Building Bridges: ITIL and eTOM

A study by TM Forum in conjunction with itSMF on integrating ITIL and eTOM to provide a pragmatic joint solution for business support in the communications sector

Release 1.0

TR143

Version 1.0

August, 2008

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Executive Summary

This document addresses how the TM Forum's Business Process Map (eTOM) and ITIL can be used together.

There is a general need when employing ITIL to link it with the business needs and to position ITIL good practice in the appropriate business context. For us, the eTOM Business Process Framework, and NGOSS, provide a basis for us to do this in partnership with ITIL, but we need to offer clear guidance to companies on how this can be done, and what the results look like in key areas of activity.

Within this document, recommendations are made on bringing the two frameworks together, and guidelines provided to Members and others seeking to use each in the most appropriate way.

Additionally, and most importantly, a strategic view of how to converge ITIL and eTOM is proposed, with specific modifications to eTOM that allow support for ITIL to be more visible and direct, and which form the basis for a methodology on how companies can apply ITIL good practice through eTOM.

See "Overview of Document" following for more details on the document structure and contents, and "Summary of Guidelines and Recommendations (by section)" for a listing of the Guidelines and Recommendations set out within the document body.

Foreword

We are pleased to present this Technical Report which addresses how to bring together the ITIL[1] and eTOM frameworks. ITIL defines a framework for good practice in Service Management, while eTOM defines a Business Process framework for service providers in the information, communications and entertainment sectors. The ITIL and eTOM frameworks are both widely used and each delivers a recognized value to its user community. Increasingly, these communities are overlapping and converging, and so the two frameworks need to come together, and that's exactly what the two organizations behind these important industry guidelines are working to make happen. Within this document, recommendations are made on bringing the two frameworks together, and guidelines are provided to Members and others seeking to use each framework in the most appropriate way

Both the itSMF (whose membership largely develops and promotes ITIL) and the TM Forum (whose membership develops the eTOM Business Process Framework) recognize that both frameworks have strengths and weaknesses that, if combined, would have major benefits for all the industry sectors involved with delivering convergent services to market. So, we are actively co-operating to put ITIL and eTOM on a converging course, address any interworking issues, and ensure that more integrated support is available to users.

This Technical Report shows the progress that has already been made on this, and there's more to come. There are already solid techniques and methods in place so that eTOM can be used to support services that have adopted ITIL, answering the question of "which framework should I choose?" with the clear answer "the best mix of both!"

A wide range of issues is addressed in the report, from differences in terminology to linking the structures and views from each. The goal throughout is to identify and remove any obstacles to interworking that limit the take up and application of the frameworks together. There is a good deal of momentum within the memberships of both organizations for this to happen, and for us to see a clear position on using ITIL and eTOM as supportive of the needs of businesses. This builds on the affinity between the two frameworks, and their real complementary strengths, so that each can benefit when they are brought together.

Over the next months, both itSMF and TM Forum will be more visible at each other's events, and will be pursuing joint working groups to progress interworking and harmonization. We can look forward to seeing the fruits of this in the form of more detailed practical guidance and white papers, and a roadmap for more active convergence of the frameworks.

In the meantime, we are pleased jointly to endorse and recommend this report as a pragmatic and practical guide to getting the most from ITIL and eTOM working together.

Keith Willetts, CEO, TM Forum	Keith Aldis, Chief Executive, itSMF International

[1] ITIL® is a Registered Trade Mark, and a Registered Community Trade Mark of the Office of Government Commerce, and is Registered in the U.S. Patent and Trademark Office. IT Infrastructure Library® is a Registered Trade Mark of the Office of Government Commerce.

Overview of Document

Section 1 of the document provides an introduction and reviews where we are at present.

Sections 2 tackles the structural issues on linking ITIL and eTOM, with guidelines and recommendations on handling these.

Section 3 looks at terminology differences, and builds on Section 2 with guidelines and recommendations on overcoming these.

Sections 4 and 5 look at how ITIL and eTOM are applied, through patterns and process flows that can provide worked examples to help users.

Section 6 knits all this together with a strategic path towards convergence, and sets out specific proposals to extend and adapt the eTOM Business Process Map so that ITIL is directly and visibly supported.

In addition, Annex A provides some background information, and Annex B provides a collated view of input from Service Providers on their experiences with ITIL and thoughts on future directions, that was prepared with input from a number of SPs with support from the Service Provider Leadership Council.

Summary of Guidelines and Recommendations (by section)

ITIL and eTOM Together: Positioning the Frameworks

Guideline G1: The word "Service", unqualified, is to be avoided, unless the context means there is absolutely no ambiguity.
For ITIL, we should always speak of "IT Services".
For eTOM, we should always speak of "Communication and Content Services".
We should also note that:
- IT Services can be used within an enterprise, to support business areas, or can play a part in supporting external customers and users
- Communication and Content Services (and possibly some aspects of IT services) are packaged as Products (Communication and Content Products) for external delivery/sale.

Guideline G2: A specific implication of the difference in structure between ITIL and eTOM is that the IT Service Management processes from ITIL do not map only to the "Service" layer of eTOM. In fact, their linkage is more pervasive.

Guideline G3: ITIL must be mapped into each enterprise. Where the enterprise has a layered organization (either fully or partially), along the lines represented in eTOM, then eTOM provides a strong basis for allocating elements of ITIL to the organizational layers. Where the enterprise does not exhibit some of this layering, eTOM may be less helpful in guiding the allocation of ITIL elements.

Guideline G4: Whether or not the enterprise employs a layered structure as in eTOM, when mapping ITIL into the enterprise, there can be value in using the eTOM layering to achieve a separation of concerns within the business.

Guideline G5: ITIL Service Desk functions can be individually mapped to process elements within the eTOM Model, and an individual application of the Service Desk (say, in a specific enterprise) can then be assembled from the chosen subset of functionality, and linked directly with the areas of eTOM that support this.

Guideline G6: The ITIL Configuration Management DataBase / Configuration Management System (CMDB/CMS) can be realized through the SID Information Model (and supported by processes within the eTOM Business Process Framework) using compatible and consistent information/data structuring in both the ITIL and the SID/eTOM/NGOSS views.

Recommendation R1: A common, or at least, linked view of this relationship between "Service" and "Product" for ITIL and eTOM will assist greatly in overcoming confusion and conflict between the two frameworks. This will involve acknowledging also the structural/layering issues behind the terms, and resolving this will assist greatly in all aspects of linking the two areas.

This should be a priority for the two communities to agree.

Note also that these terms should not be used unqualified (see Guideline G1).

Recommendation R2: Integrating ITIL and eTOM will be assisted by introducing the concept within itSMF and TM Forum of Organizational Structure Mappings from ITIL Into typical, generic, organizations, where eTOM represents such a generic view for a typical Service Provider in our industry.

Recommendation R3: Organizational Structure Mappings should be seen as a repertoire of ITIL application options, and hence non–exclusive, so that other such mappings can be added, as needed, for other industry domains where ITIL is applied.

ITIL and eTOM Together: Harmonizing Terminology

Recommendation R4: The eTOM Glossary and eTOM Business Process Framework should be updated to refer to IT services that support the creation of business products.

Recommendation R5: The eTOM Glossary and eTOM Business Process Framework should be updated to refer to IT service providers and Communications and Content service providers.

Recommendation R6: The eTOM Glossary and eTOM Business Process Framework should be updated to include explicit reference to incidents and problems, whether in an IT or business context, and should also refer appropriately to IT Incident Management and IT Problem Management as well as Service Incident Management and Service Problem Management in the relevant process elements within the Assurance and Fulfillment areas of Operations.

Recommendation R7: The eTOM Glossary and eTOM Business Process Framework should be updated to refer to the repair, recovery, and restoration of components and services.

Recommendation R8: The eTOM Glossary and eTOM Business Process Framework should be updated to refer to service requests.

Recommendation R9: The eTOM Glossary and eTOM Business Process Framework should be updated to refer to change requests and changes within telecommunications products and infrastructure.

Recommendation R10: The eTOM Glossary and eTOM Business Process Framework should be updated to refer to configuration items within telecommunications networks and IT infrastructure.

ITIL and eTOM Together: going with the flow

Guideline G7: Enterprises can directly build support for ITIL good practice services using eTOM, by implementing eTOM process flows overlaid on ITIL process steps as a background (see GB921V for details)

Guideline G8: Enterprises can apply ITIL as a basis for corporate direction or policy that is applied in defined areas of their operation. This use of ITIL then links with eTOM in implanting the ITIL "policies" within Enterprise Management, and then building individual process flows in the defined area of operation, using ITIL as background "swimlanes", and eTOM process elements as foreground process flows (see GB921V for more details on this).

Convergence of ITIL and eTOM

Recommendation R11: The eTOM Model should be extended to include explicit Level 2 process elements reflecting each of the ITIL processes. These will be positioned within Enterprise Management - an initial set of these new L2s and their location within Enterprise Management Level 1 process areas has been defined. This will provide immediate and direct visibility for how users can work with both ITIL and eTOM frameworks together. These changes, and the proposed new L2s should be considered immediately by the eTOM Team

Recommendation R12: "Footprints" on eTOM, and process flows illustrating how ITIL processes can be applied using eTOM, should be developed for a representative set of cases, to demonstrate the utility and power of this linkage. This should be done in conjunction with the eTOM Team to ensure consistency of approach, but can be done by separate individuals/groups, as convenient.

Guideline G9: As an extension of previous Guideline G8, enterprises should employ this 3-step methodology to identify and define areas of ITIL application within their business, using eTOM to map the ITIL good practice into the specific enterprise area(s) that are impacted.

1. Introduction

1.1. When worlds collide

We have a problem. It's a problem that stems from the best of intentions – to find common ground in how we work together, and to agree a basis for interworking that can benefit all of us, and leaves each of us able to concentrate on areas where individually we can differentiate and compete. To be more specific, it's a problem about how businesses link with and use the IT support environments that they depend on. What can be observed is that the business and IT service perspectives within enterprises have a complex interlinking, and it is not obvious how they should fit. These differences are reflected in the departmental structures, the culture and the focuses that each adopts, their goals and motivations, and – vitally - the way that we try to define that common ground mentioned above through standards, methodologies. etc.

About that "we" above. In a sense it's all of us, every industry and every area of business. Because things in the whole world of commerce and industry are changing faster than we can manage them - or sometimes even define them. We do what we can to deal with this, and one way is by building interworking agreements where we can, to damp down the churn and avoid divergence that benefits no one. This has led to islands of standardization, around points where these agreements have taken root. However, these standards can then prove difficult to reconcile and converge, when the islands grow to coalesce.

Now, to some extent, it has always been thus so, to move from the general to the specific again, for the "we" that is now the Communications Industry, with its growth from network-oriented services into cable, media, content, etc, there is a pressing issue in integrating how the business works with support from the underlying IT environment. Each of these perspectives has been subject to standardization separately but it is now time, and maybe past time, to fit them together to provide more effective assistance to the industry.

This is not easy. The IT support perspective, as represented by ITIL (which defines good practices for IT Services – see Annex A), does not limit itself to our industry, so we have to deal with influences in ITIL that come from other, different business environments. Through the TM Forum we have a business perspective for our industry with the NGOSS Business Process Framework, eTOM (see Annex A), and the link with the rest of NGOSS, particularly the NGOSS Information Model, SID, as well as the system-oriented perspectives that follow on through the NGOSS Application Map, TAM, and the NGOSS Integration Architecture, TNA. These are powerful tools, but were not originally developed with a close eye on ITIL and so there are challenges in reconciling the NGOSS perspective with ITIL's.

Within the ITIL Framework there have been some subtle language changes with the release of the recent ITIL V3. Within Service Management, ITIL no longer talks of being the best practice for IT Service Management, but more a good practice or common practice. The reasoning for this change is that there are many complementary frameworks within the Public Domain and they can all work either together or independently and are all good practices. There is also the fact that ITIL V3 more than in previous versions was created by using input from the Industry as a whole and the practices in use were built into the material. In this report, we acknowledge this shift to speak of "good practice" for ITIL, but also indicate that our aim is to establish the best of such good practice for users.

The reconciliation of business and IT views is not a unique issue for our industry, as the same challenge faces other industries too, and we are better placed than some in having a strong business perspective through eTOM and NGOSS to build upon. It is not always recognized that ITIL does not itself seek directly to establish such a business perspective, possibly because it is applied in so many different businesses. ITIL instead looks to provide more a view of how services (and that overloaded term will be one of the difficulties as we will see) are provided through IT systems and the company departments that support them.

We can thus visualize the problem of reconciling ITIL and eTOM (and NGOSS) in terms of reconciling these different perspectives. Each has validity, and each is an aspect of the overall reality, but neither on its own explores all the areas of interest and concern about how the enterprise works. Because of this, we can benefit from seeking to build on both frameworks, rather than seeing the situation in terms of "either/or". Much of this document explores this and shows how the insights of both frameworks together can add value.

Taking this line, in a very real sense, both frameworks are needed to get a rounded picture. If either is used in isolation, the result is that the missing elements will still need to be filled in somehow and, arguably, trying to do this without taking advantage of the insights provided by existing work, just makes the problems worse. If a company applies eTOM without ITIL, it would still have to build a bridge to its IT environment, but would now have to do this on its own. Equally, using ITIL without eTOM would mean mapping into the business without the support and structure that eTOM provides, making this a much more difficult task.

So, there is a general need when employing ITIL to link it with the business needs and to position ITIL good practice in the appropriate business context. For us, the eTOM Business Process Framework, and NGOSS, provide a basis for us to do this in partnership with ITIL, but we need to offer clear guidance to companies on how this can be done, and what the results look like in key areas of activity.

1.2. Impacting the business

This merging of business and IT concerns is far from a paper exercise. It has real impact on companies and they way they work, and significantly affects how the realize their strategies and plans. This can arise through the need for focus and

direction internally, because of environmental pressures such as competition on prices affecting revenues and profitability, interacting business and market priorities caused by diversification, etc.

For example, a Service Provider may have developed eTOM-type telecom processes and have decomposed these down to operational procedures to support that area of the business. This typically would lead to procurement/development of a system stack to support this way of working, and as this has grown up, an associated terminology would have developed, with staff trained to work in an operating model oriented to this set of processes, procedures and applications.

But the world changes, and such a Service Provider, say, because of expansion into new business areas (ICT, outsourcing, etc) may then also have a set of processes for managing IT – with another system stack to support it, and again with its own terminology and staff trained in these processes and procedures.

There is redundancy and overhead here – the Service Provider does not want to operate two sets of processes for activities which are similar in broad terms, essentially to do with the planning, provision and maintenance of services and resources. They also do not want two workforces in a converged environment. And they do not want two system stacks. Besides that, a Service Provider like this needs to be efficient and does not want staff or customers to be confused by terminology. Moreover, the decisions here are not entirely internal - increasingly, corporate customers are demanding proof that SP's operate to "good practice".

Dealing with this means taking areas of the enterprise that have developed without close integration, and converging these. Not the least of the difficulties in this is the difference in cultures that have sprung up along the way. The attitudes and mindsets of the IT and the business communities within most enterprises have been poles apart, although there are a variety of views on how true this picture remains, Some see that they are much closer than they ever were and that often IT is now represented at a very senior level in the organization, so there may not therefore be a uniform position on this. However, the communities do tend to be very different kinds of people and the way they see their role within the company, the balance of their focus on technology vs people, how they communicate, etc, etc can be very different. It is not going too far to label this, in some cases at least, as a culture clash within companies.

This is a current reality, at least for some. Beyond this, the trend is for new products and services coming along that have IT integrated into the product, and so not just utilizing IT as support. This creates the need to manage the IT aspects of these services as well.

Now, to date not all Service Providers have these problems (e.g. if they are not in the ICT business.) but as markets coalesce and industry pressures force companies to look beyond traditional areas of business, their significance can only grow.

Similar pictures could be documented for other stakeholder groups within TM Forum – Independent Software Vendors. System Integrators, Equipment Suppliers, etc.

1.3. The story so far

Some time ago, these issues were addressed within TM Forum from the point of view of technical interworking of eTOM and ITIL. A mechanism was developed, with participation and contribution from both the TM Forum and ITIL communities, that allows ITIL good practice to be implemented directly through eTOM process flows. This mechanism, together with a number of worked examples, was published within the eTOM Business Process Framework Solution Set (GB921) as GB921 Addendum V. This was based on existing ITIL material, and since then ITIL V3 has become available, but the approach still holds true.

In GB921V, it was shown that areas of ITIL good practice (the ITIL processes) could be modeled as policies that a company might decide to apply in their businesses, and which could then be captured within the Enterprise Management area of eTOM (where corporate policies in general are represented). Then, a company could choose where in their business to apply these policies - ie where to adopt ITIL good practice – leading to the definition of specific eTOM process flows showing how this actually worked in the business areas concerned.

