challenge. Systematic process models are an essential source of solutions to this challenge. They can be used to positively influence a Service Provider's organization in many ways such as:

- Simplifying internal communications and communications with suppliers or other outside parties
- Revealing the way the organization performs, particularly from a customer point of view
- Identifying process, sub-process and process activity interfaces, particularly at or supporting all points of contact between the service provider and its customers
- Identifying control points and critical performance metrics
- Targeting productivity and quality improvements
- Providing a framework to assess automation opportunities
- Allowing less experienced staff to be quickly effective
- Maintaining gains and enabling continuous improvement

Business and Operations Support Systems and third party applications, becoming available in the market place today, are maturing in terms of their ability to support these business process frameworks and needs. The overall NGOSS™ program is focused on making the link from a common industry Business Process Framework (eTOM) to Business Aware Contracts and Shared Data Models that operate in a common systems infrastructure.

Business Process Frameworks

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 System development brings noticeable efficiency improvements and removes barriers within those organizations 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 success from both a specific industry perspective and from an ebusiness perspective.

Chapter 6 - The eTOM Business Relationship Context Model

Introduction

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.

The global nature of today's emerging service providers is not only multi-national, but is also becoming multi-corporation as companies extend their reach to serve larger geographical areas or to increase the range of products they can offer to their customers. Although one route to accomplish this extended reach is through direct expansion of networks and development of new product capabilities, another route, which increases speed to market, is through a wider set of relationships. The ability to associate with other companies to leverage their capabilities and create a mutually beneficial relationship is called a "Value Network".

The TOM Business Reference Model

The TOM business reference model was developed on the basis that a service provider could establish well-defined relationships with customers, other providers/operators, suppliers and vendors (see Figure 6.1). It was developed as a model for the type of value chain then existing in the telecommunications world, replacing the former singular relationship between the service provider and the customer with a model containing more relationships and more complexity. It reflects the environment of the time, transitioning from a monopolistic to a liberalized orientation but without the ebusiness context of today. As a generic model it is still valid, but the relationships and roles depicted have now evolved further. Relationships between businesses providing information and communications service products to customers have become considerably more significant and are an essential element in the success, and even survival, of a company in today's marketplace. As the number of steps in the value chain increase, more service providers and other business partners become involved. The model has therefore been enhanced to take into account a more demanding environment as well as the diverse relationships and roles that such an environment implies.

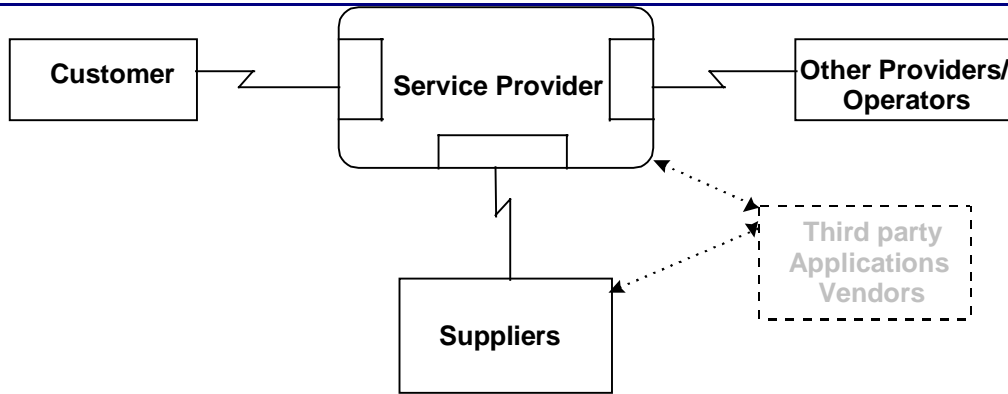


Figure 6.1: The TOM Business Relationship Reference Model⁵

An eBusiness Reference Model

In today's marketplace, companies must implement an end-to-end value stream and have an integrated and customer-centric technology foundation. It is also necessary to be a part of and to manage ebusiness communities (EBCs), which are networks of relationships linking businesses, customers and suppliers to create a unique business entity that is re-configurable, to meet customer needs. In order to develop customer relationship solutions, companies must extend beyond their own boundaries to encompass the entire extended enterprise and make this transparent to the customer. Competition is no longer solely between companies, but between ebusiness communities and the relationships that are formed. eBusiness involves increasingly complex networks of relationships to operate. Figure 6.2 depicts the sets of relationship groupings involved in the value network. The value network must operate with the efficiency of a self-contained enterprise, which requires managing the network from a process rather than an organization basis.

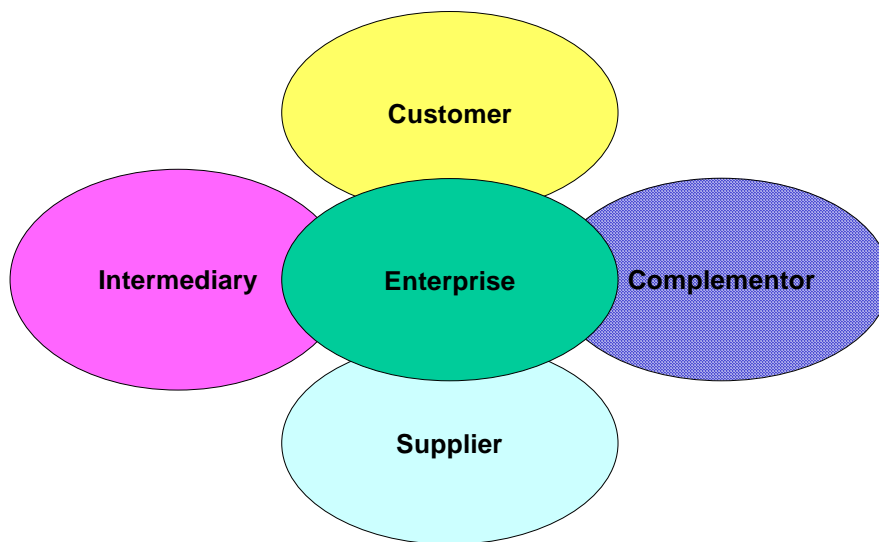


Figure 6.2: The eBusiness Value Network⁶

⁵ From *Telecom Operations Map*, GB 910, version 2.1, TeleManagement Forum, Morristown, NJ, March 2000.

