

# **Framework 15.5 Solution Conformance**

## **Framework Conformance Assessment Report**

### **Tata Consultancy Service (TCS) Hosted OSS/BSS [HOBS] V6.0**

**30<sup>th</sup> January 2016**

**Version 1.0**

## Table of Contents

List of Figures.....	0
List of Tables.....	0
1 Introduction.....	1
1.1 Executive Summary.....	1
2 Solution Functionality/Capability Overview.....	2
2.1 TCS HOBS solution Overview.....	2
3 Business Process Framework Assessment Overview.....	4
3.1 Mapping Technique Employed.....	4
3.2 Business Process Framework Level 2 Process Scope.....	5
3.3 Solution Scope.....	8
4 Business Process Framework – Process Mapping Descriptions.....	9
4.1 Level 2: Order Handling (1.3.3).....	10
4.1.1 Level 3: Determine Customer Order Feasibility (1.3.3.1).....	10
4.1.2 Level 3: Authorize Credit (1.3.3.2).....	12
4.1.3 Level 3: Track & Manage Customer Order Handling (1.3.3.3).....	14
4.1.4 Level 3: Complete Customer Order (1.3.3.4).....	19
4.1.5 Level 3: Issue Customer Orders (1.3.3.5).....	21
4.1.7 Level 3: Report Customer Order Handling (1.3.3.6).....	24
4.1.8 Level 3: Close Customer Order (1.3.3.7).....	28
4.1.9 Level 2: Order Handling (1.3.3) - Detailed Conformance Scores.....	29
4.2 Level 2: Customer Management (1.3.4).....	30
4.2.1 Level 3: Enable Retention and Loyalty (1.3.4.1).....	30
4.2.2 Level 3: Establish Customer Relationship (1.3.4.2).....	34
4.2.3 Level 3: Re-Establish Customer Relationship (1.3.4.3).....	40
4.2.4 Level 3: Terminate Customer Relationship (1.3.4.4).....	42
4.2.5 Level 2: Customer Management (1.3.4) - Detailed Conformance Scores.....	43
4.3 Level 2: Customer Interaction Management (1.3.5).....	44
4.3.1 Level 3: Customer Interface Management (1.3.5.9).....	44
4.3.2 Level 2: Customer Interaction Management (1.3.5) - Detailed Conformance Scores.....	47

4.4	Level 2: Bill Invoice Management (1.3.9)	48
4.4.1	Level 3: Apply Pricing, Discounting, Adjustments & Rebates (1.3.9.1)	48
4.4.2	Level 3: Create Customer Bill Invoice (1.3.9.2)	53
4.4.3	Level 3: Produce & Distribute Bill (1.3.9.3)	57
4.4.4	Level 2: Bill Invoice Management (1.3.9) - Detailed Conformance Scores	59
4.5	Level 2: Bill Payments & Receivables Management (1.3.10)	60
4.5.1	Level 3: Manage Customer Billing (1.3.10.1)	60
4.5.2	Level 3: Manage Customer Payments (1.3.10.2)	61
4.5.3	Level 3: Manage Customer Debt Collection (1.3.10.3)	67
4.5.4	Level 2: Bill Payments & Receivables Management (1.3.10) - Detailed Conformance Scores	78
4.6	Level 2: Bill Inquiry Handling (1.3.11)	79
4.6.1	Level 3: Create Customer Bill Inquiry Report (1.3.11.1)	79
4.6.2	Level 3: Assess Customer Bill Inquiry Report (1.3.11.2)	82
4.6.3	Level 3: Authorize Customer Bill Invoice Adjustment (1.3.11.3)	86
4.6.4	Level 3: Track and Manage Customer Bill Inquiry Resolution (1.3.11.4)	89
4.6.5	Level 3: Report Customer Bill Inquiry (1.3.11.5)	96
4.6.6	Level 3: Close Customer Bill Inquiry Report (1.3.11.6)	99
4.6.7	Level 2: Bill Inquiry Handling (1.3.11) – Detailed Conformance Scores	100
4.7	Level 2: Charging (1.3.13)	101
4.7.1	Level 3: Perform Rating (1.3.13.1)	101
4.7.2	Level 3: Apply Rate Level Discounts (1.3.13.2)	102
4.7.3	Level 3: Aggregate Items for Charging (1.3.13.3)	103
4.7.4	Level 3: Manage Customer Charging Hierarchy (1.3.13.4)	104
4.7.5	Level 3: Provide Advice of Charge/Rate (1.3.13.5)	105
4.7.6	Level 2: Charging (1.3.13) – Detailed Conformance Scores	106
4.8	Level 2: Manage Balances (1.3.14)	107
4.8.1	Level 3: Manage Balance Containers (1.3.14.1)	107
4.8.2	Level 3: Manage Balance Policies (1.3.14.2)	108
4.8.3	Level 3: Manage Balance Operations (1.3.14.3)	109
4.8.4	Level 3: Authorize Transaction Based on Balance (1.3.14.4)	111

4.8.5	Level 2: Manage Balances (1.3.14) – Detailed Conformance Scores .....	112
5	Information Framework Assessment Overview .....	113
5.1	Mapping Technique Employed.....	113
5.2	Information Framework Assessment - ABE Scope .....	114
5.3	Solution Scope .....	116
6	Framework Conformance Results .....	117
6.1	Business Process Framework – Scoring Rules .....	117
6.2	Business Process Framework – Conformance Result Summary.....	119
6.3	Business Process Framework – Detailed Conformance Results.....	121
6.4	Information Framework – Scoring Rules .....	128
6.4.1	Information Framework Maturity Conformance Scoring Methodology .....	129
6.4.2	Information Framework Adoption Conformance Scoring Methodology .....	132
6.5	Information Framework – Conformance Result Summary .....	135
6.5.1	Information Framework - Maturity Conformance Result Summary .....	135
6.5.2	Information Framework - Adoption Conformance Result Summary .....	138
6.6	Information Framework – Detailed Conformance Result .....	140

## List of Figures

Figure 2-1 HOBS Deployment Options .....	3
Figure 3-1 Level 2 process coverage for TCS HOBS Assessment – Operations .....	5
Figure 3-2 Level 3 process coverage .....	6
Figure 3-3 TCS HOBS solution mapped to eTOM Level 2 Processes in scope .....	8
Figure 5-1 Level 1 ABEs in scope for TCS HOBS Assessment.....	114
Figure 5-2 TCS HOBS: Solution Scope for SID Assessment.....	116
Figure 6-1 TM Forum Business Process Framework: Conformance Scoring Rules .....	117
Figure 6-2 Business Process Framework - Conformance Result Summary [1/3].....	119
Figure 6-3 Business Process Framework - Conformance Result Summary [2/3].....	120
Figure 6-4 Business Process Framework - Conformance Result Summary [3/3].....	120
Figure 6-5 Maturity Conformance Results – Engaged Party & Customer Domains .....	135
Figure 6-6 Maturity Conformance Results – Common Business Entities Domain .....	136
Figure 6-7 Maturity Conformance Results – Product Domain .....	137
Figure 6-8 Adoption Conformance Results – Engaged Party & Customer Domains.....	138
Figure 6-9 Adoption Conformance Results – Common Business Entities Domain .....	139
Figure 6-10 Adoption Conformance Results – Product Domain .....	139

## List of Tables

Table 3-1 Business Process Framework Assessment Scope.....	7
Table 4-1 Order Handling (1.3.3) - Conformance Scores.....	29
Table 4-2 Customer Management (1.3.4) - Conformance Scores.....	43
Table 4-3 Customer Management (1.3.5) - Conformance Scores.....	47
Table 4-4 Bill Invoice Management (1.3.9) - Conformance Scores.....	59
Table 4-5 Bill Payments & Receivables Management (1.3.10) - Conformance Scores.....	78
Table 4-6 Bill Inquiry Handling (1.3.11) – Detailed Conformance Scores.....	100
Table 4-7 Charging (1.3.13) – Detailed Conformance Scores.....	106
Table 4-8 Manage Balances (1.3.14) – Detailed Conformance Scores.....	112
Table 5-1 Information Framework Assessment Scope.....	115
Table 6-1 Business Process Framework: Detailed Conformance Results.....	121
Table 6-2 TM Forum Information Framework Maturity Conformance - Scoring Rules.....	130
Table 6-3 TM Forum Information Framework Adoption Conformance - Scoring Rules.....	133
Table 6-4 Information Framework: Detailed Conformance Result.....	140



# 1 Introduction

## 1.1 Executive Summary

This document provides details of TCS's self-assessment and TM Forum's Conformance Assessment of the **HOBS Version 6.0 product**, against the following Framework 15.5 components:

- Business Process Framework Version 15.5
- Information Framework Version 15.5

The assessment included a review of:

- The methodology approach to process modeling against the TM Forum's Business Process Framework Release 15.5 according to the specific processes submitted in scope for the Assessment.
- Conformance to the Information Framework Release 15.5 Domains/Aggregate Business Entities according to the specific ABEs submitted in scope for the Assessment.

For more information on HOBS please contact: [hobs.marketing@tcs.com](mailto:hobs.marketing@tcs.com)

For any additional information on this Framework Conformance Certification Report, please contact TM Forum at: [conformance@tmforum.org](mailto:conformance@tmforum.org).



## 2 Solution Functionality/Capability Overview

### 2.1 TCS HOBS solution Overview

Communication Service Providers (CSPs) universally are aspiring for new revenue generation opportunities, better Customer experience and improved Time to Market, while they are also optimizing legacy investments in a hyper connected digital world. The need for simple and flexible business processes and systems that enable launch of converged services at a rapid pace is a recognized need and many transformations are underway.

**TCS HOBS** is a pre-modeled pre-integrated platform with 8 Products, 50 Applications and over 400+ business processes supported out of the box. It is a platform for Digital Communication Service Providers and Enterprises to manage their customers, products, service platforms, networks, assets, operations and revenues efficiently to leverage the digital opportunity that exists.

**TCS HOBS** is comprised of the following products:

- HOBS Customer Relationship Management System,
- HOBS Product Portfolio Management System,
- HOBS Order Management Provisioning System,
- HOBS Revenue Management System,
- HOBS Enterprise Management System,
- HOBS Operation Support System,
- HOBS Connected Device Management System,
- HOBS Application Infrastructure Management System.

**Based on needs, complexity and transformation approach**, HOBS is deployed in one of three options as illustrated below:

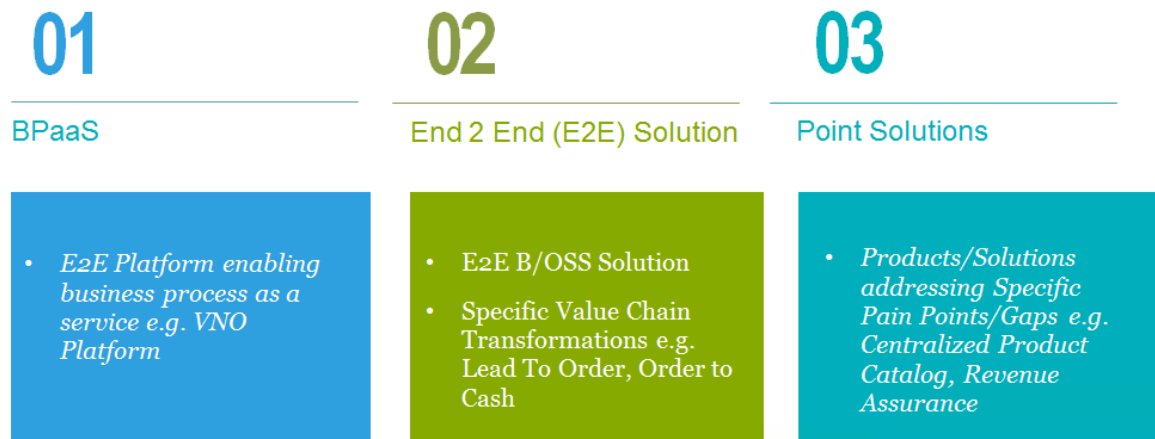


Figure 2-1 HOBS Deployment Options

From a technology point of view, the platform uses reliable open source technologies (for business agility), Cloud (for flexibility) and is Multi-Tenant (for time to market). It provides an ambient guided user interface (for customer experience, time to adapt), enables automation across processes (for cost and time efficiency) and is based on a robust architecture (for performance and security).

Needless to add, the platform is compliant to TM Forum’s Framework and ITIL standards.

From a customer deployment point of view, HOBS uses a specialized “**Conference Room Pilot Approach**” which is a key driver for time to market/transform.

From a commercial point of view, whether **using a Point Solutions or an end to-end solution**, the flexible commercial models based on **Pay-as-you-use** and **Build-as-you-Grow** approaches help communication service providers scale-up operations and adopt sophisticated business models for growing requirements.

For more information on HOBS, please contact: [hobs.marketing@tcs.com](mailto:hobs.marketing@tcs.com)

## 3 Business Process Framework Assessment Overview

### 3.1 Mapping Technique Employed

Business Process Framework Level 4 descriptions are analyzed by looking for implied tasks. (This is similar to how process decomposition can use Semantic Analysis). Each Business Process Framework process is supported by descriptive text. In many cases, each process is aligned and mapped to appropriate company documentation references solution, methodology or modeling material.

Note that when a Level 3 process has not been decomposed to Level 4 processes, the implied tasks for the given Level 3 process are analyzed.

The Business Process Framework Level 4 descriptions (or Level 3 if appropriate) are analyzed by looking for implied tasks. Color coded text as highlighted below is used as part of the process mapping whereby highlighted text indicates the level of support for a Level 4 process implied task:

- **GREEN** is used to highlight key words or key statements that are fully supported
- **YELLOW** is used to highlight key words/key statements that are partially supported
- **GREY** is used to highlight key words/key statements that are not supported
- No highlighting is used for words/statements that are irrelevant, just for reference or needed to complete the sentence.

#### Manual and Automated Support

It is important to determine whether the implied task is supported by manual steps, automated steps, or a combination of both. In this document, “A”, “M”, or “AM” is used for each task to indicate that the step or steps is/are automated (A), manual (M), or both (AM).

**TM Forum Note 1:** *When process mappings are presented against Level 4 processes, the mappings are provided against the text in the “Mandatory” field for the process. In the event of the Mandatory field not being defined in the eTOM specification, the process mappings are in that case provided against the Level 4 Extended description. If an Extended description is not defined, then the mapping is provided against the Brief description.*

**TM Forum Note 2:** *Note that if a Level 3 process has not been decomposed to Level 4 processes in the Business Process Framework, in such cases the process mapping support is provided against the Level 3 process descriptions using the Mandatory/Extended/Brief description as per the guidelines explained for Level 4 based mappings in the previous note.*

**TM Forum Note 3:** *For this assessment, based on the assessment being a re-certification, mappings were provided against the Extended & Brief descriptions in line with the previous assessments carried out by TCS for their HOBS solution.*

### 3.2 Business Process Framework Level 2 Process Scope

The following figures represent the Business Process Framework Level 2 processes (high-lighted in green) that were presented in scope for the assessment and that were assessed and support the corresponding Business Process Framework processes according to the results in Chapter 6.

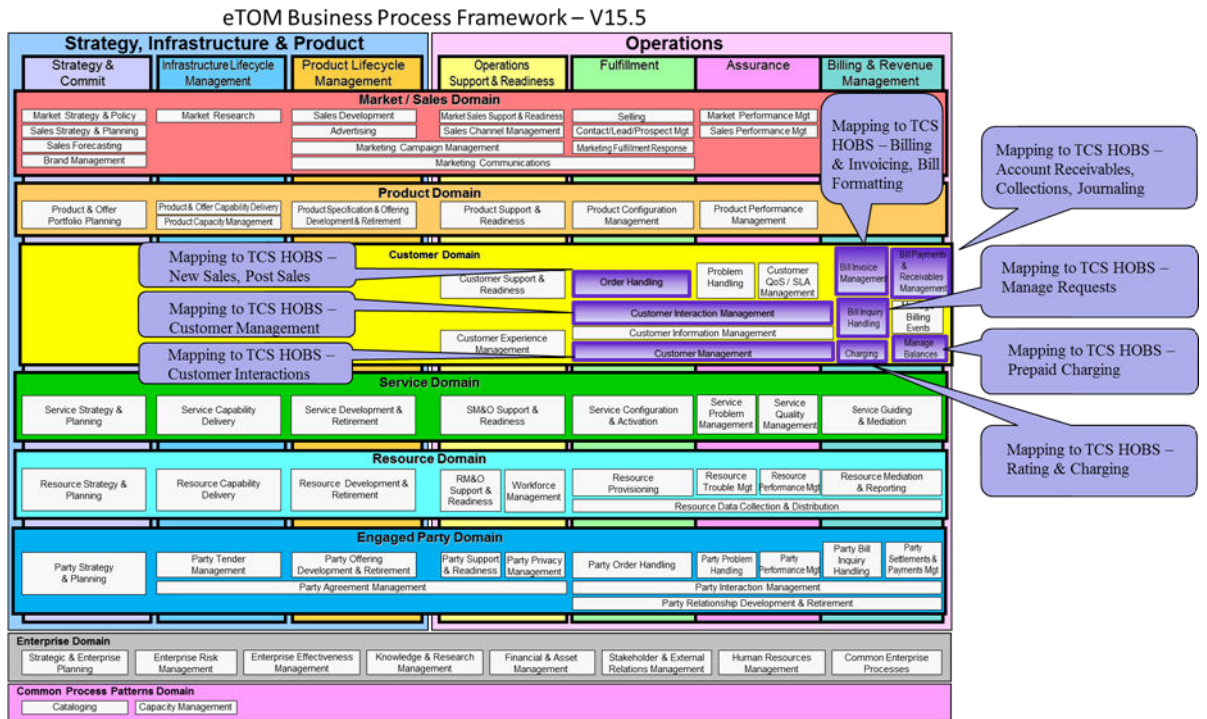


Figure 3-1 Level 2 process coverage for TCS HOBS Assessment – Operations

The following diagrams identify the number of Level 3 processes that were submitted for assessment, for each Level 2 process that was submitted in scope for the Assessment.

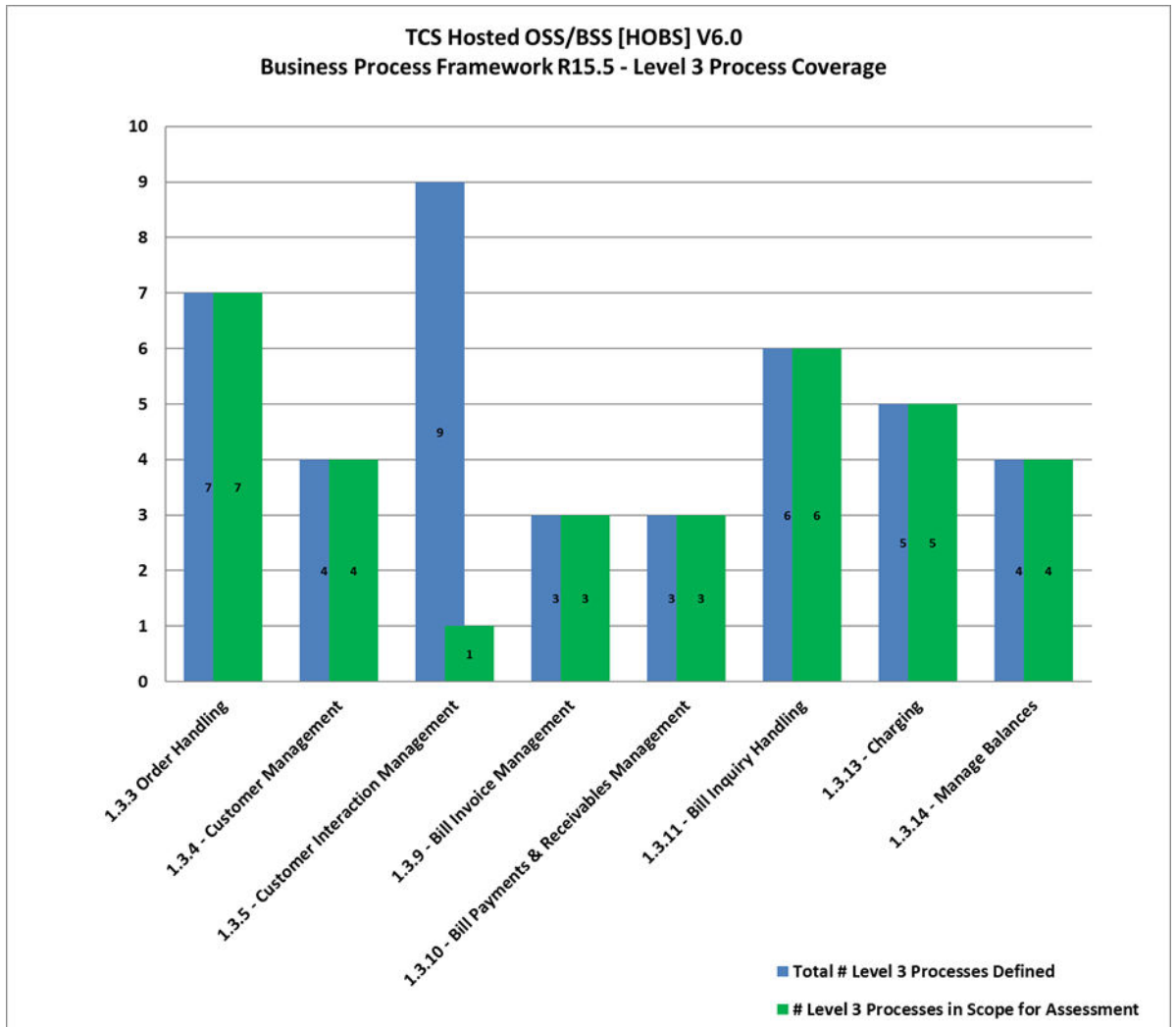


Figure 3-2 Level 3 process coverage

Table 3-1 Business Process Framework Assessment Scope

TCS HOBS 6.0 - Assessment & Certification Scope TM Forum Business Process Framework V15.5		
Level 1	Level 2	Level 3
<b>1 - Customer Domain</b>		
	1.3.3 – Order Handling	1.3.3.1 - Determine Customer Order Feasibility 1.3.3.2 - Authorize Credit 1.3.3.3 - Track & Manage Customer Order Handling 1.3.3.4 - Complete Customer Order 1.3.3.5 - Issue Customer Orders 1.3.3.6 - Report Customer Order Handling
	1.3.4 - Customer Management	1.3.4.1 - Enable Retention & Loyalty 1.3.4.2 - Establish Customer Relationship 1.3.4.3 - Re-establish Customer Relationship 1.3.4.4 - Terminate Customer Relationship
	1.3.5 - Customer Interaction Management	1.3.5.9 - Customer Interface Management
	1.3.9 – Bill Invoice Management	1.3.9.1 - Apply Pricing, Discounting, Adjustments & Rebates 1.3.9.1 - Apply Pricing, Discounting, Adjustments & Rebates 1.3.9.2 - Create Customer Bill Invoice 1.3.9.3 - Produce & Distribute Bill
	1.3.10 - Bill Payments & Receivables Management	1.3.10.1 - Manage Customer Billing 1.3.10.2 - Manage Customer Payments 1.3.10.3 - Manage Customer Debt Collection
	1.3.11 - Bill Inquiry Handling	1.3.11.1 - Create Customer Bill Inquiry Report 1.3.11.2 - Assess Customer Bill Inquiry Report 1.3.11.3 - Authorize Customer Bill Invoice Adjustment 1.3.11.4 - Track & Manage Customer Bill Inquiry Resolution 1.3.11.5 - Report Customer Bill Inquiry 1.3.11.6 - Close Customer Bill Inquiry Report
	1.3.13 - Charging	1.3.13.1 - Perform Rating 1.3.13.2 - Apply Rate Level Discounts 1.3.13.3 - Aggregate Items For Charging 1.3.13.4 - Manage Customer Charging Hierarchy 1.3.13.5 - Provide Advice of Charge/Rate
	1.3.14 - Manage Balances	1.3.14.1 - Manage Balance Containers 1.3.14.2 - Manage Balance Policies 1.3.14.3 - Manage Balance Operations 1.3.14.4 - Authorize Transaction Based on Balance

### 3.3 Solution Scope

The diagram in Figure 3-3 represents TCS's HOBS solution with mappings to the Business Process Framework Level 2 processes that were submitted in scope for the Conformance Certification assessment.

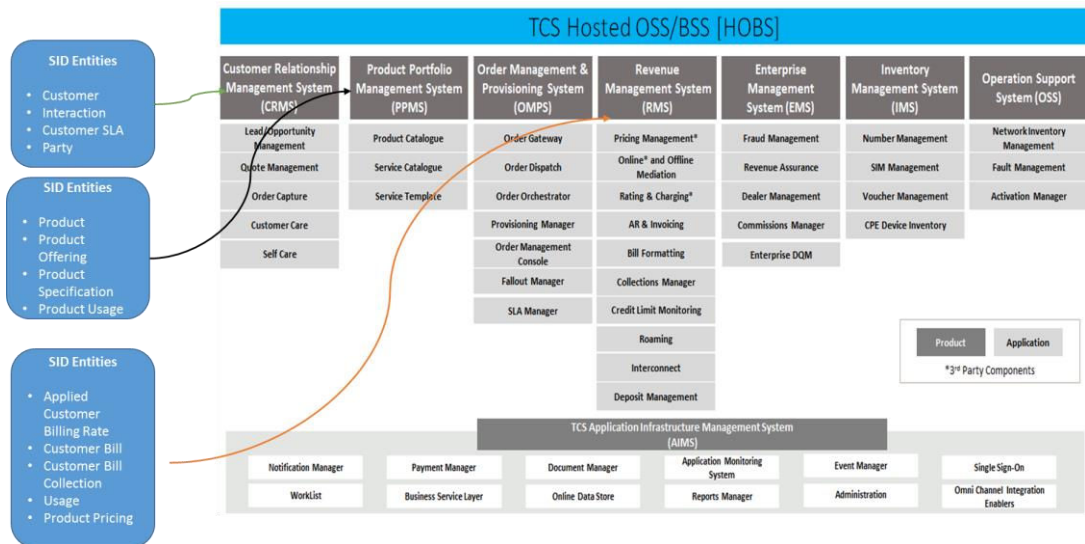


Figure 3-3 TCS HOBS solution mapped to eTOM Level 2 Processes in scope

## **4 Business Process Framework – Process Mapping Descriptions**

This section provides the Process Mapping output from TCS's self-assessment which was reviewed by TM Forum Subject Matter Experts alongside supporting documentation for TCS's HOBS solution.



