



Framework 12 Product Conformance Certification Report

**ZTE Corporation
ZSmart V8.0**

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Version 1.0.1



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1 Introduction

1.1 Executive Summary

This document provides details of ZTE Corporation’s self-assessment and TM Forum’s Conformance Assessment of **ZTE Corporation’s ZSmart** product, against the following Framework 12 components:

- Business Process Framework Version 12
- Information Framework Version 12

The assessment included a review of:

- The methodology approach to process modeling against the TM Forum’s Business Process Framework Release 12 according to the specific processes submitted in scope for the Assessment.
- Conformance to the Information Framework Release 12 Domains/Aggregate Business Entities according to the specific ABEs submitted in scope for the Assessment.

2 Product Functionality/Capability Overview

2.1 ZTE Corporation's ZSmart – Product Overview

ZSmart BSS/OSS is a market-leading software and service suite exclusively designed to provide CSPs with end-to-end IT support for business and operations. ZSmart BSS/OS offers a set of functional components and product packages which can be assembled and configured flexibly on a unified SOA infrastructure to support agile operation and address various market and customer demands perfectly.

Especially ZSmart BSS/OSS embraces innovative solutions such as Intelligent Charging and Policy Control, Event-driven Multi-channel Campaign Management, Big-data based Customer Experience Management System, Cloud-computing based Enterprise Services and Integrated Network Operation Center to address the new challenges in the data deluge era.

3 Business Process Framework Assessment Overview

3.1 Mapping Technique Employed

Business Process Framework Level 3 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.

The Business Process Framework Level 3 descriptions 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 3 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 used, the process mappings are in that case provided against the Level 4 Brief/Extended descriptions.

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 4 process descriptions (Brief & Extended).

3.2 Business Process Framework Level 2 Process Scope

The following figures represent the Business Process Framework Level 2 processes (blue high-light) that were presented in scope for the assessment, and the textual callouts represent the components of ZTE Corporation’s ZSmart product that were assessed and support the corresponding Business Process Framework processes according to the results in Chapter 6 Framework Conformance.

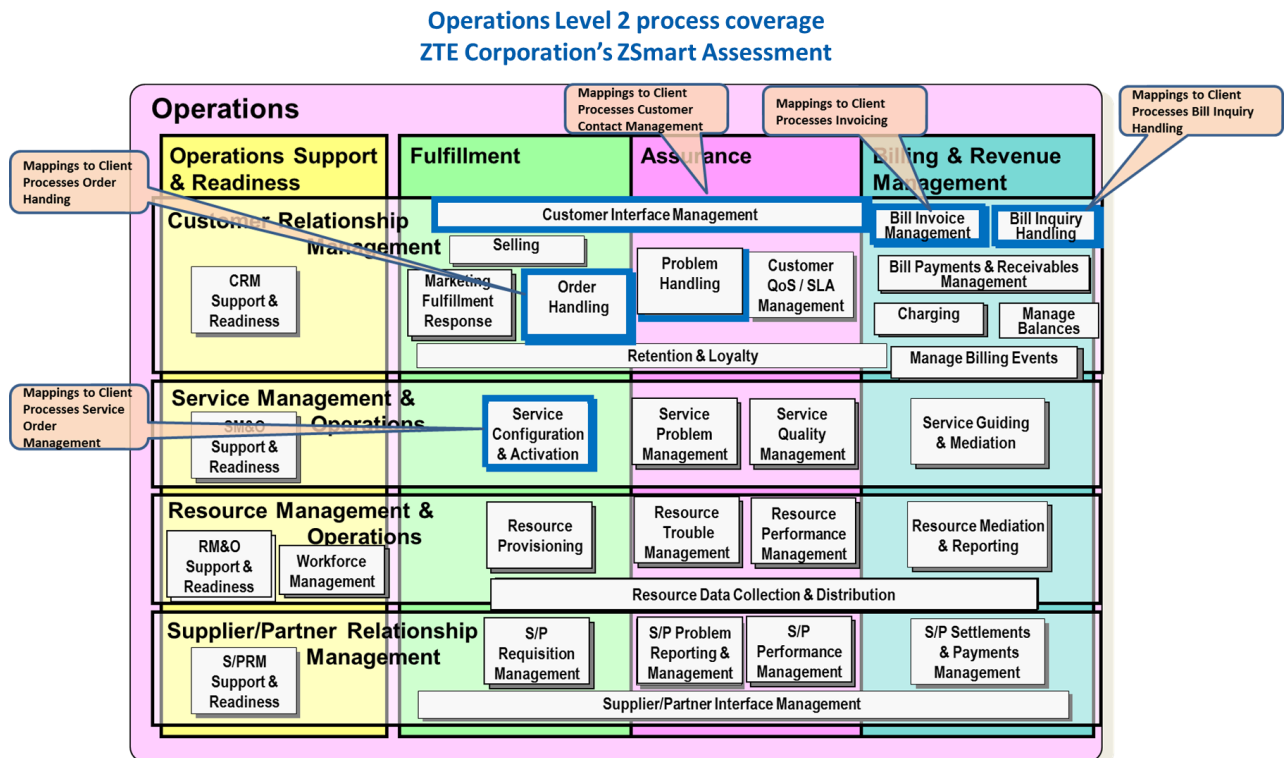


Figure 3.1 Operations Level 2 process coverage for ZTE Corporation’s ZSmart Assessment

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

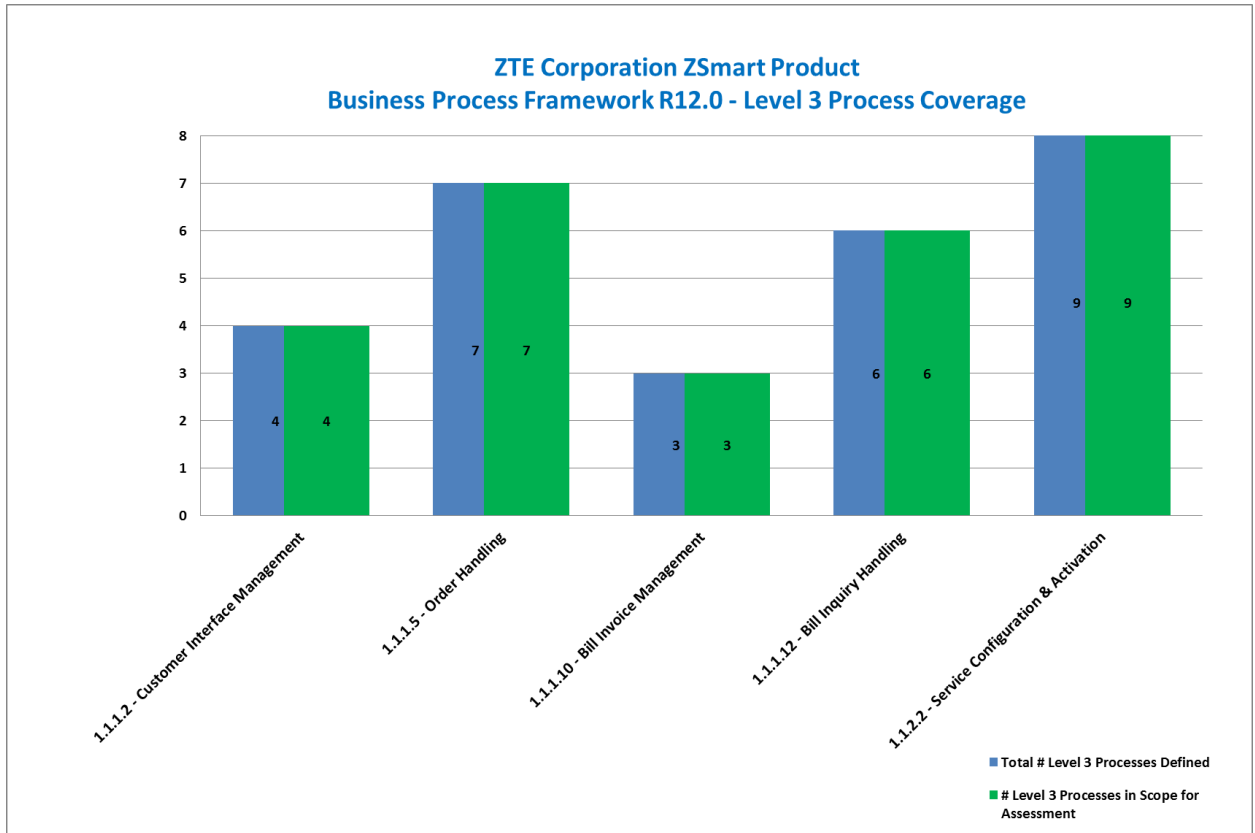


Figure 3.2 Level 3 process coverage for ZTE Corporation’s ZSmart Assessment

3.3 Product Scope

The diagram in Figure 3.3 represents ZTE Corporation’s ZSmart B/OSS Function Infrastructure.

ZSmart B/OSS Function Infrastructure

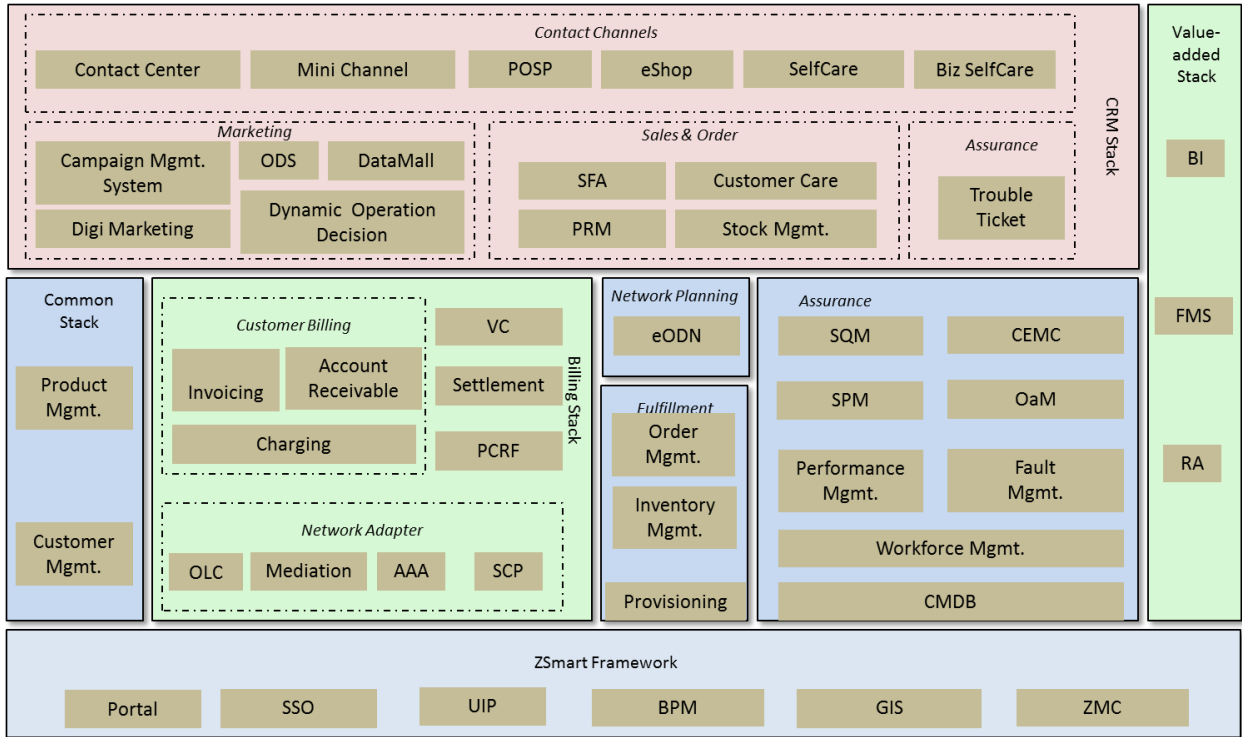


Figure 3.3 ZSmart Product – B/OSS Function Infrastructure

4 Business Process Framework – Process Mapping Descriptions

This section provides the Process Mapping output from ZTE Corporation' Self-Assessment which was reviewed by TM Forum Subject Matter Experts alongside supporting documentation for ZTE Corporation's ZSmart.

4.1 Level 2: Customer Interface Management (1.1.1.2)

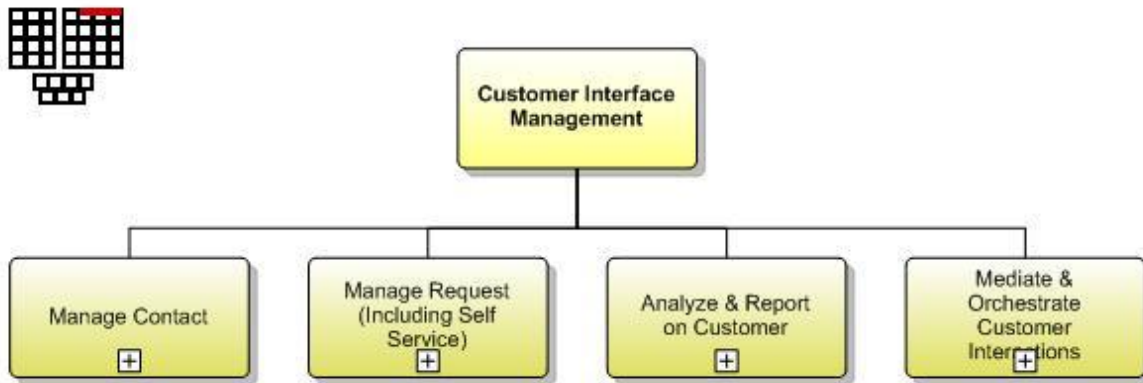


Figure 4.1 Customer Interface Management decomposition into level 3 processes

Process Identifier: 1.1.1.2

Process Context

This process element represents part of the overall enterprise, modeled in business process terms, and can be applied (ie “instantiated”) with other similar process elements for application within a specific organization or domain.

Brief Description

Managing all interfaces between the enterprise and potential and existing customers.

Extended Description

Customer Interface Management processes are responsible for managing all interfaces between the enterprise and potential and existing customers. They deal with contact management, understanding the reason for contact, directing customer contacts to the appropriate process, contact closure, exception management, contact results analysis and reporting. CRM contact may be related to one or several of Service Fulfillment, Service Assurance (service quality management and trouble or problem management) and Billing related customer enquiries or contacts.

Explanatory

Reserved for future use.

Mandatory

Reserved for future use.

Optional

Reserved for future use.

Interactions

Reserved for future use.

4.1.1 Level 3: Manage Contact (1.1.1.2.1)

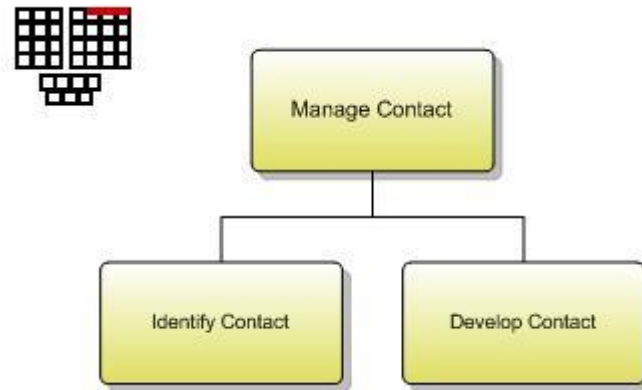


Figure 4.2 Manage Contact decomposition into level 4 processes

Process Identifier: 1.1.1.2.1

Process Context

This process element represents part of the overall enterprise, modeled in business process terms, and can be applied (ie “instantiated”) with other similar process elements for application within a specific organization or domain.

Brief Description

Manage all contacts between potential or existing customers and the enterprise.

Extended Description

The purpose of this process is to manage all contacts between potential or existing customers and the enterprise. It deals with the identification of the contact, its development, enhancement and update.

Explanatory

Reserved for future use.

Mandatory

Reserved for future use.

Optional

Reserved for future use.

Interactions

Reserved for future use.

4.1.1.1 Level 4: Identify Contact (1.1.1.2.1.1) – Mapping Details

Process Identifier: 1.1.1.2.1.1

Process Context

This process element represents part of the overall enterprise, modelled in business process terms, and can be applied (i.e. “instantiated”) with other similar process elements for application within a specific organization or domain.

Level 4 PROCESS MAPPING DETAILS 1.1.1.2.1.1 – Identify Contact
<p>Brief Description</p> <p>deals with the identification of the contact.</p>
<p>Extended Description</p> <p>Not used for this process element</p>
<p>Explanatory</p> <p>This could be an individual as a consumer, or part of a business organization (small, medium or corporate) as defined by customer segmentation prevalent in the organization</p>
<p>Mandatory</p> <p>Verify the individual / entity (organization) responsible for making contact. AM</p> <p><i>There are two kinds of contacts: customers' contact and independent contact.</i></p> <p><i>1. Customers' contact: For example, the customer is a company, and the contact is the vice president or financial controller of the company. One customer can have multiple contacts. It can manage customers' contacts based on actual service requirements.</i></p> <p><i>2. Independent contact: They are not formal customers, but only interested in operator's products and left their contact information.</i></p> <ul style="list-style-type: none"> <i>Contact means Lead or Opportunity in ZSmart SFA Product. A lead is a potential or prospect opportunity, For example, a lead can be a person you met at a meeting who expressed interest or someone who filled out a form on your company's website.</i> <p><i>Leads are people who are interested in your product and service. Converting leads to loyal customers will help to gain business success. The number of generated and converted Leads</i></p>

can be increased in systematic & structured management mode.

Opportunities are the sales processes and pending deals that you want to track. By adding opportunities, the “pipeline” which will be conducive for sales forecast is built.

The process of converting leads to Opportunities is the identification of the contact.

([\[ZSMART_SFA\]](#), 2.1.2 Lead)

([\[ZSMART_SFA\]](#), 2.1.3 Opportunity)

Optional

Not used for this process element

Interactions

Not used for this process element

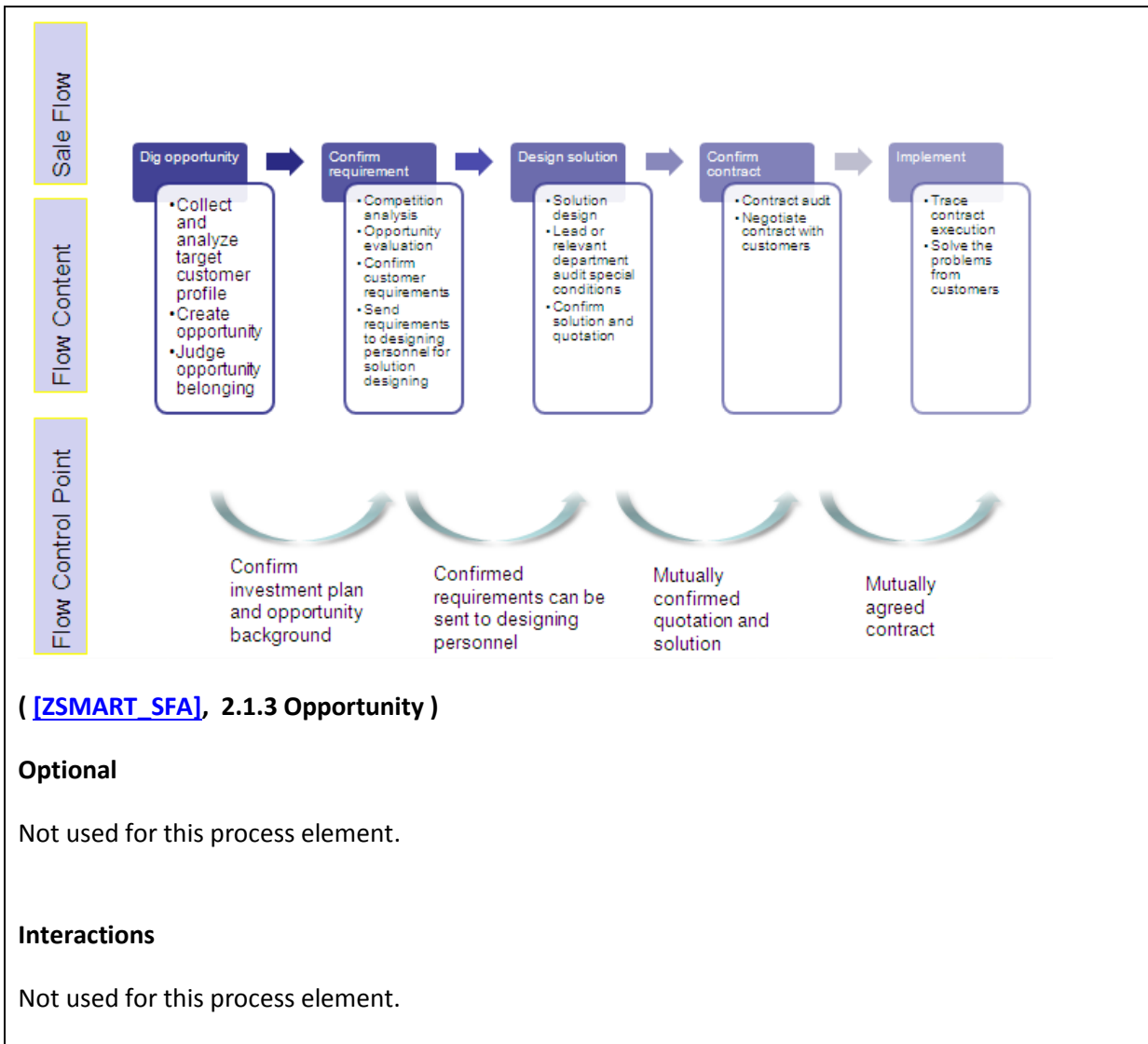
4.1.1.2 Level 4: Develop Contact (1.1.1.2.1.2) – Mapping Details

Process Identifier: 1.1.1.2.1.2

Process Context

This process element represents part of the overall enterprise, modelled in business process terms, and can be applied (i.e. “instantiated”) with other similar process elements for application within a specific organization or domain.

Level 3 PROCESS MAPPING DETAILS 1.1.1.2.1.2 – Develop Contact
<p>Brief Description</p> <p>Deals with development, enhancement and update of the contact.</p>
<p>Extended Description</p> <p>Not used for this process element</p>
<p>Explanatory</p> <p>For a new customer contact, this will include capturing mandatory details which could be subject to validation.</p>
<p>Mandatory</p> <p>Expand the detail attributes of the contact. AM</p> <p><i>ZSmart SFA Product deals with development, enhancement and update of the contact on the basis of following steps:</i></p> <ol style="list-style-type: none"> 1. <i>Collect the detail for a new customer contact.</i> 2. <i>Analysis, evaluate and confirm the customer’s requirement.</i> 3. <i>Update the contact’s status; convert the customer contact into formal requirement.</i>



4.1.1.3 Level 3: Manage Contact (1.1.1.2.1) – TM Forum Assessor Scores

1.1.1.2.1 - Manage Contact - Scores	
Grouping of Implied Tasks	Score
Identify Contact (1.1.1.2.1.1)	100%
Develop Contact (1.1.1.2.1.2)	100%
Total score for Parent Level 3 Process	100% / 5

4.1.2 Level 3: Manage Request (Including Self Service) (1.1.1.2.2)

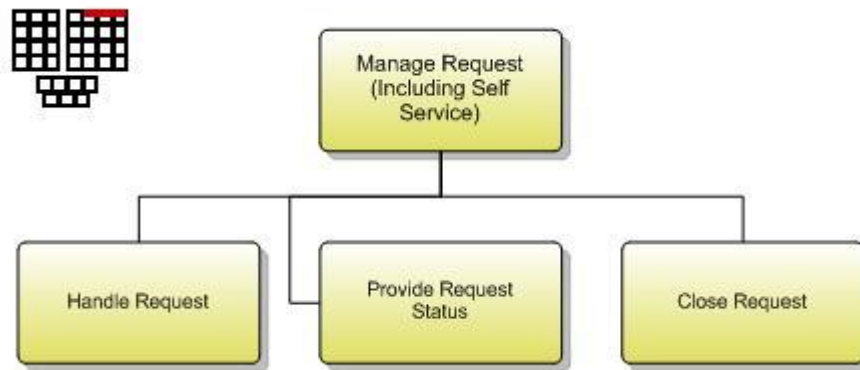


Figure 4.3 Manage Request (Including Self Service) decomposition into level 4 processes

Process Identifier: 1.1.1.2.2

Process Context

This process element represents part of the overall enterprise, modeled in business process terms, and can be applied (ie “instantiated”) with other similar process elements for application within a specific organization or domain.

Brief Description

Manage all the requests (inbound and outbound) made by potential and existing customers.

Extended Description

The purpose of this process is to manage all the 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 the related activities have been terminated.

Explanatory

Reserved for future use.

Mandatory

Reserved for future use.

Optional

Reserved for future use.

Interactions

Reserved for future use.

4.1.2.1 Level 4: Handle Request (1.1.1.2.2.1) – Mapping Details

Process Identifier: 1.1.1.2.2.1

Process Context

This process element represents part of the overall enterprise, modelled in business process terms, and can be applied (i.e. “instantiated”) with other similar process elements for application within a specific organization or domain.

Level 3 PROCESS MAPPING DETAILS 1.1.1.2.2.1 – Handle Request
<p>Brief Description</p> <p>Receives the request and either enables its originator to automatically fulfill it, or identifies and activates the opportune process to accomplish the request.</p>
<p>Extended Description</p> <p>Not used for this process element</p>
<p>Explanatory</p> <p>Handle a request to make changes This could be a request to change to enable customer/ subscriber, to start or stop making use of specific products and services.</p>
<p>Mandatory</p> <p>Receives the request and either enables its originator to automatically fulfill it, or identifies and activates the opportune process to accomplish the request. Determine type of stakeholder request.</p>
<p>AM</p> <p><i>ZSmart Contact Management manage all the requests (inbound and outbound) made by potential and existing customers and ensure some requests to be handled automatically, like IVR, SMS, Self Service, etc. It also ensures some requests to be handled manually, like Trouble Ticket.</i></p> <p><i>For request which to be handled manually, the system provides GUI to create new record, each record must belong to a customer. The system will start a workflow according to configuration of rule.</i></p> <p>([ZSMART_SRS_CP], 2.5.1 General SR)</p> <p>([ZSMART_SRS_CP], 4.4.1 New Service Request)</p> <p>([SA_DIAGRAMS], System Architecture Diagram)</p>

([\[ZSMART CC\]](#), 4 Business Scene)

([\[ZSMART OM\]](#), 2.2 Order Acceptance)

Optional

Not used for this process element.

Interactions

Where relevant, identifies and activates the opportune process to accomplish the request.

4.1.2.2 Level 4: Provide Request Status (1.1.1.2.2.2) – Mapping Details

Process Identifier: 1.1.1.2.2.2

Process Context

This process element represents part of the overall enterprise, modelled in business process terms, and can be applied (i.e. “instantiated”) with other similar process elements for application within a specific organization or domain.

Level 3 PROCESS MAPPING DETAILS 1.1.1.2.2.2 – Provide Request Status
<p>Brief Description</p> <p>Manages the status of the request and is able to provide status information at any moment in which the request is active.</p>
<p>Extended Description</p> <p>Not used for this process element</p>
<p>Explanatory</p> <p>Not used for this process element.</p>
<p>Mandatory</p> <p>manages the status of the request and is able to provide status information at any moment in which the request is active. Track business events using the request status; each of which is governed by rules, followed by a set of actions to reach the next status. AM</p> <p><i>The information of requests can be displayed in GUI Interface. The requests can be updated automatically, which is governed by rules engine. The requests also can be handled manually, which is dependent on commercial requirement.</i></p> <p>([ZSMART_SRS_CP], 4.4.2 Query Service Request)</p> <p>([SA_DIAGRAMS], System Architecture Diagram)</p>
<p>Optional</p> <p>Not used for this process element.</p>
<p>Interactions</p>

Not used for this process element.

4.1.2.3 Level 4: Close Request (1.1.1.2.2.3) – Mapping Details

Process Identifier: 1.1.1.2.2.3

Process Context

This process element represents part of the overall enterprise, modelled in business process terms, and can be applied (i.e. “instantiated”) with other similar process elements for application within a specific organization or domain.

Level 3 PROCESS MAPPING DETAILS 1.1.1.2.2.3 – Close Request
<p>Brief Description</p> <p>Formally closes the request when all related activities have been terminated.</p>
<p>Extended Description</p> <p>Not used for this process element</p>
<p>Explanatory</p> <p>Not used for this process element.</p>
<p>Mandatory</p> <p>Formally closes the request when all related activities have been terminated. AM</p> <p><i>The requests can be closed automatically, which is governed by rules engine. For example, when the related activities have been terminated, the rule engine will decide change of request’s status according to configuration of rule. The requests can also be closed manually.</i></p> <p>([BS CIM] , Business Scenario – Customer Interface Management, Process WF_CIM_013)</p> <p>([ZSMART SRS CP] , 4.4.2 Query Service Request)</p> <p>([SA DIAGRAMS] System Architecture Diagram)</p>
<p>Optional</p> <p>Not used for this process element.</p>
<p>Interactions</p>

Not used for this process element.

4.1.2.4 Level 3: Manage Request (1.1.1.2.2) – TM Forum Assessor Scores

1.1.1.2.2 - Manage Request (Including Self Service) - Scores	
Grouping of Implied Tasks	Score
Handle Request (1.1.1.2.2.1)	100%
Provide Request Status (1.1.1.2.2.2)	100%
Close Request(1.1.1.2.2.3)	100%
Total score for Parent Level 3 Process	100% / 5

4.1.3 Level 3: Analyze & Report on Customer (1.1.1.2.3)



Figure 4.4 Analyze & Report on Customer decomposition into level 4 processes

Process Identifier: 1.1.1.2.3

Process Context

This process element represents part of the overall enterprise, modeled in business process terms, and can be applied (ie “instantiated”) with other similar process elements for application within a specific organization or domain.

Brief Description

Perform all necessary analysis on closed requests and on customer contacts and generate related reports.

Extended Description

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.

Explanatory

Reserved for future use.

Mandatory

Reserved for future use.

Optional

Reserved for future use.

Interactions

Reserved for future use.

4.1.3.1 Level 4: Analyze Customer Requests & Contacts (1.1.1.2.3.1) – Mapping Details

Process Identifier: 1.1.1.2.3.1

Process Context

This process element represents part of the overall enterprise, modelled in business process terms, and can be applied (i.e. “instantiated”) with other similar process elements for application within a specific organization or domain.

Level 3 PROCESS MAPPING DETAILS 1.1.1.2.3.1 – Analyze Customer Requests & Contacts
<p>Brief Description</p> <p>Perform all necessary analysis on closed (completed or unfulfilled) requests and on customer contacts.</p> <p>Extended Description</p> <p>Not used for this process element.</p> <p>Explanatory</p> <p>Not used for this process element.</p> <p>Mandatory</p> <p>Perform all necessary analysis on closed (completed or unfulfilled) requests and on customer contacts. AM</p> <p><i>The analysis on closed requests is performed by ZSmart BA which focuses on developing new insights and understanding of business performance based on data and statistical methods. The ZSmart Business Analysis product is responsible for all analysis on closed request on customer contacts, including corporate customers and individual customers. The real SLA for services can be obtained using the result of analysis on closed requests.</i></p> <p>([ZSMART BA REP], Page 2 & 4)</p> <p>Optional</p> <p>Not used for this process element.</p> <p>Interactions</p> <p>Not used for this process element.</p>

4.1.3.2 Level 4: Report Customer Requests & Contacts (1.1.1.2.3.2) – Mapping Details

Process Identifier: 1.1.1.2.3.2

Process Context

This process element represents part of the overall enterprise, modelled in business process terms, and can be applied (i.e. “instantiated”) with other similar process elements for application within a specific organization or domain.

Level 3 PROCESS MAPPING DETAILS 1.1.1.2.3.2 – Report Customer Requests & Contacts
<p>Brief Description</p> <p>Generates related reports, to be utilized for process improvement activities, proactive problems prevention, up-sell opportunities definition, etc.</p>
<p>Extended Description</p> <p>Not used for this process element.</p>
<p>Explanatory</p> <p>Not used for this process element.</p>
<p>Mandatory</p> <p>generates related reports, to be utilized for process improvement activities, proactive problems prevention, up-sell opportunities definition, etc. AM</p> <p><i>The analysis on closed requests is performed by ZSmart BA, The report template would be developed by the system implementer.</i></p> <p><i>The result report can be utilized for the process of service provider, including process improvement activities, proactive problems, etc. The result report can be obtained directly or indirectly. The result report would be accessed directly by external system through service (note: ZSmart Solution is based on a Service-oriented architecture). For corporate customer, the report can be obtained from EBS Self-Care portal (eCare). For individual customer, the report can be obtained from Individual Self-Care portal (iCare).</i></p> <p>([ZSMART BA REP], Page 2 & 4)</p> <p>([ZSMART UM SS], 6 My Orders)</p>

Optional

Not used for this process element.

Interactions

Not used for this process element.

4.1.3.3 Level 3: Analyze & Report on Customer (1.1.1.2.3) – TM Forum Assessor Scores

1.1.1.2.3 - Analyze & Report on Customer - Scores	
Grouping of Implied Tasks	Score
Analyze Customer Requests & Contacts (1.1.1.2.3.1)	100%
Report Customer Requests & Contacts (1.1.1.2.3.2)	100%
Total score for Parent Level 3 Process	100% / 5

4.1.4 Level 3: Mediate & Orchestrate Customer Interactions (1.1.1.2.4)

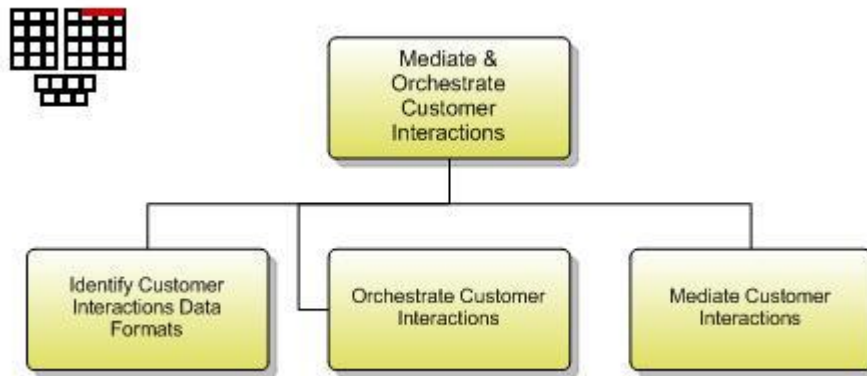


Figure 4.5 Mediate & Orchestrate Customer Interactions decomposition into level 4 processes

Process Identifier: 1.1.1.2.4

Process Context

This process element represents part of the overall enterprise, modeled in business process terms, and can be applied (ie “instantiated”) with other similar process elements for application within a specific organization or domain.

Brief Description

Ensure that transaction message structure and interactions conform to agreed, externally defined standards used by the enterprise and its customers.

Extended Description

The purpose of the Mediate & 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.

Explanatory

Reserved for future use.

