Business Process Framework (eTOM)

Addendum U: User Guidelines for the Business Process Framework

GB921 Addendum U

Version 1.7

September, 2012

Notice

No recipient of this document and code shall in any way interpret this material as representing a position or agreement of TM Forum or its members. This material is draft working material of TM Forum and is provided solely for comments and evaluation. It is not "Forum Approved" and is solely circulated for the purposes of assisting TM Forum in the preparation of final material in furtherance of the aims and mission of TM Forum.

Although it is copyrighted material of TM Forum:

- Members of TM Forum are only granted the limited copyright waiver to distribute this material within their companies and may not make paper or electronic copies for distribution outside of their companies.
- Non-members of the TM Forum are not permitted to make copies (paper or electronic) of this draft material other than for their internal use for the sole purpose of making comments thereon directly to TM Forum.
- If this material forms part of a supply of information in support of an Industry Group Liaison relationship, the document may only be used as part of the work identified in the Liaison and may not be used or further distributed for any other purposes

Any use of this material by the recipient, other than as set forth specifically herein, is at its own risk, and under no circumstances will TM Forum be liable for direct or indirect damages or any costs or losses resulting from the use of this material by the recipient.

This material is governed, and all recipients shall be bound, by all of the terms and conditions of the Intellectual Property Rights Policy of the TM Forum (http://www.tmforum.org/Bylaws/1094/home.html) and may involve a claim of patent rights by one or more TM Forum members or by non-members of TM Forum.

Direct inquiries to the TM Forum office:

240 Headquarters Plaza,
East Tower – 10th Floor,
Morristown, NJ 07960 USA
Tel No. +1 973 944 5100
Fax No. +1 973 944 5110
TM Forum Web Page: www.tmforum.org

Table of Contents

Table of Figures

Executive Summary

This document is an Application Note attached to The Business Process Framework (GB921). It is intended to provide users of the Business Process Framework (eTOM) with guidelines and information to assist them in applying the Business Process Framework within their businesses.

At this stage, this document is a work in progress, but is being released as is to provide information where available, to invite comments and suggestions for further development, and to attract interest and support for the ongoing work on adding to the content.

This release addresses one area of, and audience for, guidelines, that concerned with Practitioners and Process Architects using the Business Process Framework. It is hoped that other aspects and audiences will also be addressed in future releases.

1. Introduction

This document explains the design decisions of the Business Process Framework and sets out the principles for its application and extension in the form of Guidelines. These Guidelines are of use in two particular cases. First, for the practitioner or process architect who wants to apply the Business Process Framework in a consistent way to specific situations. Second, for assurance of auditing and traceability, in order to produce repeatable application of the Business Process Framework within an organization and to demonstrate this externally for audit purposes.

It also provides a basis for contributors to the Business Process Framework and the evaluation of contributions by the Business Process Framework team. Note that the concepts in this document have emerged throughout the development lifecycle of the Business Process Framework itself, and as a consequence, historical design decisions that are embedded within the Business Process Framework may deviate from the recommended practice herein that is intended to guide ongoing users of the Framework. The intent is to converge the practice here with the Business Process Framework as it is developed further, but users should recognize that this will be an evolving situation.

It is intended that the guidance in this document will be augmented through user experience and feedback. A list of outstanding issues is included.

1.1 Audience

The intended audience for the Guidelines is practitioners, process architects, and process auditors. The material here is advanced material - it is not introductory (as that information is available elsewhere in the Business Process Framework set).

1.2 Plan of document

The document is set out as follows:

- The principles and positions of the Business Process Framework model
- Process patterns
- Relationship of the Business Process Framework to Frameworx and the Frameworx elements

- Business Process Framework and an organization's own processes
- Guidance for extending and using the Business Process Framework
- Audit checklist

1.3 Principles and Guidelines

The Principles are shown in the following format. Optionally, a Best Practice Guideline is indicated where a recommendation is made about the way in which the Business Process Framework should be applied. Requirements for auditing purposes are also shown in this format.

Principle Business Process Framework.nn Business Process Framework is ...

2. Principles and positions of the Business Process Framework model

2.1 Introduction

This section sets out to position the Business Process Framework as a process framework and to make explicit the modeling and design choices which have been followed in its development.

2.2 A note on the status of the Business Process Framework documentation

The Business Process Framework consists of both normative and non-normative material. The normative material is the Standard; the non-normative material is included for information and guidance. In general, GB921, with its Annexes and Addenda is normative material; Appendices and Application Notes are non-normative. Thus, the Process Descriptions in Addendum D, Process Flow Examples in Addendum F, and public B2B processes in Addendum B are all part of the Standard; Application Note C on the Public B2B Business Operations Map is non-normative. Other TMF documents, such as GB939 (Business Services Examples), which include Business Process Framework material, are non-normative.

There is, however, an important distinction between the Process Elements (PEs), presented in Addendum D, and the Process Flows, presented in Addendum F. Both are normative, i.e. part of the Standard, but the Process Elements are comprehensive in scope while the Process Flows are examples.

2.3 Nature of the Business Process Framework model

The Business Process Framework is a set of Process Elements, which are organized into a hierarchical framework. The Process Elements are activity-based and the Business Process Framework is thus an activity-based process decomposition model.

Principle Business Process Framework.01 Business Process Framework is an activity-based process decomposition model.

The Process Elements in the Business Process Framework are intended as an exhaustive list; they are comprehensive in scope. It is the intent that all business activities in the Enterprise can be supported by (i.e. are able to fit within) the Business Process Framework Process Elements. Each Process Element has a detailed description that can include the purpose, inputs, outputs, interfaces, high level information requirements and business rules.

Principle Business Process Framework.02 Business Process Framework Process Elements are comprehensive for a Service Provider.

Note:

The Business Process Framework is a process model, not a state model. It contains processes, not states. For example, it contains processes for the processes of Order Handling but does not model the different states of an Order.

2.4 Process model types

In general, there are 3 approaches to the modeling of business processes. It is also possible to use a hybrid of these approaches. The general approaches are:

- activity-based process modeling
- communication-based process modeling
- artifact-based process modeling

Activity-based process modeling

Here the overall process is decomposed into tasks that are ordered based on the dependencies among them. The fundamental entity of a business process for the Activity-based approach is the unit of work and a business process is considered to be a succession of activities, or units of work, following a specific control flow.

Definition: Activity

An activity represents a unit of work performed by a party or system. Activities transform inputs into outputs and are associated with triggers and outcomes (pre and post conditions).

Principle Business Process Framework.03

A Business Process Framework Process Element is a succession of activities with a control flow.

Communication-based Process Modeling

In this approach, an action in a process flow is represented by the communication between a consumer and a provider). In the communication-based approach the communication is the message. So a business process can be expressed as an exchange of messages, or transaction, between two or more roles and every state change within a company can be associated with the processing of a message.

Artifact-based Process Modeling

In the artifact-based approach objects, or artifacts, are created, modified and used during the process and thus the model is based on work products and their paths through a series of workflow activities.

Hybrid approach to Process Modeling

The hybrid approach uses a combination of these general approaches to produce a set of models for an organization's processes. Typical models might be based on an information flow model (from the communication-based approach), a capabilities model (from the artifact-based approach) and a process-model (activity-based approach).

2.5 Characteristics of a Business Process

In general, a Business Process will have the following characteristics:

- It has a goal
- It has specific inputs
- It has specific outputs
- It transforms inputs into outputs
- It uses resources
- It has a number of activities that are performed in some order
- It creates value of some kind for the customer. The customer may be internal or external.

In addition:

- It may affect more than one organizational unit - "Horizontal organizational impact"
- Its effects on information entities can be analyzed via CRUD (Create / Read / Update / Delete)
- It may have a responsibility model for the roles associated with the process, expressable as RACI Characteristics (Responsible / Accountable / Consulted / Informed)

For a Business Process Framework Process Element:

- Goal is stated.
- Inputs may be defined.
- Outputs may be defined.
- Resources consumed may be defined.
- Activities may be specified within description
- Value should be stated.
- Affect on organizational use may be stated
- CRUD analysis may be available
- RACI analysis may be available

Principle Business Process Framework.04 (Best Practice): a Business Process Framework Process Element has a goal, value proposition, inputs, outputs. It consists of activities and uses resources. It has a CRUD and RACI model.

2.6 Decomposition

Definition: Decomposition

Decomposition is the breaking-down of a process into simpler activities.

The Business Process Framework is a decomposition model from a notional Level 0 through to Level 3, and beyond (some Level 4 process elements are now defined and are being incorporated). Additionally, many individual users are developing lower-level decompositions that extend the Business Process Framework beyond the industry-agreed level (and in due course these may feedback to extend the level of industry agreement). In order to keep the Business Process Framework to a level which is generally useful it is not intended to decompose the Business Process Framework (i.e. as managed through the TM Forum) indefinitely. It is asserted that the further a decomposition is taken, the more difficult it is to prove the uniqueness of lower level processes. However, the level at which it becomes unproductive to extend

further is not yet clear, and so decomposition continues to proceed in line with the industry's priorities and available effort.