The Value Network is composed of the following entities:

- The **Customer** - The value network exists to serve the Customer's needs. Customer not only represents individuals but businesses as well.
- The **Enterprise** - The Enterprise is the core of the value network; it is the central point of execution and is responsible for the value network. The Enterprise is also responsible for the operational platform and infrastructure by which the other business partners can collaborate in delivering the goods and services to the Customer.
- The **Supplier** - Suppliers interact with the Enterprise in providing goods and services, which are assembled by the Enterprise in order to deliver its goods and services to the Customer. The Enterprise is bounded by its Suppliers' ability to deliver.
- The **Intermediary** - The Intermediary performs a function on behalf of the enterprise, which is a part of the Enterprise's operational requirements. There are typically three categories of intermediaries: sales, fulfillment, and information and communication.
- The **Complementor** - The Complementor provides additional products and services to extend the capabilities of the value network. Usually the goods and services of the Complementor build upon the infrastructure provided by the Enterprise.

The eTOM Business Relationship Context Model

The ebusiness value network described in the previous section provides a generic ebusiness market structure. This section is concerned with transforming that structure into a context model appropriate to the information and communications industry. In particular, this means greater focus on the service providers, whether retail or wholesale, and on the relationships that they have with each other as well as with others in the value network. The customer-facing service provider in Figure 6.3 thus corresponds to the enterprise depicted at the center of the value network in Figure 6.2.

This greater focus on service provider relationships is due to the expansion of ebusiness and other application areas over both private intranets and public networks. Interoperability with other service providers is essential as the provision of service products to customers is increasingly involving several service providers in various domains and niche markets. One result of this can be seen in the extensive growth in partnerships, alliances, hubs and mergers/acquisitions taking place in the industry. New types of product which are application focused, for example an Internet-based information service, may require a combination not only of different service providers, but also of individual services or service elements making up the total service package. Increasingly a service provider's processes have to be viewed as part of an overall value network and, therefore, it is useful to understand the relationships between service providers in the value network.

eBusiness relationships are evolving as service providers are interacting with other providers in many different ways depending on the position of the individual provider in the value network, the service product being supported, and the information and

⁶ From P. Keen and M. McDonald, *The e-Process Edge*, Osborne/McGraw-Hill, Berkeley, CA, 2000.

communication technology over which the service is delivered. As new service models emerge, various agreements are being put in place to support service delivery, which may result in the requirement for service provider relationships to be established 'on demand'. Interactions may have to be instantiated and modified on-line and in real-time to support a dynamic and flexible service market. Other relationships will be longer lasting and more of a partnership between groups of service providers. The eTOM Business Relationship Context Model provides a basis for depicting how the various types of service providers from different market sectors can interoperate in a variety of relationships to supply service products that meet customer requirements.

Figure 6.3 presents an example of the roles and relationships involved in any one-value network that is providing service products to the customer⁷. It thus depicts the value network from the perspective of the customer-facing service provider role at the core of the value network. It explicitly includes this service provider's use of the eTOM Business Process Framework since the focus is on this role. Other roles may or may not use the eTOM Business Process Framework but this is not shown for simplicity.

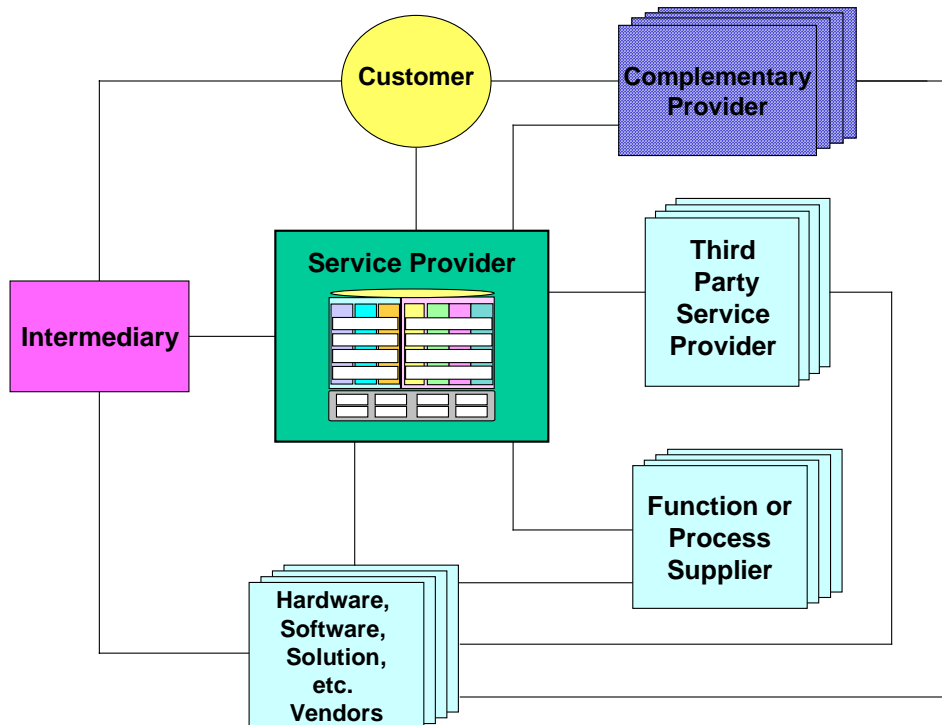


Figure 6.3: The eTOM Business Relationship Context Model

The figure reflects the type of context occurring in an ebusiness environment where business relationships evolve constantly and need to be capable of rapid and flexible ad hoc reconfiguration. The roles are intended to represent the kind of roles that might be present in such an environment. The model is therefore generic and adaptable to many different contexts without attempting to reflect every single one in detail. The following roles are distinguished according to the type of service product they provide or consume and the relationships that they have with other roles:

⁷ This means that the figure shows only those relationships relevant to the value network. It is very likely, for example, that the Customer also has a relationship with Hardware, Software, Solution, etc. Vendors, but this relationship is not part of the value network and is therefore out of scope for the eTOM Business Relationship Context Model. However, for those involved in supplying a service product to a Customer, the relationship to the Vendors of Hardware, Software, Solution, etc. , is relevant as the ability to supply the product to the Customer can depend on such a relationship.

