Enhanced Telecom Operations Map® (eTOM)
The Business Process Framework

For The Information and Communications Services Industry

Addendum P: An eTOM Primer

Release 4.5

GB921 P

Version 4.6.1 *November 2004*

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Executive Summary

This document stands as a further Addendum to the "Enhanced Telecom Operations Map® (eTOM) The Business Process Framework for the Information and Communications Services Industry", GB921 Version 4.0. It assists new readers and users of eTOM by providing an introductory view of some of the concepts, goals and structure of the eTOM work.

It should be read in conjunction with the main GB921 document, and other Addenda (see GB921 for details).

What is eTOM?

The telecom industry is facing unprecedented churn and the struggle to remain profitable in the face of more competition, higher customer expectations, falling market share and growing price pressures. The industry has a need to clearly define and understand the business processes involved in order to tackle these issues. It also needs to reach a consensus on the common process view for equipment suppliers, applications builders and integrators to build management systems by combining third party and in-house developments.

The Enhanced Telecom Operations Map® (or eTOM for short) is an ongoing TM Forum initiative to deliver a business process model or framework for use by service providers and others within the telecommunications industry. The goal is to set a vision for the industry to enable it to compete successfully through the implementation of business process-driven approaches to managing the enterprise. This includes ensuring integration among all vital enterprise support systems concerned with service delivery and support.

The focus of the eTOM is on the business processes used by service providers, the linkages between these processes, the identification of interfaces, and the use of customer, service, resource, supplier/partner and other information by multiple processes. The TM Forum eTOM Business Process Framework is a reference framework for categorizing all the business activities that a service provider will use, in a structured manner that allows these to be addressed at various levels of detail.. For such companies, it serves as the blueprint for process direction and provides a neutral reference point for internal process reengineering needs, partnerships, alliances, and general working agreements with other providers. For suppliers, eTOM outlines potential boundaries of software components to align with the customers' needs and highlights the required functions, inputs, and outputs that must be supported by products.

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

So, eTOM defines a telecommunications Service Provider business process framework. This means that it is oriented to SPs in the telecommunications sector (although it has been found to be useful in other areas also), and it aims to provide a business-oriented view of the SP enterprise. This view is useful for planners, managers, strategists, etc, who need to view the enterprise in business terms, without immediate concern for the nature of the way that these business needs are organized or automated within the business. Therefore, eTOM emphasizes issues such as process structure, process components, process interactivity and the business roles and responsibilities to which these relate. In defining these aspects, eTOM also provides a basis for setting requirements for system solutions, technical architectures, technology choices and implementation paths, but it is neutral towards the particular way that these requirements are met.

Thus, eTOM can be considered to have two faces: one oriented towards the business, customer, products, etc, and one towards solutions, systems and implementations supporting the business.

It should be recognized that through the TM Forum work, eTOM represents an industry-consensus on the Service Provider processes, which has been harmonized across the global scene and is based on Member contributions. It is allowable, and indeed expected, that this will mean that eTOM must be tailored and/or extended for use within an individual company. In particular, eTOM does not seek to constrain the way that the processes fit into a specific organization. An advantage of this positioning of eTOM as a framework, rather than a directly-implemented specification, is that differentiation amongst eTOM users is not restricted, which is vital to allow specialization and competition. In addition, as already mentioned, eTOM does not fix upon particular routes to implementation and is thus valid in many different environments with varying levels of automation, technology, etc.

So, eTOM is a framework, not a final implementation specification. It will typically be customized and extended by users for their own business needs, but provides a vital common reference that is industry recognized and represents a *de-facto*, and now through ITU-T an official standard within and between companies on business process definition.

Where did eTOM come from?

Work on business process modeling by the TeleManagement Forum (formerly the Network Management Forum) began in the early 1990's with the Service Management Automation and Reengineering Team (SMART) that gathered worldwide Service Provider views and distilled an initial Business Process Model. This work grew in the Telecom Operations Map (TOM) during the mid-90's leading to the stabilization and publication of TOM in its final form towards the end of that decade.

The TOM work gained wide industry support, but the scope of the TOM model did not cover the whole of the SP enterprise and only focused on the main Operations processes embodying the traditional telecoms activities around Fulfillment, Assurance and Billing (FAB). Increasingly, the complexities of interworking in the deregulated, competitive telecoms market required a complete enterprise view, and new business demands triggered by the internet and electronic commerce generally, led to a move to expand TOM to address this wider perspective.

Thus, eTOM – for enhanced TOM – was initiated as a work program led by TM Forum as we entered the new Millennium. Initial releases of eTOM were provided to TM Forum members during 2001, and then a TM Forum Approved version of eTOM – GB921 v3.0 – was released in mid-2002. This was welcomed and adopted widely, and so further work to cement agreements, incorporate industry feedback, and extend the level of detail described resulted in further intermediate versions and then a new TM Forum Approved version early in 2004. This version – GB921 v4.0 – was also submitted under a liaison agreement to the ITU-T, which acts as the premier world-wide body with a remit under the United Nations for setting international Recommendations in the telecommunications sphere. This eTOM version was adopted by ITU-T *in toto* and has been published in parallel as their formal Recommendation M.3050, with exact alignment on the content with TM Forum's GB921 v4.0.

Throughout this history, the eTOM work has benefited from wide involvement from the global telecommunications industry, as well as academia, government agencies, etc. As it has evolved, the core has shown it can stand the test of time, and it is now regarded as the pre-eminent vehicle for expressing and discussing business processes in and around the Service Provider domain. The work continues, with an increasing emphasis now that eTOM has established a clear and agreed view of the business process framework itself, on applications of eTOM and guidance to prospective and existing users on how to gain maximum benefit from the eTOM in their own businesses.

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How does eTOM work?

Process Decompositions

Process decomposition is a structured approach to analysis of a business through consideration of the enterprise's business processes and their internal structure. The basis of the concept is illustrated in Figure 0. Here we see a representative process element, Process X, which might provide a specific area of capability within an enterprise – say, handling of customer orders, for example. When analyzed, it is decided that the contained functionality, behavior, etc associated with that process can/should be sub-divided into three lower-level process elements. Note that typically such a "decomposition" is partly evident from the analysis of the detail captured within the process concerned, and partly is the result of design decisions, where judgment is used to make the most appropriate partitioning for the situation under consideration.

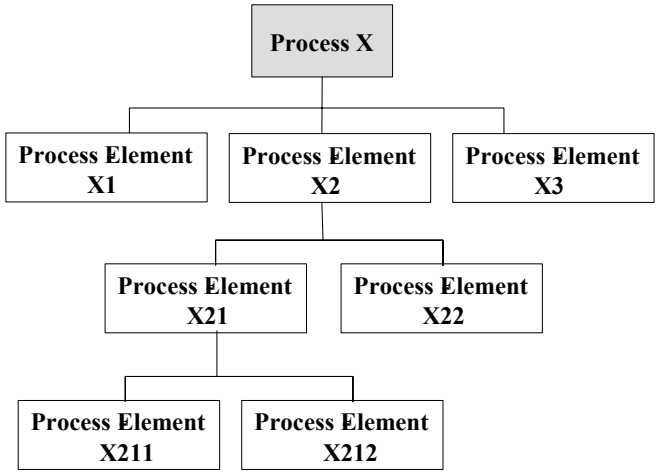

Figure 0: Process Decomposition

Each of the decomposed processes, X1, X2 and X3 can be further decomposed – X2 is shown as decomposed into X21 and X22 – and this can be continued – X21 is shown as decomposed into X211 and X212. Note that not all "branches" of the decomposition "tree" necessarily lead to "leaves" (i.e. final process elements) at the same level of decomposition. This will depend on the scope and content of the processes involved.