Note:

The relationship and mapping of these Business Process Framework Levels to an organization's own processes and procedures is addressed in a later section "Organizational Context for the Business Process Framework".

Principle Business Process Framework.05 The Business Process Framework is decomposed from notional Level 0 to more granular levels – Levels 1, 2 and 3 (and some of level 4) are addressed so far. An agreed end-point (i.e. a level below which decomposition does not proceed) is not yet defined.

Principle Business Process Framework.06 It is not the purpose of the Business Process Framework to address the detailed processes and procedures of an enterprise.

Principle Business Process Framework.07 Enterprise Management is generally decomposed to Level 2 only (but specific areas that represent particular priorities have been decomposed further).

2.7 Traceability

Because the Business Process Framework is a decomposition model, the lower levels of the decomposition can be traced back to the higher levels.

Principle Business Process Framework.08 The goals, inputs, outputs, and activities of decomposed Process Elements at a lower level are consistent with the higher level Process Element. In particular, the input of the first lower level Process Element is the same as the input of the higher level PE; the output from the last lower level PE is the same as the output of the higher level PE; the detailed goals of the lower level Process Elements taken together should match the goal of the higher level PE; the activities of the lower level Process Elements taken together should match the activity of the higher level PE.

2.8 Process dependency through information

Business processes do not exist in isolation. Processes require information from other processes, and they in turn provide information to other processes. Dependencies (or associations) between processes occur when an activity requires information from another activity. Process dependencies are related to the entities and attributes required by the business area. The importance of analyzing and

modeling dependencies is to provide further understanding of the interaction between processes and data.

Note:

An exercise is underway to identify the Information Framework (SID) ABEs (Aggregate Business Entities) which are associated with Business Process Framework Process Elements.

Principle Business Process Framework.09 (Best Practice): each Business Process Framework Process Element should identify its associated Information Framework ABEs.

2.9 Grouping / organization within the Business Process Framework

The Business Process Framework is a classification or taxonomy of Process Elements. At Level 0 the elements are classified into Operations, SIP and Enterprise Management. Lower Levels are formed by decomposition with each Process Element occurring once only.

Principle Business Process Framework.10 A particular Process Element will occur only once in the Business Process Framework; there is no replication.

2.10 Flows

There are three fundamental flows which exist in any company, namely the information flow, the material flow and the control flow.

- The information flow concerns the flow of data or information e.g. the information on an order as it is progressed; these can also be message flows.
- The material flow concerns the actual physical items e.g. the items which constitute the order.
- The control flow (or workflow) defines the logic of business processes i.e. the enterprise behavior in terms of a sequence or order in which enterprise activities must be performed to achieve business objectives.

The definition of the Business Process Framework Process Elements themselves does not address these types of flow. However the Business Process Framework does include in Addendum F sample process flows and depictions of process interaction in swimlanes. These are examples of control flow.

Principle Business Process Framework.11
Process flow examples in Business Process Framework are control flows, defining the sequence in which activities are performed.

Note:

Traceability also applies to swimlanes in Business Process Framework process flows. (See Principle Business Process Framework.08)

Principle Business Process Framework.12
The swimlanes in a process flow are consistent within themselves and with respect to lower level decompositions.

2.11 Dynamic aspects of Process Modeling

The Business Process Framework Process Elements and example process flows are a process view of the enterprise behavior, based on sequences of activity. However, there are also dynamic aspects pertaining to the processes and their interaction. These are considered below.

- Temporal aspects
  - There may be time-based requirements in the triggering of processes, triggering frequencies and possible delays between process steps. Process step durations (minimum, maximum, average durations) can also be indicated
- Co-operative activities
  - In practice, it is common that two or more activities of two different processes must work co-operatively, e.g. to exchange messages or objects. Methods include message passing and patterns.
- Process communication
  - In the case where processes must communicate, this means that some activities of one process must interact with activities of other processes. The previous mechanisms for co-operative activities can be used.
- Process synchronization
  - Process synchronization can happen in three different forms: (1) synchronization by events, (2) synchronization by messages and (3) synchronization by object flows.
- Exception handling mechanisms
  - Process models often only model the ideal structure of a business process. Real-world situations mostly consist of dealing with exceptions. Exceptions can either be predictable or unpredictable.

Principle Business Process Framework.13
Business Process Framework models success scenarios. Error conditions are not in scope.

Principle Business Process Framework.14
Dynamic aspects of process modeling are outside the scope of the Business Process Framework.

2.12 Naming conventions

The preferred convention for naming Level 3 Process Elements is <Verb Noun> e.g. "Configure & Activate Resource", "Determine pre-order feasibility", "Close Problem". This is also the preferred convention for naming Process Elements at lower levels of decomposition (i.e. Level 4 and below)

The preferred convention for naming events is <Noun Verb> e.g. "Work Orders Executed", "Resource Allocation & Configuration Done".

Note: Level 1 and Level 2 Process Names have not in the past used the convention above. Renaming existing Level 1 and Level 2 process elements is seen as unnecessarily disruptive and so the existing form (typicallly, <Noun> e.g. "Supplier / Partner Relationship Management", "Order Handling") has been retained. New or modified process elements at Level 1 and/or Level 2 should continue to use this existing convention, so that there is consistency in the naming within a Level

Principle Business Process Framework.15
Terminology and naming conventions are <Noun> for Level 1 & 2 Process Names, <Verb Noun> for Level 3 Process Names, <Noun Verb> for events

.

2.13 Layer References and Responsibilities

A layered approach to the handling of responsibilities and information is taken in the Business Process Framework. Responsibility for association / translation between layers is generally positioned at the lower layer. For example, the Customer Relationship Management (CRM) layer manages Customer Problems and the Service Management & Operations (SM&O) layer manages the Service Problems that may be associated, but it is the responsibility of the SM&O processes to map between these Service Problems.

Thus CRM provides the Customer Problem (or some appropriate information from this) to SM&O, which must then associate the one (or more) Service Problems that derive from this Customer Problem. Any ongoing interaction between Customer and

Service layers is therefore in terms of Customer Problems (or information based on these) and not Service Problems, which are managed wholly within the Service layer.

Principle Business Process Framework.16 Responsibility for association / translation between layers is generally positioned at the lower layer.

2.14 Data Responsibility

The process which is managing data creation, update etc. has a prime responsibility for ensuring that the results of data which it is manipulating via the process are appropriately stored.

Principle Business Process Framework.17 A process has prime responsibility for ensuring that the results of data manipulation are stored appropriately.

Consequently, the Manage Resource Inventory processes have no processes to create or update the data elements maintained in the repository.

Principle Business Process Framework.18 The Manage Resource Inventory processes have no processes to create or update the data elements maintained in the repository.

The only exception to this Principle is the aspect associated with data quality. In the inventory processes there are processes associated with discovery i.e. looking at comparing what is maintained in the inventory with what actually exists on the ground. The results of any inventory differences found would be in the form of some form of report, which could be used by process quality processes to review and fix any processes which are leading to bad data in the inventory. Note: there is no need for any “informing” of the original process as to data change.

3. Process Patterns

3.1 Introduction

In this section are presented examples of decomposition patterns in the Business Process Framework. These patterns serve as templates for process modeling in the particular process area. Patterns are identified at Level 3 for:

- Problem Reports and their resolution
- Strategic view and Business Plan
- Order Lifecycle
- Product Lifecycle

Note:

All Patterns should have associated Use Cases. Use Cases will be added in a later version of the document.

3.2 Level 3 patterns

Example 1 – Problem Reports and their resolution

Applicable to ASSURANCE: Problem Handling / Service Problem Management / Resource Trouble Management.

This pattern consists of 4 process steps and 2 continuous processes. The process steps are:

- "Create". E.g. Problem Report, Trouble Report, Resource Trouble.
- "Analyze". Diagnose root cause.
- "Fix". Correct & Recover through recovery activities.
- "Close". Problem resolved, close report.

With 2 proceses running continuously:

- "Track & Manage recovery activities"

- "Report"

Pre-condition / Inputs to this pattern are: a reported problem or an alarm or event at resource or service level.

Post-condition / Output is: resolved problem, restoration of normal operation.

Associated Use Case:

Example 2 – Strategic view and Business Plan

Applicable to STRATEGY & COMMIT: Service Strategy & Planning / Resource Strategy & Planning / Supply Chain Strategy & Planning

This pattern consists of 6 processes.

- "Research". Research & analyses, including management of research gathering.
- "Strategy". Formulate strategy and business goals
- "Business Plans"
- "Operational support."
- "Partnership." (Null step for Supply Chain)
- "Commit." Gain Enterprise commitment.

Pre-condition / Inputs to this pattern are research, forecasts

Post-condition / Output are committed business plans and strategy.

Associated Use Case:

Example 3 – Order Lifecycle

Customer Orders, Service Orders and Resource Orders through to Closure. "Track and Manage" and "Reporting" run continuously.