## 4.1 Level 2: Order Handling (1.3.3)

### 4.1.1 Level 3: Determine Customer Order Feasibility (1.3.3.1)

#### 4.1.1.1 Level 4: Perform Impact Analysis (1.3.3.1.1)

<b>LEVEL 4 PROCESS MAPPING DETAILS</b>
<b>1.3.3.1.1 Perform Impact Analysis</b>
<p><b>Brief Description</b></p> <p>Analyses the customer order for further impact particularly deals with RFCs (request for change). - AM</p> <p>HOBS supports performing feasibility of services (A service here could be Voice, Broadband or Any). The inputs to feasibility could be parameters like service type, geographical location, specific address, etc... The required inputs are validated and the impact analysis is performed. Based on the impact analysis, the feasibility results are generated and provided. The typical impacts could be the ability to provide services requested for, the specific commercial offers that could be offered, the date by which the service could be offered, the need for an appointment and hence forth. HOBS provides ability to manage complex product offers and services by creating a manual task to analyze and determine the feasibility.</p> <p>HOBS enables capture of necessary inputs through a user interface, invokes the feasibility service (A service here is a web service), performs the impact analysis based on the response and provides the results in a user understandable format.</p> <p>The Process Feasibility results, Identify and display Feasible Services are process steps in perform feasibility process which refers to performing the impact analysis of feasibility results.</p> <p><b>Extended description</b></p> <p><i>Not used for this process element.</i></p>

### **Supporting Evidence References (Works Cited)**

**[TCS Ref 1]** - [Perform\_Feasibility.png]: Business process flow for performing the feasibility check.

**[TCS Ref 2]** - [Perform\_Feasibility\_Service.pdf] – Explains the perform feasibility process with relevant screen details.

#### 4.1.2 Level 3: Authorize Credit (1.3.3.2)

<b>LEVEL 3 PROCESS MAPPING DETAILS</b>
<b>1.3.3.2 Authorize Credit</b>
<p><b>Brief Description</b></p> <p>Assess a customer's credit worthiness in support of managing customer risk and company exposure to bad debt- <b>AM</b></p>
<p><b>Extended description</b></p> <p>The purpose of the Authorize Credit processes is to assess a customer's credit worthiness in support of managing customer risk and company exposure to bad debt. This process is responsible for initiating customer credit checks and for authorizing credit and credit terms in accordance with established enterprise risk and policy guidelines - <b>AM</b></p> <p>HOBS supports performing credit verification and for authorizing the credit limits of a customer. The inputs to credit check could be customer profile attributes such as category, customer segment, customer type, customer sub type, customer unique identification number. Other attributes can also be included based on business needs (Ex. Account balance, Past invoice details). The required inputs are validated and credit limit is derived based on internal business rules or through a third party interface or combination of both and the credit rating/score is displayed. Based on the credit check results, if credit rating is sufficient then the customer lead/order would be captured. In case of low credit rating or no credit response an internal approval task/manual task to follow up the credit process can be created.</p> <p>HOBS enables capture of necessary inputs through a user interface, invokes the credit check service, performs the credit analysis based on the response and provides the results in a user understandable format. HOBS also provides ability to handle asynchronous credit response while progressing with the customer lead/order process in cases where the response from external system is being delayed.</p>

### **Supporting Evidence References (Works Cited)**

**[TCS Ref 1]** - [F.ACC Authorize Customer Credit V2.0.png]: Business process flow for authorizing the customer credit.

**[TCS Ref 2]** - [Authorize Customer Credit V1.0.pdf] – Explains the authorize credit process with relevant screen details.

### 4.1.3 Level 3: Track & Manage Customer Order Handling (1.3.3.3)

#### 4.1.3.1 Level 4: Manage Customer Order (1.3.3.3.1)

<b>LEVEL 4 PROCESS MAPPING DETAILS</b>
<b>1.3.3.3.1 Manage Customer Order</b>
<b>Brief Description</b>
Schedule, assign and coordinate customer provisioning related activities - <b>AM</b>
Generate the respective service order creation request(s) to Issue Service Orders based on specific customer orders. - <b>A</b>
Escalate status of customer orders in accordance with local policy - <b>AM</b>
Add additional information to an existing customer order - <b>AM</b>
Modify information in an existing customer order - <b>AM</b>
Cancel a customer order when the initiating sales request is cancelled - <b>AM</b>
If some specific product components are delivered directly by other Parties, initiate requests, through other Party Requisition Management, for the delivery by the other Party of the specific product components - <b>AM</b>
HOBS supports efficient tracking and managing the customer order handling process which includes managing of order information, decomposing order into individual order items, placing service order requests, 3rd party order requests, fallout management, jeopardy management and the entire lifecycle management of the customer order.
HOBS enables the following key features to support manage customer order process such as:
<ul style="list-style-type: none"><li>1&gt; Handling scheduling of the order based on due date. The due date can be calculated based on Feasibility results, Service type, Appointments and CRD.</li><li>2&gt; Handling Customer Provisioning Activities – Enable support for engineering visits at customer premise through appointments, involvement of customer in completion of order such as testing.</li><li>3&gt; Managing decomposition of customer orders in to service level order requests to accomplish the fulfillment of customer order.</li><li>4&gt; Escalation of customer orders based on SLA breaches.</li></ul>

5> Support for addition, modification and cancellation of order through Amend and Cancel processes.

- Amending of existing order
  - Addition/Removal of products
  - Changing Due Dates/Appointments
  - Additional Order Information through Order Notes
- Cancel Order

6> Support for third party order requests in cases of partner supplied product/product components

There are a number of supporting processes in HOBS that helps manage customer order. Few of the relevant processes are listed below:

- Track and Manage Customer Order
- Amend Order
- Cancel Order

**Extended description**

*Not used for this process element.*

#### 4.1.3.2 *Level 4: Track Customer Order (1.3.3.3.2)*

<b>LEVEL 4 PROCESS MAPPING DETAILS</b> <b>1.3.3.3.2 Track Customer Order</b>
<p><b>Brief Description</b></p> <p>Undertake necessary tracking of the execution process - AM</p> <p>Modify the customer order status - A</p> <p>Monitor the jeopardy status of customer orders, escalating customer orders as necessary - AM</p> <p>HOBS enables efficient tracking of the customer order which includes the following:</p> <ol style="list-style-type: none"><li>1&gt; Tracking of order progress and order status update.</li><li>2&gt; Managing order fallouts</li><li>3&gt; Managing SLA and supports in operational activities like Order Edits, Raising Alerts, Raising and Managing manual tasks.</li></ol> <p>HOBS provides a user interface to search orders by attributes like order id, batch order id (in case of bulk orders), customer id, start date, end date, order statuses and track the order progress, provisioning order status updates and customer order escalations.</p> <p>The following are the relevant supporting processes in HOBS that helps in tracking of customer order.</p> <ul style="list-style-type: none"><li>• Track and Manage Customer Order</li><li>• Monitor Order</li></ul> <p><b>Extended description</b></p> <p><i>Not used for this process element.</i></p>

#### 4.1.3.3 *Level 4: Update Order Repository (1.3.3.3.3)*

<b>LEVEL 4 PROCESS MAPPING DETAILS</b>
<b>1.3.3.3.3 Update Order Repository</b>
<p><b>Mandatory</b></p> <p>Create, update and delete order information and update order state into order inventory/ repository. – A</p> <p>HOBS enables the order status transition details during the customer order life cycle to be updated in the order repository. HOBS provides a user interface where the order state transitions can be tracked.</p>



### **Supporting Evidence References (Works Cited)**

**[TCS Ref 1]** – [Track and Manage Customer Order V1.0.pdf] - Explains the relevant scenarios with screen details.

**[TCS Ref 2]** – [Track and Manage Customer Order V1.0.png] - Business Process Flow to Track and Manage the Customer Order.

**[TCS Ref 3]** – [Track and Manage Customer Order\_Validate\_Order V1.0.png] - Business Process Flow to validate the Customer Order.

**[TCS Ref 4]** – [Track and Manage Customer Order\_Dispatch\_Order V1.0.png] - Business Process Flow to dispatch the Customer Order.

**[TCS Ref 5]** – [Track and Manage Customer Order\_Monitor\_Order V1.0.png] - Business Process Flow to monitor the Customer Order.

**[TCS Ref 6]** – [F.AO Amend Order V2.0.png] - Business Process Flow to Amend the Customer Order.

**[TCS Ref 7]** – [F.CO Cancel Order V1.0.png] - Business Process Flow to Cancel the Customer Order.

#### 4.1.4 Level 3: Complete Customer Order (1.3.3.4)

<b>LEVEL 3 PROCESS MAPPING DETAILS</b> <b>1.3.3.4 Complete Customer Order</b>
<p><b>Brief Description</b></p> <p>Manage customer information and interactions after customer contracts or associated service orders have been finalized and during the order completion phase - <b>AM</b></p>
<p><b>Extended description</b></p> <p>The purpose of the Complete Customer Order processes is to manage customer information and interactions after customer contracts or associated service orders have been finalized and during the order completion phase. The customer may participate in commissioning or end-to-end testing and then satisfactory delivery. These processes are responsible for ensuring that any customer information required by other CRM processes is updated as part of the customer order completion –</p> <p><b>AM</b></p> <p>HOBS supports managing customer information and various customer interactions during a customer order life-cycle. As part of order completion process, customer interaction and information management is necessitated due to scenarios such as:</p> <ol style="list-style-type: none"><li>1&gt; Handling Customer Appointments and Revisions if any</li><li>2&gt; Handling updates to customer on changes to orders e.g. Date of Completion, Changes to Ordered Products/Services</li><li>3&gt; Customer involvement in RFS (Ready for Service) Testing</li><li>4&gt; Customer confirmations/consent required for completion of certain orders</li><li>5&gt; Proactive Interactions to customers based on Dunning/Credit Related Policies</li></ol> <p>There are a number of supporting processes in HOBS that help manage customer information and interactions. Few are listed below:</p> <ul style="list-style-type: none"><li>• Log Manual Interactions</li><li>• Reschedule Appointments</li><li>• View Customer Comms</li><li>• Customer 360</li><li>• Create Work Item – For Customer Related Task Handling</li></ul> <p>HOBS enables the following features to support above processes</p> <ul style="list-style-type: none"><li>• Create and View Customer Interactions</li><li>• Create and View Workitems – Enables customer related task handling</li></ul>

- Create and View Appointments
- Create and View Customer Communications
- View Customer Information - Customer 360

### **Supporting Evidence References (Works Cited)**

**[TCS Ref 1]** – Complete\_Customer\_Order V1.0.pdf – Explains the relevant scenarios with screen details.

**[TCS Ref 2]** – F.VCO Validate Customer Order V1.0.png – Business Process Flow for validation customer order. Validate Pre-requisites and Create Work Item process steps refers to creation of manual/approval tasks created as part of completion of order process.

**[TCS Ref 3]** – C.CWI Create WorkItem V2.0.png – Business Process Flow for creating work item.

**[TCS Ref 4]** – F.RA.Reschedule Appointment V1.0.png – Business Process Flow for rescheduling appointments.

**[TCS Ref 5]** – M. LMI Log\_Manual\_Interaction V1.0.png – Business Process Flow for manual interactions.

**[TCS Ref 6]** – M.VCC View Customer Comms v1.0.png – Business Process Flow for viewing customer communications.

**[TCS Ref 7]** – F.CV 360 degree view of customer v1.0.png – Business Process Flow for viewing customer communications.

#### 4.1.5 Level 3: Issue Customer Orders (1.3.3.5)

##### 4.1.5.1 Level 4: Assess Customer Order (1.3.3.5.1)

<b>LEVEL 4 PROCESS MAPPING DETAILS</b>
<b>1.3.3.5.1 Assess Customer Order</b>
<p><b>Brief Description</b></p> <p>Assess the information contained in the customer order relating to the sales request or initiating customer process request to determine the associated customer orders that need to be issued-AM</p> <p>The issued customer order may require a feasibility assessment, - AM</p> <p>may require new provisioning activities, - AM</p> <p>may require a change to a previously issued customer order, - AM</p> <p>or may require cancellation of a previously initiated customer order. - AM</p> <p>The customer order may also relate to the cancellation of previously purchased specific services. - AM</p> <p><b>AM</b></p> <p>HOBS enables order validations before an order is issued. The order is assessed for completeness and correctness. HOBS enables configurable pre-requisites e.g. Credit Check Completion to be set before an order could be Issued.</p> <p>Kindly refer to the evidence for the above process under section 2.1, figure 1 in document [Issue Customer Order.pdf].</p> <p><b>Extended description</b></p> <p>Not used for this process element.</p>

#### 4.1.5.2 *Level 4: Issue Customer Order (1.3.3.5.2)*

<b>LEVEL 4 PROCESS MAPPING DETAILS</b> <b>1.3.3.5.2 Issue Customer Order</b>
<p><b>Brief Description</b></p> <p>Issue a customer order, creating a record of the relevant initiating sales request and the associated customer order. - <b>AM</b></p> <p>Issue a customer order, creating a record of the relevant initiating sales request and the associated customer order. Where the initiating request for a purchased product offering has special or unusual requirements, if a specific feasibility assessment has been previously undertaken, create a record of the relevant initiating request information. - <b>AM</b></p> <p>If a specific feasibility assessment has not been previously undertaken, mark the issued customer order as requiring special handling. - <b>AM</b></p> <p>HOBBS enables issuing of orders of various types. The order types could be for an up take of a new service as well as for managing service life cycle changes (Eg. Change Package, Terminate, Suspend, Resume...)</p> <p>Kindly refer to the evidence for the above process under section 2.2, figures 2, 3 and 4 in document [Issue Customer Order.pdf].</p> <p><b>Extended description</b></p> <p>Not used for this process element.</p>

### **Supporting Evidence References (Works Cited)**

**[TCS Ref]** – [Issue Customer Order.pdf] – Explains Issue Customer Order process with relevant

#### 4.1.7 Level 3: Report Customer Order Handling (1.3.3.6)

##### 4.1.7.1 Level 4: Monitor Customer Order Status (1.3.3.6.1)

<b>LEVEL 4 PROCESS MAPPING DETAILS</b> <b>1.3.3.6.1 Monitor Customer Order Status</b>
<p><b>Brief Description</b></p> <p><b>Continuously monitor the status of customer orders - AM</b></p> <p>HOBS enables efficient tracking of the customer order progress and order status updates. HOBS provides a user interface to search orders by attributes like order id, batch order id (in case of bulk orders), customer id, start date, end date, order statuses and track the order progress, provisioning order status updates and customer order escalations.</p> <p>Kindly refer to the evidence for the above process under section 2.1, figures 1 and 2 in document [Report Customer Order Handling.pdf].</p> <p><b>Extended description</b></p> <p>Not used for this process element.</p>

4.1.7.2 *Level 4: Manage Customer Order Status Notification (1.3.3.6.2)*

<b>LEVEL 4 PROCESS MAPPING DETAILS</b> <b>1.3.3.6.2 Manage Customer Order Status Notification</b>
<p><b>Brief Description</b></p> <p>Manage notifications to processes and other parties registered to receive notifications of any status changes. - A</p> <p>HOBS supports in managing notifications for a customer order on any status change. HOBS enables notifications in the form of raising alerts, creating manual tasks and sending Communication (SMS/Email).</p> <p>Kindly refer to the evidence for the above process under section 2.2, figures 3, 4 and 5 in document [Report Customer Order Handling.pdf].</p> <p><b>Extended description</b></p> <p>Not used for this process element.</p>



4.1.7.3 *Level 4: Report Customer Order Status (1.3.3.6.3)*

<b>LEVEL 4 PROCESS MAPPING DETAILS</b> <b>1.3.3.6.3 Report Customer Order Status</b>
<p><b>Brief Description</b></p> <p>Record, analyze and assess the customer order status changes to provide management reports and any specialized summaries of the efficiency and effectiveness of the overall Order Handling process, including specific reports required by specific customers. - A</p> <p>HOBS supports in managing the customer order status changes and provides an efficient summary of order details. HOBS provides an order summary dashboard which provides the count of orders based on status and order type.</p> <p>Kindly refer to the evidence for the above process under section 2.3, figure 6 in document [Report Customer Order Handling.pdf].</p> <p><b>Extended description</b></p> <p>Not used for this process element.</p>

### **Supporting Evidence References (Works Cited)**

**[TCS Ref]** – [Report Customer Order Handling.pdf] – Explains the relevant screen details for the Report Customer Order

#### 4.1.8 Level 3: Close Customer Order (1.3.3.7)

<b>LEVEL 3 PROCESS MAPPING DETAILS</b> <b>1.3.3.7 Close Customer Order</b>
<p><b>Brief Description</b></p> <p>Close a customer order when the customer provisioning activities have been completed. Monitor the status of all open customer orders, and recognize that a customer order is ready to be closed when the status is changed to completed.</p>
<p><b>Extended description</b></p> <p>The objective of the Close Customer Order processes is to close a customer order when the customer provisioning activities have been completed. - A</p> <p>These processes monitor the status of all open customer orders, and recognize that a customer order is ready to be closed when the status is changed to completed. - A</p> <p>HOBS supports in monitoring the state transitions of a customer order. Every transition of the customer order is updated at order line level and order level. Customer order is completed when all the order lines are completed. On completion of the customer order, the active service details are updated for a customer.</p>

#### Supporting Evidence References (Works Cited)

[TCS Ref 1] – [Close\_Customer\_Order V1.0.pdf] – Supporting document with relevant screen details.

#### 4.1.9 Level 2: Order Handling (1.3.3) - Detailed Conformance Scores

Table 4-1 Order Handling (1.3.3) - Conformance Scores

Level 2: 1.3.3 – Order Handling		
Level 3 Process	Level 4 Process	L4/L3 Process Score
<b>1.3.3.1 - Determine Customer Order Feasibility</b>		<b>5</b>
	1.3.3.1.1 - Perform Impact Analysis	100%
<b>1.3.3.2 - Authorize Credit</b>		<b>5</b>
<b>1.3.3.3 - Track &amp; Manage Customer Order Handling</b>		<b>5</b>
	1.3.3.3.1 - Manage Customer Order	100%
	1.3.3.3.2 - Track Customer Order	100%
	1.3.3.3.3 - Update Order Repository	100%
<b>1.3.3.4 - Complete Customer Order</b>		<b>5</b>
<b>1.3.3.5 - Issue Customer Orders</b>		<b>5</b>
	1.3.3.5.1 - Assess Customer Order	100%
	1.3.3.5.2 - Issue Customer Order	100%
<b>1.3.3.6 - Report Customer Order Handling</b>		<b>5</b>
<b>1.3.3.7 - Close Customer Order</b>		<b>5</b>

## 4.2 Level 2: Customer Management (1.3.4)

### 4.2.1 Level 3: Enable Retention and Loyalty (1.3.4.1)

#### 4.2.1.1 Level 4: Build Customer Insight (1.3.4.1.1)

<b>LEVEL 4 PROCESS MAPPING DETAILS</b> <b>1.3.4.1.1 Build Customer Insight</b>
<b>Brief Description</b>
Ensure that Service Provider and the customer feel confident that the relationship is founded on up-to-date, accurate and legally compliant information - <b>AM</b>
<b>Extended description</b>
The purpose of this process is to ensure that Service Provider and the customer feel confident that the relationship is founded on up-to-date, accurate and legally compliant information. The Service Provider will incorporate into the customer profile, all relevant information gathered through all contacts with the customer (usage pattern, demographics, life stage, household, community of interest, business direction). Customer and market information from other sources may be gathered, which will build a better understanding of the customer. Customer Information must be made available to any process that needs to access it. This customer information will be used to continually refine the means and style of interaction, and the solution sets and customer experience offered. - <b>AM</b>
HOBS supports in efficient management of customer information. This includes customer details that are captured as part of customer acquisition process, customer/service lifecycle changes, customer/service usage patterns, billing/payment related details and information from external sources.
The various features that supports building customer insight are
<ol style="list-style-type: none"><li>1&gt; Customer 360 – A single screen view of all relevant customer information.</li><li>2&gt; View Customer Profile – A detailed view of customer profile which includes customer contacts, demographics</li><li>3&gt; View Account Profile – A detailed view of customers account profile which includes customer usage, billing and payment information</li><li>4&gt; View Customer Interactions – A view of all customer interactions</li></ol>

Kindly refer to the evidence for the above process under section 2.1 in document [Enable Customer Retention and Loyalty.pdf]

#### 4.2.1.2 *Level 4: Analyze and Manage Customer Risk (1.3.4.1.2)*

<b>LEVEL 4 PROCESS MAPPING DETAILS</b> <b>1.3.4.1.2 Analyze and Manage Customer Risk</b>
<b>Brief Description</b>
Ensure that a consistent customer risk assessment is used across the Enterprise and ensure that risk analysis is based on information collected from all processes. - <b>AM</b>
<b>Extended description</b>
The purpose of this process is to ensure that risk analysis is based on information collected from all processes and that consistent risk assessment is used across the Enterprise. Its purpose is also to track and improve Operations, target and win the right customers and improves Sales Conversion rate. It determines the credit risk, fraud risk, influence risk, and churn risk. It identifies treatments to manage these risks and focuses on using customer information. - <b>AM</b>
HOBS supports in managing customer information and analyzing the impacts to reduce the customer risks. HOBS enables credit check, to check the credit worthiness of the customer. Based on credit check results, specific policies can be implemented. HOBS enables identifying and marking potential fraudulent customers. This is managed through a blacklist database. HOBS can integrate with social listening platforms which can identify influencers and there by manage influence risk. Churn risk is identified through analytics and interactions. HOBS enables save/retention offers to manage churn risks.
Kindly refer to the evidence for the above process under section 2.2 in document [Enable Customer Retention and Loyalty.pdf]

#### 4.2.1.3 *Level 4: Personalize Customer Profile for Retention and Loyalty (1.3.4.1.3)*

<b>LEVEL 4 PROCESS MAPPING DETAILS</b> <b>1.3.4.1.3 Personalize Customer Profile for Retention and Loyalty</b>
<b>Brief Description</b>
Provide the personalization opportunities for customers that will encourage them not to switch to another Service Provider - <b>AM</b>
<b>Extended description</b>
<p>The purpose of this process is to provide the personalization opportunities for customers that will encourage them not to switch to another Service Provider. Personalization allows delivery of services that more closely match the customer's need. Collection of Personalization Information also discourages switching since the customer would have to build up the same Personalized experience with the next Service Provider.</p> <ul style="list-style-type: none"><li>- Business Planning is essential to allow the Service Provider to match the customer's future retention needs and potential acquisition needs, rather than just continuing with today's known needs.</li><li>- Loyalty schemes allow tangible benefits to be offered to good customers in a mass-market.</li><li>- The process aims to ensure that all information is gathered and used to make the best decisions to retain those customers the Service Provider wants to retain, heighten satisfaction and maintain profitability.</li></ul> <p>This process provides a source of data for performing loyalty and retention marketing campaigns, for retaining existing customers, promoting customer loyalty, winning back customers who have left. It utilizes predictive modeling software to analyze an account, and to return relevant scores, such as: churn score, up-sell score, cross-sell score, bad debt score and customer lifetime value score. Moreover it utilizes scores for customer analysis and marketing campaign purposes. - <b>AM</b></p> <p>HOBBS supports personalization opportunities by enabling configuration of personalized offers / products at specific customer level. The personalized offers/products are arrived based on analytics. All required customer related information is made available to generate the analytics and arrive at metrics such as customer lifetime value score.</p> <p>Kindly refer to the evidence for the above process under section 2.3 in document [Enable Customer Retention and Loyalty.pdf]</p>

4.2.1.4 *Level 4: Validate Customer Satisfaction (1.3.4.1.4)*

<b>LEVEL 4 PROCESS MAPPING DETAILS</b> <b>1.3.4.1.4 Validate Customer Satisfaction</b>
<b>Brief Description</b>
Validate that predicted/expected value is delivered by the solution and initialize the after-sales processes (billing and assurance) - <b>AM</b>
<b>Extended description</b>
The purpose of this process is to validate that predicted/expected value is delivered by the solution and that the after-sales processes (billing and assurance) are initialized. It validates that the customer is capable of realizing maximum value from the operation or use of the solution and that intense Provider involvement is no longer needed to manage the solution. This process ensures that the customer is satisfied that the solution that was actually delivered meets original or updated expectations and agreements and that the solution is operable by the customer. - <b>AM</b>
HOBS provides the ability to validate the customer satisfaction of the solution delivered and then initiate the billing and assurance processes. As part of the process, a customer satisfaction feedback mechanism can be incorporated to ensure that the solution has been delivered upon agreed expectations.
Kindly refer to the evidence for the above process under section 2.4 in document [Enable Customer Retention and Loyalty.pdf]



## 4.2.2 Level 3: Establish Customer Relationship (1.3.4.2)

### 4.2.2.1 Level 4: Verify Customer (1.3.4.2.1)

<b>LEVEL 4 PROCESS MAPPING DETAILS</b>
<b>1.3.4.2.1 Verify Customer</b>
<p><b>Brief Description</b></p> <p>Verify that the customer is who they claim they are. - AM</p>
<p><b>Extended description</b></p> <p>The purpose of this process is to verify that the customer is who they claim they are. This can be achieved by examination of an identity certification issued by a trusted body (such as governmental agency or other accepted means.) Certification means can be physical (such as Passport or ID card) biometrical or other.</p> <p>HOBS supports in verifying the identity of the customer, by capturing/validating the customer's information like unique identification number (Ex. SSN/TIN...), Name, Date of Birth, Mobile Number. The captured information can be verified through integration with a third party interface. HOBS also enables capturing customer proof documents (Ex: Passport, Birth Certificate...) in the process of creating the customer profile. If the provided identification number is not valid, a manual task can be created to follow up and verify the customer information and there by confirming the customer identity.</p> <p>Kindly refer to the evidence for the above process under section 2 Figures 1, 2 and 3 in document Establish Customer Relationship.pdf</p>

#### 4.2.2.2 *Level 4: Establish New Customer Identity (1.3.4.2.2)*

<b>LEVEL 4 PROCESS MAPPING DETAILS</b> <b>1.3.4.2.2 Establish New Customer Identity</b>
<p><b>Brief Description</b></p> <p>Issue a unique Identifier and Authentication information for a new customer without an existing identity. - AM</p>
<p><b>Extended description</b></p> <p>Not used for this process element.</p>
<p><b>Mandatory</b></p> <p>Issue a unique Identifier and Authentication information for a new customer without an existing identity. - AM</p> <p>HOBS supports in performing customer existence check across the enterprise through the verification process. HOBS enables two levels of customer existence check, one internally and also through integration with external Customer Master Data Management systems. If the customer does not exist then the new customer profile is created with given customer information and a unique customer identifier is issued which can be used across enterprise.</p> <p>Kindly refer to the evidence for the above process under section 2 Figures 4 and 5 in document Establish Customer Relationship.pdf</p>

