Business Process Framework (eTOM)

For The Information and Communications Services Industry

Addendum G:

Guide to Applying the Business Process Framework (eTOM)

Release 8.0

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1. Preface - eTOM Business Process Framework

The eTOM Business Process Framework is a reference framework for categorizing all the business activities used by an enterprise involved in delivering on-line Information, Communications and Entertainment services. This is done through definition of each area of business activity, in the form of process components or Process Elements that can be decomposed to expose progressive detail. These process elements can then be positioned within a model to show organizational, functional and other relationships, and can be combined within process flows that trace activity paths through the business.

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

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

- A main document (GB921) that provides an overview of the eTOM Business Process Framework, from both Intra-enterprise and Inter-enterprise viewpoints, and describes the main structural elements and approach
- An Addendum (GB921D) describing the enterprise processes and sub-processes in a form that is top down, customer-centric, and end-to-end focused. Process decompositions are provided for all processes from the highest conceptual view of the eTOM framework to the level of detail agreed for use by the industry.
- An Addendum (GB921F) describing selected process flows at several levels of view and detail that provides end-to-end insight into the application of the eTOM framework.
- An Addendum (GB921B) describing the implications and impact of ebusiness for enterprises and their business relationships, and how the eTOM framework supports them, including a description of handling of business to business Interactions by eTOM. Associated with this is a separate Application Note (GB921C) describing a Business Operations Map for processes involved in business to business interaction
- An Addendum (GB921G) providing information and guidance to users in how the eTOM framework can be applied within businesses, and the

implications for maintaining alignment with this when extensions and/or adaptations are made in the course of this.

- An Addendum (GB921P) providing an "eTOM Primer" to assist new users of eTOM
- A separate Application Note (GB921T) that shows how eTOM processes relate to the functional view provided by the ITU-T M.3400 Recommendation (this work was developed some time ago in conjunction with ITU-T within a joint Focus Group)
- A separate Application Note (GB921V) that shows how eTOM can be used to like with ITIL processes

Note:

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

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

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

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

2. Introduction

This document stands as an Addendum to GB921 Version 8.0, the Business Process Framework (known commonly as eTOM). It provides additional insight into the eTOM framework and its application by setting out a mechanism to allow specific views into the process detail. These views allow different application domains (eg to support a focus on Charging and Revenue Management, or to highlight the perspective of Cable Operators on the business processes, etc). It should be read in conjunction with the main GB921 document and other Addenda (see GB921 for details).

The document explains the mechanism and shows how this can be used, as a guide to users on how they can tailor their own view of the eTOM Business Process Framework while maintaining or maximizing commonality and linkage with the existing process detail. This will assist in organizing the process detail in the most relevant and recognizable form for the application area concerned, and also in supporting the mapping of the processes into an organizational structure (since the organizational view can employ this same view mechanism).

3. Taking a View of the eTOM Business Process Framework

3.1. The Role of the eTOM Framework

The original focus of business process analysis within TM Forum, when this work got underway in the 1990s, was to assist in understanding external business linkages as a guide to interface design. At that point the nature and scope of the enterprise that was modeled was clear-cut, but the world has become considerably more complex since then, and the boundaries of the businesses that TM Forum addresses has grown and the edges have blurred.

As a result, it is fair to say that it is now difficult to define a "typical" enterprise business, and this means there is not a single definition of the shape and scope of the kind of enterprise that the eTOM framework represents. Nevertheless, it remains viable to see that the eTOM framework can represent a common, base model that can be tailored to meet this variety of needs. It has always been the intent that individual enterprises will adapt and extend the eTOM framework to meet their individual needs, and it also has always been part of the value proposition that a balance will be decided by each enterprise in doing this. Each enterprise will look at individual areas of the eTOM framework, and will look at the gives/takes on aligning with the eTOM framework, so as to reap the benefits of the standardized language and definitions for internal and external specification and agreement, vs adapting/ customizing/ extending the eTOM framework, so as to more directly model special aspects of their businesses.

Within this increasingly-rich environment where the eTOM framework is used, we need to develop as much flexibility as possible to help all the different users. As part of this, it is now possible to observe that the familiar eTOM framework view of the process decomposition hierarchy (see Figure 1 for the high-level view of the first couple of decomposition levels) has been used in two ways in the past, and that these have not been clearly distinguished. This document identifies and separates these two uses, and sets out how new flexibility can be introduced in the process structure that is employed by each domain or application area or enterprise, without disrupting alignment with the core eTOM framework decomposition hierarchy that is the basis for organizing and managing the eTOM design.

3.2. The eTOM Framework as a decomposition hierarchy

The basic use of the eTOM framework view is to document the decomposition hierarchy that has been developed to reveal progressive detail in the process elements described. In Figure 1, "Strategy, Infrastructure & Product", "Operations"

and “Enterprise Management” represent the top-level decomposition of the enterprise into these three process areas or process elements. Within each of these, the next level of decomposition is represented by the white boxes: seven Level 1 process elements within “Enterprise Management”, and four “horizontal” process elements in each of “Strategy, Infrastructure & Product” and “Operations”.

To avoid any confusion, note that the eTOM decomposition hierarchy operates exclusively through these “horizontal” process elements, and that the colored “vertical” End-To-End process groupings in each of these two Level 0 areas are not strictly part of the decomposition hierarchy, since the hierarchy instead employs the "horizontal" Level 1 process elements. These "vertical" Level 1 process elements should therefore be viewed as ancillary views or arrangements of the associated Level 2 process elements, provided for information only, as "overlays" on the actual process hierarchy.

This hierarchy extends to several more levels of decomposition within the eTOM framework specification (see GB921D for more details) and so provides a substantial set of process elements at various levels of detail, depending on where in the decomposition hierarchy a user chooses to focus.

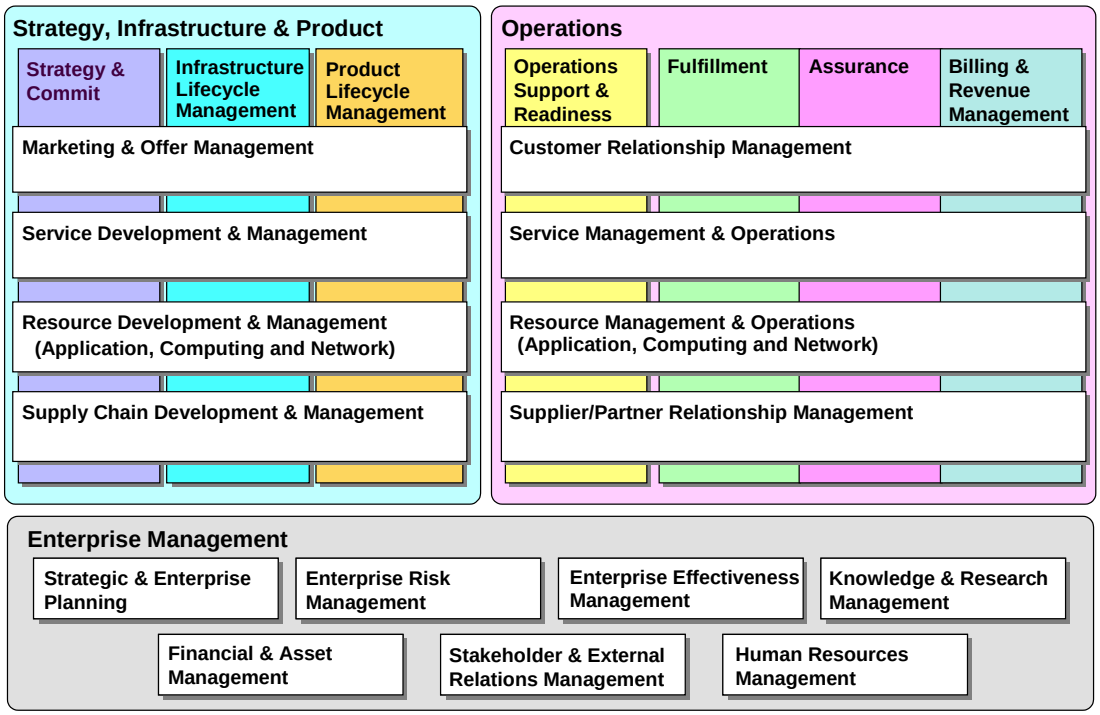

Figure 1: eTOM framework decomposition hierarchy (high-level)

3.3. The eTOM Framework as a focus for enterprise mapping

Now, alongside this use of the eTOM framework as the basis for defining process decomposition, it has also been commonly used as the default starting point for

analyzing and mapping how the eTOM framework process elements relate to the relevant area of application. For example, a company may look to map eTOM into its business and may therefore want to identify departmental roles and boundaries using the eTOM framework as a tool in this.

It is an important, but possibly subtle, point that alignment with the eTOM framework depends on adopting and using the individual process elements within the eTOM framework but that this does not mandate that these must be kept in the arrangement shown in Figure 1. In other words, the key requirement for staying aligned with the eTOM framework is aligning with individual process definitions (as set out in GB921D and the related model, etc) rather than necessarily maintaining a structure that looks like Figure 1 within the business concerned. This means that the second use identified above for the eTOM framework, as the default starting point for analyzing and mapping how the eTOM framework process elements relate to the relevant area of application, is not mandatory to achieve alignment.