This proved to be a viable and successful approach, and following on from this work a number of companies are working with ITIL and eTOM together along these lines. Examples include Casewise and QinetiQ, both of whom have grown this approach within their own tool/consultancy businesses to provide comprehensive coverage of mapping ITIL good practices in eTOM process flows. Also, HP has developed solution consulting services for the implementation of eTOM/ITIL processes, which is underpinned by HP's integration of the eTOM/ITIL models within their COSMOS environment.

At the time, the expectation was that the ITIL/eTOM problem had been cracked by the insight provided through this mechanism, and that companies in general would now proceed, as the companies mentioned had, to apply these frameworks together. However, the industry reaction has been muted and the expressed need is for something more than this. Consequently, the emphasis has shifted to identifying what obstacles are impeding take-up of the integration mechanism explored in GB921V, and what can be done to reduce or overcome these.

1.4. What is to be done?

There is not a single answer forthcoming on this. The endgame would seem to be a desire for a single, merged framework and this is a good goal. However, there are some fundamental issues in moving to this:

- Our industry is not the only one that ITIL addresses, so it has to accommodate other ways of working than are familiar in our businesses
- ITIL's focus is on the common support services that businesses can use

- A separate business perspective is needed to dovetail with the ITIL view of IT Services and Service Management
- Such business perspectives look to be industry-specific, and for our industry eTOM fills this role
- There is not an expressed consensus on the encompassing business model that companies want to support, that bridges the business and IT support views – in other words, if we bring together ITIL and eTOM, are we clear what we are then trying to model within enterprises as the combined view?

It seems that it may take some time to find if and how a single framework can encompass all this. In the meantime we can look to ease the path to integration by dealing with specific obstacles that have been identified. Some of these are:

- Specifying clear mechanisms and guidance for technical interworking of the ITIL and eTOM frameworks/ approaches (building on the previous work published in GB921V)
- "Patterning" - using "templates" from ITIL to show specific solutions using eTOM that address high-priority areas of business need for companies, so that there are worked examples that companies can draw upon
- Terminology convergence - identifying the context and use of terms used in one Framework that create difficulties for the other, with specific proposals to resolve these. The enhanced ITIL glossary in ITIL v3 greatly facilitates this.
- Handling specific aspects of ITIL in an eTOM/NGOSS context: Service Desk and ITIL CMS/CMDB are early candidates
- Taking a longer-term “whole enterprise” view – ITIL places more emphasis on some areas of process more than others, and the whole enterprise view of eTOM allows interaction with ITIL to be clearly shown for all areas, so as to create a more complete solution
- With an eye to overall convergence, acknowledging the significance and impact of "culture clash" within/between organizations on IT support vs. the business groups

The way forward is therefore proposed to be twofold, with the following objectives:

- Define the eventual goal for integrating the ITIL and eTOM viewpoints, and identify realistic and progressive milestones to reach this
- At the same time, progress towards this goal with a series of pragmatic and useful steps that reduce the barriers to joint implementation of the ITIL and eTOM frameworks

The following sections address these two objectives, and provide guidelines and support for companies trying to use ITIL and eTOM together. To provide immediate assistance, first we look at the second of these objectives, the immediate steps to remove or reduce barriers to joint working. We then go on to set this against the overall goal of a fully-integrated solution.

The body of this document (following) addresses ITIL/eTOM interworking in two contexts:

1. **Define the eventual goal for integrating the ITIL and eTOM viewpoints, and identify realistic and progressive milestones to reach this**

2. **At the same time, progress towards this goal with a series of pragmatic and useful steps that reduce the barriers to joint implementation of the ITIL and eTOM frameworks**

Item 2 is addressed first in the following material, and then Item 1

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his document has been prepared with the assistance of itSMF (see Acknowledgements in the Administrative Appendix). It is worth noting that itSMF promotes good practice in IT Service Management, along similar lines to TM Forum's development of the eTOM Business Process Framework.

2. ITIL and eTOM Together: Positioning the Frameworks

This section looks at overall issues in positioning the two frameworks against each other, and the impact of the different structuring and approaches used, the reasons behind these differences, and how they can be reconciled.

2.1. The Service View

The relationship between ITIL and eTOM can be expressed in fairly straightforward terms - it is the implications that result and the detail of how these can be handled, that causes the difficulties:

- ITIL concentrates on IT Service Management capabilities, focused on the kind of services and service management that IT systems provide within organizations, independent of the kind of business or industry sector concerned
- eTOM concentrates on a business process view, and is focused on the communications industry sector that it addresses. It provides its own "services" – more accurately "products" - to the customers of the "Service Provider" company that it models, while being a consumer of the kinds of services that ITIL provides

We can immediately see some of the terminology issues that arise – that word "service", which is always overloaded, is positively confusing because of the different focus and emphasis that ITIL and eTOM bring with their separate perspectives. This is not though a failing between the two frameworks, but an inescapable result of the necessary differences in their perspectives. Each view has a purpose and benefit, and we must embrace this while trying to cut through the confusion and avoiding conflict.

So, let's start by clarifying "service", and avoid using the word on its own but instead use qualified terms to avoid the same word having different meanings in the two contexts.

So, on this basis, ITIL provides IT Services – this is reflected in the ITIL publications[2] and provides a distinction from the services discussed in eTOM. IT Services are often focused internally within the enterprise but increasingly can play a part in supporting external customers and users. Since this takes us very much into eTOM territory, we should not regard IT Services as directly accessible by external customers/users, but instead see these (where needed) as bound into "Products"– see next paragraph. It is noted that within ITIL documentation, "IT Service" is contracted to just "service", but this should be read as "IT Service" in all cases.

[2] See, for example, the "IT Service Management" handbook published by itSMF, which defines Provider and Supplier in terms of IT Services.

On the same basis, eTOM can be considered to provide services oriented to the communications and content needs of external businesses and individual customer/users/consumers. There is not, unfortunately, an established term that encompasses the full scope of these services, so we will use here "Communication and Content Services". This is a little cumbersome, but at least covers the intended scope.

Thus, on this basis, eTOM provides Communication and Content Services, as indicated, but note that these Communication and Content Services are not delivered to customers as is. Within eTOM (and NGOSS generally), we portray that Products are offered to customers, where a product may incorporate one of more services, and typically binds around the service(s) other, non-engineering, aspects such as tariffs, SLAs, support agreements, etc. To be consistent, we should thus say that eTOM offers Communication and Content Products to the external customers.

Note also, in passing, that within TM Forum we speak very widely of "Service Providers", or SPs, which we can see on the basis of this usage of product and service is actually something of a misnomer, since by eTOM and NGOSS terminology, these are "Product Providers". However, the Service Provider usage is so well established that it is not helpful to try to displace this, but we should keep in mind that Service Providers actually provide Products, or in the nomenclature above, Communication and Content Products. Note that ITIL also talks of "Service Providers" but in the context of providers of IT Services, and without a clear view of a distinction between service and product.

Guideline G1: The word "Service", unqualified, is to be avoided, unless the context means there is absolutely no ambiguity.
For ITIL, we should always speak of "IT Services".
For eTOM, we should always speak of "Communication and Content Services".
We should also note that:
- IT Services can be used within an enterprise, to support business areas, or can play a part in supporting external customers and users
- Communication and Content Services (and possibly some aspects of IT services) are packaged as Products (Communication and Content Products) for external delivery/sale.

Figure 2-1 illustrates how Product relates to Service (and to the underlying Resources) within eTOM and NGOSS.

Another perspective that may assist here is to recognize that the ITIL view of services (ie IT services, adopting the guideline above) may be applied recursively within eTOM. That is, the ITIL view could be applied at the eTOM Service Layer (eg within Service Management & Operations, within the Operations area), and/or at the Product layer (eg within Customer Relationship Management, within the Operations area), according to the needs. So, for example, in the delivery of internal services between an IT department and the rest of the business it may be helpful to position the ITIL service focus as applying to the eTOM Service layer, and at eTOM Services within this. In another case, where the ITIL service focus is associated with external

customers, the more natural association would be with the Product layer of eTOM, and so ITIL IT services may then be visualized as linking with eTOM Products. This flexibility may be a useful way to exercise the linkage between ITIL and eTOM in the most helpful way for the case in hand.

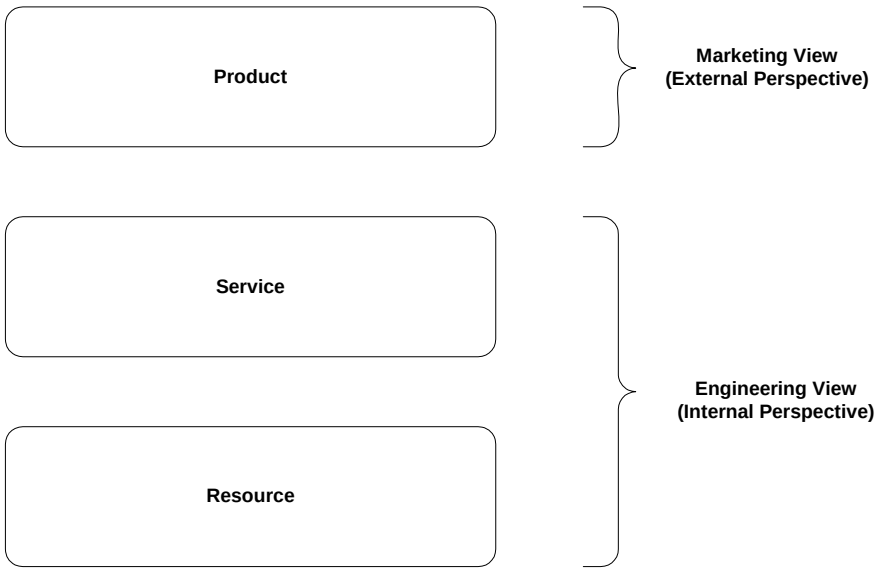

Figure 2-1: Layering of Product, Service and Resource within NGOSS

Recommendation R1: A common, or at least, linked view of this relationship between "Service" and "Product" for ITIL and eTOM will assist greatly in overcoming confusion and conflict between the two frameworks. This will involve acknowledging also the structural/layering issues behind the terms, and resolving this will assist greatly in all aspects of linking the two areas.
This should be a priority for the two communities to agree.
Note also that these terms should not be used unqualified (see Guideline G1)

2.2. Layering

So, well and good, but how do IT Services then relate to Communication and Content Services?

Most of the ITIL documentation is actually focused on the IT Service Management environment that handles service provision of the IT Services, rather than these IT Services per se. As we look at how to position, and eventually integrate, ITIL and eTOM, it is therefore more useful to focus on the relationship of this IT Service Management to the eTOM processes, particularly the eTOM "layer" concerned with Service (ie Communication and Content Service), as well as the other eTOM layers.

The layering in Figure 2-1 above is reflected in the eTOM Business Process Framework in the form of layering within the process structure, as shown in Figure 2-2 within the Operations (top right) and Strategy, Infrastructure and Product (top left) of the eTOM Model.

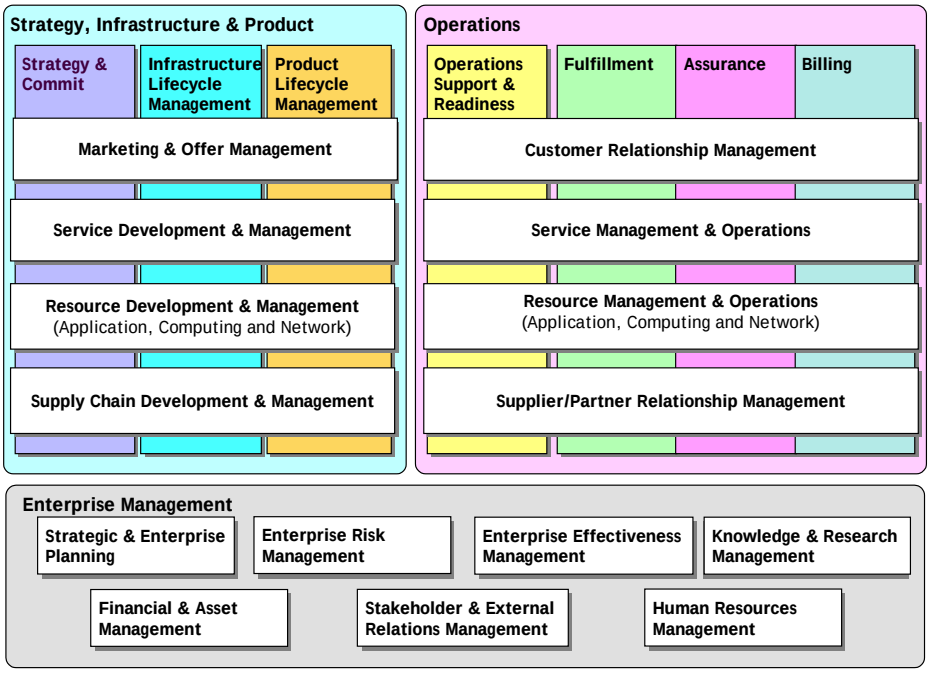

Figure 2-2: The eTOM Model, showing Process Layering

Within Operations, **Service Management & Operations** is the layer where Services (ie Communication and Content Services) are handled operationally. Within Strategy, Infrastructure & Product, **Service Development & Management** is the corresponding layer for the non-operational, "back office" processes that feed into Operations. Both of these "layers" are, in fact, high-level process elements that then decompose into more detailed process elements, through several levels of hierarchy.

The layering structure in eTOM is a reflection of the nature of the Service Provider enterprise that eTOM models – most SPs manage their resources, services and products distinctly and the model allows such enterprises to map the eTOM processes into their businesses. At the same time, the eTOM Model and documentation (see GB921D for details) accommodates those SPs that do not maintain some or all of these distinctions, to merge the appropriate process areas (by merging the relevant process descriptions) so that, if desired, several of the eTOM layers/process areas can be handled by a single area of the enterprise.

ITIL does not have a layered view of this kind. Its perspective is to represent the IT Services and their support, through a lifecycle view built around a set of ITIL processes that address particular, significant, areas of IT capability. It is then a matter for individual users/enterprises to plug these into their businesses.

Guideline G2: A specific implication of the difference in structure between ITIL and eTOM is that the IT Service Management processes from ITIL do not map only to the "Service" layer of eTOM. In fact, their linkage is more pervasive.

To illustrate how ITIL and eTOM relate, taking into account, the eTOM process layering, consider the ITIL focus on Incident Management and Problem Management (two of the ITIL processes) and how we can relate this to eTOM.

ITIL Incident Management can deal with a variety of input situations (the Incidents), and a particular area is Incidents related to faults or problems. In such cases, the Incident Management focus is on restoring service to the user as quickly as possible. Alongside this, ITIL Problem management is concerned with establishing the underlying causes of an Incident, their subsequent prioritization, resolution and prevention.

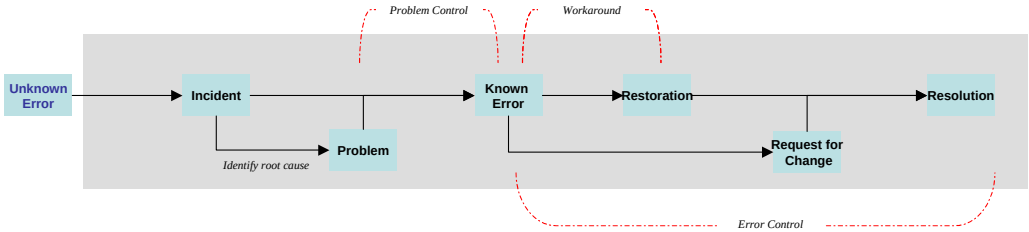

Figure 2-3: ITIL Incident and Problem Management interaction

Figure 2-3 illustrates how these two ITIL areas interact. Within this, Problem Control focuses on transforming Problems into Known Errors, while Error Control focuses on resolving Known Errors via another ITIL process, the Change Management process.

Now, in eTOM, there is a focus on the same concerns through the Assurance vertical (see Figure 2-2, within Operations), where various process elements concerned with problems/troubles are involved in the various eTOM layers. There is also involvement of the Fulfillment vertical, since restoration of service (as in ITIL Incident Management) may call upon configuration/reconfiguration processes there, again in the various eTOM layers. Figure 2-4 gives insight into the next level of decomposition within the eTOM Operations area, where some of the process elements (like Problem Handling, within Customer Relationship Management) can be seen more clearly.

