

**Framework 15.0
Product Conformance
Certification Report**

**MIND C.T.I. Ltd.
MINDBill V7**

**February 2016
Version 1.0.1**

Table of Contents

List of Figures	0
List of Tables	0
Version History	0
1 Introduction.....	1
1.1 Executive Summary	1
2 Product Functionality/Capability Overview	2
2.1 MIND C.T.I. MINDBill product Overview	2
3 Business Process Framework Assessment Overview	4
3.1 Mapping Technique Employed.....	4
3.2 Business Process Framework Level 2 Process Scope	5
3.3 Product Scope.....	7
4 Business Process Framework – Process Mapping Descriptions	8
4.1 Level 2: Order Handling (3.3).....	9
4.1.1 Level 3: Determine Customer Order Feasibility (3.3.1) – Not in Scope.....	11
4.1.2 Level 3: Authorize Credit (3.3.2).....	11
4.1.3 Level 3: Track & Manage Customer Order Handling (3.3.3).....	14
4.1.4 Level 3: Complete Customer Order (3.3.4).....	26
4.1.5 Level 3: Issue Customer Orders (3.3.5).....	29
4.1.6 Level 3: Report Customer Order Handling (3.3.6)	38
4.1.7 Level 3: Close Customer Order (3.3.7).....	46
4.1.8 Supporting Evidence References (Works Cited).....	48
4.1.9 Detailed Conformance Results	49
4.2 Level 2: Customer Information Management (3.6).....	50
4.2.1 Level 3: Create customer record (3.6.1).....	52
4.2.2 Level 3: Update Customer Data (3.6.2)	54
4.2.3 Level 3: Notify customer data change (3.6.3)	57
4.2.4 Level 3: Archive Customer Data (3.6.4).....	59
4.2.5 Level 3: Build an Unified customer view (3.6.5).....	61
4.2.6 Supporting Evidence References (Works Cited).....	64

4.2.7	Detailed Conformance Results	65
5	Information Framework Assessment Overview	66
5.1	Mapping Technique Employed.....	66
5.2	Information Framework Assessment - ABE Scope	66
5.3	Product Scope.....	66
6	Framework Conformance Result	67
6.1	Business Process Framework – Scoring Rules	67
6.2	Business Process Framework – Conformance Result Summary.....	69
6.3	Business Process Framework – Detailed Conformance Results.....	70
6.4	Information Framework – Scoring Rules	72
6.4.1	Information Framework Maturity Conformance Scoring Methodology	72
6.4.2	Information Framework Adoption Conformance Scoring Methodology	72
6.5	Information Framework – Conformance Result Summary	73
6.5.1	Information Framework - Maturity Conformance Result Summary	73
6.5.2	Information Framework - Adoption Conformance Result Summary	73
6.6	Information Framework – Detailed Conformance Result	74

List of Figures

Figure 2-1 The MINDBill components	3
Figure 3-1 Level 2 process coverage for MIND C.T.I. MINDBill Assessment.....	5
Figure 3-2 Level 3 process coverage for MIND C.T.I. MINDBill Assessment.....	6
Figure 3-3 MIND C.T.I. MINDBill product mapped to eTOM Level 2 Processes in scope.....	7
Figure 4-1 Order Handling decomposition into level 3 processes	9
Figure 4-2 Track & Manage Customer Order Handling decomposition into level 4 processes	14
Figure 4-3 Issue Customer Orders decomposition into level 4 processes.....	29
Figure 4-4 Report Customer Order Handling decomposition into level 4 processes	38
Figure 4-5 Customer information management decomposition into level 3 processes	50
Figure 6-1 TM Forum Business Process Framework: Conformance Scoring Rules	67
Figure 6-2 Business Process Framework: Conformance Result Summary	69

List of Tables

Table 4-1 Order Handling (3.3) – Detailed Conformance Scores.....	49
Table 4-2 Customer Information Management (3.6) – Detailed Conformance Scores.....	65
Table 6-1 Business Process Framework: Detailed Conformance Results	70

Version History

- 1.0.1 01-March-2016 TM Forum
Updated contact email address in Executive Summary.

- 1.0 19-February-2016 TM Forum
Approved for publication.

1 Introduction

1.1 Executive Summary

This document provides details of MIND C.T.I.'s self-assessment and TM Forum's Conformance Assessment of the **MINDBill Version 7 product**, against the following Framework 15.0 components:

- Business Process Framework Version 15.0

The assessment included a review of:

- The methodology approach to process modeling against the TM Forum's Business Process Framework Release 14.5 according to the specific processes submitted in scope for the Assessment.

Note that Conformance to the Information Framework (SID) Aggregate Business Entities (ABEs) was not covered in this Assessment.

For more information on the MINDBill product please contact: sales@mindcti.com.

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

2 Product Functionality/Capability Overview

2.1 MIND C.T.I. MINDBill product Overview

MINDBill is a convergent billing and customer-care solution that facilitates the provisioning of services for mobile, broadband and wireline service providers.

MINDBill enables providers to launch, on the spot, new revenue-generating services with flexible, expandable properties, at Internet speed, giving them the ability to immediately roll out value-added, customer-centric services. Providers can easily bundle new services into packages suitable for different types of customers to secure, strengthen and expand their market presence, as well as increase customer retention. Using real-time mediation, provisioning and rating, service providers can increase their revenues and customer base by offering innovative products and services within a minimum time of deployment.

The various functional modules that implement the provisioning, mediation and billing functions are easily accessed using industry standard Application Programming Interfaces (APIs), enabling seamless integration with third-party applications. Our software's multi-layered, modular architecture supports real-time distributed processing, achieving performance, scalability and high-availability. Each of the six modules of **MINDBill 7.00** can be further broken down into the following sub-categories:



Figure 2-1 The MINDBill components

Key Features

Customer Care – Comprehensive customer care functionality utilizing a friendly GUI that eases the day-to-day CSR tasks.

Service Order and Trouble Ticketing – All tasks and customer tickets are managed by the work order facility.

Multiple Services and Rating Plans – Allowing the operator to define an unlimited number of services, bundles and rating plans.

Bill Production – Flexible invoice generation and shipment options.

Finance and A/R – Adjustments, payments and one-time charges and credits are easily performed and tracked.

Point Of Sale (POS) Module – Retail store application, supporting full sales and updates flows, including a cashiers’ drawers management system and resource management.

Roaming Support – Billing and managing visiting subscribers on your network, as well as billing your subscribers for roaming on another network.

3 Business Process Framework Assessment Overview

3.1 Mapping Technique Employed

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

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

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

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

Manual and Automated Support

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

TM Forum Note 1: *When process mappings are presented against Level 4 processes, the mappings are provided against the text in the “Mandatory” field for the process. In the event of the Mandatory field not being 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 figure represent the Business Process Framework Level 2 processes (high-lighted in green) that were presented in scope for the assessment and that were assessed and support the corresponding Business Process Framework processes according to the results in Chapter 6 Framework Conformance Result.

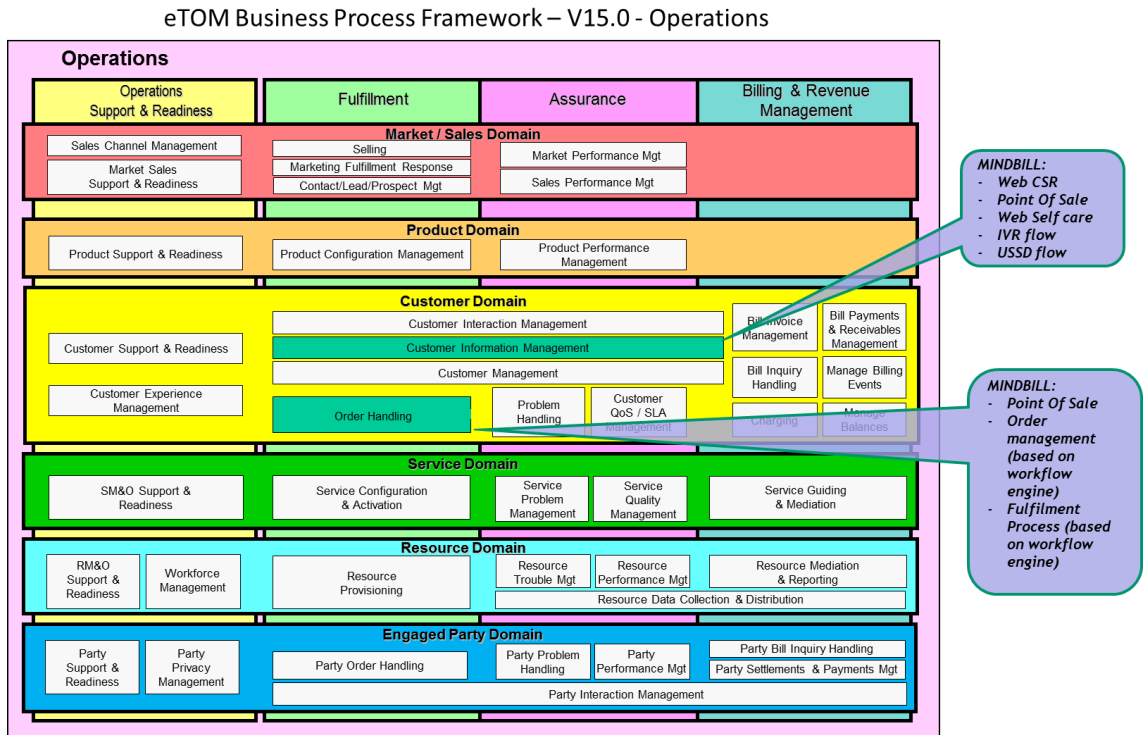


Figure 3-1 Level 2 process coverage for MIND C.T.I. MINDBill Assessment

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.