To illustrate, Figure 2 shows a view of process detail at Level 2 within the "Strategy, Infrastructure & Product" area.

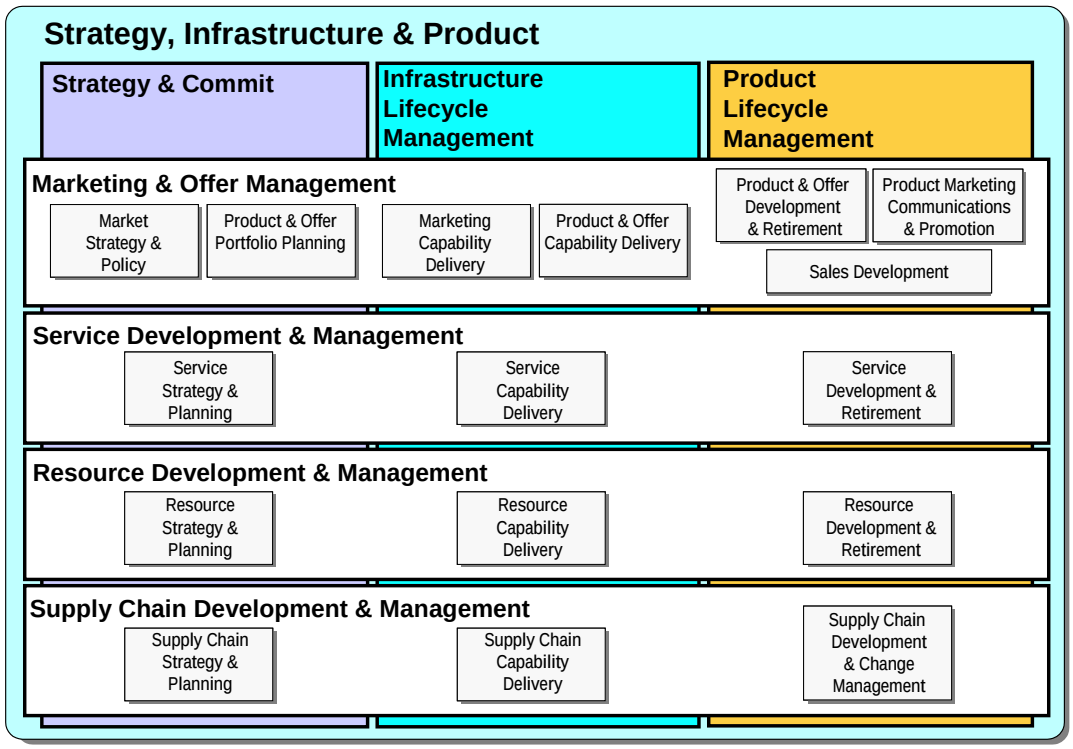

Figure 2: eTOM framework Level 2 Decompositions in SIP

If an enterprise (as an example) commits to alignment with all the Level 2 process elements within the "Resource Development & Management" and "Service Development & Management" horizontal Level 1s (see Figure 3, where the area included is within the red box), it can focus its alignment at Level 2 (and below) and can then make a free choice on grouping the Level 2 process elements together.

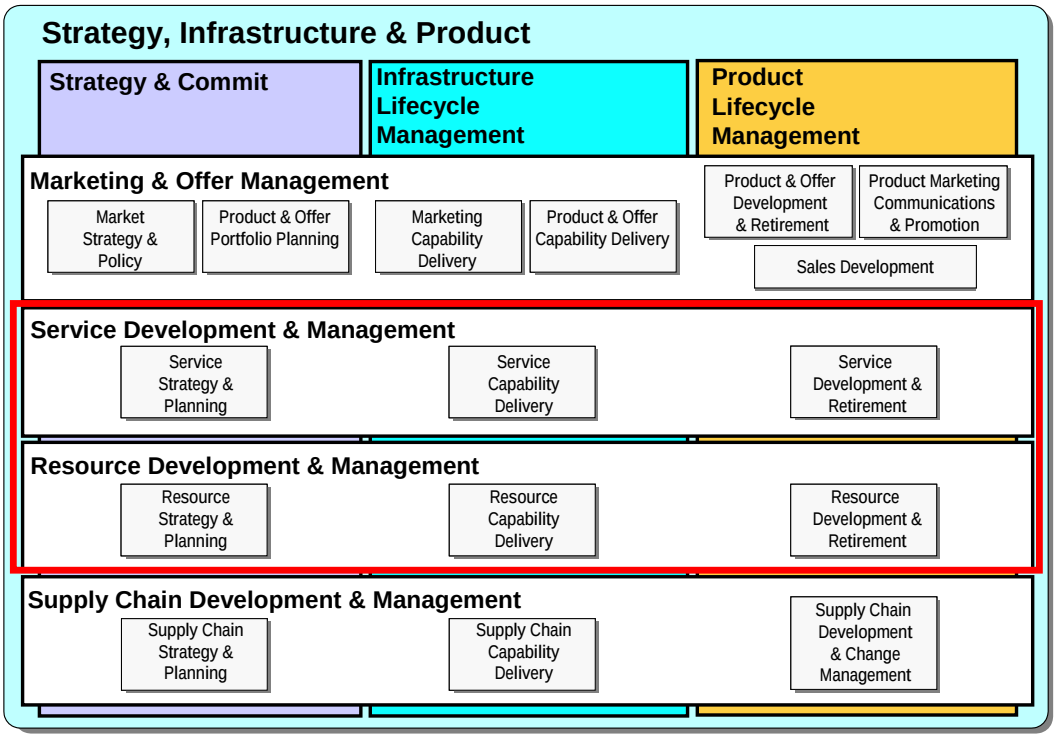

Figure 3: Enterprise focus within the eTOM framework (example)

For example, if this enterprise has a "Service & Network Infrastructure" department (say), it might then choose to bound the scope of this department in process terms as shown in Figure 4, where the blue box represents this department. Note that such a grouping is not itself aligned with the eTOM framework at Level 1 in the affected area, but that here alignment is achieved at Level 2.

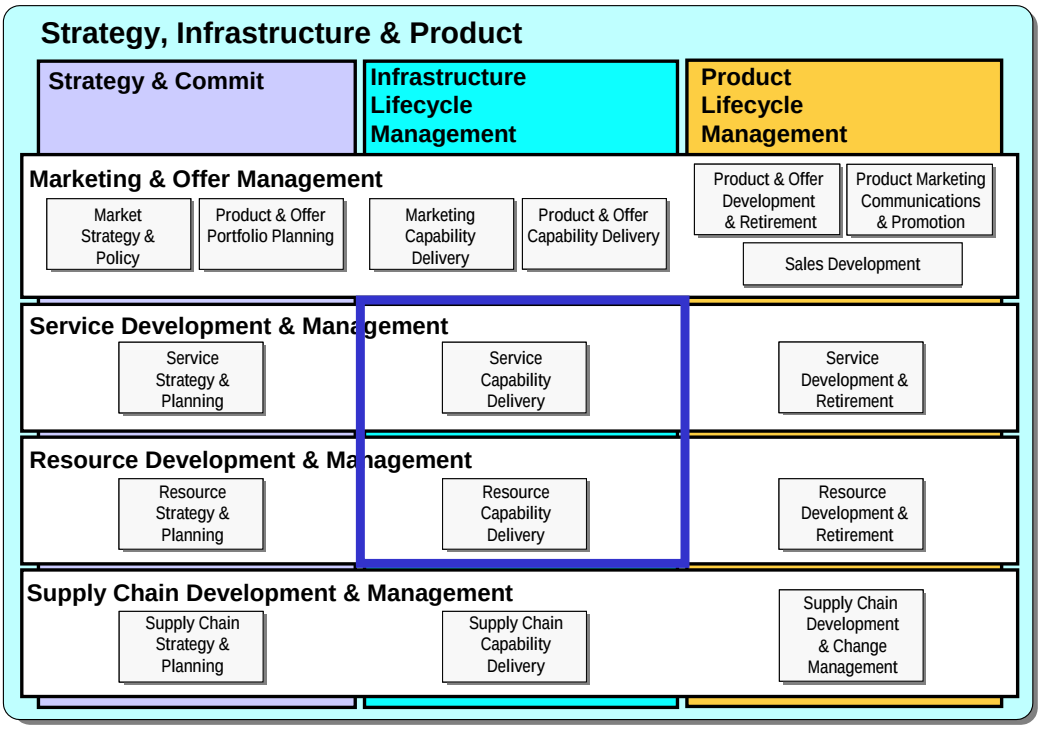

Figure 4: Overlay on eTOM framework for an enterprise department (example)

To extend the example, let us now generalize this situation and assume that the enterprise widens its commitment to alignment at Level 2 to embrace the whole of the "Strategy, Infrastructure & Product" area, (ie the whole scope shown on Figure 1).