The process decomposition approach has these general characteristics:

- It defines components of a process that perform part of that process
- It provides insight into the structure and content of process areas (or groupings)
- It reveals finer detail at lower levels, as decomposition proceeds
- It can be continued to as many sub-levels as are needed

- The aim is to provide a complete analysis of the process under decomposition - i.e. the sum of the components equals the totality of the original process
- It represents a static perspective of process
- It does not mandate any flow relationship between the process elements

Note that the process elements derived through process decomposition may be applied in various ways within process flows. There may be many process flows (representing, say, enterprise-specific applications) that can be built using the common set of process elements specified within the eTOM Framework. There is further discussion on process flows later in this section, including the process flow diagrams that arise and are used in this work.

The process decomposition for the eTOM Business Process Framework (see Figure 1) begins at the Enterprise level and defines business processes in a series of groupings. The eTOM framework uses hierarchical decomposition to structure the business processes according to which all of the processes of the enterprise are successively decomposed. Process descriptions, inputs and outputs, as well as other key elements are defined. The eTOM Business Process Framework represents the whole of a service provider's enterprise environment. The Framework is defined as generically as possible so that it is organization, technology and service independent. At the overall conceptual level, eTOM can be viewed as having the following three major process areas:

Strategy, Infrastructure & Product covering planning and lifecycle management

Operations covering the core of operational management

Enterprise Management covering corporate or business support management

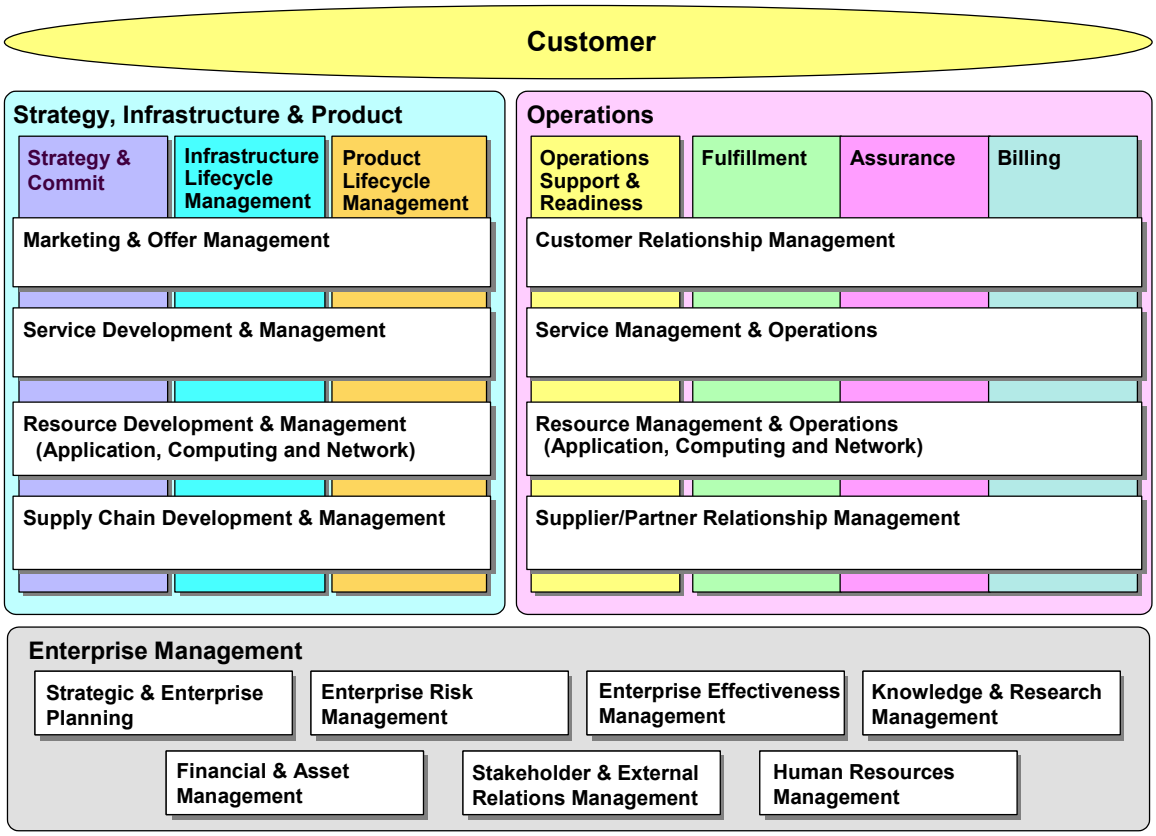

Figure 1: eTOM - the Enhanced Telecom Operations Map®

The eTOM Framework (see Figure 1) shows seven end-end vertical process groupings, that are the end-to-end processes that are required to support customers and to manage the business. Amongst these End-end Vertical Process Groupings, the focal point of the eTOM framework is on the core customer operations processes of Fulfillment, Assurance and Billing (FAB). Operations Support & Readiness (OSR) is differentiated from FAB real-time processes to highlight the focus on enabling support and automation in FAB, i.e. on-line and immediate support of customers, with OSR ensuring that the operational environment is in place to let the FAB processes do their job. Outside of the Operations process area - in the Strategy, Infrastructure & Product (SIP) process area - the Strategy & Commit vertical, as well as the two Lifecycle Management verticals, are differentiated. These are distinct because, unlike Operations, they do not directly support the customer, are intrinsically different from the Operations processes and work on different business time cycles.

The Framework also includes views of functionality as they span horizontally across an enterprise's internal organizations. The horizontal functional process groupings in Figure 1 distinguish functional operations processes and other types of business functional processes, e.g., Marketing versus Selling, Service Development versus Service Configuration, etc. Amongst these Horizontal Functional Process Groupings, those on the left (that cross the Strategy & Commit, Infrastructure Lifecycle Management and Product Lifecycle Management vertical process groupings) enable, support and direct the work in the Operations process area.

Overall, eTOM is comprised of the Business Process Framework and the Model. The eTOM Model graphically illustrates the business processes required for operating

service provider enterprises. It lays out these processes first from a high level perspective, and then drills down to increasingly detailed levels of understanding. The eTOM Business Process Framework describes in text what the model describes graphically.

So, eTOM is structured in three main areas (known as Level 0 processes): Operations (OPS), Strategy Infrastructure and Product (SIP) and Enterprise Management (EM). Each contains more detailed process components at Level 1, Level 2, etc as the processes are decomposed. This hierarchical decomposition enables detail to be defined in a structured way and also allows the eTOM Framework to be adopted at varying levels and/or for different processes. The Level number is an indication of the degree of detail revealed at that level - the higher the number, the more detailed are the process elements described there.