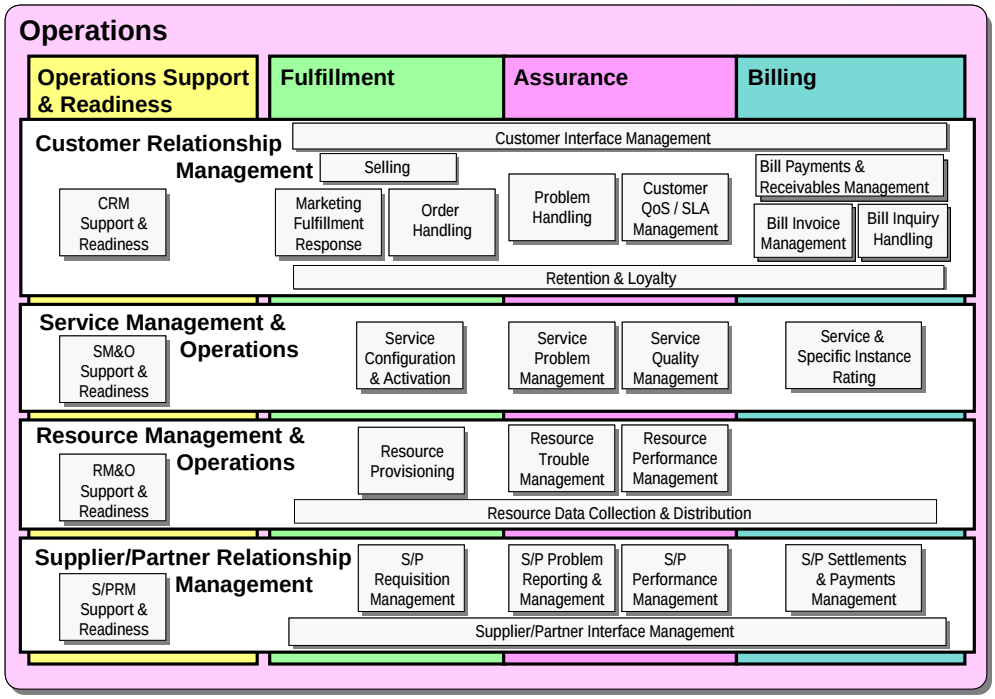

Figure 2-4: eTOM Operations decomposition, showing detail within Assurance and other areas

Against this background, Figure 2-5 shows an aspect of Incident and Problem Management, where we can see that a Report about the Incident/Problem in ITIL terms, can link with reporting in each of the affected eTOM layers.

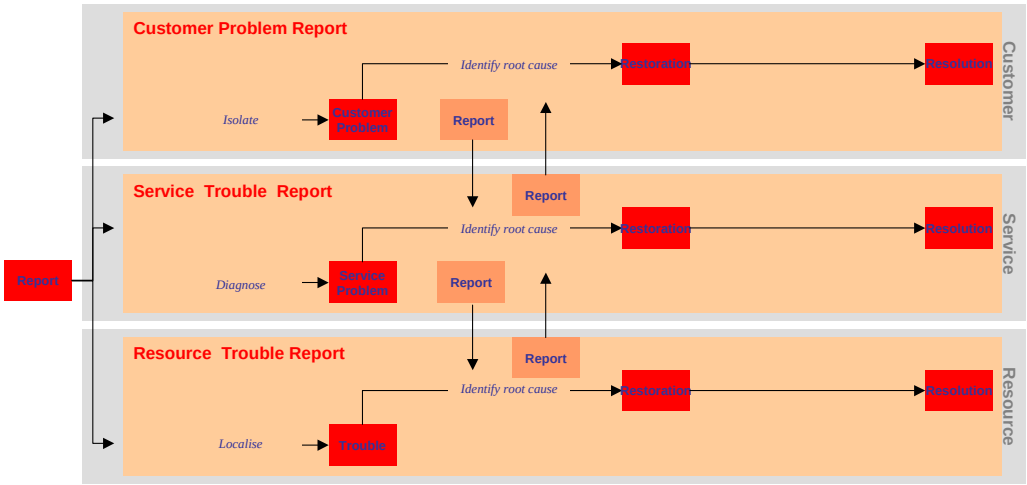

Figure 2-5: Reporting, showing use of eTOM layering

If we now look more generally at the handling of Incidents/Problems, we can combine the insights of Figure 2-3 and Figure 2-5, as shown in Figure 2-6.

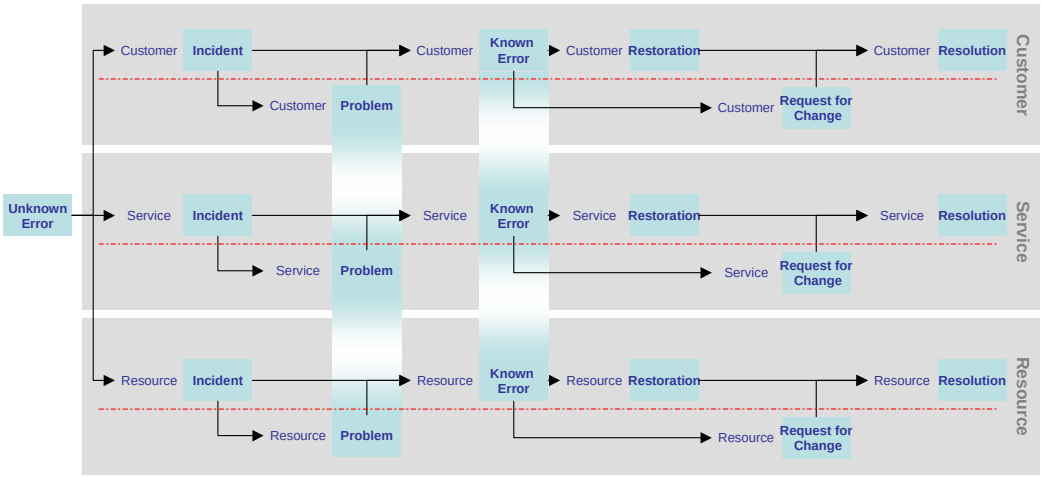

Figure 2-6: Incident and Problem Management, showing use of eTOM layering

From the eTOM perspective, each Incident is qualified according to its layer of origin. So, for example, an Incident created in the customer layer may be described as a Customer Incident, etc. Also, each Problem is qualified initially according to its layer of origin, then subsequently according to the layer in which the root cause is determined, the error is known (Known Error) and the restoration, change (where relevant) and resolution is effected. So, for example, a Problem identified in the service layer may be initially described as a Service Problem. However, it may be subsequently described as a Resource Problem following root cause determination

From the ITIL perspective, a single end-end activity is envisaged that does not necessitate the creation of complementary objects in other layers as occurs in eTOM, So from the ITIL view would initially enables us to better describe an object based on the layer in which it originated, the underlying cause is determined and correction is effected. However, an unexplored issue in ITIL, which is the reason for the layering in eTOM, is the impact of mapping this view into the enterprise, and how responsibilities can be allocated to different areas of the enterprise, in such circumstances.

To be specific, if the enterprise (and now we are talking of a Service Provider in TM Forum terms) has a layered organization, based on some or all of Product, Service, Resource, etc, then eTOM provides a vehicle for interpreting the ITIL viewpoint into that layered organization. Without eTOM, the enterprise will have to undertake the mapping into their layered organization anyway, and will somehow have to decompose or replicate elements of the ITIL view to establish the process focus for each of the enterprise layers. On this basis, eTOM is a valuable, if not essential, tool to allow ITIL to be mapped appropriately (as discussed above).

On the other hand, if the enterprise is more “monolithic” and does not recognize much or all of the eTOM layering, then the value of the eTOM structure is reduced, and the task of mapping the unlayered ITIL view into the organization is more straightforward.

Guideline G3: ITIL must be mapped into each enterprise. Where the enterprise has a layered organisation (either fully or partially), along the lines represented in eTOM, then eTOM provides a strong basis for allocating elements of ITIL to the organizational layers. Where the enterprise does not exhibit some of this layering, eTOM may be less helpful in guiding the allocation of ITIL elements.

We can go a little further than this. Even if the organizational structure is not layered along eTOM lines, then there is merit in seeing the eTOM layering as a means for separation of concerns. So, if we were to consider that "monolithic" enterprise, separating resource aspects, from service, from product, may still provide value.

Figure 2-7 illustrates this. Here the elements shown represent the objects that must be identified and managed with the processes and overlaying ITIL on eTOM in this way represents some synergistic advantages:

- Enable richer description according to functional layer i.e. use layer nomenclature to further describe ITIL objects and differentiate them
- Retain ITIL taxonomy, definitions and its detailed good practice process flows
- Reconcile eTOM Problem & Trouble objects and associated Problem and Trouble Reports with ITIL Incident & Problem objects
- eTOM objects are layer-specific and necessitate counterpart objects in other layers
- ITIL objects are specific to the state of the error that has been attained within the end-to-end process flow

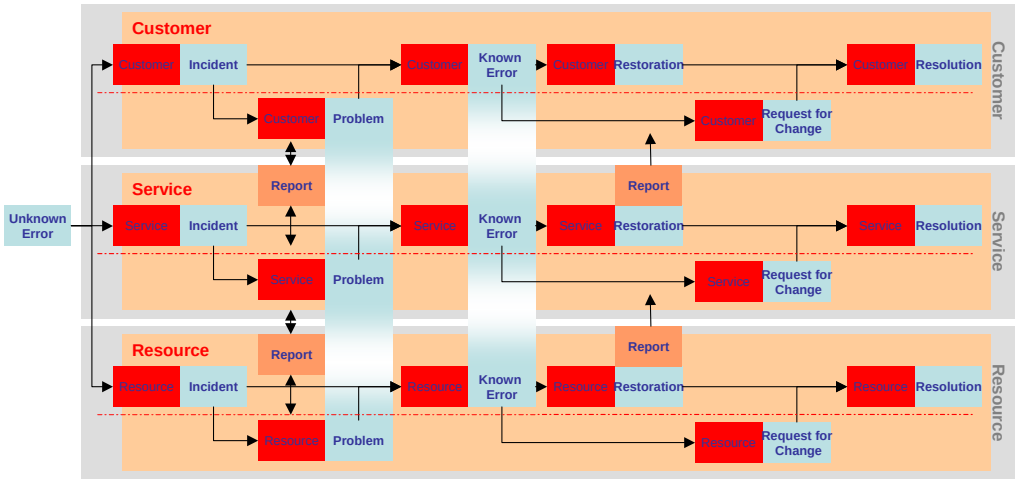

Figure 2-7: Layering with Objects

Figure 2-8 shows an example of how this can be used to advantage. In this example, the underlying cause of a reported Customer Incident is determined as a Resource Known Error, then restored accordingly. In the course of this, potential, ie notional, root causes in the customer and service layers were disproved as part of assessment. Focusing on the Resource layer, allowed Resource test results, consistent with a specific Known Error, to determine the correction path. The ITIL flow does not require the creation of counterpart objects in the customer and service layers, and would thus not distinguish these. In the example, although initially assessed as a Customer Problem, then a Service Problem and subsequently a Resource Problem, the underlying cause, having been confirmed by resource test

results, was confirmed as a known resource error. Thus, the eTOM layering has assisted in focusing attention on the process area (and hence area of the business) where the issue can be resolved.

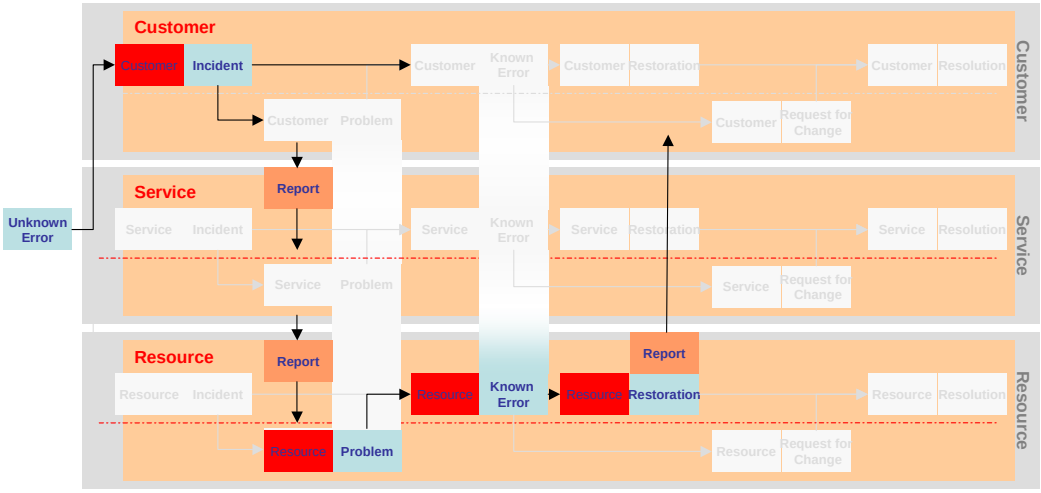

Figure 2-8: An example that shows layering as a tool to assist focus within the business

Guideline G4: Whether or not the enterprise employs a layered structure as in eTOM, when mapping ITIL into the enterprise, there can be value in using the eTOM layering to achieve a separation of concerns within the business.

Note also that the ITIL CMDB (Configuration Management Data Base), and its development in ITIL V3 as the Configuration Management System, supports a structured view of this kind, with the concept of federated CMDBs for, say, customer information, service information, etc.

Drawing this to a close, if we look towards our longer-term goal of fully integrating the ITIL and eTOM Frameworks, the discussion above suggests that we should look for ITIL to allow for Organizational Structure Mappings that show how the existing ITIL processes can be realized in a range of organizational structures.

This is still a step back from mapping into an individual enterprise, since the intent would be to identify some generic or characteristic structures, that are of general interest, and explore how ITIL works in each of these. Then, an individual company could apply the most appropriate of these structures to their own business, making any specializations or adjustments that they saw as appropriate, to form a specific organizational mapping that meets their individual needs.

Now, eTOM is not directly an organizational model, but can be viewed as representing one such generic organizational structure, one that reflects a generic view of the kind of Service Provider eTOM is designed to model. Thus, if this

approach was supported by ITIL, eTOM could be the "Industry Domain" model that supports an Organizational Structure Mapping between ITIL and our industry.

Recommendation R2: Integrating ITIL and eTOM will be assisted by introducing the concept within itSMF and TM Forum of Organizational Structure Mappings from ITIL Into typical, generic, organizations, where eTOM represents such a generic view for a typical Service Provider in our industry.

Recommendation R3: Organizational Structure Mappings should be seen as a repertoire of ITIL application options, and hence non–exclusive, so that other such mappings can be added, as needed, for other industry domains where ITIL is applied.

2.3. Making Contact

This section to address where within the eTOM and ITIL structures there may be specific value in tying the two together and essentially agreeing in future to progress the area concerned in one or other Forum while the other will build the results into their own work. Particular possibilities are to leverage the strength in ITIL around resource handling and the immediate services supported from this, and similarly to leverage eTOM's strengths in product and customer facing activity. Other opportunities are to draw together more closely CRM in eTOM and the Service Desk in ITIL, and looking more widely in NGOSS, linking SID and the CMS/CMDB.

2.3.1. ITIL Service Desk

The ITIL Service Desk is represented as a functional area, and therefore is not in the same context as the various ITIL processes. Nevertheless, it is possible to make the association with eTOM, particularly through the Customer Relationship Management (CRM) area within Operations (see Figure 2-1) which covers similar ground. A detailed analysis can be made to see the linkage for each of the identified functions for the Service Desk, and Figure 2-9 shows a detailed view of the eTOM structure involved. Figure 2-10, Figure 2-11, Figure 2-12 and Figure 2-13 then show illustrative examples of how each of the defined ITIL Service Desk functions can map to process elements within eTOM's CRM area. In each Figure, the relevant eTOM process elements that contribute to support for the Service Desk function concerned, are highlighted in red.

Based on this, and according to what subset of the ITIL Service Desk functions are needed within a particular enterprise, the linkages with eTOM can be identified and applied.