Associated Use Case:

Example 4 – Product Lifecycle

From Research and New Product Development through In Service to Retirement.

Associated Use Case:

3.3 Level 4 Patterns

Later issues of the document will show how the Pattern approach can be extended to Level 4. Note that these are guidelines, they do not prescribe or mandate Level 4.

4. Organizational Context for the Business Process Framework

4.1 Introduction

This section sets out the enterprise context for process modeling, and the ways in which the Business Process Framework is applied. This section is not a guide on how to do process modeling in an organization, rather it sets out a generic framework for the various types of process (including manual human procedures) within a typical enterprise and shows how the Business Process Framework can be related to those organizational processes.

4.2 Use of the Business Process Framework within an organization

The use of the Business Process Framework by organizations involves the extension and refinement of the Business Process Framework to meet the specific business, operational, system and deployment needs of the organization.

This section is based on the following view of how processes are developed and modeled within organizations, and the relationship of the process models to organization structures and systems developments.

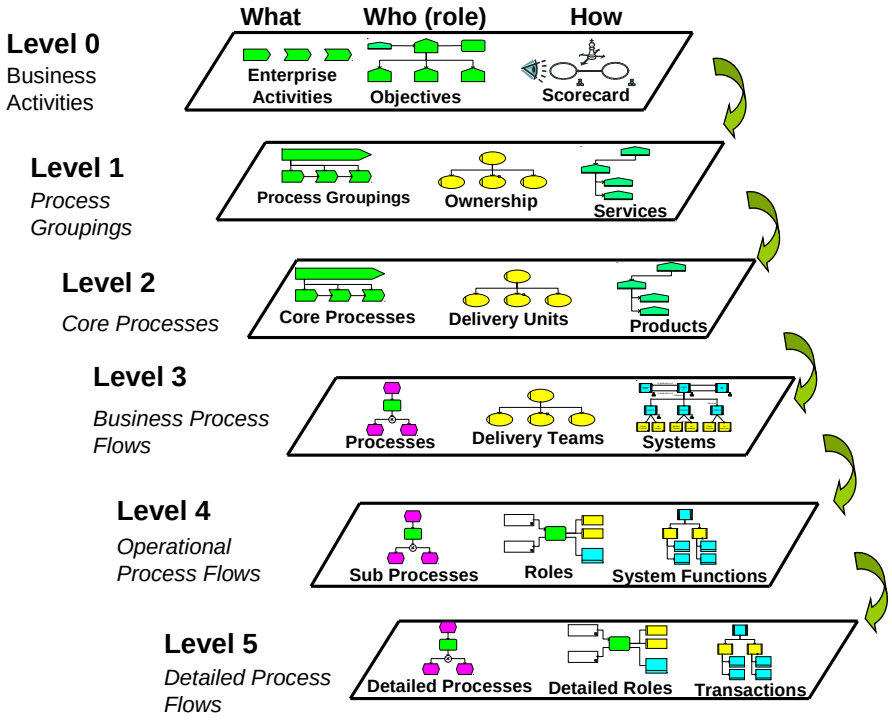

Fig. 1 Process Hierarchy

Level 0 – Business Activities

Identify and model: business objectives, value streams, environmental and fiscal constraints; develop balanced scorecard and product lines. These are the business goals that process and systems solutions must deliver.

Level 1 – Process Groupings

Design: product structure, product delivery and support process chains, enterprise-level data model, organizational structure. Identify business knowledge. This is the functional structure that delivers your business.

Defines different views of how processes are structured to deliver the Business Activities at Level 0.

Processes may be structured from:

- A process execution perspective showing standard end-to-end processes (e.g. Service Fulfillment)
- A functional perspective (e.g. Enterprise Value Domains).

Level 2 –Core Processes

Identify industry standard reference models; develop: generic processes, process hierarchy; identify and model business data definitions, system structure; define business roles. Processes are the key to delivering business objectives.

Recognizable sub-process of End-to-End Processes:

- Normally carried out within a Business Unit or Line of Business
- Defines those activities that deliver competitive advantage to business. As distinct from supporting processes.
- Normally modeled as Value Chains

Comprised of Tasks that are defined in detail in the Business Process Flows at Level 3.

Level 3 – Business Process Flows

Design detailed processes; assign business roles; identify supporting systems, data flows. Map business data models to systems data models. Consider failure paths; queues and bottlenecks. The detail is essential to ensure every action adds value to the business (which means to the customer) or is an essential requirement. Apply Lean Engineering techniques.

Defines the process flows of the Core Processes defined at Level 2.

- Comprised of Tasks
- Normally defined generically (i.e. not specific to a particular product, customer, geographical operation, etc.).
- Often will only show the 'Sunny Day' scenario and exclude the detail of alternative actions, failures and error recovery.

Tasks can be decomposed into more detail if required in Level 4 Operational Process Flows.

Level 4 – Operational Process Flows

Develop detailed sub-process design; define operational roles; link processes to written procedures; identify detailed systems, equipment and resource usage.

Defines in more detail the Business Process Flows defined at Level 3.

Normally specific to an operational environment and will be characterized by the Application Systems and Organizational Units or Positions that support and execute them.

- Comprised of Steps
- Normally will include the 'Rainy Day' scenario showing the detail of alternative actions, failures and error recovery.

Steps can be decomposed into more detail if required in Level F Detailed Process Flows.

Level 5 – Detailed Process Flows

Deliver the process flow automatically through workflow systems, e-business solutions and systems development. Link process and data models to systems and software development environments.

Defines in more detail the Operational Process Flows defined at Level 4.

- Comprised of Operations.
- Specific to an operational environment and will be characterized by the Application Systems and Organizational Units or Positions that support and execute them.
- Should include the 'Rainy Day' scenario showing the detail of alternative actions, failures and error recovery.
- Any further detail required of an Operation will be described in a Procedure document or Work Instruction.

May be used to generate Workflows or be used a detailed requirements for systems development.

4.3 The Business Process Framework and the Process Hierarchy

The TMF Business Process Framework in its analysis has addressed the concerns shown in Level 0 through to Level 3, and now is moving to address Level 4 in selected areas.

However the concerns for lower levels than are documented in the Business Process Framework need to be addressed by an enterprise itself in implementing concrete detailed processes, roles and transactions.

For such extensions to the Framework by an enterprise, the following section provides guidance on how an enterprise should execute these analysis steps. The benefit of these guidelines is that different enterprises will use a similar analysis approach to applying the Business Process Framework to their own organization.

5. Guidance for extending and using the Business Process Framework

5.1 Process Hierarchy: Decomposition Principles

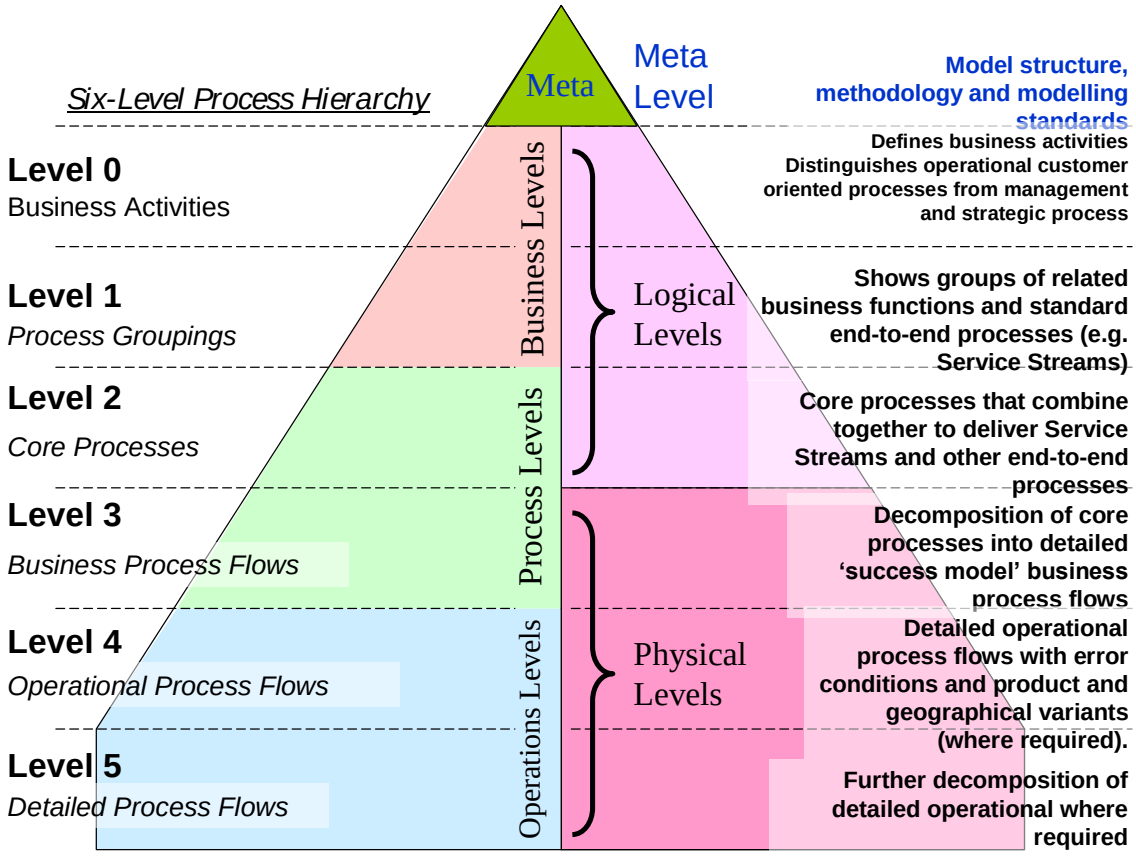

Fig. 2 Process Hierarchy and analysis focus for Levels

This diagram provides a more extended description of the 6 level decomposition model. It shows the focus of analysis for each of the levels. Note that in practice each level may have several layers of decomposition to deal with practical issues of handling complexity and scale. The test of what is in a Level is the focus of the analysis.