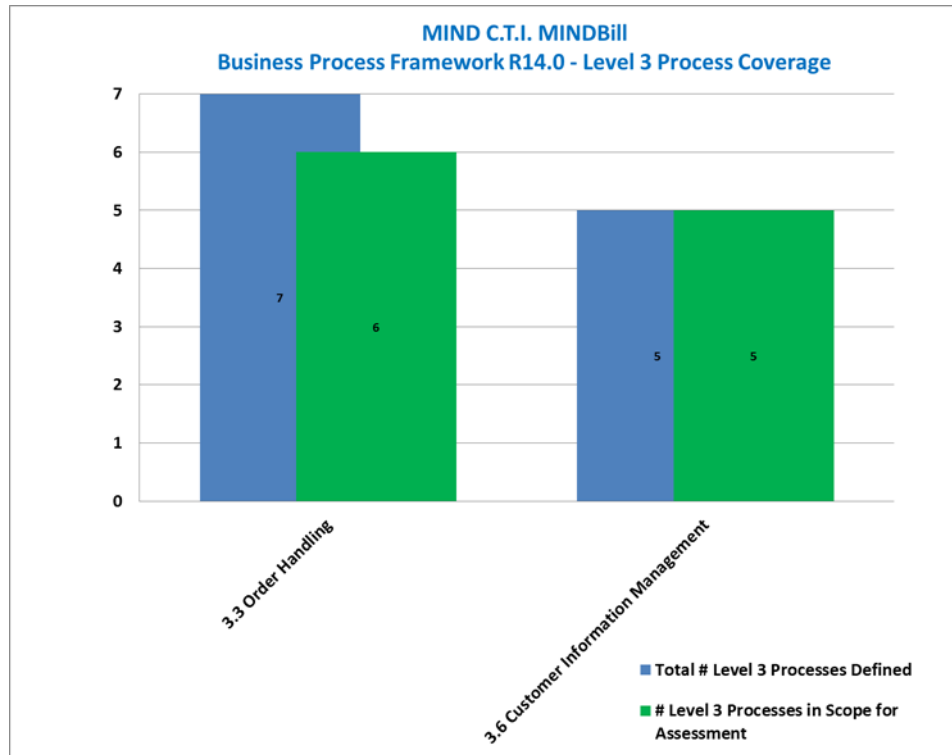


Figure 3-2 Level 3 process coverage for MIND C.T.I. MINDBill Assessment

3.3 Product Scope

The diagram in Figure 3-3 represents MIND C.T.I.'s MINDBill product with mappings to the Business Process Framework Level 2 processes that were submitted in scope for the Conformance Certification assessment.

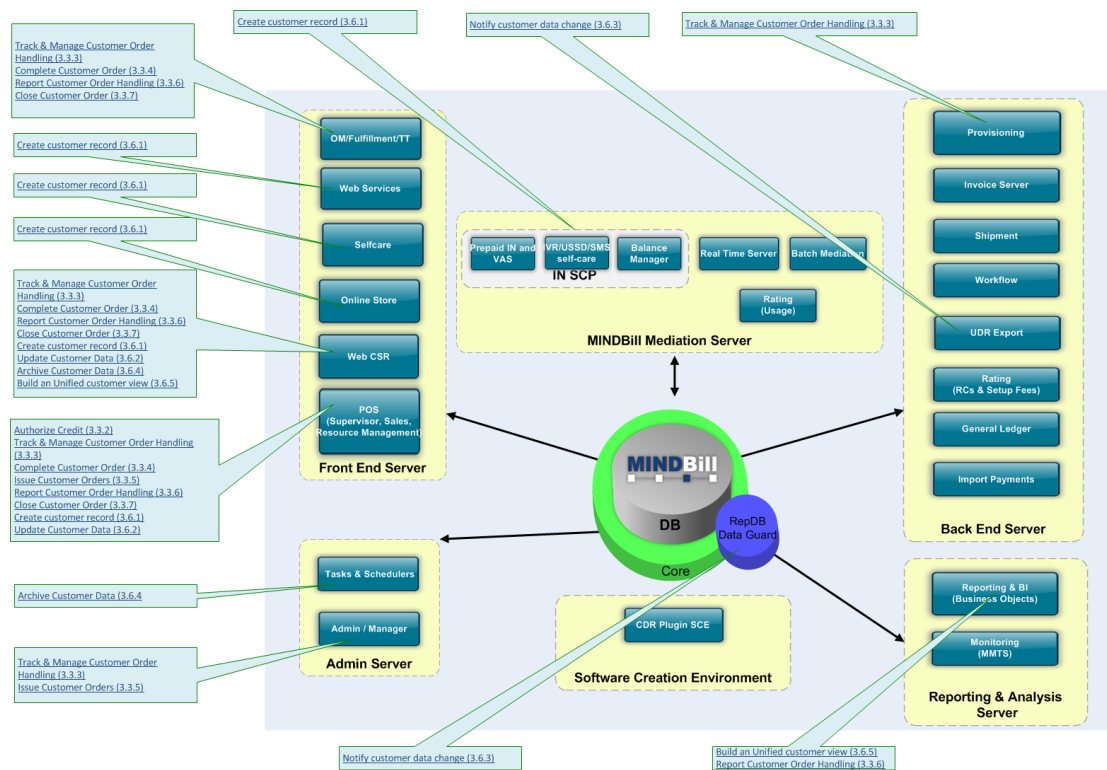


Figure 3-3 MIND C.T.I. MINDBill product mapped to eTOM Level 2 Processes in scope

4 Business Process Framework – Process Mapping Descriptions

This section provides the Process Mapping output from MIND C.T.I.'s self-assessment which was reviewed by TM Forum Subject Matter Experts alongside supporting documentation for MIND C.T.I.'s MINDBill product.

4.1 Level 2: Order Handling (3.3)

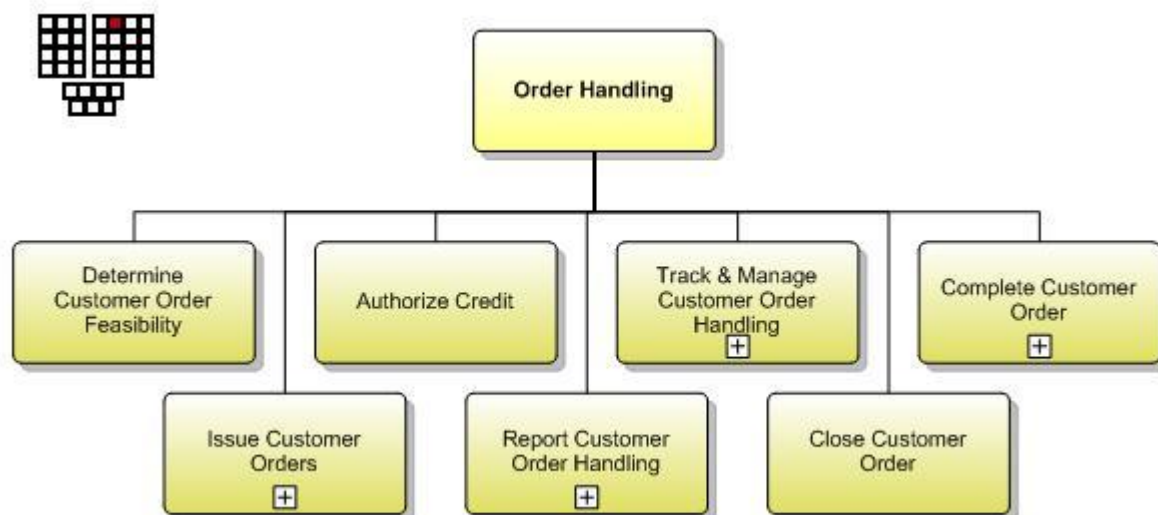


Figure 4-1 Order Handling decomposition into level 3 processes

Process Identifier: 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.