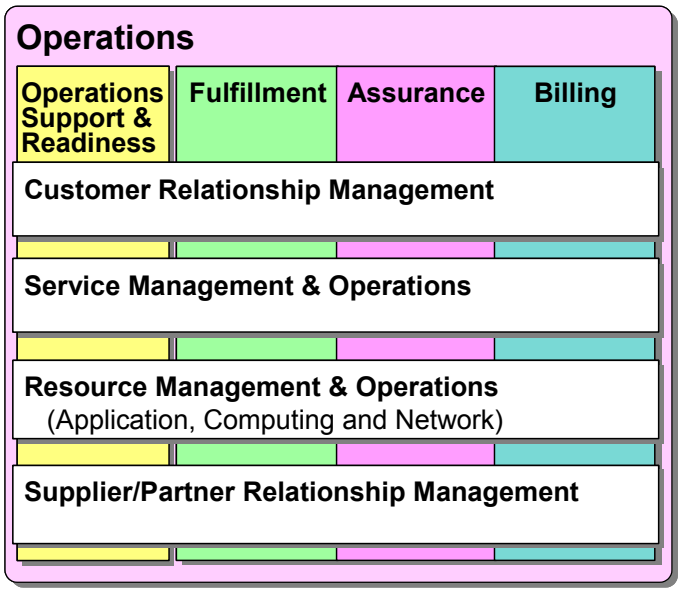

Figure 2: The eTOM Operations (OPS) Processes

Operations (OPS - see Figure 2) is the heart of eTOM and much of the original TOM work has carried through into OPS (the GB921 documentation contains an explanation of the mapping from TOM to eTOM). The “FAB” processes (Fulfillment, Assurance, Billing) provide the core of the Operations area, The vertical Level 1 processes in FAB represent a view of flow-through of activity, whereas the horizontal Level 1 processes (CRM, SM&O, RM&O, S/PRM) represent functionally-related activity, Both views are valid and the model supports both to accommodate different uses made of the processes. As a separate issue, OSR (Operations Support & Readiness) has been separated from FAB to reflect the separation between “front-office” real-time operations (in FAB) from “back-office” near real-time or even off-line support processes. This split may not apply in all organizations (in which case, the OSR and FAB processes can be merged) but is necessary to allow for the important situation where they are handled separately.

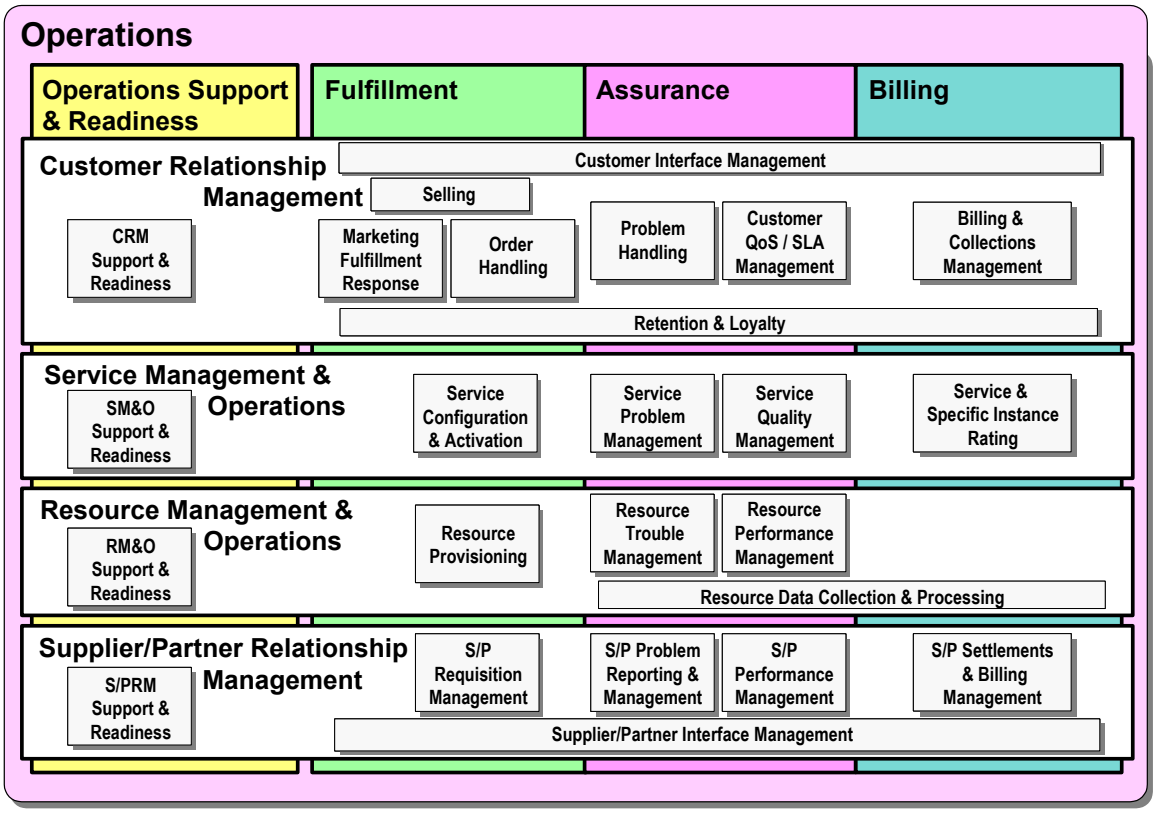

Figure 3: Level 2 Operations (OPS) Processes

In Figure 3, the OPS area is shown with Level 2 processes visible. Note, in general, a Level 2 process is part of a vertical, and also a horizontal, Level 1 process. Hence, Level 2 processes can be reached in the process hierarchy by either path (to reflect the different interests and concerns of users). However, whichever path is used, as shown here, there is a single, common set of Level 2 processes. In some cases, a Level 2 process is "stretched" across several vertical Level 1s (e.g. Resource Data Collection, Analysis and Control in RM&O). This is because the process concerned is needed in several vertical Level 1s (e.g. for Resource Data Collection, Analysis and Control, the data collected from the network (say) can represent usage data for Billing but can also support fault handling or performance assessment in Assurance).

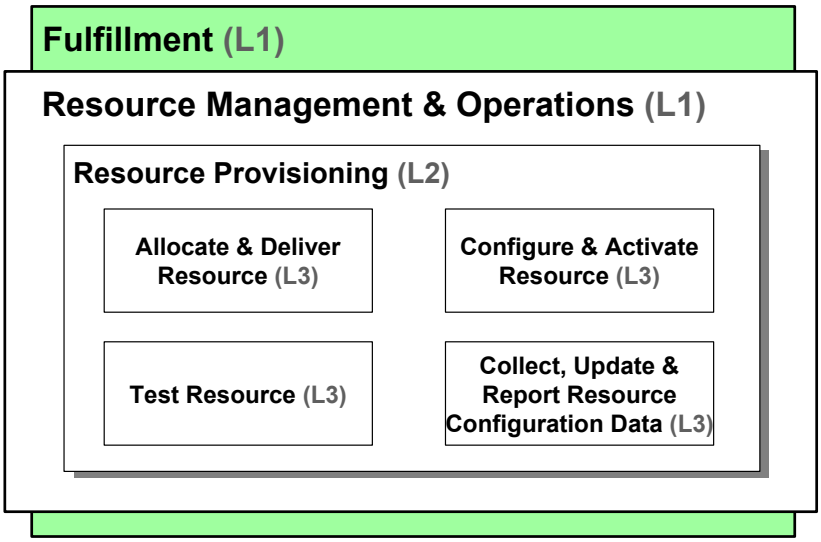

Figure 4: An example of Level 3 Operations (OPS) Processes

This mechanism of decomposition can be extended as required. In Figure 4, we see an example of the Level 3 process elements within a single Level 2 process element – Resource Provisioning. Full descriptions of decompositions to Level 3 for this and other processes are included in the GB921 documentation.