#### 4.2.2.3 *Level 4: Clean-up and Archive Customer Identifying Information (1.3.4.2.3)*

<b>LEVEL 4 PROCESS MAPPING DETAILS</b>
<b>1.3.4.2.3 Clean-up and Archive Customer Identifying Information</b>
<p><b>Brief Description</b></p> <p>After termination, provides 'clean-up' duplicates of customer identifying information that may exist within the organization. Profile and preference information for terminated customer relationships is archived if acceptable to the customer. All relevant parties are informed of the ended relationship. Other processes are triggered to dismantle the customer solution and servicing arrangements as necessary. - AM</p>
<p><b>Extended Description</b></p> <p>Not used for this process element</p>
<p><b>Mandatory</b></p> <p>After termination, provides 'clean-up' duplicates of customer identifying information that may exist within the organization. Profile and preference information for terminated customer relationships is archived if acceptable to the customer. All relevant parties are informed of the ended relationship. - AM</p> <p>HOBS supports clean-up of duplicate customers by providing the verification capabilities to identify unique customers. Based on business rules, the duplicate customers are identified and proposed for consolidation.</p> <p>HOBS supports archival customers based on business rules e.g. Terminated Customers with no active relationship beyond "X" number of years to be archived</p>

#### 4.2.2.4 *Level 4: De-Duplicate Customer Identity (1.3.4.2.4)*

<b>LEVEL 4 PROCESS MAPPING DETAILS</b>
<b>1.3.4.2.4 De-Duplicate Customer Identity</b>
<p><b>Brief Description</b> Merge multiple records from same customer. - AM</p>
<p><b>Extended Description</b> The purpose of this process is to check that the customer does not already have an Identity with the Enterprise. This process is also used to 'clean-up' duplicates of customer identifying information that may exist within the organization. - AM</p> <p>HOBS supports in performing the customer existence check across enterprise while creating a new customer. If customer exists, user is guided with an option to view the existing customer 360 and perform the customer/service activities. If customer does not exist, additional required details (market segment, organization name, DOB, contact details, marketing preference, proof and other demographics) are captured to build the customer profile.</p> <p>HOBS supports clean-up of duplicate customers by providing the verification capabilities to identify unique customers. Based on business rules, the duplicate customers are identified and proposed for consolidation.</p> <p>Kindly refer to the evidence for the above process under section 2 Figures 1,2,3 and 4 in document Establish Customer Relationship.pdf</p>

4.2.2.5 *Level 4: Issue Unique Customer ID (1.3.4.2.5)*

<b>LEVEL 4 PROCESS MAPPING DETAILS</b>
<b>1.3.4.2.5 Issue Unique Customer ID</b>
<p><b>Brief Description</b> Ensure only one customer identity exists across the Enterprise. - AM</p>
<p><b>Extended Description</b> The purpose of this process is to ensure only one customer identity exists across the Enterprise, which can be referenced across the whole Enterprise and allows the customer to quickly and easily identify himself. Before establishing an identity for a new customer de-duplication check is performed. - AM</p> <p>HOBS enables Issuing of a unique customer ID and ensures that only one customer identity exists across enterprise. HOBS perform de-duplication check to validate the customer existence within the enterprise.</p> <p>Kindly refer to the evidence for the above process under section 2 Figures 4 and 5 in document Establish Customer Relationship.pdf</p>

#### 4.2.2.6 *Level 4: Gather Authentication Information (1.3.4.2.6)*

<b>LEVEL 4 PROCESS MAPPING DETAILS</b>
<b>1.3.4.2.6 Gather Authentication Information</b>
<p><b>Brief Description</b> Gather Authentication Information from the customer. - AM</p>
<p><b>Extended Description</b> The purpose of this process is to gather information that enables the enterprise to authenticate the customer identity. This information can be documents issued by other authorities (such as ID card or passport) or information that will enable the enterprise to re-authenticate the customer (such as answer to a secret question). - AM</p> <p>HOBS enables to authenticate the customer identity. HOBS provides a user interface to capture customer information such as Name, Unique identification number (Ex: SSN/TIN), Date of Birth, Mobile Number and proof documents issued by other authorities (Ex: Passport, Permanent Resident Card, Driver's License, ID Issued by any government agencies/entities, Birth Certificate...) to verify the customer identity.</p> <p>Kindly refer to the evidence for the above process under section 2 Figures 1, 2 and 3 in document Establish Customer Relationship.pdf</p>

#### **Supporting Evidence References (Works Cited)**

**[TCS Ref 1]** – [Establish Customer Relationship.pdf] Document with relevant screen details for the Establish Customer Relationship process.

**[TCS Ref 2]** - [F.AC.Acquire Customer II V2.0 (1).png] – Business Process flow for acquiring a customer.

**[TCS Ref 3]** - [F.AC.Acquire Customer II V2.0 (1).png] – Business Process flow for acquiring a customer.

**[TCS Ref 4]** – [Archive Customer Info.png] – Business Process flow for acquiring a customer.

**[TCS Ref 5]** – [TCS - Data Quality - HOBS Approach V1.0.pdf] – White Paper on HOBS Data Quality

#### 4.2.3 Level 3: Re-Establish Customer Relationship (1.3.4.3)

<b>LEVEL 3 PROCESS MAPPING DETAILS</b> <b>1.3.4.3 Re-Establish Customer Relationship</b>
<p><b>Brief Description</b> Re-establish customer relationship- <b>AM</b></p>
<p><b>Extended Description</b> The purpose of this process is to re-establish customer relationship which were suspended or terminated in the past. This process recovers the appropriate customer information along with the past customer interactions and provides them to the operational systems in order to provide continuity in the customer management processes. Pending on the customer status this process performs:</p> <ul style="list-style-type: none"><li>• Change in the status of the customer information in the operational systems</li><li>• Retrieve customer information from archive systems</li><li>• Create/Update the retrieved customer information</li><li>• Restore/retrieve previous customer interactions information - <b>AM</b></li></ul> <p>A customer relationship could be suspended or terminated due to reasons such as</p> <ul style="list-style-type: none"><li>• Customer not having paid his dues in the past and is suspended as part of the dunning/collections processes</li><li>• Customer is identified for fraudulent activities and has been blacklisted</li><li>• Customer has no active services, the information of customer is still maintained in operational systems</li><li>• Customer has no active services, the information of customer has been archived</li></ul> <p>Re-establishing the customer relationship involves different kinds of activities based on the reason the customer relationship was terminated or suspended.</p> <p>In case of a customer being suspended/terminated as a result of dunning/collection processes, it is possible to re-instate the customer once the customer pays.</p> <p>In case of a customer having been blacklisted, based on organizational and regulatory policies, it is possible to remove the customer from the blacklist</p> <p>In case of a customer having no active services, the customer information is still maintained in operational systems, it is possible to re-instate the customer and customer services through processes such as “Re-Connect”</p> <p>In case a customer information has been archived, it would require operational procedures to establish the customer back.</p>

### **Supporting Evidence References (Works Cited)**

**[TCS Ref 1] – Re-Establish Customer Relationship.pdf**

Re-establishing a suspended customer because of dunning / collection processes,  
Re-establishing a customer with no active services

**[TCS Ref 2] – Scripts to re-instate the customer information from archive**



#### 4.2.4 Level 3: Terminate Customer Relationship (1.3.4.4)

<b>LEVEL 3 PROCESS MAPPING DETAILS</b> <b>1.3.4.4 Terminate Customer Relationship</b>
<p><b>Brief Description</b> Manage termination as appropriate - <b>AM</b></p>
<p><b>Extended Description</b> The customer relationship is terminated only if actually appropriate, the wishes of the customer are complied with where possible, records are kept in case the relationship with the customer is re-established, legal and ethical requirements for customer information are complied with. Significant customer life-stage events or business decisions by the Service Provider cause one or both parties to terminate the relationship. The need for complete termination of relationships needs to be differentiated from just terminating all services. The principles behind this include the Service Provider ending a relationship only if the customer ceases to exist, or the customer is fraudulent, the Enterprise decides that it no longer wishes to do business with the customer. All relevant parties are informed of the ended relationship. Other processes are triggered to dismantle the customer solution and servicing arrangements as necessary. - <b>AM</b></p> <p>HOBS supports complete life cycle management of customer including termination of customer.</p> <p>When a customer is identified as fraudulent, the customer is categorized into a blacklisted category with appropriate reasons. When a customer is deceased or no longer wishes to maintain the relationship the customer life cycle status is updated accordingly.</p>

#### Supporting Evidence References (Works Cited)

- [TCS Ref 1] – Terminate Customer.png – Business Process flow for terminating customer
- [TCS Ref 2] – Blacklist.png – Customers Terminated due to fraud
- [TCS Ref 3] – Terminate Customer Search and Results.png – Search list showing terminated customers
- [TCS Ref 4] – View Customer Profile Terminated Customer.png – Viewing Terminated Customers Profile Information
- [TCS Ref 5] – Close Account V 1.0.pdf – Business rules Script to terminate a customer

## 4.2.5 Level 2: Customer Management (1.3.4) - Detailed Conformance Scores

Table 4-2 Customer Management (1.3.4) - Conformance Scores

Level 2: 1.3.4 – Customer Management		
Level 3 Process	Level 4 Process	L4/L3 Process Score
<b>1.3.4.1 - Enable Retention &amp; Loyalty</b>		<b>5</b>
	1.3.4.1.1 Build Customer Insight	100%
	1.3.4.1.2 Analyze and Manage Customer Risk	100%
	1.3.4.1.3 Personalize Customer Profile for Retention and Loyalty	100%
	1.3.4.1.4 Validate Customer Satisfaction	100%
<b>1.3.4.2 - Establish Customer Relationship</b>		<b>5</b>
	1.3.4.2.1 Verify Customer	100%
	1.3.4.2.2 Establish New Customer Identity	100%
	1.3.4.2.3 Clean-up and Archive Customer Identifying Information	100%
	1.3.4.2.4 De-Duplicate Customer Identity	100%
	1.3.4.2.5 Issue Unique Customer ID	100%
	1.3.4.2.6 Gather Authentication Information	100%
<b>1.3.4.3 - Re-establish Customer Relationship</b>		<b>5</b>
<b>1.3.4.4 - Terminate Customer Relationship</b>		<b>5</b>

## 4.3 Level 2: Customer Interaction Management (1.3.5)

### 4.3.1 Level 3: Customer Interface Management (1.3.5.9)

#### 4.3.1.1 Level 4: Manage Request (Including Self Service) (1.3.5.9.1)

<b>LEVEL 4 PROCESS MAPPING DETAILS</b>
<b>1.3.5.9.1 Manage Request (Including Self Service)</b>
<p><b>Brief Description</b></p> <p>Manage all requests (inbound and outbound) made by potential and existing customers. - <b>AM</b></p>
<p><b>Extended Description</b></p> <p>The purpose of this process is to manage all requests (inbound and outbound) made by potential and existing customers. It receives the request and either enables its originator to automatically fulfill it, or identifies and activates the opportune process to accomplish the request; it manages the status of the request and is able to provide status information at any moment in which the request is active; it formally closes the request when all related activities have been terminated. - <b>AM</b></p> <p>HOBS supports handling of customer requests of various types. The requests are broadly categorized in HOBS as Customer Level Requests e.g. Changing Customer Information, Account Level Requests e.g. Change of Account Information, Bill Related Inquiry, Service Level Requests e.g. a Service Trouble related requests.</p> <p>HOBS provides both automatic/manual handling of requests and requests can be initiated /handled through Self Service or other channels. Also an interaction is created along with every request.</p> <p>It is also possible to configure new request types that needs to be handled.</p>

### Supporting Evidence References (Works Cited)

[TCS Ref 1] – [Customer Interface Management.pdf] - Section 2 with detailed list of Manage Requests, and Section 3.1 on logging customer interactions

#### 4.3.1.2 *Level 4: Analyze & Report on Customer (1.3.5.9.2)*

LEVEL 4 PROCESS MAPPING DETAILS 1.3.5.9.2 Analyze & Report on Customer
<p><b>Brief Description</b></p> <p>Perform all necessary analysis on closed requests and on customer contacts - <b>AM</b></p>
<p><b>Extended Description</b></p> <p>The purpose of this process is to perform all necessary analysis on closed (completed or unfulfilled) requests and on customer contacts and it generates related reports, to be utilized for process improvement activities, proactive problems prevention, up-sell opportunities definition, etc. - <b>AM</b></p> <p>Every Interaction with customer can be registered either automatically or manually for analysis. Various kind of reports can be generated to ensure customer experience improvements, cross sell/up sell opportunities and improve operational efficiencies</p>

### Supporting Evidence References (Works Cited)

[TCS Ref 1] – [Customer Interface Management.pdf] - Section 3.2, Reports on Customer Interactions

#### 4.3.1.3 *Level 4: Mediate & Orchestrate Customer Interactions (: 1.3.5.9.3)*

<b>LEVEL 4 PROCESS MAPPING DETAILS</b> <b>1.3.5.9.3 Mediate &amp; Orchestrate Customer Interactions</b>
<p><b>Brief Description</b></p> <p>Ensure that transaction message structure and interactions conform to agreed, externally defined standards used by the enterprise and its customers - <b>A</b></p>
<p><b>Extended description</b></p> <p>The purpose of the Mediate &amp; Orchestrate Customer Interactions is to ensure that transaction message structure and interactions conform to agreed, externally defined standards used by the enterprise and its customers. Increasingly transactions with external parties (e.g. customers using RosettaNet or Web Services standards) will need to conform to message and data formats defined by third parties or third party organizations. Based on the specific transaction type and involved external party, this conformance will require the identification of the necessary data formats to be sent externally, and conversion of externally received messages into the required internal enterprise formats. In addition, interactions with external parties may require that messages and transactions need to be undertaken with defined and agreed orchestration for message exchange. The actual agreement between the parties to use specific interaction standards is part of the Support Customer Interface Management and Support Selling L3s. – <b>A</b></p> <p>HOBS provides webservice based interfaces to channels to enable customer interactions. The data structures/formats are standards based and extends TMF's SID data model.</p>

#### **Supporting Evidence References (Works Cited)**

[TCS Ref 1] – [Customer Interface Management.pdf] - Section 3.3, List of Services supporting Customer Interactions

## 4.3.2 Level 2: Customer Interaction Management (1.3.5) - Detailed Conformance Scores

Table 4-3 Customer Management (1.3.5) - Conformance Scores

Level 2: 1.3.5 – Customer Interaction Management		
Level 3 Process	Level 4 Process	L4/L3 Process Score
	<b>1.3.5.9 – Customer Interface Management</b>	<b>5</b>
	1.3.5.9.1 Manage Request (Including Self Service)	100%
	1.3.5.9.2 Analyze & Report on Customer	100%
	1.3.5.9.3 Mediate & Orchestrate Customer Interactions	100%

## 4.4 Level 2: Bill Invoice Management (1.3.9)

### 4.4.1 Level 3: Apply Pricing, Discounting, Adjustments & Rebates (1.3.9.1)

#### 4.4.1.1 Level 4: Obtain Billing Events (1.3.9.1.1)

<b>LEVEL 4 PROCESS MAPPING DETAILS</b>
<b>1.3.9.1.1 Obtain Billing Events</b>
<p><b>Brief Description</b></p> <p>Accept billing events that have been collected, translated, correlated, assembled, guided and service rated before determining the information would be applied to the customer’s bill invoice(s). – <b>A</b></p>
<p><b>Mandatory</b></p> <p>The purpose of the Obtain Billing Events process is to ensure that all billing events for services delivered to the customer by the Service Provider are available for processing. -<b>A</b></p> <p>HOBS supports accumulation of billing events through Execute Billing Process. The Execute Billing Process is responsible for ensuring right invoice is raised considering the billable events and adjustments for every customer’s account and services. The Execute Billing Process comprises of below steps</p> <ul style="list-style-type: none"><li>• <i>Fetch Subscription</i></li><li>• <i>Accumulate Events</i></li><li>• <i>Apply Charges</i></li><li>• <i>Apply Discounts</i></li><li>• <i>Consolidate Account Charges</i></li><li>• <i>Allocate Adjustment</i></li><li>• <i>Apply Taxes</i></li><li>• <i>Calculate Bill Amount</i></li></ul> <p><i>Fetch Subscription</i> identifies the billable subscriptions for the billing account. <i>Accumulate Events</i> identifies the commercial products that are attached to the subscription and retrieves all the non-recurring, recurring, usage, discount and adjustment events to be billed. Events to be billed is identified based on the bill period and event type requested in the bill.</p> <p>For usage events, the mediation process collects the events generated from the Network, correlates, assembles any partial events and feeds the rating process. Then the rating process applies the rates based on the service and the rating tariff configured for the customer. Events could be of different types. Billing Process fetches all the unbilled rated events accumulated since the last bill period. These are considered for the current bill.</p>
<p><b>Extended description</b></p>

*Not used for this process element.*

### **Supporting Evidence References (Works Cited)**

**[TCS Ref 1]** - [Execute\_Billing.png]: Supporting Set of Business process flow diagrams for “Apply Pricing, Discounting, Adjustments & Rebates” Process

**[TCS Ref 2]** - [Sample Bill.pdf]: Sample Bill

**[TCS Ref 3]** - [Bill Invoice Management V1.0.pdf]: Refer Sections 4 on “Billing”



4.4.1.2 *Level 4: Apply Pricing, Discounting, Adjustments & Rebates to Customer Account (1.3.9.1.2)*

<b>LEVEL 4 PROCESS MAPPING DETAILS</b>
<b>1.3.9.1.2 Apply Pricing, Discounting, Adjustments &amp; Rebates to Customer Account</b>
<p><b>Brief Description</b></p> <p>Determine the customer account or customer specific pricing, charges, discounts, and taxation that should be delivered to the invoice(s) for the customer. - A</p>
<p><b>Mandatory</b></p> <p>The purpose of Determine Customer Account process is to determine the customer account or customer specific pricing, charges, discounts, and taxation that should be delivered to the invoice(s) for the customer and ensure that each cost item included in customer bill invoice(s) can correspond to a correct account through which customer will pay for the cost item. - A</p> <p>HOBS supports accumulation of billing events through Execute Billing Process. The Execute Billing Process is responsible for ensuring right invoice is raised considering the billable events and adjustments for every customer’s account and services. The Execute Billing Process comprises of below steps</p> <ul style="list-style-type: none"><li>• <i>Fetch Subscription</i></li><li>• <i>Accumulate Events</i></li><li>• <i>Apply Charges</i></li><li>• <i>Apply Discounts</i></li><li>• <i>Consolidate Account Charges</i></li><li>• <i>Allocate Adjustment</i></li><li>• <i>Apply Taxes</i></li><li>• <i>Calculate Bill Amount</i></li></ul> <p>“Apply Charges” covers applying Recurring, Non-Recurring and Usage related Charges. Recurring charges are applied in arrears or advance based on the configuration.</p> <p>“Apply Discount” covers applying of Discounts based on the event. Discounts can be applied at rating time as well as billing time.</p> <p>“Consolidate Account Charges” covers the aggregation of charges of all the subscriptions of the Billing Account and the Account Level Charges.</p>

*“Apply Taxes”* covers the taxations on the product charges after discount. If Products have more than one tax configured, then all the tax amounts are calculated. Taxes are not applied if exemptions are defined. Tax Exemption can be defined at Product/Subscription/Billing Account Level.

*“Allocate Adjustments”* the allocation of any credit/debit adjustments issued in the current bill.

*“Calculate Bill Amount”* covers the calculation of Total Bill for the Billing Account after applying the taxes. Bill Amount is rounded per the configuration rules. Rounding is done as per configuration

If the Billing Account has child Non Paying Accounts in its hierarchy, the charges of all these child Accounts are aggregated to the Parent Account. The bill amount of this account will be sum of the bills of all the child Non Paying Accounts.

**Extended description**

*Not used for this process element.*

**Supporting Evidence References (Works Cited)**

[TCS Ref 1] - [Execute\_Billing.png]: Supporting Set of Business process flow diagrams for “Apply Pricing, Discounting, Adjustments & Rebates” Process

[TCS Ref 2] - [Sample Bill.pdf]: Sample Bill

[TCS Ref 3] - [Bill Invoice Management V1.0.pdf]: Refer Sections 3,4,5, on Usage Rating, Billing, Adjustment Processing

#### 4.4.1.3 *Level 4: Apply Agreed Bill Adjustment (1.3.9.1.3)*

<b>LEVEL 4 PROCESS MAPPING DETAILS</b>
<b>1.3.9.1.3 Apply Agreed Bill Adjustment</b>
<p><b>Brief Description</b></p> <p>Apply and review any adjustment agreed in the previous billing period and make these included to the bill invoice. - A</p> <p><b>Mandatory</b></p> <p>The purpose of the Apply Agreed Customer Bill Adjustment process is to ensure that any adjustments which have been agreed between customer and Service Provider are included in the customer bill invoice - A</p> <p>HOBS supports accumulation of billing events through Execute Billing Process. The Execute Billing Process is responsible for ensuring right invoice is raised considering the billable events and adjustments for every customer's account and services. The Execute Billing Process comprises of below steps</p> <ul style="list-style-type: none"><li>• <i>Fetch Subscription</i></li><li>• <i>Accumulate Events</i></li><li>• <i>Apply Charges</i></li><li>• <i>Apply Discounts</i></li><li>• <i>Consolidate Account Charges</i></li><li>• <i>Allocate Adjustment</i></li><li>• <i>Apply Taxes</i></li><li>• <i>Calculate Bill Amount</i></li></ul> <p>An adjustment could be made for "credit" or "debit" and the balance is impacted based on the type of adjustment. Invoice/Account Level adjustments are supported.</p> <p><b>Extended description</b></p> <p><i>Not used for this process element.</i></p>

#### **Supporting Evidence References (Works Cited)**

[TCS Ref 1] - [Raise Adjustment Screen Shot.png]: Raise Adjustment Sample Screen Shot

## 4.4.2 Level 3: Create Customer Bill Invoice (1.3.9.2)

### 4.4.2.1 Level 4: Render & Format Invoice (1.3.9.2.1)

<b>LEVEL 4 PROCESS MAPPING DETAILS</b>
<b>1.3.9.2.1 Render &amp; Format Invoice</b>
<p><b>Brief Description</b></p> <p>Render and format the customer bill invoice. – A</p> <p><b>Mandatory</b></p> <p>This process provides formatting of invoices in different ways and to achieve different publishing possibilities, and supports the creation of different invoice formats for different publication media. The process is further responsible for splitting and re-arranging invoices for customers (particularly customers with complex account structures) according to agreements made with these customers.</p> <p><b>A</b></p> <p>HOBS supports generation of invoices in different formats (XML, PDF). It is also possible to generate a summary bill or detailed bill. There are pre-defined invoice templates which can be leveraged. For large customers it is possible to have a complex account hierarchy with varied invoicing needs based on agreement with customer. As part of invoice generation, there are scenarios where consolidated invoice, where invoice details from external system needs to be considered. This is also supported. Once an invoice is generated it is possible to send the invoice electronically to the customer or to the print vendor for printing and dispatch.</p> <p><b>Extended description</b></p> <p><i>Not used for this process element.</i></p>

### Supporting Evidence References (Works Cited)

[TCS Ref 1] – [Bill Formatting and Printing.png]: Process for Rendering and Formatting Invoice based on needs

[TCS Ref 2] - [Bill Invoice Management V1.0.pdf]: Refer Section 7 on “Bill Snap/Bill Formatting Overview”

4.4.2.2 *Level 4: Deliver Electronic Invoice (1.3.9.2.2)*

<b>LEVEL 4 PROCESS MAPPING DETAILS</b>
<b>1.3.9.2.2 Deliver Electronic Invoice</b>
<p><b>Brief Description</b></p> <p>Deliver the electronic copy of an invoice to customers. - A</p>
<p><b>Mandatory</b></p> <p>The purpose of Deliver Electronic Invoice process is to deliver the electronic copy of an invoice to customers. - A</p> <p>HOBS supports delivering of invoices electronically. It is possible to send it as a password protected file through email or ability to provide it over self-care.</p>
<p><b>Extended description</b></p> <p><i>Not used for this process element.</i></p>

**Supporting Evidence References (Works Cited)**

[TCS Ref 1] – [Bill Formatting and Printing.png]: Process for Rendering and Formatting Invoice based on needs

[TCS Ref 2] - [Bill Invoice Management V1.0.pdf]: Refer Section 8 on “Electronic Delivery of Invoices”

#### 4.4.2.3 *Level 4: Verify Invoice Quality (1.3.9.2.3)*

<b>LEVEL 4 PROCESS MAPPING DETAILS</b>
<b>1.3.9.2.3 Verify Invoice Quality</b>
<p><b>Brief Description</b></p> <p>Verify invoice quality before distribution to the customer in electronic form and the process responsible for physical invoice production and distribution. - AM</p>
<p><b>Mandatory</b></p> <p>The purpose of Verify Invoice Quality process is to verify invoice quality prior to distribution to the customer in electronic form, or to the process responsible for physical invoice production and distribution. Verifying invoice quality is either a manual operation or an automatic behavior. The process is responsible for ensuring the invoice format and content can meet customer requirements. When verifying invoice quality is failed, the process is also responsible for sending the invoice back to another process to reprocess - <b>AM</b></p> <p>HOBS supports a comprehensive QA Billing Process which supports verifying invoice quality. As part of QA Billing process, it is possible to configure rules based on which accounts could be identified for the QA Billing process. Once the accounts are identified, it is possible to generate pre-bill reports, perform a simulation bill run, generate post-bill reports, perform the QA process and make any corrections if required. HOBS provides reconciliation tools to aid the QA process.</p>
<p><b>Extended description</b></p> <p><i>Not used for this process element.</i></p>

#### **Supporting Evidence References (Works Cited)**

[TCS Ref 1] – [QA Bill.png]: Process for Quality Assurance on Billing

[TCS Ref 2] - [Bill Invoice Management V1.0.pdf]: Refer Section 6 on “QA Billing Overview”

#### 4.4.2.4 *Level 4: Manage Customer Invoice Archive (1.3.9.2.4)*

<b>LEVEL 4 PROCESS MAPPING DETAILS</b>
<b>1.3.9.2.4 Manage Customer Invoice Archive</b>
<p><b>Brief Description</b></p> <p>Store the customer invoice for a period of time is to address regulation and/or internal requirements, during which they can be accessed to support any customer or regulator agency inquiries on bill invoices. - A</p>
<p><b>Mandatory</b></p> <p>The purpose of Management Customer Invoice Archive process is to store the customer invoice for a period of time, to perform regulation and/or serve internal requirements, during which they can be accessed to support any customer or regulator agency inquiries on bill invoices, and the process is further responsible for archiving the customer invoices to historical customer invoice after a period of time according to Service Provider's management requirements. Furthermore the process is responsible for managing and maintaining archiving cycle - A</p> <p>HOBS supports archival process through an ETL process. The archived records are stored in secured fashion for subsequent retrieval. The process is configurable to archive invoices based on service provider/regulatory needs.</p>
<p><b>Extended description</b></p> <p><i>Not used for this process element.</i></p>