Mandatory

Reserved for future use.

Optional

Reserved for future use.

Interactions

Reserved for future use.

4.1.4.1 Level 4: Identify Customer Interactions Data Formats (1.1.1.2.4.1) – Mapping Details

Process Identifier: 1.1.1.2.4.1

Process Context

This process element represents part of the overall enterprise, modelled in business process terms, and can be applied (i.e. “instantiated”) with other similar process elements for application within a specific organization or domain.

Level 3 PROCESS MAPPING DETAILS 1.1.1.2.4.1 – Identify Customer Interactions Data Formats
<p>Brief Description</p> <p>Performs identification of the necessary data formats to be sent externally. 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. The actual agreement between the parties to use specific interaction standards is part of the Support Customer Interface Management and Support Selling L3s. A</p> <p><i>The business scenario workflow diagram just describes the main process at the UIP. In fact there are many functions in the UIP, such as the session maintaining, monitoring, dispatching etc. And the protocol parsing, checking and packing are configurable. The UIP also uses 3rd party’s plug-ins or systems to deal with some standards like Web Services. The UIP is a stand-alone module and can be deployed at dedicated machine.</i></p> <p>([BS CIM], Business Scenario – Customer Interface Management, Process WF_CIM_002, WF_CIM_010)</p>
<p>Extended Description</p> <p>Not used for this process element</p>
<p>Explanatory</p> <p>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.</p>
<p>Mandatory</p> <p>Performs identification of the necessary data formats to be sent externally. A</p> <p><i>Facing increasingly transactions with external parties, there are lots of protocols defined by third</i></p>

parties or third party organization. In ZSmart Solution, we use the application called Unified Interface Platform (UIP) to format the input or output.

The UIP parses the messages to Business Objects (BO) and transfers at EAI bus. And it also gets BOs from EAI bus and pack response messages.

([\[ZSMART_UIP\]](#), The illustration for ZSmart Unified Interface Platform.)

([\[BS_CIM\]](#), Business Scenario – Customer Interface Management, Process WF_CIM_002, WF_CIM_010)

Optional

Not used for this process element.

Interactions

The actual agreement between the parties to use specific interaction standards is part of the Support Customer Interface Management and Support Selling L3s.

4.1.4.2 Level 4: Orchestrate Customer Interactions (1.1.1.2.4.2) – Mapping Details

Process Identifier: 1.1.1.2.4.2

Process Context

This process element represents part of the overall enterprise, modelled in business process terms, and can be applied (i.e. “instantiated”) with other similar process elements for application within a specific organization or domain.

Level 3 PROCESS MAPPING DETAILS 1.1.1.2.4.2 – Orchestrate Customer Interactions
<p>Brief Description</p> <p>Where required, orchestrates interactions with external parties so that messages and transactions are undertaken with defined and agreed orchestration for message exchange.</p> <p>Extended Description</p> <p>Not used for this process element</p> <p>Explanatory</p> <p>Not used for this process element.</p> <p>Mandatory</p> <p>Where required, orchestrates interactions with external parties. AM</p> <p><i>In ZSmart Solution, orchestrating interactions can be done using ZSmart BFM BPM workflow configuration. Utilizing the orchestration function of ZSmart BPM, the inner service can interact with external services. The conversion of externally received message can be done using ZSmart UIP.</i></p> <p>([ZSMART UM BFM], 2.4 BPMN Designer)</p> <p>([ZSMART UIP], The illustration for ZSmart Unified Interface Platform)</p> <p>Optional</p> <p>Not used for this process element.</p> <p>Interactions</p> <p>messages and transactions are undertaken with defined and agreed orchestration for message exchange.</p>

4.1.4.3 Level 4: Mediate Customer Interactions (1.1.1.2.4.3) – Mapping Details

Process Identifier: 1.1.1.2.4.3

Process Context

This process element represents part of the overall enterprise, modelled in business process terms, and can be applied (i.e. “instantiated”) with other similar process elements for application within a specific organization or domain.

Level 3 PROCESS MAPPING DETAILS 1.1.1.2.4.3 – Mediate & Orchestrate Customer Interactions
<p>Brief Description</p> <p>Manages conversion of externally received messages into the required internal enterprise formats, based on the specific transaction type and involved external party.</p>
<p>Extended Description</p> <p>Not used for this process element</p>
<p>Explanatory</p> <p>Not used for this process element.</p>
<p>Mandatory</p> <p style="background-color: #90EE90;">Manages conversion of externally received messages into the required internal enterprise formats, based on the specific transaction type and involved external party. AM</p> <p><i>Same as the Level 4 process ‘Identify Customer Interactions’, The conversion of externally received message can be done using ZSmart UIP. For new format message, a customized transport plugin for UIP can be developed. When the transport plugin was completed, it can be deployed into UIP.</i></p> <p>([ZSMART UIP], The illustration for ZSmart Unified Interface Platform.)</p>
<p>Optional</p> <p>Not used for this process element.</p>

Interactions

Manages conversion between external and internal formats.

4.1.4.4 Level 3: Mediate & Orchestrate Customer Interactions (1.1.1.2.4) – TM Forum Assessor Scores

1.1.1.2.4 - Mediate & Orchestrate Customer Interactions - Scores	
Grouping of Implied Tasks	Score
Identify Customer Interactions Data Formats (1.1.1.2.4.1)	100%
Orchestrate Customer Interactions (1.1.1.2.4.2)	100%
Mediate Customer Interactions (1.1.1.2.4.3)	100%
Total score for Parent Level 3 Process	100% / 5

4.1.5 Supporting Evidence References (Works Cited)

ZSMART_SRS_CP	ZSmart-SRS-44-CP-V0.41.docx, Product Specification Document for ZSmart Customer Profile.
SA_DIAGRAMS	System Architecture Diagram.pptx, System Architecture Diagram.
ZSMART_BA_REP	ZSmart Self Care -BA Report.pptx, Product specification document for ZSmart BA and BA Report.
ZSMART_SFA	ZSmart Product Description-SFA.docx, Product description document for ZSmart Sales Force Automation.
ZSMART_CC	ZSmart Product Description-CC.docx, Product Description Document for ZSmart Customer Care.
BS_CIM	Business Scenario - Customer Interface Management.doc, The business scenario of new subscription.
ZSMART_OM	ZSmart Product Description - Order Management.doc, Product description document for Order Management.
ZSMART_UIP	ZSmart Unified Interface Platform.pptx, The illustration for ZSmart Unified Interface Platform.
ZSMART_UM_BFM	ZSmart User Manual-Business Framework.doc, The user manual for ZSmart Business Framework.
ZSMART_UM_SS	ZSmart User Manual-Self-service Volume.doc. The user manual for ZSmart Self-service.

4.1.6 Level 2: Customer Interface Management (1.1.1.2) – Conformance Scores

1.1.1.2 - Customer Interface Management - Scores	
Level 3 Scores	Score
<i>1.1.1.2.1 - Manage Contact</i>	5
<i>1.1.1.2.2 - Manage Request (Including Self Service)</i>	5
<i>1.1.1.2.3 - Analyze & Report on Customer</i>	5
<i>1.1.1.2.4 - Mediate & Orchestrate Customer Interactions</i>	5
Scope coverage for Parent Level 2 Process (For information only – this is not publicized as a Conformance Score)	[4/4]

4.2 Level 2: Order Handling (1.1.1.5)



Figure 4.6 Order Handling decomposition into level 3 processes

Process Identifier: 1.1.1.5

Process Context

This process element represents part of the overall enterprise, modeled in business process terms, and can be applied (ie “instantiated”) with other similar process elements for application within a specific organization or domain.

Brief Description

Responsible for accepting and issuing orders.

Extended Description

Order Handling processes are responsible for accepting and issuing orders. They deal with pre-order feasibility determination, credit authorization, order issuance, order status and tracking, customer update on order activities and customer notification on order completion. Responsibilities of the Order Handling processes include, but are not limited to:

- Issuing new customer orders, modifying open customer orders or canceling open customer orders;
- Verifying whether specific non-standard offerings sought by customers are feasible and supportable;
- Checking the credit worthiness of customers as part of the customer order process;
- Testing the completed offering to ensure it is working correctly;
- Updating of the Customer Inventory Database to reflect that the specific product offering has been allocated, modified or cancelled;

- Assigning and tracking customer provisioning activities;
- Managing customer provisioning jeopardy conditions; and
- Reporting progress on customer orders to customer and other processes.

Explanatory

Reserved for future use.

Mandatory

Reserved for future use.

Optional

Reserved for future use.

Interactions

Reserved for future use.

4.2.1.1 Level 3: Determine Customer Order Feasibility (1.1.1.5.1)

Process Identifier: 1.1.1.5.1

Process Context

This process element represents part of the overall enterprise, modeled in business process terms, and can be applied (ie “instantiated”) with other similar process elements for application within a specific organization or domain.

4.2.1.2 Level 3: Determine Customer Order Feasibility (1.1.1.5.1) – Mapping Details

Level 3 PROCESS MAPPING DETAILS 1.1.1.5.1 Determine Customer Order Feasibility
<p>Brief Description</p> <p>Check the availability and/or the feasibility of providing and supporting standard and customized product offerings where specified to a customer. AM</p> <p><i>ZSmart Order Management System ensures that order is feasible and valid before placing any kind of order. The system performs service availability check and makes reservations if required to make sure the order will be successfully completed after it is dispatched. This validation is called as product configuration and provision step of the order entry.</i></p> <p>([BS NEW SUBS], Business Scenario- New Subscription, Process WF_OH_002_AM, WF_OH_003_AM, WF_OH_005_A, WF_OH_006_AM)</p> <p>Extended description</p> <p>The purpose of the Determine Customer Order Feasibility process is to check the availability and/or the feasibility of providing and supporting standard and customized product offerings where specified as part of the standard product offering process flow, to a customer. AM</p> <p><i>At the Product Configuration & Provision step, the system uses product and service characteristic configurations (A) and providers and validators (AM) to check the feasibility of services requested by the customer.</i></p> <p>([BS NEW SUBS], Business Scenario- New Subscription, Process WF_OH_002_AM, WF_OH_003_AM, WF_OH_005_A, WF_OH_006_AM)</p> <p>([ZSMART PD CC], 4.1.1 Business Process)</p> <p>These processes invoke requests to SM&O provisioning processes to determine the availability and supportability of product offerings to a customer. AM</p> <p><i>At the order entry phase of order management, the system performs an address based service availability check to make sure that the service is available in the provided address. Providers reserve necessary resources in the order to make sure that the order will be fulfilled successfully after order entry phase. In the cancellation of orders, the system releases the resources by calling related</i></p>

systems.

([\[BS_NEW_SUBS\]](#), Business Scenario- New Subscription, Process WF_OH_004)

([\[ZSMART_PD_CC\]](#), 4.1.1 Business Process)

These processes are also responsible for determining whether the offering can be supported by other CRM processes. **AM**

When the system configures the product offering, the corresponding service specification should be selected. The service specification is the template of service implemented by other CRM processes which is ready for customer request. So if the customer purchases some product offering, the service in the product offering should be feasible for customer request. For example, the system uses billing services to associate tariffs, discounts and commitments with the offers. In the order management lifecycle, when order is completed successfully, information regarding activated products and their tariffs are sent to billing system.

([\[BS_NEW_SUBS\]](#), Business Scenario- New Subscription, Process WF_OH_006)

4.2.1.3 Level 3: Determine Customer Order Feasibility (1.1.1.5.1) – TM Forum Assessor Scores

1.1.1.5.1 Determine Customer Order Feasibility - Scores	
Grouping of Implied Tasks	Score
<i>No decomposition to Level 4 processes – score awarded for the Level 3 process in its entirety</i>	<i>100%</i>
Total score for Parent Level 3 Process	100% / 5

4.2.2 Level 3: Authorize Credit (1.1.1.5.2)

Process Identifier: 1.1.1.5.2

Process Context

This process element represents part of the overall enterprise, modeled in business process terms, and can be applied (ie “instantiated”) with other similar process elements for application within a specific organization or domain.

4.2.2.1 Level 3: Authorize Credit (1.1.1.5.2) - Mapping Details

NOTE: No decomposition to Level 4 processes, hence mappings provided against the Level 3 process descriptions and implied tasks.

Level 3 PROCESS MAPPING DETAILS 1.1.1.5.2 Authorize Credit
<p>Brief Description</p> <p>Assess a customer's credit worthiness in support of managing customer risk and company exposure to bad debt. AM</p> <p>ZSmart Order Management system has several functionalities to reduce the risk of bad debt of a service provider:</p> <ol style="list-style-type: none"> 1. <i>Black List Check: Before placing any order, system will perform a black list check from the related system or from Online Charging System (OCS, a product of the ZSmart solution).</i> 2. <i>Credit Check: The system checks the quote sum against the credibility of the customer from the related system. Credit checking can be performed automatically by searching internal CRM database and querying external credit management system with protocols such as MML, SOAP or AMAQP Message Queue and so on. The product Unified Interface Platform (UIP) in ZSmart solution is responsible for interacting with external system. However, in many projects, CRM systems are not connected with credit bureaus for many reasons. In other words, there are interfaces to external credit management system though they may not be activated in many projects.</i> 3. <i>Bad Debt Check: The system allows defining rules for customers who do not pay their previous bills and performs these validations at the order entry. Bad debt checking can be performed by external system or Online Charging System (OCS, a product of the ZSmart solution).</i> 4. <i>Account Status Check: The system does not allow a customer with an account status 'Suspended for Non Pay' to purchase new products. This configuration may be done on Rule Engine.</i>

All of those checking can be performed manually as a manual process of business scenario workflow. It can also be performed automatically as an automatic process of workflow. If automatic process is used, and a rule of checking must be configured in rule engine GUI.

([\[BS_NEW_SUBS\]](#), Business Scenario- New Subscription, Process WF_OH_001_AM)

Extended description

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. AM

ZSmart Customer & Account Management system allows configuring credit and risk classes and credit limits for customers.

([\[ZSMART_OE\]](#), 2.2.1 Enterprise Customer Flow)

([\[BS_NEW_SUBS\]](#), Business Scenario- New Subscription, Process WF_OH_001_AM)

This process is responsible for initiating customer credit checks and for authorizing credit and credit terms AM

ZSmart Order Management system performs a Black list check before any order can be given. This process may interact with external system (Billing System) to query the consumption of customer which is not paid.

([\[ZSMART_UM_BR\]](#), 12.Credit Control Rule)

In accordance with established enterprise risk and policy guidelines AM

ZSmart Business Common System stores credit classes and credit limits of customers and provides APIs for updating customer profiles for these values by external business intelligence or analytics systems.

([\[ZSMART_UM_CM\]](#), 7. Credit Limit)

([\[CC_PDM\]](#), Customer Credit Limit)

4.2.2.2 Level 3: Authorize Credit (1.1.1.5.2) – TM Forum Assessor Scores

1.1.1.5.2 Authorize Credit - Scores	
Grouping of Implied Tasks	Score
<i>No decomposition to Level 4 processes – score awarded for the Level 3 process in its entirety.</i>	<i>100%</i>
Total score for Parent Level 3 Process	100% / 5

4.2.3 Level 3: Track & Manage Customer Order Handling (1.1.1.5.4)

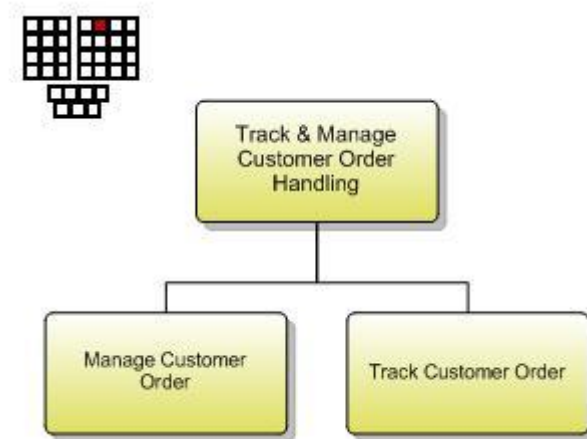


Figure 4.7 Track & Manage Customer Order Handling decomposition into level 4 processes

Process Identifier: 1.1.1.5.4

Process Context

This process element represents part of the overall enterprise, modeled in business process terms, and can be applied (ie “instantiated”) with other similar process elements for application within a specific organization or domain.

Brief Description

Ensure customer provisioning activities are assigned, managed and tracked efficiently to meet the agreed committed availability date

Extended Description

The objective of the Track & Manage Customer Order Handling processes is to ensure customer provisioning activities are assigned, managed and tracked efficiently to meet the agreed committed availability date.

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

- Scheduling, assigning and coordinating customer provisioning related activities;
- Generating the respective service order creation request(s) to Issue Service Orders based on specific customer orders;
- Escalating status of customer orders in accordance with local policy;
- Undertaking necessary tracking of the execution process;
- Adding additional information to an existing customer order;

- Modifying information in an existing customer order;
- Modifying the customer order status;
- Canceling a customer order when the initiating sales request is cancelled;
- Monitoring the jeopardy status of customer orders, and escalating customer orders as necessary; and
- Indicating completion of a customer order by modifying the customer order status.

Note that some specific product components may be delivered directly by suppliers/partners. In these cases the Track & Manage Customer Order Handling process is responsible for initiating requests, through S/P Requisition Management for the delivery by the supplier/partner of the specific product components.

Explanatory

Reserved for future use.

Mandatory

Reserved for future use.

Optional

Reserved for future use.

Interactions

Reserved for future use.

4.2.3.1 Level 4: Manage Customer Order (1.1.1.5.4.1) – Mapping Details

Process Identifier: 1.1.1.5.4.1

Process Context

This process element represents part of the overall enterprise, modeled in business process terms, and can be applied (ie “instantiated”) with other similar process elements for application within a specific organization or domain.

Level 4 PROCESS MAPPING DETAILS 1.1.1.5.4.1 Manage Customer Order
<p>Brief Description</p> <p>Schedule, assign and coordinate customer provisioning related activities. AM</p> <p><i>ZSmart Order Management system tracks the service and resource provisioning activities related with the customer orders.</i></p> <p>([ZSMART_SFL_PC], 5.1 Customer Order Inquiry)</p> <p>([BS_NEW_SUBS], Business Scenario- New Subscription, Process WF_OH_012_AM)</p> <p>Generate the respective service order creation request(s) to Issue Service Orders based on specific customer orders. AM</p> <p><i>ZSmart Order Management system decomposes into Service Order in terms of product offering and product specification.</i></p> <p>([ZSMART_UM_PM], 1.1.2&1.2.2&1.3.2&1.4.2&1.5.2 Offer Detail)</p> <p>([BS_NEW_SUBS], Business Scenario- New Subscription, Process WF_OH_008_A)</p> <p>Escalate status of customer orders in accordance with local policy. AM</p> <p>([BS_NEW_SUBS], Business Scenario- New Subscription, Process WF_OH_011_A, WF_OH_012_AM)</p> <p>Add additional information to an existing customer order. Modify information in an existing customer order. AM</p> <p>([ZSMART_SFL_PC], 7 Manual Order Processing)</p> <p>([BS_NEW_SUBS], Business Scenario- New Subscription, Process WF_OH_012_AM)</p> <p>Cancel a customer order when the initiating sales request is cancelled. If some specific product components are delivered directly by suppliers/partners, initiate requests, through S/P Requisition Management, for the delivery by the supplier/partner of the specific product components. AM</p> <p><i>These functions are supported in WF_OH_007_AM and WF_OH_008_A, In WF_OH_008 activity the customer order will be decomposed into service orders which will be passed to OM System. WF_OH_008 activity will know whether some specific product is provided by suppliers/partners</i></p>

according to product definitions. In these cases, WF_OH_008 activity will create a S/P service order and the OM system will interact with S/P systems to implement service provisioning process.

([\[BS_NEW_SUBS\]](#), Business Scenario- New Subscription, Process WF_OH_007, WF_OH_008)

Extended Description

Not used for this process element

Explanatory

Reserved for future use.

Mandatory

Reserved for future use.

Optional

Reserved for future use.

Interactions

Reserved for future use.

4.2.3.2 Level 4: Track Customer Order (1.1.1.5.4.2) – Mapping Details

Process Identifier: 1.1.1.5.4.2

Process Context

This process element represents part of the overall enterprise, modeled in business process terms, and can be applied (ie “instantiated”) with other similar process elements for application within a specific organization or domain.

Level 4 PROCESS MAPPING DETAILS 1.1.1.5.4.2 Track Customer Order
<p>Brief Description</p> <p>Undertake necessary tracking of the execution process. Modify the customer order status. Monitor the jeopardy status of customer orders, escalating customer orders as necessary. A</p> <p><i>When an order is handed over by middleware, ZSmart Order Management tracks the order and updates its status if any notification is received from the middleware. The system allows tracking the order and order items.</i></p> <p>([ZSMART_SFL_PC], 5 Order Inquiry)</p> <p><i>This process is supported if the Order is in Quote status or one of its sub statuses. The system allows saving an order and updating or cancelling it later upon request of the customer. The system also automatically expires the order after a defined period of time.</i></p> <p>([ZSMART_SFL_PC], 5.2 Overtime Order Inquiry)</p> <p>([ZSMART_SFL_PC], 5.3 Abnormal Order Inquiry)</p> <p>([ZSMART_SFL_PC], 9.1 Work Order Trace Inquiry)</p> <p>Extended Description</p> <p>Not used for this process element</p> <p>Explanatory</p> <p>Reserved for future use.</p> <p>Mandatory</p> <p>Reserved for future use.</p> <p>Optional</p>

Reserved for future use.

Interactions

Reserved for future use.

4.2.3.3 Level 3: Track & Manage Customer Order Handling (1.1.1.5.4) – TM Forum Assessor Scores

1.1.1.5.4 Track & Manage Customer Order Handling - Scores	
Grouping of Implied Tasks	Score
Manage Customer Order (1.1.1.5.4.1)	100%
Track Customer Order (1.1.1.5.4.2)	100%
Total score for Parent Level 3 Process	100% / 5

4.2.4 Level 3: Complete Customer Order (1.1.1.5.5)

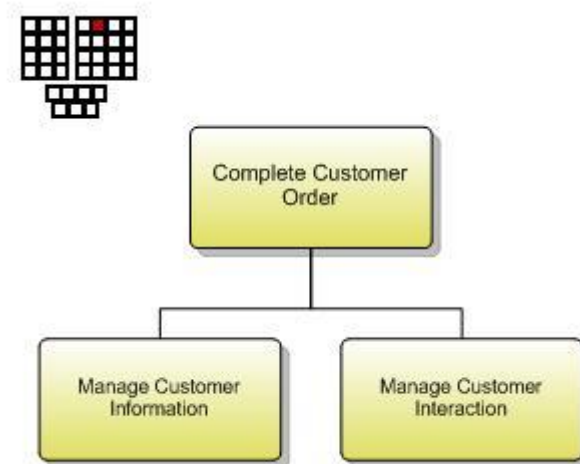


Figure 4.8 Complete Customer Order decomposition into level 4 processes

Process Identifier: 1.1.1.5.5

Process Context

This process element represents part of the overall enterprise, modeled in business process terms, and can be applied (ie “instantiated”) with other similar process elements for application within a specific organization or domain.

Brief Description

Manage customer information and interactions after customer contracts or associated service orders have been finalized and during the order completion phase

Extended Description

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. The customer is trained in the functionality and benefits of the solution. These processes are responsible for ensuring that any customer information required by other CRM processes is updated as part of the customer order completion.

Explanatory

Reserved for future use.

Mandatory

Reserved for future use.

Optional

Reserved for future use.

Interactions

Reserved for future use.

4.2.4.1 Level 4: Manage Customer Information (1.1.1.5.5.1) – Mapping Details

Process Identifier: 1.1.1.5.5.1

Process Context

This process element represents part of the overall enterprise, modeled in business process terms, and can be applied (ie “instantiated”) with other similar process elements for application within a specific organization or domain.

Level 3 PROCESS MAPPING DETAILS 1.1.1.5.5.1 - Manage Customer Information
<p>Brief Description</p> <p>Manage customer information after customer contracts or associated service orders have been finalized and during the order completion phase. AM</p> <p><i>After the service orders have been finalized, ZSmart Order Management updates contact information and triggers a commission workflow if necessary and customer information can be supplemented.</i></p> <p><i>The optional steps are configured in the system. A commission or a confirmation task may be added to any kind of order depending on the sales channel where the order is captured.</i></p> <p>([ZSMART_UM_BFM], 2.4 BPMN Designer)</p> <p>([BS_NEW_SUBS], Business Scenario- New Subscription, Process WF_OH_014)</p> <p>Ensure that any customer information required by other CRM processes is updated as part of the customer order completion. A</p> <p><i>The change of domain entity is captured by field or method interception, so customer information required by other CRM processes can be synchronized after the domain entity is persisted; this process is controlled by configuration of rules for domain entity and performed by the framework of ZSmart.</i></p> <p>([CC_CORE_OOM], Object model for customer order)</p> <p>([ZSMART_UM_BFM], 2.2 Event Decision)</p> <p>([ZSMART_UM_BFM], 2.3 Rule Repository)</p> <p>Extended Description</p> <p>Not used for this process element</p>

Explanatory

Reserved for future use.

Mandatory

Reserved for future use.

Optional

Reserved for future use.

Interactions

Reserved for future use.

4.2.4.2 Level 4: Manage Customer Interaction (1.1.1.5.5.2) – Mapping Details

Process Identifier: 1.1.1.5.5.2

Process Context

This process element represents part of the overall enterprise, modeled in business process terms, and can be applied (ie “instantiated”) with other similar process elements for application within a specific organization or domain.

Level 3 PROCESS MAPPING DETAILS 1.1.1.5.5.2 – Manage Customer Interaction
<p>Brief Description</p> <p>Coordinate customer participation in commissioning or end-to-end testing and satisfactory delivery. Train the customer on the functionality and benefits of the solution. AM</p> <p><i>After every installation workflow, a task is created to obtain the approval of the customer regarding the installation work at the customer site. Installation/Shipment Tasks include shipping user manuals for the products and services given to the customer. The manual tasks include giving the required trainings to the customer at customer site. The manual tasks can be set up in the installation workflow using ZSmart Workflow Engine BPMN Designer. The training result can be collected by customer themselves or by system operators using Web GUI.</i></p> <p>([ZSMART UM BFM], 2.4 BPMN Designer)</p> <p>([ZSMART UM BFM], 2.4.6 Workflow Node)</p> <p>Extended Description</p> <p>Not used for this process element</p> <p>Explanatory</p> <p>Reserved for future use.</p> <p>Mandatory</p> <p>Reserved for future use.</p> <p>Optional</p> <p>Reserved for future use.</p>

Interactions

Reserved for future use.

4.2.4.3 Level 3: Complete Customer Order (1.1.1.5.5) – TM Forum Assessor Scores

1.1.1.5.5 Complete Customer Order - Scores	
Grouping of Implied Tasks	Score
Manage Customer Information (1.1.1.5.5.1)	100%
Manage Customer Interaction (1.1.1.5.5.2)	100%
Total score for Parent Level 3 Process	100% / 5

4.2.5 Level 3: Issue Customer Orders (1.1.1.5.6)

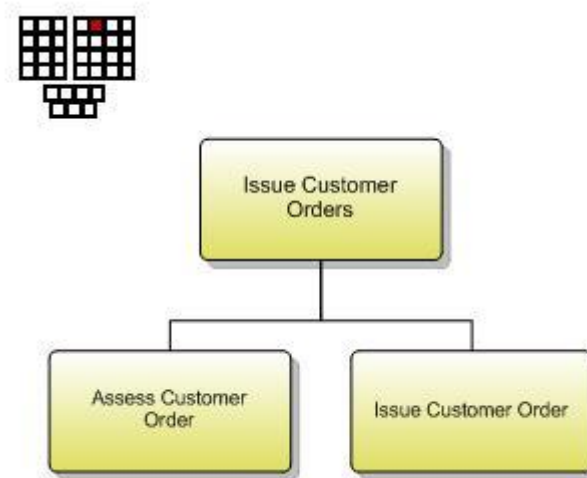


Figure 4.9 Issue Customer Orders decomposition into level 4 processes

Process Identifier: 1.1.1.5.6

Process Context

This process element represents part of the overall enterprise, modeled in business process terms, and can be applied (ie “instantiated”) with other similar process elements for application within a specific organization or domain.

Brief Description

Issue correct and complete customer orders

Extended Description

The purpose of the Issue Customer Orders processes is to issue correct and complete customer orders. These processes ensure that all necessary information about the Customer Order (for example, type of product, install address, special requirements, etc.) is available. The customer orders may be required to satisfy pertinent customer requests from the Selling processes (in particular taking into account the purchase order from Negotiate Sales), may arise as a result of requests for customer provisioning activity to satisfy customer problem restoration activities, may arise to alleviate customer performance issues. These processes 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. The issued customer order may require a feasibility assessment, may require new provisioning activities, may require a change to a previously issued customer order, or may require cancellation of a previously initiated customer order. The customer order may also relate to the cancellation of previously purchased specific services. Where, the initiating request for a purchased product offering has a standard customer order this process is responsible for issuing the customer order, and for 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, and a specific feasibility assessment has been previously undertaken, this process is responsible for issuing the customer order, and for creating a record of the relevant initiating request information and the associated customer order. Where the initiating request for a purchased product offering has special or unusual requirements, and a specific feasibility assessment has not been previously undertaken, this process marks the issued customer order as requiring special handling, and passes management for further processing to the Track & Manage Customer Order Handling process. The orchestration, if required, and tracking of the customer order progress is the responsibility of the Track & Manage Customer Order Handling processes.

Explanatory

Reserved for future use.

Mandatory

Reserved for future use.

Optional

Reserved for future use.

Interactions

Reserved for future use.

4.2.5.1 Level 4: Assess Customer Order (1.1.1.5.6.1) – Mapping Details

Process Identifier: 1.1.1.5.6.1

Process Context

This process element represents part of the overall enterprise, modeled in business process terms, and can be applied (ie “instantiated”) with other similar process elements for application within a specific organization or domain.

Level 3 PROCESS MAPPING DETAILS 1.1.1.5.6.1 - Assess Customer Order
<p>Brief Description</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><i>These are two different business rules in ZSmart Order Management.</i></p> <p><i>Invariable Rule: This kind of rule can be expressed by Object Model and Data Model. The validity and the integrity of an order depend on the configuration of products, product characteristic values and product relation. For example, product relation would be migration, exclusivity, dependency and substitution. Product Characteristics form the base of product specifications. Product characteristic can be extended dynamically. The mandatory or optional characteristic of product characteristic can be specified, and the range of product characteristic values can also be configured.</i></p> <p><i>Variable Rule: The variable rule is more flexible. This kind of rule cannot be expressed by Object Model and Data Model. It is parsed and executed by Rule Engine.</i></p> <p>([ZSMART UM PM], 1.1.2&1.2.2&1.3.2&1.4.2&1.5.2 Offer Detail)</p> <p>([ZSMART UM PM], 1.1.3&1.2.3&1.3.3&1.4.3&1.5.3 Offer Feature)</p> <p>([ZSMART UM PM], 1.1.4&1.2.4&1.3.4&1.4.4&1.5.4 Offer Relationship)</p> <p>([ZSMART PD PM], 3.1.3 Offer Definition & 3.1.4 Product Rule)</p> <p>The issued customer order may require a feasibility assessment, AM</p> <p><i>The Rule Engine supports adding Product Configuration Rules and Proposal Rules at any Step of the Order Lifecycle. These rules may depend on services/resources, products and offers that exist in the order. The system can be configured to add a manual task and related task assignments will be handled by the Rule Engine depending on the configurations.</i></p> <p>([ZSMART UM BFM], 2 BFM Configuration)</p>

may require new provisioning activities, A

When a characteristic required for a product associated with a provider class, ZSmart Product Management System allows configuring when to capture the value of this field. Provisioning activities can be triggered depending on the configuration of Rule Engine. Product characteristic value can also be captured by Rule Engine as triggering condition of rule.

([ZSMART UM PM], 1.1.3&1.2.3&1.3.3&1.4.3&1.5.3 Offer Feature)

([ZSMART UM BFM], 2.2 Event Decision)

([ZSMART UM BFM], 2.3 Rule Repository)

may require a change to a previously issued customer order, A

or may require cancellation of a previously initiated customer order. A

The customer order may also relate to the cancellation of previously purchased specific services. A

Some of the business interactions in ZSmart Order Management automatically create update/cancel/change processes for previously sent orders. The business interactions also include cancellation of a previously initiated customer order, and cancellation of previously purchased specific services, even modification of customer information. The business interactions would be developed by implementer of ZSmart Order Management.

([ZSMART UM BFM], 2.2 Event Decision)

([ZSMART UM BFM], 2.3 Rule Repository)

4.2.5.2 Level 4: Issue Customer Order (1.1.1.5.6.2) – Mapping Details

Process Identifier: 1.1.1.5.6.2

Process Context

This process element represents part of the overall enterprise, modeled in business process terms, and can be applied (ie “instantiated”) with other similar process elements for application within a specific organization or domain.

Level 3 PROCESS MAPPING DETAILS 1.1.1.5.6.2 - Issue Customer Order
<p>Brief Description</p> <p>Issue a customer order, creating a record of the relevant initiating sales request and the associated customer order. AM</p> <p><i>ZSmart Order Management ensures the validity and the integrity of an order by performing necessary validations and populating required information about customer, customer accounts, products, product characteristic values and product relations at the order entry process.</i></p> <p>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. If a specific feasibility assessment has not been previously undertaken, mark the issued customer order as requiring special handling. AM</p> <p><i>In ZSmart, Order Management Processes are connected to Lead and Feasibility Processes. The order with normal requirements can be handled automatically, but the order with special requirements will require a special handling, this process would be a manual task and it can be modeled by ZSmart Workflow Engine.</i></p> <p>([ZSMART UM CC], 2 Create Subscription Order)</p> <p>([ZSMART UM CC], 5 Business Acceptance)</p> <p>([ZSMART UM BFM], 2.4 BPMN Designer)</p> <p>Extended Description</p> <p>Not used for this process element</p> <p>Explanatory</p> <p>Reserved for future use.</p>

<p>Mandatory</p> <p>Reserved for future use.</p> <p>Optional</p> <p>Reserved for future use.</p> <p>Interactions</p> <p>Reserved for future use.</p>

4.2.5.3 Level 3: Issue Customer Order (1.1.1.5.6) – TM Forum Assessor Scores

1.1.1.5.6 Issue Customer Order - Scores	
Grouping of Implied Tasks	Score
Assess Customer Order (1.1.1.5.6.1)	100%
Issue Customer Order (1.1.1.5.6.2)	100%
Total score for Parent Level 3 Process	100% / 5

4.2.6 Level 3: Report Customer Order Handling (1.1.1.5.7)



Figure 4.10 Report Customer Order Handling decomposition into level 4 processes

Process Identifier: 1.1.1.5.7

Process Context

This process element represents part of the overall enterprise, modeled in business process terms, and can be applied (ie “instantiated”) with other similar process elements for application within a specific organization or domain.