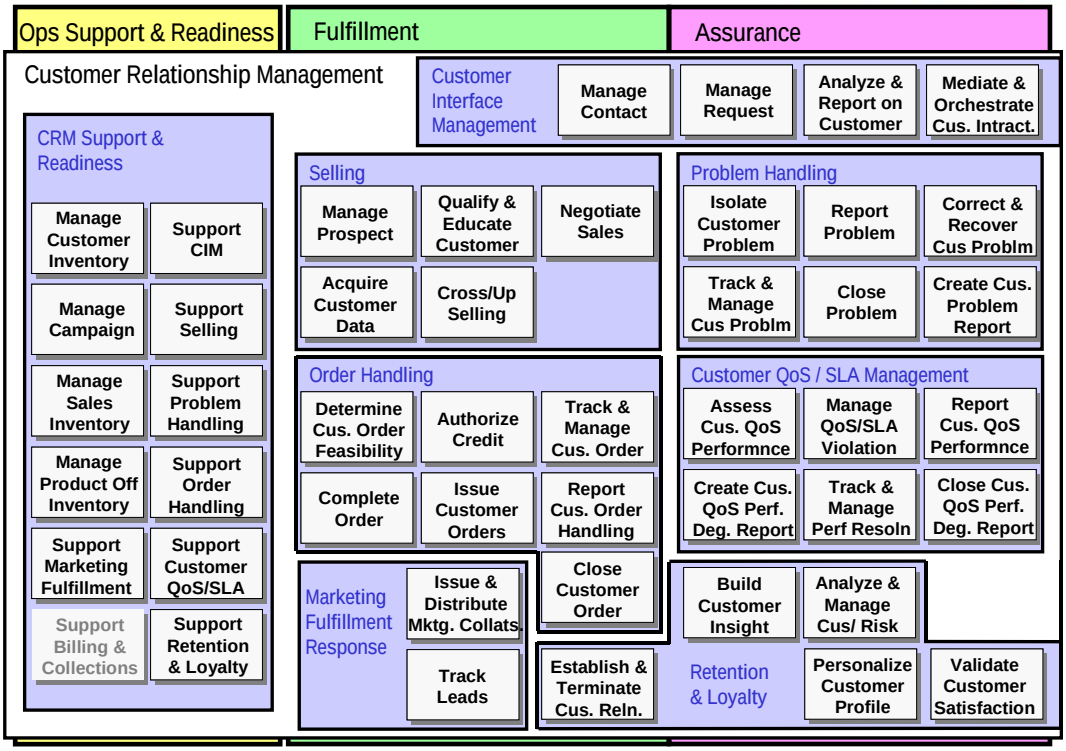

Figure 2-9: Detailed eTOM structure for CRM links with ITIL Service Desk

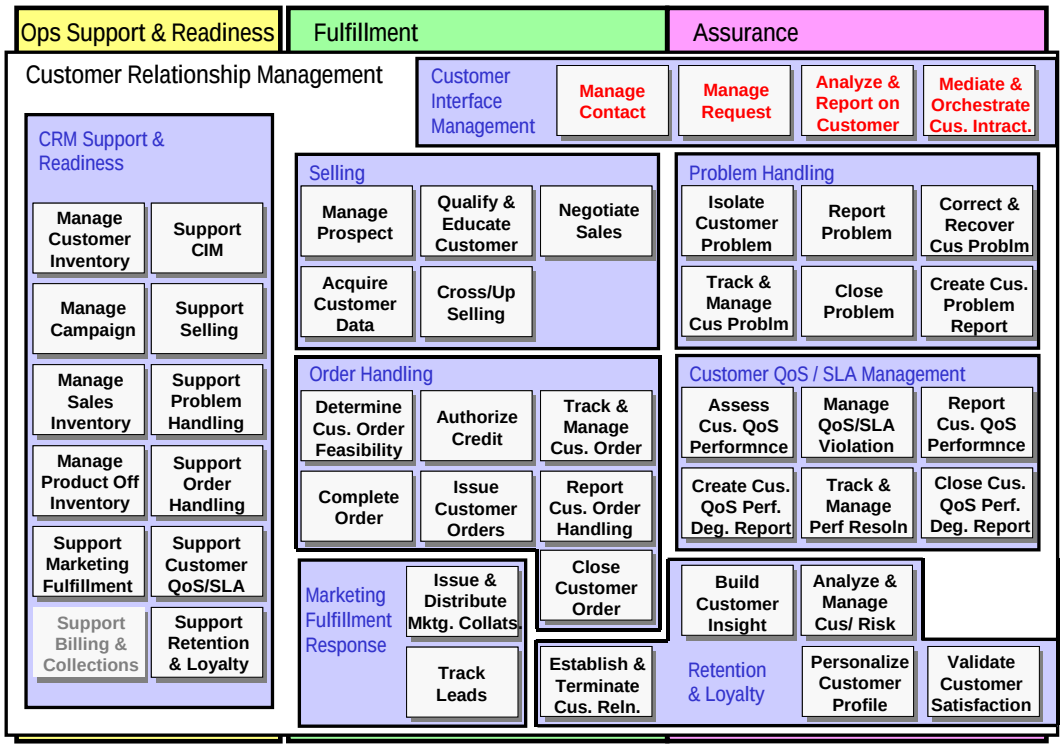

Figure 2-10: ITIL Service Desk - receiving calls, first-line Customer liaison

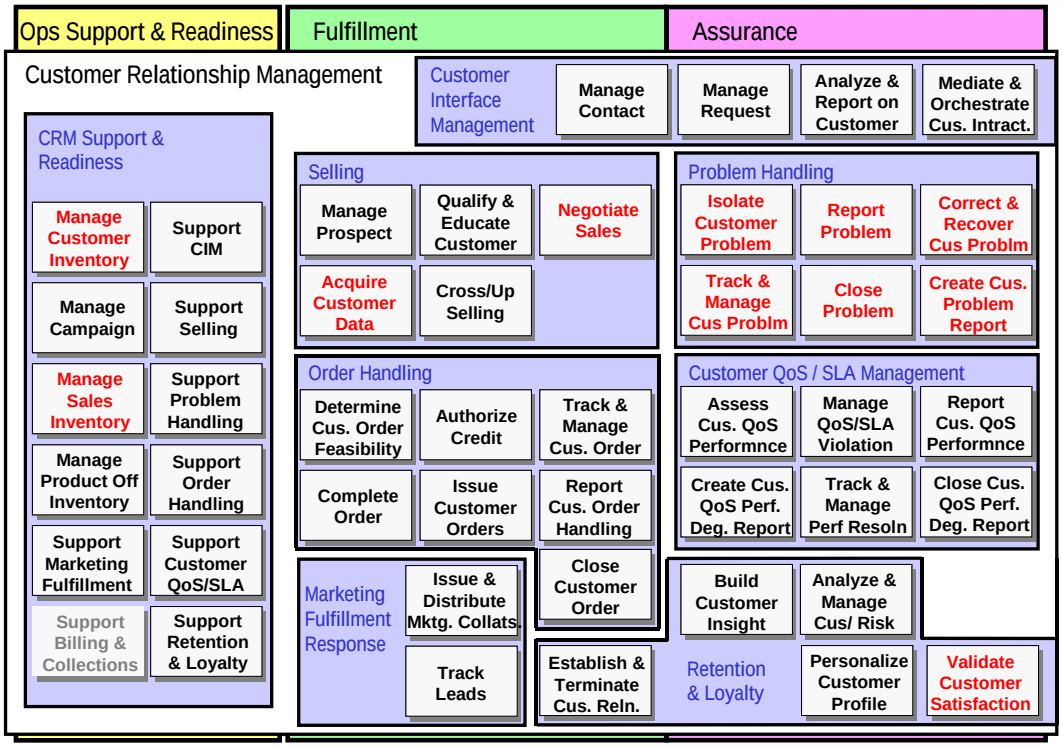

Figure 2-11: ITIL Service Desk - recording and tracking Incidents and complaints

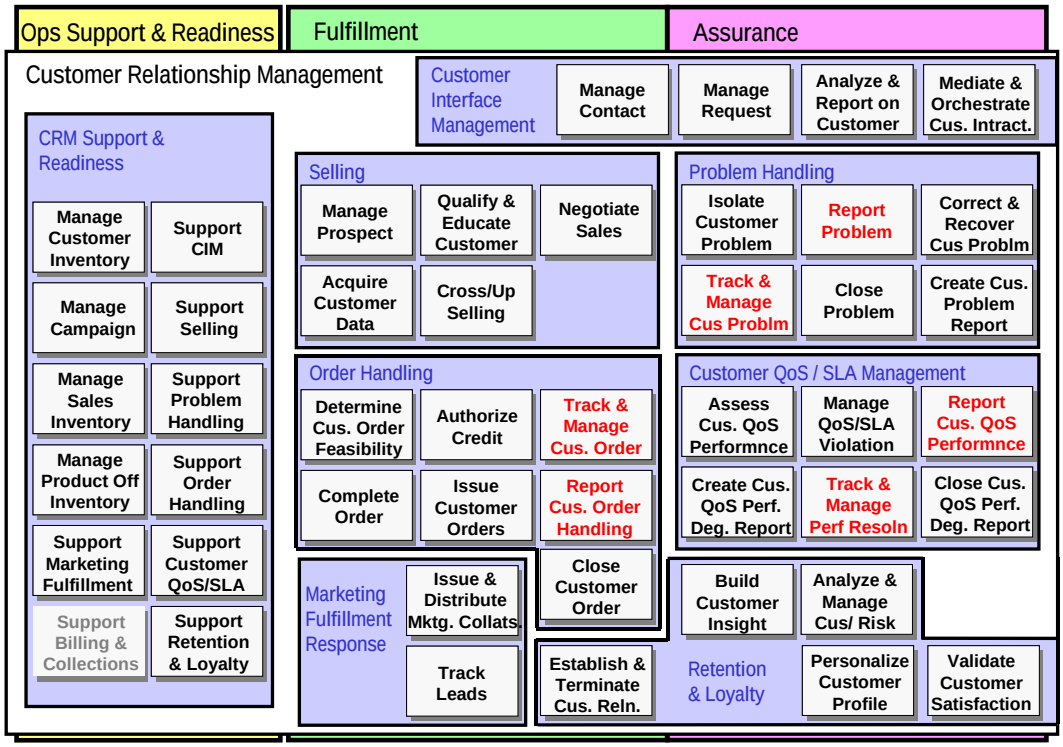

Figure 2-12: ITIL Service Desk - keeping Customers informed on request status and progress

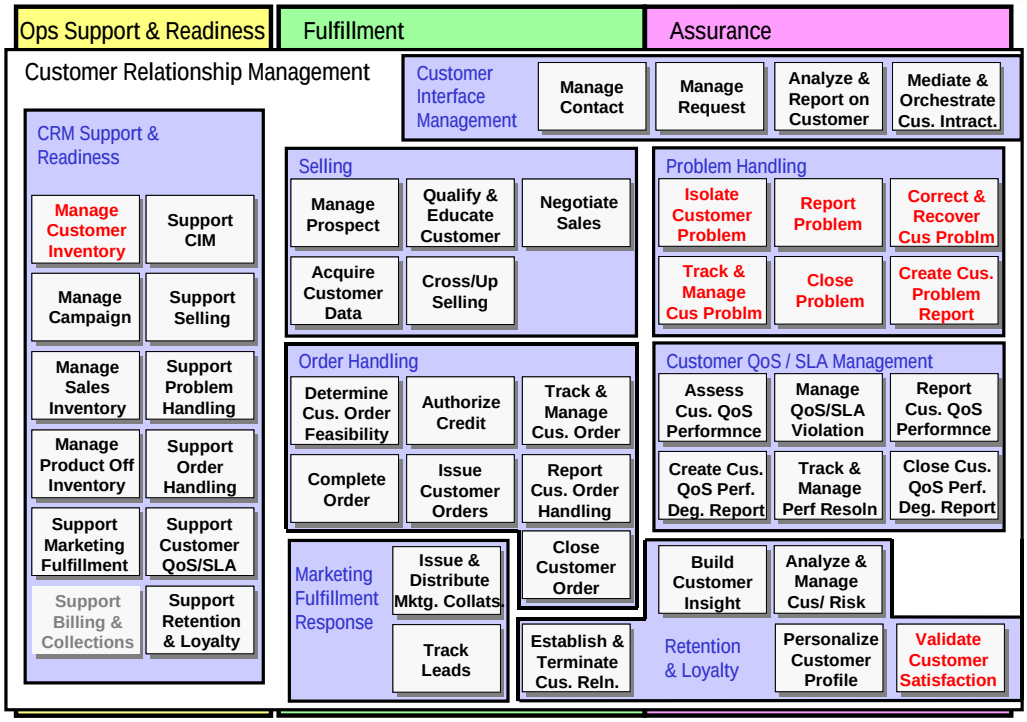

Figure 2-13: ITIL Service Desk - recording and tracking Incidents and complaints

The example mappings illustrated in the previous Figures indicate that the detail in the ITIL Service Desk can be related to aspects of the eTOM process view. IITIL includes a good deal of flexibility in deciding which subset of the overall capabilities of the Service Desk might apply in individual enterprises. It is therefore useful to use detailed mappings, as in the previous Figures, to assemble the desired elements in a specific situation.

Guideline G5: ITIL Service Desk functions can be individually mapped to process elements within the eTOM Model, and an individual application of the Service Desk (say, in a specific enterprise) can then be assembled from the chosen subset of functionality, and linked directly with the areas of eTOM that support this.

2.3.2. ITIL CMS/CMDB

The ITIL Configuration Management System, with its support for one or more Configuration Management DataBases, provides support for a range of inventory and other information/data repositories that may be used within the enterprise.

The eTOM Business Process Model and the SID Information Model also support a structured view of this, with process areas within eTOM focused on inventory management: customer, product, service, resource, etc, and within SID, domains and information elements ("ABEs") focused on the same areas.

There is therefore a basis for applying the CMS approach within eTOM , and through SID within NGOSS overall, with a consistent and compatible structuring approach.

Guideline G6: The ITIL Configuration Management System / Configuration Management DataBase (CMS/CMDB) can be realized through the SID Information Model (and supported by processes within the eTOM Business Process Framework) using compatible and consistent information/data structuring in both the ITIL and the SID/eTOM/NGOSS views.

3. ITIL and eTOM Together: Harmonizing Terminology

The language used by the ITIL community differs in a number of ways from that of the eTOM community. Within this section, the most prominent of those differences are identified and described.

3.1. A word on context

It should be noted that the contexts of ITIL and eTOM are fundamental to understanding terminology. ITIL describes the world from the perspective of an organization whose customers are primarily internal. In contrast, eTOM has the perspective of the business side of an enterprise whose customers are primarily external.

3.2. Service-related terms

3.2.1. Service and Product

The words "**service**" and "**product**" are the terms that cause the greatest confusion between ITIL and eTOM. That is because these terms are at the heart of both frameworks and many fundamental concepts flow from an understanding of them. It is not just the words, or their definitions, that are the problem, but the philosophical and structural issues that lie behind them (see **Recommendation R1**)

For this reason, the issues around Service and Product have been explored with this wider viewpoint and documented earlier (see The Service View). The conclusion on this, for the term itself, is shown in **Guideline G1**, which states that we should avoid the use of the unqualified term "Service".

ITIL is primarily focused on IT service management. IT is described as an organization that provides and manages IT services as well as organizations that provide services (IT service providers). IT services enable and support business processes, which in turn deliver business services or products to external customers. An IT service provides something of value to an internal or external customer.

In contrast, within the eTOM framework, the business does not provide services but products. A service component is said to be within the product.

In addition, the eTOM community often uses the term "service" to refer to telecommunications service, which can easily trip up an IT-services-minded individual. To avoid this, as stated in **Guideline G1**, we should avoid the use of the unqualified term "service".

In actuality, it appears that both ITIL and eTOM provide both services and products. IT organizations create and provide products (i.e., applications, desktop systems, etc.) that provide services to its customers. Communications and Content businesses create and provides products that provide services to its customers. (eg phones, calling plans, etc. in telecoms)

It would be simple if both ITIL and eTOM described what they provide to their customers (i.e., products and/or services) in the same way. While it may be ambitious to seek a consensus on such fundamental topics, this should be a goal., as indicated in **Recommendation R1**. In the meantime, it is recommended that eTOM refer to "IT services" within its framework.

Recommendation R4: The eTOM Glossary and eTOM Business Process Framework should be updated to refer to IT services that support the creation of business products.

3.2.2. Service Provider

ITIL refers to "IT service providers" as those internal or external entities that provide IT services. With the trend toward outsourcing IT services, the definition must identify both types of service providers.

The eTOM framework, however, only sees "service providers" as those entities that provide Communications and Content services. It is recommended that eTOM qualify the term "service provider" to refer to either Communications and Content service provider or IT service provider.

Recommendation R5: The eTOM Glossary and eTOM Business Process Framework should be updated to refer to IT service providers and Communications and Content service providers.

3.3. Error-Related Terms

3.3.1. When something goes wrong

When a user experiences encounters trouble, the user must deal with that trouble by contacting the service desk. This is true within both an internal and an external user context.

Within ITIL, the service desk records this trouble as an "incident". The service desk works to resolve this incident as quickly as possible. However, the underlying root cause of the incident may not have been dealt with. A number of related incidents may be grouped together into a "problem" for further investigation. Once the

underlying root cause of a problem has been diagnosed and a resolution has been created, the problem becomes a "known error". Information about a known error is made available to the entire service desk to help resolve future incidents. Those who are steeped in ITIL understand these terms.

However, this verbiage is unknown to the eTOM community. In fact, eTOM has no clear terminology for these concepts. It is recommended that eTOM adopt these terms because they can apply to both the IT domain and the telecom business domain.

This may also require the eTOM processes refer to the separate processes of Incident Management, which would require some adjustment to the eTOM processes.

Recommendation R6: The eTOM Glossary and eTOM Business Process Framework should be updated to include explicit reference to incidents and problems, whether in an IT or business context, and should also refer appropriately to IT Incident Management and IT Problem Management as well as Service Incident Management and Service Problem Management in the relevant process elements within the Assurance and Fulfillment areas of Operations.

When a failed component (actually, in ITIL, a "Configuration Item" – see later) is being fixed, ITIL states that the component goes through the following:

- repair – The replacement of the failed component
- recovery – Returning a failed component or IT Service to a working state (often by recovering data lost during failure)
- restore – Returning IT Services to users following repair and recovery

These terms can also be useful to the eTOM framework, which should be updated to make use of these terms.