- The **Customer** role 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.
- The **Service Provider** role presents an integrated view of service products to the Customer. It interfaces with the Customer, selling a product to the Customer, providing Customer contact and support, and billing the Customer for the product supplied. The Service Provider can deliver some or all of a service product to the Customer itself, or it might subcontract out 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 the Intermediary as well as with the Customer.
- Other service provider roles are subcontracted by the Service Provider either to provide a specific service to the Service Provider itself or to supply a certain service to the Customer on behalf of, or in partnership with, the Service Provider. The following typical service provider roles are depicted:
 - The **Third Party Service Provider** role has a relationship with the Service Provider to supply a service required by the Service Provider in order to deliver its service to the Customer. For example, if a Service Provider is providing a VPN to a Customer but does not have facilities in certain geographic areas needed by the Customer, it will conclude agreements with Third Party Service Providers to supply the desired facilities in these areas. Another example is an ASP partnering with a Connectivity Provider and a Data Center as Third Party Service Providers to enable the Customer to access and use the ASP's service. In another instance, the Service Provider may be adding value to the service product supplied by a Third Party Service Provider and then selling the product on. Any business relationship with the Customer is in the name of the Service Provider, as no contractual relationship exists between the Third Party Service Provider and the Customer.
 - The **Complementary Provider** role 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.

- The **Function or Process Supplier** role has taken on responsibility from the Service Provider, via outsourcing or out-tasking, to supply certain services to the Customer. These may be a particular area of expertise that only specialist service providers offer, or a more general task that is not part of the Service Provider's core business and which the Service Provider prefers to out-task. Any business relationship with the Customer is in the name of the Service Provider as there is no contractual relationship between the Function or Process Supplier and the Customer.

Service Provider types can include, but are not limited to:

- Content Providers
 - Application Service Providers
 - Hosting Providers
 - Internet Service Providers
 - Connectivity Providers
 - Access Providers
 - Transport Providers
- The **Intermediary** role supplies a service for a fee. A selling function or a broker represents a typical 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.
- The products of the **Hardware, Software, Solution, etc. Vendors** are integrated in the products of the Service Providers and other Suppliers.

Note that these are roles and that individual organizations (and organizational entities) can adopt different roles in different value networks. Roles represent activities that businesses can engage in and, for example, a service provider may be the customer-facing service provider in one value network and a third party (e.g. wholesale) service provider in another. Relationships are established between the roles, hence the business relationship context model. In today's fast-moving marketplace, relationships can be very short-lived compared with the more static relationships of the traditional telecommunications market. By focusing on roles rather than organizations, a more flexible business relationship context model can be achieved. Organizations can adopt and shed roles dynamically, but the relationships between the roles are established, so the adoption of a particular role will also define the relationship of the organization playing that role towards another role player⁸.

⁸ The choice of terms for some of these roles may need to be reviewed in the light of further study and as ebusiness evolves.

Relationships

The **Customer-Service Provider** relationship is where the product provided by the value network is delivered. The purchase of products creates the economic foundation and justification for the rest of the value network. The lifetime of this relationship can vary from seconds to years.

The **Intermediary** provides a service for the Customer, which is not integrated in a service delivery chain in the same way as the other service delivery roles. Service Providers selling products to Customers would also have a relationship with the Intermediary, as they need to supply, for example, information on the products that they wish to sell to Customers. Intermediaries can provide further services to a value network, such as planning, forecasting, marketing, etc.

A **Service Provider**, whether retail or wholesale, can have a range of cooperative relationships with other Service Providers in order to fulfill its obligations in the value network. Relationships between Service Providers can be structured in a variety of ways that do not necessarily resemble that of the Service Provider with an end Customer. Contractual arrangements of some kind will probably be in existence between the Service Providers, ranging from longer-term contracts to those that are created in real-time to serve immediate needs and which are dissolved shortly afterwards when the needs have been met and the relationship is terminated. In an ebusiness market, relationships are increasingly becoming partnerships where Service Providers collaborate with others in a hub, or value network. Various degrees of partnership can exist and different types of partnership are emerging. Regardless of the type and degree of cooperation, the effective management of such relationships is becoming crucial for Service Providers in any kind of value network or supply chain configuration. Indeed, in strong value networks, enterprises are now requiring to be able to see into the supplier's suppliers to ensure delivery, i.e., view tertiary supplier performance and capabilities.

A value network can be composed of several Service Providers offering similar as well as distinct products together with Function or Process Suppliers providing particular functions that enable the Service Providers to deliver their products. Although many partnership-type relationships are possible between the various Service Provider roles, relationships can often be depicted in the form of a chain (where each Service Provider is only in contact with the adjacent Service Providers in the chain), a star (where just one Service Provider has contact with each of the others involved in supplying the service product), or a hybrid of both with some chain and some star.

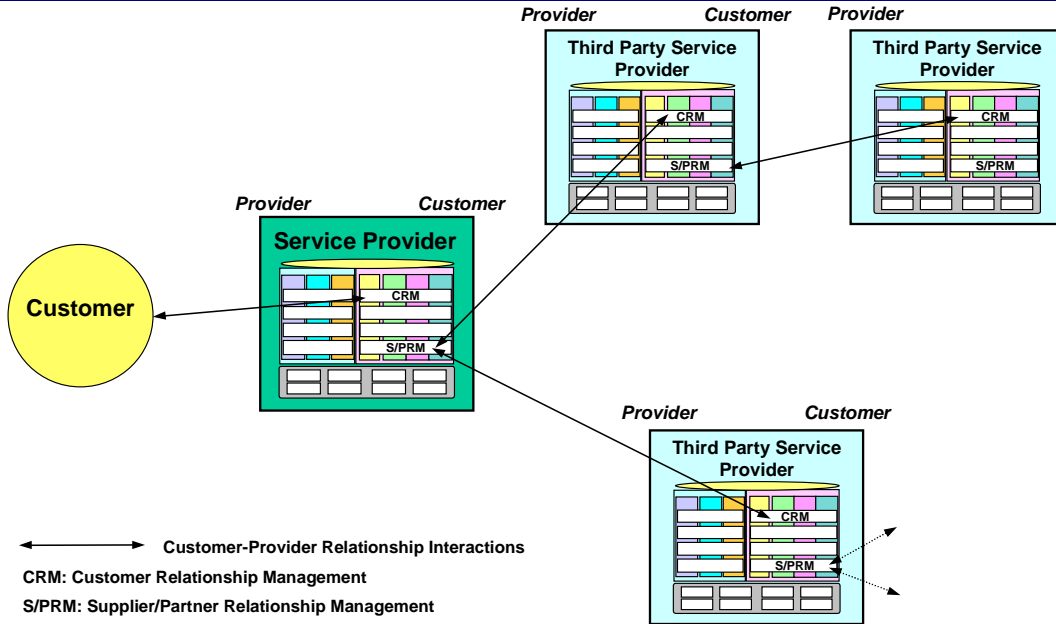


Figure 6.4: Service Provider Relationships using the eTOM Business Relationship Context Model and Business Process Framework