Brief Description

Monitor the status of customer orders, provide notifications of any changes and provide management reports.

Extended Description

The objective of the Report Customer Order Handling processes is to monitor the status of customer orders, provide notifications of any changes and provide management reports. These processes are responsible for continuously monitoring the status of customer orders and managing notifications to processes and other parties registered to receive notifications of any status changes. Notification lists are managed and maintained by the Support Order Handling processes. These processes 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. These specialized summaries could be specific reports required by specific customers.

Explanatory

Reserved for future use.

Mandatory

Reserved for future use.

Optional

Reserved for future use.

Interactions

Reserved for future use.

4.2.6.1 Level 4: Monitor Customer Order Status (1.1.1.5.7.1) – Mapping Details

Process Identifier: 1.1.1.5.7.1

Process Context

This process element represents part of the overall enterprise, modeled in business process terms, and can be applied (ie “instantiated”) with other similar process elements for application within a specific organization or domain.

Level 3 PROCESS MAPPING DETAILS 1.1.1.5.7.1 - Monitor Customer Order Status
<p>Brief Description</p> <p>Continuously monitor the status of customer orders. AM</p> <p><i>In ZSmart Order Management, customer order is continuously monitored by ZSmart framework. The fields of customer order entity including the status of customer order is managed by ZSmart framework. The event of entity changing is fired depending on configuration of rules. ZSmart Order Management also allows monitoring the orders and tracks the status of the orders by querying the specified customer order.</i></p> <p>([CC CORE OOM], Object model for customer order) ([SA DIAGRAMS], Page 2 Business Entities and Rule Engine Relationship)</p> <p>([ZSMART UM CC], 5.1 Order List)</p> <p>Extended Description</p> <p>Not used for this process element</p> <p>Explanatory</p> <p>Reserved for future use.</p> <p>Mandatory</p> <p>Reserved for future use.</p> <p>Optional</p> <p>Reserved for future use.</p> <p>Interactions</p> <p>Reserved for future use.</p>

4.2.6.2 Level 4: Manage Customer Order Status Notification (1.1.1.5.7.2) – Mapping Details

Process Identifier: 1.1.1.5.7.2

Process Context

This process element represents part of the overall enterprise, modeled in business process terms, and can be applied (ie “instantiated”) with other similar process elements for application within a specific organization or domain.

Level 3 PROCESS MAPPING DETAILS 1.1.1.5.7.2 Manage Customer Order Status Notification
<p>Brief Description</p> <p>Manage notifications to processes and other parties registered to receive notifications of any status changes. AM</p> <p><i>ZSmart Order Management System allows monitoring the orders and tracks the statuses of the orders throughout their lifecycle. This can be done automatically or manually, and it is dependent on the actual requirements of service provider.</i></p> <p>([BS NEW SUBS], Business Scenario- New Subscription, Process WF_OH_011, WF_OH_012)</p> <p>([CC CORE OOM], Object model for customer order)</p> <p>([SA DIAGRAMS], Page 2 Business Entities and Rule Engine Relationship)</p> <p>([ZSMART UM CC], 5.1 Order List)</p> <p>Extended description</p> <p>Not used for this process element.</p>

4.2.6.3 Level 4: Report Customer Order Status (1.1.1.5.7.3) – Mapping Details

Process Identifier: 1.1.1.5.7.3

Process Context

This process element represents part of the overall enterprise, modeled in business process terms, and can be applied (ie “instantiated”) with other similar process elements for application within a specific organization or domain.

Level 3 PROCESS MAPPING DETAILS 1.1.1.5.7.3 - Report Customer Order Status
<p>Brief Description</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. AM</p> <p><i>The system provides access to all order related information. Specialized reports can be taken by setting different search criteria and filters. The system allows producing Excel sheets for different views.</i></p> <p>(ZSMART REPORT), 1.1 Report Management)</p>

4.2.6.4 Level 3: Report Customer Order Handling (1.1.1.5.7) – TM Forum Assessor Scores

1.1.1.5.7 - Report Customer Order Handling - Scores	
Grouping of Implied Tasks	Score
1.1.1.5.7.1 - Monitor Customer Order Status	100%
1.1.1.5.7.2 - Manage Customer Order Status Notification	100%
1.1.1.5.7.3 - Report Customer Order Status	100%
Total score for Parent Level 3 Process	100% / 5

4.2.7 Level 3: Close Customer Order (1.1.1.5.8)

Process Identifier: 1.1.1.5.8

Process Context

This process element represents part of the overall enterprise, modeled in business process terms, and can be applied (ie “instantiated”) with other similar process elements for application within a specific organization or domain.

4.2.7.1 Level 3: Close Customer Order (1.1.1.5.8) - Mapping Details

NOTE: No decomposition to Level 4 processes, hence mappings provided against the Level 3 process descriptions and implied tasks.

Level 3 PROCESS MAPPING DETAILS 1.1.1.5.8 - Close Customer Order
<p>Brief Description</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. A</p> <p><i>When all service orders related with a customer order are completed, ZSmart Service Management System will raise a notification. If ZSmart Order Management System receive the notification, the system will perform order closure tasks or sub-workflow if necessary and updates the customer order status, finally save the information for customer or customer’s product instance.</i></p> <p>([BS_NEW_SUBS], Business Scenario- New Subscription, Process WF_OH_0015)</p> <p>Extended description</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><i>In ZSmart Order Management System, closing customer order include following steps:</i></p> <ol style="list-style-type: none"> 1. <i>Update the status of customer order.</i> 2. <i>Notify customer the status of customer order by SMS, IVR, EMAIL, etc.</i> <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><i>In ZSmart solution, ZSmart Service Management System monitor the status of all service orders related with customer order. When all service orders are completed, the system will notify ZSmart Order Management System to proceed with next task. The service provisioning</i></p>

workflow can be configured using ZSmart Workflow Engine.

([\[ZSMART_SFL_PC\]](#), 4 Provisioning Workflow Configuration)

([\[ZSMART_UM_BFM\]](#), 2.4 BPMN Designer)

4.2.7.2 Level 3: Close Customer Order (1.1.1.5.8) – TM Forum Assessor Scores

1.1.1.5.8 - Close Customer Order - Scores	
Grouping of Implied Tasks	Score
<i>No decomposition to Level 4 processes – score awarded for the Level 3 process in its entirety</i>	<i>100%</i>
Total score for Parent Level 3 Process	100% / 5

4.2.8 Supporting Evidence References (Works Cited)

ZSMART_OE	ZSmart-SRS-Order Entry-V1.5.docx, System requirement specification document for ZSmart Order Management
BS_NEW_SUBS	Business Scenario - New Subscription.doc, The business scenario of new subscription.
ZSMART_UM_PC	ZSmart Provisioning Configuration Manual.docx, the configuration manual for ZSmart Provisioning.
ZSMART_SFL_PC	ZSmart System Function List-Provisioning Volume.doc, The function list document for ZSmart Provisioning.
ZSMART_UM_PM	ZSmart User Manual-Product Management Volume.doc, The user manual for ZSmart Product Management.
ZSMART_PD_PM	ZSmart Product Description - Product Management.docx, The product description for ZSmart Product Management.
ZSMART_UM_BFM	ZSmart User Manual-Business Framework.doc, The user manual for ZSmart Business Framework.
ZSMART_PD_SFA	ZSmart Product Description-SFA.docx, Product Description Document for ZSmart Sales Force Automation.
CC_CORE_OOM	CC_CORE_V0.3.oob.oom, Object Model for customer order.
SA_DIAGRAMS	System Architecture Diagram.pptx, System Architecture Diagram.
ZSMART_UM_CC	ZSmart User Manual-Customer Care Volume.doc, The user manual for customer care.
ZSMART_REPORT	ZSmart User Manual-Report.doc, The user manual for report.
ZSMART_PD_CC	ZSmart Product Description-CC.doc, The product description for Customer Care Product.
CC_PDM	Customer Credit.pdm, The data model for customer credit.
ZSMART_UM_CM	ZSmart User Manual-Customer Management Volume.doc, The user manual for customer management product.
ZSMART_UM_BR	ZSmart User Manual-Rating and Billing Volume.doc, The user manual for rating and billing product.

4.2.9 Level 2: Order Handling (1.1.1.5) – Conformance Scores

1.1.1.5 Order Handling [7/7] - Scores	
Level 3 Scores	Score
<i>1.1.1.5.1 - Determine Customer Order Feasibility</i>	5
<i>1.1.1.5.2 - Authorize Credit</i>	5
<i>1.1.1.5.4 - Track & Manage Customer Order Handling</i>	5
<i>1.1.1.5.5 - Complete Customer Order</i>	5
<i>1.1.1.5.6 - Issue Customer Orders</i>	5
<i>1.1.1.5.7 - Report Customer Order Handling</i>	5
<i>1.1.1.5.8 - Close Customer Order</i>	5
Scope coverage for Parent Level 2 Process (For information only – this is not publicized as a Conformance Score)	[7/7]

4.3 L2: Bill Invoice Management (1.1.1.10)

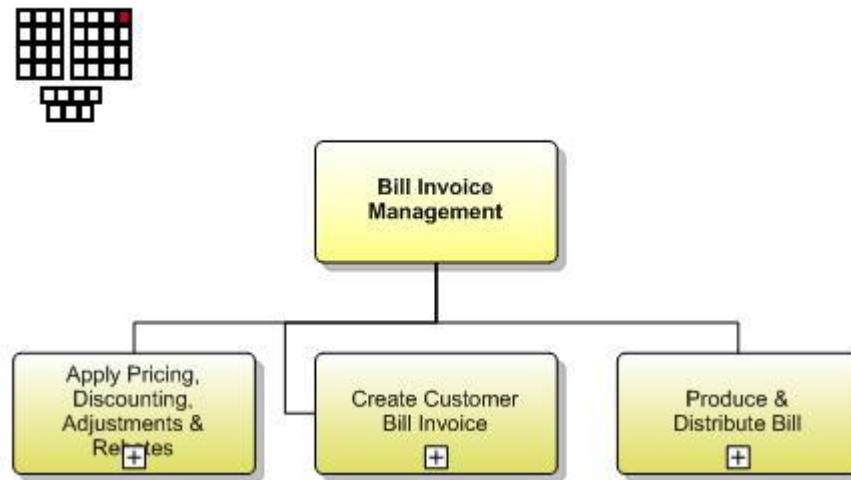


Figure 4.11 Bill Invoice Management decomposition into level 3 processes

Process Identifier: 1.1.1.10

Process Context

This process element represents part of the overall enterprise, modeled in business process terms, and can be applied (ie “instantiated”) with other similar process elements for application within a specific organization or domain.

Brief Description

Ensure the bill invoice is created, physically and/or electronically produced and distributed to customers, and that the appropriate taxes, discounts, adjustments, rebates and credits for the products and services delivered to customers have been applied.

Extended Description

Bill Invoice Management processes ensure the bill invoice is created, physically and/or electronically produced and distributed to customers, and that the appropriate taxes, discounts, adjustments, rebates and credits for the products and services delivered to customers have been applied. These processes are accountable for assuring that enterprise revenue is billed and invoices delivered appropriately to customers.

These processes are responsible for, but not limited to:

- Establishment and application of taxes and charges to the services delivered to customers;
- Application of the adjustment (adjustment decision done in Bill Inquiry Handling);
- Creation of accurate bill invoices including all adjustments, rebates, discounts, credits, etc; and

- Production & distribution of bill in physical and/or electronic form to customers in accordance with the billing cycle;
- Forecasting of physical resources associated with bill production, such as paper and envelope quantities;
- Alignment and management of promotional material insertion into distributed bills; and
- Establishment and management of third party arrangements to support bill invoice generation, production and distribution.

Explanatory

Reserved for future use.

Mandatory

Reserved for future use.

Optional

Reserved for future use.

Interactions

Reserved for future use.

4.3.1 Level 3: Apply Pricing, Discounting, Adjustments & Rebates (1.1.1.10.1)

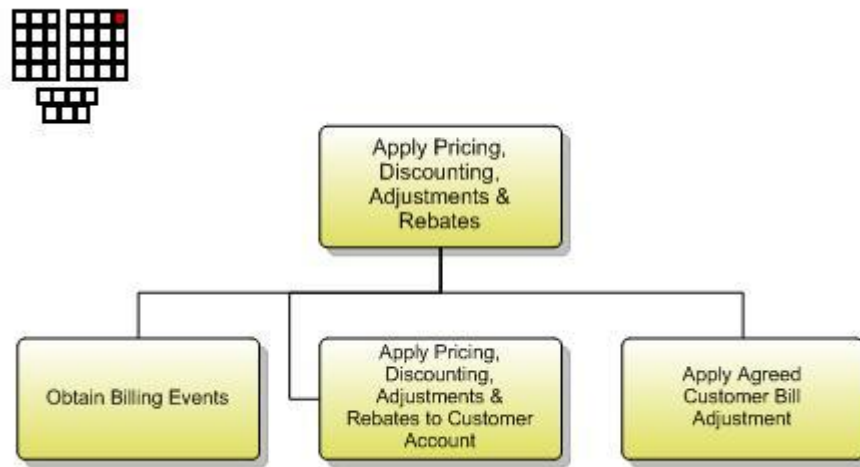


Figure 4.12 Apply Pricing, Discounting, Adjustments & Rebates decomposition into level 4 processes

Process Identifier: 1.1.1.10.1

Process Context

This process element represents part of the overall enterprise, modeled in business process terms, and can be applied (ie “instantiated”) with other similar process elements for application within a specific organization or domain.

Brief Description

Ensure that the bill invoice is reflective of all the commercially agreed billable events and any bill invoice adjustments agreed between a Service Provider and the customer.

Extended Description

The purpose of the Apply Pricing, Discounting, Adjustments & Rebates process is to ensure that the bill invoice is reflective of all the commercially agreed billable events and any bill invoice adjustments agreed between a Service Provider and the customer. In addition, it ensures that the appropriate taxes, rebates (i.e. missed customer commitments) and credits are applied to the customer’s bill invoice(s). This process contains the account and customer specific pricing, charges, discounting, credits and taxation for services delivered to the customer by the Service Provider. It accepts events that have been collected, translated, correlated, assembled, guided and service rated. It takes these events and determines the account or customer specific pricing, charges, discounts, and taxation that should be delivered to the invoice(s) for the customer. It reviews any agreed adjustments agreed in the previous billing period and includes these to the bill invoice. This process can occur in real-time as events are service rated, or can be on a scheduled on a periodic basis at the Service Provider’s discretion.

Explanatory

Reserved for future use.

Mandatory

Reserved for future use.

Optional

Reserved for future use.

Interactions

Reserved for future use.

4.3.1.1 Level 4: Obtain Billing Events (1.1.1.10.1.1) – Mapping Details

Process Identifier: 1.1.1.10.1.1

Process Context

This process element represents part of the overall enterprise, modelled in business process terms, and can be applied (i.e. “instantiated”) with other similar process elements for application within a specific organization or domain.

Level 3 PROCESS MAPPING DETAILS 1.1.1.10.1.1 – Obtain Billing Events
<p>Brief Description</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). AM</p> <p><i>In ZSmart Rating and Billing System, There are two kinds of billing events, one is oriented with services delivered to the customer which called GL ID, the another one is oriented with Rating Engine which called Rating Event.</i></p> <p>([ZSMART_UM_BR], 3.2 Event Configuration)</p> <p>([ZSMART_SFL_AR], 10.4 GL ID)</p> <p>Extended Description</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. This includes events that have been collected, translated, correlated, assembled, guided and service rated. AM</p> <p><i>In ZSmart Rating and Billing System, Rating Event have been processed by Rating Engine, it would be translated into GL ID, be recorded as CDR, and finally be applied to the customer’s bill invoice(s).</i></p> <p>([ZSMART_UM_BR], 11.2.3 CDR File Workflow Configuration)</p> <p>([ZSMART_UM_BR], 2.2.2 Invoicing)</p> <p>([BS_INVOICING], Business Scenario - Invoicing, Process WF_IP_001)</p> <p>Explanatory</p> <p>This includes events that have been collected, translated, correlated, assembled, guided and service rated.</p> <p>Mandatory</p> <p>Expand the detail attributes of the contact.</p>

Optional

Not used for this process element.

Interactions

Not used for this process element.

4.3.1.2 Level 4: Apply Pricing, Discounting, Adjustments & Rebates to Customer Account (1.1.1.10.1.2) – Mapping Details

Process Identifier: 1.1.1.10.1.2

Process Context

This process element represents part of the overall enterprise, modelled in business process terms, and can be applied (i.e. “instantiated”) with other similar process elements for application within a specific organization or domain.

Level 3 PROCESS MAPPING DETAILS
1.1.1.10.1.2 – Apply Pricing, Discounting, Adjustments & Rebates to Customer Account
<p>Brief Description</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.</p> <p>Extended Description</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 the each cost item included in customer bill invoice(s) can correspond to a correct account through which customer will pay for the cost item. It ensures that the appropriate taxes, rebates (i.e. missed customer commitments) and credits are applied to the customer’s bill invoice(s). A customer who may have multiple accounts can pay different cost item with different account. AM</p> <p><i>In ZSmart Product Management, There are two kinds of product offering: Main Product, Depend Product. Main Products are representation for independent service type. The independent services contain some pricing, charges, discounts, and taxation service. Main Product also has a corresponding account, so customer specific pricing, charges, discounts, and taxation should be applied to the account by default.</i></p> <p>([ZSMART UM PM], 1.1.2&1.2.2&1.3.2&1.4.2&1.5.2 Offer Detail)</p> <p>([ZSMART UM PM], 1.1.3&1.2.3&1.3.3&1.4.3&1.5.3 Offer Feature)</p> <p>([ZSMART UM PM], 1.1.4&1.2.4&1.3.4&1.4.4&1.5.4 Offer Relationship)</p> <p>([ZSMART PD CM] 3.2 Customer Profile Management)</p> <p>Explanatory</p> <p>It ensures that the appropriate taxes, rebates (i.e. missed customer commitments) and credits are applied to the customer’s bill invoice(s).</p>

Mandatory

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 the each cost item included in customer bill invoice(s) can correspond to a correct account through which customer will pay for the cost item. AM

In ZSmart Rating and Billing System, the specific pricing, charges, discounts, and taxation are presented by Price Plan, The Price Plan can be applied to Customer Account, or Customer Product.

([\[ZSMART_UM_RB\]](#), 2.2.1 Account Discount)

([\[ZSMART_FDS_INV\]](#), 3.4 Bill Discount)

([\[ZSMART_FDS_INV\]](#), 3.9 Billing Control)

Optional

A customer who may have multiple accounts can pay different cost item with different account.

Interactions

Not used for this process element.

4.3.1.3 Level 4: Apply Agreed Customer Bill Adjustment (1.1.1.10.1.3) – Mapping Details

Process Identifier: 1.1.1.10.1.3

Process Context

This process element represents part of the overall enterprise, modelled in business process terms, and can be applied (i.e. “instantiated”) with other similar process elements for application within a specific organization or domain.

Level 3 PROCESS MAPPING DETAILS 1.1.1.10.1.3 – Apply Agreed Customer Bill Adjustment
<p>Brief Description</p> <p>Apply and review any adjustment agreed in the previous billing period and make these included to the bill invoice.</p>
<p>Extended Description</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. In general, the adjustments are due to errors in customer bill invoices in previous billing periods or problems related to products and services delivered to the customer by the Service Provider or partners.</p>
<p>Explanatory</p> <p>In general, the adjustments are due to errors in customer bill invoices in previous billing periods or problems related to products and services delivered to the customer by the Service Provider or partners.</p>
<p>Mandatory</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. AM</p> <p><i>In ZSmart Rating and Billing System, Bill Adjustment can be performed before Invoicing(called Ledger Adjustment before Invoicing) or after Invoicing (called Ledger Adjustment after Invoicing)</i></p> <p><i>‘Ledger adjustment before invoicing’ means that the account administrator adjusts the ledger of the account receivable of a certain account via the ZSmart system before Invoicing. It falls into two types: Ledger adjustment supplement and refund.</i></p>

'Ledger adjustment after invoicing' means that the account administrator adjusts the ledger of the account receivable of a certain account via ZSmart system after Invoicing. It falls into two types: Ledger adjustment supplement and refund

([\[ZSMART_SFL_AR\]](#), 3 Ledger Adjustment)

([\[ZSMART_UM_AR\]](#), 3 Ledger Adjustment)

Optional

Not used for this process element.

Interactions

Not used for this process element.

4.3.1.4 Level 3: Apply Pricing, Discounting, Adjustments & Rebates (1.1.1.10.1) – TM Forum Assessor Scores

1.1.1.10.1 Apply Pricing, Discounting, Adjustments & Rebates - Scores	
Grouping of Implied Tasks	Score
Obtain Billing Events (1.1.1.10.1.1)	100%
Apply Pricing, Discounting, Adjustments & Rebates to Customer Account (1.1.1.10.1.2)	100%
Apply Agreed Customer Bill Adjustment (1.1.1.10.1.3)	100%
Total score for Parent Level 3 Process	100% / 5

4.3.2 Level 3: Create Customer Bill Invoice (1.1.1.10.2)

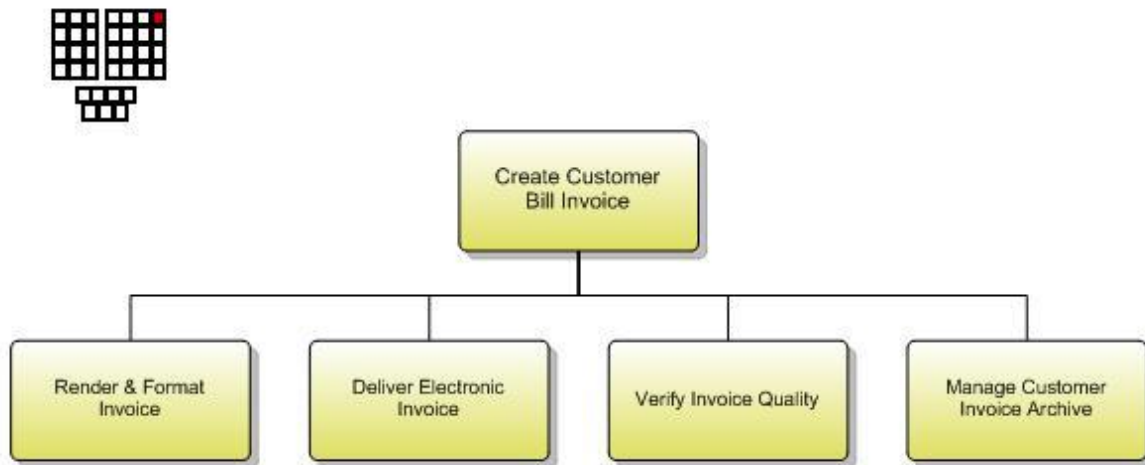


Figure 4.13 Create Customer Bill Invoice decomposition into level 4 processes

Process Identifier: 1.1.1.10.2

Process Context

This process element represents part of the overall enterprise, modeled in business process terms, and can be applied (ie “instantiated”) with other similar process elements for application within a specific organization or domain.

Brief Description

Production of a timely and accurate invoice in accordance with the specific billing cycles and reflective of the final charges for services, together with any adjustments, delivered to the customer by the Service Provider and respective trading partners.

Extended Description

The primary purpose of the Create Customer Bill Invoice process is the production of a timely and accurate invoice in accordance with the specific billing cycles and reflective of the final charges for services, together with any adjustments, delivered to the customer by the Service Provider and respective trading partners.

This process contains the invoicing components of the Service Provider’s business. This includes the rendering/formatting of an invoice, the delivery of an electronic copy of an invoice to customers and the processes that verify invoice quality prior to distribution to the customer in electronic form, or to the process responsible for physical invoice production and distribution. The flow of this process can be viewed as an extension of the company’s e-business strategy. In this case, the Service Provider would render an invoice electronically, via the Internet for example.

Furthermore, this process provides specifications for the 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.

Additionally these processes store the customer invoice for a period of time to address regulation and/or internal requirements, during which they can be accessed to support any customer or regulator agency inquiries on bill invoices.

Explanatory

Reserved for future use.

Mandatory

Reserved for future use.

Optional

Reserved for future use.

Interactions

Reserved for future use.

4.3.2.1 Level 4: Render & Format Invoice (1.1.1.10.2.1) – Mapping Details

Process Identifier: 1.1.1.10.2.1

Process Context

This process element represents part of the overall enterprise, modelled in business process terms, and can be applied (i.e. “instantiated”) with other similar process elements for application within a specific organization or domain.

Level 3 PROCESS MAPPING DETAILS 1.1.1.10.2.1 – Render & Format Invoice
<p>Brief Description</p> <p>Render and format the customer bill invoice.</p>
<p>Extended Description</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>Explanatory</p> <p>Not used for this process element.</p>
<p>Mandatory</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.</p> <p>AM</p> <p><i>In ZSmart Rating and Billing System, we use jasper report design invoicing format. Jasper Report is a java-based reporting tool and supports XML, XSL, and CSV. The input can be RDBMS, Java object in container, and the popular output formats are fully supported, including PDF, HTML, and XML, etc.</i></p> <p>([ZSMART FDS INV], 3.6.1 JasperReports for Java)</p> <p>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>AM</p> <p><i>ZSmart supports sub-template. For particular customers such as enterprise customers,</i></p>

usually they need a total invoice and for each person of them needs another format invoice. The new invoice template would be developed for complex account structures with sub-template. An appropriate template would be selected based on customer attributes.

([\[ZSMART_IN_RT\]](#), 3. Report Customization)

([\[ZSMART_SFL_INV\]](#) , 2.3 Bill Printing On-Demand)

([\[ZSMART_FDS_INV\]](#), 3.6.2.1 Design Printing Template)

Optional

Not used for this process element.

Interactions

Not used for this process element.

4.3.2.2 Level 4: Deliver Electronic Invoice (1.1.1.10.2.2) – Mapping Details

Process Identifier: 1.1.1.10.2.2

Process Context

This process element represents part of the overall enterprise, modelled in business process terms, and can be applied (i.e. “instantiated”) with other similar process elements for application within a specific organization or domain.

Level 3 PROCESS MAPPING DETAILS 1.1.1.10.2.2 – Deliver Electronic Invoice
<p>Brief Description</p> <p>Deliver the electronic copy of an invoice to customers. AM</p>
<p>Extended Description</p> <p>The purpose of Deliver Electronic Invoice process is to deliver the electronic copy of an invoice to customers. The flow of this process can be viewed as an extension of the company’s e-business strategy. In this case, the Service Provider would render an invoice electronically, via the Internet for example.</p>
<p>Explanatory</p> <p>The flow of this process can be viewed as an extension of the company’s e-business strategy. In this case, the Service Provider would render an invoice electronically, via the Internet for example.</p>
<p>Mandatory</p> <p>The purpose of Deliver Electronic Invoice process is to deliver the electronic copy of an invoice to customers. A</p> <p><i>After electronic invoice has been generated, the electronic invoice will be delivered by Email as an attachment, this task can be completed by UIP (Unified Interface Platform) automatically.</i></p> <p>([ZSMART UIP], Email Adapter Configuration)</p>
<p>Optional</p> <p>Not used for this process element.</p>
<p>Interactions</p> <p>Not used for this process element.</p>

4.3.2.3 Level 4: Verify Invoice Quality (1.1.1.10.2.3) – Mapping Details

Process Identifier: 1.1.1.10.2.3

Process Context

This process element represents part of the overall enterprise, modelled in business process terms, and can be applied (i.e. “instantiated”) with other similar process elements for application within a specific organization or domain.

Level 3 PROCESS MAPPING DETAILS 1.1.1.10.2.3– Verify Invoice Quality
<p>Brief Description</p> <p>Verify invoice quality before distribution to the customer in electronic form and the process responsible for physical invoice production and distribution.</p>
<p>Extended Description</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 behaviour. 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.</p>
<p>Explanatory</p> <p>Not used for this process element.</p>
<p>Mandatory</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. AM</p>
<p>Verifying Format:</p> <p><i>When a new template of invoice is required by customer, the corresponding workflow will be triggered to confirm the invoice quality prior to distribution to the customer. The verifying invoice quality workflow is designed by system implementer using ZSmart BFM BPM.</i></p> <p>([ZSMART UM BFM], 2.4 BPMN Designer)</p> <p>([ZSMART FS BPM], 7.1 Workflow Engine)</p>

([ZSMART_FS_BPM], 7.2 Generating Work Order)**Verifying Content:**

Validation in ZSmart focuses on the major processes including Billing Discount, Bill Statistics, Bill Generation, and Bill Printing. The processed data and business logic are the key points to be checked.

([ZSMART_FDS_INV], 2.4 Validation and Verification)

Verifying invoice quality is either a manual operation or an automatic behaviour. The process is responsible for ensuring the invoice format and content can meet customer requirements. AM

The task is either a manual or an automatic process in verifying invoice quality workflow; this can be done by system operator, or be done by customer themselves using self-service web pages.

([ZSMART_FS_BPM], 7.2 Generating Work Order)

When verifying invoice quality is failed, the process is also responsible for sending the invoice back to another process to reprocess. AM

A sub-workflow can be also modeled in ZSmart BPM, when verifying invoice quality is failed, the sub-workflow can be triggered by Rule Engine.

([ZSMART_FS_BPM], 7.2 Generating Work Order)**Optional**

Not used for this process element.

Interactions

Not used for this process element.

4.3.2.4 Level 4: Manage Customer Invoice Archive (1.1.1.10.2.4) – Mapping Details

Process Identifier: 1.1.1.10.2.4

Process Context

This process element represents part of the overall enterprise, modelled in business process terms, and can be applied (i.e. “instantiated”) with other similar process elements for application within a specific organization or domain.

Level 3 PROCESS MAPPING DETAILS 1.1.1.10.2.4– Manage Customer Invoice Archive
<p>Brief Description</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.</p>
<p>Extended Description</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.</p>
<p>Explanatory</p> <p>Not used for this process element.</p>
<p>Mandatory</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. AM</p> <p><i>In ZSmart Rating and Billing System, The invoice data is stored in database for a period time, if customer or partners want to access the historical invoice again, the historical invoice will be generated again. The invoice data also can be re-generated again if previous invoice data isn't enough detail for customer's new demand.</i></p> <p>([ZSMART_FS_BPM], 7.1 Workflow Engine)</p>

([ZSMART FS BPM], 7.2 Generating Work Order)

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. **AM**

For considering limited storage of database, the CDR data and invoice data would be removed; the historical customer invoice after a period of time would be archived.

Furthermore the process is responsible for managing and maintaining archiving cycle. **AM**

The archived invoice also can be deleted periodically; this task can be done using ZSmart Jobservice Framework.

Optional

Not used for this process element.

Interactions

Not used for this process element.

4.3.2.5 Level 3: Create Customer Bill Invoice (1.1.1.10.2) – TM Forum Assessor Scores

1.1.1.10.2 Create Customer Bill Invoice - Scores	
Grouping of Implied Tasks	Score
Render & Format Invoice (1.1.1.10.2.1)	100%
Deliver Electronic Invoice (1.1.1.10.2.2)	100%
Verify Invoice Quality (1.1.1.10.2.3)	100%
Manage Customer Invoice Archive (1.1.1.10.2.4)	100%
Total score for Parent Level 3 Process	100% / 5

4.3.3 Level 3: Produce & Distribute Bill (1.1.1.10.3)

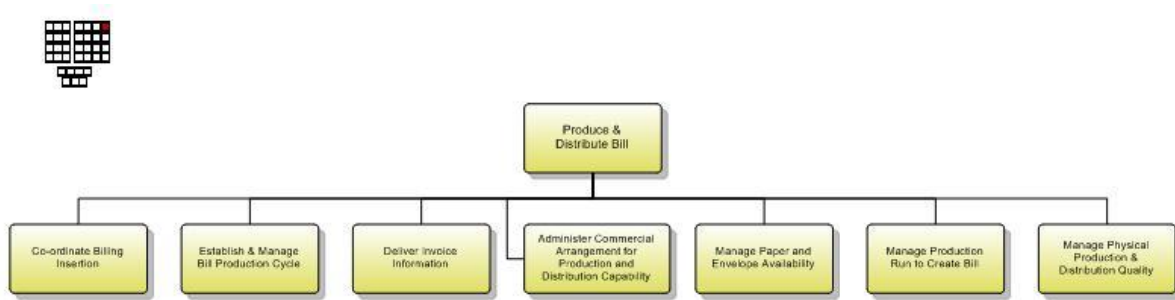


Figure 4.14 Produce & Distribute Bill decomposition into level 4 processes

Process Identifier: 1.1.1.10.3

Process Context

This process element represents part of the overall enterprise, modeled in business process terms, and can be applied (ie “instantiated”) with other similar process elements for application within a specific organization or domain.

Brief Description

Physical production and distribution of bills to customers in accordance with the specified billing cycle.

Extended Description

The purpose of the Produce & Distribute Customer Bill Invoice process is the physical production and distribution of bills to customers in accordance with the specified billing cycle. This process is responsible for all activities associated with ensuring a physical bill is delivered to customers.

The responsibilities of the process include, but are not limited to:

- Establishing and managing the physical bill production cycle;
- Establishing the requirements for, and managing the agreed commercial arrangements with, appropriate outsourced suppliers of the production and distribution capabilities;
- Delivery of invoice information to the physical production processes;
- Coordinating with promotional processes for any billing insertions to be included with the bill;
- If internal processes are used, managing availability of paper and envelope volumes to meet the needs of the physical production process;
- If internal production facilities are used, managing the production runs to create the bills; and
- Quality management of the physical production and distribution processes.

Note that in the above processes for establishing arrangements with outsourced suppliers that the Supply Chain Capability Delivery processes are used as the vehicle for creating the commercial agreements.

Explanatory

Reserved for future use.

Mandatory

Reserved for future use.

Optional

Reserved for future use.

Interactions

Reserved for future use.

4.3.3.1 Level 4: Co-ordinate Billing Insertion (1.1.1.10.3.1) – Mapping Details

Process Identifier: 1.1.1.10.3.1

Process Context

This process element represents part of the overall enterprise, modelled in business process terms, and can be applied (i.e. “instantiated”) with other similar process elements for application within a specific organization or domain.

Level 3 PROCESS MAPPING DETAILS 1.1.1.10.3.1 - Co-ordinate Billing Insertion
<p>Brief Description</p> <p>Co-ordinate with promotional processes for any billing insertions to be included with the bill.</p>
<p>Extended Description</p> <p>The purpose of Co-ordinate Billing Insertion process is to co-ordinate with promotional processes for any billing insertions to be included with the bill. 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. This process can base customer feedbacks on the insertion to adjust or remove the insertion.</p>
<p>Explanatory</p> <p>The purpose of Co-ordinate Billing Insertion process is to co-ordinate with promotional processes for any billing insertions to be included with the bill.</p>
<p>Mandatory</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. AM</p> <p><i>This process can be modeled using ZSmart BFM BPM, the content of insertion will be audited by related participants.</i></p> <p>([ZSMART UM BFM], 2.4 BPMN Designer)</p> <p>([ZSMART FS BPM], 7.1 Workflow Engine)</p>

([\[ZSMART_FS_BPM\]](#), 7.2 Generating Work Order)

Optional

This process can base customer feedbacks on the insertion to adjust or remove the insertion.

