Business Process Framework (eTOM)

For The Information and Communications Services Industry

Addendum L:

Leveraging Level 4 Process Elements and Process Flows in Support of ITIL

GB921 Addendum L

Version 11.3

October, 2011

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Executive Summary

This document focuses on the methodology to develop more detail on an integrated view between ITIL and eTOM, with some examples to show how this can work in practice. This turns out to be quite workable in practice, but the issues involved can be subtle since ITIL and eTOM do not attempt to address the same set of concerns. Instead, and rather happily, they are complementary and the support each provides is compatible with the other and adds to it. Thus, it is feasible and practical to deliver ITIL "good practice" services using process flows built using eTOM (i.e. the Business Process Framework). Based on this, a more extensive activity is proceeding separately to work through this methodology across the eTOM framework.

This approach builds on what has already been implemented in the Business Process Framework in previous releases, where we have embedded a "bridge" within Enterprise Management across to the itSMF/ITIL specifications for ITIL good practice areas. This existing work has included definition of how these ITIL good practices would influence and moderate the behavior of the rest of the enterprise where the users decided to apply ITIL with eTOM in the enterprise areas concerned.

With this document, and the methodology described, we extend this approach to show in specific detail how this influence is applied. For each process element and ITIL good practice area in turn, as we address these, we can consider application scenarios and determine where additional functionality is identified in ITIL that may not be explicit, or may even be missing, within eTOM. As noted above, where these gaps are found, this will lead us to enhance existing eTOM process elements or even to add new ones, so that we then develop a Level 4 structure that is an amalgam of the existing eTOM process content and further content that ensures full eTOM support for the required ITIL features.

Note that it is certainly not the intention that this somehow supplants or replaces the ITIL view – the whole strategy is to leave each framework with its own status and evolution path. However, the goal is to ensure that there is clear support for ITIL within eTOM, and much has already been implemented in the Business Process Framework in existing releases, where we have embedded a "bridge" across to the itSMF/ITIL specifications for ITIL good practice areas.

This work described in this document has been developed collaboratively by itSMF (the trade body whose members develop ITIL) and TM Forum. As noted in the preface to the previous analysis document for this work (TR143), Keith Aldis, Chief Executive itSMF International and Keith Willetts, CEO TM Forum, jointly commented:

"Both itSMF and TM Forum recognize that both frameworks have strengths and weaknesses and 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."

1. Introduction

Integration and convergence between ITIL and the Business Process Framework (eTOM) has been a topic of considerable interest for a number of years now.

TM Forum and itSMF (the trade body whose members develop ITIL) have worked together to develop and publish techniques and mechanisms to bring the two frameworks together and this has been applied with success in industry. To that extent, there is already a body of user guidance and example material available to assist those who wish to gain advantage from the complementary strengths of ITIL and eTOM. However, more guidance and detail is always helpful, and a number of potential users would welcome guidance at the detailed working level on this.

There is not just one way of approaching these issues, and it is not the intent that any viable approach is somehow excluded, since different users may find that one approach works better for them. This document shows one such viable approach, It builds on real-world experience in blending the perspectives of the two frameworks that centers on the enterprise-wide view provided by the eTOM Business Process Framework, and then seeks to gain additional insight from ITIL that can enhance the detail pragmatically, and can ensure that all aspects of the required ITIL support are clearly available when using eTOM in this way.

The focus for this has been found to work most effectively at a comparatively-low level of detail, and the work underway to extend eTOM to Level 4 for the process element definitions provides the ideal positioning for exploring the linkages with ITIL with the necessary detail and granularity.

There is a lot of ground to cover in this, since even without the additional insights from ITIL, the Level 4 process view in eTOM represents well over 1000 process elements. Exploring this is therefore a progressive task and results will emerge initially in the Operations space and will then extend across the rest of the enterprise.

As part of this, the chosen mechanism is to capture and define the potential enhancements derived from ITIL and to position these initially as “additional process functionality” that will in due course be absorbed and represented within the eTOM Level 4 process elements. Note that it is certainly not the intention that this somehow supplants or replaces the ITIL view – the whole strategy is to leave each framework with its own status and evolution path. However, the goal is to ensure that there is clear support for ITIL within the eTOM framework, and so this approach builds on what has already been implemented in the Business Process Framework in previous releases, where we have embedded a “bridge” within Enterprise Management across to the itSMF/ITIL specifications for ITIL good practice areas. This existing work has included definition of how these ITIL good practices would influence and moderate the behavior of the rest of the enterprise where the users decided to apply ITIL with eTOM in the enterprise areas concerned.

With this document, and the methodology described, we extend this approach to show in specific detail how this influence is applied. For each process element and

ITIL good practice area in turn, as we address these, we can consider application scenarios and determine where additional functionality is identified in ITIL that may not be explicit, or may even be missing, within eTOM. As noted above, where these gaps are found, this will lead us to enhance existing eTOM process elements or even to add new ones, so that we then develop a Level 4 structure that is an amalgam of the existing eTOM process content and further content that ensures full eTOM support for the required ITIL features.

This document focuses on the methodology to develop such an integrated view, with some examples to show how this can work in practice. Based on this, a more extensive activity is proceeding separately to work through this methodology across the eTOM framework.