The Business Process Framework has effectively produced an industry analysis of the process decompositions down to level 3 that provides both core processes and example process flows in the form of success models.

5.2 Process Hierarchy: Implementation Principles

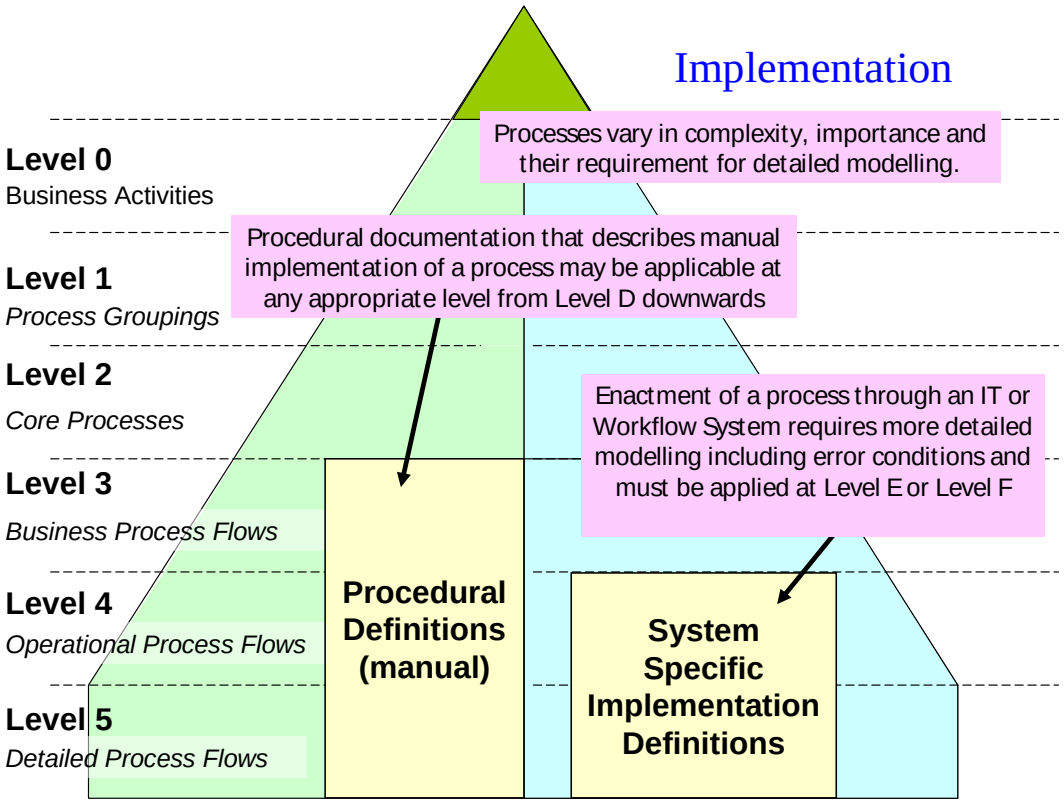

Fig. 3 Process Hierarchy Implementation

5.3 Process Hierarchy: Hierarchies

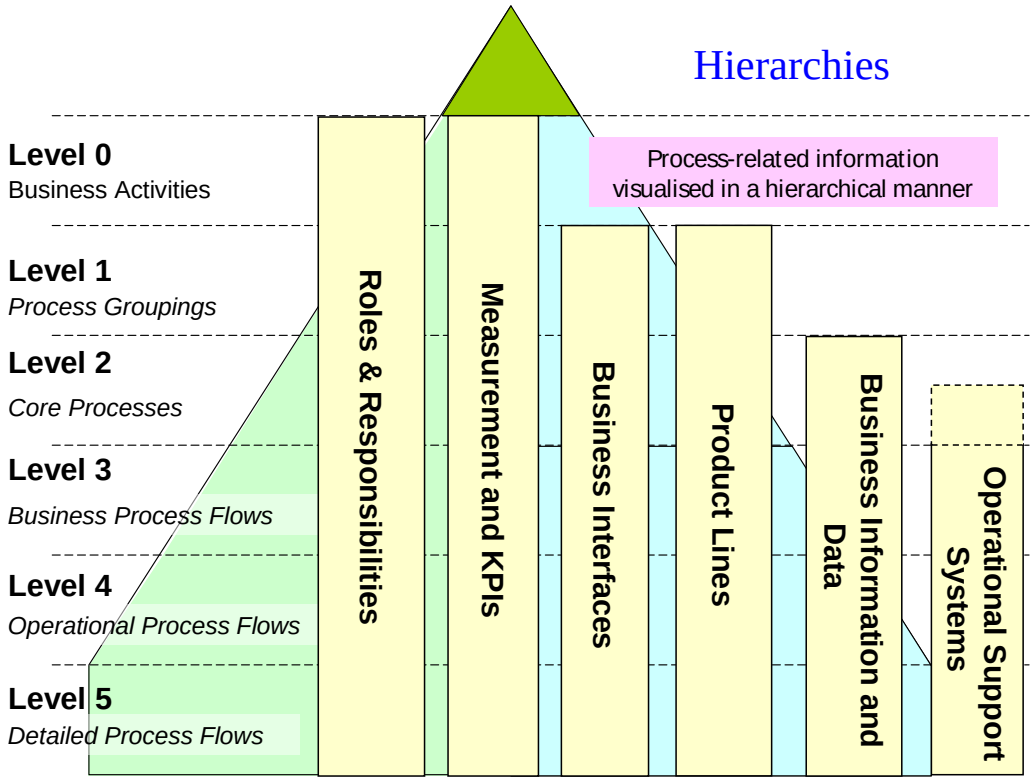

Fig. 4 Process Hierarchy hierarchies

This diagram shows those attributes and characteristics that have to be in lock step throughout the decomposition steps.

5.4 Process Hierarchy: Process View

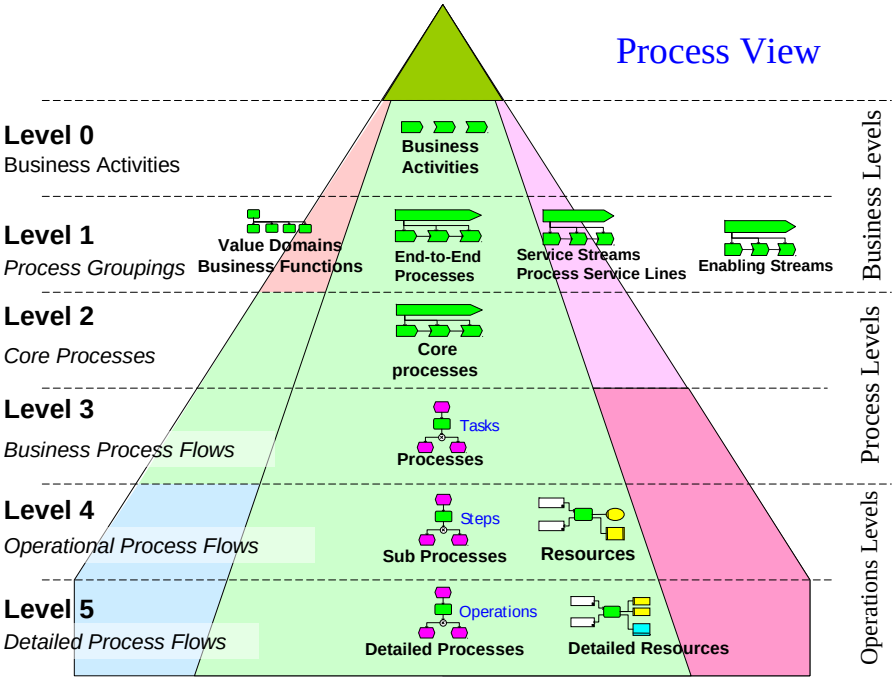

Fig. 5 Process Hierarchy: Processes and Resources

This figure shows a view of how processes are developed through the decomposition steps.

6. Decomposition Guidelines

Before providing a set of decomposition guidelines the properties of a process are provided. Each framework process may have one or more of these properties. As enterprise specific extensions are made to the framework, these properties should become part of the overall specification of the added processes.