Interactions

Not used for this process element.

4.3.3.2 Level 4: Establish & Manage Bill Production Cycle (1.1.1.10.3.2) – Mapping Details

Process Identifier: 1.1.1.10.3.2

Process Context

This process element represents part of the overall enterprise, modelled in business process terms, and can be applied (i.e. “instantiated”) with other similar process elements for application within a specific organization or domain.

Level 3 PROCESS MAPPING DETAILS 1.1.1.10.3.2 – Establish & Manage Bill Production Cycle
<p>Brief Description</p> <p>Establish and manage the physical bill production cycle.</p>
<p>Extended Description</p> <p>The purpose of Establish & Manage Bill Production Cycle process is to establish and manage the physical bill production cycle. 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.</p>
<p>Explanatory</p> <p>The purpose of Establish & Manage Bill Production Cycle process is to establish and manage the physical bill production cycle.</p>
<p>Mandatory</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. AM</p> <p><i>For post-paid account, the bill should be paid before due date, if the bill didn't be paid, overdue fee will be charged when customer pay the bill after due date. So for a customer who have a post-paid account or a customer with promising bill delivery date, the bill should be made delivery before the specified date.</i></p>

([\[ZSMART_SFL_INV\]](#), 1.4 Process Flow at Runtime)

This process takes production and distribution cycle timing into account when establishing bill production schedules. AM

([\[ZSMART_SFL_INV\]](#), 2.1 Billing-Day based Flow Control)

Optional

Not used for this process element.

Interactions

Not used for this process element.

4.3.3.3 Level 4: Deliver Invoice Information (1.1.1.10.3.3) – Mapping Details

Process Identifier: 1.1.1.10.3.3

Process Context

This process element represents part of the overall enterprise, modelled in business process terms, and can be applied (i.e. “instantiated”) with other similar process elements for application within a specific organization or domain.

Level 3 PROCESS MAPPING DETAILS 1.1.1.10.3.3 – Deliver Invoice Information
<p>Brief Description</p> <p>Deliver the invoice information to the physical production processes.</p>
<p>Extended Description</p> <p>The purpose of the Deliver Invoice Information process is to ensure that the invoice information can be delivered to invoice physical production process. The invoice information includes both billing information and insertion information. This process is also responsible for monitoring the status of information delivery channel and ensuring the channel availability.</p>
<p>Explanatory</p> <p>The invoice information includes both billing information and insertion information.</p>
<p>Mandatory</p> <p>The purpose of the Deliver Invoice Information process is to ensure that the invoice information can be delivered to invoice physical production process. This process is also responsible for monitoring the status of information delivery channel and ensuring the channel availability. AM</p> <p><i>In ZSmart Rating and Billing system, the electronic bill invoice will be uploaded to the server of invoice physical production process after the invoice has been generated. The application for uploading the electronic invoice also can monitor the link between the billing server and printing server. When the channel is unavailable, a warning signal will be triggered.</i></p> <p>([ZSMART_SFL_INV], 1.4 Process Flow at Runtime)</p>
<p>Optional</p> <p>Not used for this process element.</p>

Interactions

Not used for this process element.

4.3.3.4 Level 4: Administer Commercial Arrangement for Production and Distribution Capability (1.1.1.10.3.4) – Mapping Details

Process Identifier: 1.1.1.10.3.4

Process Context

This process element represents part of the overall enterprise, modelled in business process terms, and can be applied (i.e. “instantiated”) with other similar process elements for application within a specific organization or domain.

Level 3 PROCESS MAPPING DETAILS 1.1.1.10.3.4 – Administer Commercial Arrangement for Production and Distribution Capability
<p>Brief Description</p> <p>Establish the requirements for, and manage the agreed commercial arrangements with, appropriate outsourced suppliers of the production and distribution capabilities.</p>
<p>Extended Description</p> <p>The purpose of Administer Commercial Arrangement for Production and Distribution Capability process is to establish the requirements for, and manage the agreed commercial arrangements with, appropriate outsourced suppliers of the production and distribution capabilities. This process is responsible for output of the production and distribution requirements to outsourced supplier and amending the requirements based on the negotiation between Service Provider and outsourced supplier. This process is also responsible for drafting commercial contracts terms, including the responsibilities, payment condition, payment type, SLA, and signing the commercial contract with outsource supplier.</p>
<p>Explanatory</p> <p>Not used for this process element.</p>
<p>Mandatory</p> <p>The purpose of Administer Commercial Arrangement for Production and Distribution Capability process is to establish the requirements for, and manage the agreed commercial arrangements with, appropriate outsourced suppliers of the production and distribution capabilities. AM</p> <p><i>The requirements for the production and distribution capabilities should be modeled in the manner of Business Object. The requirements will be entered in designed web GUI. The workflow for administering can be modeled using ZSmart BPM.</i></p>

([\[ZSMART UM BFM\]](#), 2.1 Business Object)

([\[ZSMART UM BFM\]](#), 2.4 BPMN Designer)

This process is responsible for output of the production and distribution requirements to outsourced supplier and amending the requirements based on the negotiation between Service Provider and outsourced supplier. AM

The requirements for the production and distribution capabilities also can be amended if needed.

([\[ZSMART UM BFM\]](#), 2.1 Business Object)

([\[ZSMART UM BFM\]](#), 2.4 BPMN Designer)

This process is also responsible for drafting commercial contracts terms, including the responsibilities, payment condition, payment type, SLA, and signing the commercial contract with outsource supplier. AM

The drafting commercial contracts terms can be recorded in electronic document, or in Business Object Fields, the Business Object can be persisted in database eventually.

([\[SA DIAGRAMS\]](#), System Architecture Diagram)

Optional

Not used for this process element.

Interactions

Not used for this process element.

4.3.3.5 Level 4: Manage Paper and Envelope Availability (1.1.1.10.3.5) – Mapping Details

Process Identifier: 1.1.1.10.3.5

Process Context

This process element represents part of the overall enterprise, modelled in business process terms, and can be applied (i.e. “instantiated”) with other similar process elements for application within a specific organization or domain.

Level 3 PROCESS MAPPING DETAILS 1.1.1.10.3.4 – Manage Paper and Envelope Availability
<p>Brief Description</p> <p>Manage availability of paper and envelope volumes to meet the needs of the physical production process, if internal processes are used.</p>
<p>Extended Description</p> <p>The purpose of the Manage Paper and Envelope Availability process is to ensure the quantities of papers and envelopes are enough before starting invoice physical production. This process is responsible for ensuring the quality of paper and envelopes that fit the requirements from subsequent invoice physical production processes. For example the volume of envelope is suitable. If the requirements don't fit, this process is responsible for detecting the problems and reporting to other processes if required.</p>
<p>Explanatory</p> <p>Not used for this process element.</p>
<p>Mandatory</p> <p>The purpose of the Manage Paper and Envelope Availability process is to ensure the quantities of papers and envelopes are enough before starting invoice physical production. AM</p> <p><i>At the beginning of creating customer bill invoice flow, the quantities of accounts which need bill invoice will be counted. This process is responsible for ensuring the quantities of envelopes that fit the requirements from subsequent invoice physical production processes. The quantities of paper for all customer bill invoices will be counted after the electronic invoice has been generated, the paper will be reserved for physical bill invoices.</i></p> <p><i>There are two factors which will impact the quantities of papers and envelopes for bill invoices. The first factor is the template of bill invoices, and the second factor is the content data which is presented as the style of XML files or tables in RDBMS. So the content and the</i></p>

template of bill invoice should be ready before counting the quantities of papers and envelopes. The content data for bill invoice will be generated in BILL Generation process in ZSmart Solution and the content data will be presented as XML files.

([\[ZSMART_UM_BFM\]](#), 2.4 BPMN Designer)

([\[ZSMART_SFL_INV\]](#), 3.5 Bill Generation)

([\[ZSMART_SFL_INV\]](#), 3.6.1.2.2 Prepare for Printing)

This process is responsible for ensuring the quality of paper and envelopes that fit the requirements from subsequent invoice physical production processes. For example the volume of envelope is suitable. If the requirements don't fit, this process is responsible for detecting the problems and reporting to other processes if required. AM

In ZSmart Rating and Billing System, there is a corresponding bill invoice format for an account, the volume of envelope is depend on the quantities of bill invoice and the format of bill invoice. After bill invoice has been generated, the quantities of paper and envelope will be evident, and the volume of envelop is evident too.

([\[ZSMART_FS_BPM\]](#), 7.1 Workflow Engine)

([\[ZSMART_FS_BPM\]](#), 7.2 Generating Work Order)

Optional

Not used for this process element.

Interactions

Not used for this process element.

4.3.3.6 Level 4: Manage Production Run to Create Bill (1.1.1.10.3.6) – Mapping Details

Process Identifier: 1.1.1.10.3.6

Process Context

This process element represents part of the overall enterprise, modelled in business process terms, and can be applied (i.e. “instantiated”) with other similar process elements for application within a specific organization or domain.

Level 3 PROCESS MAPPING DETAILS 1.1.1.10.3.6 – Manage Production Run to Create Bill
<p>Brief Description</p> <p>Manage availability of paper and envelope volumes to meet the needs of the physical production process, if internal processes are used.</p>
<p>Extended Description</p> <p>The purpose of Manage Production Run to Create Bill process is to manage the production runs to create the bills, if internal production facilities are used. This process is responsible for producing the physical bill based on the invoice information and, if necessary, wrapping bills into envelopes. The process also is responsible for monitoring that the produced bills are ready to be distributed.</p>
<p>Explanatory</p> <p>Not used for this process element.</p>
<p>Mandatory</p> <p>The purpose of Manage Production Run to Create Bill process is to manage the production runs to create the bills, if internal production facilities are used. This process is responsible for producing the physical bill based on the invoice information and, if necessary, wrapping bills into envelopes.</p> <p>AM</p> <p><i>When the electronic bill invoice has been rendered and uploaded into the server of invoice physical production process, the process for producing the physical bill can be triggered automatically.</i></p> <p><i>Wrapping bills into envelopes will be done manually. This process can be controlled by ZSmart BPM, and work order can be generated and assigned.</i></p> <p><i>At the beginning of each billing cycle, several billing processes are instantiated, and each instance maps a flow chart, billing cycle. The flow chart defines the progress information of</i></p>

an instance, the relationship between instance and application, and running state of an instance.

([\[ZSMART_FDS_INV\]](#), 3.9 Bill Control)

([\[ZSMART_FS_BPM\]](#), 7.8 Time limit)

([\[ZSMART_FS_BPM\]](#), 7.2 Generating Work Order)

The process also is responsible for monitoring that the produced bills are ready to be distributed.

AM

If the batch of producing bill has been finished, the result will be reported, the physical bills are ready to be distributed.

([\[ZSMART_FDS_INV\]](#), 3.9 Bill Control)

Optional

Not used for this process element.

Interactions

Not used for this process element.

4.3.3.7 Level 4: Manage Physical Production & Distribution Quality (1.1.1.10.3.7) – Mapping Details

Process Identifier: 1.1.1.10.3.7

Process Context

This process element represents part of the overall enterprise, modelled in business process terms, and can be applied (i.e. “instantiated”) with other similar process elements for application within a specific organization or domain.

Level 3 PROCESS MAPPING DETAILS 1.1.1.10.3.6 – Manage Physical Production & Distribution Quality
<p>Brief Description</p> <p>Manage quality of the physical production and distribution processes, if internal production facilities are used.</p>
<p>Extended Description</p> <p>The purpose of Manage Physical Production & Distribution Quality process is to manage quality of the physical production and distribution processes, if internal production facilities are used.</p> <p>This process is responsible for monitoring the whole physical production and distribution running, check the quality and validity of production and observing the distribution time cycle.</p> <p>The quality and validity of production can include correct association of customer, bill and time period of bill, printing quality, format of the production.</p> <p>This process is responsible for ensuring that the contents of production, including billing parts and insertion parts, are satisfied by customers and the productions can be delivered to customers’ address on time and accurately.</p> <p>This process is also responsible for monitoring the efficiency of production process to ensure that the production process can timely produce a large number of productions to avoid distribution delay.</p>
<p>Explanatory</p> <p>Not used for this process element.</p>
<p>Mandatory</p> <p>The purpose of Manage Physical Production & Distribution Quality process is to manage quality of the physical production and distribution processes, if internal production facilities are used. AM</p>

When bills have been wrapped into envelope, destination of delivery and the quality of envelop and physical bill invoice will be checked manually. This step can be modeled using ZSmart BPM designer.

([\[ZSMART UM BFM\]](#), 2.4 BPMN Designer)

This process is responsible for monitoring the whole physical production and distribution running, check the quality and validity of production and observing the distribution time cycle. AM

In ZSmart Rating and Billing System, The distribution time cycle is dependent on the billing cycle type of the customer's account. The quality and validity of production will be inspected manually as a process in workflow modeled by ZSmart BPM.

([\[ZSMART SFL INV\]](#), 2.1 Billing-Day based Flow Control)

([\[ZSMART FDS INV\]](#), 3.9.2 Billing Process Monitor)

This process is responsible for ensuring that the contents of production, including billing parts and insertion parts, are satisfied by customers and the productions can be delivered to customers' address on time and accurately. AM

The satisfaction of customers will be surveyed by self-service web pages, customers can post their attitude for contents of production, including billing parts and insertion parts. If there are some mistakes, customers can call the call-center or make a complaint against the related content using self-service web pages.

This process is also responsible for monitoring the efficiency of production process to ensure that the production process can timely produce a large number of productions to avoid distribution delay. AM

In ZSmart Rating and Billing System, the status and efficiency of production process will be monitored to make sure the bill invoice to be delivered timely.

([\[ZSMART FDS INV\]](#), 3.9.2 Billing Process Monitor)

Optional

The quality and validity of production can include correct association of customer, bill and time period of bill, printing quality, format of the production.

Interactions

Not used for this process element.

4.3.3.8 Level 3: Produce & Distribute Bill (1.1.1.10.3) – TM Forum Assessor Scores

1.1.1.10.3 Produce & Distribute Bill - Scores	
Grouping of Implied Tasks	Score
Co-ordinate Billing Insertion (1.1.1.10.3.1)	100%
Establish & Manage Bill Production Cycle (1.1.1.10.3.2)	100%
Deliver Invoice Information (1.1.1.10.3.3)	100%
Administer Commercial Arrangement for Production and Distribution Capability (1.1.1.10.3.4)	100%
Manage Paper and Envelope Availability (1.1.1.10.3.5)	100%
Manage Production Run to Create Bill (1.1.1.10.3.6)	100%
Manage Physical Production & Distribution Quality (1.1.1.10.3.7)	100%
Total score for Parent Level 3 Process	100% / 5

4.3.4 Supporting Evidence References (Works Cited)

ZSMART_UM_RB	ZSmart User Manual - Rating and Billing Volume.doc, the user manual for rating and billing product.
ZSMART_SFL_AR	ZSmart System Function List-Account Receivable Volume.doc, the function list document for Rating and Billing System – Account Receivable Module.
BS_INVOICING	Business Scenario - Invoicing.doc, The business scenario of Invoicing.
ZSMART_UM_PM	ZSmart User Manual-Product Management Volume.doc, The user manual for ZSmart Product Management.
ZSMART_PD_CM	ZSmart Product Description - Customer Management.doc, The product description for customer management.
ZSMART_UM_AR	ZSmart User Manual-Account Receivable Volume.doc, the user manual for Rating and Billing System – Account Receivable Module.
ZSMART_IN_RT	Introduction to ZSmart Reports Tool_en_1.0.doc
ZSMART_FDS_INV	ZSmart Function Design Specification - Invoicing.doc
ZSMART_UM_BFM	ZSmart User Manual-Business Framework.doc, The user manual for ZSmart Business Framework.
ZSMART_FS_BPM	ZSmart Function Specification - Business Process Management.doc
ZSMART_UIP	ZSmart Unified Interface Platform.pptx, The illustration for ZSmart Unified Interface Platform.
ZSMART_SFL_INV	ZSmart System Function List - Invoicing.doc.
ZSMART_UM_BFM	ZSmart User Manual-Business Framework.doc, The user manual for ZSmart Business Framework.
SA_DIAGRAMS	System Architecture Diagram.pptx, System Architecture Diagram.

4.3.5 Level 2: Bill Invoice Management (1.1.1.10) - Conformance Scores

Level 2: 1.1.1.10 - Bill Invoice Management [3/3] - Scores	
Level 3 Scores	Score
<i>1.1.1.10.1 - Apply Pricing, Discounting, Adjustments & Rebates</i>	5
<i>1.1.1.10.2 - Create Customer Bill Invoice</i>	5
<i>1.1.1.10.3 - Produce & Distribute Bill</i>	5
Scope coverage for Parent Level 2 Process (For information only – this is not publicized as a Conformance Score)	[3/3]

4.4 L2: Bill Inquiry Handling (1.1.1.12)

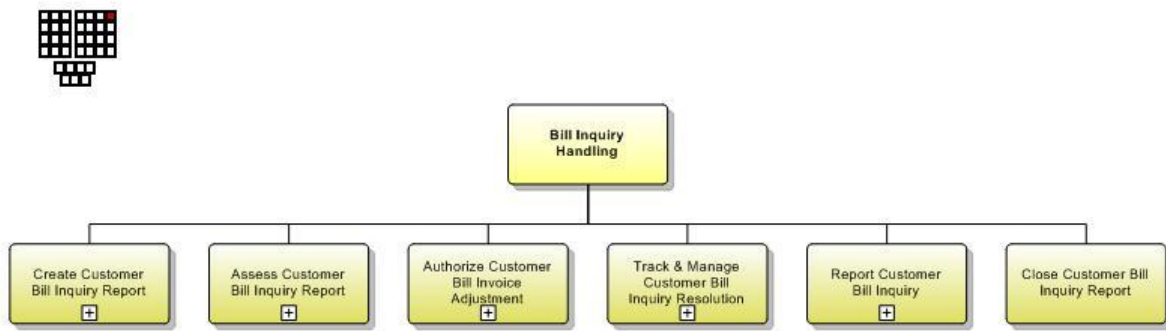


Figure 4.15 Bill Inquiry Handling decomposition into level 3 processes

Process Identifier: 1.1.1.12

Process Context

This process element represents part of the overall enterprise, modeled in business process terms, and can be applied (ie “instantiated”) with other similar process elements for application within a specific organization or domain.

Brief Description

Ensure the timely and effective fulfillment of all customer bill inquiries and complaints.

Extended Description

The purpose of Bill Inquiry Handling process is to ensure the timely and effective fulfillment of all customer bill inquiries and complaints. This process is responsible for managing customer interaction as it relates to a customer’s billing relationship to a Service Provider. This includes the creation of inquiries against the customer’s billing account(s), and management of changes to customer billing account structure and details, the managing of all customer bill inquiry lifecycle, reporting changes and updates and closing of customer bill inquiry when all activities were accomplished. This process can be viewed via traditional means, with a service representative managing the customer or via e-business means. In the latter case, inquiries, complaints and changes to details would be handled via electronic media without the intervention of a representative.

Explanatory

Reserved for future use.

Mandatory

Reserved for future use.

Optional

Reserved for future use.

Interactions

Reserved for future use.

4.4.1 Level 3: Create Customer Bill Inquiry Report (1.1.1.12.1)

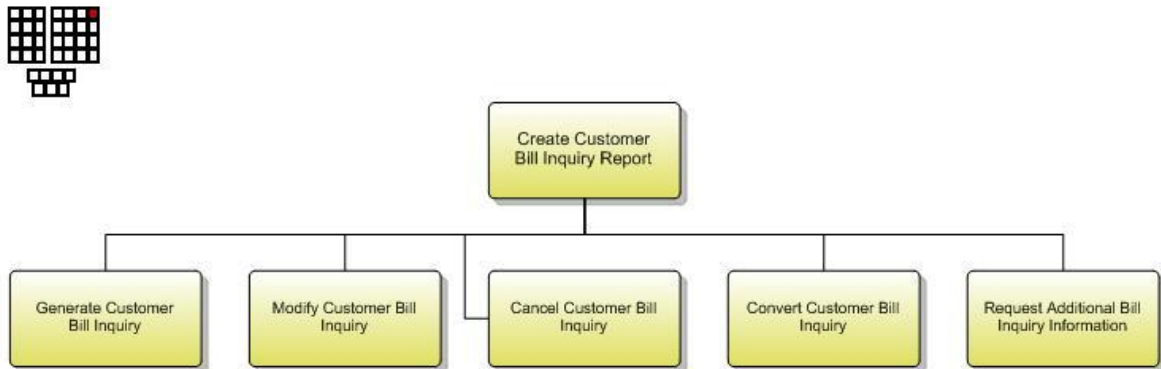


Figure 1. Create Customer Bill Inquiry Report decomposition into level 4 processes

Process Identifier: 1.1.1.12.1

Process Context

This process element represents part of the overall enterprise, modeled in business process terms, and can be applied (ie “instantiated”) with other similar process elements for application within a specific organization or domain.

Brief Description

Create a new customer bill inquiry report.

Extended Description

The objective of the Create Customer Bill Inquiry Report process is to create a new customer bill inquiry report, modify existing customer bill inquiry reports, and request cancellation of existing customer bill inquiry reports.

A new customer bill inquiry report may be created as a result of specific customer initiated bill inquiry or complaint notifications.

If the customer bill inquiry report is created, the Create Customer Bill Inquiry Report processes are responsible for converting the received information into a form suitable for the Bill Inquiry Handling processes, and for requesting additional information if required.

Explanatory

Reserved for future use.

Mandatory

Reserved for future use.

Optional

Reserved for future use.

Interactions

Reserved for future use.

4.4.1.1 Level 4: Generate Customer Bill Inquiry (1.1.1.12.1.1) – Mapping Details

Process Identifier: 1.1.1.12.1.1

Process Context

This process element represents part of the overall enterprise, modelled in business process terms, and can be applied (i.e. “instantiated”) with other similar process elements for application within a specific organization or domain.

Level 3 PROCESS MAPPING DETAILS 1.1.1.12.1.1 - Generate Customer Bill Inquiry
<p>Brief Description</p> <p>Generate a new customer bill inquiry.</p>
<p>Extended Description</p> <p>The purpose of Generate Customer Bill Inquiry is to generate a new customer bill inquiry. A new customer bill inquiry may be generated as a result of specific customer initiated bill inquiry or complaint notifications.</p>
<p>Explanatory</p> <p>Not used for this process element.</p>
<p>Mandatory</p> <p>The purpose of Generate Customer Bill Inquiry is to generate a new customer bill inquiry. AM</p> <p><i>In ZSmart Solution, there are several channels for generating Customer Bill Inquiry, Call-Center, Self-Service, CSR, SR, etc. The workflow for dealing with Customer Bill Inquiry can be modeled by ZSmart BPM; the workflow can be triggered by customer request or a complaint notification from ZSmart Trouble Ticket.</i></p> <p>([BS BIH], Business Scenario – Bill Inquiry Handling, Process WF_BIH_007)</p> <p>([ZSMART SRS CP], 2.5.4.2 Generate Bill Inquiry)</p> <p>([ZSMART UM BFM], 2.4 BPMN Designer)</p> <p>([ZSMART FS BPM], 7.1 Workflow Engine)</p>

Optional

A new customer bill inquiry may be generated as a result of specific customer initiated bill inquiry or complaint notifications.

Interactions

Not used for this process element.

4.4.1.2 Level 4: Modify Customer Bill Inquiry (1.1.1.12.1.2) – Mapping Details

Process Identifier: 1.1.1.12.1.2

Process Context

This process element represents part of the overall enterprise, modelled in business process terms, and can be applied (i.e. “instantiated”) with other similar process elements for application within a specific organization or domain.

Level 3 PROCESS MAPPING DETAILS 1.1.1.12.1.2 – Modify Customer Bill Inquiry
<p>Brief Description</p> <p>Modify existing customer bill inquiries.</p>
<p>Extended Description</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/complains.</p>
<p>Explanatory</p> <p>Not used for this process element.</p>
<p>Mandatory</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/complains. AM</p> <p><i>The customer bill inquiries can be modified when it is changed by the customer, this process is also responsible for receiving the message from other processes to modify the existing customer bill inquiries.</i></p> <p>([BS BIH], Business Scenario – Bill Inquiry Handling, Process WF_BIH_003)</p> <p>([ZSMART SRS CP], 2.5.4.3 Modify Bill Inquiry)</p>
<p>Optional</p> <p>Not used for this process element.</p>

Interactions

Not used for this process element.

4.4.1.3 Level 4: Cancel Customer Bill Inquiry (1.1.1.12.1.3) – Mapping Details

Process Identifier: 1.1.1.12.1.3

Process Context

This process element represents part of the overall enterprise, modelled in business process terms, and can be applied (i.e. “instantiated”) with other similar process elements for application within a specific organization or domain.

Level 3 PROCESS MAPPING DETAILS 1.1.1.12.1.3 – Cancel Customer Bill Inquiry
<p>Brief Description</p> <p>Request cancellation of existing customer bill inquiry reports.</p> <p>Extended Description</p> <p>The purpose of Cancel Customer Bill Inquiry process is to cancel existing customer bill inquiries. The cancellation may be caused by the cancellation requests of bill inquiry from the specific customers, a CSR or processes.</p> <p>Explanatory</p> <p>Not used for this process element.</p> <p>Mandatory</p> <p>The purpose of Cancel Customer Bill Inquiry process is to cancel existing customer bill inquiries. AM</p> <p><i>Customers would initiate the cancelation of customer bill inquiry if necessary at any step of workflow. The action of cancelation of customer bill inquiry can be executed by related staffs, and the reason for the cancelation may be recorded.</i></p> <p>([BS BIH], Business Scenario – Bill Inquiry Handling, Process WF_BIH_002)</p> <p>([ZSMART SRS CP], 2.5.4.4 Cancel Bill Inquiry)</p> <p>Optional</p> <p>The cancellation may be caused by the cancellation requests of bill inquiry from the specific customers, a CSR or processes.</p> <p>Interactions</p> <p>Not used for this process element.</p>

4.4.1.4 Level 4: Convert Customer Bill Inquiry (1.1.1.12.1.4) – Mapping Details

Process Identifier: 1.1.1.12.1.4

Process Context

This process element represents part of the overall enterprise, modelled in business process terms, and can be applied (i.e. “instantiated”) with other similar process elements for application within a specific organization or domain.

Level 3 PROCESS MAPPING DETAILS 1.1.1.12.1.4 – Convert Customer Bill Inquiry
<p>Brief Description</p> <p>Convert the received information into a form suitable for the Bill Inquiry Handling processes.</p> <p>Extended Description</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.</p> <p>Explanatory</p> <p>Not used for this process element.</p> <p>Mandatory</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</p> <p><i>In ZSmart Solution, we use the application called Unified Interface Platform (UIP) to format the input or output. The UIP parses the messages to BOs (Business Objects) and transfers at EAI bus. And it also gets BOs from EAI bus and pack response messages.</i></p> <p><i>After converting, The corresponding inner service will be invoked, and the requirement of bill inquiry will be recorded.</i></p> <p>([ZSMART UM BFM], 2.4 BPMN Designer)</p> <p>([ZSMART FS BPM], 7.1 Workflow Engine)</p> <p>Optional</p> <p>Not used for this process element.</p> <p>Interactions</p> <p>Not used for this process element.</p>

4.4.1.5 Level 4: Request Additional Bill Inquiry Information (1.1.1.12.1.5) – Mapping Details

Process Identifier: 1.1.1.12.1.5

Process Context

This process element represents part of the overall enterprise, modelled in business process terms, and can be applied (i.e. “instantiated”) with other similar process elements for application within a specific organization or domain.

Level 3 PROCESS MAPPING DETAILS 1.1.1.12.1.5 – Request Additional Bill Inquiry Information
<p>Brief Description</p> <p>Request additional information for the Bill Inquiry Handling processes.</p>
<p>Extended Description</p> <p>The purpose of Request Additional Bill Inquiry Information process is to request additional information 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.</p>
<p>Explanatory</p> <p>Not used for this process element.</p>
<p>Mandatory</p> <p>The purpose of Request Additional Bill Inquiry Information process is to request additional information for the Bill Inquiry Handling processes. The additional information requiring can be happening at any time during Bill Inquiry Handling process. AM</p> <p><i>The additional information can be required during verifying or assess the customer bill inquiry. The request for the additional information will be created and dispatched by this process at any time during Bill Inquiry Handling, this scenario can be modeled by ZSmart BPM, and the request will be dispatched according to rule configuration.</i></p> <p>([ZSMART FS BPM], 7.1 Workflow Engine)</p> <p>([ZSMART FS BPM], 7.6 Workflow Design)</p> <p>This process is responsible for avoiding the duplication of the additional bill inquiry information</p>

request and ensuring the requested information hasn't already existed in customer bill inquiry. AM

If the requests have already been handled, system will link the requests to Bill Inquiry Information Object Business and record the requests. The new request for additional information will be validated to ensure the requested information hasn't already existed.

([\[ZSMART UM BFM\]](#), 2.1 Business Object)

Optional

Not used for this process element.

Interactions

Not used for this process element.

4.4.1.6 Level 3: Create Customer Bill Inquiry Report (1.1.1.12.1) – TM Forum Assessor Scores

1.1.1.12.1 Create Customer Bill Inquiry Report - Scores	
Grouping of Implied Tasks	Score
Generate Customer Bill Inquiry (1.1.1.12.1.1)	100%
Modify Customer Bill Inquiry (1.1.1.12.1.2)	100%
Cancel Customer Bill Inquiry (1.1.1.12.1.3)	100%
Convert Customer Bill Inquiry (1.1.1.12.1.4)	100%
Request Additional Bill Inquiry Information (1.1.1.12.1.5)	100%
Total score for Parent Level 3 Process	100% / 5

4.4.2 Level 3: Assess Customer Bill Inquiry Report (1.1.1.12.2)

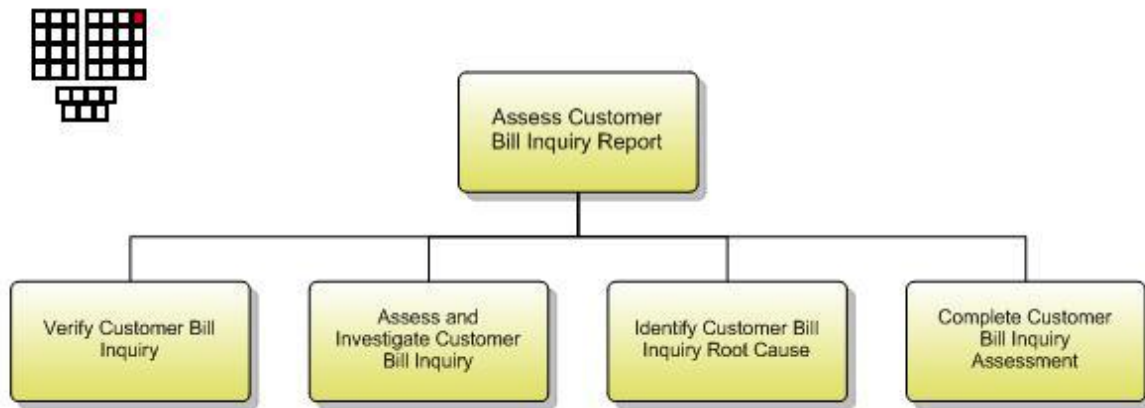


Figure 4.16 Assess Customer Bill Inquiry Report decomposition into level 4 processes

Process Identifier: 1.1.1.12.2

Process Context

This process element represents part of the overall enterprise, modeled in business process terms, and can be applied (ie “instantiated”) with other similar process elements for application within a specific organization or domain.

Brief Description

Assess the bill inquiry report to determine the nature of the inquiry, and to determine whether the inquiry has arisen due to circumstances originating in other process areas.

Extended Description

The purpose of the Assess Customer Bill Inquiry Report processes is to assess the bill inquiry report to determine the nature of the inquiry, and to determine whether the inquiry has arisen due to circumstances originating in other process areas.

The responsibilities of these processes include, but are not limited to:

- Verifying whether the information supplied by the customer is correct; and

- Performing assessment and investigation 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.

The Assess Customer Bill Inquiry Report processes will make the results of the investigation available to other processes. The Assess Customer Bill Inquiry Report processes will update the customer bill inquiry report, as required during the assessment, and when the root cause has been identified.

The Assess Customer Bill Inquiry Report processes will notify the Track & Manage Bill Inquiry Resolution processes when the investigation and assessment is complete.

Explanatory

Reserved for future use.

Mandatory

Reserved for future use.

Optional

Reserved for future use.

Interactions

Reserved for future use.

4.4.2.1 Level 4: Verify Customer Bill Inquiry (1.1.1.12.2.1) – Mapping Details

Process Identifier: 1.1.1.12.2.1

Process Context

This process element represents part of the overall enterprise, modelled in business process terms, and can be applied (i.e. “instantiated”) with other similar process elements for application within a specific organization or domain.

Level 3 PROCESS MAPPING DETAILS 1.1.1.12.2.1 - Verify Customer Bill Inquiry
<p>Brief Description</p> <p>Verify whether the information supplied by the customer is correct.</p> <p>Extended Description</p> <p>The purpose of Verify Customer Bill Inquiry process is to verify whether the information supplied by the customer is correct. For examples: verify customer name, validate customer account number, identify the association of customer and billing account.</p> <p>Explanatory</p> <p>For examples: verify customer name, validate customer account number, identify the association of customer and billing account.</p> <p>Mandatory</p> <p>The purpose of Verify Customer Bill Inquiry process is to verify whether the information supplied by the customer is correct. AM</p> <p><i>In ZSmart Solution, customer can provide the MSISDN, the Account Number and the Customer ID for identifying the association of customer and billing account.</i></p> <p>([BS BIH], Business Scenario – Bill Inquiry Handling, Process WF_BIH_005, WF_BIH_006)</p> <p>([ZSMART UM CM], 1.2 Subscriber Advanced Management)</p> <p>([ZSMART UM CM], 1.3 Customer Unified View Query)</p> <p>([ZSMART PD CM], 3.2.3 Subscriber Profile Management)</p> <p>Optional</p> <p>Not used for this process element.</p> <p>Interactions</p> <p>Not used for this process element.</p>

4.4.2.2 Level 4: Assess and Investigate Customer Bill Inquiry (1.1.1.12.2.2) – Mapping Details

Process Identifier: 1.1.1.12.2.2

Process Context

This process element represents part of the overall enterprise, modelled in business process terms, and can be applied (i.e. “instantiated”) with other similar process elements for application within a specific organization or domain.