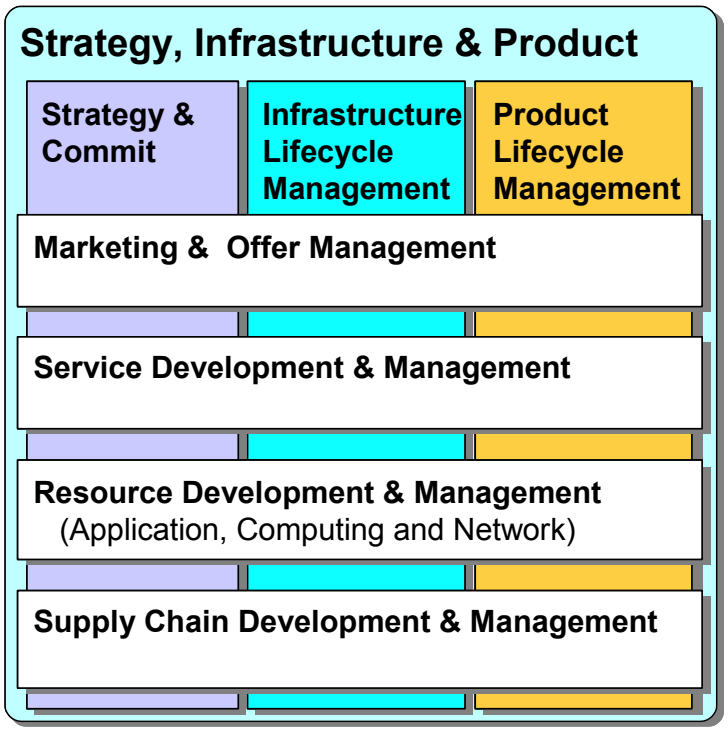

Figure 5: The eTOM Strategy, Infrastructure & Product (SIP) Processes

Strategy, Infrastructure & Product (SIP – see Figure 5) has a similar structure to OPS with corresponding vertical and horizontal Level 1 processes. In the verticals, Strategy & Commit covers the processes involved in forming and deciding company strategy and gaining commitment from the business for this. Infrastructure Lifecycle Management covers control of the infrastructures used in the business – the network

is the most obvious, but also IT infrastructure and even the human resources of the company. Product Lifecycle Management covers the products themselves – note that eTOM distinguishes Product (as sold to Customers) from Service (used internally to represent the "technical" part of the product, i.e. excluding commercial aspects such as tariffing, T&Cs, support, etc) and Resource (physical and non-physical components used to support Service).

The horizontal functional groupings in SIP are aligned with those in OPS, so that if desired the processes included can be considered to link across smoothly from the SIP domain to the OPS domain, if this is relevant to some aspects of business behavior in enterprises.

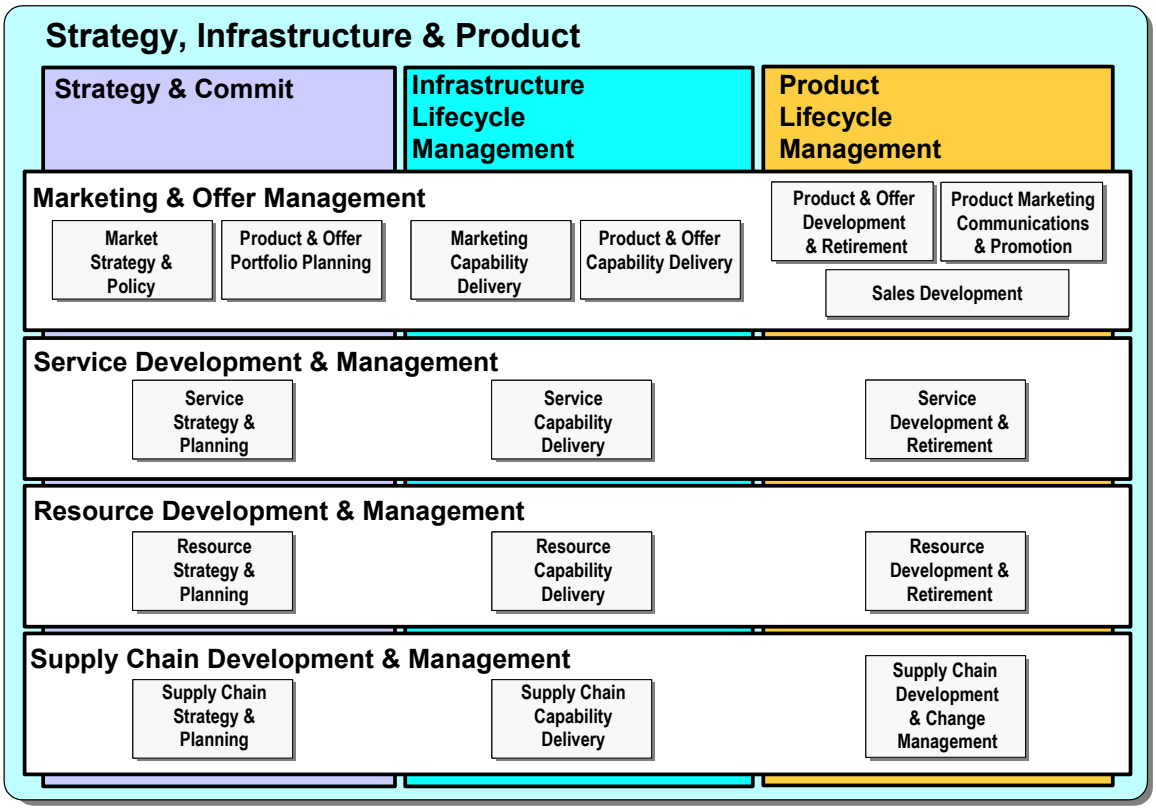

Figure 6: Level 2 Strategy, Infrastructure & Product (SIP) Processes

In Figure 6, the SIP area is shown with Level 2 processes visible. As with OPS, a Level 2 process is part of a vertical, and also a horizontal, Level 1 process (but note that all SIP processes fit this pattern, and there are not exceptions as in OPS).