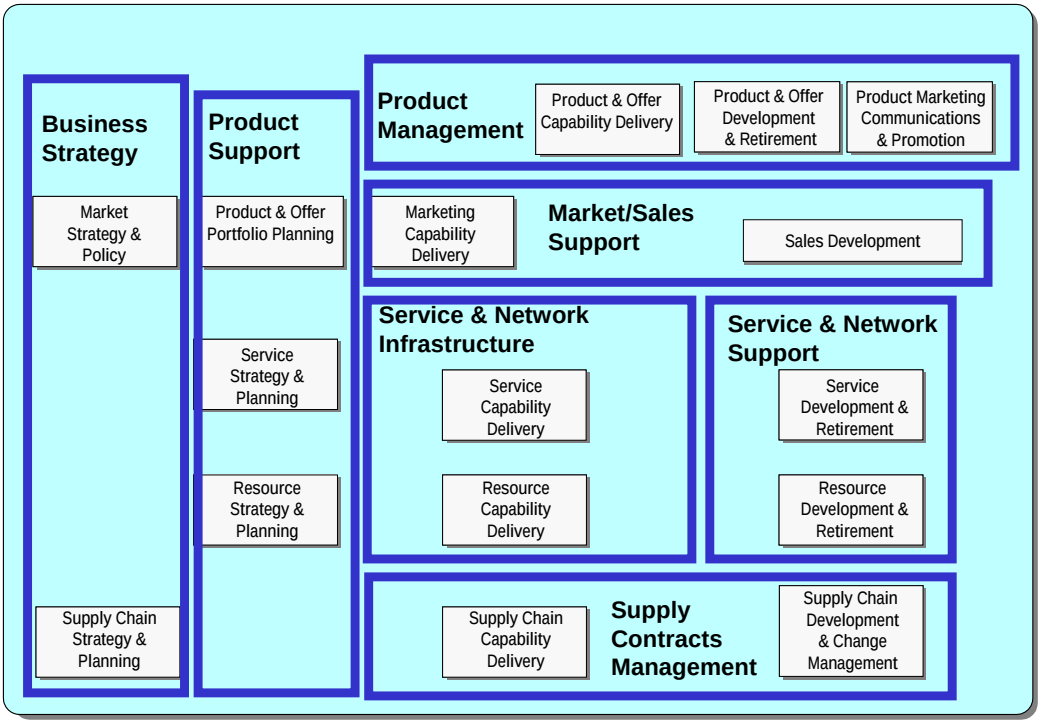

Figure 5: An enterprise departmental mapping to eTOM framework Level 2s

This would lead to a similar mapping being made into other departments within the enterprise, and the result might then look something like the structure shown in Figure 5.

Here, the enterprise has chosen to group the various Level 2 process elements under its different departments as shown - we assume because of organizational choices that are appropriate to its business, As a result, the individual horizontal (and vertical) Level 1s that we saw in the previous Figures are no longer visible, and instead more appropriate and convenient groupings have been developed for this enterprise's situation. For this example, though, all the original Level 2 process elements are maintained (and shown close to their original positioning, which is just to make it easier to see here what has happened), and so this enterprise is still fully aligned with the eTOM framework, at Level 2, across the area concerned - ie, in this case, the whole "Strategy, Infrastructure & Product" area (of course, it will not always be the case that alignment will apply for all the original process elements, as in this example).

As a fundamental and crucial point, note that this has not disturbed the original eTOM framework's role as a decomposition hierarchy. The original hierarchy still applies, for this purpose, within this enterprise. The decomposition tree of the eTOM process elements is as it was – they have simply been grouped together in an alternative "view" that maps into the process detail. For the example, we have seen how this view has evolved through Figures 2 to 4, and is then established in Figure 5. To emphasize again, the view in Figure 5 has had no impact on the eTOM decomposition tree – "Service Capability Delivery" (for example) is still a child of the parent Level 1 "Service Development & Retirements", and the new departmental grouping shown in Figure 5 "Service & Network Infrastructure" is not a new Level 1 process element, since it has no place within the process decomposition hierarchy. Its actual status is a matter for the enterprise concerned, but an appropriate choice might be to regard it as an organizational element, ie analogous to a process element but representing a reflection of organizational groupings and structure (or other needs of the organization) rather than process concerns per se. More on this later.

So, if an enterprise chooses to assess alignment at Level 2 of the eTOM framework, as shown in this example, or moves on to assess alignment at Level 3 (or as the process decompositions extend, even at lower levels), there is no requirement that they position and organize these process elements within the same blocks as are visible in the core eTOM framework in Figure 1. It is a matter of their own convenience how they gather together the lower-level (ie Level 2, Level 3, etc) process elements into appropriate blocks that make sense for their own business or area of application. However, it is vital for alignment that the standard eTOM framework lower-level process elements, as defined within GB921D, are used. It is also worth noting that this approach can apply at any level of decomposition, not just in regrouping L2s within new structures that replace L1s. The same approach could be used to group L3s (or below) into such "organization elements" and the consequence would be that alignment would only apply at the level(s) where the standard eTOM framework process elements are maintained.

We will look in a moment at moving beyond this, to the implications of modifying some of these process elements in use. To lead into this, note that it is unlikely that alignment along these lines will be all or nothing across the whole eTOM framework.

An individual enterprise may find that some substantial proportion of the eTOM framework fits well with their business, and so they can adopt and align without great overhead. But may enterprises will place special emphasis on some business area, and thus will have particular view on process in the area concerned, that may mean they need to modify some of the eTOM processes in that area. This is an individual business choice for the enterprise, and it is expected that most organizations will find value in alignment across the majority of their business, but may want/need to depart in some details in some areas.

4. Modifying the eTOM Framework in use

The example examined on the previous section represented a situation where no actual modifications were made to any of the Level 2 process elements involved, when these were used within the enterprise concerned. This is not always the case, indeed it is expected that in most applications of the eTOM framework such adjustments will be needed, at least for some areas of the enterprise's processes.

It is important when assessing the scope and extent of intended process modifications, that efforts are made to contain the changes to the minimum area impacted. In practice, this suggests that such process modifications should not be made top-down In terms of the eTOM decomposition hierarchy, as shown in Figure 1). Instead, the lowest level of the decomposition hierarchy should be identified at which such changes can be associated, and the unaffected process elements (since hopefully some/many of these will remain unchanged) carried over into the new structure unmodified. Based on this, appropriate new higher-level groupings can be established, containing the chosen mix of "original" – ie unmodified – process elements together with the new/modified/extended process elements that have been introduced. This approach will maximize commonality with the standard eTOM framework and will avoid unnecessary divergence, while accommodating the required updates.

The mechanism set out in the previous section can be used to help with this. Let us take a couple of examples to illustrate how this works.

4.1. Mapping into an enterprise and organization

Firstly, let us develop an example based on existing eTOM framework processes, as explored in the previous section, but this time using process detail at Level 3, rather than Level 2.

Consider an enterprise whose business focus is not the whole of the eTOM framework, but is around Customer Service Desk or Helpdesk activities, ie within the Customer Relationship Management area of the eTOM framework. Figure 6 shows a potential scope for this, which we will take, for this example, as the "footprint" of this enterprise on the eTOM framework (note that the example sets a convenient boundary that is visible at Level 1, but often lower-level detail may be needed to expose the actual enterprise or departmental boundaries).

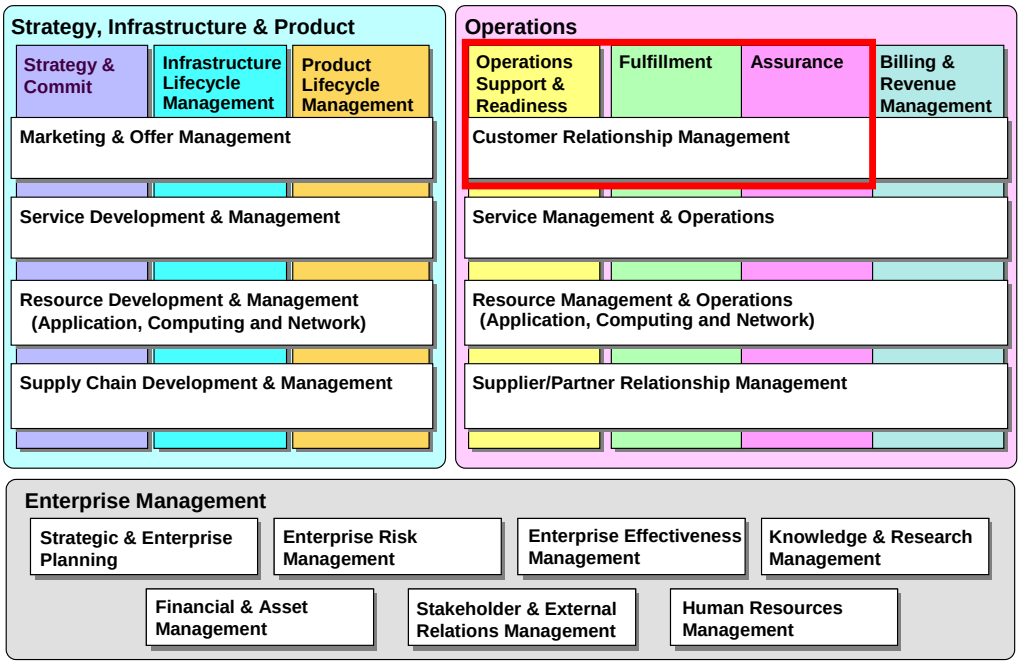

Figure 6: Example scope of a "Service Desk" business

Following the suggested approach above on exposing the lowest level of the decomposition hierarchy at which change is needed, we can expand this to look at the relevant eTOM framework Level 2 and Level 3 process elements, as in Figure 7.