2. Addressing the Business Drivers

The backdrop to the whole exercise on finding common ground between ITIL and eTOM is the growing demand to integrate more effectively the IT support within companies with their business focus. This was explored as part of the already-published TR143 "Building Bridges ITIL and eTOM" that was endorsed by both TM Forum and itSMF.

Figure 2-1 shows how Business and IT are becoming increasingly co-dependent within enterprises and how the already-established technique (from TR143) of building eTOM business process flows that deliver ITIL good practice services can successfully address this need and provides a practical method of supporting the merged environment.

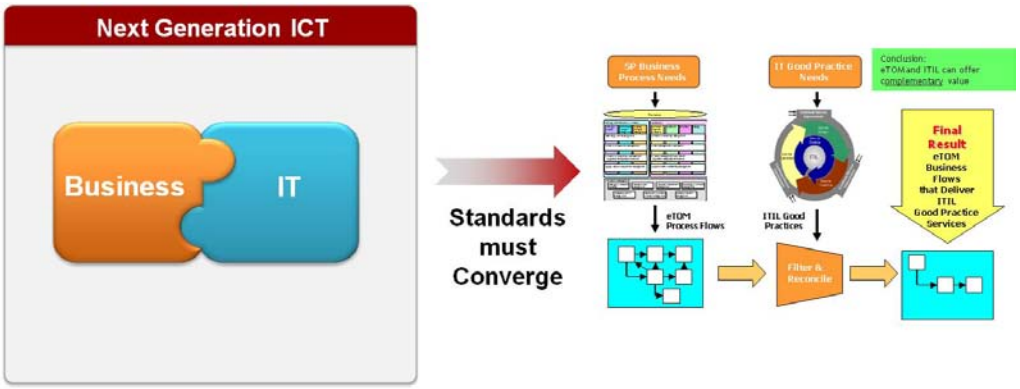

Figure 2-1: Connecting the Business with IT

The eTOM flow approach is shown more clearly in

Figure 2-2.

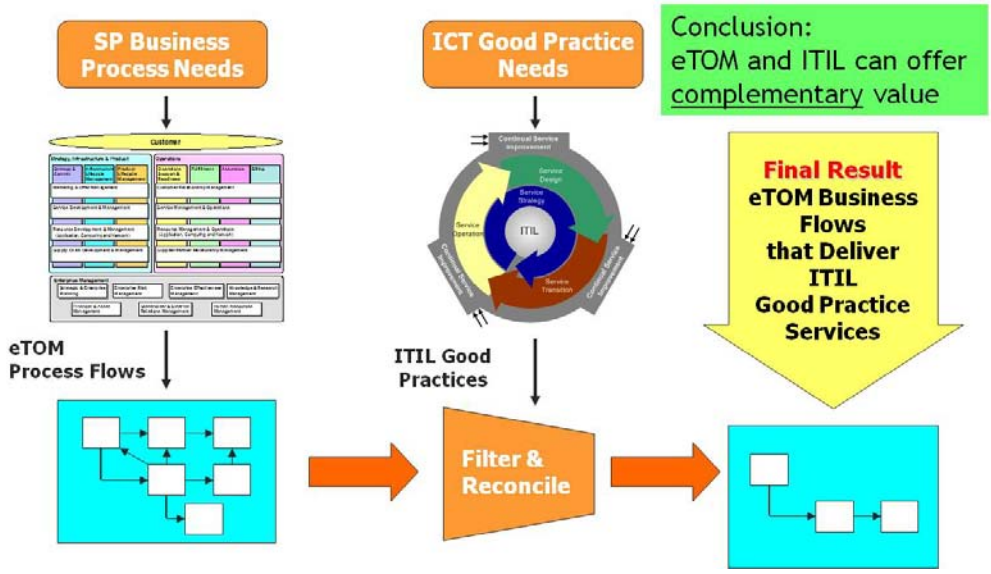

Figure 2-2: ITIL and eTOM – Flowing together

Here, the eTOM Business Process Framework on the left provides a response to the general industry desire to model business process needs, for Service Providers and also enterprises generally. From this a wide range of business process flows can be specified (bottom left), addressing a range of scenarios and use cases, which could reflect a whole variety of policies and practices. In some cases, these could be designed to be aligned with ITIL, and in others, where some users do not choose to employ ITIL, the flows could be designed differently. The eTOM framework, and its process element structure, is flexible enough to support this.

In the middle, ITIL responds to the need for good practices in the ICT domain. At the middle bottom, we have a conceptual "filter" where all the possible process flows that could be built with eTOM are selected so that the subset that are designed to align with ITIL "pass through" and are collected bottom right. Of course, in practice we do nor randomly design process flows and then look to see which are useful, but this illustrates how it is possible to collect ITIL-aligned flows that employ eTOM to deliver ITIL support directly. Note that the idea here is to avoid having to juggle both eTOM and ITIL as cohabiting process content within the working environment. Instead, we here use ITIL at the design stage to ensure that eTOM is implementing ITIL directly. This greatly simplifies the management if the process behavior, and is the basis of the more detailed methodology set out in this document.

Note that the bottom line is that there is no intrinsic conflict between ITIL and eTOM. They come from different perspectives, and are different kinds of artifact (see Figure 2-3), but offer complementary strengths and are mutually supportive.