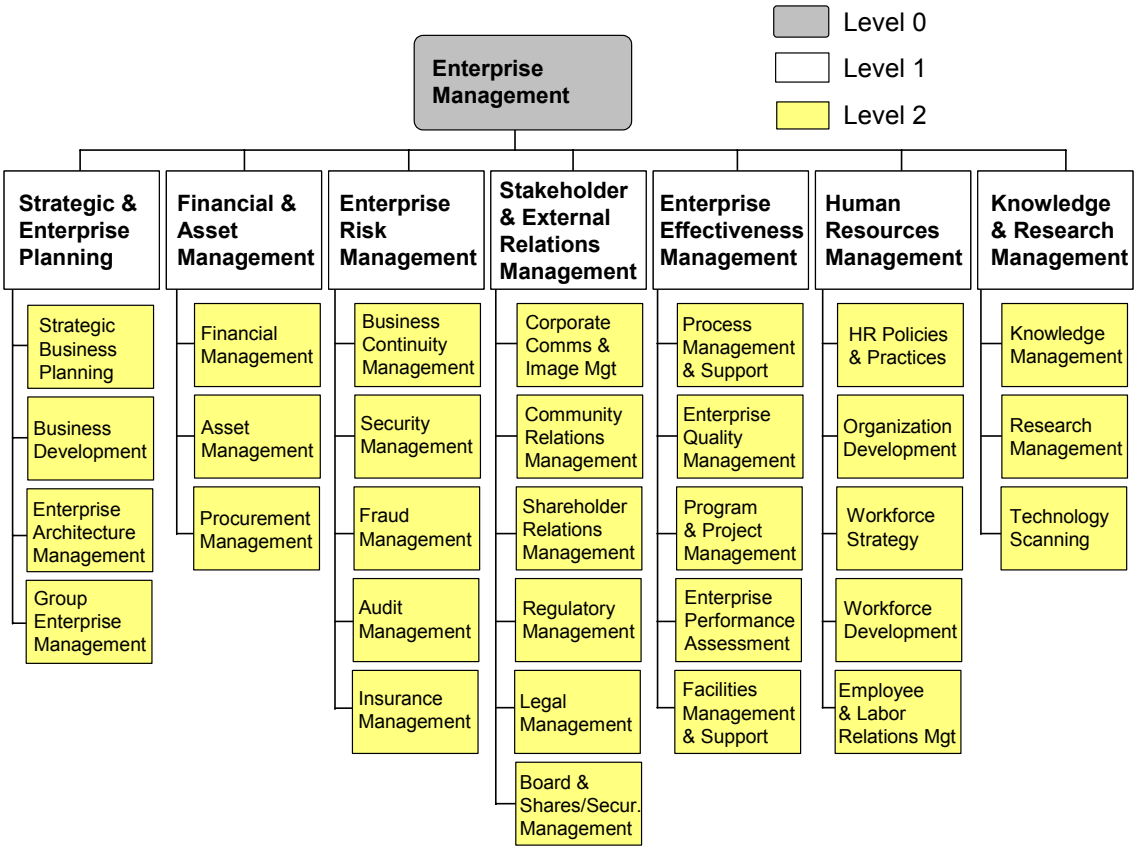

Figure 7: The eTOM Enterprise Management (EM) Processes

Enterprise Management (EM – see Figure 7) is shown in a different view – this is a typical hierarchy diagram as provided from process analysis and modeling tools used for eTOM. The top box is EM itself (Level 0), the next horizontal row shows the Level 1 processes in EM, and the columns below each Level 1 box shows Level 2 processes within that Level 1 process.

Now, with this overall view of the process structure to Level 2 (and descriptions for all these process elements, as well as for Level 3 process elements, are in the GB921 documentation), it is important, however, to note that this view of the processes provides very little insight into how the processes interact. To gain this valuable additional perspective, we must look to process flows.

Process Flows

Process decompositions provide an essential insight into the process definition and content. To understand further how the processes behave, process flows can be developed that examine how some or all of the processes support some larger, "end-to-end" or "through" process view across the enterprise. Such process flows are not constrained to bridge across the entire enterprise – they can have any scope that is considered meaningful and helpful to analyze - but typically such process flows involve a broad area of the enterprise processes, and thus of the eTOM framework.

Thus, process flows examine some specific scenario in which the processes achieve an overall business purpose.

To begin with, though, Figure 8 shows only a fragment of a process flow, where several eTOM Level 2 OPS processes can be recognized, and labeled linkages between these indicate the nature of the transfer that arises in operation. In this case, we can see that part of handling a customer order is shown.

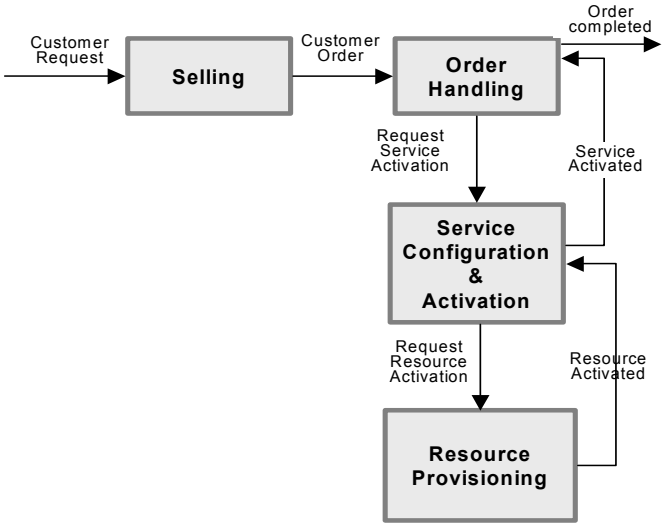

Figure 8: Process Flow (partial example only)

The process flow approach has these general characteristics:

- It analyzes a typical (specific) scenario
- It provides insight into the behavior and interaction amongst processes
- It chooses to model the flow at an appropriate level of process detail
- It can use process decompositions (and vice versa) to enhance/refine detail
- The aim is to provide only an example of the process flows - i.e. only some of the possible interactions are described in each scenario
- Thus, it typically provides a partial view of process behavior (because flows are based on specific scenarios)
- It represents a dynamic perspective of process

In applying this approach for eTOM process flows, it has been found that a number of different flow-related diagram types have proved useful, considering the variety of interest (business and technical, high level and detailed design) that need to be addressed.

First is a general positioning type of diagram that provides only limited insight into the flow, but helps focus attention on the general area of eTOM involved.

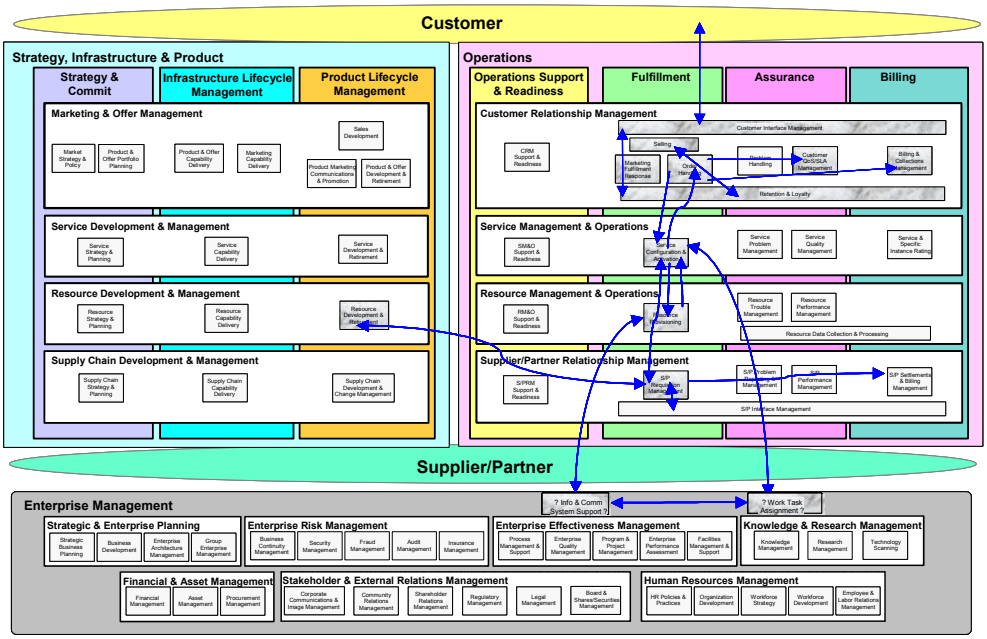

Figure 9: General Interaction Diagram for DSL Fulfillment

Figure 9 shows an example of this diagram - a general process interaction diagram – for a scenario based around DSL Fulfillment that is covered in the GB921 documentation. This shows some of the process interactions that arise for this scenario, but does not give any detailed insight at this level into the behavior. It is still useful for a high-level view, though.