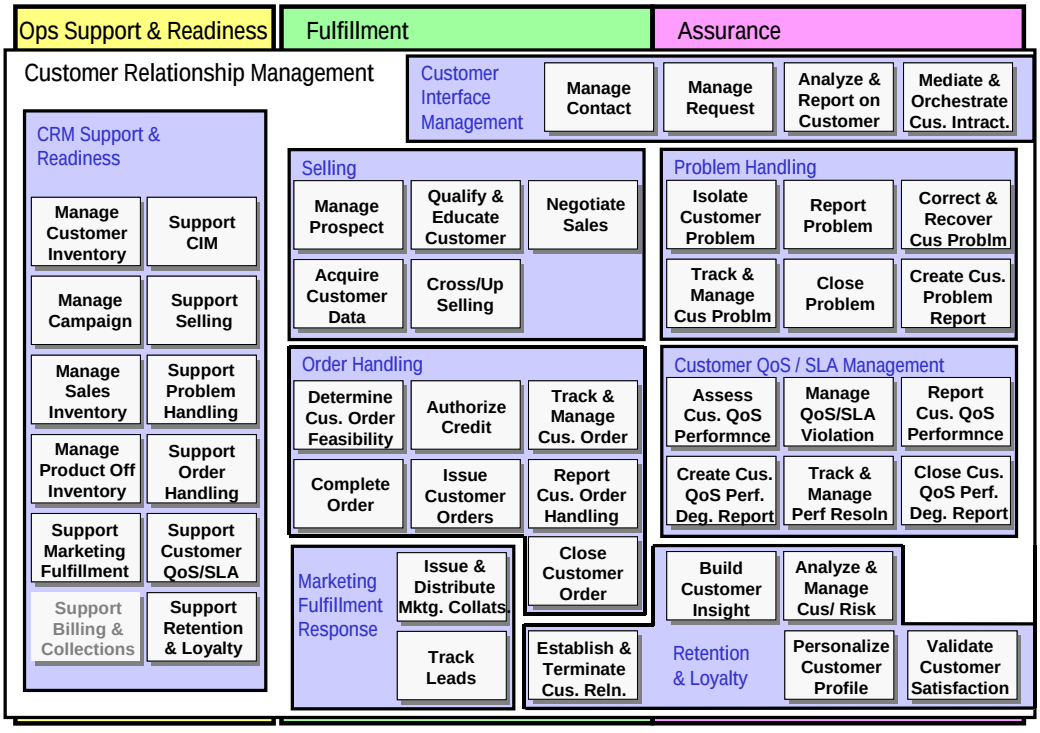

Figure 7: Scope of the "Service Desk" at Level 2/3 of the eTOM framework

Let us now assume that within this enterprise, that there is a "Customer Assurance" departmental unit, whose boundaries are as shown in Figure 8.

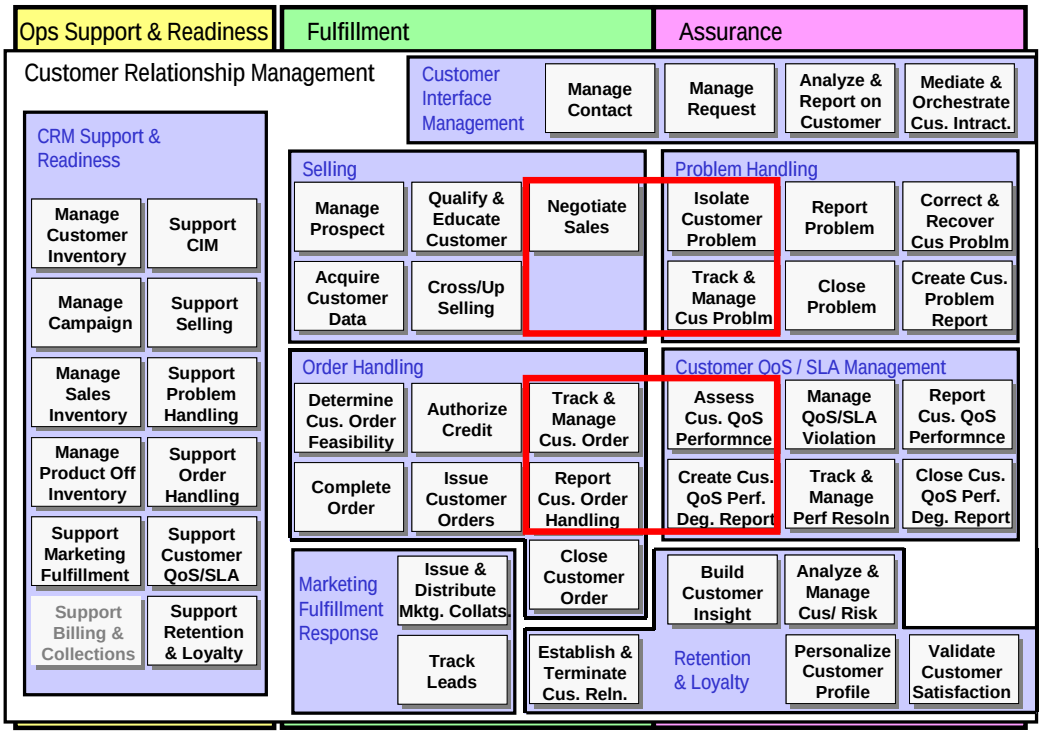

Figure 8: Footprint of scope of the "Service Desk" at Level 2/3 of the eTOM framework

Here, the union of the two red boxes is then the "footprint" of the "Customer Assurance" departmental processes on the eTOM framework. The enterprise can thus visualize the "Customer Assurance" department, as shown in Figure 9.

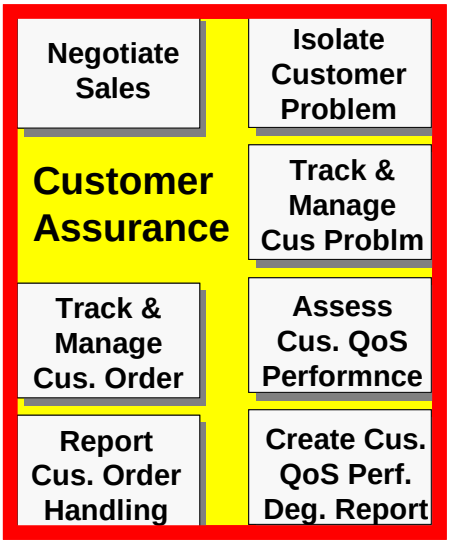

Figure 9: Process scope/boundary of this "Customer Assurance" department

This visualization can then be "overlaid" on the standard eTOM view to highlight where the existing process structure is maintained, and where the new grouping deviates from the original, as shown in Figure 10.