Recommendation R7: The eTOM Glossary and eTOM Business Process Framework should be updated to refer to repair, recovery, and restore for components and services.

3.3.2. Requests from the User

Apart from incidents, users may contact the service desk to make requests. This may be to answer an question, obtain additional information, or perform some action that the user cannot do by himself. In ITIL, this is referred to as a "service request". However, this may happen in both an IT and in a business context. The eTOM framework should adopt the use of this term.

Recommendation R8: The eTOM Glossary and eTOM Business Process Framework should be updated to refer to service requests.

3.4. Changes and Configurations

3.4.1. Making Changes

Making changes within a product or within the telecommunications infrastructure should be carefully controlled. Formal requests to make such changes are referred to as "change requests" within ITIL. The actual addition, deletion, or modification of a component is referred to as a "change". These terms are well-understood within the ITIL community and should be used in eTOM as well.

Recommendation R9: The eTOM Glossary and eTOM Business Process Framework should be updated to refer to change requests and changes within telecommunications products and infrastructure.

3.4.2. Parts of the whole

The term "configuration" is often problematic because it is used in two ways. The first way in which it is used is to describe the parameter settings of operational systems. This is typically used in an operational setting.

The second meaning is to refer to a collection of items that make up a whole. This "whole" may be either the entire IT infrastructure or the entire telecommunications network.

Systems and other items that are part of the overall infrastructure are referred to as "configuration items" in ITIL. A configuration item, or CI, may exist within either an IT infrastructure or a telecommunications network. Because the line is often blurred between IT infrastructure and telecommunications networks, the term "configuration item" may be a generically useful one.

CIs may exist within a hierarchy of CIs and have relationships to other CIs.

Cis are operational resources (not to be confused with "assets" - an asset is any resource or capability, including anything that contribute to that service eg. Management organization, process, knowledge, people information, applications, infrastructure, financial capital ,etc)

Both IT and telecommunications often have the same issue of what to call those things within their respective infrastructures. The term "configuration item" should be adopted by the eTOM framework.

Recommendation R10: The eTOM Glossary and eTOM Business Process Framework should be updated to refer to configuration items within telecommunications networks and IT infrastructure.

4. Process Patterns

Processes that are successful at a tactical level are sometimes candidates for use in larger contexts. Some ITIL processes are useful not only in support of IT, but may also be useful in support of the business side of an enterprise. Such processes must be abstracted and generalized, but represent process patterns that may be used in both an IT and business context. These process patterns from ITIL are described briefly below.

4.1. Incident Management Pattern

The support of users of business services are in many ways similar to the support of users of IT services. An enterprise may wish to provide better support to external users because loss of an external user may impact business revenue more immediately, but an enterprise is interested in both internal and external users because failure to support either impacts the business of the enterprise.

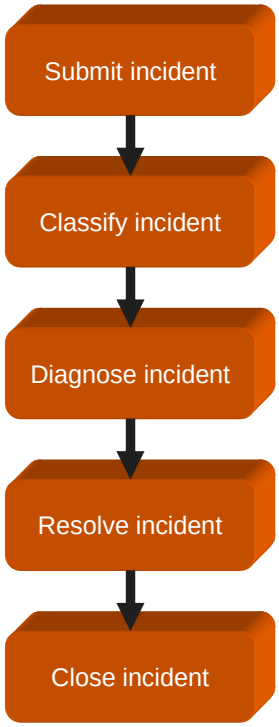

Figure 4-1: The Incident Management Process Pattern

The Incident Management Pattern allows users to report service outages or degradation of service. This pattern may be used for either internal or external user support. The activities in this pattern are the following:

- Submit incident – Collect information about the incident and submit the incident to be resolved. Log the incident.

- Classify incident – Assign the incident to the appropriate category based on incident information. Assign a priority to indicate how quickly the incident should be acted upon. Assign the incident to the appropriate team for resolution.

- Diagnose incident – Review the incident and identify the actions that will restore service to the user as quickly as possible. This may or may not get to the underlying root cause of the incident, but will get the user working again soon.

- Resolve incident – Carry out the actions to restore the service to the user.

- Close incident – End further action on the incident.

Some of the primary variation points in the implementation of this pattern include:

- Classification scheme – What are the categories into which incidents are classified?

- Incident models – Are there standard models of how to handle specific types of incidents?

- Levels of support – How many levels of support? What depth of support is provided at each level?

- Support entitlement – Do users have to be entitled to support, or is it provided to anyone?

4.2. Problem Management Pattern

The resolution of incidents does not always get to the root cause of an error in the infrastructure. Often, addressing a user's issue may only resolve this for a single user and not address the more general error. This must be diagnosed and addressed by a separate process.

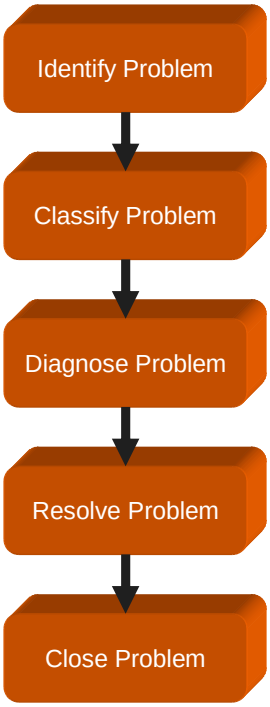

Figure 4-2: The Problem Management Process Pattern

The Problem Management Pattern looks at incidents and related information to find underlying errors that could generate future incidents. This pattern identifies those problems, finds underlying root causes, and initiates actions to fix those problems. The activities in this pattern are the following:

- Identify problem – Review various sources, including past incidents, to identify a single problem that represents the scope of those incidents and related error information.
- Classify problem – Categorize the problem so that it can be addressed by the proper subject matter experts.
- Diagnose problem – Determine the root cause and how to correct it.
- Resolve problem – Implement actions to correct the root cause.
- Close problem – Review the resolution to ensure that the problem has been properly addressed.

Primary variation points of this pattern include:

- Sources of problems – What sources of information will be used to identify problems? Will this include vendor information, design information, etc.?
- Classification scheme – How will the problems be categorized and prioritized? Will the classification scheme be similar to that of incidents?

- Responsibility for resolution – Will the same individuals responsible for identification of problems also be the ones to resolve problems?

4.3. Request Fulfillment Pattern

Support for users also entails performing well-known requests for those users. This may involve providing additional information on a subject, resetting passwords, providing account information, or other similar actions. This is true of both internal and external users. These requests are referred to as "service requests" in ITIL terminology.

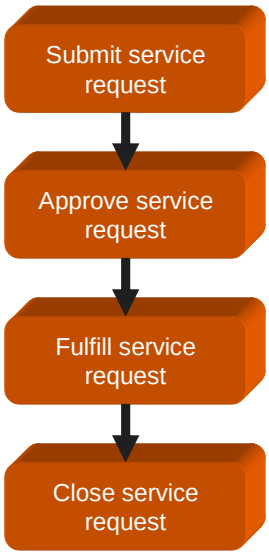

Figure 4-3: The Request Fulfillment Process Pattern

The Request Fulfillment Pattern allows users to submit service requests to be carried out by the service desk. This pattern may be used for both internal user service requests and external user service requests. The activities in this pattern include the following:

- Submit service request – Select a service request from a catalog of standard service requests and submit it to the service desk.
- Approve service request – Determine if the user is entitled to processing of service requests and make sure all pertinent data is provided for the processing of the service request.
- Fulfill service request – Carry out the service request for the user. Notify the user of the results.
- Close service request – Discontinue further work on the service request.

4.4. Change Management Pattern

Changes must be carefully managed, whether it is to IT infrastructure, software and hardware, or products. Uncontrolled changes can result in inadvertent errors that are difficult to resolve., so it is important to assess, schedule, and coordinate changes. This has long been a good practice of development projects, but is also used within operations as well.

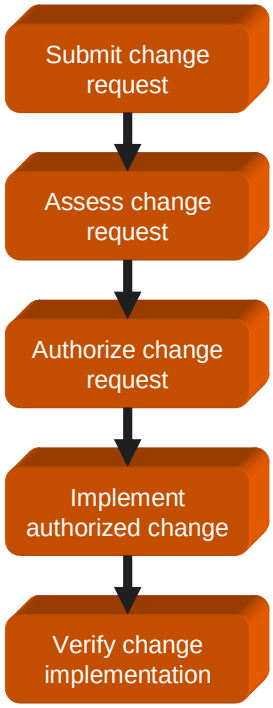

Figure 4-4: The Change Management Process Pattern

The Change Management Pattern allows organizations to carefully control which changes will be allowed within their environment. This may be used within either an operations or development context. The activities in this pattern are the following:

- Submit change request – Collect information about the proposed change and submit it.
- Assess change request – Analyze the proposed change from all pertinent angles. Perform analysis according to the impact it may have on the environment.
- Authorize change request – Make a decision to grant or deny the proposed change. If authorized, schedule when the change will be implemented.
- Implement authorized change – Carry out the authorized change. Coordinate the implementation with related activities.

- Verify change implementation – Review the implemented change to ensure that it met the original intent. If that intent was not met, carry out some remediation action.

Primary variation points in the implementation of this pattern include:

- Nature of change – Is the change for a working system, a new capability, a procedure, or what?
- Change authority – What role or team authorizes a change? Is it arrived at by majority, consensus opinion, etc.?
- Implementation of change – Who is responsible to carry out the change? How will it be coordinated?

4.5. Configuration Management Pattern

The control of configuration items within a telecommunications network infrastructure is somewhat similar to the control of configuration items within an IT infrastructure. In both contexts, accurate information must be kept concerning each configuration item, including software levels, ownership, location, recent changes, relationships to other CIs, etc. This information is necessary for adequately resolving infrastructure incidents/problems, assessing the effects of operational changes, and identifying the scope of a deployment effort.

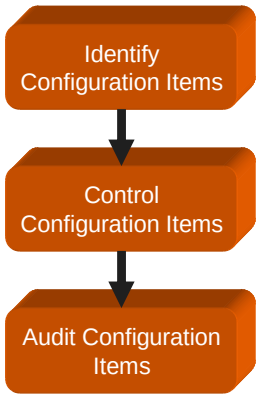

Figure 4-5: The Configuration Management Process Pattern

The Configuration Management Pattern provides an approach for managing and controlling information about configuration items in the infrastructure. The activities in this pattern are the following:

- Identify Configuration Items – Identify all approved configuration items within the infrastructure and their relationships.

- Control Configuration Items – Control all additions, modifications, and deletions concerning information about configuration items.

- Audit Configuration Items – Periodically audit the information about configuration items to make sure it matches reality.

The primary variation points for this pattern include:

- Type of CIs – What types of CIs will be controlled?

- CI granularity – What is the size of CIs to be controlled within the hierarchy of CIs?

- Status – What are the appropriate labels that can be used to represent the various states of a CI?

5. ITIL and eTOM Together: going with the flow

This section looks at the technical mechanism for implementing ITIL through eTOM process flows, as developed within GB9921V, and any changes/extensions needed.

Also, to look at "Patterning" - using "templates" from ITIL to show specific solutions using eTOM that address high-priority areas of business need for companies

This may be the place then to include Case Study material, showing how the worked examples derived from the process flow work and/or patterning translates into practice. This material might also be positioned as Annexes to this document, or even companion documents, depending on the size. A specific Case Study from HP is expected as part of this.

5.1. Building process flows that support both ITIL and eTOM

The essence of how ITIL and eTOM are applied is through the mechanism of process flows. These allow a specific situation to be identified and addressed by showing sequences of process steps or elements linked to achieve some overall goal.

ITIL discusses steps that deal with topics like Change Management, Incident Management, etc. With eTOM, the Model provides structure or process elements that are then used to form steps within whatever process flows are needed.

It is clear that a relationship between these two views of process can be considered, and a good deal of work has been done on this already within TM Forum. A mechanism was developed, with participation and contribution from both the TM Forum and ITIL communities, that allows ITIL good practice to be implemented directly through eTOM process flows. This mechanism, together with a number of worked examples, was published within the eTOM Business Process Framework Solution Set (GB921) as GB921 Addendum V. This was based on existing ITIL material, and since then ITIL V3 has become available, but the approach still holds true.

In GB921V, it was shown that areas of ITIL good practice (the ITIL processes) could be modeled as policies that a company might decide to apply in their businesses, and which could then be captured within the Enterprise Management area of eTOM (where corporate policies in general are represented). Then, a company could choose where in their business to apply these policies - ie where to adopt ITIL good practice – leading to the definition of specific eTOM process flows showing how this actually worked in the business areas concerned. Figure 5-1 illustrates the mechanism.

At the left, eTOM captures the SP Business Process Needs and forms a process model that organizes these. This model can then be used to generate a range of process flows that are compatible with eTOM and which represent viable solutions to the specific business scenarios concerned.

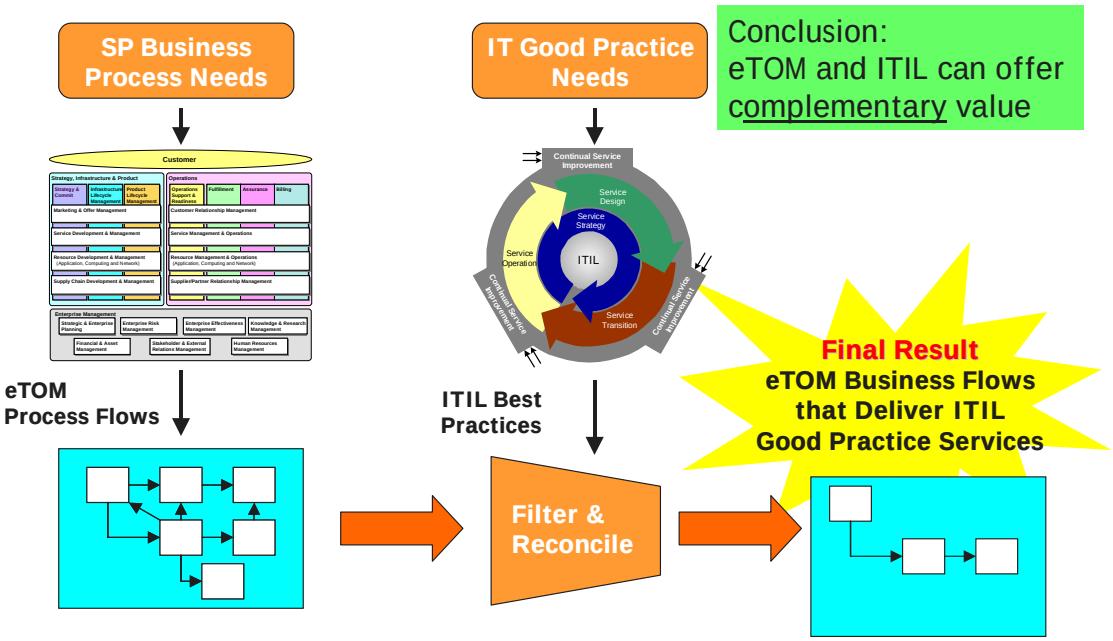

Figure 5-1: ITIL and eTOM – working together

In the middle, ITIL captures IT Good Practice Needs and organizes these into a Model of areas of IT Service Delivery, Support, etc.

These ITIL good practices are then used to select out which of the possible eTOM flows are in line with these requirements. Based on this, we can deliver at the bottom right a subset of all the possible eTOM flows, which are those that are also in line with ITIL.

This is a very powerful concept, and indeed when this had been achieved and was set out in GB921V, the view of those involved was that it was now possible for companies to pick up and apply this approach in their businesses with the confidence that a linking mechanism had been developed to allow ITIL and eTOM to work together. Although this has happened, and a cumber of companies have applied this commercially, we now see that some of the other factors addressed in this document, such as structural and terminology differences, are significant enough that these also need to be addressed to overcome the obstacles to joint working. However, the relevance and importance of this basic technical interworking mechanism remains a key part of the solution, and so it is discussed further here.

Guideline G7: Enterprises can directly build support for ITIL best practice services using eTOM, by implementing eTOM process flows overlaid on ITIL process steps as a background (see GB921V for details)

5.2. eTOM/ITIL process flows: an example

Typically, process flows are drawn against a background of "swim lanes" that provide a way of positioning the process detail so it is more easily recognizable to users.