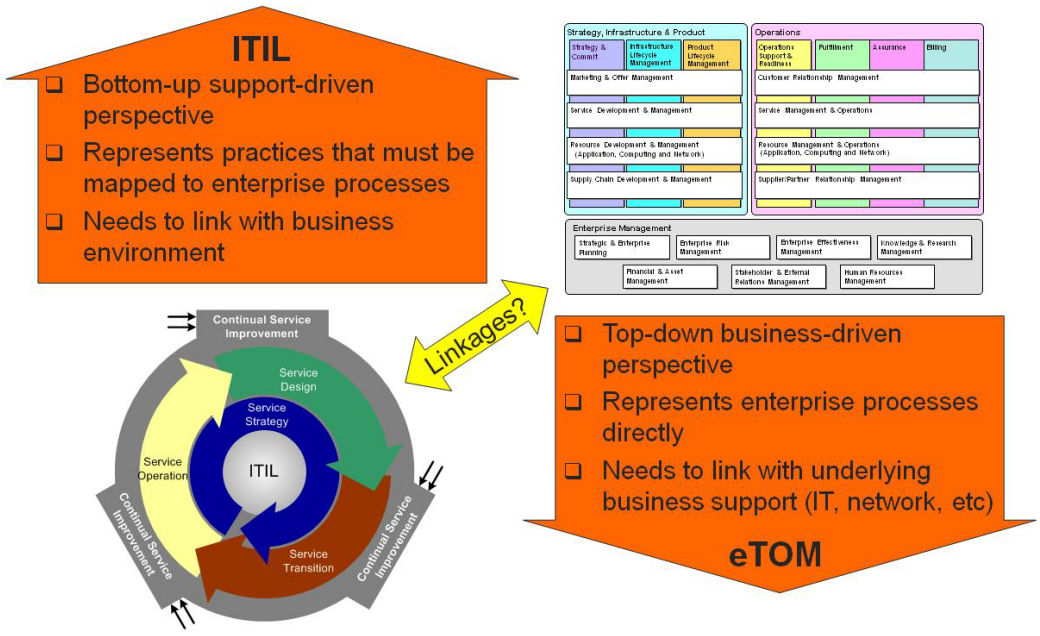

Figure 2-3: Contrasting the ITIL and eTOM Frameworks

3. Extending the Methodology

Worked examples based on the eTOM process flow approach outlined above have demonstrated the viability of this mechanism, and have successfully developed eTOM flows that implement the selected areas of ITIL.

In Figure 3-1, we see a small example where ITIL Change Management is being applied in the area of enterprise concerned with resource changes (e.g. here we are managing change associated with developing a software bug fix).

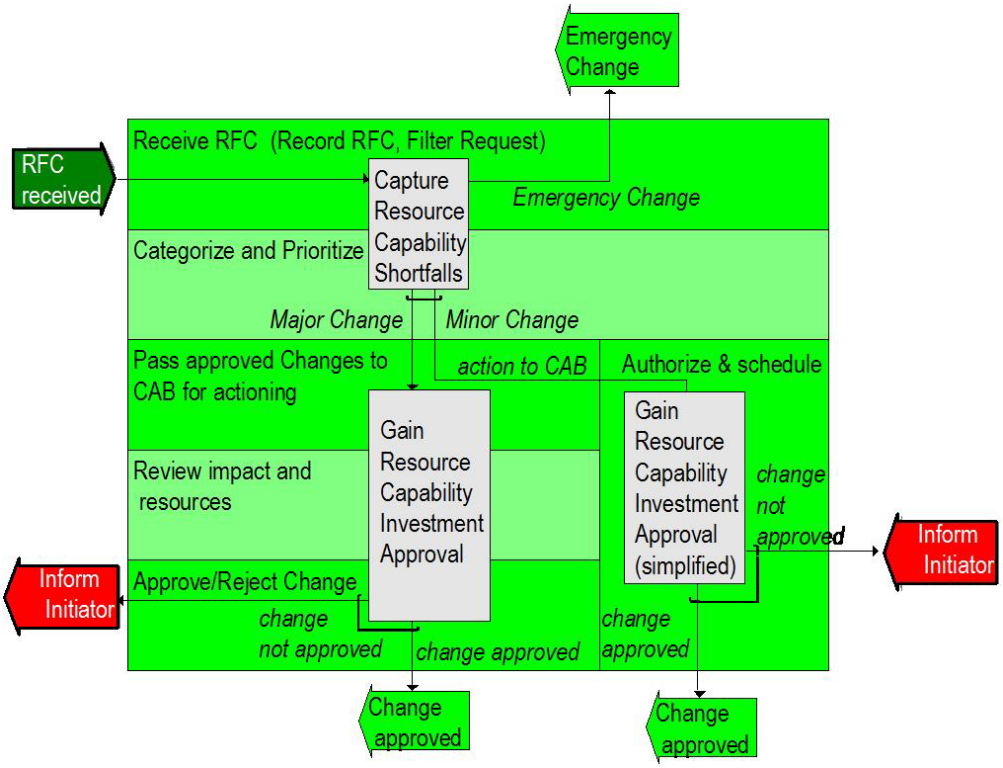

Figure 3-1: Example - Implementing Change Management with the Business Process Framework

The green "swimlanes" (e.g. Categorize and Prioritize) represent the defined steps in ITIL Change Management. The white foreground process elements (e.g. "Gain Resource Capability Investment Approval") are Level 3 process elements as published in the Business Process Framework. By inspection of the scope and content of the relevant Framework process elements, we have established in this example that the identified Level 3 process elements satisfy the requirements of ITIL Change Management.