A process specification consists of

- A stated goal that the process achieves

  in terms of a purpose or result from applying the process

- Inputs that may be defined

- Outputs that may be defined

  Note that inputs transform to outputs through the process functionality/behavior

- Resources consumed that may be defined

  Note for the Business Process Framework, resources may be defined through linkages with the Information Framework

- Activities into which the process decomposes that may be defined

  These may be embedded in the process description

- A stated or implied value/benefit within the business

  May be related to how the process is used within a particular enterprise

- Create, Read, Update, Delete (CRUD) analysis that may be available

  This can link with the Information Framework

- Responsible, Accountable, Consulted, Informed (RACI) analysis that may be available

  Typically, this is related to how processes are mapped into organizations

- Key Performance / Quality Indicators (KPIs/KQIs)

These characteristics apply to all levels including extensions and should be included in the definition/description of the process.

A process transforms inputs into outputs. The activities into which it decomposes are performed in some order. The value is created for the customer. The customer may be internal or external.

6.1 Consistency of Inputs and Outputs

The goals, inputs, outputs, and activities of a decomposed process at a lower level are consistent and should match those of the higher level process, specifically:

- The goals, scope and content of the lower level processes taken together should match those of the higher level process
- Each input of the higher level process is the same as an input of a lower level process
- Each output of the higher level process is the same as an output of a lower level process
- The activities/behavior of the lower level processes taken together should match that of the higher level process

This ensures the consistency between process extensions to the framework and its further decomposition. "First" and "last" mean the first and last in a sequence of process execution. The Problem Handling example previously described illustrates this.

Customer Problem is input to the L3 process Isolate Customer Problem. It is also input to the first L4 process, Verify Proper Product Use, into which Isolate Customer Problem decomposes. The Root Cause of the Customer Problem is output from the last L4 process, Provide Problem Analysis Completion Notification, It is also output from Isolate Customer Problem. Note that this does not imply that these are the only inputs and outputs of the Isolate Customer Problem process or the processes into which it decomposes. This is particularly true when dealing with higher level processes, such as L2 processes.

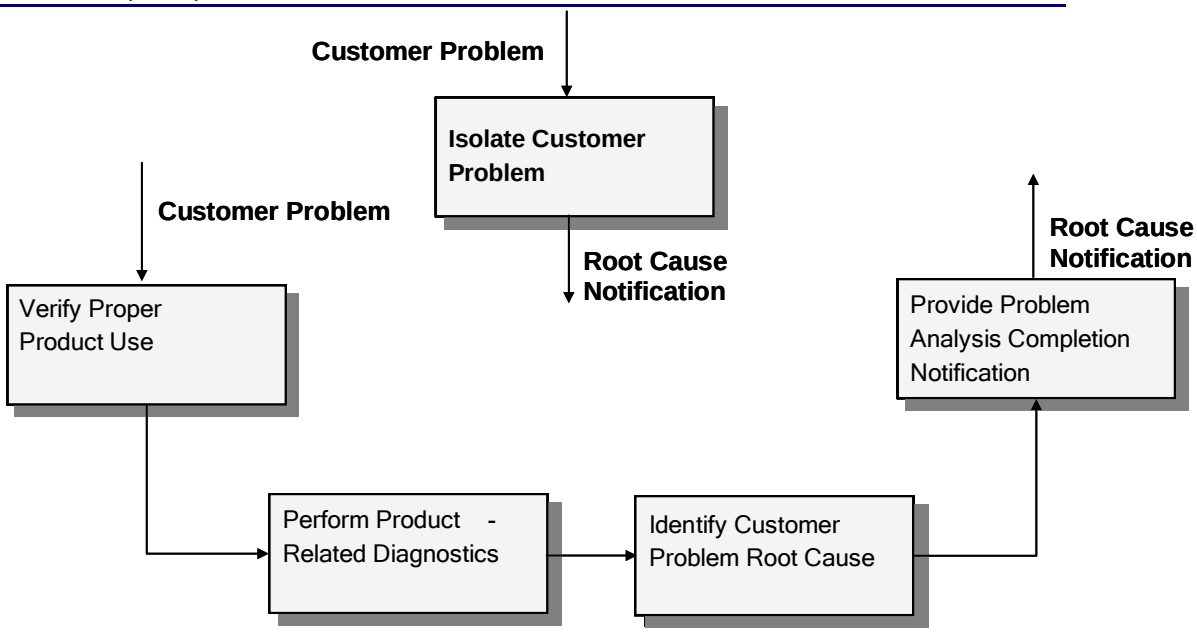

Fig. 6 Consistency of Inputs and Outputs

6.2 Additional Decomposition Guidelines

The Business Process Framework represents a non-redundant decomposition; therefore, a process is not duplicated within the framework.

Two different conventions are used for naming Business Process Framework processes. Nouns, often nouns and/or gerunds (a noun form of a verb), such as Service Management and Operations, Fulfilment, Billing, Problem Handling are used for L1 and L2 processes. This convention indicates a higher level process that is a combination of tasks (L3). The <verb noun> convention are used for processes that represent more discrete processes, such as tasks (L3), steps (L4), and operations (L5). Note that L3, L4, L5 refer to the levels within a process hierarchy and that there may be multiple levels of Business Process Framework process that represent a given process hierarchy level. A bit confusing, but the focus of the Business Process Framework process must be considered when classifying a Business Process Framework process within the levels of a process hierarchy.

Association/translation between process layers, horizontal Business Process Framework processes, is the responsibility of the lower layer. For example, the interaction from Problem Handling to Service Problem Management is expressed in terms a Customer Problem Report. It is the responsibility of Service Problem Management, not Problem Handling, to create the Service Problem Report(s) and associate the Report(s) to the Customer Problem Report. This in part helps ensure that the lifecycle of the entity is managed by a single L2 process and is not split among more than one L2 process.

The process which manages data creation, update, and so forth has a prime responsibility for ensuring that the results of data which it is manipulating via the process are appropriately stored.

When decomposing a process to L3 or to L4, and sometimes below L4, it is helpful to think of the next level of decomposition in terms which represents "life cycle" decomposition. Life cycle decomposition is a technique to use when identifying processes that move an object/entity through its life of interest to the business. L3/L4 processes, each of which represents the task level within the process decomposition, naturally focus on a single state in the life cycle of an object/entity. Typical processes in the decomposition perform "Plan", "Acquire", "Use", "Dispose" tasks. The set of tasks is typically made up of those that plan to uses an object/entity, which acquires an object/entity, which uses an object/entity, and which disposes of an entity. Note that life cycle decomposition is just one of the many techniques described here which may be used to identify lower level process elements.

The lifecycle often depends on the category of entity. Plan, Acquire, Use, Dispose processes may take on names specific to the type of entities/objects upon which they act. Shown below are some examples of the names associated with different categories of entities.

Tangible oriented entities, such as products, services, and resources may have the following life cycle related processes:

- Gather/analyze
- Develop
- Deploy
- Assess
- Retire.

Intangible oriented entities, such as strategies and plans may have the following life cycle related processes:

- Research/analyze
- Formulate/prepare
- Approve/commit
- Assess
- Retire.

Activity oriented entities, such as orders and problems may have the following life cycle related processes:

- Issue/Create

- Analyze/diagnose
- Fix, monitor, correct
- Close.

Note that the actual decomposition may only consist of a subset of these types of activities. There are many examples of this type of decomposition in the framework.

Note also that while products and services are intangible entities, they are typically realized by in part some type of physical (tangible) resource. The first set of sample process names represents processes that appear in the Product Lifecycle Management L1 vertical process grouping; the second set represents processes that appear in the Strategy & Commit vertical process grouping. The third set represents processes associated with activity-oriented entities that span Fulfilment and Assurance.

For example, the decomposition of the L2 Problem Handling includes Create Customer Problem Report (Acquire), Correct & Recover Customer Problem (Use), and Close Customer Problem Report (Dispose) represents processes that appear in the Assurance L1 vertical process grouping. In this example there is no equivalent for the Plan process.

Below L2, beware "/", "&", and their variants in process names, which typically means process should be split. Although the Business Process Framework does not always follow the last guideline, processes whose names imply more than one process, such as Implement, Configure, and Activate Service could be split into three processes at the next level of decomposition. Processes such as these are often combined at a given level of decomposition to manage the number of processes that appear at that level.

6.3 Information Framework Related Guidelines

These guidelines were developed as the Business Process Framework/Information Framework mapping team defined actions taken by processes on SID entities and as the team began to identify L4 processes.

An Aggregate Business Entity (ABE) is a group of closely related (cohesive) entities, such as Customer Problem Report and Service Order. A L2 process manages the life of a small number of ABEs. For example, Service Configuration & Activation manages the life of the Service Order and Service ABEs as defined by the published Business Process Framework/Information Framework L2 to ABE mappings. Problem Handling manages the life of a Customer Problem Report. The L3 processes focus on states within the life cycle of an ABE. For example, Issue Service Order focuses on the creation state; Close Service Order focuses on the completion state. A similar relationship exists for the L3 processes that define Problem Handling. Lower level processes deal with managing the states of the entities associated with the L3 processes and no others.