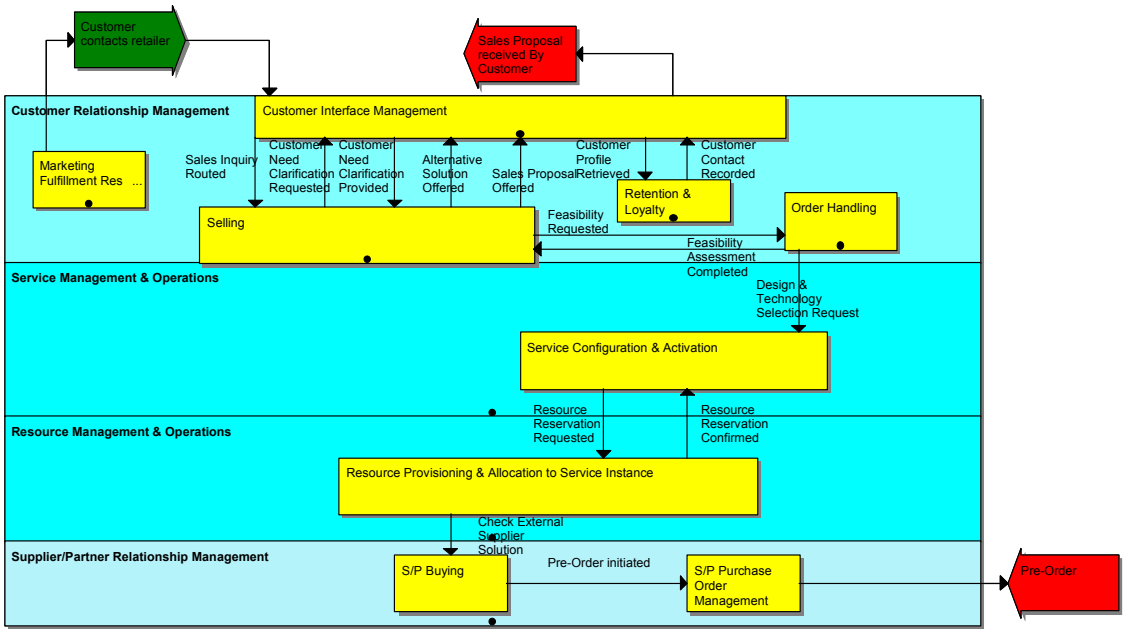

Figure 10: Process Interaction Flow Diagram for DSL Fulfillment (Pre-Sales)

The next diagram type, shown in Figure 10, is developed directly from a process analysis and modeling tool (rather than a general drawing software). Here we are working with Level 2 process elements but other Levels can be used depending on the detail required. This diagram type positions the eTOM processes in relatively the

same way that they can be seen on the eTOM model diagrams (see, for example, Figure 3 earlier), which assists with recognition and avoids confusion. Each process only appears once, and so sequencing of the interactions is not explicit in this diagram (it is on the process dynamics diagrams later).

An important element in flow diagrams of this kind is that of "swimlanes". These are areas in the process flow diagram, containing typically several process elements that contribute to the overall process flow, which scope a useful area of attention to assist the user. In this example, the swimlanes have been drawn to represent the four horizontal functional process groupings of the Operations area of the eTOM Framework, since the scenario involved is focused in the Operations domain. In thi sarrangement, all the process elements in a specific swimlane in the diagram (e.g. in the loweset swimlane for Supplier/Partner Management & Operations) are components of that horizontal functional process grouping. It should be noted that swimlanes (despite their name) need not be only horizontal, although this is a common choice for clarity, and is the approach used in eTOM process flow diagrams.

The process flow in Figure 10 addresses the pre-sales stage of Fulfillment (other phases are documented in separate diagrams, for convenience). It kicks-off from the Marketing Fulfillment Response process stimulating a customer to make a service enquiry (in fact, in eTOM terms the customer buys a product, as service is reserved for the internal technical capability that supports a product). The Customer then contacts the retailer (external event) and the enquiry is routed through Customer Interface Management to Selling (sales enquiry routed). Note that interactions between processes (like sales enquiry routed) are events, and are not intrinsically information transfers. Thus they can be considered to represent transfer of control.

After any necessary clarification with the customer, Selling requests Order Handling to check on the feasibility of satisfying the product request, and this leads to a design being developed for the product instance required, and checks through Service Configuration & Activation, and then Resource Provisioning & Allocation to Service Instance, that this can be done. This may also involve interaction with a supplier via S/P Requisition Management, etc. Eventually, if all is well, a sales proposal is offered or an alternative solution offered.

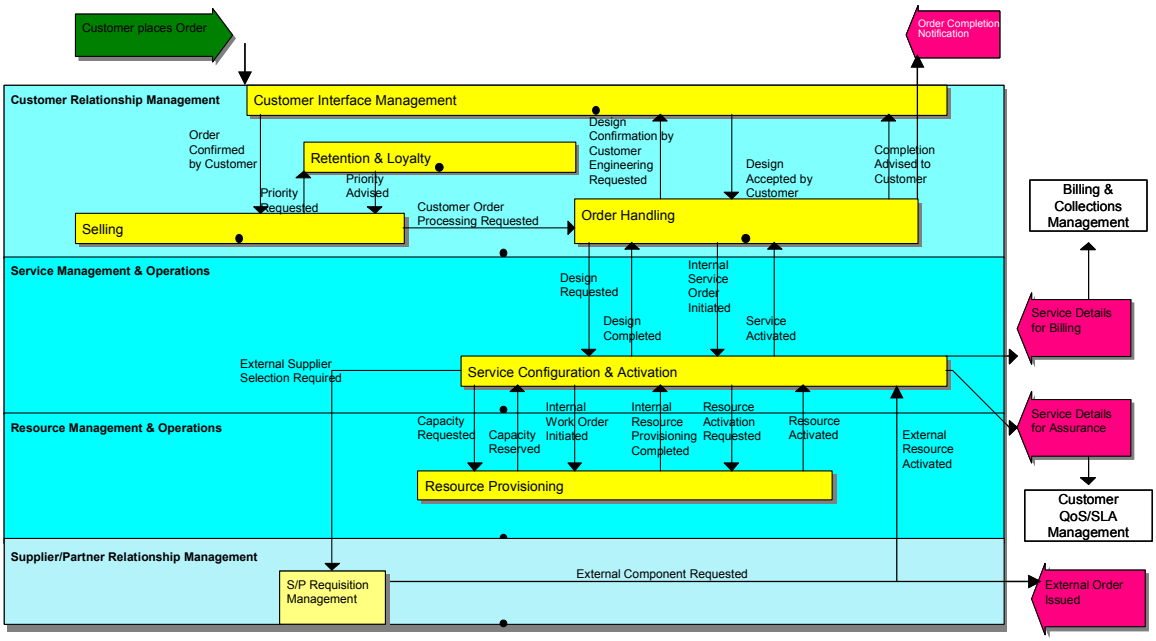

Figure 11: Process Interaction Flow Diagram for DSL Fulfillment (Ordering)

Figure 11 is also another example of this diagram type, for the main Ordering phase of Fulfillment. It kicks-off with the Customer placing an order, and then tracks through Selling, Order handling, and the service and resource layer processes that actually configure the product instance. As the product instance is brought into service, there are external interactions with Billing to set up charging for this.

However, even though interactions are labeled in these diagrams, sequencing and dependencies in the flow are still not explicit. For this, we need to generate another kind of diagram.