All these relationships can be depicted using the Business Relationship Context Model. For example, Figure 6.4 shows that the basic relationship between Service Providers is that of Customer-Provider (or buyer-seller). In such a context, the Service Provider that is selling a product acts in the Provider role. When interacting with a Customer role it uses the Customer Relationship Management processes of the eTOM Business Process Framework. A Service Provider that is buying a product acts in the Customer role. When interacting with a Provider role it uses the Supplier/Partner Relationship Management processes of the eTOM Business Process Framework.

Hardware, Software, Solution, etc. Vendors have relationships with all roles, but within this value network they are relevant to the Service Providers, as the Service Providers need the products of these Vendors in order to provide and deliver their own products. However, in an ebusiness world, relationships between Service Providers and their Vendors may need to be changed into one of a shared strategic relationship rather than that of mere supplier.

An Example

This example is taken from a presentation of the TM Forum Mobile Team (see Figure 6.5). The example shows the interactions between several service providers and depicts a typical business context for mobile service provision.

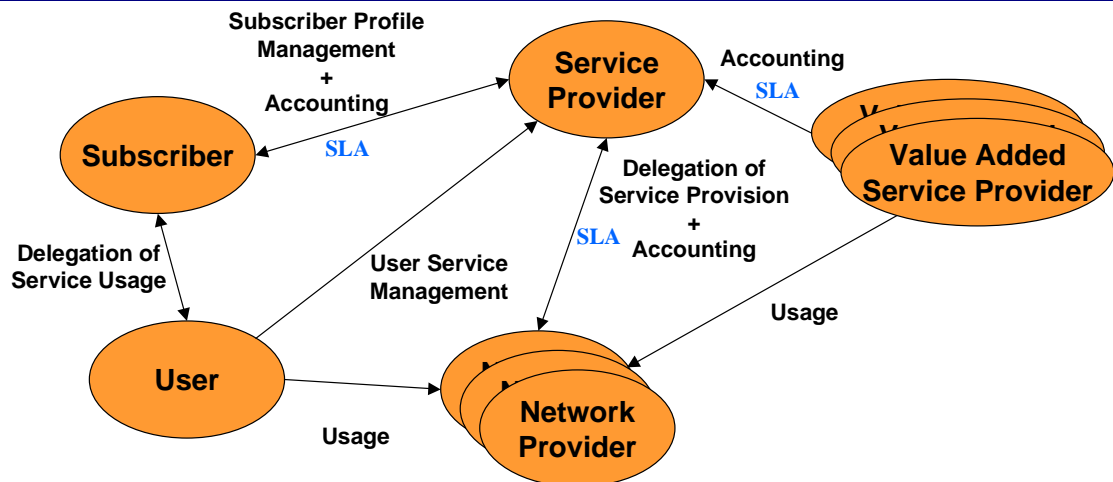


Figure 6.5: A Business Scenario of the TM Forum Mobile Team⁹

The *entities* depicted in Figure 6.5 can be mapped to the **roles** of the eTOM Business Relationship Context Model as follows:

Subscriber maps to the **Subscriber** part of the **Customer** role. As in the eTOM Business Relationship Context Model, the *Subscriber* is responsible for the contractual arrangements with the **Service Provider**, such as concluding the contract / SLA for the product and paying the bills.

User maps to the **User** part of the **Customer** role. The *User* makes use of the product and so has usage relationships with other roles.

Service Provider maps to the **Service Provider** role. This *Service Provider* has the customer-facing role and interacts with the other service providers. It is responsible for the provision of the product to the **Customer** at the service levels agreed in the SLA and it bills the *Subscriber* for product usage. It has agreements in the form of SLAs with the *Network Provider(s)* and the *Value Added Service Provider(s)*.

Value Added Service Provider maps to the **Complementary Provider** role (and possibly **Third Party Service Provider** role depending on the product being offered and on what the **Service Provider** does with the product). *Value Added Service Providers* supplying content, portal positions or m-commerce to the mobile service offered by the *Service Provider*, for example, would be playing the role of **Complementary Provider**. These providers supply products to the **Customer** via the **Service Provider** and so have a business relationship only with the **Service Provider**. SLAs regulate the products they deliver and product usage is accounted for in the business relationship with the **Service Provider**, which then passes the charges onto the **Customer**.

Network Provider maps to the **Third Party Service Provider** role as it is required so that the product being supplied by the **Service Provider** can be used. A business relationship exists between the *Service Provider* and the *Network Provider(s)*. The *Value Added Service Provider(s)* and the *User* have a usage relationship with the *Network Provider*, which is out of scope in a Business Relationship Context Model. Again, there are SLAs regulating the product delivered and product usage is accounted for in the business relationship with the **Service Provider**.

⁹ From the presentation of the TM Forum Mobile Team at the 3GSM World Congress, Cannes, France, February 2001.

Summary

This chapter has introduced the environment and the rationale for the eTOM Business Relationship Context Model. It has focused on business relationships, particularly between the service provider and other roles in the value network. The model enables flexible alliances and value networks to be established via relationships between service provider and the other roles that are essential for the success of the value network in the marketplace. This model provides the basis for the eTOM Business Process Framework, which discusses in more detail the processes supported by a service provider role in order to deliver service products to the customer. This includes the processes needed to support its relationships not only with its customers but also with other service providers and suppliers. The interactions among these relationships are increasingly via digital media. In an ebusiness world, the enterprise, as the hub of the value network, has to drive automation of the interactions among the players in the value network to provide the level of service that customers expect and to garner the productivity gains possible in an ebusiness environment.