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.

4.1.1 Level 3: Determine Customer Order Feasibility (3.3.1) – Not in Scope

This process was not submitted in scope for the assessment.

4.1.2 Level 3: Authorize Credit (3.3.2)

Process Identifier: 3.3.2

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.

4.1.2.1 Level 3: Authorize Credit (3.3.2) - 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 3.3.2 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>MINDBILL Order Management (based on the work flow engine) and MINDBILL Point of Sale registration flow (orchestrated by the MINDBILL Point of Sale application) have several embedded functionalities designed to reduce the risk of debt non-payment for the service provider:</p> <ul style="list-style-type: none">- Customer credit score inquiry which may be achieved either by integration with an external credit score 3rd party (such as Equifax) or by setting it manually by the user/clerk based on security privileges – step of the registration flow- The system validates based on the customer ID (such as social security number) if there is other account in the system with the same ID for which the service provider already stated a debt collection process – in order to prevent fraud- For a registration of a new line of service under an existing account, the status of the account is being checked. The registration flow will continue only in

case the account is active or manually suspended (but not terminated or part of a debt collection process) – in order to prevent getting into more debt

Supporting Evidence References:

New Customer Registration.doc

POS - Restrict adding or updating SA for suspended MAs.doc

POS - Notify during the sale about a past due account.doc

New Customer Registration - Check for Existing Account .doc

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

MINDBILL system supports a mechanism to map the customer's real credit score inquired through a 3rd party integration (such as Equifax) to an internal credit score (such as A, B, C...). The true credit score number is not being exposed in the front end, but just the translated one (A, B, C...)

MINDBILL supports the following functionality which relies on the credit score, in order to reduce the company exposure to the bad debts:

- Require a deposit based on the credit score rank: bigger for low credit scores, smaller for big credit scores - configurable
- Package segregation based on credit score.

Note that all three dimensions together are also supported: required deposit for a specific credit score versus package combination

Supporting Evidence References:

MINDBill 7.00.002 Manager User Manual.doc, Adding a New Provider, Credit Score chapter

MINDBill 7.00.002 Manager User Manual.doc, Managing Packages, Package Required Deposit chapter

This process is responsible for initiating customer credit checks and for authorizing credit and credit terms in accordance with established enterprise risk and policy guidelines in accordance with established enterprise risk and policy guidelines AM

MINDBILL Order Management (based on the work flow engine) and MINDBILL Point of Sale registration flow (orchestrated by the MINDBILL Point of Sale application) perform credit score inquire, debit collection verification and account status verification for each new customer registration. These checks/verifications are applicable either for a brand new customer or for a new line of service registration for an existing customer.

MINDBILL product catalog is segregated based on the credit score. MINDBILL system supports configuring for example to not offer postpaid packages below a certain credit score (for example below C to offer only prepaid)

A required deposit may be charged according to the customer's credit score.

The customer credit score may be evaluated and updated also after the registration process.

Supporting Evidence References:

MINDBill 7.00.002 Manager User Manual.doc, Managing Packages chapter
MIND POS 7.00.003 Sales User Manual.pdf, 4 Update Account chapter Update Account.doc

4.1.3 Level 3: Track & Manage Customer Order Handling (3.3.3)

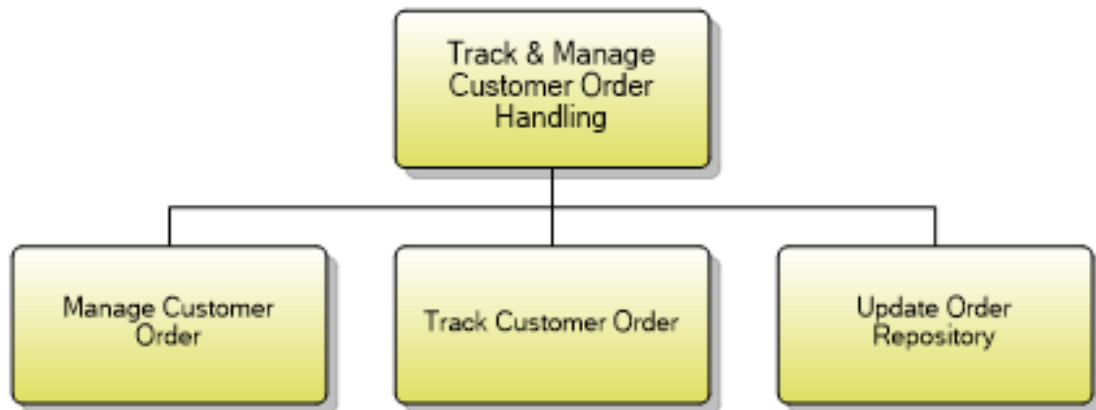


Figure 4-2 Track & Manage Customer Order Handling decomposition into level 4 processes

Process Identifier: 3.3.3

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.

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.

4.1.3.1 *Level 4: Manage Customer Order (3.3.3.1) – Mapping Details*

Process Identifier: 3.3.3.1

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 3.3.3.1 Manage Customer Order
<p>Brief Description</p> <p>Schedule, assign and coordinate customer provisioning related activities. A</p> <p>MINDBILL system have an automatic mechanism to do provisioning based on various events that may occur such as:</p> <ul style="list-style-type: none">- New customer activation: whenever the system activates a new account, various network elements are being provisioned- Status change: suspend / resume / disconnect- Package change / update. New services added / other services removed. <p>MINDBILL has also a mechanism to do re-provisioning in various circumstances such as: the original provisioning event failed or an inconsistency (from various reasons) occurred between the billing system and the network element.</p> <p>Supporting Evidence References:</p> <p>MINDBill 7.00.003 Product Description.pdf, Provisioning chapter</p> <p>MINDBill 7.00.003 Product Description.pdf, Provision Architecture based on the Workflow Engine chapter</p> <p>MINDBill 7.00.003 CSR User Manual.pdf , The Reprovisioning Process chapter</p> <p>Generate the respective service order creation request(s) to Issue Service Orders based on specific customer orders. A</p>

MINDBILL registration flow integrates with the workforce management system (3rd party integration) in order to create the work order based on the customer order request. This flow is applicable for broadband and wireline registration flows.

Also, MINDBILL registration flow integrates with an outside plant 3rd party system for mediating the site preparation before the technician is being send to the customer premises for the devices (ADSM/ FIBER Modems / Routers, Set Top Boxes) / service installation (Voice, Internet, TV)

Supporting Evidence References:

MINDBill - Service Agreement Registration for Broadband Services.doc

TM Forum Note:

Additional confidential supporting evidence provided for the following during the assessment:

- *New customer registration support*

Escalate status of customer orders in accordance with local policy. M

MINDBILL system allows opening trouble tickets for escalating various problems occurred during the customer registration but also during the account lifecycle.

Supporting Evidence References:

MINDBill 7.00.003 Product Description.pdf, Trouble Ticket chapter

Add additional information to an existing customer order. Modify information in an existing customer order. Cancel a customer order when the initiating sales request is cancelled. AM

MINDBILL allows registering a new line of service for an existing customer. For example, a customer having Voice and Internet services may come to the service provider to request also Cable TV / IPTV.

MINDBILL allows to do order re-negotiation even during the onsite installation. This process is named also up-sale opportunities (the technician that performs the installation convinces the customer to upgrade the order – either package and/or devices).

The order re-negotiation can reside either into updating the current line of service (updating/changing the package, replacing the devices – for example upgrading from

standard definition to high definition) or into canceling the current line of service and ordering a better upgraded one (cancel the ADSL line and apply for a FIBER one for better internet speed)

Supporting Evidence References:

MINDBill - Service Agreement Registration for Broadband Services.doc, Appointment Booking chapter, ongoing work order (up sale opportunities)

MINDBill - Service Agreement Update flow for Broadband Services.doc

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. M

MINDBILL has the ability to perform registration flows also for some advanced services such as PBX installations, leased lines but not only even if most of the installation and provisioning is being managed outside of the MINDBILL system, integration-less. Still the results of the installation (versions parameters that should be known by the billing manager or exposed in various custom account reports) may be recorder into the MINBILL system at the account level by using the flexibility of the user defined fields (UDFs).

Supporting Evidence References:

MINDBill 7.00.002 Manager User Manual.doc , Setting Account and Service UDFs, Adding Account User Defined Fields chapter

MINDBill 7.00.003 CSR User Manual.pdf, ACCOUNT DEFINITIONS, Advanced Chapter

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.