#### **Supporting Evidence References (Works Cited)**

[TCS Ref 1] – [Bill Data Archival.png]: Process for Archival of Customer Invoices

[TCS Ref 2] - [Bill Invoice Management V1.0.pdf]: Refer Section 9 on “Archival”

### 4.4.3 Level 3: Produce & Distribute Bill (1.3.9.3)

#### 4.4.3.1 Level 4: Co-ordinate Bill Insertion (1.3.9.3.1)

<b>LEVEL 4 PROCESS MAPPING DETAILS</b>
<b>1.3.9.3.1 Co-ordinate Bill Insertion</b>
<p><b>Brief Description</b></p> <p>Co-ordinate with promotional processes for any billing insertions to be included with the bill. - A</p>
<p><b>Mandatory</b></p> <p>This process is responsible for determining the content of insertion and the position of insertion in invoice. The insertion can be the service information provided by Service Provider, advertisements and recommendation of billing for customers. This process is also responsible for ensuring the billing insertion attracting the customer interests and not leading to customer complaints. - A</p> <p>HOBS Bill formatting and printing processes enables insertion of content on the bill such as images, marketing/promotional information within the bill. The information can be made available in different formats to the print vendor for printing or sent electronically to the customer or can be made available in Self Care</p>
<p><b>Extended description</b></p> <p><i>Not used for this process element.</i></p>

#### Supporting Evidence References (Works Cited)

[TCS Ref 1] – [Bill Formatting and Printing]: Process Diagram for Bill Formatting and Printing

[TCS Ref 2] – [Sample Bill with Promotional and Marketing Details.pdf]: Sample Bill



4.4.3.2 *Level 4: Establish & Manage Bill Production Cycle (1.3.9.3.2)*

<b>LEVEL 4 PROCESS MAPPING DETAILS</b>
<b>1.3.9.3.2 Establish &amp; Manage Bill Production Cycle</b>
<p><b>Brief Description</b></p> <p>Establish and manage the physical bill production cycle. - <b>AM</b></p>
<p><b>Mandatory</b></p> <p>This process is responsible for identifying the deadline of the customer requiring physical bill productions, time cycle for producing and distributing to ensure that the physical bill production can be received by the customer on time. This process is responsible for ensuring that physical bills are produced in time to be received by customers on time. This process takes production and distribution cycle timing into account when establishing bill production schedules. - <b>AM</b></p>
<p>HOBS enables configuring of bill cycles based on needs and ability to send the information to physical bill production system based on different bill cycle. The bill execution can happen based on the bill cycles configured and scheduling handles generation of bill information for printing of bills</p>
<p><b>Extended description</b></p> <p><i>Not used for this process element.</i></p>

**Supporting Evidence References (Works Cited)**

[TCS Ref 1] – [Manage Bill Cycle V1.0.png]: Process Diagram for Managing Bill Cycle

#### 4.4.4 Level 2: Bill Invoice Management (1.3.9) - Detailed Conformance Scores

Table 4-4 Bill Invoice Management (1.3.9) - Conformance Scores

Level 2: 1.3.9 – Bill Invoice Management		
Level 3 Process	Level 4 Process	L4/L3 Process Score
<b>1.3.9.1 - Apply Pricing, Discounting, Adjustments &amp; Rebates</b>		<b>5.0</b>
	1.3.9.1.1 - Obtain Billing Events	100%
	1.3.9.1.2 - Apply Pricing, Discounting, Adjustments & Rebates to Customer Account	100%
	1.3.9.1.3 - Apply Agreed Customer Bill Adjustment	100%
<b>1.3.9.2 - Create Customer Bill Invoice</b>		<b>5.0</b>
	1.3.9.2.1 - Render & Format Invoice	100%
	1.3.9.2.2 - Deliver Electronic Invoice	100%
	1.3.9.2.3 - Verify Invoice Quality	100%
	1.3.9.2.4 - Manage Customer Invoice Archive	100%
<b>1.3.9.3 - Produce &amp; Distribute Bill</b>		<b>5.0</b>
	1.3.9.3.1 - Co-ordinate Billing Insertion	100%
	1.3.9.3.2 - Establish & Manage Bill Production Cycle	100%
	1.3.9.3.3 - Deliver Invoice Information	100%
	1.3.9.3.4 - Administer Commercial Arrangement for Production and Distribution Capability	100%
	1.3.9.3.5 - Manage Paper and Envelope Availability	100%
	1.3.9.3.6 - Manage Production Run to Create Bill	100%
	1.3.9.3.7 - Manage Physical Production & Distribution Quality	100%

## 4.5 Level 2: Bill Payments & Receivables Management (1.3.10)

### 4.5.1 Level 3: Manage Customer Billing (1.3.10.1)

<b>LEVEL 3 PROCESS MAPPING DETAILS</b>
<b>1.3.10.1 Manage Customer Billing</b>
<b>Extended Description</b>  <p>The primary purpose of this process pertains to effective management of the customer's billing account as it relates to the products purchased and consumed throughout the appropriate billing cycle. This process focuses on managing changes to the customer's billing account (for example, customer billing address, etc.) as it relates to the customer's service portfolio, such as ensuring that the correct purchased products are assigned to the customer's billing account for accurate billing - <b>A</b></p>
<b>Mandatory</b> <b>Reserved for future use. - A</b>  <p>HOBS includes comprehensive processes to enable accurate management of customer's billing account and products purchased. The processes include Add Account, Change Account Profile and Issue Billing Order. The account information includes details such as bill cycle, bill frequency, media, account type and contact including address. The brief description of these processes are as below</p> <ul style="list-style-type: none"><li>• <b>Add Account</b> – Creates New Billing Account</li><li>• <b>Change Account Profile</b> – Enables changing various account profile details</li><li>• <b>Issue Billing Order</b> – Enables creation/modification of billing products</li></ul>

#### Supporting Evidence References (Works Cited)

[TCS Ref 1] - [Add Account V1.0.png]: Process Diagram for "Add Account"

[TCS Ref 2] - [Change Account Profile V1.0.png]: Process Diagram for "Change Account Profile"

[TCS Ref 3] - [HOBS Platform Billing Services V1.0.pdf]: Set of Billing Services for maintaining billing products information

## 4.5.2 Level 3: Manage Customer Payments (1.3.10.2)

### 4.5.2.1 Level 4: Manage Customer Payment Plan (1.3.10.2.1)

<b>LEVEL 4 PROCESS MAPPING DETAILS</b> <b>1.3.10.2.1 Manage Customer Payment Plan</b>
<p><b>Brief Description</b></p> <p>Manage payment plans made with the customer. – A</p>
<p><b>Mandatory</b></p> <p>The purpose of Manage Customer Payment Plan process is to establish new payment plans, modify or remove existing payment plans. - A</p>
<p>HOBS supports customers to setup different types of payment plans based on their needs. The Payment Mode and Payment Reason enable capture/setup of different payment types e.g. Direct Debit, Voucher, Cash and for different purposes (Monthly Service Fee, One Time Installation Fee). HOBS supports installment type payments by having a recurring charge product configured with a specific term period.</p>
<p><b>Extended description</b></p> <p><i>Not used for this process element.</i></p>

### Supporting Evidence References (Works Cited)

[TCS Ref 1] – [Change Payment Profile V1.0.png]: Process Diagram for setting up/Changing Payment Profile

[TCS Ref 2] – [Payment Plan Screenshot.png]: Payment Plan Screenshot.png

#### 4.5.2.2 *Level 4: Collect Customer Payment (1.3.10.2.2)*

<b>LEVEL 4 PROCESS MAPPING DETAILS</b>
<b>1.3.10.2.2 Collect Customer Payment</b>
<p><b>Brief Description</b></p> <p>Collect payments made by the customer – A</p>
<p><b>Mandatory</b></p> <p>The purpose of Collect Customer Payment process is to collect the payments from the customer. To the extent that processing of any payments is undertaken internally, i.e. check processing, these processes are responsible for managing the operation and quality of the internal processing. - A</p> <p>HOBS supports one time payments as well as payments received as batch through banks, credit card, direct debit etc... Following are different options that are available for receiving payment from customer:</p> <p><b>a) Auto-Debit from customer's bank account/card:</b> For this customer's bank details are provided through mandate. Following are some of the attributes which are captured in the system:</p> <ul style="list-style-type: none"><li>i) Customer's billing account id</li><li>ii) Customer's bank details</li><li>iii) Customer's card details (Credit/Debit)</li><li>iv) Payment cycle</li></ul> <p><b>b) Third-party payment gateway:</b> HOBS have capability to integrate with Payment Gateway vendors. This is typically used for one time payments</p> <p><b>c) Cash and cheque:</b> Payment coming through cash or cheque can be collected offline to the system.</p> <p><b>d) Voucher Payments :</b> Voucher payments can be validated / made</p>
<p><b>Extended description</b></p> <p><i>Not used for this process element.</i></p>

### **Supporting Evidence References (Works Cited)**

**[TCS Ref 1]** - [Make Payment v1.0.png]: Process Diagram for Capture Payments

**[TCS Ref 2]** - [Bulk Payment Screenshot.png]: Process Diagram for Payment Received through batch

#### 4.5.2.3 *Level 4: Reconcile Customer Payment (1.3.10.2.3)*

<b>LEVEL 4 PROCESS MAPPING DETAILS</b>
<b>1.3.10.2.3 Reconcile Customer Payment</b>
<p><b>Brief Description</b></p> <p>Reconcile the payments to the invoices – A</p>
<p><b>Mandatory</b></p> <p>The purpose of Reconcile Customer Payment process is to reconcile the payments to the invoices. This process is meant to match these payments with the services/invoices delivered to this customer. Where payments do not match invoices, this process is responsible for informing the Manage Customer Debt Collection processes of any underpayments, and the Bill Inquiry Handling processes for any over-payments. These processes are responsible for reconciling the money received into the bank accounts against the payments expected in the invoices. Additionally these processes inform the Financial Management on all those payments for updating the ledger. - A</p> <p>HOBS supports updating the account balance based on the payments received. A payment received can be settled either at the account level or at the invoice level. In case of account level payment, the auto allocation feature supports settlement against multiple open invoices. HOBS Billing maintains relevant GL code with respective transaction. It generate feeds for accounting systems to manage the general ledger.</p>
<p><b>Extended description</b></p> <p><i>Not used for this process element.</i></p>

#### **Supporting Evidence References (Works Cited)**

[TCS Ref 1] - [Make Payment v1.0.png]: Process Diagram for Capture Payments. The update outstanding balance process step enables settling the payments based on allocation rules.

[TCS Ref 2] - [GL Setup.png]: Process Diagram for setting up GL codes

[TCS Ref 3] - [GL Integration.png]: Process Diagram for GL Integration

4.5.2.4 *Level 4: Manage Back-End Bank Account (1.3.10.2.4)*

<b>LEVEL 4 PROCESS MAPPING DETAILS</b>
<b>1.3.10.2.4 Manage Back-End Bank Account</b>
<p><b>Brief Description</b></p> <p>Manage back-end bank accounts for receipt of the customer payments and for the transfer of funds collected by third parties – <b>M</b></p>
<p><b>Mandatory</b></p> <p>The purpose of Manage Back-End Bank Account process is to manage back-end bank accounts for receipt of the customer payments and for the transfer of funds collected by third parties. These processes are responsible for managing payment commercial agreement agreed with banks and the payment interfaces for collecting the customer payments. - <b>M</b></p> <p>This process is to be manually handled as part of financial systems</p>
<p><b>Extended description</b></p> <p><i>Not used for this process element.</i></p>



4.5.2.5 *Level 4: Administer Commercial Arrangement for Third Party Supplier*  
*(1.3.10.2.5)*

<b>LEVEL 4 PROCESS MAPPING DETAILS</b>
<b>1.3.10.2.5 Administer Commercial Arrangement for Third Party Supplier</b>
<p><b>Brief Description</b></p> <p>Establish the requirements for, and manage any commercial arrangements agreed with, third party suppliers – <b>A</b></p>
<p><b>Mandatory</b></p> <p>The purpose of Administer Commercial Arrangement for Third Party Supplier process is to establish the requirements for, and manage any commercial arrangements agreed with, third party suppliers of payment services. After commercial arrangements are agreed, this process is responsible for monitor the execution of the commercial arrangements. - <b>M</b></p> <p>This process is to be manually handled as part of financial systems</p>
<p><b>Extended description</b></p> <p><i>Not used for this process element.</i></p>

### 4.5.3 Level 3: Manage Customer Debt Collection (1.3.10.3)

#### 4.5.3.1 Level 4: Identify Overdue Invoice (1.3.10.3.1)

<b>LEVEL 4 PROCESS MAPPING DETAILS</b>
<b>1.3.10.3.1 Identify Overdue Invoice</b>
<p><b>Brief Description</b></p> <p>Identify invoices which are overdue for payment. – <b>A</b></p>
<p><b>Mandatory</b></p> <p>The purpose of Identify Overdue Invoice process is to identify invoices which are overdue for payment. It monitors the amount due from the customer.- <b>A</b></p>
<p>HOBS provides comprehensive support for Customer Debt Collection through an overarching set of Collections processes. These include</p> <ul style="list-style-type: none"><li>• <b>Collections Configuration</b> – Setting up of various parameters such as Collections Path (Segmenting), Collection Profile (Number of Days, Actions, etc...) , Collections Action Categories, Action Types, Debt Control Agency Configurations</li><li>• <b>Collections Extraction</b> - The data that's required to identify if a collection is to be initiated. The data includes details such as Customer Details, Account Details, Outstanding Bill Details, Unbilled Usages, Debit Unallocated Adjustments, Credit Unallocated Adjustments, Unallocated payments</li><li>• <b>Hold Process</b> : Collections Hold process enables certain accounts not to be considered for collections given these constraints<ul style="list-style-type: none"><li>○ The Hold End Date cannot be greater than the configurable number of days from the Hold Start Date.</li><li>○ Customers cannot be extended in Hold status for more than some configurable number of times.</li></ul></li><li>• <b>Collections Processing</b> – The core process that evaluates each extracted account's eligibility for collection processing. The pre-configured "paths" in Collections Manager is evaluated based on the Account's information to identify a matching path. Based on the path and the actual extracted data, the account is evaluated if Collection Action needs to be initiated</li><li>• <b>Penalty Amount Processing</b> - Collections Configuration supports penalty amount configuration against specific Actions (e.g. Charging the customer for sending letter).</li></ul>

For each Action staged, the Collections Manager checks if any penalty amount is eligible for this Action. If eligible, it creates a penalty record for processing. This process selects all the penalty records and creates a feed file. All files are exported to the Billing System for bulk adjustment processing. Penalty adjustments are posted with proper reason code for revenue tracking and bill presentment.

- **Customer Re-Instatement - Customer Re-Instatement processes are responsible for** reactivating a customer/service against which a collection action has been triggered. A customer/service with barred status (OGB, ICB) due to Collections, is eligible for re-instatement post a payment received. Both Collections and Credit Limit Management (CLM) processes maintain barred data for each customer with Network Activity — Last Barred Activity (OGB, ICB and so on), Re-instatement Amount and Total Outstanding Amount. If the outstanding of entities qualify the re-instatement criteria for both Collections and CLM, it creates a re-instatement Order and sends it to the Order Management for unbarring.
- **DCA Allocation** - Collections profile configuration also includes DCA allocation as one Activity. Whenever a customer reaches DCA activity, it is staged for processing. DCA allocation process extracts the information such as customer's contact and DCA details from the Collections Manager and sends it to DCA. The DCA takes care of the customer's outstanding collection. The same information is sent to the Billing System for maintaining information pertaining to the customer's DCA allocation.
- **DCA De-allocation** - At regular intervals, the DCA sends data of customers who are de-allocated from DCA. Based on this customer's status is updated.
- **Write-Off and Reversal** - The accounts/invoices to be written off is identified based on Collections run. The Billing System processes the file and completely writes-off the outstanding amount of each Account. Each write-off event is mapped to a proper reason code and GL ID for its use in bill presentment and accounting. Once the Account is written-off, any payment or credit adjustment results in reduction of written-off amount. It leads to creation of write-off reversal event (write on) in the system. This is also mapped to the proper reason code and GL ID for its use in accounting. Automatic write-off reversal can be switched-off any time for making it manual.

**Extended description**

*Not used for this process element.*

## **Supporting Evidence References (Works Cited)**

**[TCS Ref 1]** - [Customer Due for Collections.png]: Process Diagram for “Collections Extraction” and “Collection Processing”

#### 4.5.3.2 *Level 4: Administer Overdue Invoice Follow-Up (1.3.10.3.2)*

<b>LEVEL 4 PROCESS MAPPING DETAILS</b>
<b>1.3.10.3.2 Administer Overdue Invoice Follow-Up</b>
<p><b>Brief Description</b></p> <p>Initiate and manage follow-up with customers having overdue amounts. – A</p>
<p><b>Mandatory</b></p> <p>The purpose of Administer Overdue Invoice Follow-Up process is to initiate and manage follow-up with customers having overdue amounts. This process is responsible for setting up the follow-ups based on the policies. The policies are associated to customer’s profile such as customer credit, customer group, overdue amounts, debt occurrence times, purchased products and etc. This process is also responsible for modifying or removing the designated follow-ups when the policies or situations are changed. – A</p>
<p><b>HOBS Collections Configuration</b> feature enables setting up of various parameters such as Collections Path (Segmenting), Collection Profile (Number of Days, Actions, etc...), Collections Action Categories, Action Types, Debt Control Agency Configurations.</p>
<p><b>Extended description</b></p> <p><i>Not used for this process element.</i></p>

#### **Supporting Evidence References (Works Cited)**

[TCS Ref 1] – [Collection Path Configuration.png]: Screen shot for setting up customer policies

#### 4.5.3.3 *Level 4: Manage Overdue Invoice Payment (1.3.10.3.3)*

<b>LEVEL 4 PROCESS MAPPING DETAILS</b>
<b>1.3.10.3.3 Manage Overdue Invoice Payment</b>
<p><b>Brief Description</b></p> <p>Arrange and monitor payment plans to allow customers to pay overdue amounts in installments. – <b>AM</b></p>
<p><b>Mandatory</b></p> <p>The purpose of Manage Overdue Invoice Payment process is to arrange and monitor payment plans to allow customers to pay overdue amounts in installments. This process arranges payment plans to allow customers to pay overdue amounts, leads to an agreement with the customers, and monitors the execution of the payment plans. This process should consider the payment amounts in installment whether can be undertaken by the customer.</p> <p><b>AM</b></p> <p>HOBS enables customers to pay over-dues installments. The “Hold” feature enables such customers who agree to pay dues in installments not to be considered in the subsequent collection runs.</p>
<p><b>Extended description</b></p> <p><i>Not used for this process element.</i></p>

#### **Supporting Evidence References (Works Cited)**

[TCS Ref 1] - [Manage Installment Payment.png]: Process Diagram for setting up Customer Installment and initiating Hold on collections

#### 4.5.3.4 *Level 4: Initiate Customer Debt Recovery Activities (1.3.10.3.4)*

<b>LEVEL 4 PROCESS MAPPING DETAILS</b>
<b>1.3.10.3.4 Initiate Customer Debt Recovery Activities</b>
<p><b>Brief Description</b></p> <p>Initiate debt recovery activities in accordance with appropriate commercial practice and policies. – <b>AM</b></p>
<p><b>Mandatory</b></p> <p>The purpose of Initiate Customer Debt Recovery process is to initiate customer debt recovery activities in accordance with appropriate commercial practice and policies. This process includes deciding appropriate recovery activities based on debt recovery policies, launching debt recovery activities and monitoring the executions.</p> <p>The debt recovery policies are associated to the customer’s profile such as payment history, customer group, purchased products, overdue amounts. This process includes overdue invoice reminding via phone call, SMS, email, by manually or automatically, by humans or applications. This process is also responsible for terminating customer debt recovery activities when the customer pays.- <b>AM</b></p>
<p><b>HOBS Collections Processing</b> is responsible for initiating customer actions. The Collections profile defines which actions must be carried out, depending on the collection age for a particular account. All identified unprocessed actions are staged for processing in this step. All staged actions are marked as pending till exported to other systems for processing. Staged actions include basic details such as Customer Id, Account Id, Action Type, Date of Action Generation, Billed Outstanding, Re-instatement amount and so on.</p> <p>Depending on the action type, all staged Actions with status Pending, are processed by this process. If the Action type is Comms (SMS, IVRS, Letter), a communication is sent. If the action type is DCA it is sent to the Debt Collection Agency. For Write-off Accounts, the data is provided to the Billing System for account-level write-off. The Network Activities are processed in integration with the Order Management System. Post processing, the Network Activity status is maintained in the Collections for re-instatement.</p>
<p><b>Extended description</b></p> <p><i>Not used for this process element.</i></p>

### **Supporting Evidence References (Works Cited)**

[TCS Ref 1] – [Sample Collection Action Email.png]: Sample Email with Collection Action



4.5.3.5 *Level 4: Managed Aged Customer Debt Portfolio (1.3.10.3.5)*

<b>LEVEL 4 PROCESS MAPPING DETAILS</b>
<b>1.3.10.3.5 Managed Aged Customer Debt Portfolio</b>
<p><b>Brief Description</b></p> <p>Manage the aged customer debt portfolio. – A</p>
<p><b>Mandatory</b></p> <p>The purpose of Manage Aged Customer Debt Portfolio process is to manage the aged customer debt portfolio. When the customer debt can't be recovered in a period of time decided by Service Provider, this process is responsible to transform this customer debt to aged customer debt portfolio.</p> <p>This process is responsible for transforming the overdue invoice to the aged customer debt portfolio when it didn't be recovered after a time of period or based on other triggers according to the Service Provider's policies. The aged customer debt portfolio should include all the information of the customer debt profiles. The process is also responsible for managing and maintaining transforming cycle.</p> <p>When the overdue payment is recovered after transforming, this process is responsible to remove the aged customer debt portfolio and notice Establish &amp; Manage Customer Debt Profiles process to update the customer debt profile.- A</p> <ul style="list-style-type: none"><li>• <b>HOBS Write-Off and Reversal processes are responsible for identifying</b> the accounts/invoices to be written off. The Billing System processes the file with accounts/amounts to be written off and completely writes-off the outstanding amount of each Account. Each write-off event is mapped to a proper reason code and GL ID for its use in bill presentment and accounting. Once the Account is written-off, any payment or credit adjustment results in reduction of written-off amount. It leads to creation of write-off reversal event (write on) in the system. This is also mapped to the proper reason code and GL ID for its use in accounting. Automatic write-off reversal can be switched-off any time for making it manual.</li><li>• <b>Customer Re-Instatement processes are responsible for</b> reactivating a customer/service against which a collection action has been triggered. A customer/service with barred status e.g. Out Going Barring (OGB), Incoming Barring (ICB) due to Collections, is eligible for re-instatement post a payment received. Both Collections and Credit Limit Management (CLM) processes maintain barred data for</li></ul>

each customer with Network Activity — Last Barred Activity (OGB, ICB and so on), Re-instatement Amount and Total Outstanding Amount. If the outstanding of entities qualify the re-instatement criteria for both Collections and CLM, it creates a re-instatement Order and sends it to the Order Management for unbarring.

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**Extended description**

*Not used for this process element.*

**Supporting Evidence References (Works Cited)**

[TCS Ref 1] - [Write-Off.png]: Process Diagram for Write-Off Processes

[TCS Ref 2] - [Customer Out of Collections.png]: Process Diagram for Reinstatement

#### 4.5.3.6 *Level 4: Establish & Manage Customer Debt Profiles (1.3.10.3.6)*

<b>LEVEL 4 PROCESS MAPPING DETAILS</b>
<b>1.3.10.3.6 Establish &amp; Manage Customer Debt Profiles</b>
<p><b>Brief Description</b></p> <p>Establish and manage customer debt profiles to assist in managing debt recovery and debt risk on a customer, product or customer group basis. <b>AM</b></p>
<p><b>Mandatory</b></p> <p>The purpose of Establish &amp; Manage Customer Debt Profiles process is to establish and manage customer debt profiles to assist in managing debt recovery and debt risk on a customer, product or customer group basis. The customer debt profile is a part of customer's profile, which can include customer credit, customer group, overdue date, overdue amounts, overdue occurring times, debt recovery means and occurring times, customer debt recovery response and etc. This process is responsible for keeping updates of the customer debt profiles according to results from Initiate Customer Debt Recovery Activities process. <b>AM</b></p> <p>HOBS Customer Setup processes is responsible for capturing customer profile details which includes customer debt profile/risk. This data which is captured and managed at customer level is used by the collection processes for collection processing</p>
<p><b>Extended description</b></p> <p><i>Not used for this process element.</i></p>

#### **Supporting Evidence References (Works Cited)**

[TCS Ref 1] - [Customer Profile Details Capture.png]: Screen shot with Customer Profile Details

[TCS Ref 2] - [Customer Credit Profile.png]: Screen shot with Customer Credit Profile which itself is derived based on other parameter

4.5.3.7 *Level 4: Establish & Manage Commercial Debt Recovery Arrangement (1.3.10.3.7)*

**LEVEL 4 PROCESS MAPPING DETAILS**

**1.3.10.3.7 Establish & Manage Commercial Debt Recovery Arrangement**

**Brief Description**

Establish and manage commercial arrangements with third parties for the recovery of aged debt, and/or for the write-off and selling of parts of the debt portfolio to third parties. - **AM**

**Mandatory**

The purpose of Establish & Manage Commercial Debt Recovery Arrangement process is to establish and manage commercial arrangements with third parties for the recovery of aged debt, and/or for the write-off and selling of parts of the debt portfolio to third parties. This process is responsible for filtering and packaging the aged customer debt portfolios based on the Service Provider's policies, deciding the third parties' action items and monitoring the status of the arrangements. - **AM**

This is enabled by 3<sup>rd</sup> party supplier/partner management systems.