We can take advantage of the flexibility now designed into the Business Process Framework to assist with this. As noted earlier, we have embedded a "bridge" within Enterprise Management across to the itSMF/ITIL specifications for ITIL good practice areas which includes definition of how these ITIL good practices would influence and

moderate the behavior of the rest of the enterprise where the users decided to apply ITIL with eTOM in the enterprise areas concerned. Thus, in the example shown in Figure 3-1, we have the opportunity to "tune" the behavior of "Gain Resource Capability Investment Approval" (and other process elements) when applying this in support of ITIL Change Management (or in support of other ITIL areas where this arises for the enterprise concerned). The published Business Process Framework already implements this mechanism, through the use of a "Process Context" that is part of the process element definitions and which allows the "good practice" process elements from ITIL to exercise this influence.

As a backstop, additionally it has always been acknowledged that should we find that some aspect of ITIL is not fully satisfied by eTOM as we design these process flows, then we can look to enhance and update the eTOM process definitions to address this. This has not arisen previously while working with the Level 3 detail, but as we now extend this to the new Level 4 process elements that are being defined, we can see that this may be coming into play, and this is the focus of the extended methodology set out in this document.

Figure 3-2 sets out the possibilities that can arise as we compare the detail in the Level 4 process elements with the ITIL areas that they may link with.

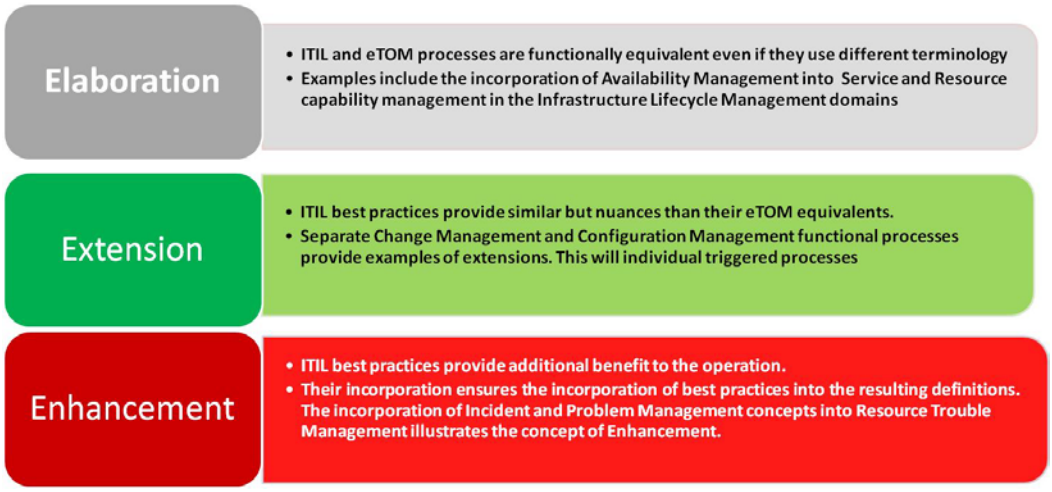

Figure 3-2: Possible Cases when mapping eTOM and ITIL

From this, each area considered will typically throw up some insights from ITIL that may lead simply to some wording/terminology improvements in existing eTOM Level 4 process elements, or may identify "new" functionality that needs to be merged into the eTOM Framework by allocation to existing process elements or addition of new process elements.

We are progressing this currently. Some additional functionality of this kind has been identified and needs to be reviewed and confirmed as additional to the existing eTOM scope, and then design decisions made on where and how to accommodate this within the framework.

The working approach is to define process flows using the published Business Process Framework Level 4 process elements, that focus on the Level 4 interactions and behavior within individual parent Level 3 process elements (this was considered as an approach in previous eTOM work some time ago, when it was described as "Decomposed Process Flows" but at that time was not pursued further). Figure 3-3 shows a worked example for Level 3s within the "Problem Handling" Level 2 process element.

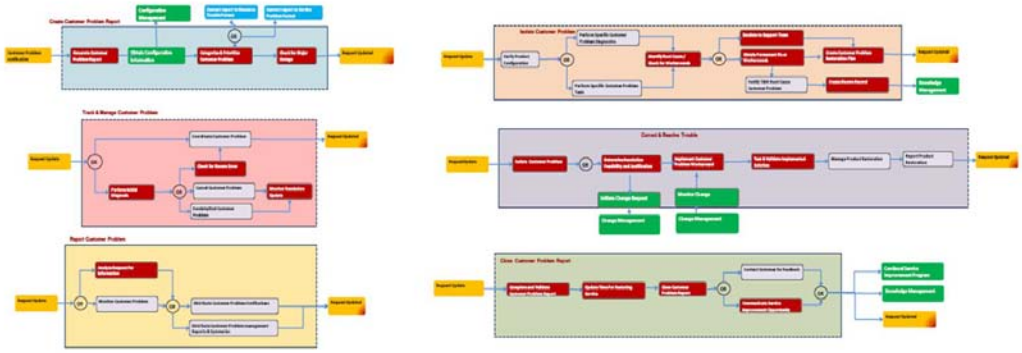

Figure 3-3: Level 4 process flows within Level 3 process elements in Problem Handling

In Figure 3-3 we can aggregate the individual flow fragments to gain an end-to-end view at Level 4. Note that the colors indicate existing eTOM Level 4s (Grey), with process functionality derived from ITIL Enhancement (Red) and sprinkled with ITIL Elaboration (Green).