4.1.3.2 *Level 4: Track Customer Order (3.3.3.2) – Mapping Details*

Process Identifier: 3.3.3.2

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 3.3.3.2 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>The main two MINDBILL modules designated to register new customers into the billing system are:</p> <ul style="list-style-type: none">- MINDBILL Point of Sale – the front end sale is composed by few main steps: creating the master account which acts like a repository of all service lines (service agreements), creating a descendent service agreement account per each requested new line of service, checkout the sale which includes: payments, contracts, invoices, triggering 3rd party fulfillment flows such as Workforce for dealing with the physical installation. The flow may be parked in the checkout step and resumed later on if needed, even from a different station – check the parking cart reference below.- MINDBILL Web CSR Order Management built on top of the Workflow engine. The flow is customized per service provider’s needs – check a sample of registration flow for built for one of our customers added below. However, regardless of the customization, built in workflow functionalities are used such as:<ul style="list-style-type: none">o Ability to PAUSE the flow and resume it later ono Ability to unassigned the current user and assign it to a different oneo The registration flow, as any other business process built on top of workflow engine is being tracked and monitored using the Process Monitor functionality – check Process Monitor reference below

Once the installation work order is being sent to the work force 3rd party system, the MINDBILL registration flow gets into a waiting step, waiting for various events from the 3rd party which are meant to complete the order and move it to the final closing step such as:

- Device serial numbers for Modems, Routers and Set Top Boxes – MINDBILL needs them in mediation (usage processing) and also in network elements provisioning
- The technician readiness to start performing tests – based on this even MINDBILL automatically initiates network elements provisioning (having also the devices assigned to the account from the previous event)
- The fact that the customer has signed the order- based on this event the billing system is starting to charge the customer – starts the monthly recurring charge period

Note that the status of the installation is being tracked and displayed in the order management screens, more specifically, in this waiting step.

Supporting Evidence References:

MINDBill - Service Agreement Registration for Broadband Services.doc, Waiting for Installation chapter

All the business processes (including the registration ones) are being tracked by the aggregated process monitor functionality. It includes:

- Filter the processes by types / categories
- Displaying the current process step
- Displaying the process due dates
- Opening the process in order to view details about the current step.
- Ability to re-assign the process to a different user if needed

Supporting Evidence References:

MINDBill 7.00.003 CSR User Manual.pdf, Process Monitor chapter

MINDBill 7.00.003 CSR User Manual.pdf, Processes chapter

MINDBill 7.00.003 CSR User Manual.pdf, ACCOUNT HOME chapter

B662410 - Support POS cart parking.doc

TM Forum Note:

Additional confidential supporting evidence provided for the following during the assessment:

- *Order Management flow*

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.

4.1.3.3 *Level 4: Update Order Repository (3.3.3.3) – Mapping Details*

Process Identifier: 3.3.3.3

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 3.3.3.3 Update Order Repository
<p>Brief Description</p> <p>Update repository at each level in order handling. The state of order will be changed at each level according to work flow:</p> <ul style="list-style-type: none">- All those issued customer order which are not preauthorized are set in ‘pending’ state- Validate order will passed to ‘acknowledged’ state (if invalid, order gets ‘rejected’)- Feasible order (completing the impact analysis) will be ‘committed’ in case order is not ‘cancelled’ (leads to cancelled state) (if infeasible , order gets ‘rejected’)- As the order progress for completion will set to ‘completed’ (in case not cancelled)- The 3 terminal states: completed, cancelled and rejected will finally leads to ‘closed customer order’ <p>AM</p> <p>Based on the technology, MIND order management / Point of sale does various feasibility checks before issuing the order such as:</p> <ul style="list-style-type: none">- For wireless – checks based on the customer provided ZIP code whether there will be signal coverage on that area- For wireline / broadband – based on the customer provided service address, checks if the service provider offers the requested services on that area. Also, based on the already deployed services (relevant for example for an existing customer that already has services from this service provider), the order flow checks if the new requested services fit into the remaining available bandwidth (example: the customer already has a 20 MB ADSL line and already has a 15 MB internet package and a IPTV Set Top Box which consumes 3 MB. The customer comes to the service provider’s store and requests two additional Set Top Boxes which consume in total 6 MB. The order management should detect this situation and prompt to the clerk that the requested additional bandwidth does not fit into the remaining one. One solution is to upgrade

the customer from ADSL to 100 MB FIBER transport layer. This will result into a disconnect flow of an existing line of service and into a creation of a new service agreement/line of service).

- There are three ways to check the service coverage:
 - o By integrating with an external facility management (outside plant) vendor
 - o External check and follow up via a MINDBILL trouble ticket
 - o Internal coverage check by maintaining an internal list of facilities into the MINDBILL database

In case of a “no coverage” result, the decision may be either to refuse the order (in case of a regular subscriber) or to initiate an order to “extend the network” in case of a special VIP customer. The installation order would be postpone and aligned after the successfully termination of the network extension process (this process may take months).

Only feasible orders advance to the next stages of the registration flow. Also, the available line of services are filtered according to the feasibility check (example: if the feasibility check done for a specific service address returns as available services just VOICE and INTERNET but not TV then the POS registration flow will NOT allow to add to the shopping cart TV service agreements)

The sale may be canceled along the flow:

- Before checkout – when cart is in the process of being built
- After checkout – during the payment collection flow – it will require also payment cancelation
- During fulfillment stage

In case the installation is successfully done, the order is being marked as completed – check the Process Monitor reference chapter

In case the installations is NOT successfully done (a reject reason is received from the 3rd party workforce system), a new trouble ticket (service call) for fixing the order is opened.

Supporting Evidence References:

MINDBill - Service Agreement Registration for Broadband Services.doc

MINDBill 7.00.003 CSR User Manual.pdf, Process Monitor chapter

TM Forum Note:

Additional confidential supporting evidence provided for the following during the assessment:

- *New customer registration support*
- *Service call support*

Extended Description

Not used for this process element

Explanatory

Reserved for future use.

Mandatory

Create, update and delete order information and update order state into order inventory/
repository

Optional

Reserved for future use.

Interactions

This process will directly interact with the repository, in order to update the order state/status information.

4.1.4 Level 3: Complete Customer Order (3.3.4)

Process Identifier: 3.3.4

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 3.3.4 Complete Customer Order
<p>Brief Description</p> <p>Manage customer information and interactions after customer contracts or associated service orders have been finalized and during the order completion phase AM</p> <p>MINDBILL through its WEBCSR and POS front end applications offers the end to end management of the account information during the order completion phase but also after the order is being finalized. The following interaction channels are being supported:</p> <ul style="list-style-type: none">- Customer comes in the service provider’s store – the clerk will manage all the requested activities by using the MINDBILL POS- Customer calls the service provider call center – the call center operator operates against the account using the MINDBILL WEB CSR application. The most important activities are centralized in an aggregated account home page screen. <p>Supporting Evidence References:</p> <p>MINDBill 7.00.003 CSR User Manual.pdf, Process Monitor chapter</p> <p>MINDBill 7.00.003 CSR User Manual.pdf, Processes chapter</p> <p>MINDBill 7.00.003 CSR User Manual.pdf, ACCOUNT HOME chapter</p> <p>MIND POS 7.00.003 Sales User Manual.pdf</p>

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. **AM**

MINDBILL through its WEBCSR and POS front end applications offers the end to end management of the account information during the order completion phase but also after the order is being finalized.

For broadband / wireline registration flows, after MINDBILL finalized the interactions with the customer for collecting all the information related to the order, a work order is opened in the 3rd party workforce system. MINDBILL gets automatically into a waiting step composed by the following sub-steps:

- Technician gets to the customer premises
- Technician deploy all the necessary CPE (devices)
- Technician perform end to end tests with the customer to see that all the services are working
- Technician signs with the customer the contract considering that all the services are working nicely

Through its centralized approach, all customer information collected during customer registration process is naturally exposed to other modules for various adjacent functionalities: example, the device serial numbers collected by the technician during the installation step are transferred to the billing system and automatically made available to the provisioning module.

Supporting Evidence References:

MINDBill - Service Agreement Registration for Broadband Services.doc

Explanatory

Reserved for future use.

Mandatory

Reserved for future use.

Optional

Reserved for future use.

Interactions

Reserved for future use.