Chapter 7 – 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.

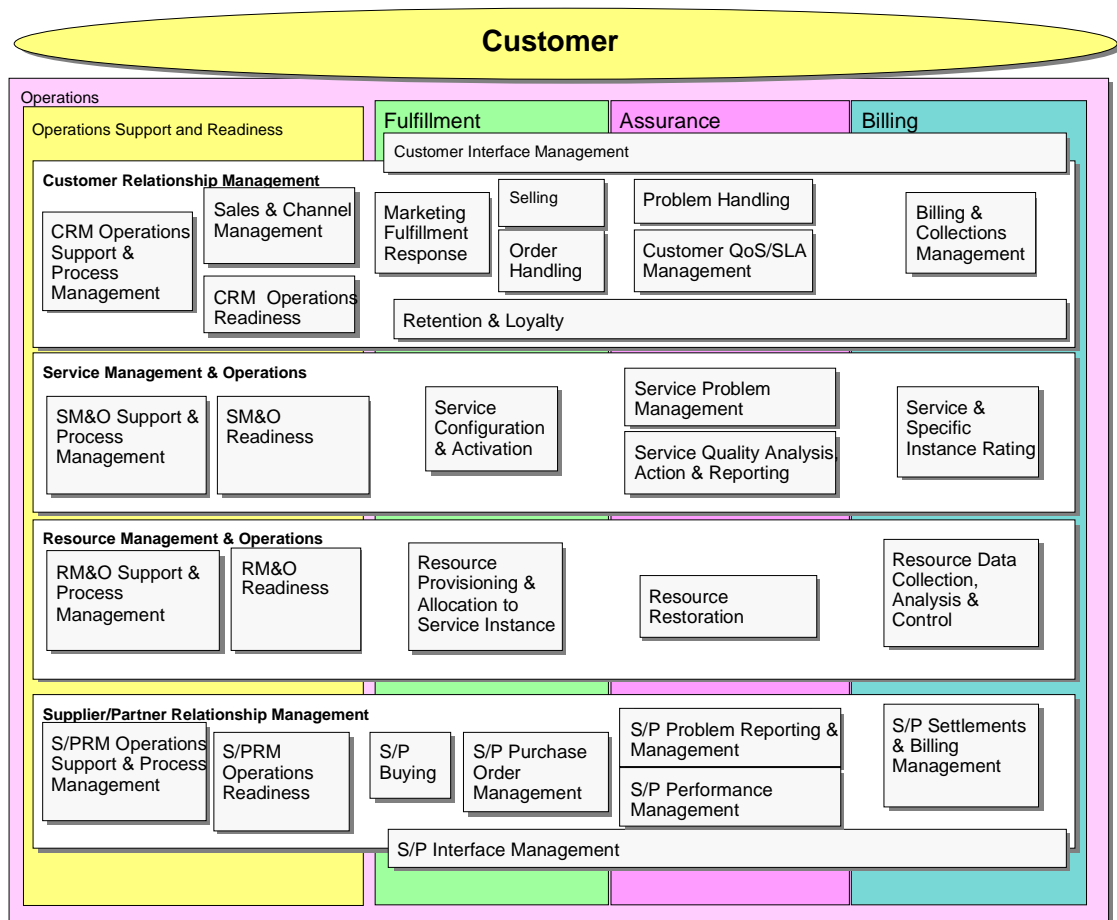
Whether a process thread or an end-to-end process flow, each process involved is initiated by an event(s), e.g., a customer inquiry, and ends with a result(s), e.g., credit approved. The sequence of process steps to achieve the required overall result(s) is shown, with an association made to the high 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 7.1 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 7.1: The Operations End-To-End Process Breakdown

Even though the end-to-end process breakdown in Figure 7.1 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 7.2 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.

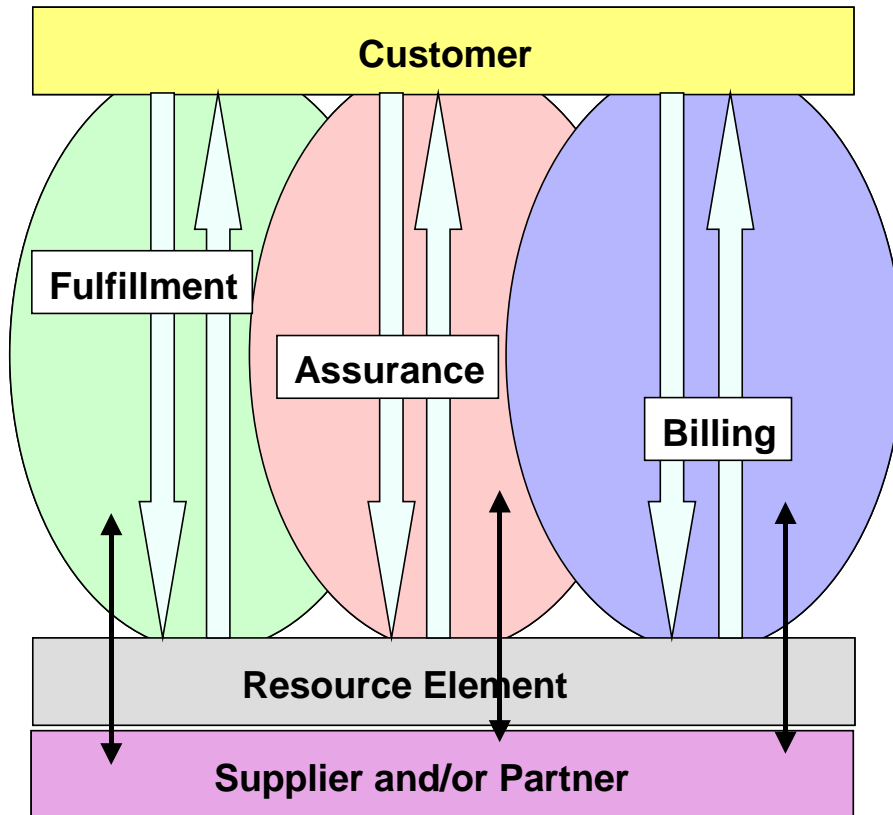


Figure 7.2: FAB End-To-End and Flow-through Process Flows

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.