Figure 3-4 shows another example, this time for the "Service Problem Management" Level 2 process element, and Figure 3-5 yet another for the "Resource Trouble Management" Level 2 process element.

All of the new process functionality elements in such examples (i.e. other than the existing Level 4 process elements that are shown in grey) are then candidates to update the Business Process Framework.

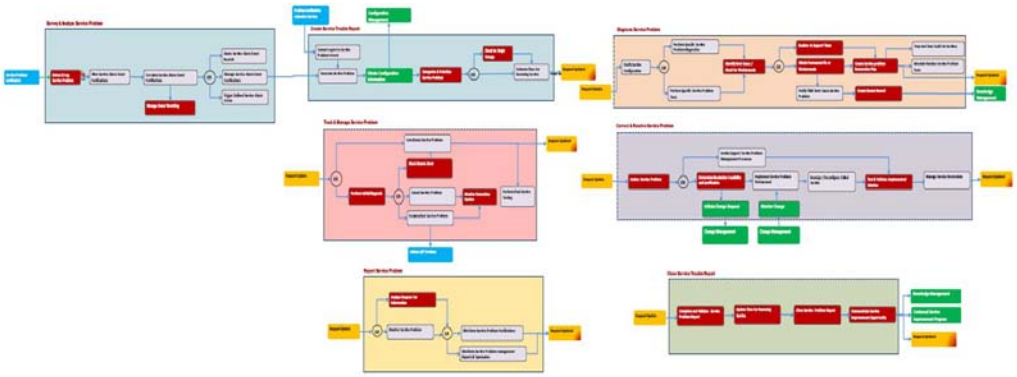

Figure 3-4: Level 4 process flows within Level 3 process elements in Service Problem Management

As previously noted, the colors indicate existing eTOM Level 4s (Grey), with process functionality derived from ITIL Enhancement (Red) and sprinkled with ITIL Elaboration (Green).

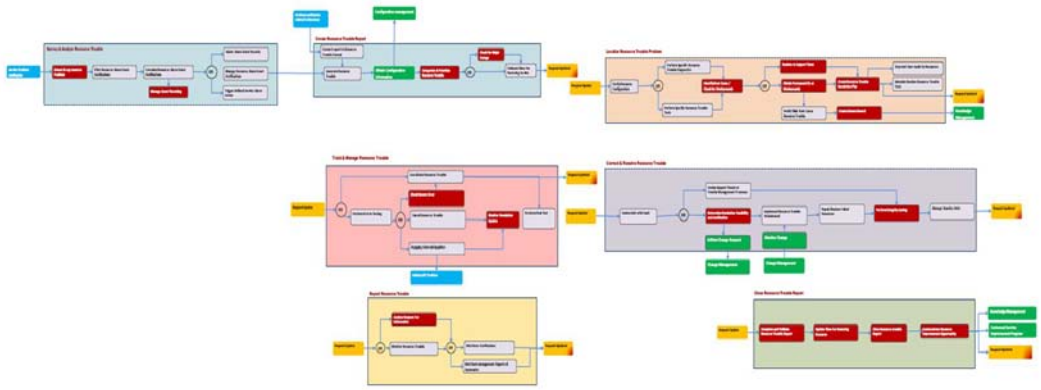

Figure 3-5: Level 4 process flows within Level 3 process elements in Resource Trouble Management

Figure 3-6 shows one of these Level 3s (Correct & Resolve Resource Trouble) for clarity.

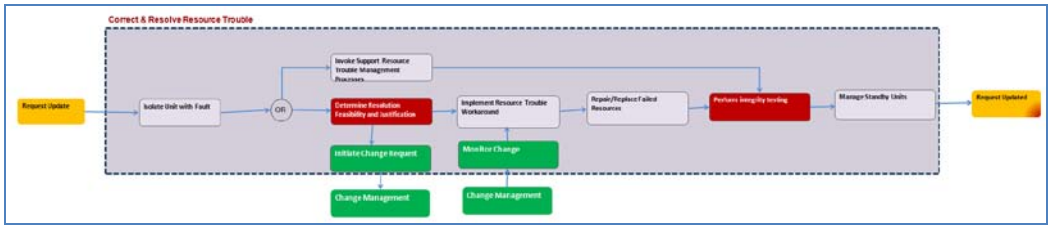

Figure 3-6: Level 4 process flow for "Correct & Resolve Resource Trouble" Level 3 process element in Problem Handling

The notation used in these diagrams is useful and accessible, but another objective is to capture such process flows in a form that is as easy as possible to interchange between different tool environments. With this in mind, BPMN represents a more universal notation and the intent is to capture process flows in BPMN so that they are as compatible as possible with the range of process tools in use.

Figure 3-7 shows an example of such a BPMN flow, in this case derived from the original process flow shown in Figure 3-6.