4.1.5 Level 3: Issue Customer Orders (3.3.5)

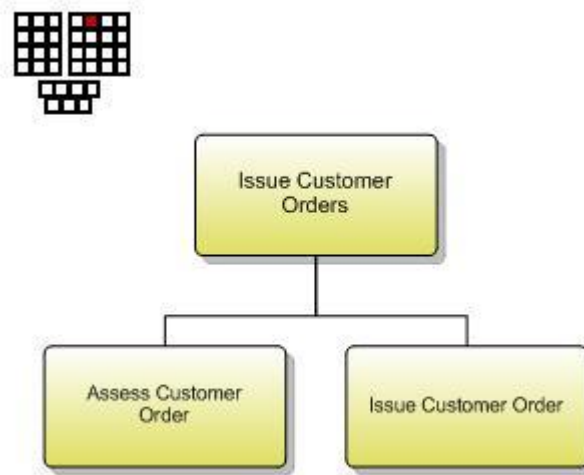


Figure 4-3 Issue Customer Orders decomposition into level 4 processes

Process Identifier: 3.3.5

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

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.

4.1.5.1 *Level 4: Assess Customer Order (3.3.5.1) – Mapping Details*

Process Identifier: 3.3.5.1

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 3.3.5.1 - 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>MINDBILL Order Management (based on the work flow engine) and MINDBILL Point of Sale registration flow (orchestrated by the MINDBILL Point of Sale application) handle the end to end account registration flow for various technologies such as: Wireless (CDMA, GSM), Wireline VOICE, Wireline VOIP, Broadband Internet / IPTV but also advanced services such as Wireline PBX or Leased Lines. The workflow engine through its embedded flexibility but also the Point of Sale assure complete collection of all necessary customer and order details (such as: all necessary contact details, all necessary addresses, package, devices etc) but also validation and correlation between them. Example: package filtering by various pre-selected considerations: business segment (residential versus commercial), technology (Wireless, Wireline, Internet, TV etc), credit score, custom filters that require no development but just system deployment (veteran, employee of a certain company etc.)</p> <p>Infrastructural wise, all the validation and correlations between various entities from the order, are being managed by a common application which is named: MINDBILL Core. Other example of correlations and validations, beside the one described above: device versus package correlation.</p> <p>Supporting Evidence References:</p> <p>MINDBill Point of Sale - Wireless Postpaid New Service Agreement Registration.doc</p> <p>MIND POS 7.00.003 Sales User Manual.pdf, New Customer chapter</p>

The issued customer order may require a feasibility assessment, AM

MINDBILL Core application assures the validation and correlation among all entities collected during an order flow, regardless of the order collection channel: Order Management over workflow engine or MINDBILL Point of Sale registration flow.

Based on the technology, MIND order management / Point of sale does various feasibility checks before issuing the order such as:

- For wireless – checks based on the customer provided ZIP code whether there will be signal coverage on that area
- For wireline / broadband – based on the customer provided service address, checks if the service provider offers the requested services on that area. Also, based on the already deployed services (relevant for example for an existing customer that already has services from this service provider), the order flow checks if the new requested services fit into the remaining available bandwidth (example: the customer already has a 20 MB ADSL line and already has a 15 MB internet package and a IPTV Set Top Box which consumes 3 MB. The customer comes to the service provider’s store and requests two additional Set Top Boxes which consume in total 6 MB. The order management should detect this situation and prompt to the clerk that the requested additional bandwidth does not fit into the remaining one. One solution is to upgrade the customer from ADSL to 100 MB FIBER transport layer. This will result into a disconnect flow of an existing line of service and into a creation of a new service agreement/line of service).
- There are three ways to check the service coverage:
 - o By integrating with an external facility management (outside plant) vendor
 - o External check and follow up via a MINDBILL trouble ticket
 - o Internal coverage check by maintaining an internal list of facilities into the MINDBILL databaseIn case of a “no coverage” result, the decision may be either to refuse the order (in case of a regular subscriber) or to initiate an order to “extend the network” in case of a special VIP customer. The installation order would be postpone and aligned after the successfully termination of the network extension process (this process may take months).

Supporting Evidence References:

TM Forum Note:

Confidential supporting evidence was provided for the following during the assessment:

- *New customer registration support*

may require new provisioning activities, A

Based on the technology, MINDBILL provisioning server, provisions various network elements in various points of the order.

For example, in general for the wireless registration flow, the activation on the network element (such as HLR) is being done at the end of the flow and it coincides in general with the event that starts the billing period.

For wireline and broadband, the flow may become more complex and the activation in the network element usually coincides with the moment when the technician installs the services on the customer premises and should perform various tests. At a later moment in time, after all the tests are being successfully done, MINDBILL performs activation for starting the billing period.

Supporting Evidence References:

MINDBill 7.00.003 Product Description.pdf, Provisioning chapter

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

Based on various business rules, an order may reside into a totally new line of service, or may be tackled also as an update of an existing one (such as a package change). As explained above, during the feasibility assessment stage, a decision may be taken to cancel an existing line of service and create a new one (such as: upgrade from ADSL to FIBER).

Specifically for wireline / broadband, while the technician performs the installation on the customer premises, up-sale flows may occur (the technician convinces the customer to perform a certain change in the existing order). MINDBILL Point of Sale application is equipped with the necessary functionality to append content to an existing and ongoing order and dispatch it to the same technician that triggered the event.

Supporting Evidence References:

MINDBill Point of Sale - Wireless Postpaid New Service Agreement Registration.doc

MINDBill Point of Sale - Wireless services - Update Service flows.doc

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

The decision to cancel an order may come from various channels:

- The customer is requesting it to the service provider – MINDBILL initiates a disconnect order flow
- The clerk decides that an upgrade needs to be done – replace an ADSL with a FIBER line

MINDBILL Point of Sale application supports the following return flows:

- Immediate return (in cooling period) – full return
- Standard return – will not return the service changes

Supporting Evidence References:

MINDBill - Broadband services - Return flows.doc

MINDBill Point of Sale - Wireless services - Return flows.doc

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

A customer order may reside into a totally independent line of service but also may depend by the existing ones (from matters such as: available bandwidth, maximum numbers of line under a certain master account, primary – dependent line validations etc.) Therefore, based on the situation, the decision may vary between updating the package of an existing line of service or even disconnecting an existing line and creating a new one instead.

Supporting Evidence References:

MINDBill Point of Sale - Wireless Postpaid New Service Agreement Registration.doc

MINDBill Point of Sale - Wireless services - Update Service flows.doc

4.1.5.2 *Level 4: Issue Customer Order (3.3.5.2) – Mapping Details*

Process Identifier: 3.3.5.2

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 3.3.5.2 - Issue Customer Orders
<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>MINDBILL Order Management (based on the work flow engine) and MINDBILL Point of Sale registration flow (orchestrated by the MINDBILL Point of Sale application) handle the end to end account registration flow for various technologies such as: Wireless (CDMA, GSM), Wireline VOICE, Wireline VOIP, Broadband Internet / IPTV but also advanced services such as Wireline PBX or Leased Lines. The workflow engine through its embedded flexibility but also the Point of Sale assure complete collection of all necessary customer and order details (such as: all necessary contact details, all necessary addresses, package, devices etc) but also validation and correlation between them. Example: package filtering by various pre-selected considerations: business segment (residential versus commercial), technology (Wireless, Wireline, Internet, TV etc), credit score, custom filters that require no development but just system deployment (veteran, employee of a certain company etc.)</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>MINDBILL order managements, within the feasibility assessment stage, checks if the requested services (especially the wireline and broadband ones) can be offered in the requested address. If not (there is no service coverage on that address), based on the customer profile (for example a business VIP profile), a network extension process may be initiated. The installation order should be postponed after the network extension is finalized.</p>

The network extension process is implemented on top of the MINDBILL Trouble Ticket mechanism.

MINDBILL order management may offer standard and non-standard package rates. Therefore, the MINDBILL system supports the ability to negotiate the tariff rates (both fix but also the destination rates)

MINDBILL Point Of Sale is equipped with the functionality to issue a draft contract and to park the sale. This functionality may be used for the business accounts where the contract needs to be negotiated and this flow may take time. During this process, the service provider representative together with the business customer representative may negotiate various rates from the standard business offer (in other words to create a personalized offer/package) and sign at the end the final contract.

Supporting Evidence References:

MINDBill 7.00.003 Product Description.pdf, Trouble Ticket chapter

TM Forum Note:

Additional confidential supporting evidence provided for the following during the assessment:

- *New customer registration support*

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.

4.1.6 Level 3: Report Customer Order Handling (3.3.6)



Figure 4-4 Report Customer Order Handling decomposition into level 4 processes

Process Identifier: 3.3.6

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

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.