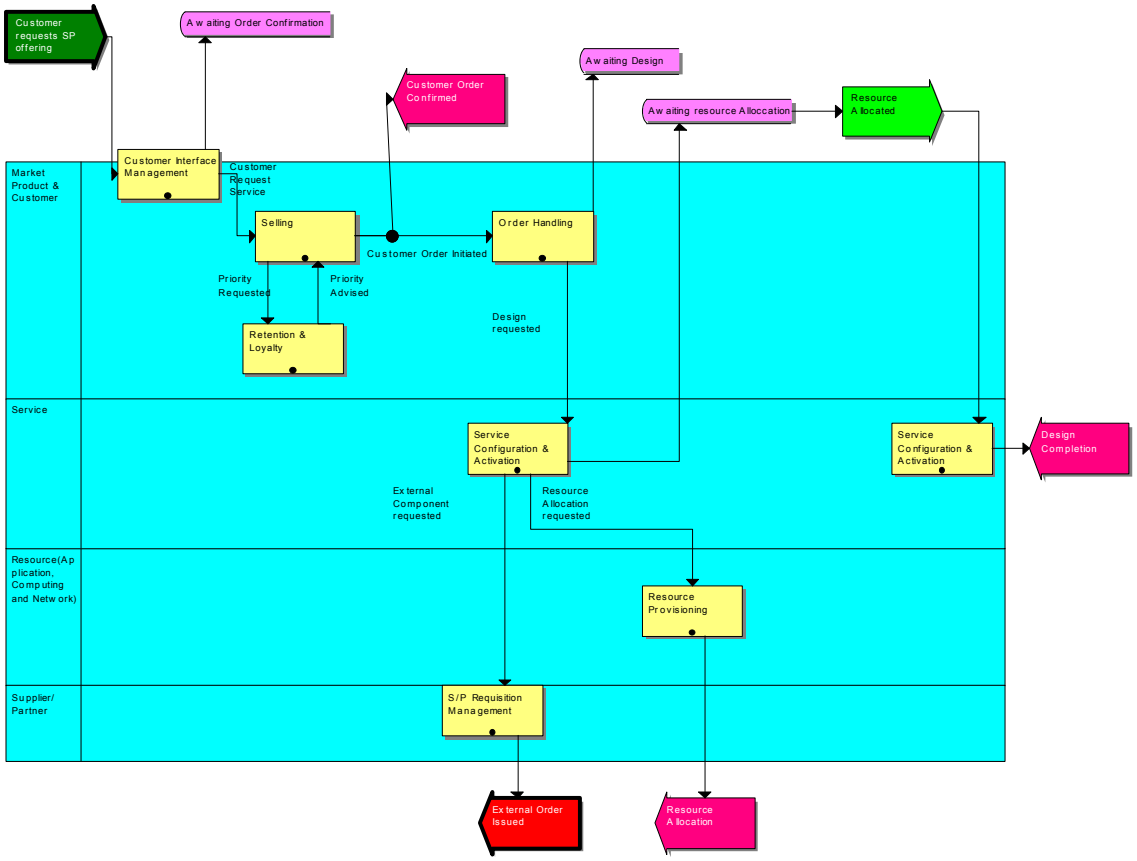

Figure 12: Process Dynamics Flow Diagram for DSL Fulfillment (Ordering)

Figure 12 represents a process dynamics flow diagram, showing the process dynamics explicitly. Each process typically appears several times, on each occasion providing a specific step in the process flow sequence. As there is therefore typically different functionality employed on each appearance, this diagram can provide insight into the decomposition of the Level 2 process into Level 3 processes. It shows equivalent information to the Ordering process interaction diagram of Figure 11, but is more technically complete and is a better basis for further design.

Developing process flows in this way is a valuable source of insight and additional detail to validate process decompositions, and to address specific areas of business priority for eTOM application.

Why use eTOM?

eTOM makes available a standard structure, terminology and classification scheme for describing business processes and their constituent building blocks

eTOM supplies a foundation for applying enterprise-wide discipline to the development of business processes

eTOM provides a basis for understanding and managing portfolios of IT applications in terms of business process requirements

eTOM enables creation of consistent and high-quality end-to-end process flows, with opportunities for cost and performance improvement, and for re-use of existing processes and systems

eTOM use across the industry will increase the likelihood that off-the-shelf applications will be readily integrated into the enterprise, at a lower cost than custom-built applications

When can eTOM help?

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

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

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Who is using eTOM?

A natural question that arises is to be aware of where eTOM is being used in the industry and how it is benefiting those involved. This is a difficult issue to address due to commercial confidentiality and sensitivity on strategic information about company directions. However, a number of organizations have declared a position on this publicly, and the general interest and support for eTOM is now very high and so we would hope to see increasing public information available on this. The two main groups of eTOM users are (1) Service Providers and (2) Vendors, System Integrators, etc. It is worth noting that there is private information on a much larger number of organizations applying eTOM in their businesses, and a much larger number again of organizations that are using eTOM but who have not yet made contact with TM Forum about this (and which are therefore discovered by chance).

One important source of information is the conference event associated with TeleManagement World. Figures 13 & 14 below show information on SPs and others who have reported there on their eTOM usage.

eTOM is a reference guideline in the definition of the Vodafone worldwide IT Enterprise Architecture.

eTOM is used to map functionality of existing systems and discover redundancies.

Telstra enhanced the core eTOM Framework to create a Framework for all Process Elements in Telstra down to Level 4.

eTOM is referenced in the design and implementation of the New Broadband Services Management Architecture.

eTOM is used in the definition and implementation of the business Process Framework for the merged Telia and Sonera companies.

eTOM is used to provide the basic framework for describing the process scope and positions the process capabilities of current / future systems. It also provides a neutral reference model with an associated lexicon for the processes to be addressed.

Figure 13: Recent Reports on eTOM Adoptions (SPs)

Reorganized existing BPM and Best Practices around eTOM, with strategic decision to increase participation in eTOM team work. Introduced internal eTOM training, with eTOM as a common language and reference throughout the company. Mapped Amdocs products to eTOM, and used as sales tool.

Used eTOM to map existing industry processes, analyze business drivers and pains, and guide the design of new processes. Also,as a framework for ISV & SI Partnerships

Have developed Telecom Reference Business Model based on eTOM (Levels 1,2 & 3), and extended to Levels 5 & 6 for business scenario investigation, legacy system gap analysis, new OSS/BSS specification, consultancy support, etc

Used eTOM for internal product training, product features cross-referencing nd functional gap analysis, marketing analysis (competitors/partners), customer communication (incl. RFI/RFP), workflow "seed" processes

Used eTOM for mapping Motorola products and managed services, for gap analysis of solution portfolio and for partnership communications

Figure 14: Recent Reports on eTOM Adoptions (Vendors, SIs, etc)

Another aspect of eTOM usage is through other industry bodies that are operating in, or have influence on, the area. Figure 15 shows some of the industry links that are active concerning eTOM and the rest of the TM Forum work. In particular, the recent endorsement of the eTOM by ITU-T has been a major achievement and establishes eTOM, which has grown already to become a *de facto* standard, now to be available as a formal standard through ITU-T with its mandate under the United Nations.

eTOM has been formally approved as an ITU-T Recommendation (M.3050): *"M.3050 aims to improve efficiency of the business processes at the heart of any service providers' operation. The new framework will be used by industry to more efficiently implement operations and business support systems (OSS/BSS) and by ITU in the continued production of OSS/BSS specifications."*

OSS/J (enabling marketplace of interchangeable, interoperable components that can be rapidly and cost effectively assembled into end-to-end telecommunications solutions) and TMF have established a formal partnership. OSS/J is the first and only technology specific realization of TMF's NGOSS. eTOM has been used by as the base for the OSS/J Roadmap since 2001.

RosettaNet (enabling supply chain optimization for the high technology sector) and TMF have established formal partnership. eTOM business processes will be mapped to RosettaNet processes.

Figure 15: Examples of Important Industry Links

Some Ideas on Using eTOM

Service Providers

1. Assign your technical personnel to review the eTOM Framework (**GB921**) and Model, and to present recommendations on it for your enterprise (see www.tmforum.org for download advice).