A process in one domain, such as Customer, Product, Service, does not create instances of entities in another domain. This guideline follows on from the layers guideline. For example, Problem Handling does not create instances of Service Problem Report. Similarly, Order Handling does not create instances of Service Orders. The two L2 processes reside within the CRM L1 horizontal process and focus on Market/Sales, Customer and Product domains, while Service Problem Report and Service Order are Service domain entities.

6.4 Semantic Analysis

In linguistics, semantic analysis is the process of relating syntactic structures, from the levels of phrases, clauses, sentences and paragraphs to the level of the writing as a whole, to their language-independent meanings, removing features specific to particular linguistic and cultural contexts, to the extent that such a project is possible. The elements of idiom (a fixed distinctive expression whose meaning cannot be deduced from the combined meanings of its actual words) and figurative speech, being cultural, must also be converted into relatively invariant meanings.

Semantic analysis is much like sentence diagramming that we all learned at an early age. The descriptions of L3 processes can be used and analyzed to begin identifying L4 processes.

This is accomplished by performing semantic analysis on the description of a process:

- Look for nouns (entities) upon which actions are performed
- Look for verbs that act on nouns (entities)
- Look for phrases that imply actions on nouns (entities).

Caution: Verbs and phrases may represent processes in other areas of the framework that interact with the processes being identified.

Semantic Analysis should be considered as just another of the many techniques described in this section that can be used to decompose processes. The techniques can be viewed as supplemental to the techniques currently in use within an organization. Often, Semantic Analysis is carried out iteratively with other techniques and may result in updating the description of a process to which Semantic Analysis was originally applied. The goal would be that the final decomposition(s) are consistent with the parent process description(s) from a Semantic Analysis viewpoint.

For simple L3 processes whose description is brief, such as Close Service Performance Degradation Report and Audit Data Collection & Distribution, decomposition to L4 may not be possible. Their descriptions are included here to illustrate this point.

Close Service Performance Degradation Report - The objective of the Close Service Performance Degradation Report processes is to close a service performance degradation report when the service performance has been resolved. These processes monitor the status of all open service performance degradation reports, and recognize that a service performance degradation report is ready to be closed when the status is changed to clear.

Audit Data Collection & Distribution - The Audit Data Collection & Distribution processes are responsible for auditing the management information & data collection activities in order to identify possible anomalies such as loss of management information and/or data in the different collection, processing and distribution steps.

Decomposing From L3 Description Example 1 – Isolate Customer Problem

Isolate Customer Problem is the L3 process being decomposed.

The purpose of the **Isolate Customer Problem** processes is to identify the root cause of the customer problem. The responsibilities of these processes include, but are not limited to:

· **Verifying whether the customer is using the purchased product offering correctly**; and

· **Performing diagnostics** based on the customer provided information to determine whether the root cause of the customer problem is linked to the underlying services.

The Isolate Customer Problem processes will make the results of the root cause analysis available to other processes. The Isolate Customer Problem processes will update open customer problem report, as required during the assessment, and when the **root cause has been identified.** The Isolate Customer Problem processes will **notify the Track & Manage Customer Problem processes when the analysis is complete**.

The highlighted text represents the candidate L4 processes using the semantic analysis guidelines described previously in this section. Not all of the description resulted in candidate L4 processes. Some were used as part of the description of the L4s or represent the initiation of flows to other processes. For example, the notification to Track & Manage Customer Problem is defined using a flow to that process; updating the open Customer Problem Report is also accomplished by initiating a flow to Track & Manage Customer Problem.

Note that all the nouns (entities) deal with the Customer Problem ABE and its entities, such as Root Cause.

Figure 3.5 - Isolate Customer Problem Decomposition shows the resulting decomposition diagram for Isolate Customer Problem. Some of the processes names represent interpretations that were made based on the analysis of the Isolate Customer Problem description. All of the L4 processes deal with the "isolate" state of the Customer Problem.

The Provide Problem Analysis Completion Notification implies a flow to another process, such as Track & Manage Customer Problem L3 or an L4 process within the Track & Manage decomposition.

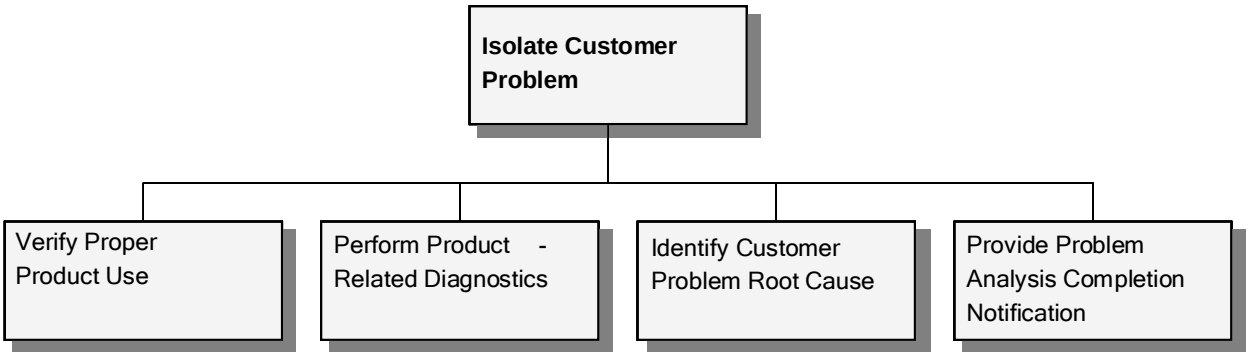

Fig. 7 Isolate Customer Problem Decomposition

Below are examples of L4 process descriptions. The descriptions of the L4 processes were based on the description of the L3 process. These L4 process represent the lowest level to which the current Isolate Customer Problem can be decomposed. Later in this chapter we will discuss how processes can be extended using this same technique of starting with an extended description of a process. Other guidelines for extending the framework will also be provided.

- Verify Proper Product Use

  Verify that the customer is properly using the product.

- Perform Product-Related Diagnostics

  Perform diagnostics based on the customer provided information to determine whether the root cause of the customer problem is linked to the underlying services.

- Identify Customer Problem Root Cause

  Identify the root cause of the customer problem. Make the results of the root cause analysis available to other processes. Update open customer problem report, as required during the assessment, and when the root cause has been identified.

- Provide Problem Analysis Completion Notification

- Provide notification of the completion of problem analysis

Decomposing From L3 Description Example 2 – Manage Workforce

Manage Workforce is the L3 process being decomposed. Note that this description is from the 7.0 release of the Process Framework. The analysis was used to develop the next level of decomposition and update the descriptions in release 7.5.

The responsibilities of the **Manage Workforce** processes are twofold - **plan, assign, dispatch and manage the activities of staff** (directly or indirectly) employed by, or operating as part of, the enterprise (i.e. technicians, clerks, managers, etc.), and **monitoring, managing and reporting on the capability of the Manage Workforce processes.** The staff directly managed by these processes include all employees, contractors and who are paid by the enterprise. The staff indirectly managed by these processes includes all employees, consultants and contractors paid by third parties who have commercial arrangements with the enterprise. In the cases where the third parties own and manage the service and/or resource infrastructure the Manage Workforce processes are responsible for **requesting activities to be performed** rather than directly assigning specific staff. The Manage Workforce processes also enable **reporting and monitoring of assigned activities**.

This first part of the description and can be used to identify two L4 processes and a number of L5 processes before moving on to the remainder of the description. The L4 processes were based on the statement that the "processes are twofold" in the first line of the description above, one group of processes that deals with workforce staff and another group of processes that deal with the workforce processes. The L5 processes were based on the other highlighted text.

The candidate decompositions are shown on the next figures, followed by examples of L4 and L5 process descriptions.

Manage Workforce Decomposition

Shown here is the L3 process, Manage Workforce, along with its two L4 processes, Manage Workforce Staff and Manage Workforce Process.

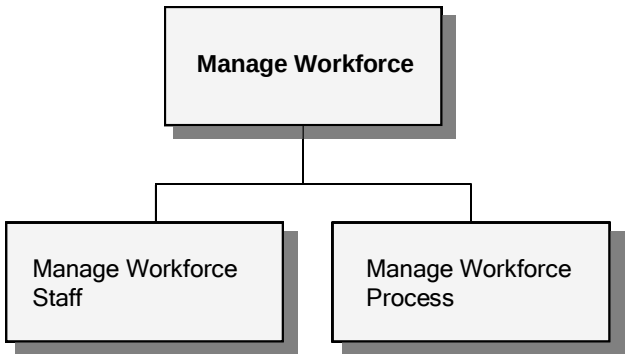

Fig. 8 Manage Workforce Decomposition

Manage Workforce Decomposition

Shown here is the Manage Workforce Staff L4, with its six L5 processes, derived from the first part of the Manage Workforce L3 process description. Descriptions for these processes will be derived from the remainder of the Manage Workforce process.