**Extended description**

*Not used for this process element.*

#### 4.5.4 Level 2: Bill Payments & Receivables Management (1.3.10) - Detailed Conformance Scores

Table 4-5 Bill Payments & Receivables Management (1.3.10) - Conformance Scores

Level 2: 1.3.10 – Bill Payments & Receivables Management		
Level 3 Process	Level 4 Process	L4/L3 Process Score
<b>1.3.10.1 - Manage Customer Billing</b>		<b>5.0</b>
<b>1.3.10.2 - Manage Customer Payments</b>		<b>4.6</b>
	1.3.10.2.1 - Manage Customer Payment Plan	100%
	1.3.10.2.2 - Collect Customer Payment	100%
	1.3.10.2.3 - Reconcile Customer Payment	100%
	1.3.10.2.4 - Manage Back-End Bank Account	50%
	1.3.10.2.5 - Administer Commercial Arrangement for Third Party Supplier	50%
<b>1.3.10.3 - Manage Customer Debt Collection</b>		<b>4.9</b>
	1.3.10.3.1 Identify Overdue Invoice	100%
	1.3.10.3.2 Administer Overdue Invoice Follow-Up	100%
	1.3.10.3.3 Manage Overdue Invoice Payment	100%
	1.3.10.3.4 Initiate Customer Debt Recovery Activities	100%
	1.3.10.3.5 Manage Aged Customer Debt Portfolio	100%
	1.3.10.3.6 Establish & Manage Customer Debt Profiles	100%
	1.3.10.3.7 Establish & Manage Commercial Debt Recovery Arrangement	50%

## 4.6 Level 2: Bill Inquiry Handling (1.3.11)

### 4.6.1 Level 3: Create Customer Bill Inquiry Report (1.3.11.1)

#### 4.6.1.1 Level 4: Generate Customer Bill Inquiry (1.3.11.1.1)

<b>LEVEL 4 PROCESS MAPPING DETAILS</b>
<b>1.3.11.1.1 Generate Customer Bill Inquiry</b>
<b>Brief Description</b>
Generate a new customer bill inquiry report – A/M
<b>Mandatory</b>
The purpose of Generate Customer Bill Inquiry is to generate a new customer bill inquiry – A/M
HOBS supports generation of a new customer bill inquiry report as part of its complaint handling/manage request capabilities. HOBS Customer 360 view provides a quick/comprehensive view of customer’s bill related information including unbilled usage, invoices, payments, deposits, top ups which enables handling a customer billing related inquiry effectively. When a customer’s query is about a specific bill, the bill can be retrieved. It is possible to take subsequent 1.3.5
actions based on the customer interaction.
<b>Extended description</b>
<i>Not used for this process element.</i>

#### Supporting Evidence References (Works Cited)

[TCS Ref 1] - [Bill Dispute\_Handling.jpg]: Process Diagram for “Bill Dispute Handling”

[TCS Ref 2] - [360 View with Bill Details.png]: 360 View with Required Bill Related Information

[TCS Ref 3] - [Bill Inquiry Creation.png]: Creation of Bill Inquiry Report

#### 4.6.1.2 *Level 4: Convert Customer Bill Inquiry (1.3.11.1.2)*

<b>LEVEL 4 PROCESS MAPPING DETAILS</b> <b>1.3.11.1.2 Convert Customer Bill Inquiry</b>
<p><b>Brief Description</b></p> <p>Convert the received information into a form suitable for the Bill Inquiry Handling processes - A/M</p> <p><b>Mandatory</b></p> <p>The purpose of Convert Customer Bill Inquiry process is to convert the received information into a form suitable for the Bill Inquiry Handling processes. This process is responsible for extracting data from received information, and applying the suitable template. – A/M</p> <p>HOBS supports converting customer bill inquiry into an appropriate form based on the nature of inquiry. The inquiry could be for varied reasons such as bill not received, higher charges, not able to understand specific charges. The nature of bill inquiry would require appropriate information to be captured and HOBS provides this through a template driven process where the data required can be varied based on subtype captured.</p> <p><b>Extended description</b></p> <p><i>Not used for this process element.</i></p>

#### **Supporting Evidence References (Works Cited)**

[TCS Ref 1] - [Bill Sub Type.png] : Capturing sub-types based on interaction

[TCS Ref 2] - [Associate templates.png] : Associating templates which will drive different data capture

4.6.1.3 *Level 4: Request Additional Bill Inquiry Information (1.3.11.1.3)*

<b>LEVEL 4 PROCESS MAPPING DETAILS</b>
<b>1.3.11.1.3 Request Additional Bill Inquiry Information</b>
<p><b>Brief Description</b></p> <p>Request additional information for the Bill Inquiry Handling processes – <b>A/M</b></p>
<p><b>Mandatory</b></p> <p>The purpose of Request Additional Bill Inquiry Information process is to request additional in-formation for the Bill Inquiry Handling processes. The additional information requiring can be happening at any-time during Bill Inquiry Handling process. This process is responsible for avoiding the duplication of the additional bill inquiry information request and ensuring the requested information hasn't already existed in customer bill inquiry – <b>A/M</b></p> <p>HOBS supports additional bill inquiry relation information capture through different means.</p> <p>It is possible to update the information captured with additional remarks, create a follow-up , create additional notes, upload attachments and so forth</p>
<p><b>Extended description</b></p> <p><i>Not used for this process element.</i></p>

**Supporting Evidence References (Works Cited)**

[TCS Ref 1] - [Bill Inquiry Additional Info Capture.png] : Capture of Additional Bill Inquiry Info



## 4.6.2 Level 3: Assess Customer Bill Inquiry Report (1.3.11.2)

### 4.6.2.1 Level 4: Verify Customer Bill Inquiry (1.3.11.2.1)

<b>LEVEL 4 PROCESS MAPPING DETAILS</b> <b>1.3.11.2.1 Verify Customer Bill Inquiry</b>
<p><b>Brief Description</b></p> <p>Verify whether the information supplied by the customer is correct. <b>A/M</b></p>
<p><b>Mandatory</b></p> <p>The purpose of Verify Customer Bill Inquiry process is to verify whether the information supplied by the customer is correct. <b>A/M</b></p> <p>HOBS supports optional verification of customer information before creating a bill inquiry report. Once a bill inquiry report is created, verification could happen through a number of manual and automated steps. An example could be where a customer has raised a request for a change in his products, the order hasn't been fulfilled but the customer is being billed. All customer information is made available to the operations team through a number of features such as customer 360, tracking orders, tracking previous complaints, view past bills, viewing unbilled usage, viewing payments/adjustments and so forth.</p>
<p><b>Extended description</b></p> <p><i>Not used for this process element.</i></p>

#### Supporting Evidence References (Works Cited)

[TCS Ref 1] - [Validate Customer.jpg] : Validate Customer Information

[TCS Ref 2] - [360 View with Bill Details.png]: 360 View with Required Bill Related Information

#### 4.6.2.2 *Level 4: Assess and Investigate Customer Bill Inquiry (1.3.11.2.2)*

<b>LEVEL 4 PROCESS MAPPING DETAILS</b>
<b>1.3.11.2.2 Assess and Investigate Customer Bill Inquiry</b>
<b>Brief Description</b>  Assess and investigate customer bill inquiry based on the customer provided information.- <b>A/M</b>
<b>Mandatory</b>  The purpose of Assess and Investigate Customer Bill Inquiry is to assess and investigate customer bill inquiry based on the customer provided information to determine whether the circumstances leading to the bill inquiry is linked to the underlying services, or other processes. Update the customer bill inquiry report, as required during the assessment. - <b>A/M</b>
HOBS supports assessing and verifying a bill inquiry report based on customer provided information through a number of features such as customer 360, tracking orders, tracking previous complaints, view past bills, viewing unbilled usage, viewing payments/adjustments and so forth. Based on the analysis it is possible to update the customer bill inquiry report accordingly. It is also possible to define a work-flow for the bill inquiry report which enables assigning to different operation teams as required whose support might be required to complete the assessment.
<b>Extended description</b>  <i>Not used for this process element.</i>

#### **Supporting Evidence References (Works Cited)**

[TCS Ref 1] - [Bill Inquiry Additional Info Capture.png] : Update of Bill Inquiry report

4.6.2.3 *Level 4: Identify Customer Bill Inquiry Root Cause (1.3.11.2.3)*

<b>LEVEL 4 PROCESS MAPPING DETAILS</b>
<b>1.3.11.2.3 Identify Customer Bill Inquiry Root Cause</b>
<p><b>Brief Description</b></p> <p>Identify the root cause on customer bill inquiry. <b>A/M</b></p>
<p><b>Mandatory</b></p> <p>The purpose of Identify Customer Bill Inquiry Root Cause is to identify the root cause on customer bill inquiry and make the results available to other processes. Once the root cause is identified, this process will notify Modify Customer Bill Inquiry process to update the customer bill inquiry report. <b>A/M</b></p> <p>HOBS supports capture of root cause for the customer bill inquiry report. This will enable improving the overall operational systems and processes.</p>
<p><b>Extended description</b></p> <p><i>Not used for this process element.</i></p>

**Supporting Evidence References (Works Cited)**

[TCS Ref 1] - [RCA.png]: Root Cause Capture

#### 4.6.2.4 *Level 4: Complete Customer Bill Inquiry Assessment (1.3.11.2.4)*

<b>LEVEL 4 PROCESS MAPPING DETAILS</b>
<b>1.3.11.2.4 Complete Customer Bill Inquiry Assessment</b>
<p><b>Brief Description</b></p> <p>Complete the assessment when the investigation and assessment is complete. <b>A/M</b></p>
<p><b>Mandatory</b></p> <p>The purpose of Complete Customer Bill Inquiry Assessment process is to finish the assessment when the investigation and assessment is complete. This process is responsible for notifying the Track &amp; Manage Bill Inquiry Resolution processes about the completion. <b>A/M</b></p> <p>HOBS supports a flexible workflow management support for the bill inquiry process. As part of the process it is possible to define the various stage of bill inquiry assessment. Once all analysis has been done, it is possible to complete the customer bill inquiry assessment. The overall process can be integration with notification processes to enable further tracking and closure of bill inquiry report.</p>
<p><b>Extended description</b></p> <p><i>Not used for this process element.</i></p>

#### **Supporting Evidence References (Works Cited)**

[TCS Ref 1] - [RCA.png]: Root Cause Capture and completion of assessment

[TCS Ref 2] – [Workflow\_Tasks.png]: Configurable workflow task details

[TCS Ref 3] – [Sample Email on Complaint Creation.png]: Reference Email notification details.

[TCS Ref 4] – [SMS Template sample for Complaints.png]: Configurable SMS notification template details.

### 4.6.3 Level 3: Authorize Customer Bill Invoice Adjustment (1.3.11.3)

#### 4.6.3.1 Level 4: Determine Automated Bill Adjustment (1.3.11.3.1)

<b>LEVEL 4 PROCESS MAPPING DETAILS</b>
<b>1.3.11.3.3 Determine Automated Bill Adjustment</b>
<b>Brief Description</b> Determination of whether policy allows for automated adjustment of a party bill invoice, and approving any resultant adjustments. <b>A/M</b>
<b>Mandatory</b> The purpose of Determine Automated Bill Adjustment process is to determine whether policy allows for automated adjustment of the customer bill invoice and approving any resulting adjustments. When the authorization is approved, this process is responsible for notifying the relevant process to apply the adjustment – <b>A/M</b>  When a bill inquiry assessment leads to an adjustment, it is possible to raise an adjustment.  The adjustment process is fully automated with flexibility to have flow through adjustments up-to certain limits based on roles and mandated approval process for adjustments exceeding specified limits
<b>Extended description</b> <i>Not used for this process element.</i>

#### Supporting Evidence References (Works Cited)

[TCS Ref 1] - [Raise Adjustment V1.0.png]: Process Diagram for “Raising Adjustments”

[TCS Ref 1] - [Raise Adjustment Screen Shot V1.0.png]: Raising Adjustments

#### 4.6.3.2 *Level4: Analyze Detailed Bill Inquiry (1.3.11.3.2)*

<b>LEVEL 4 PROCESS MAPPING DETAILS</b>
<b>1.3.11.3.2 Analyze Detailed Bill Inquiry</b>
<b>Brief Description</b>
Analyse and investigate to determine whether a bill adjustment is acceptable. <b>A/M</b>
<b>Mandatory</b>
The purpose of Analyze Detailed Bill Inquiry process is to undertake more detailed analysis and investigation to determine whether a bill adjustment is acceptable, including gaining appropriate management authority to make the adjustment. These processes rely on the availability of appropriate adjustment policies, which are created within the Support Bill Inquiry Handling processes, for the timely resolution of major billing disputes. Reserved for future use. <b>A/M</b>
As part of the bill inquiry process, an adjustment could be required due to an incorrect bill. The organizational policies determine when to make an adjustment. Typically these are enabled through role controls to specific users who can make the adjustment, setting policies on adjustment limits based on roles.
<b>Extended description</b>
<i>Not used for this process element.</i>

#### **Supporting Evidence References (Works Cited)**

[TCS Ref 1] – [Bill Dispute\_Handling.png]: Process Diagram for “Bill Dispute Handling”, Decision making on whether adjustment is required or not.

#### 4.6.3.3 *Level 4: Record Customer Bill Invoice Adjustment (1.3.11.3.3)*

<b>LEVEL 4 PROCESS MAPPING DETAILS</b>
<b>1.3.11.3.1 Record Customer Bill Invoice Adjustment</b>
<b>Brief Description</b>  Record the results of the adjustment if approved into the records relating to the customer's bill invoice. <b>A/M</b>
<b>Mandatory</b>  The purpose of Record Customer Bill Invoice Adjustment process is to record the results of the adjustment if approved into the records relating to the customer's bill invoice. This process is responsible for recording the entire adjustment events including adjustment operator, timestamp and detailed reason, for management purpose. <b>A/M</b>  HOBS supports recording the adjustment with details so that the information is available in the invoice.
<b>Extended description</b>  <i>Not used for this process element.</i>

#### **Supporting Evidence References (Works Cited)**

[TCS Ref 1] - [Raise Adjustment Screen Shot.jpg]: Process Diagram for "Raising Adjustments"

[TCS Ref 2] - [Sample Bill.pdf]: Sample Bill with Adjustment Details

#### 4.6.4 Level 3: Track and Manage Customer Bill Inquiry Resolution (1.3.11.4)

##### 4.6.4.1 Level 4: Schedule Customer Bill Inquiry Analysis and Adjustment Activities (1.3.11.4.1)

<b>LEVEL 4 PROCESS MAPPING DETAILS</b>
<b>1.3.11.4.1 Schedule Customer Bill Inquiry Analysis and Adjustment Activities</b>
<b>Brief Description</b>
Schedule analysis and specific customer bill inquiry/complaint adjustment activities. <b>A/M</b>
<b>Mandatory</b>
The purpose of Schedule Customer Bill Inquiry Analysis and Adjustment Activities process is to schedule analysis and specific customer bill inquiry/complaint adjustment activities. This process is responsible for planning the analysis and adjustment activities in specific order and allotted time. <b>A/M</b>
HOBS allows scheduling of the bill inquiry report through a configuration driven process. It is possible to define the sequence of tasks/activities that needs to be undertaken, an overall SLA for the bill inquiry process as well as OLA for specific tasks/activities within the process
<b>Extended description</b>
<i>Not used for this process element.</i>

#### Supporting Evidence References (Works Cited)

[TCS Ref 1] - [SLA Definition.png]: SLA Definition

[TCS Ref 2] - [Activity Assignment.png]: Activity/Task Template Definition



4.6.4.2 *Level 4: Assign Customer Bill Inquiry Analysis and Adjustment Activities (1.3.11.4.2)*

<b>LEVEL 4 PROCESS MAPPING DETAILS</b>
<b>1.3.11.4.2 Assign Customer Bill Inquiry Analysis and Adjustment Activities</b>
<b>Brief Description</b> Assign analysis and specific customer bill inquiry/complaint adjustment activities. <b>A/M</b>
<b>Mandatory</b> The purpose of Assign Customer Bill Inquiry Analysis and Adjustment Activities process is to assign analysis and specific customer bill inquiry/complaint adjustment activities. This process is responsible for decomposing an activity to subsequent tasks and appointing other processes to accomplish them. <b>A/M</b>  HOBS supports a workflow driven process for defining activities/tasks. It is possible to assign the various tasks and progress to the next task till the closure.
<b>Extended description</b> <i>Not used for this process element.</i>

**Supporting Evidence References (Works Cited)**

[TCS Ref 1] - [Activity Assignment.png]: Activity/Task Template Definition

[TCS Ref 2] - [Bill Inquiry Additional Info Capture.png]: Task Assignment – Self or to another group /person

4.6.4.3 *Level 3: Modify Customer Bill Inquiry (1.3.11.4.3)*

<b>LEVEL 4 PROCESS MAPPING DETAILS</b>
<b>1.3.11.4.6 Modify Customer Bill Inquiry</b>
<p><b>Brief Description</b></p> <p>Modify existing customer bill inquiries. <b>A/M</b></p> <p><b>Mandatory</b></p> <p>The purpose of Modify Customer Bill Inquiry process is to modify existing customer bill inquiries when the bill inquiry or complaint is changed by the customer, a CSR or other processes. This process is also responsible for changing the status of customer bill inquiries/complaints <b>.A/M</b></p> <p>HOBS supports modification of the customer bill inquiry report when it is in progress.</p> <p>Modification includes updating with additional details, changing the assignment, status and henceforth</p> <p><b>Extended description</b></p> <p><i>Not used for this process element.</i></p>

**Supporting Evidence References (Works Cited)**

[TCS Ref 1] - [Bill Inquiry Additional Info Capture.png]: Ability to update with additional details, attachments, changing assignment, status

4.6.4.4 *Level 4: Coordinate Customer Bill Inquiry Analysis and Adjustment Activities (1.3.11.4.4)*

<b>LEVEL 4 PROCESS MAPPING DETAILS</b>
<b>1.3.11.4.3 Coordinate Customer Bill Inquiry Analysis and Adjustment Activities</b>
<b>Brief Description</b>
Coordinate analysis and specific customer bill inquiry/complaint adjustment activities. <b>A/M</b>
<b>Mandatory</b>
The purpose of Coordinate Customer Bill Inquiry Analysis and Adjustment Activities process is to coordinate analysis and specific customer bill inquiry/complaint adjustment activities. The process is responsible for ensuring that appropriate credits and/or other agreed adjustments are made available to the adjustments processes activities, coordinating all the actions necessary in order to guarantee that all tasks are finished at the appropriate time and in the appropriate se-quence. <b>A/M</b>
HOBS supports a workflow driven process for defining activities/tasks. It is possible to co-ordinate with other teams that are involved by creating follow-ups. The overall activities itself is governed by a SLA process and notifications/alerts are triggered on SLA/OLA breaches.
<b>Extended description</b>
<i>Not used for this process element.</i>

**Supporting Evidence References (Works Cited)**

[TCS Ref 1] –[Followup.png]: Follow-up for intergroup co-ordination

4.6.4.5 *Level 4: Cancel Customer Bill Inquiry (1.3.11.4.5)*

<b>LEVEL 4 PROCESS MAPPING DETAILS</b>
<b>1.3.11.4.7 Cancel Customer Bill Inquiry</b>
<p><b>Brief Description</b></p> <p>Request cancellation of existing customer bill inquiry reports. - A</p> <p><b>Mandatory</b></p> <p>The purpose of Cancel Customer Bill Inquiry process is to cancel existing customer bill inquiries.- A</p> <p>HOBS allows cancellation of customer bill inquiry process. The cancellation could be because of incorrect creation of the bill inquiry in the first place or customer no longer requires the bill inquiry because of the interactions/clarifications</p> <p><b>Extended description</b></p> <p><i>Not used for this process element.</i></p>

**Supporting Evidence References (Works Cited)**

[TCS Ref 1] - [Cancel.png]: Cancellation of bill inquiry report

#### 4.6.4.6 *Level 4: Monitor Customer Bill Inquiry Jeopardy Status (1.3.11.4.6)*

<b>LEVEL 4 PROCESS MAPPING DETAILS</b>
<b>1.3.11.4.4 Monitor Customer Bill Inquiry Jeopardy Status</b>
<p><b>Brief Description</b></p> <p>Monitor the jeopardy status of open customer bill inquiries. - <b>A</b></p>
<p><b>Mandatory</b></p> <p>The purpose of Monitor Customer Bill Inquiry Jeopardy Status process is to monitor the jeopardy status of open customer bill inquiries. This process is responsible for keeping close watch over the resolving progress. When customer bill inquiry isn't handled in time, this process will escalate customer billing inquiry for notification. - <b>A</b></p> <p>The overall bill inquiry processes is governed by an SLA and individual tasks by OLAs. HOBS supports tracking of SLAs and OLAs to identify bill inquiries going into jeopardy status. When bill inquiry items go into jeopardy it is possible to have escalation processes and notifications.</p>
<p><b>Extended description</b></p> <p><i>Not used for this process element.</i></p>

#### **Supporting Evidence References (Works Cited)**

[TCS Ref 1] - [Escalation Messages.png]: Escalated Items for Bill Inquiries which have gone into jeopardy status

4.6.4.7 *Level 4: Initiate S/P Customer Bill Inquiry Resolution Request (1.3.11.4.7)*

<b>LEVEL 4 PROCESS MAPPING DETAILS</b>
<b>1.3.11.4.5 Initiate S/P Customer Bill Inquiry Resolution Request</b>
<b>Brief Description</b> Initiate requests, through - S/P Settlements & Payments Management for resolution by the supplier/partner of the specific bill inquiries/complaints. – <b>A/M</b>
<b>Mandatory</b> The purpose of Initiate S/P Customer Bill Inquiry Resolution Request process is to Initiate requests, through - S/P Settlements & Payments Management for resolution by the supplier/partner of the specific bill inquiries/complaints. Some specific product and/or service components may be owned and managed by suppliers/partners. – <b>A/M</b>  In scenarios where a bill inquiry requires supplier/partner support for resolution it is possible to either automated or manual inquiry reports with supplier/partner systems
<b>Extended description</b>  <i>Not used for this process element.</i>

**Supporting Evidence References (Works Cited)**

[TCS Ref 1] - [Supplier\_Partner Bill Inq.png]: Supplier Partner Bill Inquiry

#### 4.6.5 Level 3: Report Customer Bill Inquiry (1.3.11.5)

##### 4.6.5.1 Level 4: Monitor Customer Bill Inquiries (1.3.11.5.1)

<b>LEVEL 4 PROCESS MAPPING DETAILS</b> <b>1.3.11.5.1 Monitor Customer Bill Inquiries</b>
<p><b>Brief Description</b></p> <p>Monitor the status of customer bill inquiries continuously. - <b>A</b></p>
<p><b>Mandatory</b></p> <p>The purpose of Monitor Customer Bill Inquiries process is to continuously monitor the status of all customer bill inquiries. The process is responsible for logging all the status changes on customer bill inquiries including creation, modification, cancellation and etc. - <b>A</b></p> <p>HOBS supports provides a comprehensive dashboard where it is possible to monitor the status of all customer bill inquiries.</p>
<p><b>Extended description</b></p> <p><i>Not used for this process element.</i></p>

#### Supporting Evidence References (Works Cited)

[TCS Ref 1] - [Bill Inquiries Status.png]: Comprehensive View of Status of Bill Inquiries

4.6.5.2 *Level 4: Provide Customer Bill Inquiry Change Notification (1.3.11.5.2)*

<b>LEVEL 4 PROCESS MAPPING DETAILS</b>
<b>1.3.11.5.2 Provide Customer Bill Inquiry Change Notification</b>
<b>Brief Description</b>  Manage notifications to other processes and to other parties. - A
<b>Mandatory</b>  This purpose of Provide Customer Bill Inquiry Change Notification process is to manage notifications to other processes and to other parties, including customers, registered to receive notifications of any status changes. - A  HOBS supports an integrated notification mechanism through various means such as email/SMS. The notifications can be triggered upon various stages and to various recipients.
<b>Extended description</b>  <i>Not used for this process element.</i>

**Supporting Evidence References (Works Cited)**

[TCS Ref 1] - [Notification Contact Info.png]: Notification Contact Info

[TCS Ref 2] - [Item History.png]: History of Bill inquiry report including notifications sent if any



#### 4.6.5.3 *Level 4: Provide Management Reports (1.3.11.5.3)*

<b>LEVEL 4 PROCESS MAPPING DETAILS</b>
<b>1.3.11.5.3 Provide Management Reports</b>
<p><b>Brief Description</b></p> <p>Provide management reports and any specialized summaries of the efficiency and effectiveness of the overall Bill Inquiry Handling processes. <b>A/M</b></p>
<p><b>Mandatory</b></p> <p>The purpose of Provide Management Reports is to provide management reports and any specialized summaries of the efficiency and effectiveness of the overall Bill Inquiry Handling processes. This process records, analyzes and assesses the customer bill inquiry status changes to provide management reports and any specialized summaries of the efficiency and effectiveness of the overall Bill Inquiry Handling processes. This process also reports any identified constraints that can affect customer billing quality standards to other processes. <b>A/M</b></p> <p>HOBS provides real time dashboard view as well as comprehensive offline reporting capabilities for tracking the efficiency and effectiveness of Bill inquiry processes.</p> <p><b>Extended description</b> <i>Not used for this process element.</i></p>

#### **Supporting Evidence References (Works Cited)**

[TCS Ref 1] - [Dashboard.png]: Dashboard of Total Bill Inquiry Items

[TCS Ref 2] - [Report.png]: Sample List of Report

[TCS Ref 3] - [Bill Inquiries Status.png]: Online view of Bill Inquiries with various statuses

[TCS Ref 4] - [Escalation Messages.png]: Online view of Bill Inquiries which have been escalated for SLA breaches

[TCS Ref 5] - [LEVEL\_WISE\_SLA\_BREACHED\_TICKETS\_-\_SUMMARY\_REPORT.pdf]: Summary Report of missed Bill inquiries

[TCS Ref 6] – [Post\_Bill\_Run\_Report.xls] : Sample Post Bill run report.

#### 4.6.6 Level 3: Close Customer Bill Inquiry Report (1.3.11.6)

##### 4.6.6.1 Level 4: Close Customer Bill Inquiry Report (1.3.11.6.1)

<b>LEVEL 3 PROCESS MAPPING DETAILS</b>	
<b>1.3.11.6 Close Customer Bill Inquiry Report</b>	
<b>Brief Description</b>	Close a customer bill inquiry report when the bill inquiry/complaint has been resolved.-AM
<b>Mandatory</b>	Nil
<b>Extended description</b>	<p>The objective of the Close Customer Bill Inquiry Report processes is to close a customer bill inquiry report when the bill inquiry/complaint has been resolved. These processes monitor the status of all open customer bill inquiry reports, and recognize that a customer bill inquiry report is ready to be closed when the status is changed to cleared-AM</p> <p>HOBS supports closure of customer bill inquiry report when the customer bill inquiry/complaint has been satisfactorily resolved.</p>

#### Supporting Evidence References (Works Cited)

[TCS Ref 1] - [Resolved Items.png]: List of Resolved Bill Inquiry Reports

[TCS Ref 2] - [Resolved Items Being Completed.png]: List of Resolved Bill Inquiry Reports Being Completed

[TCS Ref 3] – [Workflow\_Escalation.png]: Escalated Bill Inquiry item details.