Level 3 PROCESS MAPPING DETAILS 1.1.1.12.2.2 – Assess and Investigate Customer Bill Inquiry
<p>Brief Description</p> <p>Assess and investigate customer bill inquiry based on the customer provided information.</p>
<p>Extended Description</p> <p>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. Make the results of the investigation available to other processes.</p>
<p>Explanatory</p> <p>Not used for this process element.</p>
<p>Mandatory</p> <p>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. AM</p> <p><i>The history consumption of customer can be reported by Customer Consume View, the bill inquiry will be linked to underlying services, or other processes. The root cause should be identified by Identify Customer Bill Inquiry Root Cause Process using the information provided by this process.</i></p> <p>([BS BIH], Business Scenario – Bill Inquiry Handling, Process WF_BIH_009)</p> <p>([ZSMART UM AR], 12 Customer Consume View)</p>

Optional

Not used for this process element.

Interactions

Make the results of the investigation available to other processes.

4.4.2.3 Level 4: Identify Customer Bill Inquiry Root Cause (1.1.1.12.2.3) – Mapping Details

Process Identifier: 1.1.1.12.2.3

Process Context

This process element represents part of the overall enterprise, modelled in business process terms, and can be applied (i.e. “instantiated”) with other similar process elements for application within a specific organization or domain.

Level 3 PROCESS MAPPING DETAILS 1.1.1.12.2.3 – Identify Customer Bill Inquiry Root Cause
<p>Brief Description</p> <p>Identify the root cause on customer bill inquiry.</p> <p>Extended Description</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.</p> <p>Explanatory</p> <p>Not used for this process element.</p> <p>Mandatory</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.</p> <p>AM</p> <p><i>According to information provided by previous process, the CDRs for underlying services will be found out. The related item will be audited by ZSmart Audit Management. If the root cause has been identified, the notification for the Bill Inquiry will be fired, Modify Customer Bill Inquiry Process will use the information to update the customer bill inquiry report.</i></p> <p>([ZSMART_UM_AR], 12 Customer Consume View)</p> <p>([ZSMART_UM_RB], 5 CDR Query)</p> <p>([ZSMART_UM_RB], 16 Audit Management)</p> <p>Optional</p> <p>Not used for this process element.</p>

Interactions

Not used for this process element.

4.4.2.4 Level 4: Complete Customer Bill Inquiry Assessment (1.1.1.12.2.4) – Mapping Details

Process Identifier: 1.1.1.12.2.4

Process Context

This process element represents part of the overall enterprise, modelled in business process terms, and can be applied (i.e. “instantiated”) with other similar process elements for application within a specific organization or domain.

Level 3 PROCESS MAPPING DETAILS 1.1.1.12.2.4 – Complete Customer Bill Inquiry Assessment
<p>Brief Description</p> <p>Complete the assessment when the investigation and assessment is complete.</p>
<p>Extended Description</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 & Manage Bill Inquiry Resolution processes about the completion.</p>
<p>Explanatory</p> <p>Not used for this process element.</p>
<p>Mandatory</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 & Manage Bill Inquiry Resolution processes about the completion. A</p> <p><i>Assisted by the ZSmart BFM Rule Engine and Business Object, other process can be notified automatically. When the investigation and assessment is complete, the corresponding notification will be fired by ZSmart Rule Engine, the related processes which receive the notification can also be configured.</i></p> <p>([ZSMART UM BFM], 2.1 Business Object)</p> <p>([ZSMART UM BFM], 2.2 Event Decision)</p> <p>([ZSMART UM BFM], 2.3 Rule Repository)</p>

Optional

Not used for this process element.

Interactions

Not used for this process element.

4.4.2.5 Level 3: Assess Customer Bill Inquiry Report (1.1.1.12.2) – TM Forum Assessor Scores

1.1.1.12.2 Assess Customer Bill Inquiry Report - Scores	
Grouping of Implied Tasks	Score
Verify Customer Bill Inquiry (1.1.1.12.2.1)	100%
Assess and Investigate Customer Bill Inquiry (1.1.1.12.2.2)	100%
Identify Customer Bill Inquiry Root Cause (1.1.1.12.2.3)	100%
Complete Customer Bill Inquiry Assessment (1.1.1.12.2.4)	100%
Total score for Parent Level 3 Process	100% / 5

4.4.3 Level 3: Authorize Customer Bill Invoice Adjustment (1.1.1.12.3)

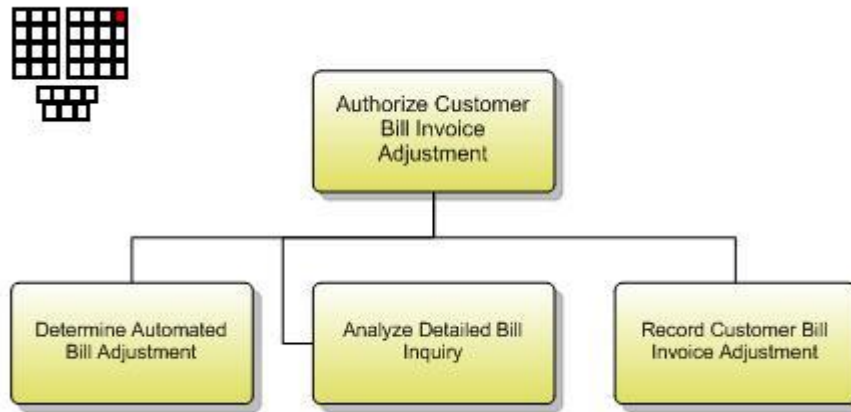


Figure 4.17 Authorize Customer Bill Invoice Adjustment decomposition into level 4 processes

Process Identifier: 1.1.1.12.3

Process Context

This process element represents part of the overall enterprise, modeled in business process terms, and can be applied (ie “instantiated”) with other similar process elements for application within a specific organization or domain.

Brief Description

Adjust the customer’s bill invoice based on detailed assessment and/or policy.

Extended Description

The purpose of the Authorize Customer Bill Invoice Adjustment processes is to adjust the customer’s bill invoice based on detailed assessment and/or policy.

The responsibilities of this process include, but are not limited to:

- Determination of whether policy allows for automated adjustment of the customer bill invoice, and approving any resultant adjustments;
- Undertaking more detailed analysis and investigation to determine whether a bill adjustment is acceptable, including gaining appropriate management authority to make the adjustment; and

- Recording the results of the adjustment if approved into the records relating to the customer's bill invoice.

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.

The resolution processes may require investigation of the billing processes themselves to determine whether the disputed bills are the result of quality errors within the Service Provider processes.

Explanatory

Reserved for future use.

Mandatory

Reserved for future use.

Optional

Reserved for future use.

Interactions

Reserved for future use.

4.4.3.1 Level 4: Determine Automated Bill Adjustment (1.1.1.12.3.1) – Mapping Details

Process Identifier: 1.1.1.12.3.1

Process Context

This process element represents part of the overall enterprise, modelled in business process terms, and can be applied (i.e. “instantiated”) with other similar process elements for application within a specific organization or domain.

Level 3 PROCESS MAPPING DETAILS 1.1.1.12.3.1 - Determine Automated Bill Adjustment
<p>Brief Description</p> <p>Determination of whether policy allows for automated adjustment of the customer bill invoice, and approving any resultant adjustments.</p>
<p>Extended Description</p> <p>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.</p>
<p>Explanatory</p> <p>Not used for this process element.</p>
<p>Mandatory</p> <p>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. AM</p> <p><i>In ZSmart Solution, The policy for bill adjustment can be configured which depend on the commercial requirements. The amount of adjustment bill under a certain level will be authorized automatically; the amount of adjustment bill above a certain level will be authorized manually.</i></p> <p>([ZSMART UM BFM], 2.2 Event Decision)</p> <p>([BS BIH], Business Scenario – Bill Inquiry Handling, Process WF_BIH_017)</p> <p>When the authorization is approved, this process is responsible for notifying the relevant process to apply the adjustment. A</p>

If the authorization is approved, the request of adjustment bill will be sent to the process which executes the adjustment. The request is in the style of inner services, and be invoked by ZSmart Framework.

([\[ZSMART UM AR\]](#), 3. Ledger Adjustment)

Optional

Not used for this process element.

Interactions

Not used for this process element.

4.4.3.2 Level 4: Analyze Detailed Bill Inquiry (1.1.1.12.3.2) – Mapping Details

Process Identifier: 1.1.1.12.3.2

Process Context

This process element represents part of the overall enterprise, modelled in business process terms, and can be applied (i.e. “instantiated”) with other similar process elements for application within a specific organization or domain.

Level 3 PROCESS MAPPING DETAILS 1.1.1.12.3.2 – Analyze Detailed Bill Inquiry
<p>Brief Description</p> <p>Analyze and investigate to determine whether a bill adjustment is acceptable.</p>
<p>Extended Description</p> <p>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.</p> <p>The resolution processes may require investigation of the billing processes themselves to determine whether the disputed bills are the result of quality errors within the Service Provider processes.</p>
<p>Explanatory</p> <p>Not used for this process element.</p>
<p>Mandatory</p> <p>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. AM</p> <p><i>The more detail analysis and investigation on Bill Inquiry will be performed, including actual customer loss, customer important grade, then to determine whether a bill adjustment is acceptable, finally gain the appropriate management authority to make the bill adjustment.</i></p> <p>([ZSMART_UM_AR], 12 Customer Consume View)</p>

([ZSMART_UM_RB], 5 CDR Query)

([BS_BIH], Business Scenario – Bill Inquiry Handling, Process WF_BIH_010, WF_BIH_012)

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. AM

The adjustment policies can be configured by system implementer, for example, the amount of bill adjustment cannot exceed the amount of actual consumption for the related services, etc.

([ZSMART_UM_AR], 3 Ledger Adjustment)

Optional

The resolution processes may require investigation of the billing processes themselves to determine whether the disputed bills are the result of quality errors within the Service Provider processes.

Interactions

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.

4.4.3.3 Level 4: Record Customer Bill Invoice Adjustment (1.1.1.12.3.3) – Mapping Details

Process Identifier: 1.1.1.12.3.3

Process Context

This process element represents part of the overall enterprise, modelled in business process terms, and can be applied (i.e. “instantiated”) with other similar process elements for application within a specific organization or domain.

Level 3 PROCESS MAPPING DETAILS 1.1.1.12.3.3 – Record Customer Bill Invoice Adjustment
<p>Brief Description</p> <p>Record the results of the adjustment if approved into the records relating to the customer’s bill invoice.</p>
<p>Extended Description</p> <p>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.</p>
<p>Explanatory</p> <p>Not used for this process element.</p>
<p>Mandatory</p> <p>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. AM</p> <p><i>In ZSmart Rating and Billing System, there are two kinds of adjustment for bill:</i></p> <ol style="list-style-type: none"> 1. <i>Ledger Adjustment before Invoicing</i> <i>The results of adjustment will be itemized in bill invoice which will be generated after the bill adjustment.</i> 2. <i>Ledger Adjustment after Invoicing</i> <i>The results of adjustment will not be itemized in bill invoice, because the bill invoice has been generated before bill adjustment.</i> <p><i>The results of adjustment would be recorded in current billing cycle by default. If the bill of previous billing cycle does not be paid, the results of adjustment can also be recorded in</i></p>

previous billing cycle, and the bill invoice can be re-generated.

([\[ZSMART UM AR\]](#), 3.1 Ledger Adjustment before Invoicing)

([\[ZSMART UM AR\]](#), 3.2 Ledger Adjustment after Invoicing)

([\[BS BIH\]](#), Business Scenario – Bill Inquiry Handling, Process WF_BIH_018)

This process is responsible for recording the entire adjustment events including adjustment operator, timestamp and detailed reason, for management purpose. AM

The related information about bill adjustment will be recorded by the bill adjustment process, the related information include the amount of adjustment, reference account item, adjustment operator, timestamp and detail reason.

([\[ZSMART UM AR\]](#), Table 3-1 Ledger Adjustment before Adjustment-Parameter Description)

Optional

Not used for this process element.

Interactions

Not used for this process element.

4.4.3.4 Level 3: Authorize Customer Bill Invoice Adjustment (1.1.1.12.3) – TM Forum Assessor Scores

1.1.1.12.3 Authorize Customer Bill Invoice Adjustment - Scores	
Grouping of Implied Tasks	Score
Determine Automated Bill Adjustment (1.1.1.12.3.1)	100%
Analyze Detailed Bill Inquiry (1.1.1.12.3.2)	100%
Record Customer Bill Invoice Adjustment (1.1.1.12.3.3)	100%
Total score for Parent Level 3 Process	100% / 5

4.4.4 Level 3: Track & Manage Customer Bill Inquiry Resolution (1.1.1.12.4)

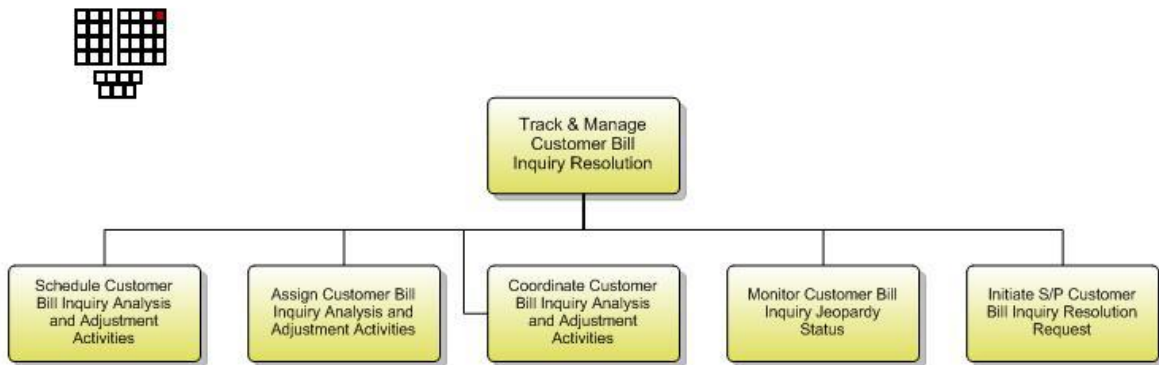


Figure 4.18 Track & Manage Customer Bill Inquiry Resolution decomposition into level 4 processes

Process Identifier: 1.1.1.12.4

Process Context

This process element represents part of the overall enterprise, modeled in business process terms, and can be applied (ie “instantiated”) with other similar process elements for application within a specific organization or domain.

Brief Description

Efficiently assign, coordinate and track specific customer bill inquiry analysis, bill adjustments and ensuring that appropriate credits and/or other agreed adjustments are made available to the adjustments processes activities, and escalate any open customer bill inquiries in jeopardy.

Extended Description

The objective of the Track & Manage Customer Bill Inquiry Resolution processes is to efficiently assign, coordinate and track specific customer bill inquiry analysis, bill adjustments and ensuring that appropriate credits and/or other agreed adjustments are made available to the adjustments processes activities, and escalate any open customer bill inquiries in jeopardy.

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

- Scheduling, assigning and coordinating analysis and specific customer bill inquiry/complaint adjustment activities;
- Modifying the customer bill inquiry/complaint status;

- Canceling a customer bill inquiry when the specific request was related to a false billing event; and

- Monitoring the jeopardy status of open customer bill inquiries, and escalating customer bill inquiries as necessary.

Note that some specific product and/or service components may be owned and managed by suppliers/partners. In these cases the Track & Manage Customer Bill Inquiry Resolution process is responsible for initiating requests, through - S/P Settlements & Payments Management for resolution by the supplier/partner of the specific bill inquiries/complaints.

These processes will co-ordinate all the actions necessary in order to guarantee that all tasks are finished at the appropriate time and in the appropriate sequence.

The Track & Manage Bill Inquiry Resolution processes will also inform the Close Customer Bill Inquiry processes by modifying the customer bill inquiry status to cleared when the specific customer bill inquiry/complaint issues have been resolved.

Explanatory

Reserved for future use.

Mandatory

Reserved for future use.

Optional

Reserved for future use.

Interactions

Reserved for future use.

4.4.4.1 Level 4: Schedule Customer Bill Inquiry Analysis and Adjustment Activities (1.1.1.12.4.1) – Mapping Details

Process Identifier: 1.1.1.12.4.1

Process Context

This process element represents part of the overall enterprise, modelled in business process terms, and can be applied (i.e. “instantiated”) with other similar process elements for application within a specific organization or domain.

Level 3 PROCESS MAPPING DETAILS
1.1.1.12.4.1 - Schedule Customer Bill Inquiry Analysis and Adjustment Activities
<p>Brief Description</p> <p>Schedule analysis and specific customer bill inquiry/complaint adjustment activities.</p>
<p>Extended Description</p> <p>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.</p>
<p>Explanatory</p> <p>Not used for this process element.</p>
<p>Mandatory</p> <p>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.</p> <p>AM</p> <p><i>The analysis and adjustment activities can be modeled by ZSmart BPM. The workflow designed by system implementer is responsible for planning the analysis and adjustment activities in specific order and allotted time. The ZSmart Workflow Engine can automatically search for later Activity according to the workflow template. The activity can be executed automatically or manually, it's dependent on commercial requirements. The system changes the status of inquiry report after the work completed and assign to another staff with certain position to continue the process.</i></p>

[\[ZSMART_FS_BPM\]](#), 7.1 Workflow Engine)

[\[ZSMART_FS_BPM\]](#), 7.1 Workflow Design)

[\[ZSMART_SRS_CP\]](#), 2.5.4.1 Workflow & Status)

Optional

Not used for this process element.

Interactions

Not used for this process element.

4.4.4.2 Level 4: Assign Customer Bill Inquiry Analysis and Adjustment Activities (1.1.1.12.4.2) – Mapping Details

Process Identifier: 1.1.1.12.4.2

Process Context

This process element represents part of the overall enterprise, modelled in business process terms, and can be applied (i.e. “instantiated”) with other similar process elements for application within a specific organization or domain.

Level 3 PROCESS MAPPING DETAILS
1.1.1.12.4.2 – Assign Customer Bill Inquiry Analysis and Adjustment Activities
<p>Brief Description</p> <p>Assign analysis and specific customer bill inquiry/complaint adjustment activities.</p>
<p>Extended Description</p> <p>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.</p>
<p>Explanatory</p> <p>Not used for this process element.</p>
<p>Mandatory</p> <p>The purpose of Assign Customer Bill Inquiry Analysis and Adjustment Activities process is to assign analysis and specific customer bill inquiry/complaint adjustment activities. AM</p> <p><i>Assigning the analysis and adjustment can be performed manually or automatically, it's also dependent on the commercial requirements of service provider. The ZSmart Rule Engine is responsible for assigning the analysis and adjustment automatically using the rules configured by system implementer.</i></p> <p>([SA DIAGRAMS], Page 2 Business Entities and Rule Engine Relationship)</p> <p>([ZSMART UM BFM], 2.1 Business Object)</p> <p>d([ZSMART UM BFM], 2.2 Event Decision)</p> <p>([ZSMART UM BFM], 2.3 Rule Repository)</p>

This process is responsible for decomposing an activity to subsequent tasks and appointing other processes to accomplish them. AM

If sub-workflow is needed, it can also be designed in the workflow; other processes which are needed for accomplishing the task can be appointed. It's controlled by the configuration of workflow and rule.

([\[ZSMART FS BPM\]](#), 7.1 Workflow Engine)

Optional

Not used for this process element.

Interactions

Not used for this process element.

4.4.4.3 Level 4: Coordinate Customer Bill Inquiry Analysis and Adjustment Activities
 (1.1.1.12.4.3) – Mapping Details

Process Identifier: 1.1.1.12.4.3

Process Context

This process element represents part of the overall enterprise, modelled in business process terms, and can be applied (i.e. “instantiated”) with other similar process elements for application within a specific organization or domain.

Level 3 PROCESS MAPPING DETAILS 1.1.1.12.4.3 – Coordinate Customer Bill Inquiry Analysis and Adjustment Activities
<p>Brief Description</p> <p>Coordinate analysis and specific customer bill inquiry/complaint adjustment activities.</p>
<p>Extended Description</p> <p>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 sequence.</p>
<p>Explanatory</p> <p>Not used for this process element.</p>
<p>Mandatory</p> <p>The purpose of Coordinate Customer Bill Inquiry Analysis and Adjustment Activities process is to coordinate analysis and specific customer bill inquiry/complaint adjustment activities. AM</p> <p><i>The ZSmart Workflow Engine is responsible for coordinating all the actions necessary in order to guarantee that all tasks are finished at the appropriate time and in the appropriate sequence.</i></p> <p>([ZSMART FS BPM], 7.6 Workflow Engine)</p> <p>([ZSMART UM BFM], 2.2 Event Decision)</p> <p>([ZSMART UM BFM], 2.3 Rule Repository)</p> <p>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</p>

order to guarantee that all tasks are finished at the appropriate time and in the appropriate sequence. AM

The analysis and adjustment activities can be modeled by ZSmart BPM. The workflow designed by system implementer is responsible for planning the analysis and adjustment activities in specific order and allotted time.

([\[ZSMART FS BPM\]](#), 7.6 Workflow Design)

([\[ZSMART SRS CP\]](#), 2.5.4.1 Workflow & Status)

Optional

Not used for this process element.

Interactions

Manages conversion between external and internal formats.

4.4.4.4 Level 4: Monitor Customer Bill Inquiry Jeopardy Status (1.1.1.12.4.4) – Mapping Details

Process Identifier: 1.1.1.12.4.4

Process Context

This process element represents part of the overall enterprise, modelled in business process terms, and can be applied (i.e. “instantiated”) with other similar process elements for application within a specific organization or domain.

Level 3 PROCESS MAPPING DETAILS 1.1.1.12.4.4 – Monitor Customer Bill Inquiry Jeopardy Status
<p>Brief Description</p> <p>Monitor the jeopardy status of open customer bill inquiries.</p>
<p>Extended Description</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.</p>
<p>Explanatory</p> <p>Not used for this process element.</p>
<p>Mandatory</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. AM</p> <p><i>All the activities in the workflow will be monitored by Workflow Engine, if customer bill inquiry was not handled in time, overtime warning will be thrown by Workflow Engine, sub-workflow will be triggered, the other staffs will take over the activities automatically, it is dependent on the configuration of workflow.</i></p> <p>([ZSMART FS BFM],7.3 Workflow Monitor)</p> <p>([BS BIH], Business Scenario – Bill Inquiry Handling, Process WF_BIH_023)</p>
<p>Optional</p>

Not used for this process element.

Interactions

Not used for this process element.

4.4.4.5 Level 4: Initiate S/P Customer Bill Inquiry Resolution Request (1.1.1.12.4.5) – Mapping Details

Process Identifier: 1.1.1.12.4.5

Process Context

This process element represents part of the overall enterprise, modelled in business process terms, and can be applied (i.e. “instantiated”) with other similar process elements for application within a specific organization or domain.

Level 3 PROCESS MAPPING DETAILS 1.1.1.12.4.5 – Initiate S/P Customer Bill Inquiry Resolution Request – Mapping Details
<p>Brief Description</p> <p>Initiate requests, through - S/P Settlements & Payments Management for resolution by the supplier/partner of the specific bill inquiries/complaints.</p>
<p>Extended Description</p> <p>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. In these cases, this process is responsible for initiating requests, through - S/P Settlements & Payments Management for resolution by the supplier/partner of the specific bill inquiries/complaints.</p>
<p>Explanatory</p> <p>Not used for this process element.</p>
<p>Mandatory</p> <p>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. AM</p> <p><i>In ZSmart Solution, the outer service can be called through ZSmart UIP. The message will be formatted according to the specification for the outer services.</i></p> <p>([ZSMART UIP], The illustration for ZSmart Unified Interface Platform)</p> <p>Some specific product and/or service components may be owned and managed by suppliers/partners. AM</p>

After the analysis for the customer bill inquiry, the owner of the service which involved in customer bill inquiry will be identified. If needed, the request will be initiated through Settlement & Payments Management for resolution by the supplier/partner of the specific bill inquiries/complaints.

([\[ZSMART FS BPM\]](#), 7.6 Workflow Design)

Optional

Not used for this process element.

Interactions

In these cases, this process is responsible for initiating requests, through - S/P Settlements & Payments Management for resolution by the supplier/partner of the specific bill inquiries/complaints.

4.4.4.6 Level 3: Track & Manage Customer Bill Inquiry Resolution (1.1.1.12.4) – TM Forum Assessor Scores

1.1.1.12.4 Track & Manage Customer Bill Inquiry Resolution - Scores	
Grouping of Implied Tasks	Score
Schedule Customer Bill Inquiry Analysis and Adjustment Activities (1.1.1.12.4.1)	100%
Assign Customer Bill Inquiry Analysis and Adjustment Activities (1.1.1.12.4.2)	100%
Coordinate Customer Bill Inquiry Analysis and Adjustment Activities (1.1.1.12.4.3)	100%
Monitor Customer Bill Inquiry Jeopardy Status (1.1.1.12.4.4)	100%
Initiate S/P Customer Bill Inquiry Resolution Request (1.1.1.12.4.5)	100%
Total score for Parent Level 3 Process	100% / 5

4.4.5 Level 3: Report Customer Bill Inquiry (1.1.1.12.5)

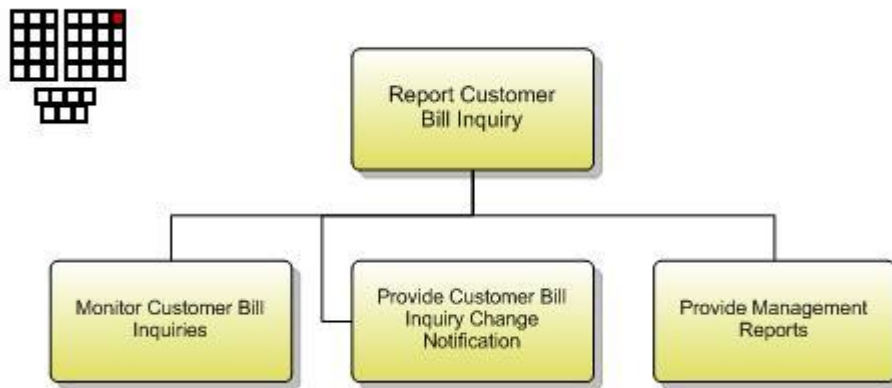


Figure 4.19 Report Customer Bill Inquiry decomposition into level 4 processes

Process Identifier: 1.1.1.12.5

Process Context

This process element represents part of the overall enterprise, modeled in business process terms, and can be applied (ie “instantiated”) with other similar process elements for application within a specific organization or domain.

Brief Description

Report on the customer’s bill inquiry.

Extended Description

The objective of the Report Customer Bill Inquiry processes is to monitor the status of customer bill inquiries, provide notifications of any changes and provide management reports.

These processes are responsible for continuously monitoring the status of customer bill inquiries and managing notifications to other processes and to other parties, including customers, registered to receive notifications of any status changes. Notification lists are managed and maintained by the Support Bill Inquiry Handling processes.

These processes record, analyze and assess 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. These specialized summaries could be specific reports required by specific audiences and/or customers.

These processes also report any identified constraints that can affect customer billing quality standards to other processes. These constraints may include specific resource (billing application and/or database, for example) failures, etc.

Explanatory

Reserved for future use.

Mandatory

Reserved for future use.

Optional

Reserved for future use.

Interactions

Reserved for future use.

4.4.5.1 Level 4: Monitor Customer Bill Inquiries (1.1.1.12.5.1) – Mapping Details

Process Identifier: 1.1.1.12.5.1

Process Context

This process element represents part of the overall enterprise, modelled in business process terms, and can be applied (i.e. “instantiated”) with other similar process elements for application within a specific organization or domain.

Level 3 PROCESS MAPPING DETAILS 1.1.1.12.5.1 - Monitor Customer Bill Inquiries
<p>Brief Description</p> <p>Monitor the status of customer bill inquiries continuously.</p>
<p>Extended Description</p> <p>The purpose of Monitor Customer Bill Inquiries process is to continuously monitor the status of all customer bill inquiries. The monitoring starts when a customer bill inquiry is created until it is cancelled or closed. The process is responsible for logging all the status changes on customer bill inquiries including creation, modification, cancellation and etc.</p>
<p>Explanatory</p> <p>The monitoring starts when a customer bill inquiry is created until it is cancelled or closed.</p>
<p>Mandatory</p> <p>The purpose of Monitor Customer Bill Inquiries process is to continuously monitor the status of all customer bill inquiries. AM</p> <p><i>In ZSmart Solution, The requirements for the customer bill inquiry would be modeled in the manner of Business Objects (BOs). The Business Objects are monitored by ZSmart BFM Framework.</i></p> <p>(ISA DIAGRAMS), System Architecture Diagram)</p> <p>(ZSMART UM BFM), 2.1 Business Object Management)</p> <p>The process is responsible for logging all the status changes on customer bill inquiries including creation, modification, cancellation and etc. AM</p> <p><i>The change for Business Object would be captured by ZSmart BFM Framework including creation, modification and cancellation for the customer bill inquiry. The information about</i></p>

the customer bill inquiry including the operator, timestamp and the channel will be recorded.

([\[SA DIAGRAMS\]](#), System Architecture Diagram)

([\[ZSMART_UM_BFM\]](#), 2.2 Event Decision)

([\[BS_BIH\]](#), Business Scenario – Bill Inquiry Handling, Process WF_BIH_020)

Optional

Not used for this process element.

Interactions

Not used for this process element.

4.4.5.2 Level 4: Provide Customer Bill Inquiry Change Notification (1.1.1.12.5.2) – Mapping Details

Process Identifier: 1.1.1.12.5.2

Process Context

This process element represents part of the overall enterprise, modelled in business process terms, and can be applied (i.e. “instantiated”) with other similar process elements for application within a specific organization or domain.

Level 3 PROCESS MAPPING DETAILS 1.1.1.12.5.2 – Provide Customer Bill Inquiry Change Notification
<p>Brief Description</p> <p>Manage notifications to other processes and to other parties.</p>
<p>Extended Description</p> <p>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. Notification lists are managed and maintained by the Support Bill Inquiry Handling processes.</p>
<p>Explanatory</p> <p>Not used for this process element.</p>
<p>Mandatory</p> <p>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. AM</p> <p><i>In ZSmart Solution, the business requirements are modeled in the manner of Business Objects (BOs), the Business Objects are monitored by ZSmart BFM Framework. The changing of Business Object will trigger notification for the corresponding BO; the information of notification includes previous status of the BO. The listener for the notification can be configured statically or dynamically.</i></p> <p>(ISA DIAGRAMS), System Architecture Diagram)</p> <p>(ZSMART UM BFM), 2.1 Business Object Management)</p>

Optional

Not used for this process element.

Interactions

Notification lists are managed and maintained by the Support Bill Inquiry Handling processes.

4.4.5.3 Level 4: Provide Management Reports (1.1.1.12.5.3) – Mapping Details

Process Identifier: 1.1.1.12.5.3

Process Context

This process element represents part of the overall enterprise, modelled in business process terms, and can be applied (i.e. “instantiated”) with other similar process elements for application within a specific organization or domain.

Level 3 PROCESS MAPPING DETAILS 1.1.1.12.5.3 – Provide Management Reports
<p>Brief Description</p> <p>Provide management reports and any specialized summaries of the efficiency and effectiveness of the overall Bill Inquiry Handling processes.</p> <p>Extended Description</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. These specialized summaries could be specific reports required by specific audiences and/or customers.</p> <p>This process also reports any identified constraints that can affect customer billing quality standards to other processes. These constraints may include specific resource (billing application and/or database, for example) failures, etc.</p> <p>Explanatory</p> <p>These specialized summaries could be specific reports required by specific audiences and/or customers.</p> <p>Mandatory</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. AM</p>

The analysis over all customer bill inquiry is performed by ZSmart BA which focuses on developing new insights and understanding of business performance based on data and statistical methods. The summaries of the efficiency and effectiveness of the overall Bill Inquiry Handling processes will be judged recording to the result of reports.

In these activities, some of the works are processed automatically like recording the inquiry reports, modifying the status, querying the inquiry reports, etc. The analysis and assessment for management reports are carried out manually.

([\[ZSMART BA REP\]](#), Page 2 & 4)

([\[ZSMART REP\]](#), 6 Account)

Optional

These constraints may include specific resource (billing application and/or database, for example) failures, etc.

Interactions

Not used for this process element.

4.4.5.4 Level 3: Report Customer Bill Inquiry (1.1.1.12.5) – TM Forum Assessor Scores

1.1.1.12.5 Report Customer Bill Inquiry (1.1.1.12.5) - Scores	
Grouping of Implied Tasks	Score
Monitor Customer Bill Inquiries (1.1.1.12.5.1)	100%
Provide Customer Bill Inquiry Change Notification (1.1.1.12.5.2)	100%
Provide Management Reports (1.1.1.12.5.3)	100%
Total score for Parent Level 3 Process	100% / 5

4.4.6 Level 3: Close Customer Bill Inquiry Report (1.1.1.12.6)

Process Identifier: 1.1.1.12.6

Process Context

This process element represents part of the overall enterprise, modeled in business process terms, and can be applied (ie “instantiated”) with other similar process elements for application within a specific organization or domain.