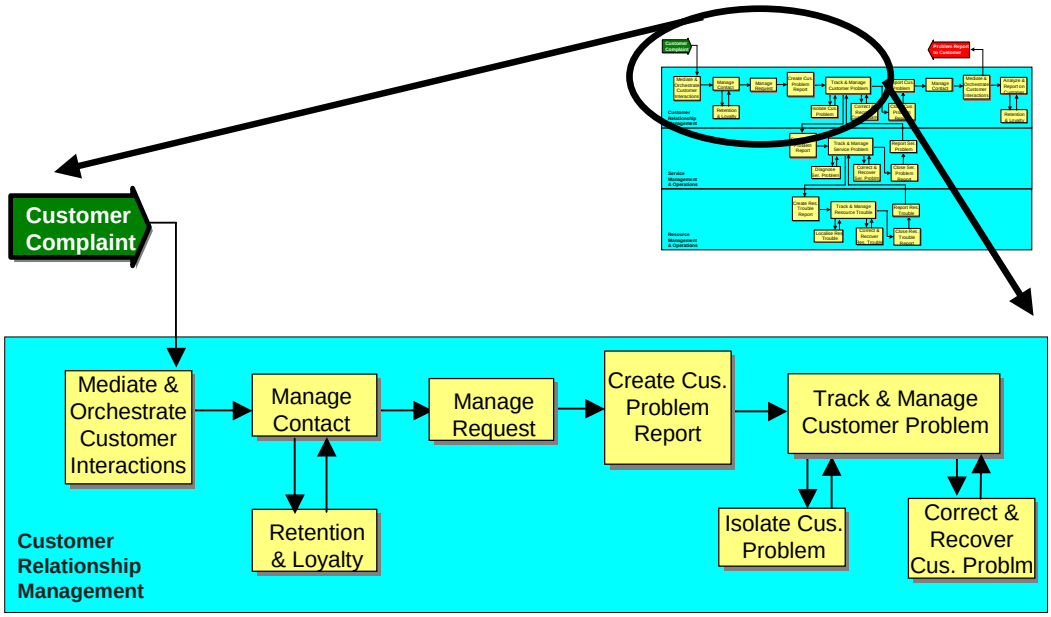

Figure 5-2: An example process flows using eTOM

This is illustrated in Figure 5-2 where we see several swim lanes, with one expanded for clarity. This swim lane represents the Customer Relationship Management area of eTOM, and the convention then is to position only process elements form that area within that swim lane (here mostly Level 3 process elements are involved).

Swim lanes can in fact be any shape and size, and for the eTOM/ITIL work, swim lanes that correspond to steps within the ITIL process being considered are used, with their physical positioning reflecting how they are defined within ITIL.

In Figure 5-3 we see part of ITIL Change Management implemented using eTOM process elements in a process flow. In this case, we are considering a resource-oriented change (say, for a bug fix in a piece of kit) and this highlights a key insight from the work done on this kind of linkage: ITIL provides a generic view of (in this case) how to handle Changes, but it is necessary in using ITIL to decide which area of the enterprise is involved. In other words, from ITIL's perspective it is the same Change Management procedure whether resources level changes (as here) are involved or (say) product-level changes that impact on marketing, sales, product

management, etc. These two cases could involve entirely different groups and interests within the enterprise, but could still be steered by the common view of Change Management from ITIL. However, to carry out the Change Management procedure would necessitate deciding on who is involved and what their role is in the procedure, which is exactly where eTOM, with its focus on the business, can assist.

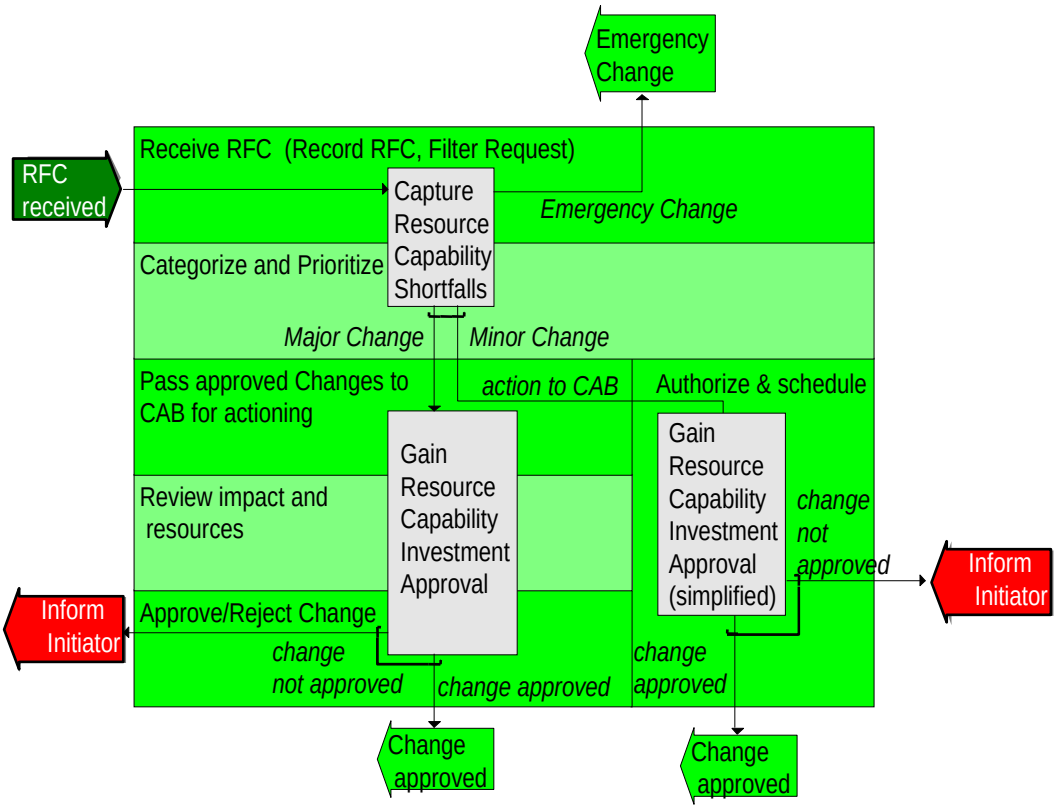

Figure 5-3: Change Management (for a resource level change) using an eTOM process flow (pre-approval only)

A formal interpretation of how to position the use of ITIL and eTOM here is to see that the twio frameworks are not a all in conflict and that ITIL "good practice" specifications can be seen as defining a policy that enterprises adopt to follow the ITIL approach. This approach can then can be embedded in eTOM – typically in Enterprise Management – as a corporate policy for handling a specific area (like Change Management). Application of this policy will then arise throughout the enterprise, and eTOM can support process flows in each area in line with the policy (as in Figure 5-3 for application of Change Management within the resource domain).

Guideline G8: Enterprises can apply ITIL as a basis for corporate direction or policy that is applied in defined areas of their operation. This use of ITIL then links with eTOM in implanting the ITIL "policies" within Enterprise Management, and then building individual process flows in the defined area of operation, using ITIL as background "swimlanes", and eTOM process elements as foreground process flows (see GB921V for more details on this).

Note that this blending of eTOM and ITIL in process flows is developed further, as part of an overall methodology, in Section 6.

6. Convergence of ITIL and eTOM

6.1. Converging the models

Discussions between itSMF and TM Forum have highlighted that both organizations recognize that each framework has strengths and weaknesses and that, if combined, the result would have major benefits for all the industry sectors involved in delivering convergent services to market. So, there is active co-operation between te two organizations to put ITIL and eTOM on a converging course; to address any interworking issues and to ensure that more integrated support is available to users.

Earlier parts of this document identify some pragmatic steps to help with this, and to remove barriers to interworking at the day-to-day level. But what is our vision of how the two frameworks can grow together into a more integrated view, with each retaining its value in the areas where it is most effective, but linking with and using the other to support and reinforce this?

This section identifies how this can be achieved, building on the specific improvements suggested previously in the rest of the document, but identifying strategic changes that will set the two frameworks firmly on a convergent path.

It may be helpful to look ahead at the flowchart in Section 6.4 which organizes the material in the following sections into a suggested methodology for users.

6.2. Making ITIL more visible in eTOM

There is already a close linkage possible between ITIL and eTOM, but this may not be as apparent as it could be to users. An important improvement will be to make ITIL immediately visible, so that there is no doubt that ITIL and eTOM work hand in hand.

To achieve this, we can build on the insights discussed in Section 5 and in the previously-published GB921V. GB921V set out that ITIL "good practice" specifications can be considered as defining "policies", in the sense that enterprises make a corporate policy decision to adopt the ITIL approach for some chosen topics or activities. The ITIL way of tackling such a topic – say, how to deal with Change Management within the enterprise - can then be visualized as being embedded in eTOM – typically in Enterprise Management – as the corporate policy for handling that topic.. Application of this policy will then arise in various places throughout the enterprise (according to where the company concerned wishes to apply ITIL), and eTOM can support process flows in each area in line with the policy.

This is valid, but the impact of applying ITIL as good practice policy is not immediately visible in the eTOM structure. We will consider here what changes are needed to address this shortcoming.

The design philosophy of eTOM employs Enterprise Management for several purposes in process modeling:

- It is the repository for the processes that are seen as typical of all enterprises, whatever their area of industry or commerce, and so captures processes that are less focused on the communications and content area
- It is the natural home of "corporate" processes that apply across the enterprise
- It is the place where a process "template" or "policy" can be represented, that is then applied in specific areas of the enterprise, to align with this approach

It is the last of these that has been used as a basis previously (in GB921V) for linkage with ITIL. However, looking forward, so as to strengthen and to make more visible this linkage, it is now proposed that we add explicitly another role for Enterprise Management in eTOM:

- It is where "best practice" or "good practice" techniques are positioned, that will then influence process behavior in the areas of the enterprise where this best or good practice is chosen to be applied.

This now provides a visible placeholder for ITIL good practice – indeed taking this approach could also allow other best or good practice to be imported or defined in the future, although this is not our current focus.

For the present, extending the role of Enterprise Management in this way, and looking towards the ITIL processes as sources of good practice, means we can directly address these ITIL processes within Enterprise Management. (see below) .

Note that ITIL good practice processes are compatible with the design approach within eTOM, so that we can use ITIL's definition of the individual good practice process areas (see list below) as process descriptions/definitions that look similar to existing eTOM process elements. However, it is important to note that they have a different emphasis, and need to be interpreted as defining guidance or constraints on the way that other eTOM processes are applied, rather than being seen as directly implemented processes per se. The ITIL processes can therefore be viewed as complementary to existing eTOM process elements (see below for more discussion on this). This distinction is vital if we are to avoid what might be seen as overlaps between the scope of the ITIL processes and process elements elsewhere within eTOM.

As a design principle, it is also proposed that we position the individual ITIL good practice processes as Level 2 process elements within eTOM. This will allow them to be associated with an existing Level 1 process area within Enterprise Management and will make them highly visible.

ITIL contains a wide range of processes within its overall v3 Service Lifecycle. These are grouped in several areas, which are described and published in separate publications In the longer term, it may be useful to address this entire set of processes, but the current consensus indicates that nearly all industry attention is focused on a subset of these, and we concentrate therefore on this subset for the present. The proposed list is set out below:

Service Design:

- Service Catalogue Management
- Service Level Management
- Capacity Management
- Availability Management
- IT Service Continuity Management
- Information Security Management

Service Transition

- Service Asset and Configuration Management
- Change Management
- Release and Deployment Management

Service Operation:

- Event Management
- Incident Management
- Problem Management
- Request Fulfillment

Each of these will require a new Level 2 process element within Enterprise Management, to provide a specification of good practice for the topic concerned, and hence a template for how other, affected areas of the enterprise will implement that good practice.

The eTOM process model additions to support this are initially identified below. These may be adjusted according to feedback and comment.

- **Service Catalogue Management** – creation of a new Level 2 process element "ITIL Service Catalogue Management" within eTOM Level 1 process element 1.3.3 Enterprise Effectiveness Management
- **Service Level Management** – creation of a new Level 2 process element "ITIL Service Level Management" within eTOM Level 1 process element 1.3.3 Enterprise Effectiveness Management

- **Capacity Management** – creation of a new Level 2 process element "ITIL Capacity Management" within eTOM Level 1 process element 1.3.3 Enterprise Effectiveness Management
- **Availability Management** – creation of a new Level 2 process element "ITIL Availability Management" within eTOM Level 1 process element 1.3.3 Enterprise Effectiveness Management
- **IT Service Continuity Management** – creation of a new Level 2 process element "ITIL IT Service Continuity Management" within eTOM Level 1 process element 1.3.2 Enterprise Risk Management
- **Information Security Management** – creation of a new Level 2 process element "ITIL Information Security Management" within eTOM Level 1 process element 1.3.2 Enterprise Risk Management
- **Service Asset and Configuration Management** – creation of a new Level 2 process element "ITIL Service Asset and Configuration Management" within eTOM Level 1 process element 1.3.3 Enterprise Effectiveness Management
- **Change Management** – creation of a new Level 2 process element "ITIL Change Management" within eTOM Level 1 process element 1.3.1 Strategic & Enterprise Planning
- **Release and Deployment Management** – creation of a new Level 2 process element "ITIL Release and Deployment Management" within eTOM Level 1 process element 1.3.1 Strategic & Enterprise Planning
- **Event Management** – creation of a new Level 2 process element "ITIL Event Management" within eTOM Level 1 process element 1.3.3 Enterprise Effectiveness Management
- **Incident Management** – creation of a new Level 2 process element "ITIL Incident Management" within eTOM Level 1 process element 1.3.3 Enterprise Effectiveness Management
- **Problem Management** – creation of a new Level 2 process element "ITIL Problem Management" within eTOM Level 1 process element 1.3.2 Enterprise Risk Management
- **Request Fulfillment** – creation of a new Level 2 process element "ITIL Request Fulfillment" within eTOM Level 1 process element 1.3.3 Enterprise Effectiveness Management

Recommendation R11: The eTOM Model should be extended to include explicit Level 2 process elements reflecting each of the ITIL processes. These will be positioned within Enterprise Management - an initial set of these new L2s and their location within Enterprise Management Level 1 process areas has been defined. This will provide immediate and direct visibility for how users can work with both ITIL and eTOM frameworks together. These changes, and the proposed new L2s should be considered immediately by the eTOM Team

All of these process elements are characterized within the eTOM Business Process Framework as "Best/Good Practice" specifications, and as indicated above, this new category of process element has a different emphasis from others, in that:

- Best/Good Practice process elements capture aspects of policies, procedures and practices that an enterprise may choose to apply in some or all areas of its business
- Other eTOM process elements can refer to and make use of specific "Best/Good Practice" processes as "templates" that provide guidance or direction on how specific activities within the enterprise are carried out
- Looking to the future, there may be a mix of Best/Good Practices that are accommodated within the eTOM Business Process Framework, and these may address disjoint or overlapping areas of activity
- Therefore, unlike other eTOM process elements, Best/Good Practice process elements do not necessarily seek to encompass a unique area of process specification within the eTOM Business Process Framework. Their scope will typically interact with, and may overlap with, other process elements within Enterprise Management or elsewhere within eTOM, since the intent is that a Best/Good Practice process is applied with and through these other (ie not Best/Good Practice) process elements.

It is therefore important to recognize that the extension of eTOM with these ITIL processes does not represent an "alternative" set of processes to those already present within eTOM, which then overlap, or even conflict, with the existing process detail. Instead, these ITIL processes (and other potential Best/Good Practice processes that might be introduced in the future) must be viewed as "templates" that can guide or constrain how the rest of the eTOM processes are applied.

Thus, in a specific enterprise, choices will be made on the scope and extent of application of the individual ITIL good practice processes. Some organizations may apply only some of the processes, and those that are used may only be applied in some parts of the business. This will vary from company to company. Where an ITIL process is used in a particular area of the enterprise, then this affected area, and hence the relevant area of eTOM, will follow the relevant ITIL process requirements. However, it will typically be other areas of eTOM, and not the ITIL processes themselves (as now represented within Enterprise Management), that are actively involved in modeling this. The role of the ITIL process concerned is to constrain the way that the other eTOM processes are applied, so that the result is aligned with the ITIL requirements.

Note that Section 5 can be viewed as showing this concept working in practice, for a situation on which ITIL Change Management is being used for resource-oriented changes, and hence the active process elements involved are those in the area of the enterprise, and eTOM, concerned with resource management. Note that, as shown, the detail of the ITIL Change Management process is not involved "in-line" in modeling this situation, but instead defines the background steps against which the other eTOM processes must operate to maintain alignment with the ITIL approach.

6.3. Applying ITIL more visibly across eTOM

Having now extended eTOM so that the ITIL is immediately and directly visible, we can consider how ITIL is then applied across the enterprise and how eTOM shows this.

As we do this, it is worth noting that the application of ITIL good practice within specific areas of the enterprise is not addressed explicitly within ITIL itself. Companies are left to "instantiate" the ITIL good practice within their enterprises as they choose. When we bring eTOM into the picture, we are able to leverage its strengths alongside ITIL, building on ITIL good practice by showing how this "instantiation" can be done in a controlled and visible way. This is a real and concrete benefit of using both frameworks together.

Note also that, necessarily, it will be a matter for each company using eTOM in this way to make their own decisions about how widespread will be the application of this good practice – some companies may restrict a topic like, say, Change Management only to areas strongly associated with the IT support (eg concerning hardware and software Changes for IT kit) while others may judge that the principles of ITIL Change Management may be usefully applied in other areas of the enterprise – in managing product changes, say.

So, eTOM can show typical ways in which the ITIL good practice can be applied. This can be done in two stages, again with an eye to making the linkage between ITIL and eTOM more visible, and easing the path for users to take advantage of both frameworks.