#### 4.6.7 Level 2: Bill Inquiry Handling (1.3.11) – Detailed Conformance Scores

Table 4-6 Bill Inquiry Handling (1.3.11) – Detailed Conformance Scores

Level 2: 1.3.11 - Bill Inquiry Handling		
Level 3 Process	Level 4 Process	L4/L3 Process Score
	<b>1.3.11.1 - Create Customer Bill Inquiry Report</b>	<b>5</b>
	1.3.11.1.1 Generate Customer Bill Inquiry	100%
	1.3.11.1.2 Convert Customer Bill Inquiry	100%
	1.3.11.1.3 Request Additional Bill Inquiry Information	100%
	<b>1.3.11.2 - Assess Customer Bill Inquiry Report</b>	<b>5</b>
	1.3.11.2.1 Verify Customer Bill Inquiry	100%
	1.3.11.2.2 Assess and Investigate Customer Bill Inquiry	100%
	1.3.11.2.3 Identify Customer Bill Inquiry Root Cause	100%
	1.3.11.2.4 Complete Customer Bill Inquiry Assessment	100%
	<b>1.3.11.3 - Authorize Customer Bill Invoice Adjustment</b>	<b>5</b>
	1.3.11.3.1 Record Customer Bill Invoice Adjustment	100%
	1.3.11.3.2 Analyze Detailed Bill Inquiry	100%
	1.3.11.3.3 Determine Automated Bill Adjustment	100%
	<b>1.3.11.4 - Track &amp; Manage Customer Bill Inquiry Resolution</b>	<b>5</b>
	1.3.11.4.1 Schedule Customer Bill Inquiry Analysis and Adjustment Activities	100%
	1.3.11.4.2 Assign Customer Bill Inquiry Analysis and Adjustment Activities	100%
	1.3.11.4.3 Coordinate Customer Bill Inquiry Analysis and Adjustment Activities	100%
	1.3.11.4.4 Monitor Customer Bill Inquiry Jeopardy Status	100%
	1.3.11.4.5 Initiate S/P Customer Bill Inquiry Resolution Request	100%
	1.3.11.4.6 Modify Customer Bill Inquiry	100%
	1.3.11.4.7 Cancel Customer Bill Inquiry	100%
	<b>1.3.11.5 - Report Customer Bill Inquiry</b>	<b>5</b>
	1.3.11.5.1 Monitor Customer Bill Inquiries	100%
	1.3.11.5.2 Provide Customer Bill Inquiry Change Notification	100%
	1.3.11.5.3 Provide Management Reports	100%
	<b>1.3.11.6 - Close Customer Bill Inquiry Report</b>	<b>5</b>

## 4.7 Level 2: Charging (1.3.13)

### 4.7.1 Level 3: Perform Rating (1.3.13.1)

LEVEL 3 PROCESS MAPPING DETAILS	
1.3.13.1 Perform Rating	
<b>Brief Description</b>	Calculating the value of the service/product, before, during or after the rendering of the service. - A
<b>Extended description</b>	<p>Process responsible for calculating the value of the service/product, before, during or after the rendering of the service, based on parameters of the request (type, quantity, etc.), parameters of the customer/subscriber (tariffs, price plans, accumulated usage, contracts, etc.) and other parameters (time-of-day, taxes, etc.). The same request maybe rated differently for different subscribers based on their purchased offers or service agreements. - A</p> <p>HOBS provides capability to support rating of different events. For usage events, HOBS provides capability to enable rating with different configurations and rate plans. The configurations/rate plans could consider various parameters like time-of-day, type of usage measurement (duration, quantity, etc.,) products purchased and so forth.</p> <p>As part of rating, it's possible to aggregate/apply required charges and generate required information for invoicing. It's also possible to re-rate events in case of errors.</p> <p>HOBS supports real time rating/charging through partner solution.</p>

#### Supporting Evidence References (Works Cited)

[TCS Ref 1] – [Manage Usage Event Rating.png]: Process Diagram for rating process

[TCS Ref 2] – [Manage Usage Event Re-Rating.png]: Process Diagram for Re-rating process

[TCS Ref 3] – [Manage Usage Event Re-Rating.png]: Process Diagram for Re-rating process

#### 4.7.2 Level 3: Apply Rate Level Discounts (1.3.13.2)

<b>LEVEL 3 PROCESS MAPPING DETAILS</b>
<b>1.3.13.2 Apply Rate Level Discounts</b>
<p><b>Brief Description</b></p> <p>Applies discount to Product price - <b>A</b></p>
<p><b>Extended description</b></p> <p>This process applies discounts to product prices at an individual product level. A discount may be expressed as a monetary amount or percentage, and modifies a price for a product. When a discount is expressed as a percentage, the discounting process determines the discount calculated in relation to the price for the product. The discount may be displayed as a separate entry on the bill or may be combined with the rate for the product to only show as one entry. Discounts may be a one-time event or may have some duration (days, months, life of product, etc.). Discounts may apply to a specific customer or be generally available based on selection of products (for example - bundles). Discounting structures may involve tiers, tapers, or thresholds. - <b>A</b></p> <p>HOBS supports configuration of different types of rate level discounts and applying them during the rating process. Discounts can be applied on RC, NRC and usage. The discount can be on a specific event or accumulated set of events. The discount could be monetary or non-monetary and can be fixed, % or tiered discount.</p>

#### Supporting Evidence References (Works Cited)

[TCS Ref 1] - [Apply Rating Discounts.png]: Process Diagram for applying rating discounts

#### 4.7.3 Level 3: Aggregate Items for Charging (1.3.13.3)

<b>LEVEL 3 PROCESS MAPPING DETAILS</b>
<b>1.3.13.3 Aggregate Items for Charging</b>
<b>Brief Description</b>  Manages the accumulation of items that may be used in the selection of a value or in calculation of a rate/discount. - <b>A</b>
<b>Extended description</b>  This process is responsible for accumulating contributing items, which can be quantities, values (monetary or other) or both. Aggregation can occur over time or can be initiated to gather a “snapshot” of the items at a point in time. The aggregated items may be used in Perform Rating or Apply Rate Level Discounts to determine the applicable price or discount and may further be used as a quantity in the calculation of a rate or discount. - <b>A</b>  HOBS supports capabilities to aggregate events and apply charges or discounts. The aggregation can happen as example based on total duration, volume and a charge or discount can be applied

#### Supporting Evidence References (Works Cited)

[TCS Ref 1] – [Rate Usage Event.png]: Process Diagram detailing how charges are applied

[TCS Ref 2] - [Apply Rating Discounts.png]: Process Diagram for applying rating discounts

#### 4.7.4 Level 3: Manage Customer Charging Hierarchy (1.3.13.4)

<b>LEVEL 3 PROCESS MAPPING DETAILS</b>
<b>1.3.13.4 Manage Customer Charging Hierarchy</b>
<b>Brief Description</b> Managing the charging relationships among subscribers.- <b>A</b>
<b>Extended description</b> Customer hierarchies are commonly used for corporate customers, family plans or other type of affinity groups. This process manages the charging relationships among subscribers, e.g. sharing, inheriting or restricting balances, price plans and discounts. Thereby assuring that a charge is added to or subtracted from the correct (sub-) account balance. - <b>A</b>  HOBS support customer hierarchy management fully. It is possible to have a hierarchical account structure and designate specific accounts as only payable. This enables the charge is directed to specific account.

#### Supporting Evidence References (Works Cited)

[TCS Ref 1] - [Post Rating Process.png]: Process Diagram for association of charges to accounts

[TCS Ref 2] - [Identify Call Scenario.png]: Process Diagram for association of call events in Corporate/Family Plan scenario

#### 4.7.5 Level 3: Provide Advice of Charge/Rate (1.3.13.5)

<b>LEVEL 3 PROCESS MAPPING DETAILS</b>
<b>1.3.13.5 Provide Advice of Charge/Rate</b>
<b>Brief Description</b> Provide advice of charge / rate. - A
<b>Extended description</b> The activity of Provide Advice of Charge/Rate is responsible for providing advice on rates, in real-time or offline, an estimate or value of the charge or rate for a specific usage or service request. The advice is usually based upon performing a full rating process for the request. The accuracy of the Advice underlies the complexity of the product offering - so that a 100% accurate AOC might not always be available in real-time. In these cases alternatives are usually sought (for example offline presentation / product type offering change. Advice of charge can be provided pre-, during or post event. Advice of charge can be used/utilized by several different end-2-end processes. - A  HOBS provides an advice of charge for sale time charges through shopping cart. The shopping cart provides an advice of charge with One Time Charges, Recurring Charges and Discounts.  HOBS supports advice of charge for real time usage events, through partner solution.

#### Supporting Evidence References (Works Cited)

[TCS Ref 1] - [Authorization Session.png]: Process Diagram for handling Advice of Charge

[TCS Ref 2] - [Reauthorization Session.png]: Process Diagram for handling Advice of Charge

TCS Ref 3] - [Shopping Cart - With Advice of Charge.docx]: Sample screens



#### 4.7.6 Level 2: Charging (1.3.13) – Detailed Conformance Scores

Table 4-7 Charging (1.3.13) – Detailed Conformance Scores

Level 2: 1.3.13 - Charging		
Level 3 Process	Level 4 Process	L4/L3 Process Score
	<b>1.3.11.1 - Create Customer Bill Inquiry Report</b>	<b>5</b>
	1.3.11.1.1 Generate Customer Bill Inquiry	100%
	1.3.11.1.2 Convert Customer Bill Inquiry	100%
	1.3.11.1.3 Request Additional Bill Inquiry Information	100%
	<b>1.3.11.2 - Assess Customer Bill Inquiry Report</b>	<b>5</b>
	1.3.11.2.1 Verify Customer Bill Inquiry	100%
	1.3.11.2.2 Assess and Investigate Customer Bill Inquiry	100%
	1.3.11.2.3 Identify Customer Bill Inquiry Root Cause	100%
	1.3.11.2.4 Complete Customer Bill Inquiry Assessment	100%
	<b>1.3.11.3 - Authorize Customer Bill Invoice Adjustment</b>	<b>5</b>
	1.3.11.3.1 Record Customer Bill Invoice Adjustment	100%
	1.3.11.3.2 Analyze Detailed Bill Inquiry	100%
	1.3.11.3.3 Determine Automated Bill Adjustment	100%
	<b>1.3.11.4 - Track &amp; Manage Customer Bill Inquiry Resolution</b>	<b>5</b>
	1.3.11.4.1 Schedule Customer Bill Inquiry Analysis and Adjustment Activities	100%
	1.3.11.4.2 Assign Customer Bill Inquiry Analysis and Adjustment Activities	100%
	1.3.11.4.3 Coordinate Customer Bill Inquiry Analysis and Adjustment Activities	100%
	1.3.11.4.4 Monitor Customer Bill Inquiry Jeopardy Status	100%
	1.3.11.4.5 Initiate S/P Customer Bill Inquiry Resolution Request	100%
	1.3.11.4.6 Modify Customer Bill Inquiry	100%
	1.3.11.4.7 Cancel Customer Bill Inquiry	100%
	<b>1.3.11.5 - Report Customer Bill Inquiry</b>	<b>5</b>
	1.3.11.5.1 Monitor Customer Bill Inquiries	100%
	1.3.11.5.2 Provide Customer Bill Inquiry Change Notification	100%
	1.3.11.5.3 Provide Management Reports	100%
	<b>1.3.11.6 - Close Customer Bill Inquiry Report</b>	<b>5</b>

## 4.8 Level 2: Manage Balances (1.3.14)

### 4.8.1 Level 3: Manage Balance Containers (1.3.14.1)

<b>LEVEL 3 PROCESS MAPPING DETAILS</b>
<b>1.3.14.1 Manage Balance Containers</b>
<b>Brief Description</b>
Hold and maintain the different balances that a customer and/or a subscriber may have. - <b>A</b>
<b>Extended description</b>
This process manages the balance containers assigned to a customer and/or subscriber and is used to keep track of usage events, providing input for decision making processes (such as service or product authorization) by means of the balance policies. The containers include monetary and non-monetary balances (or shared) and are used as prepaid balances (enabling real-time service or product authorization), postpaid balances (in conjunction with an Account-Receivables [AR] application). Examples of non-monetary balances and allowances are: free minutes, WAP-only quota, etc. - <b>A</b>
<b>HOBS supports managing different balances that a customer and or/a subscriber may have. This is supported through the concept of balance group. The balance group's credit limit is updated based on payments or through product purchases.</b>
<b>Balance group can be maintained for different types of resources and the resource can be associated to a subscription or an account. Resource can be currency or non-currency and the same can be monitored on usage done by the subscriber.</b>
HOBS supports real time/pre-paid scenarios through partner solution.

#### Supporting Evidence References (Works Cited)

[TCS Ref 1] – [Make Payment V1.0.jpg]: Process Diagram for update of balances.

[TCS Ref 2] – [Balance Group Configuration Overview V1.0.pdf]: Configuration overview for Balance Group

#### 4.8.2 Level 3: Manage Balance Policies (1.3.14.2)

<b>LEVEL 3 PROCESS MAPPING DETAILS</b>
<b>1.3.14.2 Manage Balance Policies</b>
<b>Brief Description</b> Executing policies per balance or balance type. - A
<b>Extended description</b> Balance policies are rules that describe how balance affecting events are to be handled. This is done by comparing the value of each event against criteria such as the following: - a minimum allowable balance limit (e.g. balance must remain above zero), - balance expiration dates, - balance thresholds actions and notifications and - roll-over & cyclic policies. – A  Resource meta data configuration in the balance group consists of characteristics such as roll-over, term of the balance, balance effective rules. Consumption of balance from the instance will be done on the base of start and end date of the resource according to the priority of the components.  HOBS supports real time/pre-paid scenarios through partner solution.

#### Supporting Evidence References (Works Cited)

[TCS Ref 1] – [Authorization Session.jpg]: Process Diagram for Validating, Allocating and updating balance based on balance policies.

#### 4.8.3 Level 3: Manage Balance Operations (1.3.14.3)

<b>LEVEL 3 PROCESS MAPPING DETAILS</b>
<b>1.3.14.3 Manage Balance Operations</b>
<p><b>Brief Description</b></p> <p>Allow different operations to be performed on the managed balance. - A</p>
<p><b>Mandatory</b></p> <p>Reserved for future use.</p>
<p><b>Extended description</b></p> <p>Balance operations processes the charged events, using balance policies and then guides the results towards the relevant balance containers. Operations include : - Reserving amounts from any balance for any session, and crediting unused reservations back into the balance, when a session is released. - Updating balances by applying charges to the balance and credit/debit adjustments. - Balance queries. - Transferring amounts from one balance to another. – A</p> <p><b>HOBS supports manage balance operations based on different interactions</b></p> <ul style="list-style-type: none"><li>• Updates of balance based on credit/debit adjustments</li><li>• Handling scenarios where a resource has been provided based on a commitment e.g. 100 Free Minutes in a month and the commitment is broken. (e.g. Termination within first 5 days, but the resource has been fully consumed). These kind of scenarios would require balance to be updated according to the policies.</li><li>• In pre-paid scenarios validating the balance available against a usage event is required. When the balance is available, it can be reserved. Upon usage of the event, the balance is credited. It is also possible to credit unused reservations back into balance when a session is released.</li></ul> <p>HOBS supports real time/pre-paid scenarios through partner solution.</p>

### **Supporting Evidence References (Works Cited)**

**[TCS Ref 1] – [Raise Adjustment V1.0.jpg]: Process Diagram for raising credit/debit adjustments**

**[TCS Ref 2] – [Authorization Session.jpg]: Process Diagram for Validating, Allocating and updating balance based on balance policies.**

**[TCS Ref 3] – [Terminate Session.jpg]: Process Diagram for releasing unused balance.**

#### 4.8.4 Level 3: Authorize Transaction Based on Balance (1.3.14.4)

<b>LEVEL 3 PROCESS MAPPING DETAILS</b>
<b>1.3.14.4 Authorize Transaction Based on Balance</b>
<b>Brief Description</b> Manages authorization of service/ product requests based on available balances (monetary or non-monetary) and policies. - A
<b>Mandatory</b> Reserved for future use.
<b>Extended description</b> This process may include balance reservation and must be performed online. Subsequent balance updates are not required to be done in real-time. In this context a service is provided by the network, e.g. voice call. Product is digital content delivered via the network, e.g. content such as music, games, etc. – A  <b>HOBS native support exists for authorization of service/product requests based on available balance online. e.g. Purchase of Video On Demand Product based on the available balance.</b>  HOBS supports real time/pre-paid usage scenarios authorization through partner solution.

#### Supporting Evidence References (Works Cited)

[TCS Ref 1] - [HOBS Platform Billing Services V1.0.pdf]: Services enabling online balance check

[TCS Ref 2] – [Authorization Session.jpg]: Process Diagram for Validating, Allocating and updating balance based on balance policies

#### 4.8.5 Level 2: Manage Balances (1.3.14) – Detailed Conformance Scores

Table 4-8 Manage Balances (1.3.14) – Detailed Conformance Scores

Level 2: 1.3.14 – Manage Balances		
Level 3 Process	Level 4 Process	L4/L3 Process Score
	1.3.13.1 - Perform Rating	5
	1.3.13.2 - Apply Rate Level Discounts	5
	1.3.13.3 - Aggregate Items For Charging	5
	1.3.13.4 - Manage Customer Charging Hierarchy	5
	1.3.13.5 - Provide Advice of Charge/Rate	5

## **5 Information Framework Assessment Overview**

### **5.1 Mapping Technique Employed**

The certification scope defines the list of Information Framework (SID) ABEs (Aggregate Business Entities) for which mapping support is reviewed during the assessment. For each of the ABEs defined in scope for the assessment, the organisation undergoing the assessment must map their information model to the core entities and dependent entities and the required & optional attributes for each entity, as defined in the SID model, according to what is supported for the product/solution under assessment.



## 5.2 Information Framework Assessment - ABE Scope

The diagram in Figure 5-1 illustrates the Information Framework Level 1 ABEs (as highlighted in green) that were presented in scope for the Assessment. The full scope for the assessment, including lower level ABEs, is provided in Table 5-1.

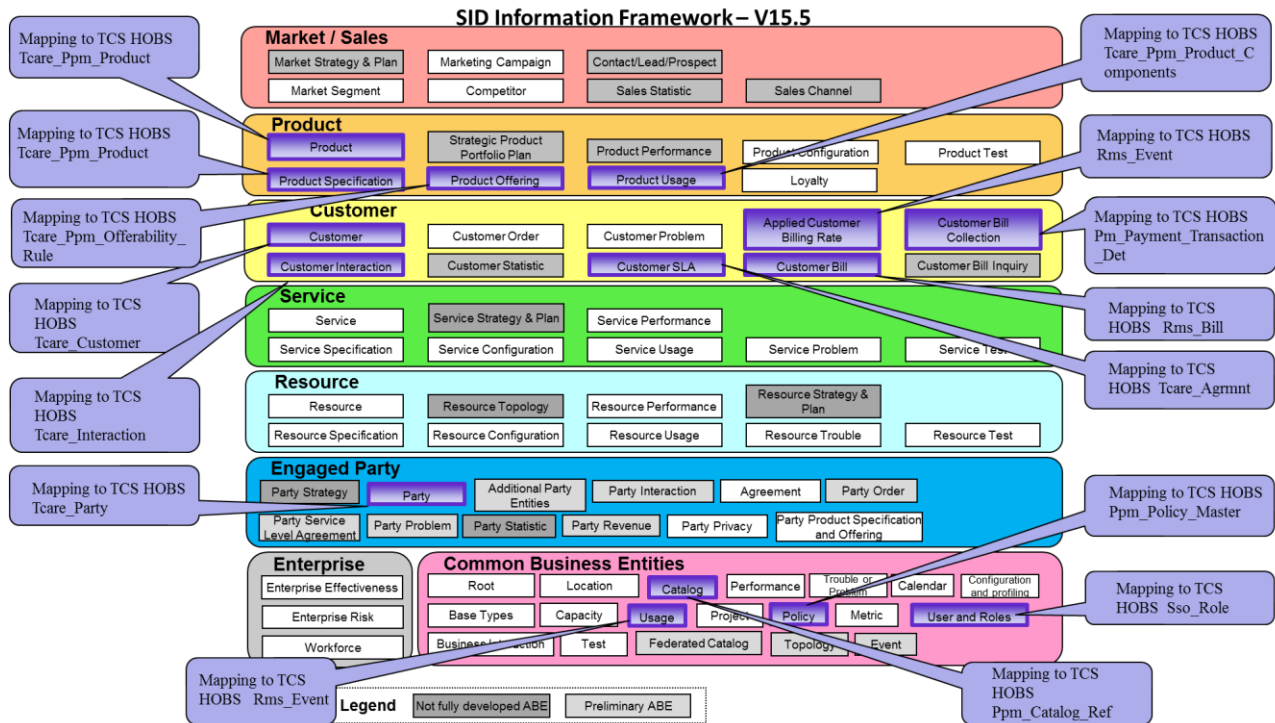


Figure 5-1 Level 1 ABEs in scope for TCS HOBS Assessment

Table 5-1 Information Framework Assessment Scope

TCS HOBS V6.0 - Assessment & Certification Scope TM Forum Information Framework (SID) V15.5	
<b>Engaged Party Domain</b>	
Party/ Party ABE	
Party/ Party Demographic ABE	
Party/ Contact ABE	
Party/ Identification ABE	
Party/ Party Profile ABE	
Party/ Party Role Examples ABE	
<b>Customer Domain</b>	
Applied Customer Billing Rate ABE	
Applied Customer Billing Rate Spec ABE	
Customer ABE	
Customer Bill/ Customer Bill ABE	
Customer Bill / Customer Account Balance ABE	
Customer Bill / Customer Account Balance Type ABE	
Customer Bill/ Customer Account Balance/ Customer Billing Credit ABE	
Customer Bill / Customer Billing Statistic ABE	
Customer Bill Collection / Dunning ABE	
Customer Interaction ABE	
Customer Service Level Agreement ABE	
<b>Common Business Entities Domain</b>	
Catalog ABE	
Policy/ Policy Application/ Policy Application ABE	
Policy/ Policy Application/ Policy Server ABE	
Policy/ Policy Application/ PolicyApp Role ABE	
Policy/ Policy Framework/ Policy Framework ABE	
Policy/ Policy Framework/ Policy ABE	
Policy/ Policy Management ABE	
Policy/ Policy Structure ABE/ Policy Action ABE	
Policy/ Policy Structure ABE/ Policy Condition ABE	
Policy/ Policy Structure ABE/ Policy Statement ABE	
Policy/ Policy Structure ABE/ Policy Value ABE	
Policy/ Policy Structure ABE/ Policy Variable ABE	
Usage ABE	
Usage/ Usage Spec ABE	
Users and Roles ABE	
<b>Product Domain</b>	
Product/ Product ABE	
Product/ Product Price ABE	
Product Offering/ Product Offering ABE	
Product Offering/ Product Catalog ABE	
Product Offering/ Product Offering Price ABE	
Product Offering/ Product Offering Price Rule ABE	
Product Specification ABE	
Product Usage/ Product Usage ABE	
Product Usage/ Product Usage Spec ABE	

### 5.3 Solution Scope

The diagram in Figure represents the mapping of TCS HOBS solution to the Information Framework ABEs in scope for the assessment.

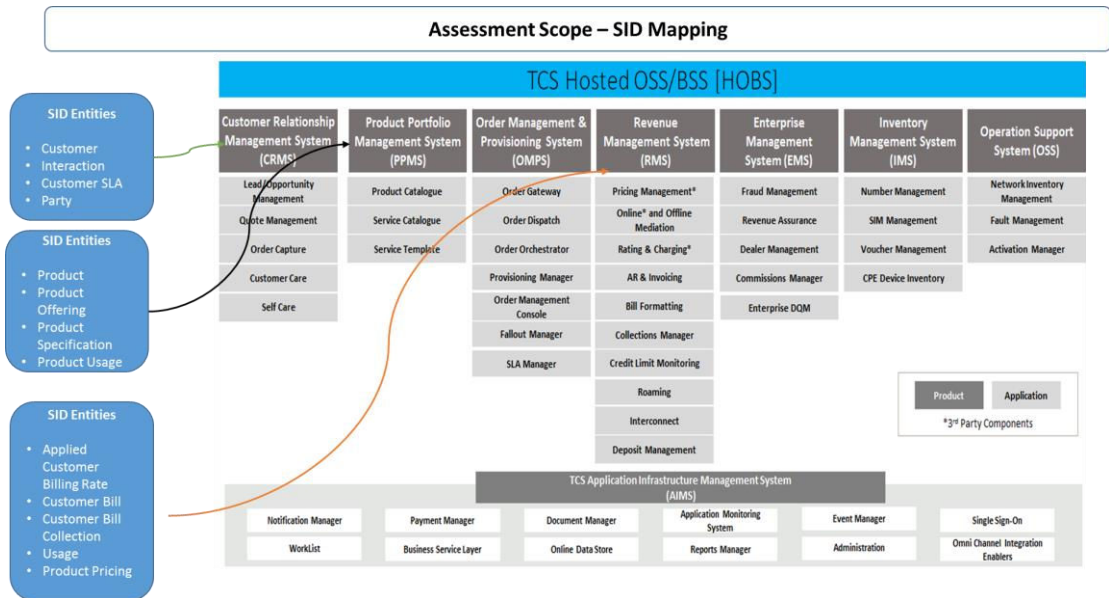


Figure 5-2 TCS HOBS: Solution Scope for SID Assessment

## 6 Framework Conformance Results

This section details the Scores awarded to reflect Conformance of TCS’s HOBS solution to the Business Process Framework & Information Framework components of Framework 15.5.

### 6.1 Business Process Framework – Scoring Rules

The conformance scores granted were based on the following TM Forum scoring rules:

Framework 15.5 Conformance Certification (Product/Solution/Implementation)		
Business Process Framework (eTOM) - Conformance Score Methodology		
Process Level	Conformance Score	Qualifier
Level 1 Process	Not applicable	Conformance Assessment shall not be carried out at this process level.
Level 2 Process	Not applicable	A conformance level is not awarded to Level 2 processes in Framework Certification. The Certification Report shall highlight the coverage within a Level 2 process submitted in scope for an Assessment, in terms of number of Level 3 processes submitted for assessment out of the total number defined in the Business Process Framework for the Level 2 process.
Level 3 Process	Conformance Score is awarded between 3.1 & 5.0	The Conformance Score is awarded for each Level 3 process submitted in scope for the Assessment. The Conformance Score awarded can be a value between 3.1* & 5 depending on the level of coverage & conformance to the Level 3 process based on the alignment to the level 3 Implied Tasks as decomposed in the Level 4 process definitions. If a Level 3 process has not been decomposed to Level 4 processes, the Level 3 score is awarded according to alignment to the Level 3 defined Implied Tasks.
Level 4 Process	Level of conformance is calculated as input to parent Level 3 Process Score	Levels of conformance are calculated for Level 4 processes according to alignment to the individual implied tasks. Level 4 scores are summed and averaged to given an overall score for the parent Level 3 process.