4.4.6.1 Level 3: Close Customer Bill Inquiry Report (1.1.1.12.6) – Mapping Details

Level 3 PROCESS MAPPING DETAILS 1.1.1.12.6 Close Customer Bill Inquiry Report
<p>Brief Description</p> <p>Close a customer bill inquiry report when the bill inquiry/complaint has been resolved.</p> <p>Extended description</p> <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. AM</p> <p><i>The customer bill inquiry can be closed manually by using the web GUI.</i></p> <p>([ZSMART SRS CP], 2.5.4.4 Cancel Bill Inquiry)</p> <p><i>The customer bill inquiry can also be closed automatically. When all the sub-workflow for the customer bill inquiry was closed, the customer bill inquiry would be closed automatically. The policy for closing the customer bill inquiry can be configured through the rules for ZSmart Workflow Engine.</i></p> <p>([ZSMART FS BPM], 7.6 Workflow Design)</p> <p>([ZSMART UM BFM], 2.2 Event Decision)</p> <p>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><i>The policy for closing the customer bill inquiry can also be configured through the Business Objects, and the ZSmart Workflow Engine will monitor the state of Business Objects. The engine can recognize a customer bill inquiry is ready to be closed.</i></p> <p>([ZSMART UM BFM], 2.1 Business Object Management)</p>

4.4.6.2 Level 3: Close Customer Bill Inquiry Report (1.1.1.12.6) – TM Forum Assessor Scores

1.1.1.12.6 Close Customer Bill Inquiry Report - Scores	
Grouping of Implied Tasks	Score
<i>No decomposition to Level 4 processes – score awarded for the Level 3 process in its entirety</i>	<i>100%</i>
Total score for Parent Level 3 Process	100% / 5

4.4.7 Supporting Evidence References (Works Cited)

ZSMART_SFL_AR	ZSmart System Function List-Account Receivable Volume.doc, the function list document for Rating and Billing System – Account Receivable Module.
ZSMART_UM_AR	ZSmart User Manual-Account Receivable Volume.doc, the user manual for Rating and Billing System – Account Receivable Module.
ZSMART_SRS_CP	ZSmart-SRS-44-CP-V0.41.docx, Product Specification Document for ZSmart Customer Profile.
ZSMART_UM_BFM	ZSmart User Manual - Business Framework.doc, The user manual for ZSmart Business Framework.
SA_DIAGRAMS	System Architecture Diagram.pptx, System Architecture Diagram.
ZSMART_FS_BPM	ZSmart Function Specification - Business Process Management.doc
BS_BIH	Business Scenario - Bill Inquiry Handling.doc, The business scenario of Bill Inquiry Handling.
ZSMART_PD_CM	ZSmart Product Description - Customer Management.docx, The product description for ZSmart Customer Management.
ZSMART_UM_CM	ZSmart User Manual - Customer Management Volume.doc, the manual for ZSmart Customer Management Volume.
ZSMART_UM_RB	ZSmart User Manual - Rating and Billing Volume.doc, the user manual for rating and billing product.
ZSMART_BA_REP	ZSmart Self Care -BA Report.pptx, Product specification document for ZSmart BA and BA Report.
ZSMART_REP	ZSmart Reports_en_1.1.doc
ZSMART_UIP	ZSmart Unified Interface Platform.pptx

4.4.8 Bill Inquiry Handling (1.1.1.12) – Process Conformance Results

1.1.1.12 Bill Inquiry Handling [6/6] - Scores	
Level 3 Scores	Score
<i>1.1.1.12.1 - Create Customer Bill Inquiry Report</i>	5
<i>1.1.1.12.2 - Assess Customer Bill Inquiry Report</i>	5
<i>1.1.1.12.3 - Authorize Customer Bill Invoice Adjustment</i>	5
<i>1.1.1.12.4 - Track & Manage Customer Bill Inquiry Resolution</i>	5
<i>1.1.1.12.5 - Report Customer Bill Inquiry</i>	5
<i>1.1.1.12.6 – Close Customer Bill Inquiry Report</i>	5
Scope coverage for Parent Level 2 Process (For information only – this is not publicized as a Conformance Score)	[6/6]

4.5 L2: Service Configuration & Activation (1.1.2.2)

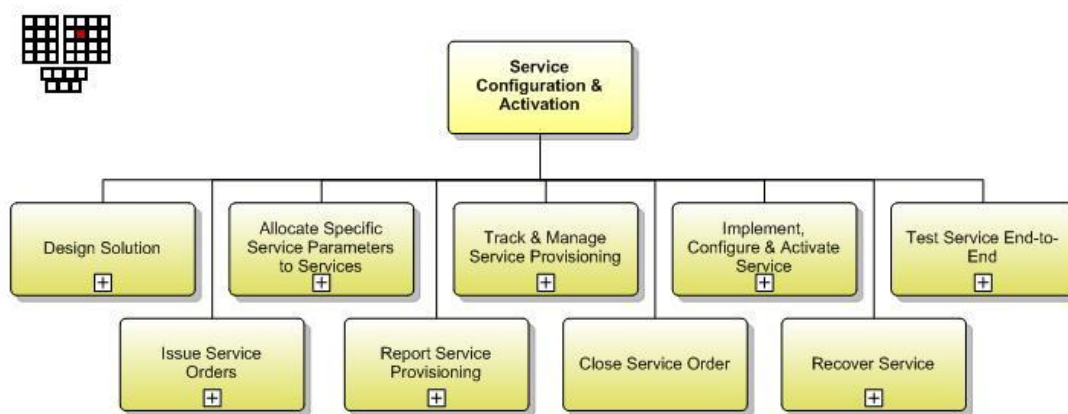


Figure 4.20 Service Configuration & Activation decomposition into level 3 processes

Process Identifier: 1.1.2.2

Process Context

This process element represents part of the overall enterprise, modeled in business process terms, and can be applied (ie “instantiated”) with other similar process elements for application within a specific organization or domain.

Brief Description

Allocation, implementation, configuration, activation and testing of specific services to meet customer requirements.

Extended Description

Service Configuration & Activation processes encompass allocation, implementation, configuration, activation and testing of specific services to meet customer requirements, or in response to requests from other processes to alleviate specific service capacity shortfalls, availability concerns or failure conditions. Where included in the service provider offering, these processes extend to cover customer premises equipment.

Responsibilities of the Service Configuration & Activation processes include, but are not limited to:

- Verifying whether specific service designs sought by customers are feasible as part of pre-order feasibility checks;
- Allocating the appropriate specific service parameters to support service orders or requests from other processes;
- Reserving specific service parameters (if required by the business rules) for a given period of time until the initiating customer order is confirmed, or until the reservation period expires (if applicable);
- Implementing, configuring and activating specific services, as appropriate;

- Testing the specific services to ensure the service is working correctly;
- Recovery of specific services;
- Updating of the Service Inventory Database to reflect that the specific service has been allocated, modified or recovered;
- Assigning and tracking service provisioning activities;
- Managing service provisioning jeopardy conditions; and
- Reporting progress on service orders to other processes.

Explanatory

Reserved for future use.

Mandatory

Reserved for future use.

Optional

Reserved for future use.

Interactions

Reserved for future use

4.5.1 Level 3: Design Solution (1.1.2.2.1)

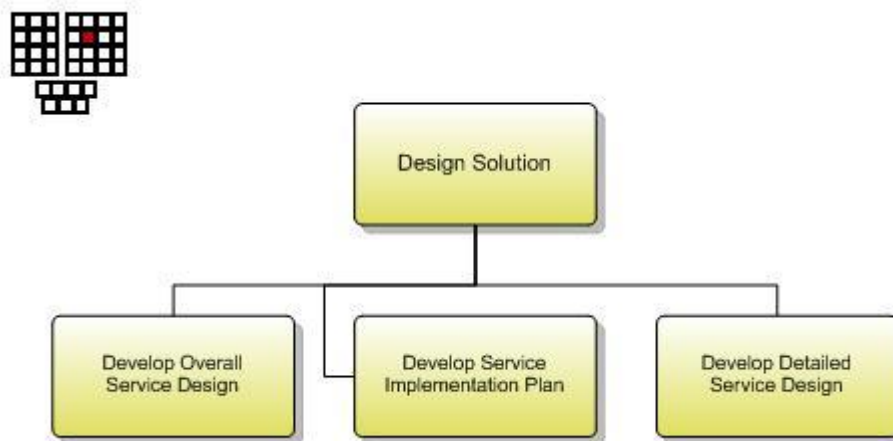


Figure 4.21 Design Solution decomposition into Level 4 processes

Process Identifier: 1.1.2.2.1

Process Context

This process element represents part of the overall enterprise, modeled in business process terms, and can be applied (ie “instantiated”) with other similar process elements for application within a specific organization or domain.

Brief Description

Develop an end-end specific service design which complies with a particular customer's requirement

Extended Description

The purpose of the Design Solution processes is to develop an end-end specific service design which complies with a particular customer's requirement.

These processes are invoked when a customer order requires special or unusual end-end service arrangements, which are not able to be satisfied using standard service arrangements. These processes may be invoked as part of a service feasibility assessment, or as a result of a confirmed customer order.

The responsibilities of these processes include, but are not limited to:

- Developing an overall service solution design for a particular customer, including customer premises equipment, operational methods, resource assignments and pre-order feasibility;
- Developing an implementation plan considering training and operational support measures and needs, such as the proper parameter information for the Service Quality Management process;
- Consideration of current and future service and underlying resources infrastructure, as well as expected solution results, budget, duration and risks;
- Consideration of the time schedule according with customer requirements;

- Ensure service and provisioning efficiency;
- Undertaking a business assessment, ensuring an appropriate time-to-revenue as a result of the service and underlying resource investment; and
- Developing a detailed design identifying the relevant service orders to be issued to the Implement,

Configure & Activate Service process and the Allocate Specific Service Parameters to Services processes.

A specific service design may require inclusion of some or all of the above aspects depending on whether the service design is being undertaken as part of a feasibility assessment, or is being developed as a result of a committed customer order.

These processes invoke requests to RM&O provisioning processes to determine the availability of suitable specific resources, or to suppliers /partners through the S/PRM process in the event that the service design requires either the inclusion of outsourced or partner provided specific services.

4.5.1.1 Level 4: Develop Overall Service Design (1.1.2.2.1.1) – Mapping Details

Process Identifier: 1.1.2.2.1.1

Process Context

This process element represents part of the overall enterprise, modeled in business process terms, and can be applied (ie “instantiated”) with other similar process elements for application within a specific organization or domain.

<p align="center">Level 4 PROCESS MAPPING DETAILS 1.1.2.2.1.1 - Develop Overall Service Design</p>
<p>Brief Description</p> <p>Brief Description</p> <p>Develop an overall service solution design for a particular customer, including customer premises equipment, operational methods, resource assignments and pre-order feasibility;</p> <p>Extended Description</p> <p>Not used for this process element</p> <p>Explanatory</p> <p>Not used for this process element</p> <p>Mandatory</p> <p style="background-color: #00ff00;">Develop an overall service solution design for a particular customer, including customer premises equipment, operational methods, resource assignments and pre-order feasibility; AM</p> <p>[OM PS], 2.3 Service Design</p> <p>Service Design automatically create flow instance for service order according to flow template of CFS, and automatically create following work order:</p> <ul style="list-style-type: none"> Resource assignment Provisioning Construction Service Testing <p>[IM PS], 2.5.1 Feasibility Check</p> <p>Check whether corresponding services can be provided according to standard addresses, and display</p>

access device that could provide specified service.

Optional

Not used for this process element

Interactions

Not used for this process element

4.5.1.2 Level 4: Develop Service Implementation Plan (1.1.2.2.1.2) – Mapping Details

Process Identifier: 1.1.2.2.1.2

Process Context

This process element represents part of the overall enterprise, modeled in business process terms, and can be applied (ie “instantiated”) with other similar process elements for application within a specific organization or domain.

Level 4 PROCESS MAPPING DETAILS 1.1.2.2.1.2 - Develop Service Implementation Plan
<p>Brief Description</p> <p>Develop an implementation plan considering training and operational support measures and needs, such as the proper parameter information for the Service Quality Management process;</p> <ul style="list-style-type: none"> · Consideration of current and future service and underlying resources infrastructure, as well as expected solution results, budget, duration and risks; · Consideration of the time schedule according with customer requirements; · Ensure service and provisioning efficiency; · Undertaking a business assessment, ensuring an appropriate time-to-revenue as a result of the service and underlying resource investment;
<p>Extended Description</p> <p>Not used for this process element</p>
<p>Explanatory</p> <p>Consideration of current and future service and underlying resources infrastructure, as well as expected solution results, budget, duration and risks;</p> <ul style="list-style-type: none"> · Consideration of the time schedule according with customer requirements; · Ensure service and provisioning efficiency; · Undertaking a business assessment, ensuring an appropriate time-to-revenue as a result of the service and underlying resource investment;
<p>Mandatory</p> <p style="background-color: #00FF00;">Develop an implementation plan considering training and operational support measures and needs, such as the proper parameter information for the Service Quality Management process; AM</p>

[\[OM_PS\]](#), 2.3 Service Design

Develop Service Implementation Plan:Service Design automatically create work order required complete time according to service order priority and CFS Specification.

[\[WF_PS\]](#), 2.3 Reservation Management

Manage construction ability of construction organization, According to the construction capacity to develop construction plans.

Optional

Not used for this process element

Interactions

Not used for this process element

4.5.1.3 Level 4: Develop Detailed Service Design (1.1.2.2.1.3) – Mapping Details

Process Identifier: 1.1.2.2.1.3

Process Context

This process element represents part of the overall enterprise, modeled in business process terms, and can be applied (ie “instantiated”) with other similar process elements for application within a specific organization or domain.

Level 4 PROCESS MAPPING DETAILS 1.1.2.2.1.3 - Develop Detailed Service Design
<p>Brief Description</p> <p>Develop a detailed design identifying the relevant service orders to be issued to the Implement, Configure & Activate Service process and the Allocate Specific Service Parameters to Services processes.</p>
<p>Extended Description</p> <p>Not used for this process element</p>
<p>Explanatory</p> <p>Not used for this process element</p>
<p>Mandatory</p> <p>Develop a detailed design identifying the relevant service orders to be issued to the Implement, Configure & Activate Service process and the Allocate Specific Service Parameters to Services processes. AM</p> <p>[IM_PS] 2.5.4 Resource Assignment</p> <p>Assign resources automatically or manually for service order.</p> <p>[IM_PS] 2.1.5 CFS Specification Management</p> <p>CFS Specification Management manage CFS Specification basic information, relationship between CFS specification and CFS specification, relationship between CFS specification and product specification. relationship between CFS specification and RFS specification.</p> <p>[OM_PS], 2.1.3 Service Flow Template</p> <p>Integrate workflow template management of BPM to defines the process template of CFS event specification, according to the process templates, order management generate work orders for</p>

service order.

[\[OM_PS\]](#), 2.2 Order Acceptance

the Order instance is generated according to corresponding Order Template and it will then be dispatched for execution to accomplish the required service provisioning

[\[OM_PS\]](#), 2.3 Service Design

Service Design is to automatically or manually select a service provisioning flow template to accomplish the Order. It will match the Product ordered with the suitable Customer Facing Service and then configure related Resource Facing Service according to Product Features.

Optional

Not used for this process element

Interactions

Not used for this process element

4.5.2 Level 3: Allocate Specific Service Parameters to Services (1.1.2.2.2)

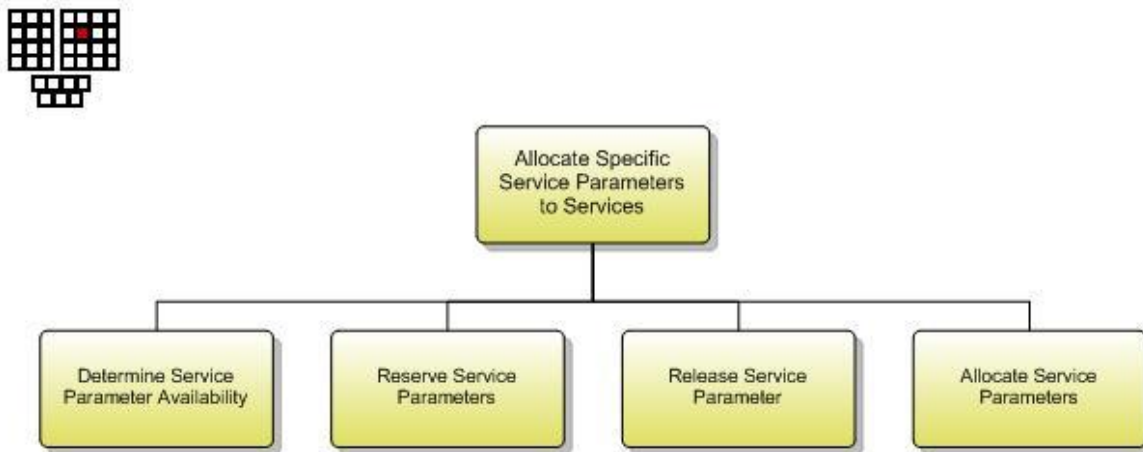


Figure 4.22 Allocate Specific Service Parameters to Services decomposition into Level 4 processes

Process Identifier: 1.1.2.2.2

Process Context

This process element represents part of the overall enterprise, modeled in business process terms, and can be applied (ie “instantiated”) with other similar process elements for application within a specific organization or domain.

Brief Description

Issue service identifiers for new services.

Extended Description

The purpose of the Allocate Specific Service Parameters to Services processes is to issue service identifiers for new services.

Where the Allocate Specific Service Parameters to Services processes are requested by a pre-feasibility service order, or by the Design Services processes, these processes determine whether the requested service parameters are available. Depending on business rules, and on any specific levels of commitment contained in the initiating service order or service design request, these processes may reserve specific service parameters linked to the initiating service order or service design request for a period of time, and releasing them when the time period has expired. These processes are responsible for creating a response to the initiating processes with respect to the feasibility assessment.

Where the Allocate Specific Service Parameters to Services processes are requested by a service order issued in response to a confirmed customer order, these processes are responsible for allocating the specific service parameters required to satisfy the initiating service order. Any previously reserved specific service parameters are marked as allocated.

4.5.2.1 Level 4: Determine Service Parameter Availability (1.1.2.2.2.1) – Mapping Details

Process Identifier: 1.1.2.2.2.1

Process Context

This process element represents part of the overall enterprise, modeled in business process terms, and can be applied (ie “instantiated”) with other similar process elements for application within a specific organization or domain.

Level 4 PROCESS MAPPING DETAILS 1.1.2.2.2.1 - Determine Service Parameter Availability
<p>Brief Description</p> <p>Where the Allocate Specific Service Parameters to Services processes are requested by a pre-feasibility service order, or by the Design Services processes, these processes determine whether the requested service parameters are available.</p> <p>Extended Description</p> <p>Not used for this process element</p> <p>Explanatory</p> <p>Where the Allocate Specific Service Parameters to Services processes are requested by a pre-feasibility service order, or by the Design Services processes,</p> <p>Mandatory</p> <p style="background-color: #00FF00;">these processes determine whether the requested service parameters are available. AM</p> <p>[IM_PS], 2.5.1 Feasibility Check</p> <p>Check whether corresponding services can be provided according to standard addresses.</p> <p>Input Postcode & House No. to check which kind of access device and service can be provided. Or Use GIS to locate installation place and display access devices nearby installation address.</p> <p>Optional</p> <p>Not used for this process element</p> <p>Interactions</p> <p>Not used for this process element</p>

4.5.2.2 Level 4: Reserve Service Parameters (1.1.2.2.2.2) – Mapping Details

Process Identifier: 1.1.2.2.2.2

Process Context

This process element represents part of the overall enterprise, modeled in business process terms, and can be applied (ie “instantiated”) with other similar process elements for application within a specific organization or domain.

<p align="center">Level 4 PROCESS MAPPING DETAILS 1.1.2.2.2.2 - Reserve Service Parameters</p>
<p>Brief Description</p> <p>Depending on business rules, and on any specific levels of commitment contained in the initiating service order or service design request, these processes may reserve specific service parameters linked to the initiating service order or service design request for a period of time</p>
<p>Extended Description</p> <p>Not used for this process element</p>
<p>Explanatory</p> <p>Depending on business rules, and on any specific levels of commitment contained in the initiating service order or service design request,</p>
<p>Mandatory</p> <p style="background-color: #00ff00;">these processes may reserve specific service parameters linked to the initiating service order or service design request for a period of time A</p> <p>[IM_PS], 2.5.2 Resource Reserve and Release</p> <p>After feasibility check, System automatically reserve resources for customer of applying service</p>
<p>Optional</p> <p>Not used for this process element</p>
<p>Interactions</p> <p>Not used for this process element</p>

4.5.2.3 Level 4: Release Service Parameter (1.1.2.2.3) – Mapping Details

Process Identifier: 1.1.2.2.3

Process Context

This process element represents part of the overall enterprise, modeled in business process terms, and can be applied (ie “instantiated”) with other similar process elements for application within a specific organization or domain.

Level 4 PROCESS MAPPING DETAILS 1.1.2.2.3 - Release Service Parameter
<p>Brief Description</p> <p>Release the reservation when the time period has expired.</p>
<p>Extended Description</p> <p>Not used for this process element</p>
<p>Explanatory</p> <p>Not used for this process element</p>
<p>Mandatory</p> <p style="background-color: #00FF00;">Release the reservation when the time period has expired. A</p> <p>[IM_PS], 2.5.2 Resource Reserve and Release After feasibility check, System automatically reserve resources for customer of applying service, after the order is submitted, system allocate the reserved resources, for a limited period of time if the customer orders are not accepted, system release the reserved resources.</p>
<p>Optional</p> <p>Not used for this process element</p>
<p>Interactions</p> <p>Not used for this process element</p>

4.5.2.4 Level 4: Allocate Service Parameters (1.1.2.2.4) – Mapping Details

Process Identifier: 1.1.2.2.4

Process Context

This process element represents part of the overall enterprise, modeled in business process terms, and can be applied (ie “instantiated”) with other similar process elements for application within a specific organization or domain.

Level 4 PROCESS MAPPING DETAILS 1.1.2.2.4 - Allocate Service Parameters
<p>Brief Description</p> <p>Where the Allocate Specific Service Parameters to Services processes are requested by a service order issued in response to a confirmed customer order, this process is responsible for allocating the specific service parameters required to satisfy the initiating service order. Any previously reserved specific service parameters are marked as allocated.</p> <p>Extended Description</p> <p>Not used for this process element</p> <p>Explanatory</p> <p>Where the Allocate Specific Service Parameters to Services processes are requested by a service order issued in response to a confirmed customer order,</p> <p>Mandatory</p> <p>this process is responsible for allocating the specific service parameters required to satisfy the initiating service order. Any previously reserved specific service parameters are marked as allocated.</p> <p>AM</p> <p>[IM_PS], 2.5.4 Resource Assignment</p> <p>Resource Assignment takes assignment request from Service Order Management System and accomplishes resource assignment.</p> <p>If resources is reserved for customer of order, system auto assign reserved resources, modify resource status to allocated</p> <p>Optional</p> <p>Not used for this process element</p> <p>Interactions</p> <p>Not used for this process element</p>

4.5.3 Level 3: Track & Manage Service Provisioning (1.1.2.2.3)

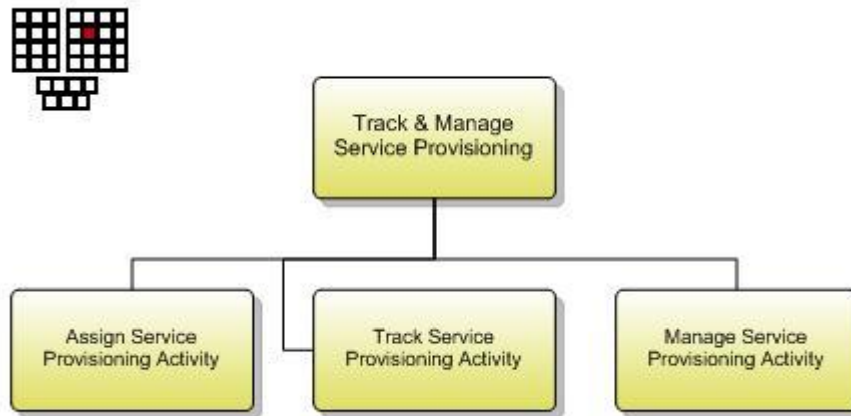


Figure 4.23 Track & Manage Service Provisioning decomposition to Level 4 processes

Process Identifier: 1.1.2.2.3

Process Context

This process element represents part of the overall enterprise, modeled in business process terms, and can be applied (ie “instantiated”) with other similar process elements for application within a specific organization or domain.

Brief Description

Ensure service provisioning activities are assigned, managed and tracked efficiently.

Extended Description

The objective of the Track & Manage Service Provisioning processes is to ensure service provisioning activities are assigned, managed and tracked efficiently.

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

- Scheduling, assigning and coordinating service provisioning related activities;
- Generating the respective resource order creation request(s) to Issue Resource Orders based on specific service orders;
- Escalating status of service orders in accordance with local policy; · Undertaking necessary tracking of the execution process;
- Adding additional information to an existing service order;
- Modifying information in an existing service order;·
- Modifying the service order status;

- Canceling a service order when the initiating customer order is cancelled;
- Monitoring the jeopardy status of service orders, and escalating service orders as necessary; and
- Indicating completion of a service order by modifying the service order status.

Note that some specific service components may be delivered by suppliers/partners. In these cases the Track & Manage Service Provisioning process is responsible for initiating requests, through S/P Requisition Management for the delivery by the supplier/partner of the specific service components.

4.5.3.1 Level 4: Assign Service Provisioning Activity (1.1.2.2.3.1) – Mapping Details

Process Identifier: 1.1.2.2.3.1

Process Context

This process element represents part of the overall enterprise, modeled in business process terms, and can be applied (ie “instantiated”) with other similar process elements for application within a specific organization or domain.

Level 4 PROCESS MAPPING DETAILS 1.1.2.2.3.1 - Assign Service Provisioning Activity
<p>Brief Description</p> <p>Schedule, assign and coordinate service provisioning related activities.</p>
<p>Extended Description</p> <p>Not used for this process element</p>
<p>Explanatory</p> <p>Not used for this process element</p>
<p>Mandatory</p> <p>Schedule, assign and coordinate service provisioning related activities. A</p> <p>[OM PS] 2.6 Order Dispatch</p> <p>Dispatch the Order to Workforce and Provisioning system use Business Platform Management (BPM).</p> <p>[OM PS] 2.9 Work Order Management</p> <p>Work Order Management provides Work Order Generate, Work Order Notification, work Order Completion. Also it monitors work order handling progress and reports abnormal and overtime status of work orders.</p>
<p>Optional</p> <p>Not used for this process element</p>
<p>Interactions</p> <p>Not used for this process element</p>

4.5.3.2 Level 4: Track Service Provisioning Activity (1.1.2.2.3.2) – Mapping Details

Process Identifier: 1.1.2.2.3.2

Process Context

This process element represents part of the overall enterprise, modeled in business process terms, and can be applied (ie “instantiated”) with other similar process elements for application within a specific organization or domain.

Level 4 PROCESS MAPPING DETAILS 1.1.2.2.3.2 - Track Service Provisioning Activity
<p>Brief Description</p> <p>Undertake necessary tracking of the execution process. Monitor the jeopardy status of service orders, and escalating service orders as necessary.</p>
<p>Extended Description</p> <p>Not used for this process element</p>
<p>Explanatory</p> <p>Not used for this process element</p>
<p>Mandatory</p> <p style="background-color: #00FF00;">Undertake necessary tracking of the execution process. Monitor the jeopardy status of service orders, and escalating service orders as necessary. AM</p> <p>[OM_PS] 2.8 Order Monitoring</p> <p>Monitor Order Process and Abnormal Order</p> <p>[OM_PS] 2.11 SLA Enforcement</p> <ul style="list-style-type: none"> - Generate the Time Limit for Order handling according to the SLA attribute included in Order information and the corresponding SLA requirement. - Monitor and enforce SLA Time Limit requirement by sending alerts to responsible staff members for the overtime Orders. - Adjust the process priority of an Order if necessary.
<p>Optional</p> <p>Not used for this process element</p>
<p>Interactions</p> <p>Not used for this process element</p>

4.5.3.3 Level 4: Manage Service Provisioning Activity (1.1.2.2.3.3) – Mapping Details

Process Identifier: 1.1.2.2.3.3

Process Context

This process element represents part of the overall enterprise, modeled in business process terms, and can be applied (ie “instantiated”) with other similar process elements for application within a specific organization or domain.

Level 4 PROCESS MAPPING DETAILS 1.1.2.2.3.3 - Manage Service Provisioning Activity
<p>Brief Description</p> <p>Responsibilities of this processes include, but are not limited to:</p> <ul style="list-style-type: none"> - Generating the respective resource order creation request(s) to Issue Resource Orders based on specific service orders; · Escalating status of service orders in accordance with local policy; · Undertaking necessary tracking of the execution process; · Adding additional information to an existing service order; · Modifying information in an existing service order;· · Modifying the service order status; · Canceling a service order when the initiating customer order is cancelled; · Indicating completion of a service order by modifying the service order status. <p>Note that some specific service components may be delivered by suppliers/partners. In these cases the Track & Manage Service Provisioning process is responsible for initiating requests, through S/P Requisition Management for the delivery by the supplier/partner of the specific service components.</p> <p>Extended Description</p> <p>Not used for this process element</p> <p>Explanatory</p> <p>Not used for this process element</p>

Mandatory

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

- **Generating the respective resource order creation request(s) to Issue Resource Orders based on specific service orders; A**

[\[IM_PS\]](#) 2.5.3 Order Acceptance

Receive service orders from SOM and generate resource order, and create resource assignment task.

- **Escalating status of service orders in accordance with local policy; · Undertaking necessary tracking of the execution process; AM**

[\[OM_PS\]](#) 2.6.1 Normal Order Dispatch

Change Service Order status to 'Accepted' after SOM Accept the order.

Change Service Order status to 'Rejected' if SOM Reject the order.

Change Service Order status to 'complete' if workforce finish the work order.

[\[OM_PS\]](#) 2.8 Order Monitoring

Order Monitoring is to monitor every phase of Order processing and may trigger the intervention when unexpected situation occurs

- **Adding additional information to an existing service order; A**

[\[OM_PS\]](#) 2.3 Service Design

After Inventory System finished resource assign work order and return resource assignment result, Adding resource information to service order;

- **Modifying information in an existing service order; AM**

- **Modifying the service order status; AM**

[\[OM_PS\]](#) 2.6.2 Order Change

Accept Order Change Request from CRM, and modify the order information according to the customer order.

[\[OM_PS\]](#) 2.6.6 Order Rollback

Especially Order Management may return the Order to Requestor if it turns out to be some issues related to the Order itself. According to the return phase and problem causes, Rollback Order can be generated.

- **Canceling a service order when the initiating customer order is cancelled; A**

[\[OM_PS\]](#) 2.6.7 Order Cancellation Dispatch

After receiving Order Cancellation request, Order Management will verified first whether the related

Order could be cancelled or not, and then perform the necessary rollback actions for executed tasks and cancel the uncompleted tasks.

· **Indicating completion of a service order by modifying the service order status.** A

[OM PS] 2.6.1 Normal Order Dispatch

Change Service Order status to 'complete' if workforce finish the work order.

Optional

Not used for this process element

Interactions

Note that some specific service components may be delivered by suppliers/partners. In these cases the Track & Manage Service Provisioning process is responsible for initiating requests, through S/P Requisition Management for the delivery by the supplier/partner of the specific service components

4.5.4 Level 3: Implement, Configure & Activate Service (1.1.2.2.4)

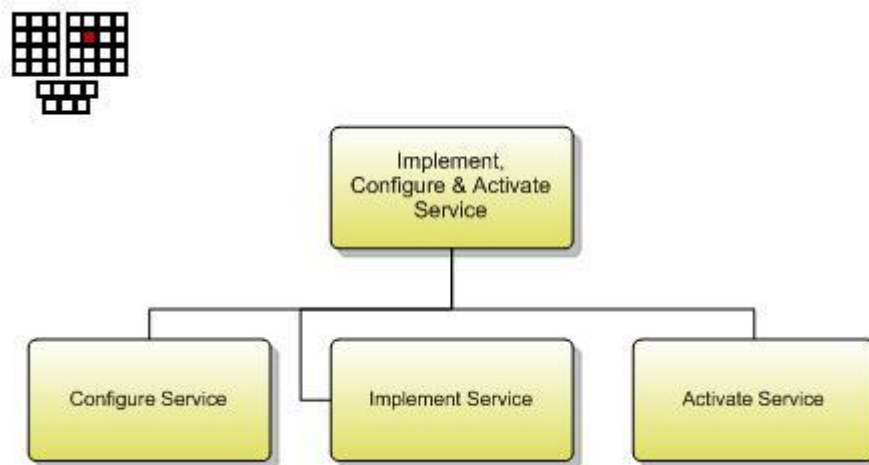


Figure 4.24 Configure & Activate Service decomposition to Level 4 processes

Process Identifier: 1.1.2.2.4

Process Context

This process element represents part of the overall enterprise, modeled in business process terms, and can be applied (ie “instantiated”) with other similar process elements for application within a specific organization or domain.

Brief Description

Implement, configure and activate the specific services allocated against an issued service order.

Extended Description

The purpose of the Implement, Configure & Activate Service processes is to implement, configure and activate the specific services allocated against an issued service order.

These processes are responsible for, but not limited to:

- Assessing and planning the approach to be undertaken for implementation, configuration and activation;
- Re-using standard implementation, configuration and activation processes applicable to specific services;
- Implementing, configuring and reconfiguring specific services, including customer premises equipment if part of the service provider offering.
- Providing notifications as required if the implementation, configuration and activation activity requires a planned outage or is likely to initiate false specific service alarm event notifications; and

- Updating the information contained in the service inventory as to the configuration of specific services and their status.

At the successful conclusion of these activities, the status of the specific services will be changed from allocated to activated, which means they are in-use.

4.5.4.1 Level 4: Configure Service (1.1.2.2.4.1) – Mapping Details

Process Identifier: 1.1.2.2.4.1

Process Context

This process element represents part of the overall enterprise, modeled in business process terms, and can be applied (ie “instantiated”) with other similar process elements for application within a specific organization or domain.

Level 4 PROCESS MAPPING DETAILS 1.1.2.2.4.1 - Configure Service
<p>Brief Description</p> <p>Assess and plan the approach to be undertaken for configuration.</p> <p>Re-use standard configuration and processes applicable to specific services.</p> <p>Configure and reconfigure specific services, including customer premises equipment if part of the service provider offering.</p> <p>Provide notifications as required if the configuration activity requires a planned outage or is likely to initiate false specific service alarm event notifications.</p> <p>Update the information contained in the service inventory as to the configuration of specific services and their status.</p> <p>Extended Description</p> <p>Not used for this process element</p> <p>Explanatory</p> <p>Not used for this process element</p> <p>Mandatory</p> <p>Assess and plan the approach to be undertaken for configuration. A</p> <p>[OM_PS] 2.4 Service Configuration</p> <p>Based on Service Instance Data, generate Work Orders for service configuration.</p> <p>Based on the relationship among Service Instances, correlate related Work Orders so that they may be dispatched together</p> <p>Re-use standard configuration and processes applicable to specific services. A</p> <p>[IM_PS] 2.5.4 Resource Assignment</p> <p>Resource Assignment is reused by different service specification. port assignment function could</p>

assign different port for HIS,IPTV,VOIP, and assign different port for different access type(PON,DSLAM etc)

Configure and reconfigure specific services, including customer premises equipment if part of the service provider offering. A

[IM PS] 2.5.4 Resource Assignment

Resource Assignment includes the functions of assignment, completion and returning result; the following functions are supported for resource assignment:

- ② Cable Resource Assignment
- ② Port Assignment
- ② Fiber Assignment
- ② CPE Assignment
- ② VLAN Assignment
- ② VPN assignment: include sub interface, VCID, VSI, RD and RT
- ② Circuit Design: Supports OCH, ODU, OMS, SDH Section, SDH Channel, SDH Circuit and OTN Circuit.
- ② IP Address Assignment

Provide notifications as required if the configuration activity requires a planned outage or is likely to initiate false specific service alarm event notifications. A

[OM PS] 2.8 Order Monitoring

Abnormal Order Monitoring

Provide notifications if the configuration activity is Abnormal.

Update the information contained in the service inventory as to the configuration of specific services and their status. A

[IM PS] 2.5.6 Service Inventory Management

System will generate CFS after receiving product order, and change CFS status after order is completed.

Optional

Not used for this process element

Interactions

Provide notifications as required if the configuration activity requires a planned outage or is likely to initiate false specific service alarm event notifications.

4.5.4.2 Level 4: Implement Service (1.1.2.2.4.2) – Mapping Details

Process Identifier: 1.1.2.2.4.2

Process Context

This process element represents part of the overall enterprise, modeled in business process terms, and can be applied (ie “instantiated”) with other similar process elements for application within a specific organization or domain.