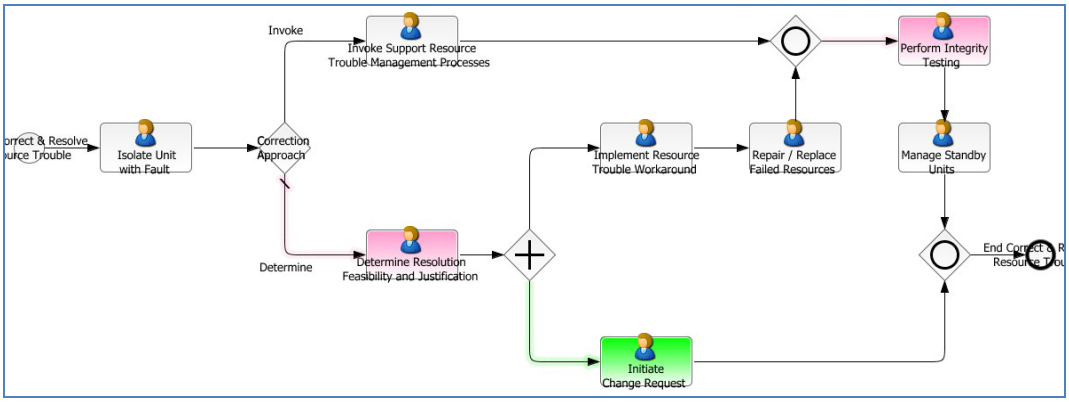

Figure 3-7: Level 4 BPMN process flow for "Correct & Resolve Resource Trouble" Level 3 process element in Problem Handling

In some cases, it may be found that in fact the identified new process functionality is in fact already represented in the existing Level 4s, perhaps disguised by terminology and wording differences, or perhaps because it is implied by the existing cope but has not been made explicit. In these cases, the relevant existing Level 4(s) would be updated with adjusted wording to make this clear. As the "ITIL derived" functionality is then dealt with, the separate block of "candidate functionality" can then be removed as it has been accommodated within the eTOM Framework.

In other cases, more significant update in eTOM may be required. Where the "candidate functionality" is seen to be missing from the existing eTOM Framework then a decision is made on where to accommodate this. This might involve adding this functionality to an existing Level 4 process element (or spreading it across several such Level 4s if this fits better). Another possibility is to create a new Level 4 process element (or even several such Level 4s if necessary) if the scope and focus of the new functionality justifies this. Again, once the "ITIL derived" functionality is dealt with in this way, the separate block of "candidate functionality" can then be removed as it has been accommodated within the eTOM Framework.

Note that as this proceeds, all the relevant "ITIL derived" functionality is gradually acknowledged and accommodated within the eTOM Framework, so that we achieve the position at Level 4 that eTOM is able to satisfy fully the ITIL requirements for the areas of ITIL good practice and the enterprise processes that have been addressed. We therefore ensure that a user is able to use eTOM directly to implement ITIL and will find all the necessary functionality available within the updated set of eTOM Level 4 process elements. The end result is that it is not necessary to have co-existence of the eTOM Level 4 process elements and some separate blocks of process functionality from ITIL. The necessary process functionality that implement steps in the ITIL good practice for the enterprise area concerned has now been incorporated fully within eTOM so only eTOM process elements need be implemented to achieve support for and alignment with the ITIL areas concerned.

In case this is interpreted as somehow displacing ITIL or reducing its significance, it should be recognized that what has been described is in fact the normal and necessary mechanism by which the ITIL good practices are translated into specific activity in individual enterprise areas. This arises whether or not an enterprise process

framework like eTOM is used. The ITIL good practices must always be applied in individual enterprise areas, and different users will typically not always decide to do this in the same areas of their businesses. When this mapping is made, specific process functionality must be implemented, which will follow the guidance of the relevant ITIL good practice, but which will be specific to the enterprise area concerned.

In the example shown previously in Figure 3-1, we see ITIL Change Management applied in the enterprise area concerned with resource changes (the example uses eTOM of course, but an equivalent diagram/design would still be needed without eTOM, to identify which process areas in the resource area of the enterprise are used to implement the Change Management good practice from ITIL). Now, if the same user also wanted to apply ITIL Change Management for product changes, this would involve the same ITIL steps, and hence swimlanes, but would call upon process functionality in the product area of the enterprise. Thus, a similar but distinct process flow would apply, and what is actually implemented is this enterprise-focused process view that supports the ITIL good practice, rather than the ITIL good practice directly. For illustration, see Figure 3-8 where ITIL Change Management is being applied for changes in product development. Here, the Level 3 process elements in the flow are from the "Product & Offer Development & Retirement" area of eTOM, whereas those in the Figure 3-1, resource focused, example are from the "Resource Capability Delivery" area.