The first stage, beyond the already visible support for ITIL that has been added within Enterprise Management, is to draw a "footprint" for the main focus of a given ITIL process in the enterprise. To make this clearer, consider ITIL Problem Management as an example. This is represented as an ITIL good practice specification within Enterprise Management (see above, but where is its focus in practice within the day-to-day business?

A typical focus is shown in Figure 6-1. Here we see that ITIL Problem Management is typically focused on the eTOM problem/trouble processes across the eTOM layers. This is consistent with the analysis on layering set out previously in Sections 2.1 and 2.2. This kind of view provides only limited detail nut is very helpful in assisting users to see where the ITIL work impacts within their enterprise, and can lead on to the more detailed process flow mappings that we have already seen in Section 5. Such flows constitute the second stage in representing ITIL applications within the enterprise using eTOM.

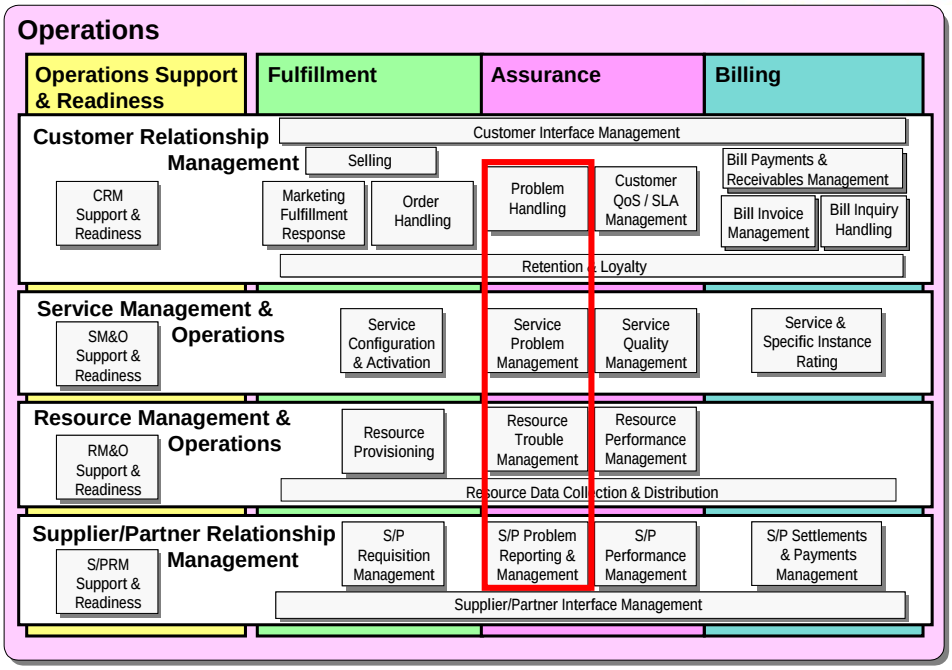

Figure 6-1: Typical focus for ITIL Problem Management within eTOM

If we look at another example, around ITIL Change Management, we can represent a typical situation along the lines Indicated above, for a resource-level change. At the assessment stage of Change Management, we can see that the focus within eTOM is as shown in Figure 6-2.

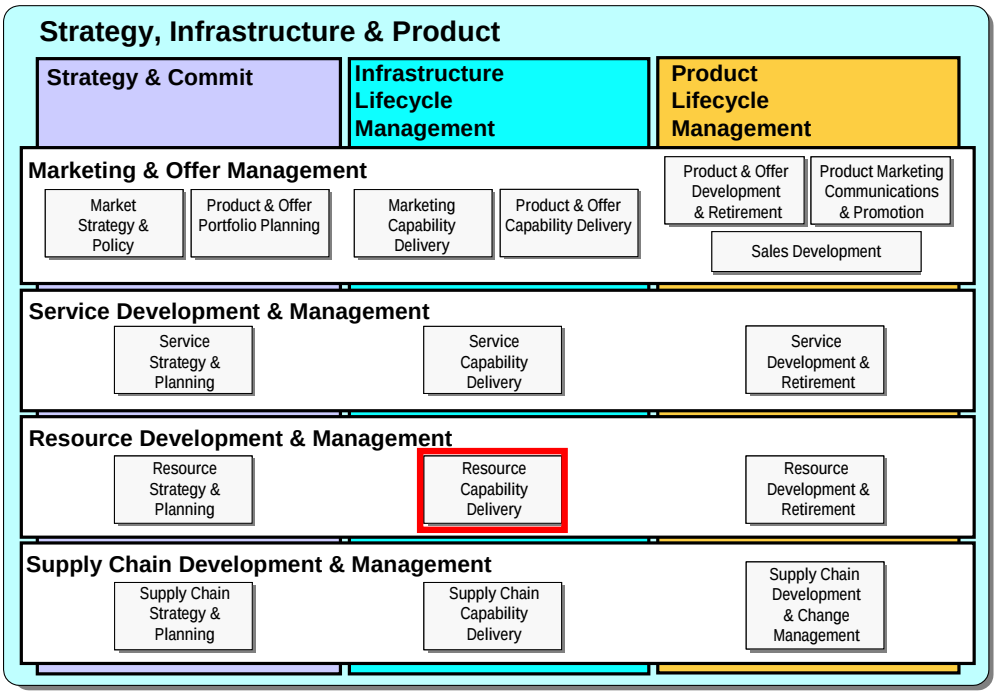

Figure 6-2: Typical focus for ITIL Change Management (for a resource level change) within eTOM

The change considered here is concerned with deploying a fix or update to IT equipment, and so the focus in eTOM for the assessment and approval for this change is within Resource Capability Approval, as shown.

When we then look at the detail of how this is applied we can draw a process flow as in Figure 6-3. Note that this is the same figure already shown above as Figure 5-3.

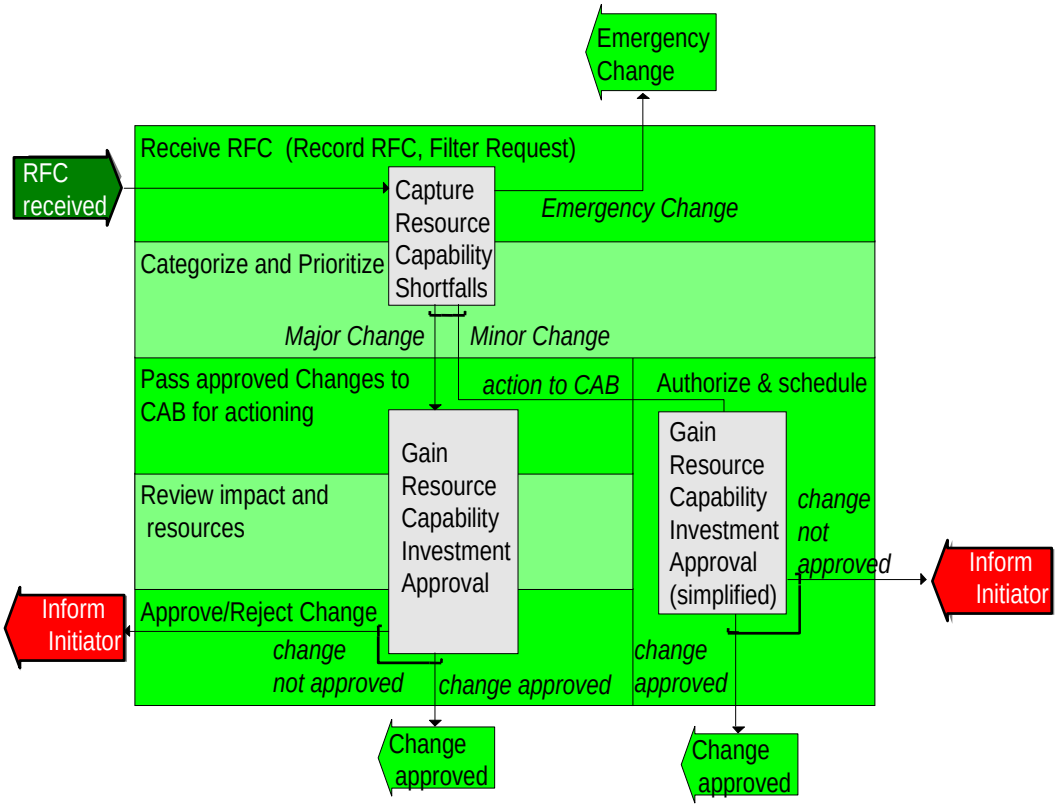

Figure 6-3: Change Management (for a resource level change) using an eTOM process flow (pre-approval only)

Recommendation R12: "Footprints" on eTOM, and process flows illustrating how ITIL processes can be applied using eTOM, should be developed for a representative set of cases, to demonstrate the utility and power of this linkage. This should be done in conjunction with the eTOM Team to ensure consistency of approach, but can be done by separate individuals/groups, as convenient

6.4. Working with eTOM and ITIL

Based on what is set out in this section above, we can now define a 3-step methodology for merging ITIL and eTOM to address specific topics/activities.

Step 1: Ensure that the required Best/Good Practice specifications are defined and positioned within the eTOM Business Process Model. The proposals in Section 6.2 above have already achieved this step for the ITIL processes addressed.

Step 2: Select an area of application within the enterprise for the Best Practice process concerned, and position the scope of application for this within the business by using an eTOM "Footprint" diagram, with supporting explanatory text as required. Section 6.3 shows examples of these diagrams. If there are several areas of application, then a separate Footprint diagram should be generated for each, as they represent distinct cases (since, typically, different enterprise areas will be impacted in each case).

Step 3: For each area of application within the enterprise, as defined by an eTOM Footprint diagram, refine the definition of how the eTOM and ITIL specifications can be leveraged, by using an eTOM/ITIL Process Flow diagram that overlays eTOM process elements on "swimlanes" that represent ITIL process steps. Section 6.3 shows examples of these diagrams. If there are several areas of application, then an eTOM/ITIL process flow diagram should be generated for each.

These steps are shown diagrammatically in Figure 6-4.

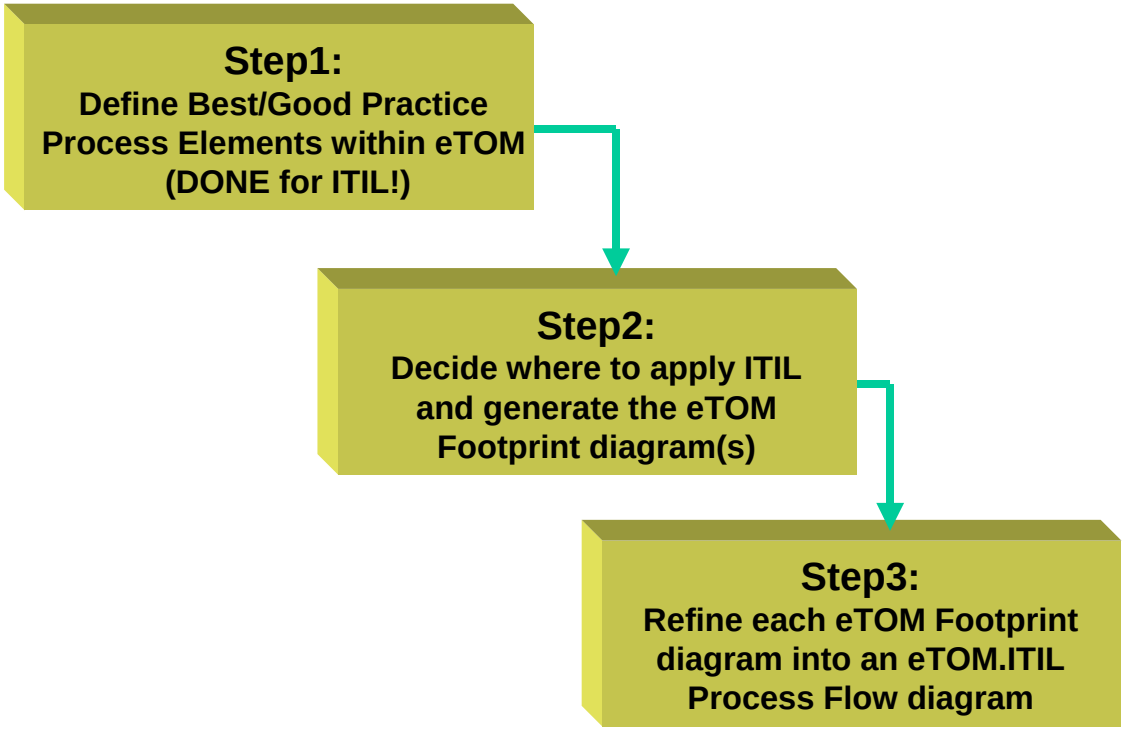

Figure 6-4: 3-Step methodology for applying eTOM in conjunction with ITIL

Guideline G9: As an extension of previous Guideline G8, enterprises should employ this 3-step methodology to identify and define areas of ITIL application within their business, using eTOM to map the ITIL Best Practice into the specific enterprise area(s) that are impacted.

6.5. A clash of cultures?

This section addresses the issue of converging the IT culture and the business culture within companies.

Historically, eTOM and ITIL have originated from the need to address quite different purposes. On the one hand, eTOM has defined a standard set of telecom processes that can be implemented by service providers and the rest of the telecom industry. On the other hand, ITIL brought best practice service management processes to the IT industry. Both are important standards in their respective industries and it was never envisaged that two would ever need to work together at the time.

Fast forward to today, both frameworks have organically evolved to address the needs of their users. A by-product of this evolution is two cultures that are miles apart from each other. The first culture has evolved from eTOM and sees a group of individuals speaking in a "business" language that can be easily understood by the rest of the organisation, where talking 'eTOM' has become the norm. The second culture has stemmed from the IT industry. Providers of IT services have developed an "IT" language which allows them to converse with their peers, becoming second nature to IT organisations. Hence, they are two camps and each one speaks a different language.

Next Generation Networks have forced telecom service providers to introduce new software-based services to their customers, as means to offset the decline in traditional network-based legacy products. This shift in the industry has seen the need for these providers to have dedicated IT departments. Rather than starting from scratch, the sensible thing to do was to hire individuals with IT expertise to complement the network expertise that already exists within.

While this was a reasonable idea at the time, no one said anything about the different languages. Much of the pain of the eTOM/ITIL culture clash originates from the miscommunication that can occur when 'translating' one language to another. In the real world, an English word usually has an equivalent word in French. Yet when you put a sentence together in English words, the French translation is not necessarily a direct translation of those words. The same can be said of business and IT. Someone conversing in 'business' can be easily misunderstood by an 'IT' native speaker, hence the resulting clash and the need to reconcile eTOM and ITIL together.

As the language is etched within the very fabric of each group, there will always be a natural resistance for one camp to learn the other's language. One way to address this is to have a common language, say 'Frenglish', so that both can better understand each other. This analogy can be translated into the need to reconcile the different terminology between eTOM and ITIL to break the language barrier. The other issues discussed in this report should be viewed in the same context – eg the frameworks' structures, their focus of attention within the enterprise, role and emphasis of best practice, etc.

In the end, what needs to happen is a compromise for both eTOM and ITIL. By combining the best of both worlds, perhaps can arrive at a single model. Whether this is in the form of a hybrid model that makes both obsolete, or a bridging model that sits in between the two frameworks in harmony, remains to be seen. One thing's for sure and that is we cannot sit and wait for this to occur. SPs, ISVs, SIs, etc need to evolve with the times, and so do the standards and industry bodies like the TM Forum for eTOM and itSMF for ITIL.

This technical report is all but one stepping stone in the long journey ahead in reconciling eTOM and ITIL together – but you can play your part in this, and join the effort to shorten the journey!

7. Annex A: ITIL and eTOM – Some Background Information

ITIL and eTOM are frameworks that began with different starting points and different objectives.

ITIL has grown from a background of IT-focused support and specification (initially for system procurement purposes) while eTOM developed from a perceived need to set a business context that would help with defining interoperability agreements between telecoms SPs and their peers, suppliers and customers.

As each has developed, their scopes and detail has evolved. ITIL now, with its V3 update, looks more extensively at the lifecycle aspects of service management, and although the focus is still on how the IT environment supports the business, it has a broader perspective than in the past. In a similar way, eTOM has responded to the growing complexity of value chains in the telecoms/ICT industry by developing an enterprise-wide view of business processes that aims to separate the business needs in process terms, from design and implementation concerns that arise downstream in the overall OSS/BSS development cycle.

In considering how to position these two frameworks relative to one another, it is useful to recognize the perspective that each brings:

- eTOM can be viewed as delivering a business-focused view of SP needs across the enterprise, expressed through a set of process elements and process flows that link these to visualize end-end activities, and which do not directly address downstream system and implementation concerns. The eTOM view covers all areas of enterprise process within a common structure (the eTOM Framework), and is then - as a further step by the user in applying the eTOM Framework – is instantiated into an organization on a case-by-case basis.