4.1.6.1 *Level 4: Monitor Customer Order Status (3.3.6.1) – Mapping Details*

Process Identifier: 3.3.6.1

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 3.3.6.1 - Monitor Customer Order Status
<p>Brief Description</p> <p>Continuously monitor the status of customer orders. AM</p> <p>Once the installation work order is being sent to the work force 3rd party system, the MINDBILL registration flow gets into a waiting step, waiting for various events from the 3rd party which are meant to complete the order and move it to the final closing step such as:</p> <ul style="list-style-type: none">- Device serial numbers for Modems, Routers and Set Top Boxes – MINDBILL needs them in mediation (usage processing) and also in network elements provisioning- The technician readiness to start performing tests – based on this even MINDBILL automatically initiates network elements provisioning (having also the devices assigned to the account from the previous event)- The fact that the customer has signed the order- based on this event the billing system is starting to charge the customer – starts the monthly recurring charge period <p>Note that the status of the installation is being tracked and displayed in the order management screens, more specifically, in this waiting step.</p> <p>Supporting Evidence References:</p> <p>MINDBill - Service Agreement Registration for Broadband Services.doc</p> <p>TM Forum Note:</p> <p><i>Additional confidential supporting evidence provided for the following during the assessment:</i></p>

- *New customer registration support*

All the business processes (including the registration ones) are being tracked by the aggregated process monitor functionality. It includes:

- Filter the processes by types / categories
- Displaying the current process step
- Displaying the process due dates
- Opening the process in order to view details about the current step.
- Ability to re-assign the process to a different user if needed

Supporting Evidence References:

MINDBill - Service Agreement Registration for Broadband Services.doc

MINDBill 7.00.003 CSR User Manual.pdf, Process Monitor chapter

MINDBill 7.00.003 CSR User Manual.pdf, Processes chapter

MINDBill 7.00.003 CSR User Manual.pdf, ACCOUNT HOME chapter

TM Forum Note:

Additional confidential supporting evidence provided for the following during the assessment:

- *New customer registration support.*

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.

4.1.6.2 *Level 4: Manage Customer Order Status Notification (3.3.6.2) – Mapping Details*

Process Identifier: 3.3.6.2

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 3.3.6.2 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>Through its centralized approach, all customer information collected during customer registration process is naturally exposed to other modules for various adjacent functionalities: example, the device serial numbers collected by the technician during the installation step are transferred to the billing system and automatically made available to the provisioning module.</p> <p>Also, the activation of the customer which happens as part of the installation step (in the sub-step when the technician is supposed to test and show to the customer that the services are working nice) automatically triggers the network elements provisioning process.</p> <p>Supporting Evidence References:</p> <p>MINDBill - Service Agreement Registration for Broadband Services.doc</p> <p>MINDBill 7.00.003 Product Description.pdf, Provisioning chapter</p> <p>MINDBill 7.00.003 Product Description.pdf, Provision Architecture based on the Workflow Engine chapter</p>

Extended description

Not used for this process element

4.1.6.3 *Level 4: Report Customer Order Status (3.3.6.3) – Mapping Details*

Process Identifier: 3.3.6.3

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 3.3.6.3 - 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>MINDBILL centralizes all the customer information details collected during the registration flow and make them available through general or customized reports.</p> <p>Also, relevant data is being exposed in the WEB CSR or POS applications which are the main applications that display and manage the account lifecycle post registration.</p> <p>MINDBILL offers an integrated solution for presenting the sale decomposition by using the reporting Business Intelligence infrastructure over the SAP Business Object Enterprise.</p> <p>Supporting Evidence References:</p> <p>MIND 7.00.003 Crystal Reports User Guide BOE XI 4.1.pdf</p> <p>MIND BI Reports User Guide.pdf, Service Activations Analysis Report chapter</p>

4.1.7 Level 3: Close Customer Order (3.3.7)

Process Identifier: 3.3.7

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.

4.1.7.1 *Level 3: Close Customer Order (3.3.7) - 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 3.3.7 - 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>When the entire order is fulfilled (the devices are deployed, the services are provisioned etc), MINDBILL automatically finishes the order including actions such as:</p> <ul style="list-style-type: none">- Starting the billing period for monthly recurring charges- Marking the process as terminated – taking it out from the active processes <p>Supporting Evidence References:</p> <p>MINDBill 7.00.003 CSR User Manual.pdf, Process Monitor chapter</p> <p>MINDBill 7.00.003 CSR User Manual.pdf, Processes chapter</p> <p>MINDBill 7.00.003 CSR User Manual.pdf, ACCOUNT HOME chapter</p> <p>MINDBill - Service Agreement Registration for Broadband Services.doc, Waiting for Installation chapter</p>

Extended description

The objective of the Close Customer Order processes is to close a customer order when the customer provisioning activities have been completed. A

Supporting Evidence References:

MINDBill 7.00.003 CSR User Manual.pdf, Process Monitor chapter

MINDBill 7.00.003 CSR User Manual.pdf, Processes chapter

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

Supporting Evidence References:

MINDBill 7.00.003 CSR User Manual.pdf, Process Monitor chapter

MINDBill 7.00.003 CSR User Manual.pdf, Processes chapter

4.1.8 Supporting Evidence References (Works Cited)

MINDBill 7.00.003 Product Description.pdf

MIND POS 7.00.003 Sales User Manual.pdf

MINDBill Point of Sale - Wireless Postpaid New Service Agreement Registration.doc

MINDBill Point of Sale - Wireless services - Update Service flows.doc

MINDBill Point of Sale - Wireless services - Return flows.doc

MINDBill - Service Agreement Registration for Broadband Services.doc

MINDBill - Broadband services - Return flows.doc

MIND 7.00.003 Crystal Reports User Guide BOE XI 4.1.pdf

MIND BI Reports User Guide.pdf

MINDBill 7.00.002 Manager User Manual.doc

MINDBill 7.00.003 CSR User Manual.pdf

New Customer Registration.doc

Update Account.doc

POS - Restrict adding or updating SA for suspended MAs.doc

POS - Notify during the sale about a past due account.doc

New Customer Registration - Check for Existing Account .doc

MINDBill - Service Agreement Update flow for Broadband Services.doc

TM Forum Note:

Additional confidential supporting evidence was provided for the following during the assessment:

- *New customer registration support.*

4.1.9 Detailed Conformance Results

Table 4-1 Order Handling (3.3) – Detailed Conformance Scores

MIND C.T.I. MINDBill Product Framework 15.0 Business Process Framework Conformance Scores	
Operations: Level 1: 3 - Customer Domain	
Level 2: 3.3 Order Handling	Conformance Scores
<i>3.3.1 - Determine Customer Order Feasibility</i>	<i>Not in Scope</i>
3.3.2 - Authorize Credit	5
3.3.3 - Track & Manage Customer Order Handling	5
3.3.3.1 - Manage Customer Order	100%
3.3.3.2 - Track Customer Order	100%
3.3.3.3 - Update Order Repository	100%
3.3.4 - Complete Customer Order	5
3.3.5 - Issue Customer Orders	5
3.3.5.1 - Assess Customer Order	100%
3.3.5.2 - Issue Customer Order	100%
3.3.6 - Report Customer Order Handling	5
3.3.6.1 - Monitor Customer Order Status	100%
3.3.6.2 - Manage Customer Order Status Notification	100%
3.3.6.3 - Report Customer Order Status	100%
3.3.7 - Close Customer Order	5

4.2 Level 2: Customer Information Management (3.6)

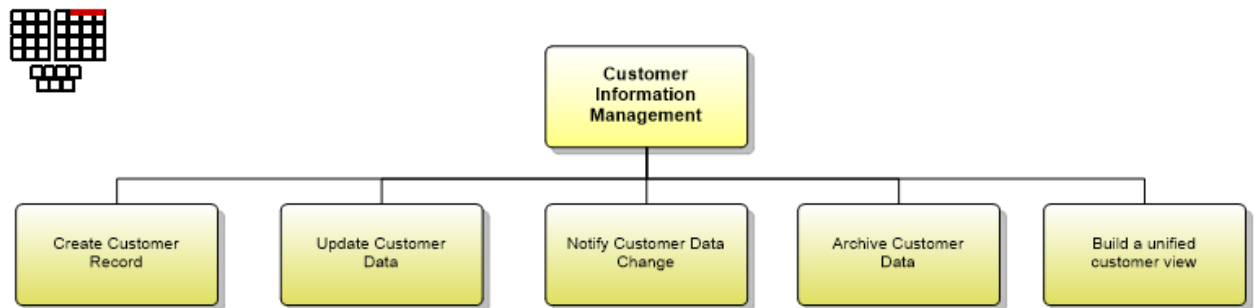


Figure 4-5 Customer information management decomposition into level 3 processes

Process Identifier: 3.6

Process Context

Manage customer information after customer contracts or associated service orders have been finalized and during the order completion phase. Ensure that any customer information required by other CRM processes is updated as part of the customer order completion.

Brief Description

Manage customer information after customer contracts or associated service orders have been finalized and during the order completion phase. Ensure that any customer information required by other CRM processes is updated as part of the customer order completion.