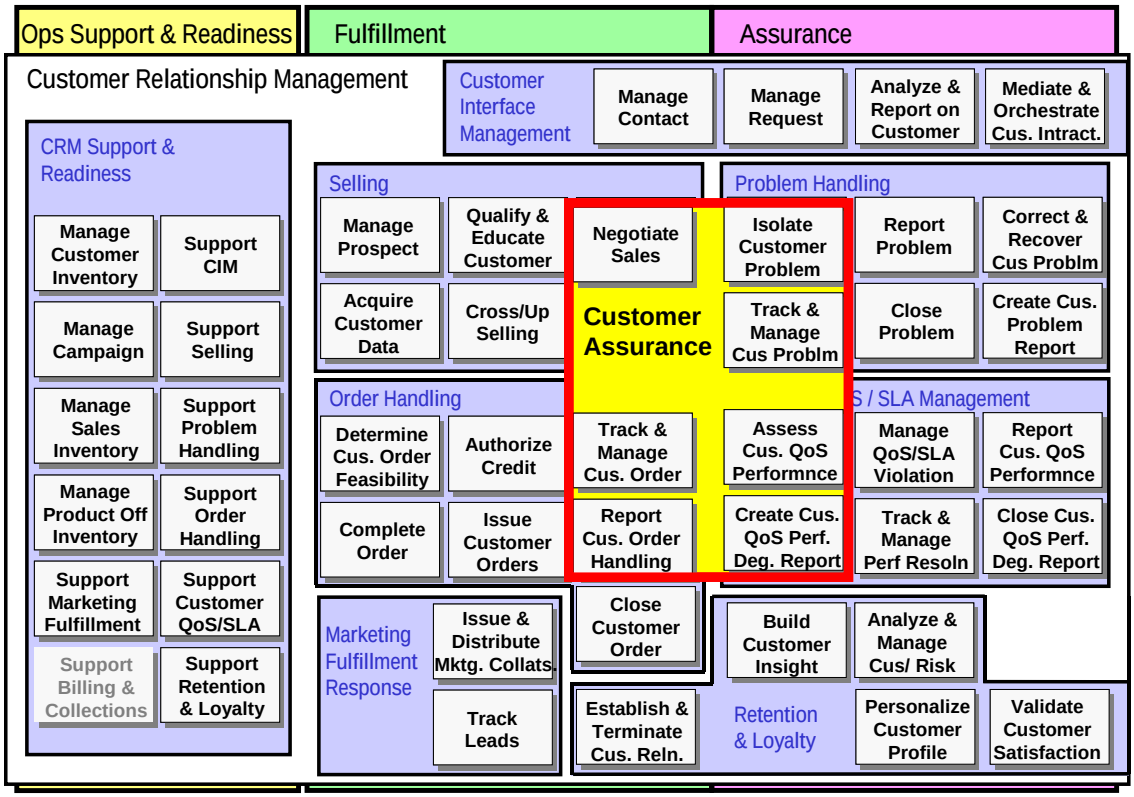

Figure 10: Process scope/boundary of this "Customer Assurance" department

Note that Figure 10 needs careful interpretation - it is no longer a pure process decomposition view, since that remains as shown in Figure 7 (which is derived directly from the eTOM framework decomposition hierarchy). Instead, it is a hybrid view that maintains the original eTOM framework hierarchy in the areas where restructuring has not been applied, and which highlights the restructured area (ie "Customer Assurance") so that the extent of alignment, and of restructuring, is clear. By inspection (and through supporting documentation, in a real case), we can confirm that at Level 3 the seven original eTOM process elements now shown as positioned within the "Customer Assurance" department are unchanged, and so alignment with the eTOM framework at Level 3 has been maintained. Moreover, we can also conform that much of the original Level 2 and Level 1 structure has also been maintained, and it is only in the area of these seven regrouped process elements that there is deviation from the original eTOM framework structure. As emphasized in the previous section, note again that none of this has disturbed the original eTOM framework decomposition hierarchy, and the seven affected Level 3 process elements are still positioned as thy were originally within this decomposition hierarchy, and their process definitions, content and scopes, etc, have not changed.

It is important to recognize the value of handling structural changes in this way – we have maximized the linkage with the original eTOM framework view, while allowing flexibility to accommodate necessary change. This approach supports a free mapping of eTOM framework process elements into an arbitrary organizational structure, so that enterprises are free to arrange departmental boundaries without departing from the standard eTOM framework.

4.2. Reorganizing and adapting TOM framework processes in an enterprise

However, let us develop this example further and consider what happens when the enterprise concerned decides that it needs to modify or adapt some of the eTOM framework processes, and so will deviate from the original process scope and content, in some areas.

We will take the same enterprise and the same "Customer Assurance" department, and let us assume that we progress through the analysis shown in Figures 6 to 8 as before. This time, though, the enterprise decides that the overall scope of "Customer Assurance" is as previously, but that the process decomposition within this must be modified. This may be because some additional or changed functionality is required, compared with that defined within this area of the eTOM framework, or because it is found convenient to divide the process content differently, say to make definition of detailed process ownership within the "Customer Assurance" department easier or more visible. Whatever the reason, the enterprise now visualizes processes within the "Customer Assurance" department as shown in Figure 11.

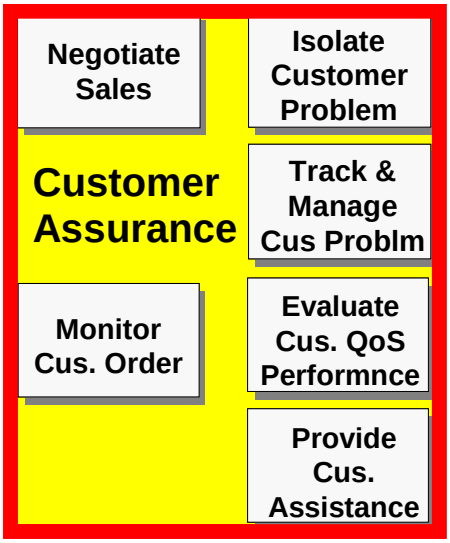

Figure 11: New process structure within the "Customer Assurance" department

Again, by inspection (and through supporting documentation, in a real case), we can confirm that the upper group of three Level 3 process elements is unchanged, However, the original lower group of four process elements have been replaced by three new process elements: "Monitor Customer Order", "Evaluate Customer QoS Performance", and "Provide Customer Assistance". As for all process definitions. It would be necessary to consult the documentation (in this case, within the enterprise, since these new process elements are defined there) to be clear on what the scope and content of these is. The intent on the example, though, is that these three new process elements together have the same scope and boundaries as the four original process elements that they replace. Of course, less straightforward cases can arise in real situations, but the example demonstrates the mechanism. Note also that Figure

11 does not immediately represent a decomposition hierarchy. The three new process elements are not part of the eTOM framework decomposition hierarchy, but the enterprise concerned may choose to associate these with its own derivation of the standard hierarchy, so as to maximize the benefits of aligning with the standard. The upper group of three Level 3 process elements, which have not been changed, are of course still defined by the standard eTOM framework decomposition hierarchy.

Based on this, we can now look at the revised view of the "Customer Assurance" department against the rest of the enterprise and the eTOM framework, as shown in Figure 12.

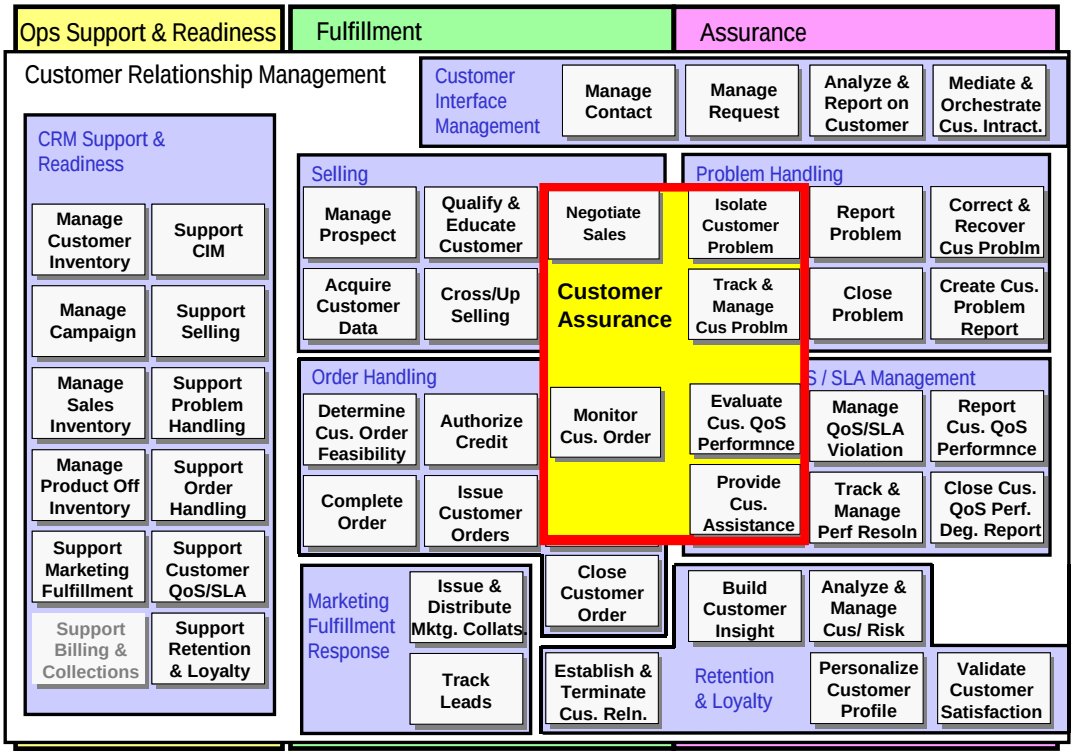

Figure 12: New process scope/boundary of "Customer Assurance" department

4.3. Process Elements and Organizational Elements

Again, we must be careful in interpreting a diagram such as Figure 12, which is a hybrid view similar to that shown previously in Figure 10. As with this previous example, here again we have maximized the linkage with the original eTOM framework view, while supporting a mechanism that allows necessary change.

Note that visually this new "Customer Assurance" grouping is positioned – at least, broadly – alongside existing Level 2 process elements like Problem Handing, that are maintained unchanged from the original eTOM framework decomposition hierarchy. There is therefore a temptation to refer to "Customer Assurance" here as "Level 2".