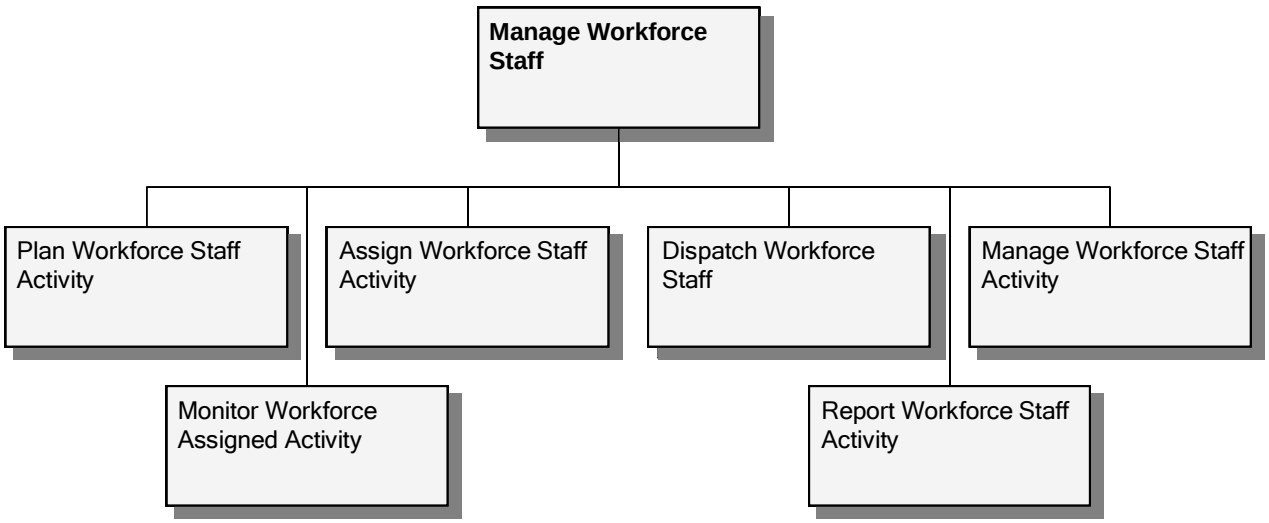

Fig. 9 Manage Workforce Staff Decomposition

Manage Workforce Process Decomposition

Shown here is the Manage Workforce Process L4, with its three L5 processes, derived from the first part of the Manage Workforce L3 process description. Descriptions for these processes will be derived from the remainder of the Manage Workforce process.

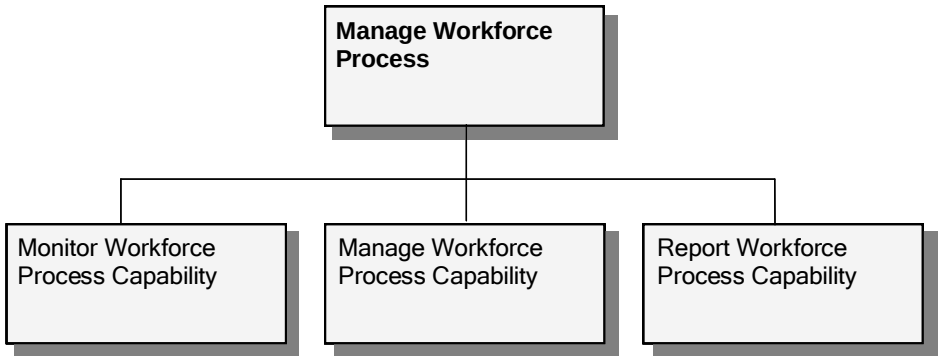

Fig. 10 Manage Workforce Process Decomposition

Decomposing From L3 Description

This section contains the remainder of the Manage Workforce L3 process description. The descriptions of the L5 processes can be based on this part of the description. The fragment of the description below can be used to derive descriptions for Manage

Workforce Staff L4 processes. For example, the first, second, and fifth bullets above will be used to describe the Plan Workforce Staff Activity L5, and the third, fourth, and sixth will be used to describe the Assign Workforce Staff Activity L5.

In fact, these descriptions can be used to develop L6 processes. For example, Establish Work Assignment Queue, Establish Staff List, and Forecast Assignable Staffing Requirement are L6 processes for Plan Workforce Staff Activity; Establish & Distribute Workforce Assignment, Establish Re-Assignment Capability, and Determine Work Activity Estimate are L6 process for Assign Workforce Staff Activity. Brief descriptions can also be derived for these L6 processes from the text.

Note that descriptions may not be derivable for all L4 or L5 processes. For example, no description could be found for Dispatch Workforce Staff. The description would have to be developed.

Continuation of description…

Responsibilities of these processes include, but are not limited to:

· Establishing and managing work assignment queues through which requests for work activities are received from Business Process Framework processes;

· Establishing and managing staff lists, containing details about assignable staff such as location, skills, availability for assignment etc.;

· Establishing, managing and distributing individuals work assignments to staff outlining the daily, or other time breadth, work assignments;

· Establishing and managing fast-track and jeopardy re-assignment capabilities to allow for modification of work assignments as required to meet jeopardy or other high priority conditions;

· Forecasting assignable staffing requirements on a daily, weekly and longer period basis, based on historic work volume records, and forecast activity volumes;

· Determining work activity time estimates for all known work activities, based on actual historic results or on forward estimates, to be used as a parameter for scheduling work rosters;

· Establishing and managing recall capabilities to allow for out-of-hours staff recall in the event of unforeseen circumstances;

The remainder of the Manage Workforce L3 process description follows. The descriptions of the L5 processes will be based this part of the description. This description can be used to derive descriptions for Manage Workforce Process L4 processes. For example, the first, second, and third bullets above will be used to describe the Manage Workforce Process Capability L5, and the fourth and fifth will be used to describe the Monitor Workforce Process Capability L5.

The descriptions can be also used to develop L6 processes. For example, Manage Registration & Access Control Process, Establish Workforce Information Transfer, and Ensure Accuracy of Workforce Management Systems are L6 processes for Manage Workforce Process Capability; Track & Monitor Workforce Management System Usage and Identify Workforce Management System Shortfall are L6 process for Monitor Workforce Process Capability. Brief descriptions can also be derived for these L6 processes from the text.

Note that descriptions may not be derivable for all L4 or L5 processes. For example, no description could be found for Report Workforce Process Capability. The description would have to be developed.

Continuation of description…

-- Managing the registration and access control processes that enable processes to create, modify, update, delete and/or download scheduling and work assignment data to and from the workforce management system(s);

· Establishing and managing information transfer between the enterprise workforce management system(s) and those of external third parties (when the infrastructure is owned and operated by third parties);

-- Ensuring workforce management system(s) accurately captures and records all assignment and work scheduling details, through use of automated or manual audits;

· Tracking and monitoring of the usage of, and access to, the workforce management system(s) and associated costs of the Manage Workforce processes, and reporting on the findings;

Identifying any technical driven shortcomings of the workforce management system(s), and providing input to Resource Development & Management processes to rectify these issues.

L4 Process Description Examples

The descriptions of the L4 processes were based on the description of the L3 process. These L4 and L5 (and possibly L6 as described in the previously) processes represent the lowest level to which the current Manage Workforce can be decomposed. Later in this chapter, as mentioned earlier, we will discuss how processes can be extended using this same technique of starting with an extended description of a process. Other guidelines for extending the framework will also be provided.

- **Manage Workforce Staff (L4)**

Plan, assign, dispatch and manage the activities of staff (directly or indirectly) employed by, or operating as part of, the enterprise (i.e. technicians, clerks, managers, etc.). The staff directly managed by these processes include all employees, contractors and who are paid by the enterprise. The staff indirectly managed by these processes includes all employees, consultants and contractors paid by third parties who have commercial arrangements with the enterprise.

In the cases where the third parties own and manage the service and/or resource infrastructure the Manage Workforce processes are responsible for requesting

- **Plan Workforce Staff Activity (L5)**

Establishing and managing work assignment queues through which requests for work activities are received from Business Process Framework processes. Establishing and managing staff lists, containing details about assignable staff such as location, skills, availability for assignment etc. Forecasting assignable staffing requirements on a daily, weekly and longer period basis, based on historic work volume records, and forecast activity volumes.

Other L3/L4 Decomposition Examples

This example illustrates the current L3/L4 process decomposition work being undertaken by the Business Process Framework/Information Framework mapping team. The example illustrates the work accomplished for the L3 processes for the L2 Problem Handling process. Inputs and outputs were derived from the descriptions and implied actions on entities contained in the descriptions of the L3 processes. These, along with semantic analysis, discussed earlier in this chapter, were used to deduce the candidate L4 processes that will make their way into the framework.

The Inputs and outputs can be used to construct/confirm L3 and L4 process flow diagrams. This process shows the work done that resulted in the Problem Handling decompositions.