Chapter 8 – Examples of the End-to-End Operations Process Flows

Examples of the process flows within Operations Support and Readiness as well as within each of the three customer operations process groupings of Service Fulfillment, Assurance and Billing will be developed for subsequent releases of the eTOM.

Chapter 9 – Examples of the SIP Process Flows

Examples of the process flows within each of the three process groupings of Strategy, Infrastructure and Product will be developed for subsequent releases of the eTOM.

Chapter 10 - Using the eTOM Business Process Framework

Overview

Strategically the service provider must integrate and automate to be competitive in both processes and systems, especially in the new era of e-business. This must be done to enable differentiation in critical areas, and also to enable lower operations costs and the use of common industry solutions to drive down system costs, as well as to reduce time to market. The interactions amongst service providers, and between service providers and suppliers, must be based on a common understanding of the process framework, to avoid conflicts and the cost and delay which can arise with customized solutions.

The eTOM framework can be used in a variety of ways to support these objectives. Many of these uses have been highlighted already. The basic purpose is to provide a common framework to drive end-to-end process integration and automation for information and communications services processes, and systems. Service providers can use this framework internally and externally. It can be used by suppliers for identifying product developments and for communication with their customers, the service providers. It is an excellent starting point for service providers to view their own process architecture and to architect or re-architect their processes, including determining their interface and automation requirements.

This chapter explains some common ways that eTOM can be used.

The rest of this chapter will be developed for subsequent releases of the eTOM, e.g., aligning a Corporate Process Framework with eTOM, deploying new products, defining and building new infrastructure, process re-engineering and process integration, as well as showing how TM Forum is using the eTOM.

Annex A – 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.

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 entire 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'.

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 organization.

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.

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 communications industry has used the Telecommunications Management Network (TMN) Model as a way to think logically about how the business of a service provider is managed.

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 organization to serve the customer.

Vendor

Synonymous with Supplier above.

eTOM Acronyms

APQC	American Productivity and Quality Center
ASP	Application Service Provider
BAC/SDM	Business Aware Contracts and Shared Data Model
CCM	CORBA Component Model
CIM	Customer Interface Management
CORBA	Common Object Request Broker Architecture
COTS	Commercial Off-the-shelf
CRM	Customer Relationship Management
DNS	Domain Name Server
EBC	eBusiness Communities
EIC	Enterprise Interaction Community
FAB	Fulfillment, Assurance and Billing Processes
I&CS	Information and Communications Services Industry
ICSP	Information and Communications Service Provider
ILCM	Infrastructure Lifecycle Management Processes
ISP	Internet Service Provider
LCM	Lifecycle Management
NGOSS™	Next Generation Operations Systems and Software

OMA	Object Management Architecture
OMG	Object Management Group
OMG-IDL	Object Management Group - Interface Definition Language
PLCM	Product Lifecycle Management Processes
POA	Portable Object Adaptor
QoS	Quality of Service
RM&O	Resource Management and Operations
RM-ODP	Reference Model for Open Distributed Processing
SCLCM	Supply Chain Lifecycle Management
SLA	Service Level Agreement
SM&O	Service Management and Operations
SP	Service Provider
S/P	Supplier/Partner
S/PIM	Supplier/Partner Interface Management
S/PRM	Supplier/Partner Relationship Management
TINA	Telecommunications Information Networking Architecture
TMF	TeleManagement Forum
TMN	Telecommunications Management Network
TOGAF	The Open Group Architectural Framework
TOGAF-ADM	TOGAF Architecture Development Method
TOGAF-FA	TOGAF Foundation Architecture
TOGAF-SIB	TOGAF Standards Information Base
TOM	Telecommunications Operations Map
UDDI	Universal Description, Discovery and Integration
UML	Unified Modeling Language
WfMC	Workflow Management Coalition

XML Extensible Markup Language

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

Appendix 1 - Related Standards or Guidelines

Please see eTOM Business Process Framework Related Standards or Guidelines Addendum, as a separate document that provides brief overviews of related standards or guidelines.

Appendix 2 - eTOM Process Methodology

Please see eTOM Process Modeling Methodology Addendum, as a separate document that provides an overview of the methodology used in development of the eTOM.

Appendix 3 – TOM to eTOM Chapter Comparison

TOM Chapter	eTOM Chapter	Change or Addition
Preface	Preface	Similar to eTOM, but reduced in length and does address NGOSS
Chapter 1- TOM Objectives	Chapter 1- eTOM Business Process Framework Introduction	Similar, but expanded due to the additional objectives of the eTOM and the background provided on the TOM and why an eTOM
	Chapter 2 – eTOM Concepts and Terminology	The team felt it was necessary to define some key eTOM concepts prior to going into the core of the document. Terminology in the TOM was in the Objectives chapter and only covered fairly global terms. For eTOM, term definitions were considered important to following eTOM
Chapter 2 – The TMN Model	Appendix H in eTOM	Since TMN is so well known, this was not included.
Chapter 3 – Business Drivers	Chapter 5 – The eBusiness SP Enterprise	The TOM Chapter was expanded to include the ebusiness context
Chapter 4 - The Business Relationship Reference Model	Chapter 6 - The eTOM Business Relationship Context Model	Chapter and Model was updated to reflect the more complex value chain SPs are managing
Chapter 5 – Telecom Operations Process Framework	Chapter 3 – eTOM Business Process Framework Overview	As in TOM, this chapter explains the eTOM high level framework.
	Chapter 4 – Level 2 Process Decompositions with Brief Descriptions	This chapter follows on from the previous chapter, to break-up the material and to differentiate the Level 1 and Level 2 processes.
	Chapter 7 – End-to End Process Flow Concepts	Operational process flow concepts are separated from the overall framework discussion in the previous chapter, because the eTOM is now broader than just the operational processes
Chapter 6 – Examples of FAB Process Flows	Chapter 8 – Examples of the End-to-End Operations Process Flows	This chapter is maintained in the eTOM, but the aim is to use accepted process flow methodology and to be consistent with terminology in the eTOM. This chapter will be developed for a