- ITIL can be viewed as delivering an IT-focused view that responds to these SP (and other) business needs through a set of IT-oriented "best practices" covering some, but not all, important aspects of business activity. These best practices are expressed through process steps/sequences and general organizational responsibilities, and also recognize system and implementation aspects that then arise. The ITIL view thus covers selected areas of best practice, that can be linked to show dependencies and interactions, but which must then be mapped by the user into the enterprise in terms of specific processes and other aspects (note that eTOM already does this), and in turn this is then instantiated into an organization on a case-by-case basis.

To help understand how the frameworks can work together, an example that leverages their complementary strengths is to tackle (say) optimization of operational capabilities. This can be done by employing eTOM to represent the operational processes involved (within its overall enterprise model), and then using ITIL to illustrate how these processes can align with best practice requirements. A natural focus for this is around Service Management (in ITIL terms) and the corresponding areas of eTOM (and hence the SP business) where ITIL Service Management applies.

One way of looking at this is to see eTOM as providing the business view and ITIL the support view, around the Service Management focus. Another perspective is to look at eTOM as applying a special understanding of the telecoms/ICT SP business needs, which can be used to tailor and interpret the general ITIL best practice, in terms of support mechanisms focused on service management.

8. Annex B: eTOM/ITIL Questionnaire - Review of Received Reponses

During April 2008, a questionnaire was prepared seeking input from Service Providers on issues around the interworking of ITIL and eTOM. The Service Provider Leadership Council kindly facilitated this, and sent the questionnaire out to its members.

Six companies responded, and the collated views below are derived from the inputs received. This has proved most useful in validating the approaches followed in this document and indicating further areas of interest.

Introductory text from original questionnaire

The purpose of this questionnaire is to capture your company's views on eTOM and ITIL, as well as to understand how you are currently using the frameworks. This is intended as input to the ongoing work within TM Forum to facilitate interworking between ITIL and eTOM, and will be used to generate an overall view of industry priorities and directions for this.

The first set of questions relate to specific experiences you may have had, and are multiple choice, followed by positioning questions where we are seeking more general insight from you. Finally, there is an opportunity to provide any free-form information you think may be helpful. Please complete as much of the questionnaire as you can, but if there are questions that are not relevant for you, then just pass over these.

Experience Questions (Select all answers that apply)

1. Have eTOM or ITIL been used as a basis for process definition/improvement?

    a. eTOM

    b. ITIL

    c. both

    d. planned to do so

Responses: C for all

2. Is eTOM relevant for:

a. Operations

b. Product/Resource lifecycle

c. Operation Readiness

d. Supplier management/Outsourcing

Responses: A, C for all; B, D for some

3. Is ITIL relevant for:

a. Operations

b. Product/Resource lifecycle

c. Operation Readiness

d. Supplier management/Outsourcing

Responses: A for all; B, C for most; D for some

4. Which version of eTOM are you using?

a. eTOM Release 7

b. An earlier version

Responses: mixed, A and B for some

5. Which version of ITIL are you using?

a. ITIL v2

b. ITIL v3

Responses: mixed, B for most, A and B for some

6. Assurance: If you have implemented the ITIL definition of best practices for Incident and Problem Management: have these processes been related back in some way to

a. eTOM Problem Management

b. eTOM Quality of Service

c. Not applicable

Responses: mixed, interestingly A, B and C for some

7. How has Service Level Management been implemented?

a. using eTOM as a reference

b. using ITIL as a reference

c. using both as reference

d. custom

Responses: C for most; D or B for some; interestingly not A alone for any

8. In the context of convergent services, do you have a unified service view across OSS & IT?

a. Yes

b. No

c. Unsure

Responses: C mostly or still to address; A for one, B for one

9. Has the CMDB concept been implemented as integration with Network Inventory?

a. Yes

b. No, planned to do so

c. Unplanned, not an issue

Responses: B for most; A for some

10. How is the transfer to operations managed when services involve Network and IT?

a. Passed to IT Operations

b. Passed to Network Operations

c. A combined IT/Network Operations team

d. Another group

Responses: C for most, A and B for some

11. With respect to the previous question, is ITIL Release Management adopted for:

a. IT

b. Network

c. Both

Responses: A for some; C for some

12. What would you like to see as results from the TM Forum eTOM/ITIL initiative?

a. An update to GB921V (Technical Report or whitepaper)

b. An implementation guide for using eTOM and ITIL together

c. A hybrid model

e. All of the above

Responses: B and/or C for all; also, a joint position between TM Forum and itSMF

13. Where do you see the urgency of the eTOM/ITIL work in comparison to other TM Forum work?

a. Very urgent

b. Urgent

c. Less urgent

d. Not urgent

Responses: B for most; A for one; C for one

14. Would your company be willing to contribute resources to the effort?

a. Yes

b. No

c. With certain constraints (please explain)

Responses: A for some; C for some (due to resource constraints); B for one (need business case for work, so maybe this is actually a C)

Positioning Questions

P1. How do you see your organisation using eTOM and ITIL together to provide a unified view of the business needs and the service management support?

Responses:

Generally, both frameworks are used and a mapping has been attempted, but terminology and other issues have limited this. ITIL seen as IT centric, and a combined model viewed as a desirable goal (some are "dovetailing" the two frameworks to concentrate use of each in the area best fitted).

eTOM is viewed as providing the "big picture" while ITIL is seen as having detail in the operations processes addressed and, interestingly, a view of process interfaces.

P2. What issues do you see that might prevent achievement of this? (e.g. internal culture, positioning of the frameworks against the business and each other, technical differences in the approaches used within each framework, etc)

Responses:

Clashes of terminology again.

Need to move beyond process and link through to a (common) view of applications and implementations.

Internal company culture(s) - conflicts between business and IT focus, and that these can produce separate silos with duplicate application stacks

Also, the role of ITIL as a "Service Management" framework is raised, with a query on the impact of mapping into specific implementations and the limited detail process and information detail available.

P3. Where do you see the most significant obstacles to achieving better integration between the frameworks in meeting your business needs?

Responses:

Political agreement between itSMF and TM Forum to converge.

Positioning which framework is used when, and where, to make best use of each

Resolving the two perspectives to achieve consistent terms, semantics, etc

Managing the complexity so that a converged view is workable.

People factors, and resistance to change.

Internal consistency – ISO2000 suggested to have differences from ITIL

Maintaining flexibility in a converged solution – avoiding rigidity

Need to demonstrate compliance against any combined model, for customers

P4. Where do you see the main focus for linking eTOM and ITIL to help you?

Responses:

Agreeing common terms and semantics

A consistent/linked framework structure, eventually converging on one framework/model

Using eTOM to plug gaps in ITIL

SLA and OLA alignment

Establishing joint governance between itSMF and TM Forum

P5. Do you have any material that you could contribute from your experiences to the TM Forum work on ITIL & eTOM, or anything that could be added to a Case Study to demonstrate real practice?

Responses:

Some "yes"s, including trial mappings between the two frameworks, "use case" requirements applied to the frameworks together, CMDB experience

9. Appendix 1: Terminology Mappings - Problem and Problem Management

An example of developing more detailed mappings between areas of terminology in ITIL and eTOM is shown here, for problem/incident/trouble/etc and the related processes like Problem Management..

ITIL Term	ITIL Book/ Process	ITIL Definition (Taken from OGC ITIL V3 Glossary)	Characteristics / Properties	Context	Examples of Usage
Incident	Service Operation/ Incident Management	An unplanned interruption to an IT Service or a reduction in the Quality of an IT Service. Failure of a Configuration Item that has not yet impacted Service is also an Incident. For example Failure of one disk from a mirror set.	- An event which is not part of standard operation - An event which causes interruption to service - An event which reduces quality of service - Events can be reported by a User (Reactive) or detected and reported automatically (Proactive)	Service Desk	- Software Application not available - Failure of mirror disk set
Incident Management	Service Operation/ Incident Management	The Process responsible for managing the Lifecycle of all Incidents. The primary Objective of Incident Management is to return the IT Service to Users as quickly as possible.	- maintain meaningful records relating to Incidents - consistent approach to reporting Incidents - Assess Urgency and Impact and so assign Priority - Assess Event as a "Major Incident" - Always own the Incident from Identification to Closure	Service Desk	- in response to User reported event - in response to Pro-actively raised event. - Once An Interaction (with User) is categorised as An Incident, then the process to handle the event.

Known Error	Service Operation/ Problem Management	A Problem that has a documented Root Cause and a Workaround. Known Errors are created and managed throughout their Lifecycle by Problem Management. Known Errors may also be identified by Development or Suppliers.	- A Record associated with a type(s) of CI, detailing a Problem, its root cause and Workaround	Problem Management Team	- User miss-types password three times, causing lockout - Pointer to Password Reset procedure. - User unable to access Network Drives - Push updated Firewall Files to User. - User unable to connect using VPN Client - Power Cycle users ADSL Router.
Major Incident	Service Operation/ Incident Management	The highest Category of Impact for an Incident. A Major Incident results in significant disruption to the Business.	- An event of significant Business Impact to the Customer, so warranting the highest Priority. - Once an Incident is classified as "Major", it follows a "Major Incident" process which escalates activity in the supplier, and triggers additional senior leve	Service Desk, Problem Management Team	- eCommerce Web Site falls over in run-up to Christmas. - Finance System fails during End of Year period. - Network fails to Major Customer site and changeover to backup also fails.
Problem	Service Operation/ Problem Management	A cause of one or more Incidents. The cause is not usually known at the time a Problem Record is created, and the Problem Management Process is responsible for further investigation.	- The investigation of the Root Cause of a number of Incidents triggered by a Pre-Emptive review looking for Trends. - The investigation of the Root Cause of an Incident(s) triggered by the Service Desk. - Problems are about identifying the Root Causes	Problem Management Team	- Review of Incident Records shows that 15 minutes after a website is broadcast to the whole company, it falls over. - Service Desk realise that they have had to reboot a server many times - Raise a Problem report to look into the root cause. - A customer

Problem Management	Service Operation/ Problem Management	The Process responsible for managing the Lifecycle of all Problems. The primary Objectives of Problem Management are to prevent Incidents from happening, and to minimise the Impact of Incidents that cannot be prevented.	- Maintain meaningful records related to Problems, Known Errors and Work arounds. - Assess Urgency and Impact and so assign Priority. - Pre-Emptively assess all Incidents to identify trends and raise Problems to address the trends and so prevent Incidents	Problem Management Team	- Review of Incident records shows that 15 minutes after a website (e.g. HR news Site) is broadcast to the whole company, it falls over. Review identifies that site and network are inadequate for load. Extra capacity in Server and Network is provisioned.
Request Fulfilment	Service Operation/ Request Fulfilment	The Process responsible for managing the Lifecycle of all Service Requests.	- Maintain meaningful records of Service requests - Assess against SLA commitments, and so assign Priority. - Oversee Fulfilment	Service Desk	- In response to User created Request - In response to Supplier proposed Request, for instance in support of Capacity or Availability Management Activities.
Service Request	Service Operation/ Request Fulfilment	A request from a User for information, or advice, or for a Standard Change or for Access to an IT Service. For example to reset a password, or to provide standard IT Services for a new User. Service Requests are usually handled by a Service Desk, and do n	- A Request for a Standard Change to an existing service. - A Request for a new item from a Catalogue.	Service Desk	- A user orders a new Laptop through the online catalogue. This could be treated automatically and leads to a Standard (pre-approved) Change & Order. - Request a Password Reset

Workaround	Service Operation/ Incident & Problem Management	Reducing or eliminating the Impact of an Incident or Problem for which a full Resolution is not yet available. For example by restarting a failed Configuration Item. Workarounds for Problems are documented in Known Error Records. Workarounds for Incidents			

Table 1: Main ITIL Terms related to Problem Management

eTOM Term	eTOM Process	eTOM Definition (Taken from GB921)	Characteristics / Properties	Context	Examples of Usage
Incident	not used in eTOM - aspects concerned with "faults" are handled under Problem and Trouble				
Problem	Problem Handling (CRM), Service Problem Management (SM&O)	Not defined in GB921 Glossary. A Problem is something which is Customer Service affecting and the Problem is linked to the Customers Issue.	The eTOM structure means that Problem Handling focuses on the Customer facing aspects, and Service Problem Management on the Service(s) that are packaged in Product(s) used by the Customer. The overall handling of the problem therefore involves several pr	Assurance	- Customer-reported problem, that then is investigated through SM&O and "below" to establish root cause and possible linkahes with other problems - Network (ie Resource)-related trouble, than is then asssociated with Services/ Products/ Customers for pre-

Problem Management	Problem Handling (CRM), Service Problem Management (SM&O)	See Problem Handling and Service Problem Management entries for eTOM context "Problem Handling" and "Problem Management" are not really distinguished as terms	see below for Problem Handling and Service Problem Management individually	Assurance	
Problem Handling	This is the eTOM process element	Problem Handling processes are responsible for the management of problems reported by customers and associated with purchased product offerings. The objective of these processes is to receive reports from customers, resolving them to the customer's satis	CRM focus for handling faults/problems	Assurance -CRM	'- Customer-oriented problem
Service Problem Management	This is the eTOM process element	Service Problem Management processes are responsible for the management of problems associated with specific services. The objective of these processes is to respond immediately to reported service problems or failures in order to minimize their effects	SM&O focus for handling faults/problems	Assurance -SM&O	'- Service-oriented problem
Service Request	not used in eTOM - topic handled as part of Fulfillment		Handled separately within eTOM (as part of Fulfillment)	Fulfillment	
Trouble	Resource Trouble Management (RM&O), S/P Problem Reporting & Management (S/PRM)	Not defined in GB921 Glossary. Trouble is associated with a Resource and hence relates to a specific resource failure or performance degredation.		Assurance	
Resource Trouble Management	This is the eTOM process element	Resource Trouble Management processes are responsible for the management of troubles associated with specific resources. The objectives of these processes are to efficiently and effectively manage reported resource trouble, isolate the root cause and act	RM&O focus for handling faults/troubles	Assurance -RM&O	Resource-oriented trouble

S/P Problem Reporting & Management	This is the eTOM process element	The S/P Problem Reporting & Management processes track, monitor and report on the service provider initiated problem engagements to ensure that the interactions are in accordance with the agreed commercial arrangements between the service provider and the	S/PRM focus for handling faults/problems/troubles	Assurance -S/PRM	Siupplier/Partner-oriented problem/trouble

Table 2: Main eTOM Terms related to Incident/Problem Management

10. Administrative Appendix

This Appendix provides additional background material about the TM Forum and this document.

10.1. Document History

10.1.1. Version History

<This section records the changes between this and the previous document version as it is edited by the team concerned. Note: this is an incremental number which does not have to match the release number and used for change control purposes only>

Version Number	Date Modified	Modified by:	Description of changes
Version 0.1	March 2008	Mike Kelly	Early draft of document
Version 0.2	April 2008	Mike Kelly	Incorporates feedback and comments, and populates other sections
Version 0.3 to 0.5	April/May 2008	Mike Kelly	Incorporates further comment, and fills out content
Version 0.6	May 2008	Mike Kelly	Incorporates itSMF and further comment
Version 0.7	July 2008	Mike Kelly	Inclusion of Foreword and other updates
Version 1.0	August 2008	Mike Kelly	Updated version to 1.0 for publication

10.1.2. Release History

< This section records the changes between this and the previous Official document release. >

Release Number	Date Modified	Modified by:	Description of changes
Release 1.0 (team approved)	May 2008	Mike Kelly	First document release
Release 1.0	August 2008	Mike Kelly	Small changes to clarify inclusion of ITIL processes in eTOM

10.2. Acknowledgements

Thanks are due to those who participated in the working group that put this report together, but importantly also to those who contributed their time and ideas with input as the content was gathering.

All listings are alphabetical by Member Company name

Team Members:

- Tim Midwinter — BT Group plc
- Philip Williams — BT Group plc
- Teresa Schlegelmann — HP
- John O Long — IBM
- Michael Mom — Telstra
- Mike Kelly — TM Forum

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- Anji Henry — BT Group plc
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The work also benefited from active support from the TM Forum Board.

Board Sponsors:

- Phil Dance — BT Group plc
- Ananda Subbiah — HP
- Joseph Ziskin — IBM
- Michael Lawrey — Telstra

In addition, support and advice from Keith Willetts and Martin Creaner of TM Forum has been invaluable.

The Service Provider Leadership Council (SPLC) kindly assisted in gathering views from service providers on ITIL and eTOM, and these are set out within this document. Thanks to SPLC, and to their chair, Rick Mnich of AT&T, and TM Forum SPLC support, Tony Richardson, for this.

Lastly, but certainly not least, this activity has proceeded not just as a TM Forum initiative, but with the active involvement and support of itSMF. Special thanks to Keith Aldis, itSMF's Chief Executive, and Ben Clacy, itSMF's Business Development Manager, for making this possible and for their early comments and contributions,

and to Megan Pendlebury, itSMF Service Management Executive, for her detailed technical assistance and contribution as the document developed.

10.3. About TM Forum

TM 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.