While this is understandable, we must be very careful to qualify any such reference. As set out here, "Customer Assurance" is not a Level 2 process element, since it does not exist within the eTOM framework decomposition hierarchy. For situations like this example, the usage "organizational element" was suggested earlier. Although in many, if not most, cases, new groupings like this are the result of organizational issues, it may be in some situations that there are purely process reasons for deviating from the eTOM framework in this way, or indeed this arises due to other causes that are not simply organizational. For simplicity, it is suggested that "organizational element" is used as a catch-all term, since such groupings will emerge to support the needs of an organization even if these are not directly to do with organizational structure.

Following this, we might then refer to "Customer Assurance" as a Level 2 organizational element, and we can then note that Figure 12 might be regarded as a hybrid model view that contains a component mix of predominately Level 2 process elements (together with their Level 3 process elements), and a single Level 2 organizational element, (ie "Customer Assurance"). Moreover, we can note that in Figure 12, the "Customer Assurance" Level 2 organizational element has itself a component mix of Level 3 process elements (ie the upper group of three Level 3 process elements, which have carried over unchanged from the eTOM framework decomposition hierarchy) and three Level 3 organizational elements (that are, of course, defined by the organization/enterprise concerned), viz, "Monitor Customer Order", "Evaluate Customer QoS Performance", and "Provide Customer Assistance".

The distinctions drawn here may seem pedantic, but it is vital to keep separate the "standard" eTOM framework process elements, as defined with in the decomposition hierarchy, and the modifications made by individual organizations/enterprises in applying the eTOM framework within their business domain. It is therefore recommended most strongly that users qualify the use of "Level1", "Level 2, "Level 3", etc as process elements or organizational elements, to avoid confusion between these. This is particularly important since, where changes are made, diagrams like Figure 12 will arise naturally, and it will otherwise be easy to lose track of where there is alignment is the eTOM framework, and where these has been modification, extension, etc.

We can take this a bit further, to formalize the role and use of these process elements and organizational elements. To do this, let's consider some different cases that arise in application.

4.3.1. Extending the eTOM Framework

Let's first take the situation where a user organization decides to extend the existing eTOM framework. Two sub-cases of such "pure" extension can be identified:

- Extension below the published level of detail within the eTOM framework, to define new process elements at this new level (or levels, if this continues)
- Addition of new process elements at an existing published level of detail (presumably because some missing area of functionality has been found)

For the first case above, where a user organization decides to extend into new decompositions below the published level of detail, then as long as no discrepancy is introduced with the process descriptions in the higher, published levels, then this will create no misalignment with eTOM. Note though, that as eTOM evolves and (presumably) eventually publishes decompositions that are at this new level, then misalignment may then emerge, unless the decompositions chosen by this user turn out to be identical to those eventually published. Such forward alignment is unlikely to arise by chance, so it is for each user organization to decide on the appropriate strategy to handle this. In general, users are encouraged to bring their insights into new process detail like this back to the evolving TM Forum eTOM work, to influence how the eTOM Framework is extended as a standard, and ensure that their investment in the particular decompositions selected, is maintained as the eTOM framework continues to evolve. This is a judgment for each user to make for themselves. Note that these new elements, defined by the user below the published level of detail, can be considered as process elements, since they are properly part of the eTOM framework decomposition hierarchy. However, these are custom or enterprise-specific process elements, since until (and if) they are agreed and published within the standard eTOM framework they are not part of the standard decomposition hierarchy. If we look at Figure 7, and consider an extension below this published level of detail (Level 3) for a specific process element, then a user organization might choose to extend "Cross/Up Selling" within "Selling", with a set of Level 4 process elements for this. Figure 13 shows a possible set of candidate Level 4s for this process element. Until the eTOM framework is extended by TM Forum to publish Level 4s in this area, then such extension creates no misalignment with the standard eTOM framework.

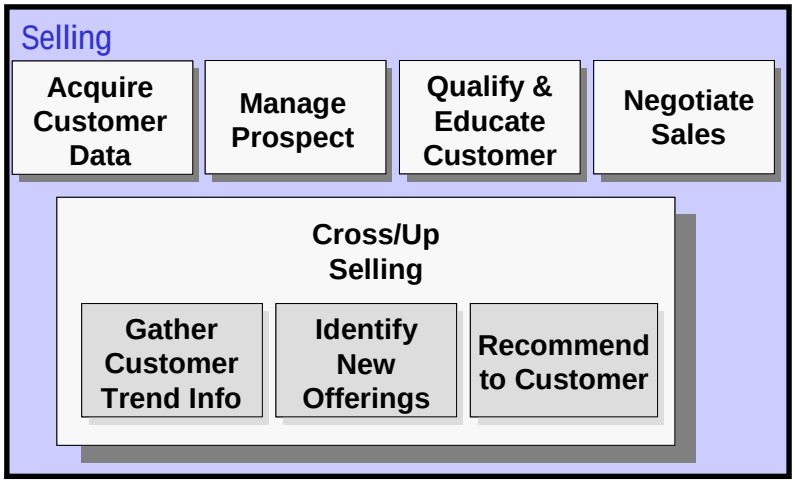

Figure 13: Candidate Level 4s within Cross/Up Selling

For the second case above, where a user organization decides to add new process elements at an existing published level of detail, alongside those already defined in the standard decomposition hierarchy, then care is needed to ensure: that the scope of the new process elements is disjoint from existing process elements at the same level, and also disjoint from each other (since it is a design principle of the eTOM framework not to replicate process content). This also highlights that a close check should be made that these new process elements are actually needed, and that there is not some misunderstanding over whether the necessary process support is already in place within the existing process elements. It is recommended that the topic is

explored through the TM Forum eTOM work if possible. Again, these new elements defined by the user can be considered as process elements, since they are properly part of the eTOM framework decomposition hierarchy. However, again these are custom or enterprise-specific process elements, since until (and if) they are agreed and published in the standard eTOM framework they are not part of the standard decomposition hierarchy. Note that it is feasible that new process elements can be added at any level of the existing decomposition hierarchy, not just at the lowest published level of detail – ie at the "leaves" of the (inverted) decomposition tree. However, it is strongly emphasized that at higher levels are more radical and so changes should be focused as low down the decomposition hierarchy as possible.

For both the cases identified above, adding new process elements requires some care, to ensure that these do not disrupt the decomposition hierarchy. Again, to avoid any misunderstandings, note that where a user organization decides to modify the decomposition hierarchy, this may potentially create a misalignment with the eTOM framework, and the resulting modified hierarchy will represent a custom or enterprise-specific decomposition hierarchy, particular to that user or domain of application. Users may therefore find that the alternative of defining organizational elements may avoid difficulties in misalignment with the eTOM framework.

As already mentioned, where a user does decide to define new process elements, there are some design constraints that must be adhered to. To formalize these:

- a new process element must be defined with a single parent within the decomposition hierarchy. This parent may be an existing (standard) process element, or may be an adapted or new process element that has previously been defined/added within the decomposition hierarchy
- a new process element must be defined with a scope and content that is disjoint from other process elements within the resulting process hierarchy, except that it contributes a (disjoint) part to the process scope and content of its (single) parent process element, and that its own children (when defined) contribute part of its scope and content in the same way
- Where one or more new process elements replace existing process elements, then these must entirely address the replaced process scope and content (so that the decomposition from the relevant parent process element is not left incomplete), except where the relevant parent process is itself modified as part of the overall exercise

The first requirement means that a process element cannot mix parts of two higher-level process elements. If mixes arise, then the result is an organizational element since it is not part of the decomposition hierarchy.

The second requirement means there can be no "overlaps" between process elements, either amongst the new ones or with respect to existing ones. If overlaps arise then the result is organizational elements, since otherwise the principle of no replication of process content would be violated.

The third requirement means that after these modifications there must be no "gaps" between process elements (so that the decomposition of each process element to the next level fully covers the scope and content of that parent process element). If gaps arise, then the result is organizational elements since these do not represent a complete decomposition.

Again, it is emphasized that modifying the decomposition hierarchy in this way needs great care, as it is easy to break the link with the core eTOM framework and lose the benefits of alignment with the standard process model.

It is strongly recommended that modifying the process decomposition hierarchy (to define new process elements as discussed above, so as to produce a custom hierarchy for the organization concerned), is not attempted at the higher levels of the hierarchy, and that any such adaptations are deferred to the lowest published level of detail. As an alternative, the mechanism of defining organizational elements offers a non-disruptive way of grouping processes in any desired structure, and is the preferred route certainly at the higher levels. This is not to say that modifying the decomposition hierarchy at the higher levels is forbidden, but the consequences for misalignment with the eTOM framework are more widespread, and so it is suggested that there would need to be overwhelming business or technical reasons to make this worthwhile.

In both the cases discussed above for extending the eTOM framework, the process elements in the standard decomposition hierarchy above the area of change (ie at a higher level) have so far been assumed to be undisturbed by the new extensions, so that the user has been able to add the new process elements and leave the existing process elements above this unchanged. Essentially, this equates to confirming that the process descriptions of existing process elements do not need to be modified, or extended, to accommodate the functionality of the new process elements (which is handled by inspecting the published process descriptions and considering the impact of the proposed extensions). It will not always be found that existing process descriptions cover the new circumstances, particularly for the second case above where new process elements have been added at an existing published level. If it is found necessary to extend or modify the scope (ie description) of the "parent" process element (ie at the next highest level) to acknowledge the new functionality represented by the added process elements at the level below, then the affected parent (ie existing) process element must be regarded as undergoing adaptation by the user for the application involved. This is addressed in the next section.