TOM Chapter	eTOM Chapter	Change or Addition
		subsequent release of the eTOM.
	Chapter 9 – Examples of the SIP Process Flows	This chapter is added for the eTOM due to the addition of the Strategy, Infrastructure and Product processes. The process flow examples will be developed for a subsequent release of the eTOM.
Chapter 7 – The Operational Processes	Chapter 10 – The Processes of the SP Enterprise	This material is not included in this document, but is being developed as part of the process model which will be provided separately.
Chapter 8 - Using the Telecom Operations Map	Chapter 11 - Using the eTOM Business Process Framework	Updated for eTOM and SP experience
	Annex A– Terminology and Acronym Glossary	Not provided in TOM
	Appendix 1 – Related Standards or Guidelines	Reference to separate Addendum to eTOM
	Appendix 2 – eTOM Process Methodology	Reference to separate Addendum to eTOM
	Appendix 3 – TOM to eTOM Chapter Comparison	Not required in TOM
	Appendix 4 – TOM To eTOM Process Name Change Matrix	Not required in TOM
	Appendix 5 – TOM Acknowledgements	Due to member requests, acknowledgements for all versions of the TOM are included as the last eTOM Appendix

Appendix 4 – TOM To eTOM Process Name Changes

The table below provides a list of process name changes from the TOM to the eTOM with a brief reason for the change or addition. Both eTOM Level 1 and Level 2 processes are included, with Level 1 process names in bold text to assist readers. As in the body of the document, Level 2 processes are shown with the corresponding “horizontal” (i.e. functional) Level 1 process grouping.

TOM Name	eTOM Name or Treatment	Change Status	Comment
Fulfillment	Fulfillment	Yes, became part of framework, not another view	Moved to part of Enterprise view due to need to focus everything on processes that support the customer
Assurance	Assurance	Yes, became part of framework, not another view	Moved to part of Enterprise view due to need to focus everything on processes that support the customer
Billing	Billing	Yes, became part of map, not another view	Moved to part of Enterprise view due to need to focus everything on processes that support the customer
	Operations Support & Readiness	New in eTOM	Introduced to acknowledge split between front/back office processes in many enterprises.
	Strategy & Commit	New in eTOM	Introduced in extending TOM to provide a total enterprise framework. Addresses the upfront business case development and corporate commitment
	Infrastructure Lifecycle Management	New in eTOM	Introduced in extending TOM to provide a total enterprise framework. Addresses processes to plan and provide infrastructure
	Product Lifecycle Management	New in eTOM	Introduced in extending TOM to provide a total enterprise framework. Addresses processes to plan and provide products
Customer Care	Customer Relationship Management	Yes	Reflects industry-wide focus on customer relationships and retention
Customer Interface Management	Customer Interface Management	Yes, absorbed into framework	Explicitly positioned within the CRM area in eTOM

TOM Name	eTOM Name or Treatment	Change Status	Comment
	Marketing Fulfillment Response	New in eTOM	Reflects move of eTOM toward industry definition of CRM to include Marketing Fulfillment
Sales	Selling	Yes	Reflects more of a process name than an organizational name—public feedback
Order Handling	Order Handling	None	
Problem Handling	Problem Handling	Yes, due to FAB/OSR split	
Customer QoS Management	Customer QoS/SLA Management	Yes, due to FAB/OSR split	
Invoicing and Collections	Billing and Collections Management	Yes	Words more truly reflect functional processes and a broader view of these processes, since across the industry heightened focus on receivables management and revenue assurance
	Retention & Loyalty	New in eTOM	This is a vital area for the enterprise and was introduced in extending TOM to provide a total enterprise framework.
	CRM Operations Support & Process Management	New in eTOM	Separates “back-office” processes from the FAB area, and addresses the less real-time operations needs.
	Sales & Channel Management	New in eTOM	Provides administration and support for the FAB sales-related processes
	CRM Operations Readiness	New in eTOM	Ensures capability to support the CRM FAB processes
Service Development and Operations	Service Management and Operations	Yes	Planning and Development sub-processes are now positioned in the Strategy Infrastructure & Product area, so SD&O was changed to SM&O
Service Planning and Development	See under Service Development & Management		
Service Configuration	Service Configuration & Activation	Yes, due to FAB/OSR split	Pre-provisioning separately handled under SM&O Readiness
Service Problem Management	Service Problem Management	Yes, due to FAB/OSR split	Service Maintenance & Repair handled separately under SM&O Readiness
Service Quality Management	Service Quality Analysis, Action & Reporting	Yes, due to FAB/OSR split	Name change reflects desire to be more explicit on the processes involved.

TOM Name	eTOM Name or Treatment	Change Status	Comment
Rating and Discounting	Service & Specific Instance Rating	Yes	Name change reflects better the alignment of process functions and major additions to the eTOM for billing processes
	SM&O Support & Process Management	New in eTOM	Separates “back-office” processes from the FAB area, and addresses the less real-time operations needs.
	SM&O Readiness	New in eTOM	Ensures capability to support the SM&O FAB processes
Network and Systems Management	Resource Management and Operations	Yes	Reflects convergence of communications and information services, the need to broaden management to include application, computing and network infrastructures and reflects that operations is involved in this layer as much as the service layer
Network Planning and Development	See under Resource Development & Management		
Network Provisioning	Resource Provisioning & Allocation to Service Instance	Yes	Name change to Resource versus Network broadens scope to include other resources , and link with services mage explicit
	Resource Problem Management	New in eTOM	Handles resource-related faults and problems
Network Inventory Management	Resource Inventory Management	Yes, not visible at this level (within RM&O Readiness)	Name change to Resource versus Network broadens scope to include other resources
Network Maintenance and Restoration	Resource Maintenance and Repair	Yes, not all visible at this level (within RM&O Readiness)	Name change to Resource versus Network broadens scope to include other resources
	Resource Restoration	New in eTOM	Handles restoration aspects. Name change to Resource versus Network broadens scope to include other resources
Network Data Management	Resource Data Management	Yes, not visible at this level (within RM&O Readiness)	Name change to Resource versus Network broadens scope to include other resources
	Resource Data Collection, Analysis & Control	New in eTOM	Handles processing of data collected about resources
Network Element		Not present at this level in eTOM	Element Management is critical to SP operation. However, Element