Level 4 PROCESS MAPPING DETAILS 1.1.2.2.4.2 - Implement Service
<p>Brief Description</p> <p>Assess and plan the approach to be undertaken for implementation.</p> <p>Re-use standard implementation processes applicable to specific services.</p> <p>Implement specific services, including customer premises equipment if part of the service provider offering.</p> <p>Provide notifications as required if the implementation activity requires a planned outage or is likely to initiate false specific service alarm event notifications.</p> <p>Extended Description</p> <p>Not used for this process element</p> <p>Explanatory</p> <p>Not used for this process element</p> <p>Mandatory</p> <p>Assess and plan the approach to be undertaken for implementation. M</p> <p>[WF_PS] 2.3 Reservation Management</p> <p>The system can reserve the workforce as required by work orders and change the reservation capability accordingly, and make construction plan.</p> <p>Re-use standard implementation processes applicable to specific services. AM</p> <p>[WF_PS] 1.3.2 Full Service Support</p> <p>Configurations different work order template, print template for different service, ZSmart Workforce Management can carry out unified dispatch for construction tasks of all services to</p>

support service provisioning operation and maintenance.

Implement specific services, including customer premises equipment if part of the service provider offering. **AM**

[PROV_PS] 2.2.3 Work Order Execution

When a Work Order is dispatched for execution, it will be matched with the appropriate Activation Flow Template first to generate Activation Instance. The Activation Instance is composed of a series of Instruction Templates in sequence, each of which is to be executed on a Network Element as an atomic transaction unit. Therefore an Activation Instance may involve several Network Elements.

[WF_PS] 2.4.4 Work Order Execution

The responsible staff member could check out the Work Order dispatched to her/him and complete the construction tasks assigned by the Work Order. After completing the Work Order, she/he should check in the work order.

Provide notifications as required if the implementation activity requires a planned outage or is likely to initiate false specific service alarm event notifications. **A**

[WF_PS] 2.4.6 Work Order Monitoring

-Notification

Send notifications to field engineer if the work order is dispatched to field engineer or work order is Abnormal

Optional

Not used for this process element

Interactions

Provide notifications as required if the implementation activity requires a planned outage or is likely to initiate false specific service alarm event notifications.

4.5.4.3 Level 4: Activate Service (1.1.2.2.4.3) – Mapping Details

Process Identifier: 1.1.2.2.4.3

Process Context

This process element represents part of the overall enterprise, modeled in business process terms, and can be applied (ie “instantiated”) with other similar process elements for application within a specific organization or domain.

Level 4 PROCESS MAPPING DETAILS 1.1.2.2.4.3 - Activate Service
<p>Brief Description</p> <p>Assess and plan the approach to be undertaken for activation. A</p> <p>[PROV PS] 2.2.2 Work Order Dispatching</p> <p>The following dispatching rules are supported</p> <p>Priority Dispatching Rule</p> <p>First-In-First-Out Rule</p> <p>Priority-based Rule</p> <p>Time scheduling</p> <p>Re-used standard activation processes applicable to specific services. A</p> <p>[PROV PS] 2.1.2 Process Configuration</p> <p>When the Work Order is processed, it is matched with appropriate Activation process Template to create Activation process Instance. ZSmart Provisioning provides tools to set activation process steps</p> <p>Provide notifications as required if the activation activity requires a planned outage or is likely to initiate false specific service alarm event notifications. A</p> <p>[PROV PS] 2.4.1 Work Order Monitoring</p> <p>Send notifications to staff if work order is Abnormal.</p> <p>At the successful conclusion of this activity, the status of the specific services will be changed from allocated to activated, which means they are in-use. A</p> <p>[PROV PS] 2.2.4 Work Order Completion</p> <p>Change the status of the specific services to activated.</p> <p>Extended Description</p> <p>Not used for this process element</p>

Explanatory

At the successful conclusion of this activity, the status of the specific services will be changed from allocated to activated, which means they are in-use.

Mandatory

Assess and plan the approach to be undertaken for activation.

Re-used standard activation processes applicable to specific services.

Provide notifications as required if the activation activity requires a planned outage or is likely to initiate false specific service alarm event notifications.

[\[PROV PS\]](#) 2.2.3 Work Order Execution

A Instruction Template is an atomic transaction unit executed on One Network Element. Network Event is matched to a series of Instructions.

According to the resource information in the Work Order, each Instruction is then sent to the corresponding Element Management System (EMS) or Operation and Maintenance Center (OMC) for execution.

Optional

Not used for this process element

Interactions

Provide notifications as required if the activation activity requires a planned outage or is likely to initiate false specific service alarm event notifications.

4.5.5 Level 3: Test Service End-to-End (1.1.2.2.5)

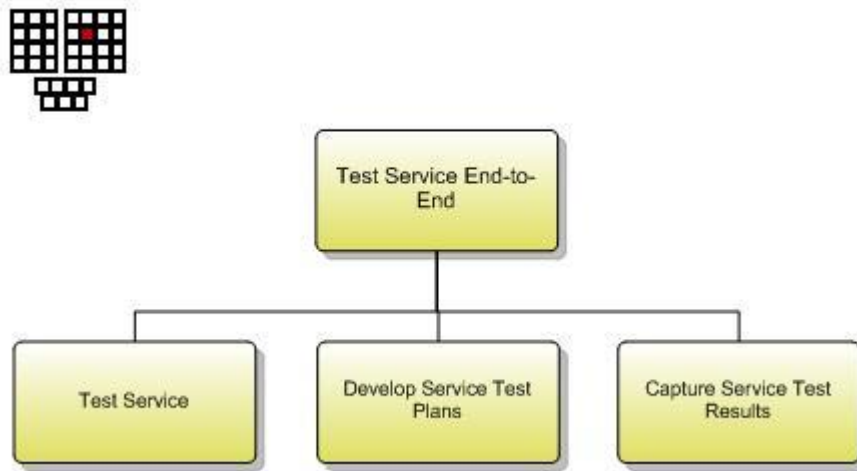


Figure 4.25 Test Service End-to-End decomposition to Level 4 processes

Process Identifier: 1.1.2.2.5

Process Context

This process element represents part of the overall enterprise, modeled in business process terms, and can be applied (ie “instantiated”) with other similar process elements for application within a specific organization or domain.

Brief Description

Test specific services to ensure all components are operating within normal parameters, and that the service is working to agreed performance levels

Extended Description

The responsibility of the Test Service End-to-End processes is to test specific services to ensure all components are operating within normal parameters, and that the service is working to agreed performance levels before its activation for the customer.

This purpose is performed through testing the service end-to-end as far as possible.

These processes test specific services against supplier/partner defined test plans, or against test plans developed by the service provider.

Where appropriate test plans are not available these processes are responsible for developing appropriate test plans. These processes are also responsible for capturing and storing the test results for historical and downstream testing comparison purposes.

If these tests succeed, the specific services will be marked as in-service which means the specific services are available for use by customers.

4.5.5.1 Level 4: Test Service (1.1.2.2.5.1) – Mapping Details

Process Identifier: 1.1.2.2.5.1

Process Context

This process element represents part of the overall enterprise, modeled in business process terms, and can be applied (ie “instantiated”) with other similar process elements for application within a specific organization or domain.

Level 4 PROCESS MAPPING DETAILS 1.1.2.2.5.1 - Test Service
<p>Brief Description</p> <p>Test specific services to ensure all components are operating within normal parameters, and that the service is working to agreed performance levels before its activation for the customer.</p> <p>This purpose is performed through testing the service end-to-end as far as possible.</p> <p>These processes test specific services against supplier/partner defined test plans, or against test plans developed by the service provider.</p> <p>Extended Description</p> <p>Not used for this process element</p> <p>Explanatory</p> <p>This purpose is performed through testing the service end-to-end as far as possible.</p> <p>These processes test specific services against supplier/partner defined test plans, or against test plans developed by the service provider.</p> <p>Mandatory</p> <p style="background-color: #00FF00;">Test specific services to ensure all components are operating within normal parameters, and that the service is working to agreed performance levels before its activation for the customer. AM</p> <p>[OM_PS] 2.10 Service Test</p> <p>After provision work order and construction work order completed, System use Service Test function to get Service configuration and downstream, check the Service has been correctly configured.</p> <p>Optional</p> <p>Not used for this process element</p> <p>Interactions</p> <p>Not used for this process element</p>

4.5.5.2 Level 4: Develop Service Test Plans (1.1.2.2.5.2) – Mapping Details

Process Identifier: 1.1.2.2.5.2

Process Context

This process element represents part of the overall enterprise, modeled in business process terms, and can be applied (ie “instantiated”) with other similar process elements for application within a specific organization or domain.

<p align="center">Level 4 PROCESS MAPPING DETAILS 1.1.2.2.5.2 - Develop Service Test Plans</p>
<p>Brief Description</p> <p>Where appropriate test plans are not available this process is responsible for developing appropriate test plans.</p>
<p>Extended Description</p> <p>Not used for this process element</p>
<p>Explanatory</p> <p>Where appropriate test plans are not available</p>
<p>Mandatory</p> <p style="background-color: #00ff00;">this process is responsible for developing appropriate test plans. A</p> <p>[OM PS] 2.10.1 Service Test Plan</p> <p>After Construction work order and provision work order is completed, system automatically Create Service Test Work Order, According to the service priority , system generate service testing work orders requiered completed time.</p>
<p>Optional</p> <p>Not used for this process element</p>
<p>Interactions</p> <p>Not used for this process element</p>

4.5.5.3 Level 4: Capture Service Test Results (1.1.2.2.5.3) – Mapping Details

Process Identifier: 1.1.2.2.5.3

Process Context

This process element represents part of the overall enterprise, modeled in business process terms, and can be applied (ie “instantiated”) with other similar process elements for application within a specific organization or domain.

Level 4 PROCESS MAPPING DETAILS 1.1.2.2.5.3 - Capture Service Test Results
<p>Brief Description</p> <p>Capture and store the test results for historical and downstream testing comparison purposes.</p> <p>If the tests succeed, the specific services will be marked as in-service which means the specific services are available for use by customers.</p> <p>Extended Description</p> <p>Not used for this process element</p> <p>Explanatory</p> <p>If the tests succeed, the specific services will be marked as in-service which means the specific services are available for use by customers.</p> <p>Mandatory</p> <p style="background-color: #00FF00;">Capture and store the test results for historical and downstream testing comparison purposes. A</p> <p>[OM PS] 2.10.2 Get Service Test Result</p> <p>Order Management send The service test request to the provision system, the provision generates service test instructions and send instructions to device or EMS, and get result of instructions from the device or EMS, then return test result to the order Management, Order Management store the test result and display the test result on GUI.</p> <p>Optional</p> <p>Not used for this process element</p> <p>Interactions</p> <p>Not used for this process element</p>

4.5.6 Level 3: Issue Service Orders (1.1.2.2.7)

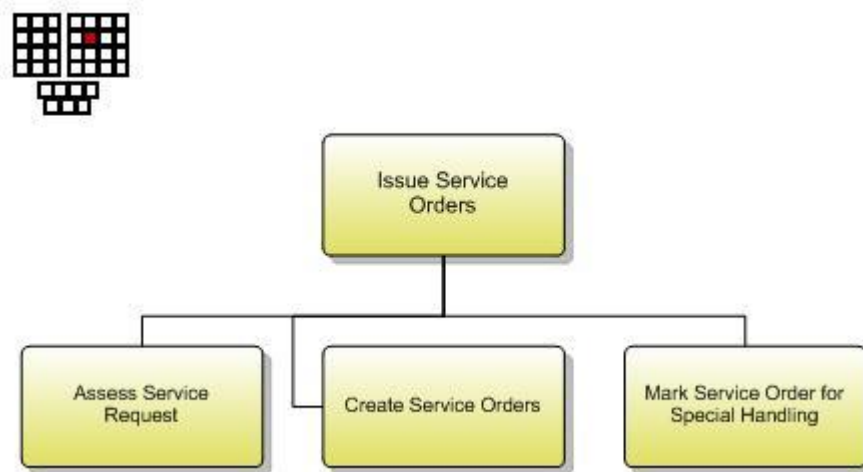


Figure 4.26 Issue Service Orders decomposition to Level 4 processes

Process Identifier: 1.1.2.2.7

Process Context

This process element represents part of the overall enterprise, modeled in business process terms, and can be applied (ie “instantiated”) with other similar process elements for application within a specific organization or domain.

Brief Description

Issue correct and complete service orders

Extended Description

The purpose of the Issue Service Orders processes is to issue correct and complete service orders.

The service orders may be required to satisfy pertinent customer order information received, may arise as a result of requests for service provisioning to satisfy service problem recovery activities, may arise to alleviate service performance issues, or may arise as a result of information received from suppliers/partners in relations to specific services.

These processes assess the information contained in the customer order, through a service order request, relating to the purchased product offering, initiating service process or supplier/partner initiated request, to determine the associated service orders that need to be issued.

The issued service order may require a service feasibility assessment or a service design to be produced, may require new provisioning activities for specific services, may require a change to a previously issued service order, or may require deletion and/or recovery of previously delivered specific services. Where,

the initiating request or the purchased product offering has a standard set of associated service orders this process is responsible for issuing the service orders, and for creating a record of the relevant initiating request or customer order information and the associated service orders.

Where the initiating request or the purchased product offering has special or unusual requirements, and a specific feasibility assessment and/or service design has been previously created, this process is responsible for issuing the service orders, and for creating a record of the relevant initiating request or customer order information and the associated service orders.

Where the purchased product offering has special or unusual requirements, and a specific feasibility assessment and/or specific service design has not been previously created, this process marks the issued service order as requiring special handling, and passes management for further processing to the Track & Manage Service Provisioning process.

The orchestration, if required, and tracking of the service order progress is the responsibility of the Track & Manage Service Provisioning processes.

4.5.6.1 Level 4: Assess Service Request (1.1.2.2.7.1) – Mapping Details

Process Identifier: 1.1.2.2.7.1

Process Context

This process element represents part of the overall enterprise, modeled in business process terms, and can be applied (ie “instantiated”) with other similar process elements for application within a specific organization or domain.

Level 4 PROCESS MAPPING DETAILS 1.1.2.2.7.1 - Assess Service Request
<p>Brief Description</p> <p>This process assesses the information contained in the customer order, through a service order request, relating to the purchased product offering, initiating service process or supplier/partner initiated request, to determine the associated service orders that need to be issued.</p>
<p>Extended Description</p> <p>Not used for this process element</p>
<p>Explanatory</p> <p>Not used for this process element</p>
<p>Mandatory</p> <p style="background-color: #00FF00;">This process assesses the information contained in the customer order, through a service order request, relating to the purchased product offering, initiating service process or supplier/partner initiated request, to determine the associated service orders that need to be issue AM</p> <p>[OM PS] 2.2.1 Order Data Acceptance</p> <p>The original Order data is received according to the interface or protocol, and the received data is mapped to the unified service object model</p> <p>[OM PS] 2.2.2 Order Data Formatting</p> <p>The received external Order data is matched to Order Template, formatted and instantiated into internal Order format.</p> <p>[OM PS] 2.2.3 Order Data Auditing</p> <p>The system checks whether the Order meets the requirements on Business Rules specified for Order Template. If failed, the Order will be returned to Order Requestor such as CRM.</p>
<p>Optional</p> <p>Not used for this process element</p>

Interactions

Not used for this process element

4.5.6.2 Level 4: Create Service Orders (1.1.2.2.7.2) – Mapping Details

Process Identifier: 1.1.2.2.7.2

Process Context

This process element represents part of the overall enterprise, modeled in business process terms, and can be applied (ie “instantiated”) with other similar process elements for application within a specific organization or domain.

Level 4 PROCESS MAPPING DETAILS 1.1.2.2.7.2 - Create Service Orders
<p>Brief Description</p> <p>The service orders may be required to satisfy pertinent customer order information received, may arise as a result of requests for service provisioning to satisfy service problem recovery activities, may arise to alleviate service performance issues, or may arise as a result of information received from suppliers/partners in relations to specific services.</p> <p>The issued service order may require a service feasibility assessment or a service design to be produced, may require new provisioning activities for specific services, may require a change to a previously issued service order, or may require deletion and/or recovery of previously delivered specific services. Where, the initiating request or the purchased product offering has a standard set of associated service orders this process is responsible for issuing the service orders, and for creating a record of the relevant initiating request or customer order information and the associated service orders.</p> <p>Where the initiating request or the purchased product offering has special or unusual requirements, and a specific feasibility assessment and/or service design has been previously created, this process is responsible for issuing the service orders, and for creating a record of the relevant initiating request or customer order information and the associated service orders.</p> <p>Extended Description</p> <p>Not used for this process element</p> <p>Explanatory</p> <p>The service orders may be required to satisfy pertinent customer order information received, may arise as a result of requests for service provisioning to satisfy service problem recovery activities, may arise to alleviate service performance issues, or may arise as a result of information received from suppliers/partners in relations to specific services.</p> <p>The issued service order may require a service feasibility assessment or a service design to be produced, may require new provisioning activities for specific services, may require a change to a previously issued service order, or may require deletion and/or recovery of previously delivered specific services.</p>

Mandatory

Where, the initiating request or the purchased product offering has a standard set of associated service orders this process is responsible for issuing the service orders, and for creating a record of the relevant initiating request or customer order information and the associated service orders. A

[OM PS] 2.2.4 Order Instance Generation

After the customer order is Accepted, the service Order instance is generated according to corresponding Order Template and it will then be dispatched for execution to accomplish the required service provisioning.

Where the initiating request or the purchased product offering has special or unusual requirements, and a specific feasibility assessment and/or service design has been previously created, this process is responsible for issuing the service orders, and for creating a record of the relevant initiating request or customer order information and the associated service orders. A

[OM PS] 2.2.4 Order Instance Generation

System will generate service order and record relation between customer order and service order. generate one or more customer service instance.

Optional

Not used for this process element

Interactions

Not used for this process element

4.5.6.3 Level 4: Mark Service Order for Special Handling (1.1.2.2.7.3) – Mapping Details

Process Identifier: 1.1.2.2.7.3

Process Context

This process element represents part of the overall enterprise, modeled in business process terms, and can be applied (ie “instantiated”) with other similar process elements for application within a specific organization or domain.

Level 4 PROCESS MAPPING DETAILS 1.1.2.2.7.3 - Mark Service Order for Special Handling
<p>Brief Description</p> <p>Where the purchased product offering has special or unusual requirements, and a specific feasibility assessment and/or specific service design has not been previously created, this process marks the issued service order as requiring special handling, and passes management for further processing to the Track & Manage Service Provisioning process.</p> <p>The orchestration, if required, and tracking of the service order progress is the responsibility of the Track & Manage Service Provisioning processes.</p>
<p>Extended Description</p> <p>Not used for this process element</p>
<p>Explanatory</p> <p>Not used for this process element</p>
<p>Mandatory</p> <p style="background-color: #00FF00;">Where the purchased product offering has special or unusual requirements, and a specific feasibility assessment and/or specific service design has not been previously created, this process marks the issued service order as requiring special handling, A</p> <p>[OM PS] 2.2.4 Order Instance Generation</p> <p>The system supports configure mapping of product attributes and CFS attributes , and configure value mapping of attributes. According to the mapping, system convert customer order requirement to service attribute information</p> <p>Adjust the order process priority if necessary,marks the service order as requiring special handling.</p>
<p>Optional</p>

Not used for this process element

Interactions

and passes management for further processing to the Track & Manage Service Provisioning process.

4.5.7 Level 3: Report Service Provisioning (1.1.2.2.8)

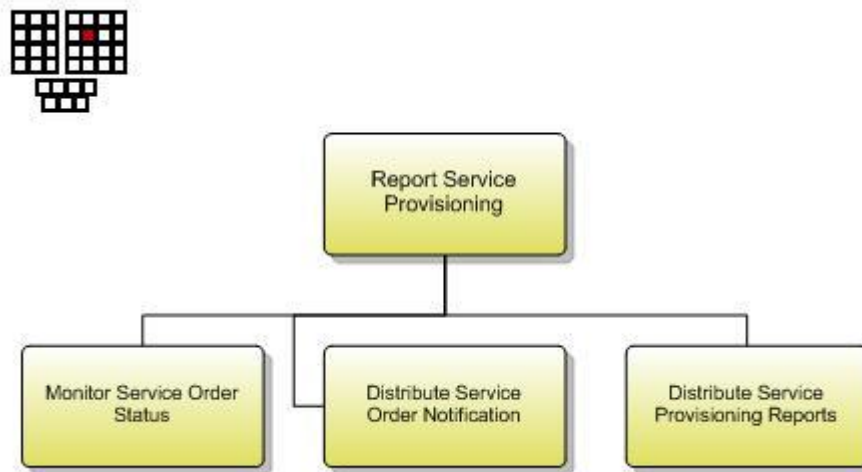


Figure 4.27 Report Service Provisioning decomposition to Level 4 processes

Process Identifier: 1.1.2.2.8

Process Context

This process element represents part of the overall enterprise, modeled in business process terms, and can be applied (ie “instantiated”) with other similar process elements for application within a specific organization or domain.

Brief Description

Monitor the status of service orders, provide notifications of any changes and provide management reports.

Extended Description

The objective of the Report Service Provisioning processes is to monitor the status of service orders, provide notifications of any changes and provide management reports.

These processes are responsible for continuously monitoring the status of service orders and managing notifications to processes and other parties registered to receive notifications of any status changes. Notification lists are managed and maintained by the Enable Service Configuration & Activation processes.

These processes record, analyze and assess the service order status changes to provide management reports and any specialized summaries of the efficiency and effectiveness of the overall Service Configuration & Activation process. These specialized summaries could be specific reports required by specific audiences.

4.5.7.1 Level 4: Monitor Service Order Status (1.1.2.2.8.1) – Mapping Details

Process Identifier: 1.1.2.2.8.1

Process Context

This process element represents part of the overall enterprise, modeled in business process terms, and can be applied (ie “instantiated”) with other similar process elements for application within a specific organization or domain.

Level 4 PROCESS MAPPING DETAILS 1.1.2.2.8.1 - Monitor Service Order Status
<p>Brief Description</p> <p>responsible for continuously monitoring the status of service orders; record, analyze and assess the service order status changes</p>
<p>Extended Description</p> <p>Not used for this process element</p>
<p>Explanatory</p> <p>Not used for this process element</p>
<p>Mandatory</p> <p>responsible for continuously monitoring the status of service orders; record, analyze and assess the service order status changes A</p> <p>[OM PS] 2.8 Order Monitoring</p> <p>Order Monitoring is to monitor every phase of Order processing and may trigger the intervention when unexpected situation occurs or status changed.</p>
<p>Optional</p> <p>Not used for this process element</p>
<p>Interactions</p> <p>Not used for this process element</p>

4.5.7.2 Level 4: Distribute Service Order Notification (1.1.2.2.8.2) – Mapping Details

Process Identifier: 1.1.2.2.8.2

Process Context

This process element represents part of the overall enterprise, modeled in business process terms, and can be applied (ie “instantiated”) with other similar process elements for application within a specific organization or domain.

Level 4 PROCESS MAPPING DETAILS 1.1.2.2.8.2 - Distribute Service Order Notification
<p>Brief Description</p> <p>provide notifications of any changes the status of service orders. Notifications are used to notify the owner of the current status of the order and also distributed to the other parties who require it. Notification lists are managed and maintained by the Enable Service Configuration & Activation processes.</p> <p>Extended Description</p> <p>Not used for this process element</p> <p>Explanatory</p> <p>Notifications are used to notify the owner of the current status of the order and also distributed to the other parties who require it.</p> <p>Mandatory</p> <p>provide notifications of any changes the status of service orders. A</p> <p>[OM_PS] 2.9.1 Work Order Generate</p> <p>When a process is started, or previous activity is completed, System Automatically generate a work order for current activity, work order includes work order type ,work order number and order information.</p> <p>[OM_PS] 2.9.2 Work Order Notification</p> <p>After the Work Order is generated and verified, it will be distributed to other parties according to assignment rules, or send work order notification to Workforce Management System and Provision System</p>

Optional

Not used for this process element

Interactions

Notification lists are managed and maintained by the Enable Service Configuration & Activation processes.

4.5.7.3 Level 4: Distribute Service Provisioning Reports (1.1.2.2.8.3) – Mapping Details

Process Identifier: 1.1.2.2.8.3

Process Context

This process element represents part of the overall enterprise, modeled in business process terms, and can be applied (ie “instantiated”) with other similar process elements for application within a specific organization or domain.

<p align="center">Level 4 PROCESS MAPPING DETAILS 1.1.2.2.8.3 - Distribute Service Provisioning Reports</p>
<p>Brief Description</p> <p>provide management reports and any specialized summaries of the efficiency and effectiveness of the overall Service Configuration & Activation process. These specialized summaries could be specific reports required by specific audiences.</p> <p>Extended Description</p> <p>Not used for this process element</p> <p>Explanatory</p> <p>These specialized summaries could be specific reports required by specific audiences.</p> <p>Mandatory</p> <p>provide management reports and any specialized summaries of the efficiency and effectiveness of the overall Service Configuration & Activation process. A</p> <p>[OM PS] 2.11 SLA Enforcement</p> <p>Stat task order completion duration and efficiency</p> <p>Generate the required duration for Order handling according to the SLA attribute included in Order information and the corresponding SLA requirement.</p> <p>Monitor and enforce SLA duration requirement by sending alerts to responsible staff members for the overtime Orders.</p> <p>Adjust the process priority of an Order if necessary.</p> <p>Optional</p> <p>Not used for this process element</p> <p>Interactions</p> <p>Not used for this process element</p>

4.5.8 Level 3: Close Service Order (1.1.2.2.9)

Process Identifier: 1.1.2.2.9

Process Context

This process element represents part of the overall enterprise, modeled in business process terms, and can be applied (ie “instantiated”) with other similar process elements for application within a specific organization or domain.

Brief Description

Close a service order when the service provisioning activities have been completed

Extended Description

The objective of the Close Service Order processes is to close a service order when the service provisioning activities have been completed.

These processes monitor the status of all open service orders, and recognize that a service order is ready to be closed when the status is changed to completed.

4.5.8.1 Level 3: Close Service Order(1.1.2.2.9) – Mapping Details

Process Identifier: 1.1.2.2.9

Process Context

This process element represents part of the overall enterprise, modeled in business process terms, and can be applied (ie “instantiated”) with other similar process elements for application within a specific organization or domain.

Level 4 PROCESS MAPPING DETAILS 1.1.2.2.9 - Close Service Order
<p>Brief Description</p> <p>Close a service order when the service provisioning activities have been completed</p>
<p>Extended Description</p> <p>The objective of the Close Service Order processes is to close a service order when the service provisioning activities have been completed. A</p> <p>These processes monitor the status of all open service orders, and recognize that a service order is ready to be closed when the status is changed to completed. A</p>

[\[OM_PS\]](#) 2.7 Order Completion

When all activity is completed, system change order status to "completed" and archive order data for future query and statistics usage.

Explanatory

Reserved for future use.

Mandatory

Reserved for future use.

Optional

Reserved for future use.

Interactions

Reserved for future use.

4.5.9 Level 3: Recover Service (1.1.2.2.10)

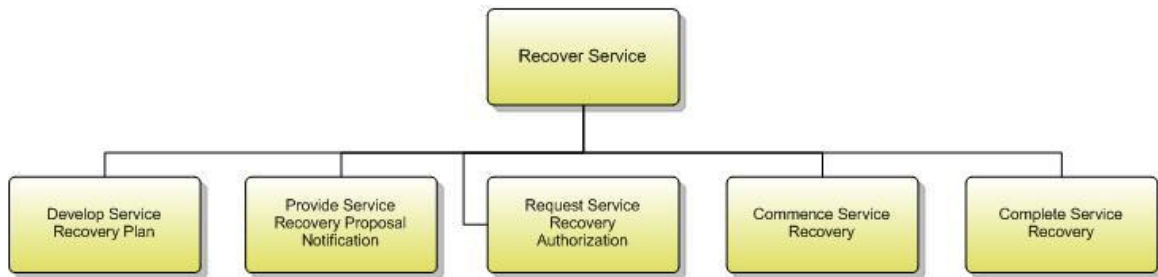
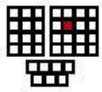


Figure 4.28 Recover Resource decomposition to Level 4 processes

Process Identifier: 1.1.2.2.10

Process Context

This process element represents part of the overall enterprise, modeled in business process terms, and can be applied (ie “instantiated”) with other similar process elements for application within a specific organization or domain.

Brief Description

Recover specific services that are no longer required by customers.

Extended Description

The responsibility of the Recover Service processes is to recover specific services that are no longer required by customers.

These processes follow recovery plans specified by the supplier/partner, or against recovery plans developed by the service provider.

Where appropriate recovery plans are not available these processes are responsible for developing appropriate recovery plans.

Where recovery of services is likely to impact other in-use specific services, this process is responsible for providing appropriate notification of the recovery proposal and ensuring authorization is received to proceed with the recovery plan. When the recovery activity is about to commence, these processes are responsible for notifying when recovery work is commencing and when it is completed.

When recovered, the specific services and/or associated service specific parameters will be marked as unallocated.

4.5.9.1 Level 4: Develop Service Recovery Plan (1.1.2.2.10.1) – Mapping Details

Process Identifier: 1.1.2.2.10.1

Process Context

This process element represents part of the overall enterprise, modeled in business process terms, and can be applied (ie “instantiated”) with other similar process elements for application within a specific organization or domain.

<p align="center">Level 4 PROCESS MAPPING DETAILS 1.1.2.2.10.1 - Develop Service Recovery Plan</p>
<p>Brief Description</p> <p>Where appropriate recovery plans are not available this process is responsible for developing appropriate recovery plans.</p>
<p>Extended Description</p> <p>Not used for this process element</p>
<p>Explanatory</p> <p>Where appropriate recovery plans are not available</p>
<p>Mandatory</p> <p>this process is responsible for developing appropriate recovery plans. AM</p> <p>[OM PS] 2.6.6 Order Rollback</p> <p>If order information has mistakes or customer request, order require returning to previous activity.Operator can select rollback schema.</p>
<p>Optional</p> <p>Not used for this process element</p>
<p>Interactions</p> <p>Not used for this process element</p>

4.5.9.2 Level 4: Provide Service Recovery Proposal Notification (1.1.2.2.10.2) – Mapping Details

Process Identifier: 1.1.2.2.10.2

Process Context

This process element represents part of the overall enterprise, modeled in business process terms, and can be applied (ie “instantiated”) with other similar process elements for application within a specific organization or domain.

Level 4 PROCESS MAPPING DETAILS 1.1.2.2.10.2 - Provide Service Recovery Proposal Notification
<p>Brief Description</p> <p>Where recovery of services is likely to impact other in-use specific services, this process is responsible for providing appropriate notification of the recovery proposal.</p>
<p>Extended Description</p> <p>Not used for this process element</p>
<p>Explanatory</p> <p>Where recovery of services is likely to impact other in-use specific services, A</p> <p>[OM PS] 2.6.3 Correlated Order Dispatch</p> <p>For several correlated Orders, they are often dispatched together according to some rules. Also when one Order changed or rolled back, it may affect its correlated Orders. For example, when ADSL and PSTN are subscribed together, they share the same address and line, if PSTN Order change, the ADSL Order may change too.</p>
<p>Mandatory</p> <p>this process is responsible for providing appropriate notification of the recovery proposal.</p>
<p>Optional</p> <p>Not used for this process element</p>
<p>Interactions</p> <p>Not used for this process element</p>

4.5.9.3 Level 4: Request Service Recovery Authorization (1.1.2.2.10.3) – Mapping Details

Process Identifier: 1.1.2.2.10.3

Process Context

This process element represents part of the overall enterprise, modeled in business process terms, and can be applied (ie “instantiated”) with other similar process elements for application within a specific organization or domain.

Level 4 PROCESS MAPPING DETAILS 1.1.2.2.10.3 - Request Service Recovery Authorization
<p>Brief Description</p> <p>Ensure authorization is received to proceed with the recovery plan.</p>
<p>Extended Description</p> <p>Not used for this process element</p>
<p>Explanatory</p> <p>Not used for this process element</p>
<p>Mandatory</p> <p style="background-color: #00FF00;">Ensure authorization is received to proceed with the recovery plan. M</p> <p>[OM PS] Order Rollback</p> <p>Order rollback request may be send by CRM, IM, Work force, Provision, After the request is authorized, order management execute the rollback process.</p>
<p>Optional</p> <p>Not used for this process element</p>
<p>Interactions</p> <p>Not used for this process element</p>

4.5.9.4 Level 4: Commence Service Recovery (1.1.2.2.10.4) – Mapping Details

Process Identifier: 1.1.2.2.10.4

Process Context

This process element represents part of the overall enterprise, modeled in business process terms, and can be applied (ie “instantiated”) with other similar process elements for application within a specific organization or domain.

<p align="center">Level 4 PROCESS MAPPING DETAILS 1.1.2.2.10.4 - Commence Service Recovery</p>
<p>Brief Description</p> <p>When the recovery activity is about to commence, this processes is responsible for notifying when recovery work is commencing.</p>
<p>Extended Description</p> <p>Not used for this process element</p>
<p>Explanatory</p> <p>When the recovery activity is about to commence,</p>
<p>Mandatory</p> <p style="background-color: #00ff00;">this processes is responsible for notifying when recovery work is commencing. A</p> <p>[OM_PS] Order Rollback</p> <p>According to the selected rollback schema , Order Management generate rollback work order and notification, and send notification to processor(Provision, Inventory Management, Workforce)</p>
<p>Optional</p> <p>Not used for this process element</p>
<p>Interactions</p> <p>Not used for this process element</p>

4.5.9.5 Level 4: Complete Service Recovery (1.1.2.2.10.5) – Mapping Details

Process Identifier: 1.1.2.2.10.5

Process Context

This process element represents part of the overall enterprise, modeled in business process terms, and can be applied (ie “instantiated”) with other similar process elements for application within a specific organization or domain.