Note that further possibilities also exist where existing process elements are modified or regrouped, along the lines of the examples shown in previous sections, but these can be categorized as adaptations of the core eTOM framework, rather than pure extensions, as above. This is addressed in the next section.

Before moving on to look at adaptations, let's consider an example where a user identifies a need to extend the eTOM framework, because an area of missing (or perhaps implicit, rather than explicit) functionality has been found. For this example, consider that a user has identified a need for a process focused on Competitor Analysis. This would represent the gathering and processing information on actual and potential competitors for some area of business, and consequent decisions on strategy and tactics to meet this competition in the marketplace

If we look at the discussion above, we need to evaluate what the scope of this potential process is, whether there is overlap with existing process elements, and where it should be positioned. Examining the actual eTOM framework, we can see that there are a number of existing process elements that relate to this area of Competitor Analysis: eg within "Product & Offer Development & Retirement", the "Develop New Product Business Proposal" includes "*an assessment of the risks and the competitive positioning of the product proposal*". In some cases, there are process elements that address market-related issues, but do not draw out competitors explicitly as part of this, eg "Gather & Analyze Market Information" covers analysis of the market, although it does not mention competitors as an aspect of this.

So, there are judgments to be made on whether "Competitor Analysis" is already addressed (even if not explicitly) or whether this has been omitted. A user organization can make this assessment itself, but it is worth noting that in an example such as this, there is not a clear-cut answer, and so there can be value in bringing the issue back to TM Forum, either to discuss how best to deal with this, or to contribute a conclusion that can improve and clarify this area for future publication. For this example, one user organization might judge that the existing process elements provide an acceptable structure to handle the competitor analysis issue, but that some additional clarifying text is needed to make explicit, say, that "Gather & Analyze Market Information" definitely includes the gathering of competitor information. Another organization, making the same analysis, might judge that it is preferable to introduce one or more new process elements, alongside existing ones, to address the competitor analysis area. In that case, the design principles set out above on adding new process elements must be adhered to, to remain consistent with the eTOM framework design approach. So, it would be necessary to deal with the explicit inclusion of any competitor-related content in the existing eTOM framework processes, such as that noted above for "Develop New Product Business Proposal". Any new process elements would need to exclude this aspect since it is already covered in an existing process element, or the existing process element would need to be customized to remove the competitor aspect so it could instead be handled within a new process element (this takes us again into adaptations as addressed in the next section).

Either of the approaches suggested above (and some others too) on accommodating the topic of competitor analysis are feasible, and the best approach would need to be evaluated on a case-by-case basis. It is evident that we are in a grey area here, and this is inevitable at some point when we recognize that the process descriptions within the eTOM framework are written in natural language and that ambiguities and lack of explicit detail are therefore bound to arise. This is not an excuse for lack of clarity, but improvements that avoid these problems can only be made when difficulties are discovered and highlighted. Ideally, a user dealing with this issue would contribute to the ongoing eTOM work so the issue can be fixed.

4.3.2. Adapting the eTOM Framework

As noted in the previous section, as well as extending the eTOM Framework, there can be reasons to adapt the existing process elements. Adaptation involves modifying or specializing existing process elements, so that these are no longer fully aligned with the eTOM standard. It is feasible that such changes can arise at any

level of the eTOM framework, but note that changes at higher levels are more radical and so changes should be focused as low down the decomposition hierarchy as possible.

It is assumed that the adaptation will aim to preserve as much of the existing process decomposition hierarchy as is feasible in the circumstances, but no specific constraints are placed on the user concerning what is preserved and what discarded or replaced. It is an individual business judgment to balance the benefits of alignment with the eTOM framework as a standard, with whatever needs have led to the adaptation. However, there are opportunities to avoid unnecessary divergence.

The idea of organizational elements, as previously discussed, can be seen as one way of introducing adaptation while minimizing divergence. Organizational elements do not, in themselves, create any divergence from, or misalignment with, the Business Process Framework. They can be visualized as overlays on the existing process decomposition hierarchy, and so do not modify existing process scope or content. The example in Figure 10 showed a situation where a new organizational element (Customer Assurance) grouped existing Level 3 process elements from the standard process decomposition hierarchy to assist in setting organizational boundaries. In this example, no misalignment with eTOM resulted.

A variation on this theme was shown in Figure 12 where four existing Level 3 process elements were discarded and replaced by three new elements that were categorized as organizational elements, since these were not part of the decomposition hierarchy. This was valid, but we can note now with the further insights developed that there is a possible refinement where these new elements can actually take the status of process elements (albeit custom process elements, rather than standard ones), if they are defined as decompositions of existing Level 2 process elements. The same principles that were outlined in the last section apply for new process elements defined in this way: ie single parent, disjoint scope, maintained overall scope/boundaries. Also, as before, it is strongly recommended that modifying the process decomposition hierarchy (to define new process elements as discussed above, so as to produce a custom hierarchy for the organization concerned), is not attempted at the higher levels of the hierarchy, and that any such adaptations are deferred to the lowest published level of detail. As an alternative, the mechanism of defining organizational elements offers a non-disruptive way of grouping processes in any desired structure, and is the preferred route certainly at the higher levels.

Finally, it is possible that combinations of the cases identified here could arise – ie some mix of new process content and/or extension into new decompositions, together with existing and/or adapted process elements.

So, to sum up, we here distinguish where new or modified content is positioned as process elements or organizational elements. What has been emphasized is that process elements are positioned within the decomposition hierarchy, and that an additional flexibility is provided by organizational elements that typically are positioned within the sort of hybrid view shown in Figures 10 and12.

5. Applying the approach

What we have seen in the previous sections forms the basis to a powerful approach for accommodating flexibility in how the process elements within the eTOM framework are grouped and structured to provide a natural and relevant arrangement for the enterprise or user community concerned. As the TM Forum membership and scope widens, this is a vital enabler to ensure we can retain and develop the existing eTOM decomposition hierarchy, essentially as a process design framework, without constraining the application and view of the eTOM framework that is appropriate for specific users.

We have seen how this can work for individual enterprises as users, but let's see an example that represents a view from an industry area or sector that can apply and use the eTOM framework.

Some time ago, the Global Billing Association (GBA) joined with TM Forum and their work in the Charging and Revenue Management arena has led to the "Revenue Management Map" shown in Figure 14.

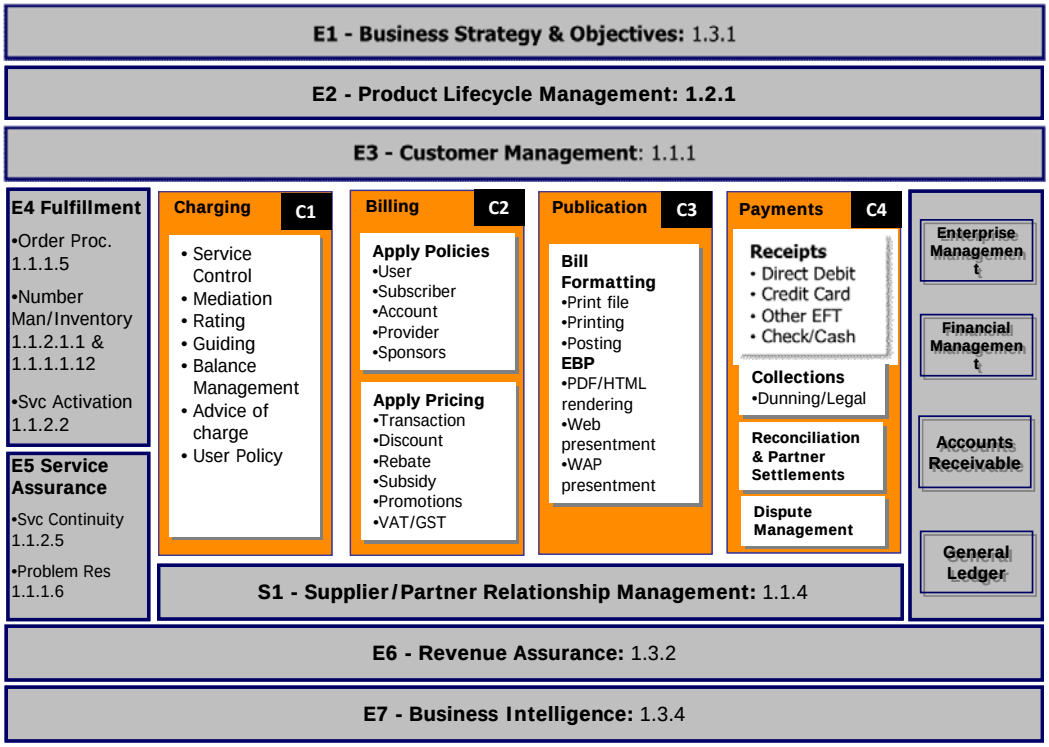

Figure 14: Revenue Management Map

At first sight, this view of processes involved with and related to Charging appears to be largely disconnected from the eTOM framework. However, with closer analysis it transpires that there are only minor differences when the detail is examined, and it is in the organization and structure shown in Figure 13 that a different view is being taken.