2. Encourage your vendors to understand the eTOM, and. to describe their software applications in relation to the eTOM.

3. If you want your company's view incorporated in future versions of the eTOM, send a representative to participate actively in its ongoing development.

Vendors

1. Provide materials on your software products for customers using the eTOM structure and concepts.

2. Assist your customers' understanding of your software products by explaining your software products in relation to the eTOM Framework.

3. Use eTOM as a guide to help generate product gap analysis, market analysis, competitive analysis, etc.

4. Establish and build partnerships to produce more complete solutions for service providers.

5. To ensure eTOM accurately reflects how the telecom business operates, send a representative to participate in its ongoing development.

Note: Vendors, System Integrators and related companies are generally comprised of common roles. The common roles are shown below with a brief description of each role. These common roles are not prescriptive. Rather, they are provided to illustrate the breadth of eTOM impact on vendor and system integrator organizational roles.

- Senior Management:
  - Mission & strategy
- Business:
  - Customer, market needs & issues
  - Portfolio generation & management
  - Value proposition
  - Business case development
  - Partnerships
- Marketing:
  - Market & competitive analysis
  - Branding, advertising, promotions, etc.
  - Public relations

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- Sales:
  - RFQs, RFIs, RFPs, contracts, etc.
- Finance :
  - Revenue & cost forecasting
  - Order to cash, billing, etc.
- Systems Engineering:
  - Research and Design
  - System design: architecture, interfaces, etc.
  - Technology, etc. roadmaps
- Development Engineering:
  - Hardware, software, services products and solutions
- Test:
  - System, product, field, compliance, "X-ility" (Availability, Operability, …), etc. testing & certification
- Manufacturing:
  - Supply chain (in)
  - Warranty, etc.
- Deployment:
  - Supply chain (out)
  - Delivery & installation
  - Acceptance test
  - Field trials, Field problem resolution, MOL

Bringing eTOM into your Business – Some hints and Suggestions

To begin to evaluate and use eTOM for your own business, it is essential that the ground is prepared so that the goals are clear and it is possible to assess the impact of this.

As a first step, it is important to gain internal commitment to the introduction of eTOM, since the sort of business process analysis, and possible changes that will result, need buy-in and active participation from those affected. From experience, a vital element in success is to obtain senior management recognition and support.

It is also critical to identify and assess the area where eTOM may bring benefit , and to define success criteria for any trial or application of eTOM, so that results can be used to build confidence and then to justify further work.

In using eTOM, it is important to recognize that it provides a ready-made generic business process framework, which may need adjustment for your business., and that it is progressively being further developed to lower-level detail.

So, eTOM can be used directly:

- to assist your business partitioning (eTOM process groupings and definitions to define roles and responsibilities within your organization)
- to seek supply of system and solutions from vendors that identify which processes within the eTOM Framoewrk are being automated, so as to:
- brings economies of scale across industry
- accelerates availability of products
- allows customization and extension

In addition, eTOM can be adapted and extended to accommodate specific needs in your own area:

- use eTOM framework as baseline
- define additional detail and modifications in areas specific to your business
- extend eTOM for use within your company
- influence ongoing eTOM development through direct participation
  - share ideas and gain insight
  - ensure eTOM evolves in line with your needs
  - maximize the relevance of industry products

In extending and customizing eTOM, a number of strategies can be used:

Bottom-up

- Start with your enterprise existing Business Processes definitions
- Map existing Business Process flows back to eTOM
- Construct your own decomposition of eTOM published Business Processes

Top down

- Decompose eTOM processes into component processes, to expose more detail
- Define process flows, to link processes together
- Combine decompositions and flows, to describe fully the behavior of each process area

Continue (as required) to lower levels of detail

The approach used can be adjusted as convenient in each case. Experience shows there is value in firming up agreement at a given level of decomposition and analysis, before proceeding to develop fully the next level of detail (of course, it may be helpful to “look ahead” a little to ensure that the current level of detail is resilient).

An important message is:

Stop when you wish!

You have reached an end-point when you have sufficient detail to use within your business, or when you consider the added value gained of developing further detail is not in proportion of the extra work needed.

Administrative Appendix

Acknowledgements

This document is based on material accumulated in the course of the ongoing work on eTOM in the TeleManagement Forum, including material provided by a range of Members and used in presentations, etc, on this topic. Thanks to all those who have been involved and who have contributed along the way on this. For the current release, thanks also to Frank Korinek of Motorola and Viviane Cohen of Amdocs for valuable comments and suggestions, and to Mike Kelly of TeleManagement Forum who handled editing of this document, and integrated comments and suggestions into the final form shown here.

See main document (GB921 v4.5) for other acknowledgements.

About TeleManagement Forum

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

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

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

About this document

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

Document Life Cycle

The "Enhanced Telecom Operations Map® (eTOM) The Business Process Framework For The Information and Communications Services Industry" has been issued as a TMF Approved Version Release 4.0 with a Guidebook Number of 921. This document (GB921P) is an Addendum following on from this release, and is not TMF Approved at this stage. It is packaged as part of the eTOM Solution Suite v4.5, issued as part of the NGOSS Release 4.5

See main document (GB921 v4.5) for further information on the eTOM Solution Suite documents.

Time Stamp

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

How to obtain a copy

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

How to comment on the document

Comments must be in written form and addressed to the contacts below for review with the project team. Please send your comments and input to:

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

Document History

Version	Date	Purpose
eTOM Addendum P NGOSS Version 4.5	05/04	Launch of this Addendum, packaged as GB921P for this release. Provides an introduction to eTOM and can be used as a primer for the rest of the GB921 documents
Version 4.6	11/04	Minor updates prior to Member Evaluation.
Version 4.6.1	09/06	Updated notice statement

Summary of Changes in this Version

This is a new release of this document.

See main document (GB921 v4.5) for further change information and future additions.

References

Related or Source Documents

See main document (GB921 v4.5) for references.

eTOM Business Process Framework

The eTOM Business Process Framework has grown to include a number of components. The overall eTOM document set includes:

- A main document (GB921) that provides an overview of the eTOM Business Process Framework, from both Intra-Enterprise and Inter-Enterprise viewpoints, and describes the main structural elements and approach
- An Addendum (GB921D) describing the Service Provider enterprise processes and sub-processes in a form that is top down, customer-centric, and end-to-end focused. Process decompositions are provided for all processes from the highest conceptual view of the eTOM framework to the level of detail agreed for use by the industry.
- An Addendum (GB921F) describing selected process flows at several levels of view and detail that provides end-to-end insight into the application of eTOM.
- An Addendum (GB921B) describing the implications and impact of ebusiness for service providers and their business relationships, and how eTOM supports them, including a description of handling of business to business Interactions by eTOM. Associated with this is a separate Application Note (GB921C) describing a Business Operations Map for processes involved in business to business interaction.
- A separate Application Note (GB921L) that shows how eTOM can be used to model the ITIL processes.
- A further Addendum (GB921T), not included at time of release in the GB921 v4.0 document set, describing the mapping between eTOM and the ITU-T M.3400 functions.
- A further Addendum (GB921P), not included at time of release in the GB921 v4.0 document set, providing an introductory Primer to assist new users of eTOM

Note:

Addenda are adjuncts to the main document that are presented separately, to avoid a single document becoming cumbersome due to its size.

Annexes and Appendices both allow material to be removed from a document body, so that the reader is not distracted from the document flow by too much detail. However, these have different statuses within a document: Annexes have equivalent status to the material within the body of the document, i.e. an Annex represents a formal agreement and requirements for the users of the document. Appendices contain material included for information or general guidance. Also, Addenda have the same status as Annexes.

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

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