\* In earlier Conformance Assessments, scores were awarded to Level 1 & Level 2 processes using values 1 through to 3. For this reason, the Level 3 scores start from > 3.

Figure 6-1 TM Forum Business Process Framework: Conformance Scoring Rules

### ***Additional Notes on Business Process Framework Conformance Scoring***

*1. Level 1 processes shall be presented to define the assessment scope only. i.e. they shall not be assessed as self-contained processes since the level of detail is not considered sufficient.*

*A conformance level shall not be awarded for Level 1 processes.*

*2. Level 2 processes shall be presented to define the assessment scope only. i.e. they shall not be assessed as self-contained processes since the level of detail is not considered sufficient.*

*A conformance level shall not be awarded for Level 2 processes. However, the Certification Report shall provide good indication of the coverage of the Level 2 process in terms of number of contained Level 3 processes submitted in scope for the Assessment.*

*3. The Conformance Assessment shall be carried out at process level 3. For each Level 3 process, conformance shall be deduced according to the support for the process implied tasks, as decomposed and described in the underlying Level 4 process descriptions. The score awarded for a Level 3 process, is deduced according to the support mapped to the Level 4 processes/Implied Tasks. This provides finer granularity of scoring than in Assessment prior to Framework 12.0 based Assessments.*

*4. In evaluating conformance to the standards, manual intervention shall not impact the conformance score granted. However, any level of manual support shall be noted in the Conformance Report and Detailed Results Report. This note specifically applies to Product & Solution Assessments.*

*5. Processes that are supported via manual implementation only, are not considered in scope for the Assessment. This note specifically applies to Product & Solution Assessments.*

## 6.2 Business Process Framework – Conformance Result Summary

The graphs in this section provides an overview of the conformance levels granted to the Level 3 Processes presented in scope for the TCS HOBS Assessment. Each Level 3 process was measured using a Business Process Framework (eTOM) conformance score according to level of Conformance – Full Conformance or Partial Conformance as described in section 6.1 Business Process Framework – Scoring Rules.

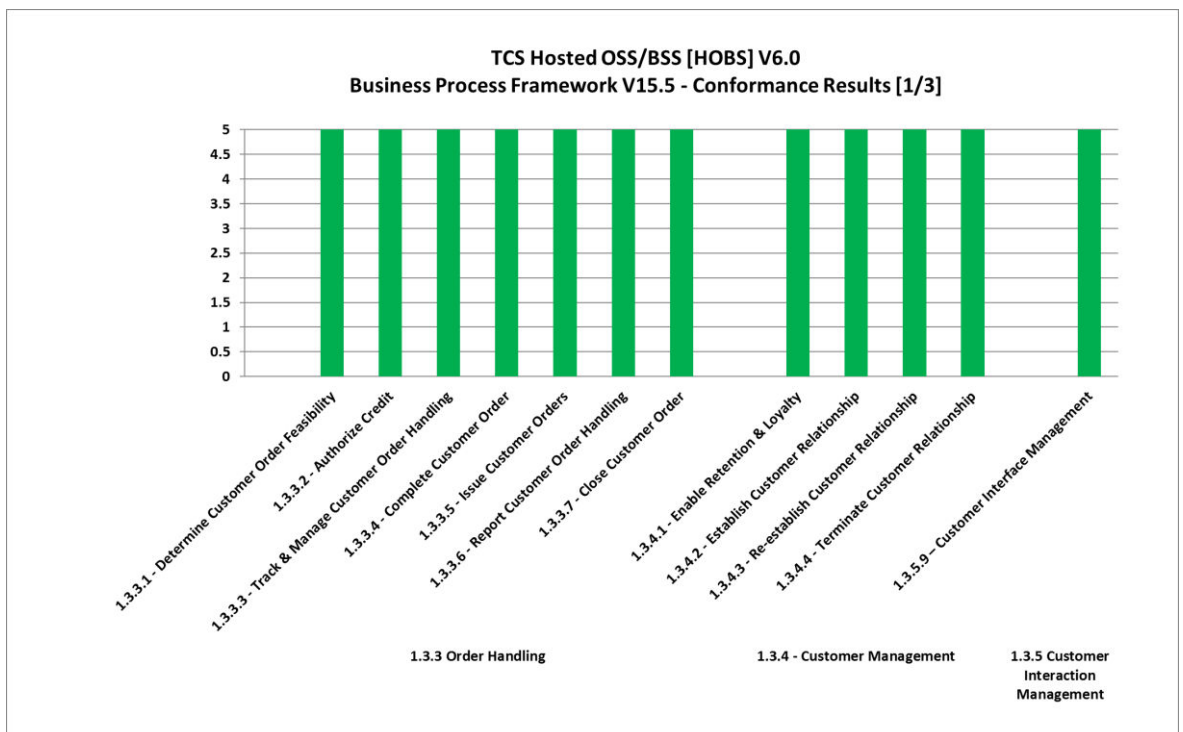


Figure 6-2 Business Process Framework - Conformance Result Summary [1/3]

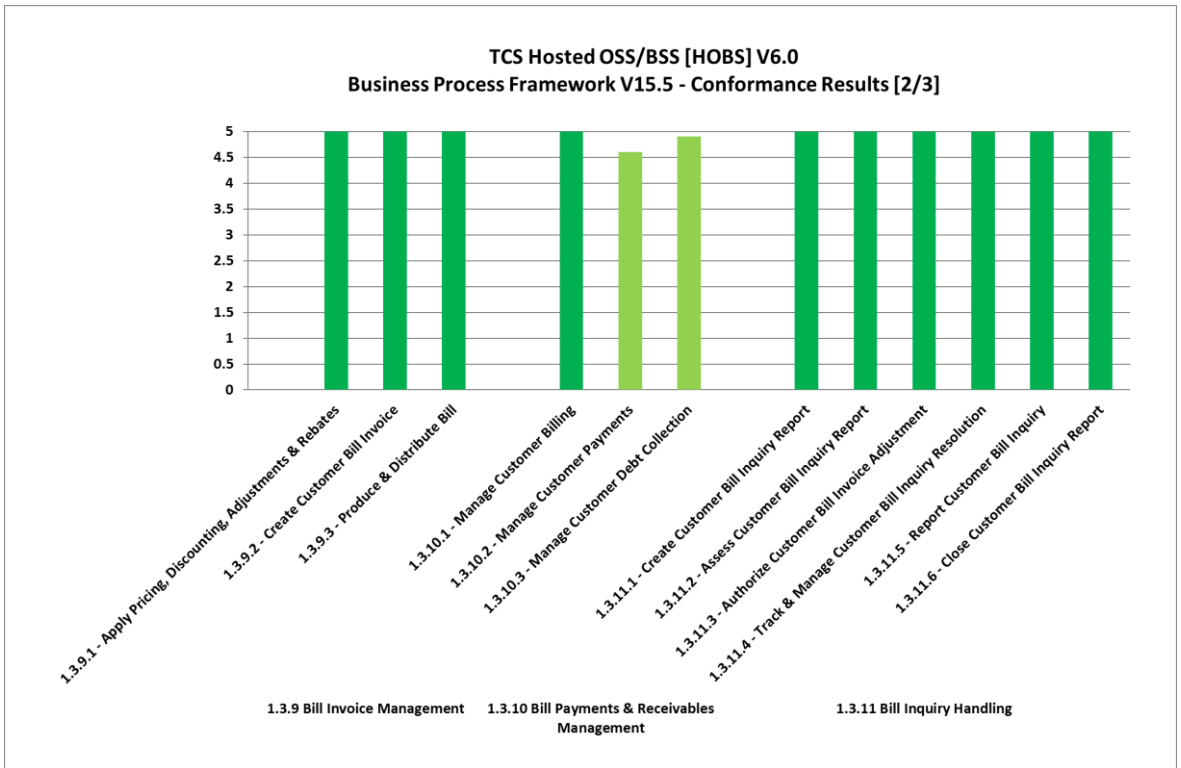


Figure 6-3 Business Process Framework - Conformance Result Summary [2/3]

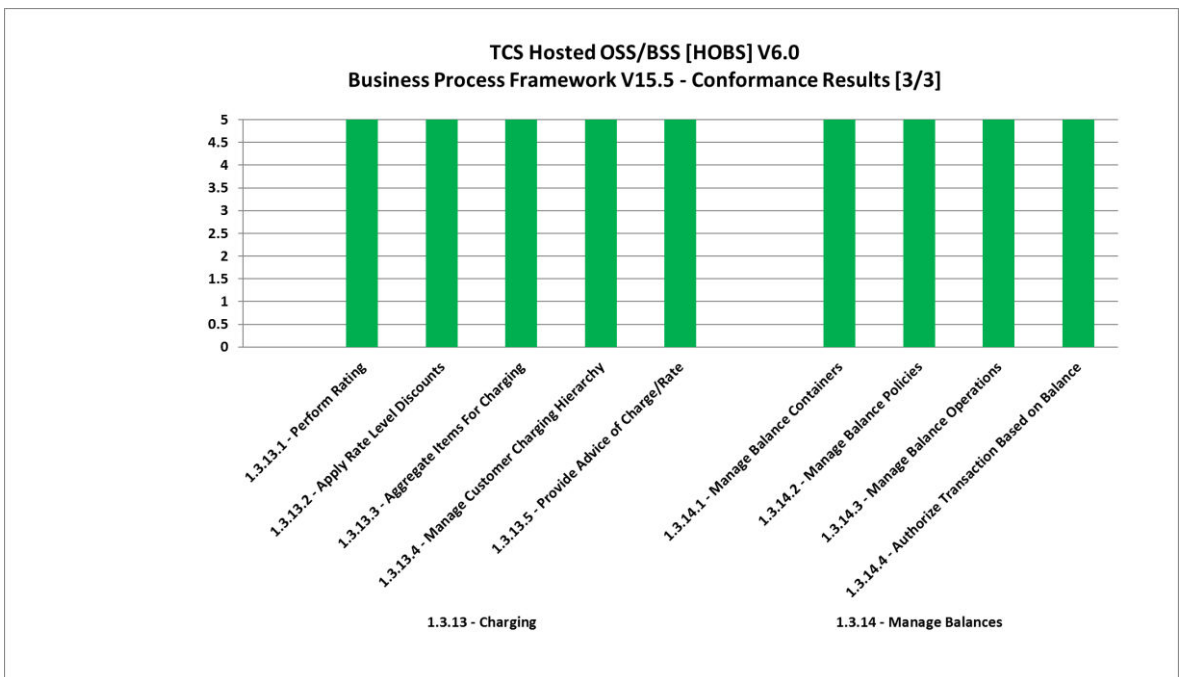


Figure 6-4 Business Process Framework - Conformance Result Summary [3/3]

### 6.3 Business Process Framework – Detailed Conformance Results

The following table provides a more detailed breakdown of the scores awarded with some additional commentary

Table 6-1 Business Process Framework: Detailed Conformance Results

TCS HOBBS V6.0 Business Process Framework v15.5 - Conformance Results		
L3 Process	Conformance Score	Comments
<b>1.3.3 - Order Handling</b>		
<b>1.3.3.1 - Determine Customer Order Feasibility</b>	<b>5</b>	<b>Fully Conformant</b> Supporting evidence and documentation submitted for the assessment of this level 3 process fulfilled alignment criteria with the standard Business Process Framework (eTOM).
<b>1.3.3.2 - Authorize Credit</b>	<b>5</b>	<b>Fully Conformant</b> Supporting evidence and documentation submitted for the assessment of this level 3 process fulfilled alignment criteria with the standard Business Process Framework (eTOM).
<b>1.3.3.3 - Track &amp; Manage Customer Order Handling</b>	<b>5</b>	<b>Fully Conformant</b> Supporting evidence and documentation submitted for the assessment of this level 3 process fulfilled alignment criteria with the standard Business Process Framework (eTOM).
<b>1.3.3.4 - Complete Customer Order</b>	<b>5</b>	<b>Fully Conformant</b> Supporting evidence and documentation submitted for the assessment of this level 3 process fulfilled alignment criteria with the standard Business Process Framework (eTOM).



<b>1.3.3.5 - Issue Customer Orders</b>	<b>5</b>	<b>Fully Conformant</b> Supporting evidence and documentation submitted for the assessment of this level 3 process fulfilled alignment criteria with the standard Business Process Framework (eTOM).
<b>1.3.3.6 - Report Customer Order Handling</b>	<b>5</b>	<b>Fully Conformant</b> Supporting evidence and documentation submitted for the assessment of this level 3 process fulfilled alignment criteria with the standard Business Process Framework (eTOM).
<b>1.3.3.7 - Close Customer Order</b>	<b>5</b>	<b>Fully Conformant</b> Supporting evidence and documentation submitted for the assessment of this level 3 process fulfilled alignment criteria with the standard Business Process Framework (eTOM).
<b>1.3.4 - Customer Management</b>		
<b>1.3.4.1 - Enable Retention &amp; Loyalty</b>	<b>5</b>	<b>Fully Conformant</b> Supporting evidence and documentation submitted for the assessment of this level 3 process fulfilled alignment criteria with the standard Business Process Framework (eTOM).
<b>1.3.4.2 - Establish Customer Relationship</b>	<b>5</b>	<b>Fully Conformant</b> Supporting evidence and documentation submitted for the assessment of this level 3 process fulfilled alignment criteria with the standard Business Process Framework (eTOM).
<b>1.3.4.3 - Re-establish Customer Relationship</b>	<b>5</b>	<b>Fully Conformant</b> Supporting evidence and documentation submitted for the assessment of this level 3 process fulfilled alignment criteria with the standard Business Process Framework (eTOM).

<b>1.3.4.4 - Terminate Customer Relationship</b>	<b>5</b>	<b>Fully Conformant</b> Supporting evidence and documentation submitted for the assessment of this level 3 process fulfilled alignment criteria with the standard Business Process Framework (eTOM).
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<b>1.3.5 - Customer Interaction Management</b>		
<b>1.3.5.9 – Customer Interface Management</b>	<b>5</b>	<b>Fully Conformant</b> Supporting evidence and documentation submitted for the assessment of this level 3 process fulfilled alignment criteria with the standard Business Process Framework (eTOM).
<b>1.3.9 - Bill Invoice Management</b>		
<b>1.3.9.1 - Apply Pricing, Discounting, Adjustments &amp; Rebates</b>	<b>5</b>	<b>Fully Conformant</b> Supporting evidence and documentation submitted for the assessment of this level 3 process fulfilled alignment criteria with the standard Business Process Framework (eTOM).
<b>1.3.9.2 - Create Customer Bill Invoice</b>	<b>5</b>	<b>Fully Conformant</b> Supporting evidence and documentation submitted for the assessment of this level 3 process fulfilled alignment criteria with the standard Business Process Framework (eTOM).
<b>1.3.9.3 - Produce &amp; Distribute Bill</b>	<b>5</b>	<b>Fully Conformant</b> Supporting evidence and documentation submitted for the assessment of this level 3 process fulfilled alignment criteria with the standard Business Process Framework (eTOM).
<b>1.3.10 - Bill Payments &amp; Receivables Management</b>		
<b>1.3.10.1 - Manage Customer Billing</b>	<b>5</b>	<b>Fully Conformant</b> Supporting evidence and documentation submitted for the assessment of this level 3 process fulfilled alignment criteria with the standard Business Process Framework (eTOM).
<b>1.3.10.2 - Manage Customer Payments</b>	<b>4.6</b>	<b>Partially Conformant</b> Supporting evidence and documentation submitted for the assessment of this level 3 process fulfilled alignment criteria with the standard Business Process Framework (eTOM) but with some deviations. See Level 3/Level 4 results section in Chapter 4.

<b>1.3.10.3 - Manage Customer Debt Collection</b>	<b>4.9</b>	<b>Partially Conformant</b> Supporting evidence and documentation submitted for the assessment of this level 3 process fulfilled alignment criteria with the standard Business Process Framework (eTOM) but with some deviations. See Level 3/Level 4 results section in Chapter 4.
<b>1.3.11 - Bill Inquiry Handling</b>		
<b>1.3.11.1 - Create Customer Bill Inquiry Report</b>	<b>5</b>	<b>Fully Conformant</b> Supporting evidence and documentation submitted for the assessment of this level 3 process fulfilled alignment criteria with the standard Business Process Framework (eTOM).
<b>1.3.11.2 - Assess Customer Bill Inquiry Report</b>	<b>5</b>	<b>Fully Conformant</b> Supporting evidence and documentation submitted for the assessment of this level 3 process fulfilled alignment criteria with the standard Business Process Framework (eTOM).
<b>1.3.11.3 - Authorize Customer Bill Invoice Adjustment</b>	<b>5</b>	<b>Fully Conformant</b> Supporting evidence and documentation submitted for the assessment of this level 3 process fulfilled alignment criteria with the standard Business Process Framework (eTOM).
<b>1.3.11.4 - Track &amp; Manage Customer Bill Inquiry Resolution</b>	<b>5</b>	<b>Fully Conformant</b> Supporting evidence and documentation submitted for the assessment of this level 3 process fulfilled alignment criteria with the standard Business Process Framework (eTOM).
<b>1.3.11.5 - Report Customer Bill Inquiry</b>	<b>5</b>	<b>Fully Conformant</b> Supporting evidence and documentation submitted for the assessment of this level 3 process fulfilled alignment criteria with the standard Business Process Framework (eTOM).

<b>1.3.11.6 - Close Customer Bill Inquiry Report</b>	<b>5</b>	<b>Fully Conformant</b> Supporting evidence and documentation submitted for the assessment of this level 3 process fulfilled alignment criteria with the standard Business Process Framework (eTOM).
<b>1.3.13 - Charging</b>		
<b>1.3.13.1 - Perform Rating</b>	<b>5</b>	<b>Fully Conformant</b> Supporting evidence and documentation submitted for the assessment of this level 3 process fulfilled alignment criteria with the standard Business Process Framework (eTOM).
<b>1.3.13.2 - Apply Rate Level Discounts</b>	<b>5</b>	<b>Fully Conformant</b> Supporting evidence and documentation submitted for the assessment of this level 3 process fulfilled alignment criteria with the standard Business Process Framework (eTOM).
<b>1.3.13.3 - Aggregate Items For Charging</b>	<b>5</b>	<b>Fully Conformant</b> Supporting evidence and documentation submitted for the assessment of this level 3 process fulfilled alignment criteria with the standard Business Process Framework (eTOM).
<b>1.3.13.4 - Manage Customer Charging Hierarchy</b>	<b>5</b>	<b>Fully Conformant</b> Supporting evidence and documentation submitted for the assessment of this level 3 process fulfilled alignment criteria with the standard Business Process Framework (eTOM).
<b>1.3.13.5 - Provide Advice of Charge/Rate</b>	<b>5</b>	<b>Fully Conformant</b> Supporting evidence and documentation submitted for the assessment of this level 3 process fulfilled alignment criteria with the standard Business Process Framework (eTOM).

<b>1.3.14 - Manage Balances</b>		
<b>1.3.14.1 - Manage Balance Containers</b>	<b>5</b>	<b>Fully Conformant</b> Supporting evidence and documentation submitted for the assessment of this level 3 process fulfilled alignment criteria with the standard Business Process Framework (eTOM).
<b>1.3.14.2 - Manage Balance Policies</b>	<b>5</b>	<b>Fully Conformant</b> Supporting evidence and documentation submitted for the assessment of this level 3 process fulfilled alignment criteria with the standard Business Process Framework (eTOM).
<b>1.3.14.3 - Manage Balance Operations</b>	<b>5</b>	<b>Fully Conformant</b> Supporting evidence and documentation submitted for the assessment of this level 3 process fulfilled alignment criteria with the standard Business Process Framework (eTOM).
<b>1.3.14.4 - Authorize Transaction Based on Balance</b>	<b>5</b>	<b>Fully Conformant</b> Supporting evidence and documentation submitted for the assessment of this level 3 process fulfilled alignment criteria with the standard Business Process Framework (eTOM).

## 6.4 Information Framework – Scoring Rules

TM Forum awards two categories of conformance scoring to the Information Framework assessment as follows:

- **Information Framework Maturity** Conformance Levels
- **Information Framework Adoption** Conformance Scores

This section describes the basis of scoring for each of these categories.

### 6.4.1 Information Framework Maturity Conformance Scoring Methodology

The Information Framework Maturity Conformance scores are granted based on the detailed scoring guidelines outlined in Table 6-2.

Maturity conformance is based on a progressive scoring system - i.e. a lowest level ABE must conform completely to the conformance criteria at one score level before proceeding to the next level.

For example, to achieve a score of 3 there must be equivalence to all the required attributes of the ABE's core entity.

A decimal scoring system is utilized to show the per cent achievement towards the next level.

With the Information Framework Maturity Conformance scoring, no further contribution to the score is made for equivalence to the ABE's remaining dependent entities and other SID components. For example, no further contribution to the score is made even if there is equivalence to 8 of the ABE's 10 dependent entities.

To recognize the overall adoption of the Information Framework SID Information model, the Information Framework Adoption Scoring system is applied. See 6.4.2 Information Framework Adoption Conformance Scoring Methodology for details of this Conformance category.



Table 6-2 TM Forum Information Framework Maturity Conformance - Scoring Rules

Information Framework R15.5: <u>Maturity Conformance</u> Scoring Guidelines	
Maturity Conformance Level	Progressive Scoring Qualifiers
<b>Non Conformance</b> [Score = 1]	The content of the model is compatible with a subset of the Information Framework (SID) ABEs that define its domain coverage. This provides two interacting components/solutions with a common vocabulary and model structure. The subset represents the scope of the model, expressed in Information Framework (SID) domains and ABEs.
<b>Non Conformance</b> [Score = 2]	The model has passed level 1 conformance and the content of the ABE, part of the domain coverage and defined in the model, contains the ABE's core business entity or entities. A core business entity is an entity upon which other entities within the ABE are dependent. E.g. Service in the Service ABE. A core entity is also an entity whose absence in the ABE would make the ABE incomplete.
<b>Very Low Conformance</b> [2.0 < Score <= 3.0]	The model has passed level 2 conformance and <u>*a percentage of the required attributes of the ABE's core entity or entities</u> are defined in the model.
<b>Low Conformance</b> [3.0 < Score <= 4.0]	The model has passed level 3 conformance and <u>*a percentage of the dependent entities within the ABE</u> are defined in the model. A dependent entity is one whose instances are dependent on an instance of a core entity. For example, a ServiceCharacteristic instance within the Service ABE is dependent upon an instance of the Service entity.
<b>Medium Conformance</b> [4.0 < Score <= 5.0]	The model has passed level 4 conformance and <u>*a percentage of the required attributes</u> of the ABE's dependent entities are defined in the model.
<b>High Conformance</b> [5.0 < Score <= 6.0]	The model has passed level 5 conformance and <u>*a percentage of all attributes</u> of the ABE's core entities are defined in the model.
<b>Very High Conformance</b> [6.0 < Score < 7.0]	The model has passed level 6 conformance and <u>*a percentage of all attributes</u> of the ABE's dependent entities are defined in the model.
<b>Full Conformance</b> [ Score = 7.0]	The model has achieved Level 7 conformance (Full Conformance) and <u>all</u> attributes of the ABE's core & dependent entities are defined in the model.

### ***Additional Notes on Information Framework Conformance Maturity Level scoring:***

- 1. For each level, according to what is required, a value is calculated based on the percentage of entities/attributes supported - as appropriate. This will result in a decimal figure (rounded to one decimal place).*
- 2. Maturity Level versus Adoption Score: Using the progressive scoring schema for Maturity Level, an assessed ABE for which there is equivalence to 2/3 required core attributes and 8/10 dependent entities would be awarded Maturity Level Score = 2.5 (Very Low Conformance) & Adoption Conformance score = 5.2 (Medium Conformance). For the Maturity Level, because not all required attributes of the Core Entity are supported, the Maturity Level score does not progress to the next level, regardless of conformance to other components of the ABE.*
- 3. A **core business entity** is an entity upon which other entities within the ABE are dependent. For example, Service in the Service ABE. A model should strive to attain as high a level of Information Framework (SID) conformance as possible. A core entity is also an entity whose absence in the ABE would make the ABE incomplete.*
- 4. A **dependent entity** is one whose instances are dependent on an instance of a core entity. For example, a ServiceCharacteristic instance within the Service ABE is dependent upon an instance of the Service entity.*

## 6.4.2 Information Framework Adoption Conformance Scoring Methodology

To recognize the overall adoption of the Information Framework SID Information model, the Information Framework Adoption Scoring system is introduced to complement the Maturity Levels that have been used since the launch of the Framework Conformance Programme.

Information Framework Adoption scores are granted based on the detailed scoring guidelines outlined in Table 6-3.

Adoption conformance is based on an accumulative scoring system - i.e. scores are awarded for each element of an ABE to give an overall total Adoption score for the ABE – with elements in this context defined by core & dependent entities and required & optional attributes for both category of entity.

The scores for each element are calibrated according to relative weightings, according to the significance of each element e.g. core entity having higher weighting than dependent entities and required attributes having higher weighting than optional attributes. The relative weightings for each ABE 'element' are indicated in Table 6-3.

Table 6-3 TM Forum Information Framework Adoption Conformance - Scoring Rules

Information Framework R15.5: Adoption Conformance Scoring Guidelines						
SID Component		Weighted Scoring Calculation				
Lowest Level ABE		Equivalent – 1 score point				
Core Entity		Equivalent – 2 score points				
Core Entity Required Attribute		% equivalent * 2 [See note 2]				
Dependent Entity		% equivalent * 1.5				
Dependent Entities – Required Attributes		% equivalent * 1.5				
Core Entity – Optional Attributes		% equivalent * 1.2				
Dependent Entity – Optional Attributes		% equivalent * 0.8				
Adoption Conformance Score Graduation						
<b>Non Conformance</b> [Score=1-3]	<b>Very Low Conformance</b> [3.0 < Score <= 4.0]	<b>Low Conformance</b> [4.0 < Score <= 5.0]	<b>Medium Conformance</b> [5.0 < Score <= 6.0]	<b>High Conformance</b> [6.0 < Score <= 8.0]	<b>Very High Conformance</b> [8.0 < Score < 10.0]	<b>Full Conformance</b> [Score = 10.0]

***Additional Notes on Information Framework Conformance Adoption scoring:***

- 1. The score values for each SID component are added together to get the overall Adoption Conformance score.*
- 2. If 50% of the required attributes of Core entities are not supported, scores for following categories are not applied as Adoption Conformance requires conformance to 50% of the required attributes of Core entities.*
- 3. Adoption Score versus Maturity Level: Using the scoring category to recognize SID adoption, an assessed ABE for which there is equivalence to 2/3 required core attributes and 8/10 dependent entities would be awarded Maturity Level Score = 2.5 (Very Low Conformance) & Adoption Conformance score = 5.2 (Medium Conformance).*

## 6.5 Information Framework – Conformance Result Summary

The following sections provide the summary results of the Information Framework Maturity Levels & Information Framework Adoption scores granted to the ABEs presented in scope for the TCS HOBS Framework Assessment.