<p align="center">Level 4 PROCESS MAPPING DETAILS 1.1.2.2.10.5 - Complete Service Recovery</p>
<p>Brief Description</p> <p>This process is responsible for notifying when it is completed.</p> <p>When recovered, the specific services and/or associated service specific parameters will be marked as unallocated.</p> <p>Extended Description</p> <p>Not used for this process element</p> <p>Explanatory</p> <p>When recovered, the specific services and/or associated service specific parameters will be marked as unallocated.</p> <p>Mandatory</p> <p style="background-color: #00ff00;">This process is responsible for notifying when it is completed. A</p> <p>[OM_PS] Order Rollback</p> <p>After the rollback work order is completed, change the activity to initial status(uncompleted).</p> <p>[IM_PS] 2.5.5 Resource Order Recover</p> <p>Accept order rollback request, change the corresponding resource state to ‘unallocated ’, and archive the resoure order data.</p> <p>Optional</p> <p>Not used for this process element</p> <p>Interactions</p> <p>This process is responsible for notifying when it is completed.</p>

4.5.10 Supporting Evidence References (Works Cited)

IM_PS	ZSmart Product Description-Inventory Management.doc, Product Specification Document for Inventory Management
OM_PS	ZSmart Product Description-service Order Management.doc, Product Specification Document for Service Order Management
WF_PS	ZSmart Product Description-Workforce Management.doc, Product Specification Document for Workforce Management
PROV_PS	ZSmart Product Description-Provisioning.doc, Product Specification Document for Service Provisioning

4.5.11 Service Configuration & Activation (1.1.2.2) – Process Conformance Results

1.1.2.2 Service Configuration & Activation [9/9] - Scores	
Level 3 Scores	Score
<i>1.1.2.2.1 - Design Solution</i>	5
<i>1.1.2.2.2 - Allocate Specific Service Parameters to Services</i>	5
<i>1.1.2.2.3 - Track & Manage Service Provisioning</i>	5
<i>1.1.2.2.4 - Implement, Configure & Activate Service</i>	5
<i>1.1.2.2.5 - Test Service End-to-End</i>	5
<i>1.1.2.2.7 - Issue Service Orders</i>	5
<i>1.1.2.2.8 - Report Service Provisioning</i>	5
<i>1.1.2.2.9 - Close Service Order</i>	5
<i>1.1.2.2.10 - Recover Service</i>	5
Scope coverage for Parent Level 2 Process (For information only – this is not publicized as a Conformance Score)	[9/9]

5 Information Framework Assessment Overview

5.1 Mapping Technique Employed

The certification scope defines the list of ABEs (Aggregated Business Entities) to be addressed during the assessment. The entities, association classes and dependent entities for each ABE in scope are also included in the assessment.

The mapping technique used, was based on the analysis of the SID model files and addendum specifications for the entities', association classes' in scope and its related attributes. The role of each entity', association class or attribute is then interpreted and mapped into the ZSmart information model related element. This will clearly state how the SID model is supported by ZSmart.

5.2 Information Framework Assessment - ABE Scope

The diagram in Figure 5.1 illustrates the Information Framework Level 1 ABEs that were presented in scope for the Assessment (blue high-light), and the textual callouts represent the domain areas of ZTE Corporation's ZSmart product that were assessed and support the corresponding SID ABEs.

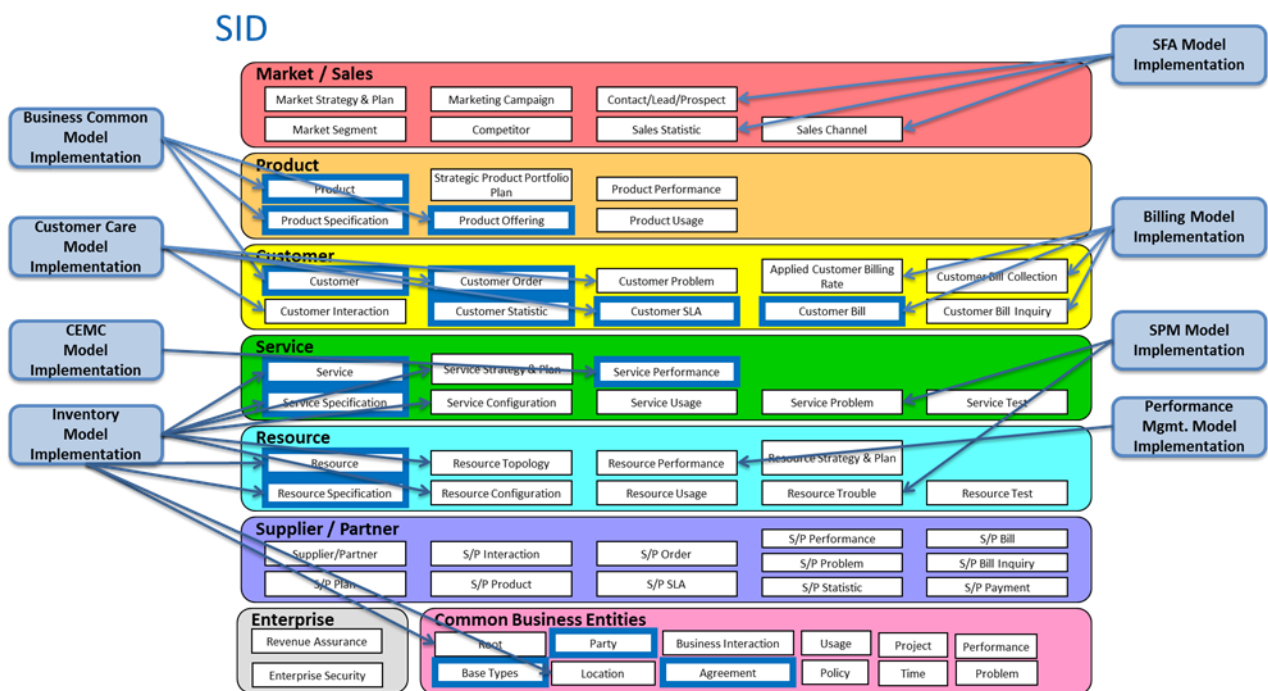


Figure 5.1 Level 1 ABEs in scope for ZTE Corporation's ZSmart Assessment

5.3 Product Scope

The diagram in Figure 5.2 represents ZTE Corporation’s ZSmart functional architecture.

ZSmart B/OSS Function Infrastructure

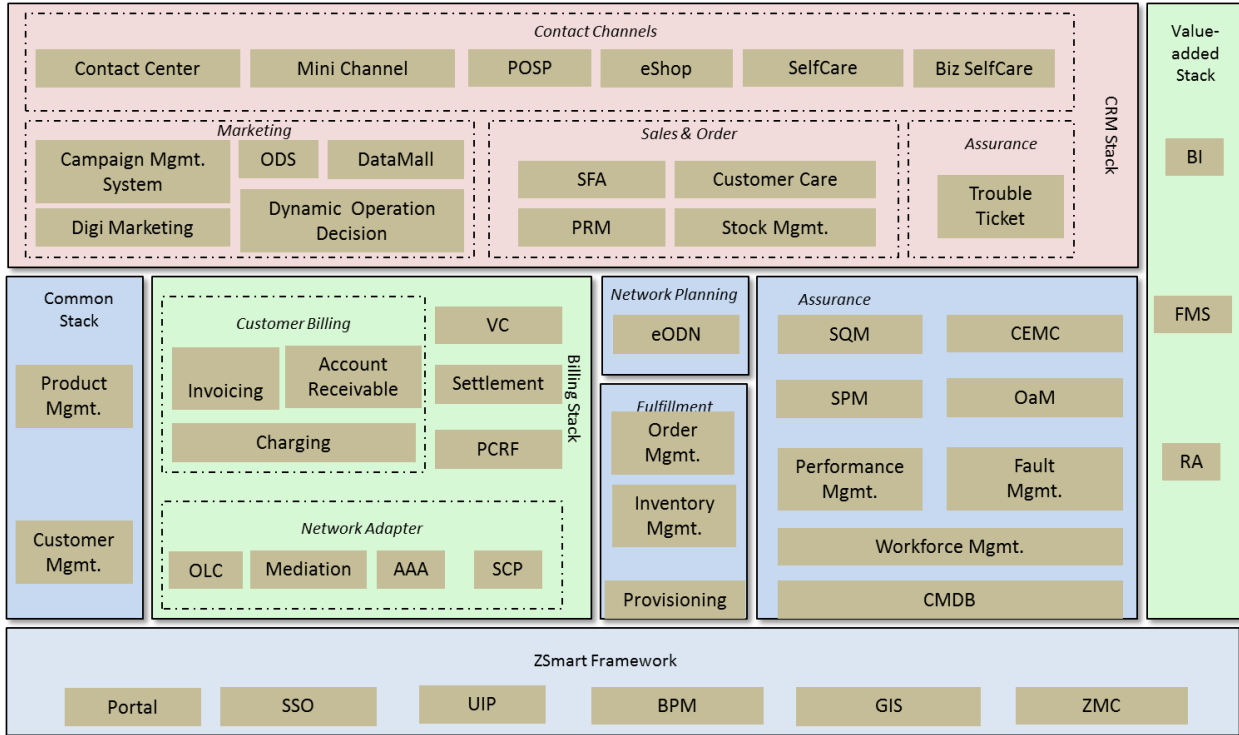


Figure 5.2 ZSmart Product Footprint: Product Scope for SID Assessment

6 Framework Conformance Result

This section details the Scores awarded to reflect Conformance of ZTE Corporation’s ZSmart to the Business Process Framework & Information Framework components of Framework 12.

6.1 Business Process Framework – Scoring Rules

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

Framework 12.0 Conformance Certification (Product/Solution/Implementation)		
Business Process Framework (eTOM) - Conformance Level Descriptions (Level 3 processes)		
Process level	Conformance Score	Qualifier
Level 1	Not applicable	Conformance Assessment shall not be carried out at this process level - hence Conformance Level shall not be awarded at this level.
Level 2	Not applicable	A conformance level is not awarded to Level 2 processes in Framework 12.0 Assessments. The Certification Report shall highlight the coverage of 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 for the Level 2 process.
Level 3	Score is awarded between 3.1 & 5.	The Conformance Score is awarded for each Level 3 processes 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. <i>Any manual implementation of the process support shall be noted in the Conformance Report and Detailed Results Report.</i>

Figure 6.1 TM Forum Business Process Framework: Conformance Scoring Rules

6.2 Business Process Framework - Conformance Result Summary

The graphs in this section provide an overview of the conformance levels granted to the Level 3 Processes presented in scope for ZTE Corporation’s ZSmart 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.

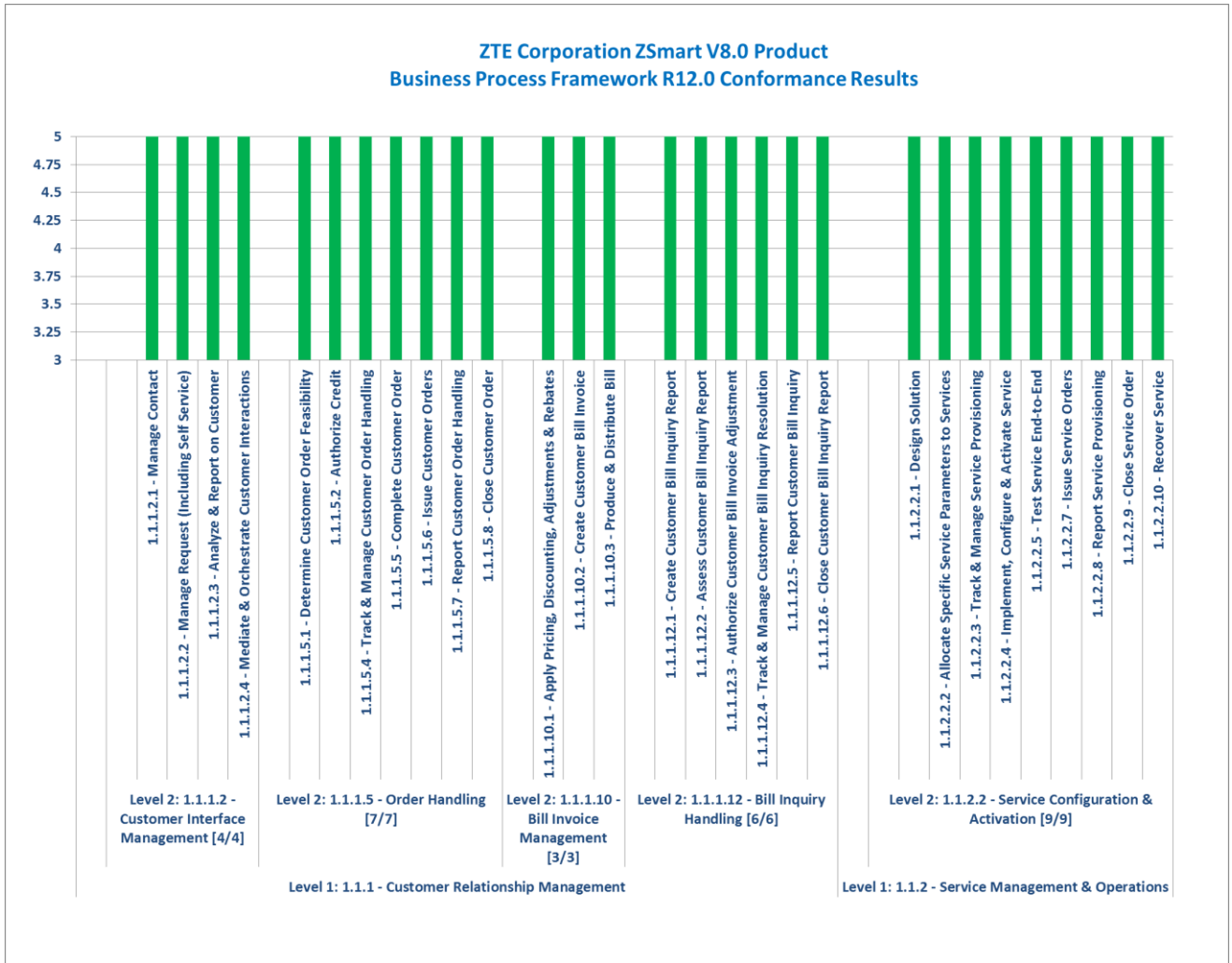


Figure 6.2 Business Process Framework: Conformance Result Summary

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

ZTE Corporation Zsmart V8.0 Product Business Process Framework (eTOM) Release 12.0 Conformance		
Business Process Framework Process	L3 Process Score [L2 Coverage]	Comments
Level 1: 1.1.1 - Customer Relationship Management		
Level 2: 1.1.1.2 - Customer Interface Management	[4/4]	
1.1.1.2.1 - Manage Contact	5	Fully Conformant Supporting evidence and documentation submitted for the assessment of this level 3 process fulfilled alignment criteria with the standard Business Process Framework (eTOM).
1.1.1.2.2 - Manage Request (Including Self Service)	5	Fully Conformant Supporting evidence and documentation submitted for the assessment of this level 3 process fulfilled alignment criteria with the standard Business Process Framework (eTOM).
1.1.1.2.3 - Analyze & Report on Customer	5	Fully Conformant Supporting evidence and documentation submitted for the assessment of this level 3 process fulfilled alignment criteria with the standard Business Process Framework (eTOM).
1.1.1.2.4 - Mediate & Orchestrate Customer Interactions	5	Fully Conformant Supporting evidence and documentation submitted for the assessment of this level 3 process fulfilled alignment criteria with the standard Business Process Framework (eTOM).

ZTE Corporation Zsmart V8.0 Product Business Process Framework (eTOM) Release 12.0 Conformance		
Business Process Framework Process	L3 Process Score [L2 Coverage]	Comments
Level 2: 1.1.1.5 - Order Handling	[7/7]	
1.1.1.5.1 - Determine Customer Order Feasibility	5	Fully Conformant Supporting evidence and documentation submitted for the assessment of this level 3 process fulfilled alignment criteria with the standard Business Process Framework (eTOM).
1.1.1.5.2 - Authorize Credit	5	Fully Conformant Supporting evidence and documentation submitted for the assessment of this level 3 process fulfilled alignment criteria with the standard Business Process Framework (eTOM).
1.1.1.5.4 - Track & Manage Customer Order Handling	5	Fully Conformant Supporting evidence and documentation submitted for the assessment of this level 3 process fulfilled alignment criteria with the standard Business Process Framework (eTOM).
1.1.1.5.5 - Complete Customer Order	5	Fully Conformant Supporting evidence and documentation submitted for the assessment of this level 3 process fulfilled alignment criteria with the standard Business Process Framework (eTOM).
1.1.1.5.6 - Issue Customer Orders	5	Fully Conformant Supporting evidence and documentation submitted for the assessment of this level 3 process fulfilled alignment criteria with the standard Business Process Framework (eTOM).

ZTE Corporation Zsmart V8.0 Product Business Process Framework (eTOM) Release 12.0 Conformance		
Business Process Framework Process	L3 Process Score [L2 Coverage]	Comments
1.1.1.5.7 - Report Customer Order Handling	5	Fully Conformant Supporting evidence and documentation submitted for the assessment of this level 3 process fulfilled alignment criteria with the standard Business Process Framework (eTOM).
1.1.1.5.8 - Close Customer Order	5	Fully Conformant Supporting evidence and documentation submitted for the assessment of this level 3 process fulfilled alignment criteria with the standard Business Process Framework (eTOM).
Level 2: 1.1.1.10 - Bill Invoice Management	[3/3]	
1.1.1.10.1 - Apply Pricing, Discounting, Adjustments & Rebates	5	Fully Conformant Supporting evidence and documentation submitted for the assessment of this level 3 process fulfilled alignment criteria with the standard Business Process Framework (eTOM).
1.1.1.10.2 - Create Customer Bill Invoice	5	Fully Conformant Supporting evidence and documentation submitted for the assessment of this level 3 process fulfilled alignment criteria with the standard Business Process Framework (eTOM).
1.1.1.10.3 - Produce & Distribute Bill	5	Fully Conformant Supporting evidence and documentation submitted for the assessment of this level 3 process fulfilled alignment criteria with the standard Business Process Framework (eTOM).

ZTE Corporation Zsmart V8.0 Product Business Process Framework (eTOM) Release 12.0 Conformance		
Business Process Framework Process	L3 Process Score [L2 Coverage]	Comments
Level 2: 1.1.1.12 - Bill Inquiry Handling	[6/6]	
1.1.1.12.1 - Create Customer Bill Inquiry Report	5	Fully Conformant Supporting evidence and documentation submitted for the assessment of this level 3 process fulfilled alignment criteria with the standard Business Process Framework (eTOM).
1.1.1.12.2 - Assess Customer Bill Inquiry Report	5	Fully Conformant Supporting evidence and documentation submitted for the assessment of this level 3 process fulfilled alignment criteria with the standard Business Process Framework (eTOM).
1.1.1.12.3 - Authorize Customer Bill Invoice Adjustment	5	Fully Conformant Supporting evidence and documentation submitted for the assessment of this level 3 process fulfilled alignment criteria with the standard Business Process Framework (eTOM).
1.1.1.12.4 - Track & Manage Customer Bill Inquiry Resolution	5	Fully Conformant Supporting evidence and documentation submitted for the assessment of this level 3 process fulfilled alignment criteria with the standard Business Process Framework (eTOM).
1.1.1.12.5 - Report Customer Bill Inquiry	5	Fully Conformant Supporting evidence and documentation submitted for the assessment of this level 3 process fulfilled alignment criteria with the standard Business Process Framework (eTOM).

ZTE Corporation Zsmart V8.0 Product Business Process Framework (eTOM) Release 12.0 Conformance		
Business Process Framework Process	L3 Process Score [L2 Coverage]	Comments
1.1.1.12.6 - Close Customer Bill Inquiry Report	5	Fully Conformant Supporting evidence and documentation submitted for the assessment of this level 3 process fulfilled alignment criteria with the standard Business Process Framework (eTOM).
Level 1: 1.1.2 - Service Management & Operations		
Level 2: 1.1.2.2 - Service Configuration & Activation	[9/9]	
1.1.2.2.1 - Design Solution	5	Fully Conformant Supporting evidence and documentation submitted for the assessment of this level 3 process fulfilled alignment criteria with the standard Business Process Framework (eTOM).
1.1.2.2.2 - Allocate Specific Service Parameters to Services	5	Fully Conformant Supporting evidence and documentation submitted for the assessment of this level 3 process fulfilled alignment criteria with the standard Business Process Framework (eTOM).
1.1.2.2.3 - Track & Manage Service Provisioning	5	Fully Conformant Supporting evidence and documentation submitted for the assessment of this level 3 process fulfilled alignment criteria with the standard Business Process Framework (eTOM).

ZTE Corporation Zsmart V8.0 Product Business Process Framework (eTOM) Release 12.0 Conformance		
Business Process Framework Process	L3 Process Score [L2 Coverage]	Comments
1.1.2.2.4 - Implement, Configure & Activate Service	5	Fully Conformant Supporting evidence and documentation submitted for the assessment of this level 3 process fulfilled alignment criteria with the standard Business Process Framework (eTOM).
1.1.2.2.5 - Test Service End-to-End	5	Fully Conformant Supporting evidence and documentation submitted for the assessment of this level 3 process fulfilled alignment criteria with the standard Business Process Framework (eTOM).
1.1.2.2.7 - Issue Service Orders	5	Fully Conformant Supporting evidence and documentation submitted for the assessment of this level 3 process fulfilled alignment criteria with the standard Business Process Framework (eTOM).
1.1.2.2.8 - Report Service Provisioning	5	Fully Conformant Supporting evidence and documentation submitted for the assessment of this level 3 process fulfilled alignment criteria with the standard Business Process Framework (eTOM).
1.1.2.2.9 - Close Service Order	5	Fully Conformant Supporting evidence and documentation submitted for the assessment of this level 3 process fulfilled alignment criteria with the standard Business Process Framework (eTOM).

ZTE Corporation Zsmart V8.0 Product Business Process Framework (eTOM) Release 12.0 Conformance		
Business Process Framework Process	L3 Process Score [L2 Coverage]	Comments
1.1.2.2.10 - Recover Service	5	Fully Conformant 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

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

Framework 12.0 Conformance Certification (Product/Solution/Implementation)	
Information Framework (SID) - Conformance Score Descriptions	
Conformance Score	Qualifier
Non Conformance [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
Non Conformance [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
Very Low Conformance [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.
Low Conformance [3.0 < Score <= 4.0]	The model has passed level 3 conformance and <u>*a percentage of the dependent entities</u> within the ABE 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.
Medium Conformance [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.
High Conformance [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.
Very High Conformance [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.
Full Conformance [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.
* 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).	

Figure 6.3 TM Forum Information Framework: Conformance Scoring Rules

Notes:

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.

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.

6.5 Information Framework – Conformance Result Summary

The following graphs provide an overview of the conformance levels granted to the ABEs presented in scope for ZTE Corporation’s ZSmart Information Framework Assessment. Each ABE was measured using an Information Framework (SID) conformance scale of 1–7 as described in section 6.4.

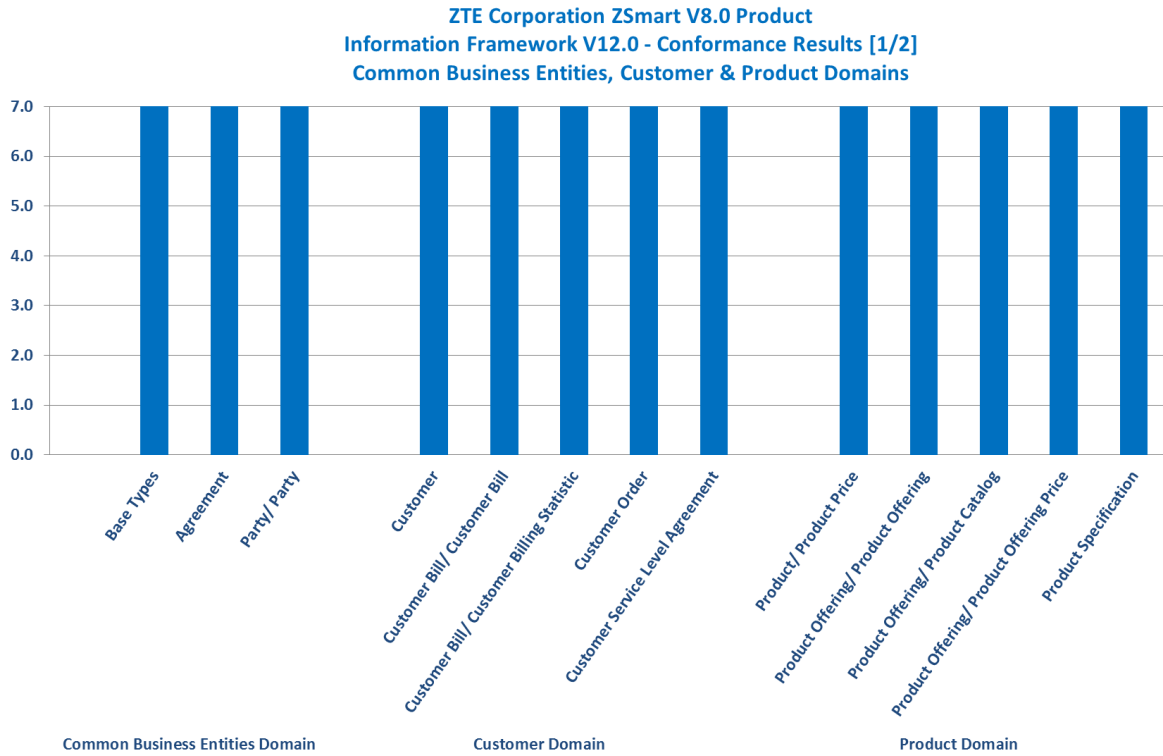


Figure 6.4 Information Framework: Conformance Result Summary CBE, Customer & Product Domains

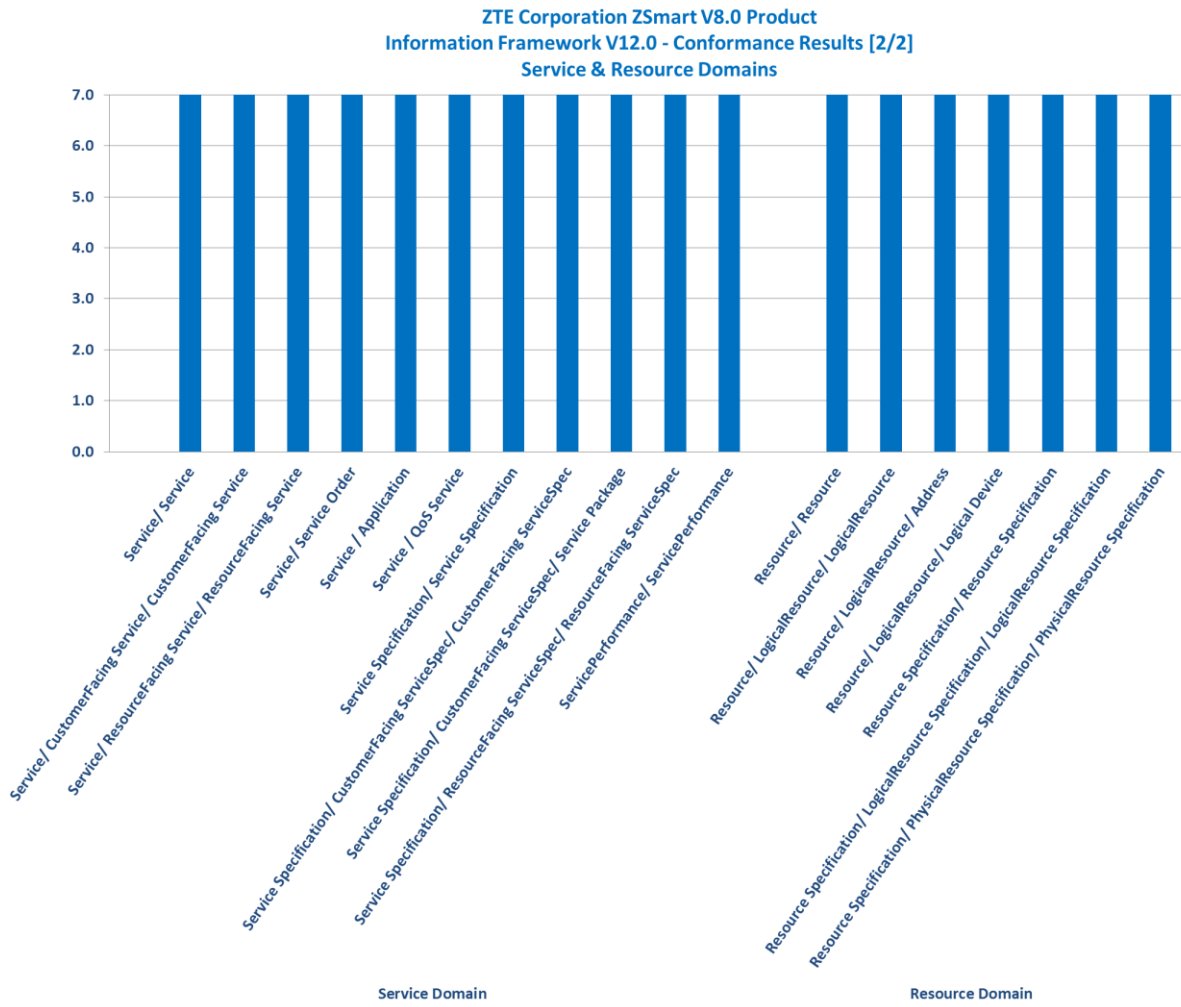


Figure 6.5 Information Framework: Conformance Result Summary Service & Resource Domains

6.6 Information Framework – Detailed Conformance Result

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

Table 6.2 Information Framework: Detailed Conformance Result

ZTE Corporation ZSmart V8.0 Product Information Framework (SID) R12.0 - Conformance Scores		
ABE	Conformance Score	Comment
Common Business Entities Domain		
Base Types	7.0	Core entity, required attributes, dependent entities, required attributes of dependent entities, all attributes of the core entity, all attributes of dependent entities supported.
Agreement	7.0	Core entity, required attributes, dependent entities, required attributes of dependent entities, all attributes of the core entity, all attributes of dependent entities supported.
Party/ Party	7.0	Core entity, required attributes, dependent entities, required attributes of dependent entities, all attributes of the core entity, all attributes of dependent entities supported.
Customer Domain		
Customer	7.0	Core entity, required attributes, dependent entities, required attributes of dependent entities, all attributes of the core entity, all attributes of dependent entities supported.
Customer Bill/ Customer Bill	7.0	Core entity, required attributes, dependent entities, required attributes of dependent entities, all attributes of the core entity, all attributes of dependent entities supported.

ZTE Corporation ZSmart V8.0 Product Information Framework (SID) R12.0 - Conformance Scores		
ABE	Conformance Score	Comment
Customer Bill/ Customer Billing Statistic	7.0	Core entity, required attributes, dependent entities, required attributes of dependent entities, all attributes of the core entity, all attributes of dependent entities supported.
Customer Order	7.0	Core entity, required attributes, dependent entities, required attributes of dependent entities, all attributes of the core entity, all attributes of dependent entities supported.
Customer Service Level Agreement	7.0	Core entity, required attributes, dependent entities, required attributes of dependent entities, all attributes of the core entity, all attributes of dependent entities supported.
Product Domain		
Product/ Product Price	7.0	Core entity, required attributes, dependent entities, required attributes of dependent entities, all attributes of the core entity, all attributes of dependent entities supported.
Product Offering/ Product Offering	7.0	Core entity, required attributes, dependent entities, required attributes of dependent entities, all attributes of the core entity, all attributes of dependent entities supported.
Product Offering/ Product Catalog	7.0	Core entity, required attributes, dependent entities, required attributes of dependent entities, all attributes of the core entity, all attributes of dependent entities supported.
Product Offering/ Product Offering Price	7.0	Core entity, required attributes, dependent entities, required attributes of dependent entities, all attributes of the core entity, all attributes of dependent entities supported.

ZTE Corporation ZSmart V8.0 Product Information Framework (SID) R12.0 - Conformance Scores		
ABE	Conformance Score	Comment
Product Specification	7.0	Core entity, required attributes, dependent entities, required attributes of dependent entities, all attributes of the core entity, all attributes of dependent entities supported.
Service Domain		
Service/ Service	7.0	Core entity, required attributes, dependent entities, required attributes of dependent entities, all attributes of the core entity, all attributes of dependent entities supported.
Service/ CustomerFacing Service/ CustomerFacing Service	7.0	Core entity, required attributes, dependent entities, required attributes of dependent entities, all attributes of the core entity, all attributes of dependent entities supported.
Service/ ResourceFacing Service/ ResourceFacing Service	7.0	Core entity, required attributes, dependent entities, required attributes of dependent entities, all attributes of the core entity, all attributes of dependent entities supported.
Service/ Service Order	7.0	Core entity, required attributes, dependent entities, required attributes of dependent entities, all attributes of the core entity, all attributes of dependent entities supported.
Service/ Application	7.0	Core entity, required attributes, dependent entities, required attributes of dependent entities, all attributes of the core entity, all attributes of dependent entities supported.
Service/ QoS Service	7.0	Core entity, required attributes, dependent entities, required attributes of dependent entities, all attributes of the core entity, all attributes of dependent entities supported.

ZTE Corporation ZSmart V8.0 Product Information Framework (SID) R12.0 - Conformance Scores		
ABE	Conformance Score	Comment
Service Specification/ Service Specification	7.0	Core entity, required attributes, dependent entities, required attributes of dependent entities, all attributes of the core entity, all attributes of dependent entities supported.
Service Specification/ CustomerFacing ServiceSpec/ CustomerFacing ServiceSpec	7.0	Core entity, required attributes, dependent entities, required attributes of dependent entities, all attributes of the core entity, all attributes of dependent entities supported.
Service Specification/ CustomerFacing ServiceSpec/ Service Package	7.0	Core entity, required attributes, dependent entities, required attributes of dependent entities, all attributes of the core entity, all attributes of dependent entities supported.
Service Specification/ ResourceFacing ServiceSpec/ ResourceFacing ServiceSpec	7.0	Core entity, required attributes, dependent entities, required attributes of dependent entities, all attributes of the core entity, all attributes of dependent entities supported.
ServicePerformance/ ServicePerformance	7.0	Core entity, required attributes, dependent entities, required attributes of dependent entities, all attributes of the core entity, all attributes of dependent entities supported.
Resource Domain		
Resource/ Resource	7.0	Core entity, required attributes, dependent entities, required attributes of dependent entities, all attributes of the core entity, all attributes of dependent entities supported.
Resource/ CompoundResource	7.0	Core entity, required attributes, dependent entities, required attributes of dependent entities, all attributes of the core entity, all attributes of dependent entities supported.

ZTE Corporation ZSmart V8.0 Product Information Framework (SID) R12.0 - Conformance Scores		
ABE	Conformance Score	Comment
Resource/ LogicalResource/ LogicalResource	7.0	Core entity, required attributes, dependent entities, required attributes of dependent entities, all attributes of the core entity, all attributes of dependent entities supported.
Resource/ LogicalResource/ Address	7.0	Core entity, required attributes, dependent entities, required attributes of dependent entities, all attributes of the core entity, all attributes of dependent entities supported.
Resource/ LogicalResource/ Logical Device	7.0	Core entity, required attributes, dependent entities, required attributes of dependent entities, all attributes of the core entity, all attributes of dependent entities supported.
Resource Specification/ Resource Specification	7.0	Core entity, required attributes, dependent entities, required attributes of dependent entities, all attributes of the core entity, all attributes of dependent entities supported.
Resource Specification/ LogicalResource Specification/ LogicalResource Specification	7.0	Core entity, required attributes, dependent entities, required attributes of dependent entities, all attributes of the core entity, all attributes of dependent entities supported.
Resource Specification/ PhysicalResource Specification/ PhysicalResource Specification	7.0	Core entity, required attributes, dependent entities, required attributes of dependent entities, all attributes of the core entity, all attributes of dependent entities supported.