Extended Description

The purpose of this process is to record and maintain customer information in the csp in order to:

- Support day to day operation of CSP
- Enable SP to provide best customer experience
- Support customer segmentation for successful marketing campaign
- Support analytical systems such as churn and fraud

When the customer information is not needed any more by the online systems (according to CSP policies and regulation) this process is in charge of archiving the information (if accepted to the customer)

Explanatory

Reserved for future use.

Mandatory

Reserved for future use.

Optional

Reserved for future use.

Interactions

Reserved for future use.

4.2.1 Level 3: Create customer record (3.6.1)

Process Identifier: 3.6.1

Process Context

Create a new customer record in the customer inventory.

The purpose of this process is to create a new customer record in the customer inventory. This process follows the processes in Establish Customer Relationship that make sure that a single record is created for each customer, and it persists the customer data in the customer inventory.

4.2.1.1 *Level 3: Create customer record (3.6.1) - Mapping Details*

Level 4 PROCESS MAPPING DETAILS 3.6.1 Create customer record
<p>Brief Description</p> <p>Create a new customer record in the customer inventory. AM</p> <p>MINDBILL billing system has various channels to register a new customer in the system:</p> <ul style="list-style-type: none">- POS – operated by clerks in the provider’s stores- DEALER POS – operated by dealers in dealer’s stores- WEB CSR -> Order Management built on top of workflow engine – operated by call center operators <p>Extended description</p> <p>The purpose of this process is to create a new customer record in the customer inventory. This process follows the processes in Establish Customer Relationship that make sure that a single record is created for each customer, and it persists the customer data in the customer inventory. AM</p> <p>MINDBILL billing system has various channels to register a new customer in the system:</p> <ul style="list-style-type: none">- POS – operated by clerks in the provider’s stores- DEALER POS – operated by dealers in dealer’s stores- WEB CSR -> Order Management built on top of workflow engine – operated by call center operators <p>The basic representation of a customer in the system is as follows:</p>

- One main root master account record that keeps the customer details (contact details, billing address etc)
- A descendant service agreement account per each line of service which may be: mobile, wireline, broadband etc.

One customer record (master account) may hold many lines of service (many service agreements), sold at different point in times.

The created customer record (the above described account hierarchy representing the customer and its service agreement lines) is commonly accessed through different modules for further management and manipulation:

- POS – for customer management in the provider’s store
- WEB CSR – for customer management in the provider’s callcenter
- Self-care – for self-management
- IVR – for self-management
- USSD – for self-management
- XML API – for integration with external platforms

This unified customer record is also accessed by all the other MINDBILL modules that perform various manual or automated activity against it:

- Provisioning module – provisioning various external network elements
- Mediation modules – handle call details records

Supporting Evidence References:

MIND POS 7.00.003 Sales User Manual.pdf

MINDBill 7.00.003 Product Description.pdf, Account Management chapter

MINDBill CSR - Account Hierarchies.doc

TM Forum Note:

Additional confidential supporting evidence provided in the following during the assessment:

- *MINDBill V7 CSR User Manual*

4.2.2 Level 3: Update Customer Data (3.6.2)

Process Identifier: 3.6.2

Process Context

Update the customer data in the customer inventory.

The purpose of this process is to update the customer data in the customer inventory. This can happen as a result of direct notification from the customer, as a result of information gathered as part of other processes (such as selling and order handling) or as a result of back office processes (such as customer data cleansing) .

4.2.2.1 *Level 3: Create customer record (3.6.1) - Mapping Details*

Level 4 PROCESS MAPPING DETAILS 3.6.2 Update Customer Data
<p>Brief Description</p> <p>Update the customer data in the customer inventory AM</p> <p>The created customer record (the above described account hierarchy representing the customer and its service agreement lines) is commonly accessed through different modules for further management and manipulation:</p> <ul style="list-style-type: none">- POS – for customer management in the provider’s store. The following update flows are available:<ul style="list-style-type: none">○ Updating the service details: package change, phone number change, address change etc.○ Updating the resources○ Replenish the balance○ Various return flows- WEB CSR – for customer management in the provider’s call center- Self-care – for self-management- IVR – for self-management- USSD – for self-management- XML API – for integration with external platforms

Extended description

The purpose of this process is to update the customer data in the customer inventory. This can happen as a result of direct notification from the customer, as a result of information gathered as part of other processes (such as selling and order handling) or as a result of back office processes (such as customer data cleansing) . AM

The created customer record (the above described account hierarchy representing the customer and its service agreement lines) is commonly accessed through different modules for further management and manipulation:

- POS – for customer management in the provider’s store. The following update flows are available:
 - o Updating the service details: package change, phone number change, address change etc.
 - o Updating the resources
 - o Replenish the balance
 - o Various return flows
- WEB CSR – for customer management in the provider’s call center
- Self-care – for self-management
- IVR – for self-management
- USSD – for self-management
- XML API – for integration with external platforms

The users accessing these applications perform various update/management activities based on their security privileges.

MINDBILL automatic processes affect the customer record:

- Account closure process – manipulates the account status and derived termination fees.
- Debt collection – manipulates the account status based on overdue balance and overdue terms
- Scheduled account suspension – manage the scheduled account suspension / resuming
- Scheduled package change – manage the scheduled package change at the scheduled future date

- Hot billing process – manage the account status based on remaining balance; resumes the account based on payment injected

Supporting Evidence References:

Update Account.doc

MINDBill Point of Sale - Wireless services - Update Service flows.doc

MINDBill Point of Sale - Wireless services - Return flows.doc

MINDBill - Service Agreement Update flow for Broadband Services.doc

MINDBill - Broadband services - Return flows.doc

Update Resources.doc

MINDBill 7.00.003 Product Description.pdf, Hot Billing Chapter

MINDBill 7.00.003 Product Description.pdf, SCHEDULED ACCOUNT CLOSURE Chapter

MINDBill 7.00.003 Product Description.pdf, Schedule Package Change Chapter

MINDBill 7.00.003 Product Description.pdf, Debt Collection Chapter

MINDBill CSR - Account Life Cycle.doc

4.2.3 Level 3: Notify customer data change (3.6.3)

Process Identifier: 3.6.3

Process Context

Notify other processes that customer data has been changed

The purpose of this process is notify other processes that customer data has been changed. Other processes (mostly long-lived processes) might need to know about such changes in order to adapt to such changes. In addition some processes which gather the data for centralized systems (such as Data Warehouse or Master Data Management) should be notified about such changes.

4.2.3.1 *Level 3: Create customer record (3.6.1) - Mapping Details*

Level 4 PROCESS MAPPING DETAILS 3.6.3 Notify customer data change
<p>Brief Description</p> <p>Notify other processes that customer data has been changed AM</p> <p>MINDBILL holds a unified record for all customer details as described in the first chapter (one master account plus one service agreement per each line of service).</p>
<p>Extended description</p> <p>The purpose of this process is notify other processes that customer data has been changed. Other processes (mostly long-lived processes) might need to know about such changes in order to adapt to such changes. In addition some processes which gather the data for centralized systems (such as Data Warehouse or Master Data Management) should be notified about such changes. AM</p> <p>MINDBILL holds a unified record for all customer details as described in the first chapter (one master account plus one service agreement per each line of service).</p> <p>This record is being accessed and manipulated by all MINDBILL modules: from sale channel modules such as POS or Order Management build on top of workflow engine to mediation, provisioning, reporting, invoicing or payment modules.</p>

An update done by one process on a certain field may automatically trigger other module, for example, a package change done from POS automatically triggers the provisioning. Also a report done on customer data will use the latest customer record.

All processes are looking on the unified account.

Each process tracks a sub-set of fields and reacts automatically on that field update:

- Provisioning – for example reacts on status change or on an addition / deletion of a certain service
- Debt Collection – reacts on balance change or on a payment injection
- Hot billing – balance, payment
- Portability – reacts on phone number change

MINDBILL has a Data warehouse solution called also “Reporting Database” which is based on Oracle Data Guard.

- The solution idea is based on a real-time synchronization of the entire DB schema to a remote server.
- The purpose of this replication is to avoid running heavy reports on the main production system which may impact the performance and allows the customers to further import data from MINDBill’s reporting database into their corporate data warehouse, using standard ETL tools/solutions.
- Also, the solution assures full backup/copy of the main database.

MINDBILL has an UDR export module that exports all the customer detail records to a 3rd party system

Supporting Evidence References:

Layout_DG.gif

MINDBill 7.00.003 UDR Distribution User Guide.doc

4.2.4 Level 3: Archive Customer Data (3.6.4)

Process Identifier: 3.6.4

Process Context

Archive the customer data.

The purpose of this process is to archive and clean up customer data when it is no longer needed as part of the customer inventory. The information is archived according to the CSP policies and the local regulations. In most cases customer information is not deleted unless this is specifically required by the customer.