Each ABE was measured using the Information Framework (SID) conformance scoring guidelines as described in sections 6.4.1 & 6.4.2.

### 6.5.1 Information Framework - Maturity Conformance Result Summary

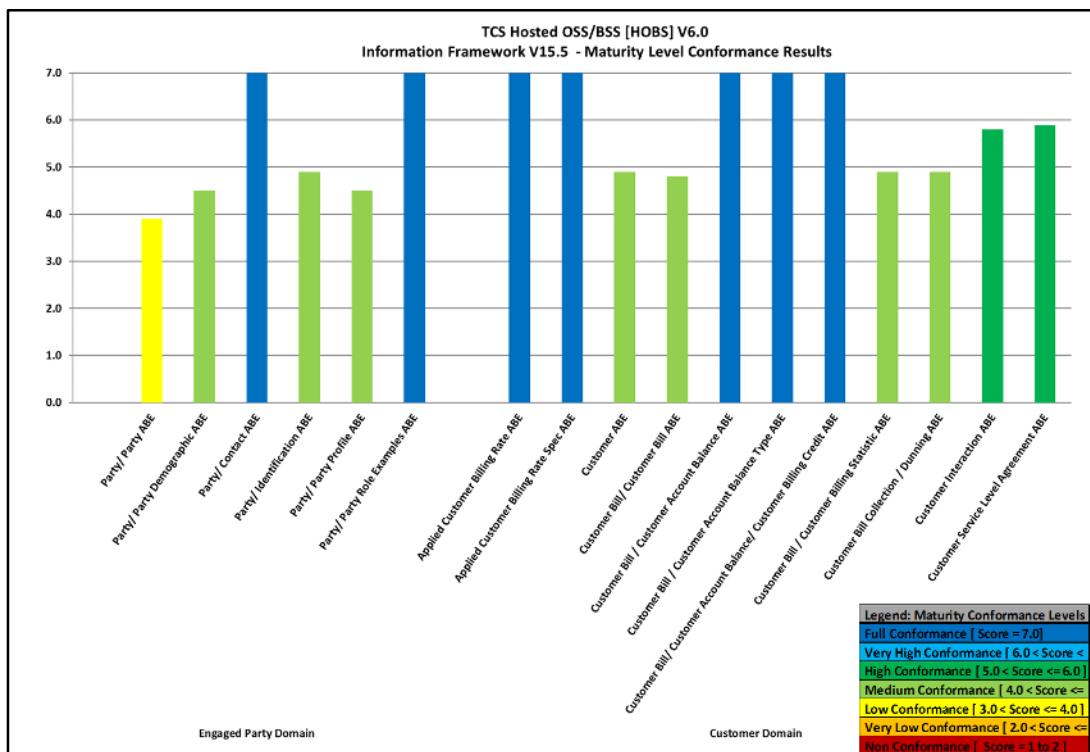


Figure 6-5 Maturity Conformance Results – Engaged Party & Customer Domains

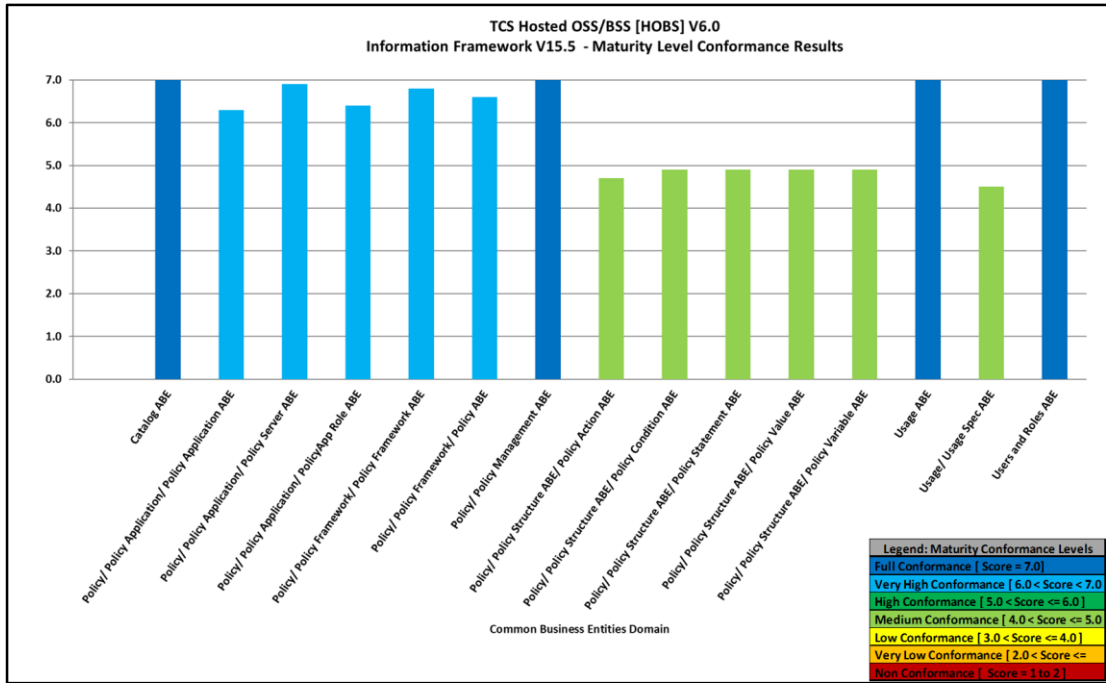


Figure 6-6 Maturity Conformance Results – Common Business Entities Domain

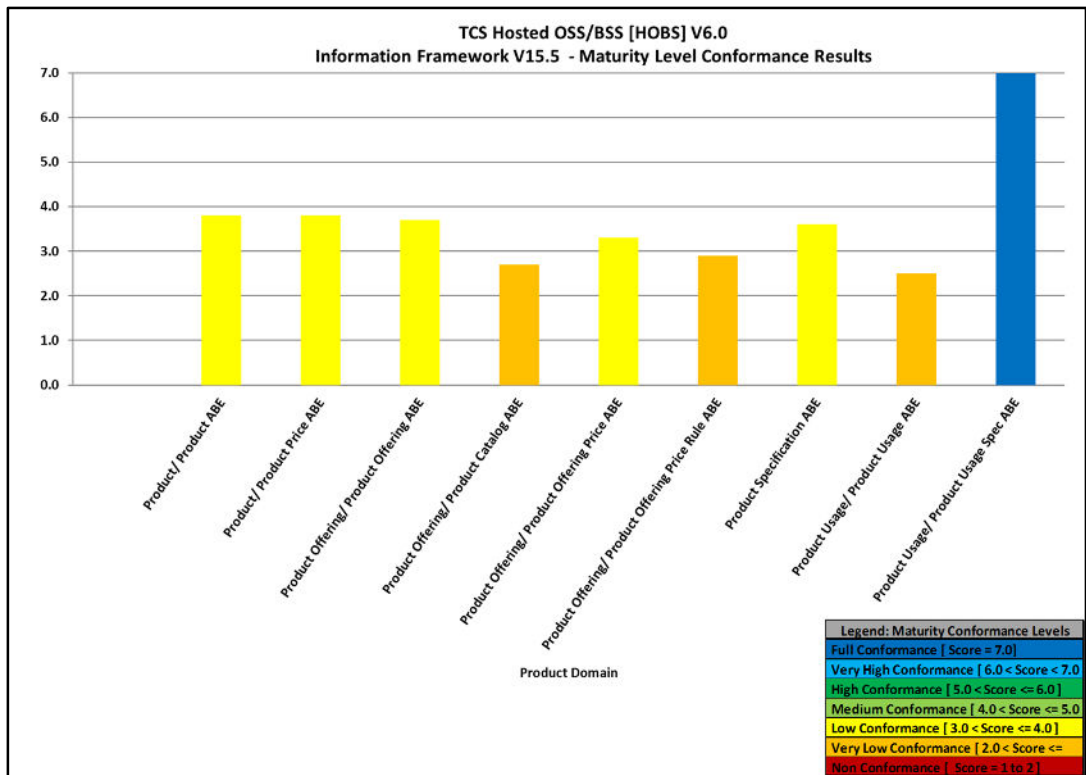


Figure 6-7 Maturity Conformance Results – Product Domain





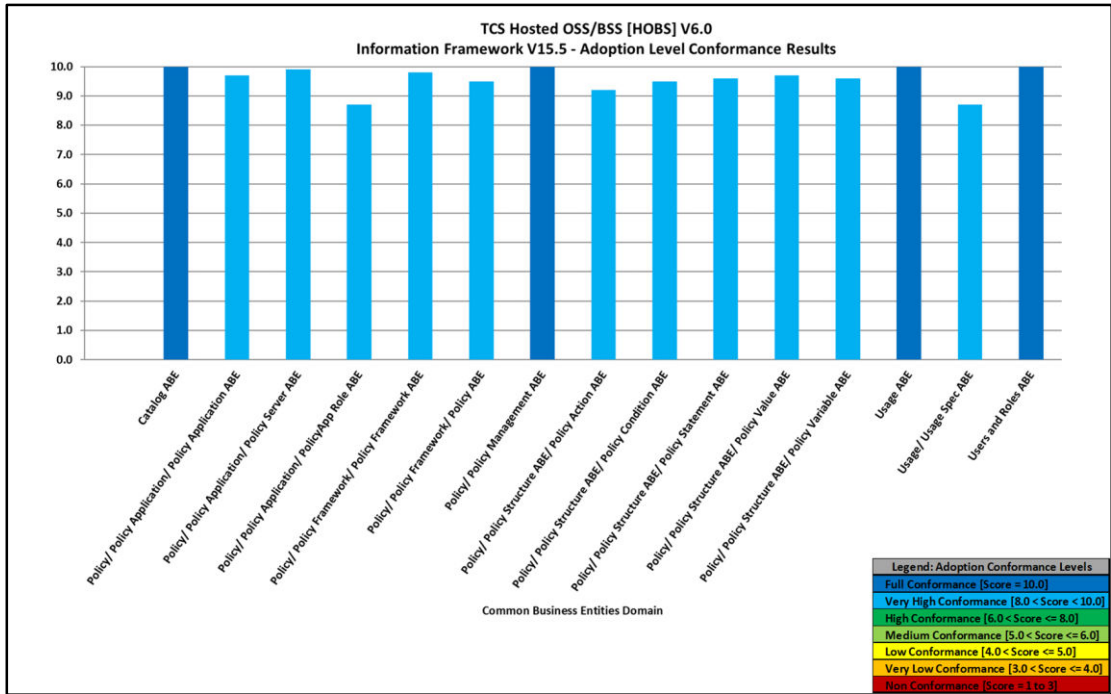


Figure 6-9 Adoption Conformance Results – Common Business Entities Domain

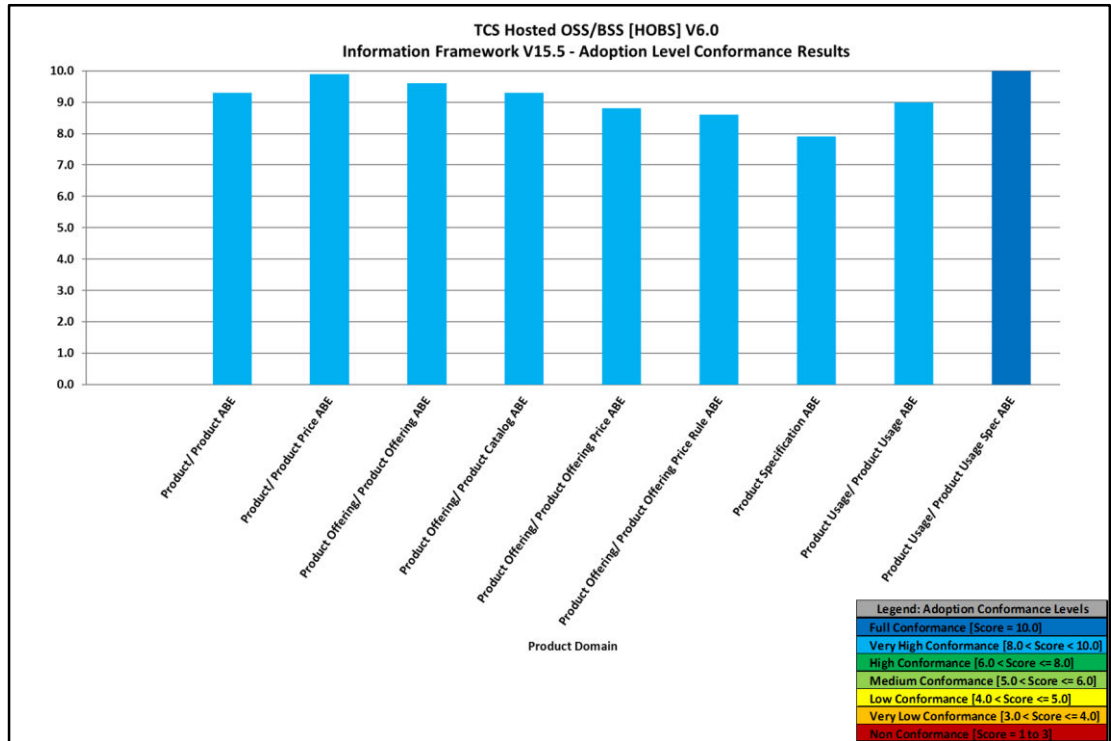


Figure 6-10 Adoption Conformance Results – Product Domain

## 6.6 Information Framework – Detailed Conformance Result

The following table provides a more detailed breakdown of the scores awarded with some additional commentary.

Table 6-4 Information Framework: Detailed Conformance Result

TCS HOBS V6.0 - Assessment & Certification Scope TM Forum Information Framework (SID) V15.5				
ABE	Adoption Score	Assessment Comments	Maturity Score	Assessment Comments
<b>Engaged Party Domain</b>				
Party/ Party ABE	9.5	<b>Very High Conformance</b> [8.0 < Score < 10.0]	3.9	<b>Low Conformance</b> The model has passed level 3 conformance and 90% of the dependent entities within the ABE are defined in the model.
Party/ Party Demographic ABE	9.2	<b>Very High Conformance</b> [8.0 < Score < 10.0]	4.5	<b>Medium Conformance</b> The model has passed level 4 conformance and 50% of the required attributes of the ABE's dependent entities are defined in the model.
Party/ Contact ABE	10	<b>Full Conformance</b> Core entity, required attributes, dependent entities, required attributes of dependent entities, all attributes of the core entity, all attributes of dependent entities supported.	7	<b>Full Conformance</b> Core entity, required attributes, dependent entities, required attributes of dependent entities, all attributes of the core entity, all attributes of dependent entities supported.

<b>Party/ Identification ABE</b>	<b>9.9</b>	<b>Very High Conformance</b> <b>[8.0 &lt; Score &lt; 10.0]</b>	<b>4.9</b>	<b>Medium Conformance</b> The model has passed level 4 conformance and 90% of the required attributes of the ABE's dependent entities are defined in the model.
<b>Party/ Party Profile ABE</b>	<b>9.1</b>	<b>Very High Conformance</b> <b>[8.0 &lt; Score &lt; 10.0]</b>	<b>4.5</b>	<b>Medium Conformance</b> The model has passed level 4 conformance and 50% of the required attributes of the ABE's dependent entities are defined in the model.
<b>Party/ Party Role Examples ABE</b>	<b>10</b>	<b>Full Conformance</b> Core entity, required attributes, dependent entities, required attributes of dependent entities, all attributes of the core entity, all attributes of dependent entities supported.	<b>7</b>	<b>Full Conformance</b> Core entity, required attributes, dependent entities, required attributes of dependent entities, all attributes of the core entity, all attributes of dependent entities supported.
<b>Customer Domain</b>				
<b>Applied Customer Billing Rate ABE</b>	<b>10</b>	<b>Full Conformance</b> Core entity, required attributes, dependent entities, required attributes of dependent entities, all attributes of the core entity, all attributes of dependent entities supported.	<b>7</b>	<b>Full Conformance</b> Core entity, required attributes, dependent entities, required attributes of dependent entities, all attributes of the core entity, all attributes of dependent entities supported.

<b>Applied Customer Billing Rate Spec ABE</b>	<b>10</b>	<b>Full Conformance</b> Core entity, required attributes, dependent entities, required attributes of dependent entities, all attributes of the core entity, all attributes of dependent entities supported.	<b>7</b>	<b>Full Conformance</b> Core entity, required attributes, dependent entities, required attributes of dependent entities, all attributes of the core entity, all attributes of dependent entities supported.
<b>Customer ABE</b>	<b>9.6</b>	<b>Very High Conformance</b> [8.0 < Score < 10.0]	<b>4.9</b>	<b>Medium Conformance</b> The model has passed level 4 conformance and 90% of the required attributes of the ABE's dependent entities are defined in the model.
<b>Customer Bill/ Customer Bill ABE</b>	<b>5.9</b>	<b>Very High Conformance</b> [8.0 < Score < 10.0]	<b>4.8</b>	<b>Medium Conformance</b> The model has passed level 4 conformance and 80% of the required attributes of the ABE's dependent entities are defined in the model.
<b>Customer Bill / Customer Account Balance ABE</b>	<b>10</b>	<b>Full Conformance</b> Core entity, required attributes, dependent entities, required attributes of dependent entities, all attributes of the core entity, all attributes of dependent entities supported.	<b>7</b>	<b>Full Conformance</b> Core entity, required attributes, dependent entities, required attributes of dependent entities, all attributes of the core entity, all attributes of dependent entities supported.

<b>Customer Bill / Customer Account Balance Type ABE</b>	<b>10</b>	<b>Full Conformance</b> Core entity, required attributes, dependent entities, required attributes of dependent entities, all attributes of the core entity, all attributes of dependent entities supported.	<b>7</b>	<b>Full Conformance</b> Core entity, required attributes, dependent entities, required attributes of dependent entities, all attributes of the core entity, all attributes of dependent entities supported.
<b>Customer Bill/ Customer Account Balance/ Customer Billing Credit ABE</b>	<b>10</b>	<b>Full Conformance</b> Core entity, required attributes, dependent entities, required attributes of dependent entities, all attributes of the core entity, all attributes of dependent entities supported.	<b>7</b>	<b>Full Conformance</b> Core entity, required attributes, dependent entities, required attributes of dependent entities, all attributes of the core entity, all attributes of dependent entities supported.
<b>Customer Bill / Customer Billing Statistic ABE</b>	<b>9.9</b>	<b>Very High Conformance</b> <b>[8.0 &lt; Score &lt; 10.0]</b>	<b>4.9</b>	<b>Medium Conformance</b> The model has passed level 4 conformance and 90% of the required attributes of the ABE's dependent entities are defined in the model.
<b>Customer Bill Collection / Dunning ABE</b>	<b>9.8</b>	<b>Very High Conformance</b> <b>[8.0 &lt; Score &lt; 10.0]</b>	<b>4.9</b>	<b>Medium Conformance</b> The model has passed level 4 conformance and 90% of the required attributes of the ABE's dependent entities are defined in the model.

<b>Customer Interaction ABE</b>	<b>8</b>	<b>Very High Conformance</b> <b>[8.0 &lt; Score &lt; 10.0]</b>	<b>5.8</b>	<b>High Conformance</b> The model has passed level 5 conformance and 80% of all attributes of the ABE's core entities are defined in the model.
<b>Customer Service Level Agreement ABE</b>	<b>9.6</b>	<b>Very High Conformance</b> <b>[8.0 &lt; Score &lt; 10.0]</b>	<b>5.9</b>	<b>High Conformance</b> The model has passed level 5 conformance and 90% of all attributes of the ABE's core entities are defined in the model.
<b>Common Business Entities Domain</b>				
<b>Catalog ABE</b>	<b>10</b>	<b>Full Conformance</b> Core entity, required attributes, dependent entities, required attributes of dependent entities, all attributes of the core entity, all attributes of dependent entities supported.	<b>7</b>	<b>Full Conformance</b> Core entity, required attributes, dependent entities, required attributes of dependent entities, all attributes of the core entity, all attributes of dependent entities supported.
<b>Policy/ Policy Application/ Policy Application ABE</b>	<b>9.7</b>	<b>Very High Conformance</b> <b>[8.0 &lt; Score &lt; 10.0]</b>	<b>6.3</b>	<b>Very High Conformance</b> The model has passed level 6 conformance and 30% of all attributes of the ABE's dependent entities are defined in the model.
<b>Policy/ Policy Application/ Policy Server ABE</b>	<b>9.9</b>	<b>Very High Conformance</b> <b>[8.0 &lt; Score &lt; 10.0]</b>	<b>6.9</b>	<b>Very High Conformance</b> The model has passed level 6 conformance and 60% of all attributes of the ABE's dependent entities are defined in the model.

Policy/ Policy Application/ PolicyApp Role ABE	8.7	Very High Conformance [8.0 < Score < 10.0]	6.4	<b>Very High Conformance</b> The model has passed level 6 conformance and 40% of all attributes of the ABE's dependent entities are defined in the model.
Policy/ Policy Framework/ Policy Framework ABE	9.8	Very High Conformance [8.0 < Score < 10.0]	6.8	<b>Very High Conformance</b> The model has passed level 6 conformance and 80% of all attributes of the ABE's dependent entities are defined in the model.
Policy/ Policy Framework/ Policy ABE	9.5	Very High Conformance [8.0 < Score < 10.0]	6.6	<b>Very High Conformance</b> The model has passed level 6 conformance and 60% of all attributes of the ABE's dependent entities are defined in the model.
Policy/ Policy Management ABE	10	<b>Full Conformance</b> Core entity, required attributes, dependent entities, required attributes of dependent entities, all attributes of the core entity, all attributes of dependent entities supported.	7	<b>Full Conformance</b> Core entity, required attributes, dependent entities, required attributes of dependent entities, all attributes of the core entity, all attributes of dependent entities supported.
Policy/ Policy Structure ABE/ Policy Action ABE	9.2	Very High Conformance [8.0 < Score < 10.0]	4.7	<b>Medium Conformance</b> The model has passed level 4 conformance and 70% of the required attributes of the ABE's dependent entities are defined in the model.



Policy/ Policy Structure ABE/ Policy Condition ABE	9.5	Very High Conformance [8.0 < Score < 10.0]	4.9	<b>Medium Conformance</b> The model has passed level 4 conformance and 90% of the required attributes of the ABE's dependent entities are defined in the model.
Policy/ Policy Structure ABE/ Policy Statement ABE	9.6	Very High Conformance [8.0 < Score < 10.0]	4.9	<b>Medium Conformance</b> The model has passed level 4 conformance and 90% of the required attributes of the ABE's dependent entities are defined in the model.
Policy/ Policy Structure ABE/ Policy Value ABE	9.7	Very High Conformance [8.0 < Score < 10.0]	4.9	<b>Medium Conformance</b> The model has passed level 4 conformance and 90% of the required attributes of the ABE's dependent entities are defined in the model.
Policy/ Policy Structure ABE/ Policy Variable ABE	9.6	Very High Conformance [8.0 < Score < 10.0]	4.9	<b>Medium Conformance</b> The model has passed level 4 conformance and 90% of the required attributes of the ABE's dependent entities are defined in the model.
Usage ABE	10	<b>Full Conformance</b> Core entity, required attributes, dependent entities, required attributes of dependent entities, all attributes of the core entity, all attributes of dependent entities supported.	7	<b>Full Conformance</b> Core entity, required attributes, dependent entities, required attributes of dependent entities, all attributes of the core entity, all attributes of dependent entities supported.

Usage/ Usage Spec ABE	8.7	Very High Conformance [8.0 < Score < 10.0]	4.5	<b>Medium Conformance</b> The model has passed level 4 conformance and 50% of the required attributes of the ABE's dependent entities are defined in the model.
Users and Roles ABE	10	<b>Full Conformance</b> Core entity, required attributes, dependent entities, required attributes of dependent entities, all attributes of the core entity, all attributes of dependent entities supported.	7	<b>Full Conformance</b> Core entity, required attributes, dependent entities, required attributes of dependent entities, all attributes of the core entity, all attributes of dependent entities supported.
<b>Product Domain</b>				
Product/ Product ABE	9.3	Very High Conformance [8.0 < Score < 10.0]	3.8	<b>Low Conformance</b> The model has passed level 3 conformance and 80% of the dependent entities within the ABE are defined in the model.
Product/ Product Price ABE	9.9	Very High Conformance [8.0 < Score < 10.0]	3.8	<b>Low Conformance</b> The model has passed level 3 conformance and 80% of the dependent entities within the ABE are defined in the model.
Product Offering/ Product Offering ABE	9.6	Very High Conformance [8.0 < Score < 10.0]	3.7	<b>Low Conformance</b> The model has passed level 3 conformance and 70% of the dependent entities within the ABE are defined in the model.

Product Offering/ Product Catalog ABE	9.3	Very High Conformance [8.0 < Score < 10.0]	2.7	<b>Very Low Conformance</b> The model has passed level 2 conformance and 70% of the required attributes of the ABE's core entity or entities are defined in the model.
Product Offering/ Product Offering Price ABE	8.8	Very High Conformance [8.0 < Score < 10.0]	3.3	<b>Low Conformance</b> The model has passed level 3 conformance and 30% of the dependent entities within the ABE are defined in the model.
Product Offering/ Product Offering Price Rule ABE	8.6	Very High Conformance [8.0 < Score < 10.0]	2.9	<b>Very Low Conformance</b> The model has passed level 2 conformance and 90% of the required attributes of the ABE's core entity or entities are defined in the model.
Product Specification ABE	7.9	High Conformance [6.0 < Score <= 8.0]	3.6	<b>Low Conformance</b> The model has passed level 3 conformance and 60% of the dependent entities within the ABE are defined in the model.
Product Usage/ Product Usage ABE	9	Very High Conformance [8.0 < Score < 10.0]	2.5	<b>Very Low Conformance</b> The model has passed level 2 conformance and 50% of the required attributes of the ABE's core entity or entities are defined in the model.

<b>Product Usage/ Product Usage Spec ABE</b>	<b>10</b>	<b>Full Conformance</b> Core entity, required attributes, dependent entities, required attributes of dependent entities, all attributes of the core entity, all attributes of dependent entities supported.	<b>7</b>	<b>Full Conformance</b> Core entity, required attributes, dependent entities, required attributes of dependent entities, all attributes of the core entity, all attributes of dependent entities supported.
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