Based on what we have seen in previous sections here, it is now straightforward to manage this structural view along the lines set out earlier, and to identify where there are any minor process differences within this. These can be contained in the way shown in this document, but in fact this work is being taken as an opportunity to capture new insight from the Revenue Management community and to use this to update and improve the core eTOM framework. As a result, process differences are a transient issue, and in fact the requirements of the Revenue Management Map will be folded into an updated eTOM framework. Note that this is not suggesting any substantial change to the overall eTOM framework view (eg in Figure 1), since we now have the flexibility to support the Revenue Map as a view into the eTOM process detail, that portrays a convenient structure for, here, the Charging and Revenue Management community, while allowing the core eTOM framework and the decomposition hierarchy, to be maintained as a general-purpose capability.

The initial mapping of process detail for the Revenue Management Map is now well-advanced, and the overview of this is shown in Figure 15. Note that only the key Charging areas (ie in the highlighted central part of Figure 14) are in scope for this.

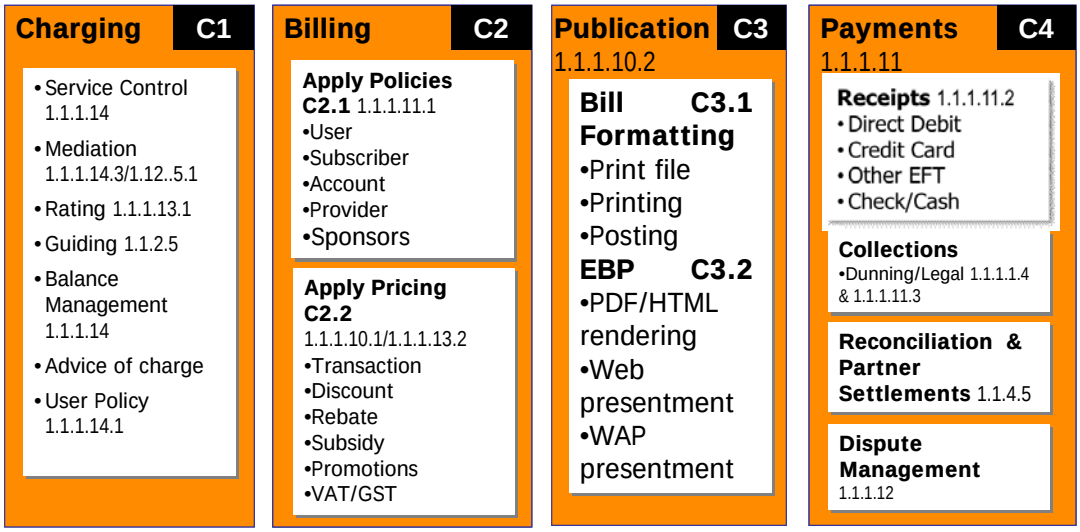

Figure 15: Revenue Management Map links to the eTOM framework

Note that the numeric keys in Figure 15 are process identifiers within the eTOM framework, showing which eTOM framework process elements support the requirements of that part of the Revenue Management Map.

It must be emphasized that this is work in progress, and that there are variations here in the level of detail that has been analyzed in identifying the linkages, so some linkages are at a higher level than others. It is likely that these can evolve to more detailed linkages as the work progresses, but this serves to illustrate how a view can be developed that exploits the flexibilities and opportunities discussed in this document.

To close the loop on the view here, Figure 15 shows how the areas identified within Figure 16 – which are essentially organizational elements as defined in earlier sections – can then be mapped back to the decomposition hierarchy of the eTOM framework, to form a hybrid view. As a side note, in fact, in this case the areas within

scope for Revenue Management are entirely captured as organizational elements, other areas of the eTOM framework being out of the desired scope. So, the footprint of the Revenue Management Map will be entirely an organizational view (which is, of course, a special case of a hybrid view).

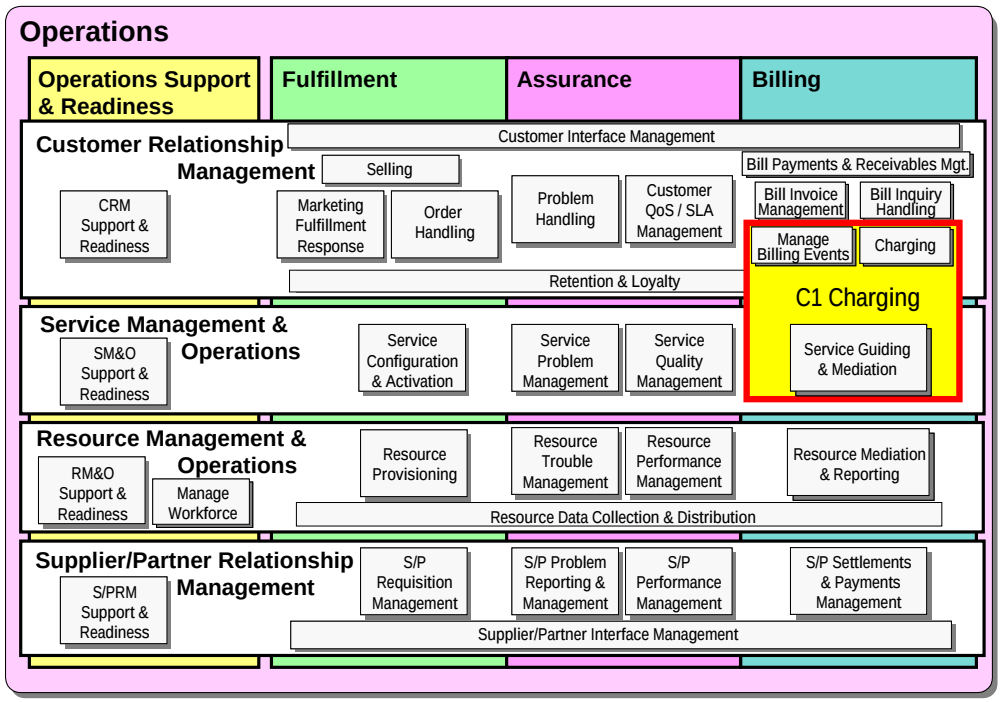

Figure 16: The Revenue Management Map footprint

Figure 16 uses the Operations area of the eTOM framework, with Level 2 process elements, as the background to show how one of the major organizational elements in the Revenue Management Map, that for C1 (Charging), maps onto the decomposition hierarchy. Note again that this is work in progress and further analysis will clarify detail around this mapping.

6. Conclusions

The TM Forum's Business Process Framework (eTOM) is a flexible tool for supporting enterprises in analyzing and documenting their business processes, and provides a terminology and a set of process elements that can be used internally and externally for discussion and agreement.

This document has set out to explain how additional flexibility can be supported around the core of the Process Framework's decomposition hierarchy, and how alignment can be maintained or maximized while allowing each enterprise or area of application the freedom to portray their own preferred arrangement of the core process elements. The contrast between the process elements that relate to the Process Framework's own decomposition hierarchy, and other elements that reflect organizational or other needs, has been set out, and ways of using this have been explained.

Finally, a real-world application of these ideas in conjunction with the Revenue Management Map, that has been developed elsewhere within the TM Forum's work program, has been demonstrated.

7. Administrative Appendix

This Appendix provides additional background material about the TM Forum and this document. In general, sections may be included or omitted as desired, however a Document History must always be included..

7.1. 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 frameworks such as the eTOM Business Process Framework, 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.

7.2. Document History

7.2.1. 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>

Version Number	Date Modified	Modified by:	Description of changes
Version 0.1	Sept 2008	Mike Kelly	First draft
Version 0.2	Oct 2008	Mike Kelly	Full draft
Version 0.3	Oct 2008	Mike Kelly	Added section 4.3, and updated terms
Version 0.4	Oct 2008	Mike Kelly	Added new material in Section 4
Version 0.5	Oct 2008	Mike Kelly	Further new material in Section 4 & 5. Name changed to "Guide to Applying the Business Process Framework (eTOM)"
Version 0.6	Oct 2008	Mike Kelly	Added conclusions
Version 0.7	Nov 2008	Tina O'Sullivan	Minor updates prior to

			posting.

7.2.2. Release History

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

Release Number	Date Modified	Modified by:	Description of changes
8.0	Oct 2008	Mike Kelly	New document

7.3. About TM Forum

TM Forum is a global industry association focused on transforming business processes, operations and systems for managing and monetizing on-line Information, Communications and Entertainment services. It has over 650 member companies in 65 countries across the converging industries of telecom, cable, media and the Internet. Its mission is to help enterprises 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 operations and business processes.