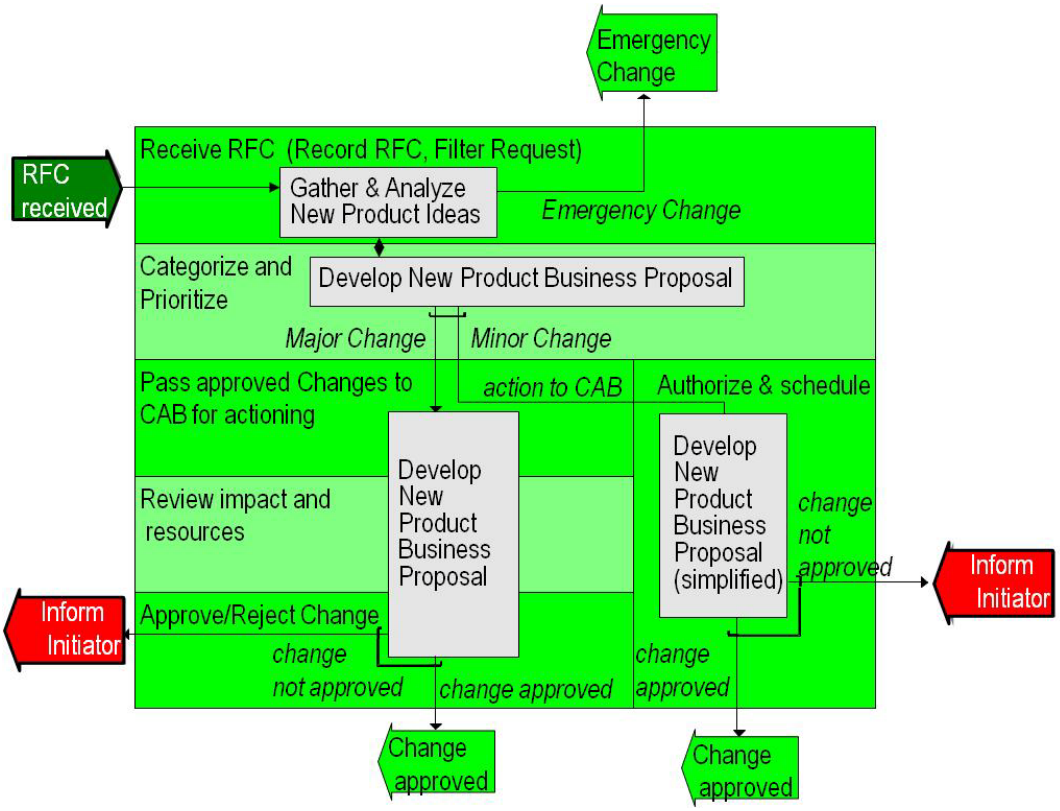

Figure 3-8: Implementing Change Management for Product Development

So, in general applying ITIL within the enterprise will involve translating the good practice "policy" into practice by mapping this to specific process detail in one, or several, process areas within the business, according to the needs and intent if the user concerned. Different users may apply each area of ITIL in different areas, with each requiring the sort of defined process flows shown in the examples.

Note that one major benefit of linking ITIL and eTOM is that eTOM provides the ready-made enterprise-wide process view against which ITIL can be easily mapped, using the techniques shown.

4. Applying the Methodology

We have now seen how we can define detailed process flows using Level 4 process elements from eTOM, and can also link in ITIL-derived insights into potential / candidate functionality, that can be merged into updates to the eTOM Framework in due course.

The examples shown mix these existing eTOM Level 4 process elements with the candidate ITIL process functionality, and allow pragmatic process flows to be built with this mix. As the analysis proceeds, we have seen that we expect gradually to merge the relevant ITIL-derived functionality into the eTOM framework so that eventually we have a fuller set of eTOM level 4 process elements that fully accommodate the ITIL needs.

This provides a flexible basis to evolve the position, since we can immediately generate useful process flows, as shown in the examples in Section 3 previously. The examples shown have chosen to provide a general-purpose capability within the selected Level 3 process elements, that explore how the contained Level 4s can work together in support of that Level 3 capability. This is not the only way we can develop process flows in this way, and it is legitimate also to work "downwards" through the decomposition hierarchy by initially defining process flows using Level 3 process elements (or even Level 2 process elements as a starting point of this is found useful).

In the examples shown, we have chosen to explore the process flows starting at the lower level (Level 4 process elements) with the opportunity then to abstract "upwards" to Level 3 and above.

Both approaches are legitimate, and as in many design activities, some value can result from applying both techniques as appropriate and combining the insights gained.

Pursing the "upwards" approach shown previously, we can now look for "end-end" flows that address a wider business focus and leverage the Level 4 flows we have defined to provide detailed insight into the process behavior overall.

Figure 4-1 shows such an "end-end" flow, where a customer complaint triggers one scenario within the overall context of the familiar "Trouble to Resolve" (or sometimes "Trouble2Resolve") business situation. Here we can see that the core area of process activity (the central column of Level 3 process elements covering the Level 2s for Problem Handling, Service Problem Management, and Resource Trouble Management) can be extended to generate an end-end Level 4 process flow by substituting in the Level 4 flow "fragments" from the examples shown in Section 3.

So, for example, we see in Figure 4-2 just a part of the process flow from Figure 4-1. The indicated process element is that expanded in Figure 3-6 to show the Level 4 process elements and their interactions. So, we can substitute the Level 4 flow

fragment from Figure 3-6 to "decompose" this Level 3 process element and show the Level 4 detail within this.