L3 Process Name	Input Information	Output Information	Candidate L4 Processes
Create Customer Problem Report	I-1) Customer Information	O-1) Customer Problem Report	
	I-2) Customer/ Process Request	O-2) Customer Problem Report	
Isolate Customer Problem	I-1) Customer Problem	O-1) Product Use Verification	Verify Proper Product Use
	I-2) Customer Problem	O-2) Product-Related Diagnostic Results	Perform Product-Related Diagnostics
	I-3) Customer Problem I-4) Problem Related Diagnostic Results	O-3) Customer Problem Root Cause	Identify Customer Problem Root Cause
	I-5) Customer Problem I-6) Customer Problem Root Cause	O-4) Customer Problem Analysis Completion Notification	Provide Customer Problem Analysis Completion Notification
Report Customer Problem	I-1) status of CustomerProblemReport	O-1) notifications of any changes and management reports	

Fig. 11 Problem Handling L4 Processes

Fig. 12 Resource Provisioning L4 Processes shows similar work accomplished for Resource Provisioning L3 processes.

L3 Process Name	Input Information	Output Information	Candidate L4 Processes
Allocate & Install Resource	I-1) Service Order I-2) LogicalResource	O-1) ResourceSpecification	**CheckResourceFeasibility**
	I-3) Resource Order	O-2) ResourceSpecification O-3) ResourceConfig	**AllocateResource**
	I-4) ResourceSepcification	Nil	**InstallResource**
	I-5) Supplier/Partner	O-4) ResourceSpecification	**CheckResourceAvailability**
Configure & Activate Resource	I-1) Resource Order	O-1) ResourceOrder	**PlanResourceConfigurationAndActivation**
	I-2) ResourceConfig I-3) Resource	O-2) ResourceSpecification	**ConfigureResource**
	I-4) ResourceSpecification I-5) ResourceConfig	O-3) ResourceAlarm	**NotifyPotencialResourceTrouble**
	I-6) ResourceSpecification I-7) ResourceUsage I-8) ResourceConfig	O-4) AdministorResourceData O-5) Resource	**UpdateResourceInventory**

Fig. 12 Resource Provisioning L4 Processes

Fig. 13 Resource Trouble Management L4 Processes shows the decomposition for Resource Trouble Management L3 processes.

L3 Process Name	Input Information	Output Information	Candidate L4 Processes
Create Resource Trouble	**I-1) Resource Alarm Event Record**	**O-1) Resource Trouble**	**Generate Resource Trouble**
	1-2) Service Trouble **I-2) Resource Order**	**O-2) Resource Trouble**	**ConvertReportTo ResourceTrouble**
	I-3) Resource Trouble **I-4) ResourceRestoration Time**	**O-2) Resource Trouble**	**EstimateTimeFor RestoringResource**
Localize Resource Trouble	I-1)Resource Trouble I-2) Current Resource Configuration I-3) ResourceFacingService Configuration	O-1) Resource Trouble O-2) Resource Configuration Verification	**Verify Resource Configuration**
	I-4) Resource Trouble I-5) Resource Configuration Verification I-6)Resource Trouble Diagnostics Specifications I-7) Resource Trouble Diagnostics Methodology Template(New)	O-3) Resource Trouble O-4) Resource Trouble Root Cause Analysis	**PerformSpecific Resource Trouble Diagnostics**
	I-8) Resource Trouble I-9) Resource Trouble Test Specifications I-10)Resource Trouble Root Cause Analysis	O-5) Resource Trouble O-6) Resource Trouble Test Results (Created) O-7) Resource Trouble Root Cause Analysis	**Perform Specific Resource Trouble Tests**

Fig. 13 Resource Trouble Management L4 Processes

7. Audit Checklist

This section contains a checklist of the Business Process Framework principles for its use and application within an organization.

Principle	
Business Process Framework .01	The Business Process Framework is an activity-based process decomposition model
Business Process Framework .02	The Business Process Framework Process Elements are comprehensive for a Service Provider
Business Process Framework .03	A Business Process Framework Process Element is a succession of activities with a control flow
Business Process Framework .04	(Best Practice): a Business Process Framework Process Element has a goal, value proposition, inputs, outputs. It consists of activities and uses resources. It has a CRUD and RACI model.
Business Process Framework .05	The Business Process Framework is decomposed from notional Level 0 to more granular levels – Levels 1, 2 and 3 (and some of level 4) are addressed so far. An agreed end-point (i.e. a level below which decomposition does not proceed) is not yet defined.
Business Process Framework .06	It is not the purpose of the Business Process Framework to address the detailed processes and procedures of an enterprise
Business Process Framework .07	Enterprise Management is generally decomposed to Level 2 only (but specific areas that represent particular priorities have been decomposed further).
Business Process Framework .08	The goals, inputs, outputs, and activities of decomposed Process Elements at a lower level are consistent with the higher level Process Element. In particular, the input of the first lower level Process Element is the same as the input of the higher level PE; the output from the last lower level PE is the same as the output of the higher level PE; the goals of the lower level Process Elements taken together should match the goal of the higher level PE; the activities of the lower level Process Elements taken together

		should match the activity of the higher level PE.
	Business Process Framework .09	(Best Practice): each Business Process Framework Process Element should identify its associated Information Framework ABEs
	Business Process Framework .10	A particular Process Element will occur only once in the Business Process Framework; there is no replication
	Business Process Framework .11	Process flows in the Business Process Framework are control flows, defining the sequence or order in which activities are performed.
	Business Process Framework .12	The swimlanes in a process flow are consistent within themselves and with respect to lower level decompositions.
	Business Process Framework .13	The Business Process Framework models success scenarios. Error conditions are not in scope.
	Business Process Framework .14	Dynamic aspects of process modeling are outside the scope of the Business Process Framework.
	Business Process Framework. 15	Terminology and naming conventions are <Noun> for Level 1 & 2 Process Names, <Verb Noun> for Level 3 Process Names, <Noun Verb> for events.
	Business Process Framework. 16	Responsibility for association / translation between layers is generally positioned at the lower layer.
	Business Process Framework. 17	A process has prime responsibility for ensuring that the results of data manipulation are stored appropriately.
	Business Process Framework. 18	The Manage Resource Inventory processes have no processes to create or update the data elements maintained in the repository.

8. Outstanding issues

- Implications of the Horizontals and Verticals structure. Principles arising.
- Traceability at lower levels. E.g. For a Level 6 it should also be clear which of the Level 6 go back to which Level 3 (because they could go to several).
- Process dependencies and Process associations. E.g. The ABE and contract work.
- Section on status of the Business Process Framework documentation. Check that flow examples are normative. Can examples be normative?
- Section on Hybrid approach to Process Modeling. Is it of benefit to discuss these distinctions when some not relevant to the Business Process Framework?
- Section on Decomposition. Say more about decomposition and uniqueness.
- Section on Flows. More explanation required for consistency of swimlanes.
- Use Cases for Patterns.
- Detail on the relationship of the Business Process Framework to Frameworx.

9. Administrative Appendix

8.1 Acknowledgements

This release of the Business Process Framework is the result of the combined efforts of a large group of individuals from companies all over the world. Most noteworthy is the participation of numerous service providers. The knowledge and commitment in providing contributions and participating in discussions are greatly appreciated. Contributors over the program leading to previous Business Process Framework/eTOM releases were acknowledged in those documents

The team looks forward to continued input and involvement for ongoing work on the Business Process Framework. Thank you for making this the acknowledged, best framework for Telecom and Information Services business processes.

See main document (GB921 Concepts and Principles) for other acknowledgements.

8.2 Document History

8.2.1 Version History

Version Number	Date Modified	Modified by:	Description of changes
0.21	November 2006	Philip Willliams	Document launch
1.0	December 2006	Mike Kelly	Formatting for first issue of document
1.1.	February 2007	Tina O'Sullivan	Updates from AC
1.2	June 2009	Alicja Kawecki	Minor updates to reflect TM Forum Approved status
1.2	June 2009	Alicja Kawecki	Minor updates to reflect TM Forum Approved status
1.3	Jan 2010	Mike Kelly (with some updates by Ken Dilbeck)	Small terminology changes to use "Business Process Framework" and to update diagrams, Also, small textual

			clarifications; incorporation of member review comments
1.4	March 2010	Alicja Kawecki	Minor cosmetic updates for web posting
1.5	April 2011	Alicja Kawecki	Updated to reflect TM Forum Approved status
1.6	September 2012	John Reilly	Added decomposition guidelines chapter
1.7	October 2012	Alicja Kawecki	Corrected notice, minor cosmetic corrections prior to web posting and Member Evaluation

8.2.2 Release History

Release Number	Date Modified	Modified by:	Description of changes
Release 7.0	December 2006	Mike Kelly	Formatting for first issue of document
8.1	Jan 2010	Mike Kelly (with some updates by Ken Dilbeck)	Small terminology changes to use "Business Process Framework" and to update diagrams; Also, small textual clarifications; incorporation of member review comments
12.0	September 2012	John Reilly	Added decomposition guidelines chapter