TOM Name	eTOM Name or Treatment	Change Status	Comment
Management			Management is best handled as part of resource management and will be accommodated at a lower level of decomposition (Member input)
	RM&O Support & Process Management	New in eTOM	Separates “back-office” processes from the FAB area, and addresses the less real-time operations needs.
	RM&O Readiness	New in eTOM	Ensures capability to support the RM&O FAB processes
	Supplier/Partner Relationship Management	New in eTOM	Introduced in extending TOM to provide a total enterprise framework. Reflects the existing and increasing focus and complexity in an ebusiness world of service providers working with suppliers and partners. These processes represent the operational interface for the supplier/partner interactions which support services to the customer and core operations.
	S/P Buying	New in eTOM	Sub-process of new process grouping added to eTOM
	S/P Purchase Order Management	New in eTOM	Sub-process of new process grouping added to eTOM
	S/P Problem Reporting & Management	New in eTOM	Sub-process of new process grouping added to eTOM
	S/P Performance Management	New in eTOM	Sub-process of new process grouping added to eTOM
	S/P Settlements and Billing Management	New in eTOM	Sub-process of new process grouping added to eTOM
	S/P Interface Management	New in eTOM	Sub-process of new process grouping added to eTOM
	S/PRM Operations Support & Process Management	New in eTOM	Separates “back-office” processes from the FAB area, and addresses the less real-time operations needs.
	S/PRM Readiness	New in eTOM	Ensures capability to support the S/PRM FAB processes
Information Systems Management Processes		Not present at this level in eTOM	Aspects of these processes are handled in different parts of the eTOM. Information Systems Strategy and Management is a sub-process within Enterprise Management, and

TOM Name	eTOM Name or Treatment	Change Status	Comment
			IT resources are addressed within the RM&O and RD&M process groupings
	Marketing & Offer Management	New in eTOM	Major process grouping added to eTOM to reflect its expansion to a total enterprise framework
	Market Strategy & Policy	New in eTOM	Sub-process of new process grouping added to eTOM
	Product and Offer Portfolio Strategy Policy & Planning	New in eTOM	Sub-process of new process grouping added to eTOM
	Product and Offer Business Planning & Commitment	New in eTOM	Sub-process of new process grouping added to eTOM
	Product & Offer Capability Delivery	New in eTOM	Sub-process of new process grouping added to eTOM
	Marketing Capability Delivery	New in eTOM	Sub-process of new process grouping added to eTOM
	CRM Capability Delivery	New in eTOM	Sub-process of new process grouping added to eTOM
	Product Development & Retirement	New in eTOM	Sub-process of new process grouping added to eTOM
	Marketing Communications & Promotion	New in eTOM	Sub-process of new process grouping added to eTOM
	Sales & Channel Development	New in eTOM	Sub-process of new process grouping added to eTOM
	Product, Marketing and Customer Performance Assessment	New in eTOM	Sub-process of new process grouping added to eTOM
Service Planning and Development	Service Development & Management	Yes, expanded and restructured in eTOM	Major process grouping added to eTOM to reflect its expansion to a total enterprise framework. The TOM SP&D processes have been moved from the Operations area because they are more directly involved with the Strategy, Infrastructure & Product processes
	Service Strategy & Policy	New in eTOM	Sub-process of new process grouping added to eTOM

TOM Name	eTOM Name or Treatment	Change Status	Comment
	Service Planning & Commitment	New in eTOM	Sub-process of new process grouping added to eTOM
	Service & Operations Capability Delivery	New in eTOM	Sub-process of new process grouping added to eTOM
	Service development & Retirement	New in eTOM	Sub-process of new process grouping added to eTOM
	Service Performance Assessment	New in eTOM	Sub-process of new process grouping added to eTOM
Network Planning and Development	Resource Development & Management	Yes, expanded and restructured in eTOM	Major process grouping added to eTOM to reflect its expansion to a total enterprise framework. The TOM NP&D processes have been moved from the Operations area because they are more directly involved with the Strategy, Infrastructure & Product processes. Network resources are handled as part of resource management
	Resource & Technology Strategy and Policy	New in eTOM	Sub-process of new process grouping added to eTOM
	Resource & Technology Planning and Commitment	New in eTOM	Sub-process of new process grouping added to eTOM
	Resource & Operations Capability Delivery	New in eTOM	Sub-process of new process grouping added to eTOM
	Resource Development	New in eTOM	Sub-process of new process grouping added to eTOM
	Resource Performance Assessment	New in eTOM	Sub-process of new process grouping added to eTOM
	Supply Chain Development & Management	New in eTOM	Major process grouping added to eTOM to reflect its expansion to a total enterprise framework and to reflect supply chain focus criticality in an ebusiness world.
	Supply Chain Strategy and Policy	New in eTOM	Sub-process of new process grouping added to eTOM
	Supply Chain	New in eTOM	Sub-process of new process

TOM Name	eTOM Name or Treatment	Change Status	Comment
	Planning and Commitment		grouping added to eTOM
	Supply Chain Capability Delivery	New in eTOM	Sub-process of new process grouping added to eTOM
	Supply Chain Development & Change Management	New in eTOM	Sub-process of new process grouping added to eTOM
	Supply Chain Performance Assessment	New in eTOM	Sub-process of new process grouping added to eTOM
	Enterprise Management	New in eTOM	Introduced in extending TOM to provide a total enterprise framework. Addresses processes supporting corporate-wide capabilities and functions
	Strategic & Enterprise Planning	New in eTOM	Sub-process of new process grouping added to eTOM
	Financial & Asset Management	New in eTOM	Sub-process of new process grouping added to eTOM
	Brand Management, Market Research & Advertising	New in eTOM	Sub-process of new process grouping added to eTOM
	R&D/Technology Acquisition	New in eTOM	Sub-process of new process grouping added to eTOM
	Stakeholder & External Relations Management	New in eTOM	Sub-process of new process grouping added to eTOM
	Human Resources Management	New in eTOM	Sub-process of new process grouping added to eTOM
	Enterprise Quality Management, Process, IT Planning & Architecture	New in eTOM	Sub-process of new process grouping added to eTOM
	Disaster Recovery, Security & Fraud Management	New in eTOM	Sub-process of new process grouping added to eTOM

Appendix 5 - TOM Acknowledgements

The eTOM has a long history of development that serves as its core from the TM Forum Telecom Operations Map and the Service Management Business Process Model. The following list contributors to the Service Management Business Process Model and for each release of the TOM.

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TOM 2.0

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- Veli Kokkonen, Sonera Ltd.
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- Mobile Management TMF Project Team, particularly:
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