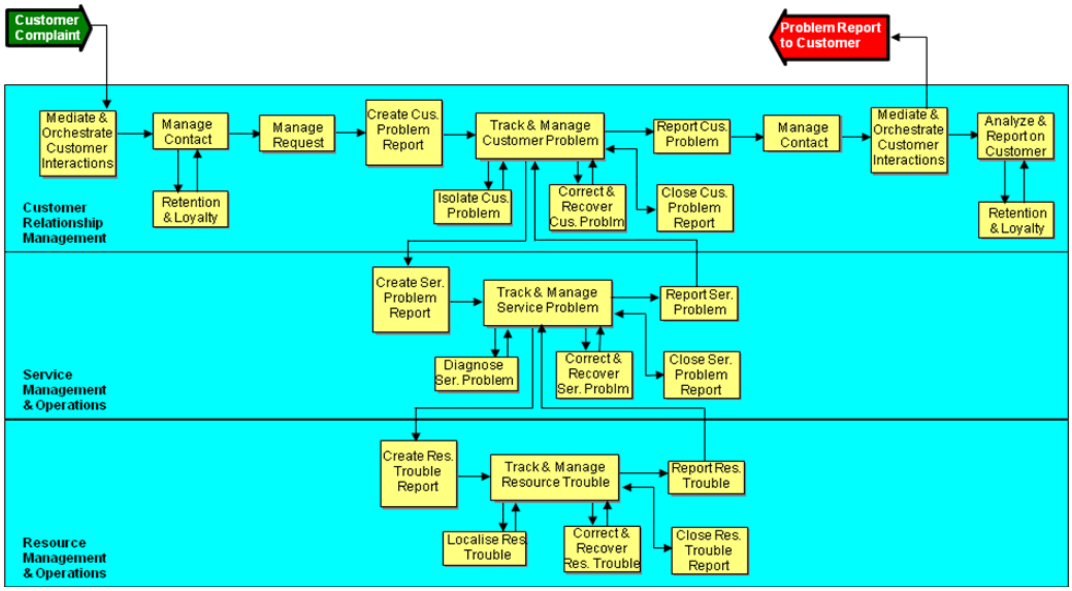

Figure 4-1: End-End Process Flow at Level 3 for an example Customer-Initiated Trouble2Resolve Scenario

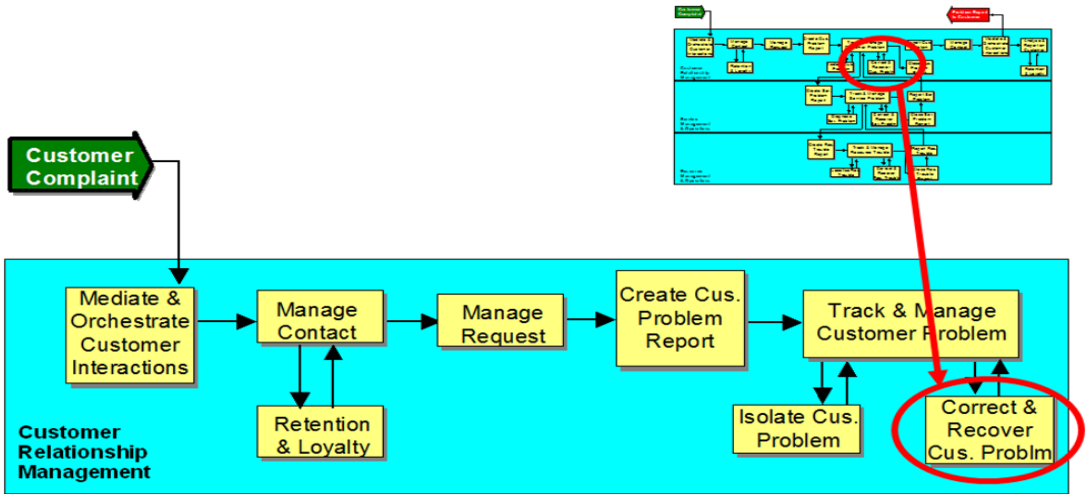

Figure 4-2: Detail in the End-End Process Flow at Level 3

Applying this technique for the other Level 3s means we can develop the detailed process flow at Level 4 representing the overall en-end scenario. We can then address this scenario at whatever level of detail is required, since we have available the flow using Level 3 process elements (as in Figure 4-1) and/or at Level 4 when we "plug-in" the Level 4 process flows as in the examples shown in Section 3. If useful, we can even abstract up to Level 2 process elements and represent this scenario with a less-detailed process flow at this higher level.

5. Administrative Appendix

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

5.1. About this document

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

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

5.2. Document History

5.2.1. Version History

Version Number	Date Modified	Modified by:	Description of changes
11.1	Sep 2011	Mike Kelly	first draft of document
11.2	Sep 2011	Mike Kelly	Tidying for publication
11.3	Oct 2011	Alicja Kawecki	Minor cosmetic corrections prior to web posting and ME

5.2.2. Release History

Release Number	Date Modified	Modified by:	Description of changes
11.1	Sep 2011	Mike Kelly	first issue of document

5.3. Acknowledgments

This document was prepared by the members of the TM Forum Business Process Framework (eTOM) team. Mike Kelly, TM Forum, acted as editor.

A wide variety of individuals and companies have been involved in the eTOM/ITIL work that is overviewed here, through both TM Forum and itSMF.

However, in terms of the new material in this document, special thanks to Jay Selva and Walter Lee of Huawei, who provided source process flow material, as well as related methodology concepts. Their support in working this through several Team Action Week sessions and many team calls is much appreciated.

Additional thanks to John Wilmes of Progress Software, who as the Co-Chair of the Business Process Framework team steered this work within the team, and who also contributed directly, with the translation through to BPMN for the process flows that were involved.

As a final note, this work is being applied as part of catalyst-related activities in which Huawei and Progress Software are also involved, with other catalyst participants.