4.2.4.1 *Level 3: Create customer record (3.6.1) - Mapping Details*

Level 4 PROCESS MAPPING DETAILS 3.6.4 Archive Customer Data
<p>Brief Description</p> <p>Archive the customer data. AM</p> <p>During its life cycle, an account in the MINDBILL system may have one of the following statuses:</p> <ul style="list-style-type: none">• <i>New</i>• <i>Active</i>• <i>Suspended</i>• <i>Pending to close</i>• <i>Permanently closed</i>• <i>Old</i>• <i>Archived.</i> <p>Extended description</p> <p>The purpose of this process is to archive and clean up customer data when it is no longer needed as part of the customer inventory. The information is archived</p>

according to the CSP policies and the local regulations. In most cases customer information is not deleted unless this is specifically required by the customer. AM

During its life cycle, an account in the MINDBILL system may have one of the following statuses:

- *New*
- *Active*
- *Suspended*
- *Pending to close*
- *Permanently closed*
- *Old*
- *Archived.*

MINDBILL keeps the traffic details in the database using time based table partitions. MINDBill supports to move old partitioned transactions to offline/slow disks or external backup solutions, such as tapes.

When stored on offline disks, the information is compressed and MINDBill supports retrieval of old transactions information when needed.

Each activity done on the customer record (customer account) is being journalized into the account journal.

Supporting Evidence References:

MINDBill CSR - Account Life Cycle.doc

Generic Cleanup Maintenance Task deploy.doc

MINDBill 7.00.003 CSR User Manual.pdf, Journal Chapter

4.2.5 Level 3: Build an Unified customer view (3.6.5)

Process Identifier: 3.6.5

Process Context

Create a single customer record from the information stored in multiple systems and present a single, most updated record of the customer information.

The purpose of this process is to create a single customer record from the information stored in multiple systems and present a single, most updated record of the customer information. This process invokes business rules in order to reconcile the customer data in a single accurate record. This process may be activated immediately upon any update of customer data or may be invoked on request to retrieve the customer data. This process may replicate data from other systems or calculate the unified record on the fly without persisting any customer data.

4.2.5.1 *Level 3: Create customer record (3.6.1) - Mapping Details*

Level 4 PROCESS MAPPING DETAILS 3.6.5 Build a Unified customer view
<p>Brief Description</p> <p>Create a single customer record from the information stored in multiple systems and present a single, most updated record of the customer information. AM</p> <p>MINDBILL WEB CSR is the application that centralizes and displays all the account details. The WEB CSR application has an account home page concept that acts as a dashboard used to start various processes.</p> <p>Extended description</p> <p>The purpose of this process is to create a single customer record from the information stored in multiple systems and present a single, most updated record of the customer information. This process invokes business rules in order to reconcile the customer data in a single accurate record. This process may be activated immediately upon any update of customer data or may be invoked on request to retrieve the customer data. This process may replicate data from other systems or calculate the unified record on the fly without persisting any customer data. AM</p> <p>MINDBILL WEB CSR is the application that centralizes and displays all the account details.</p> <p>The WEB CSR application has an account home page concept that acts as a dashboard used to start various processes.</p> <p>MINDBILL holds a unified record for all customer details. This record is being accessed and manipulated by all MINDBILL modules: from sale channel modules such as POS or Order Management build on top of workflow engine to mediation, provisioning, reporting, invoicing or payment modules.</p> <p>An update done by one process on a certain field may automatically trigger other module, for example, a package change done from POS automatically triggers the provisioning. Also a report done on customer data will use the latest customer record.</p>

MINDBILL integrates with other external systems in order to present an unified customer view, for example:

- Prepaid IN system – MINDBILL presents a unified record of the customer data. The data is usually retrieved by web services and it's not persisted. Example of data: Prepaid balance (retrieved from the IN platform)
- Show network element details – through provisioning queries directly towards the network element

Business Intelligence and Reports – these functionalities assures exposing a unified view of various account details.

MINDBILL collect traffic data from various network elements and present them unified under the same customer account view – view usage screen from WEB CSR module

Supporting Evidence References:

MINDBill 7.00.003 CSR User Manual.pdf, ACCOUNT HOME Chapter

MIND BI Reports User Guide.pdf

MINDBill 7.00.003 CSR User Manual.pdf , Retrieving the Network Element Details Chapter

MINDBill 7.00.003 CSR User Manual.pdf ,Usage Chapter

4.2.6 Supporting Evidence References (Works Cited)

MINDBill 7.00.003 Product Description.pdf

MIND POS 7.00.003 Sales User Manual.pdf

MINDBill 7.00.003 CSR User Manual.pdf

MINDBill - Service Agreement Update flow for Broadband Services.doc

MINDBill - Broadband services - Return flows.doc

MINDBill Point of Sale - Wireless services - Update Service flows.doc

MINDBill Point of Sale - Wireless services - Return flows.doc

Update Account.doc

Update Resources.doc

MINDBill 7.00.003 UDR Distribution User Guide.doc

MINDBill CSR - Account Hierarchies.doc

MINDBill CSR - Account Life Cycle.doc

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Generic Cleanup Maintenance Task deploy.doc

MIND BI Reports User Guide.pdf

4.2.7 Detailed Conformance Results

Table 4-2 Customer Information Management (3.6) – Detailed Conformance Scores

MIND C.T.I. MINDBill Product Framework 15.0 Business Process Framework Conformance Scores	
Operations: Level 1: 3 - Customer Domain	
Level 2: 3.6 - Customer Information Management	Conformance Scores
3.6.1 - Create Customer Record	5
3.6.2 - Update Customer Data	5
3.6.3 - Notify Customer Data Change	5
3.6.4 - Archive Customer Data	5
3.6.5 - Build a unified customer view	5

5 Information Framework Assessment Overview

5.1 Mapping Technique Employed

Not applicable for this assessment.

5.2 Information Framework Assessment - ABE Scope

Not applicable for this assessment.

5.3 Product Scope

Not applicable for this assessment.

6 Framework Conformance Result

This section details the Scores awarded to reflect Conformance of MIND C.T.I.' MINDBill product to the Business Process Framework & Information Framework components of Framework 14.5.

6.1 Business Process Framework – Scoring Rules

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

Framework 15.0 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

Additional Notes on Business Process Framework Conformance Scoring

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

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

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

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

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

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

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

6.2 Business Process Framework – Conformance Result Summary

The graph in this section provides an overview of the conformance levels granted to the Level 3 Processes presented in scope for the MIND C.T.I. MINDBill 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.

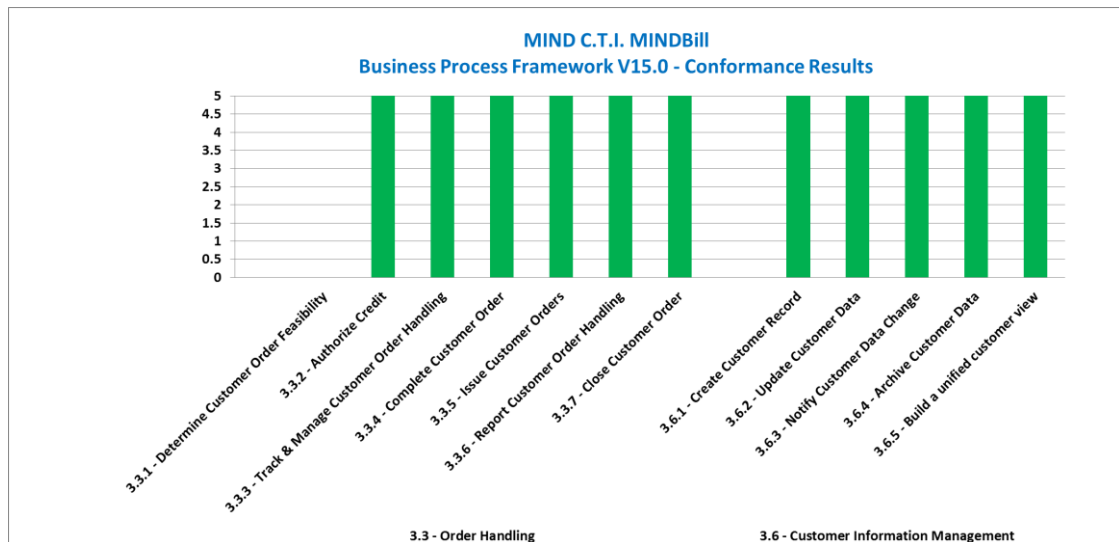


Figure 6-2 Business Process Framework: Conformance Result Summary

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

MIND C.T.I. MINDBill Product V7.0 Business Process Framework (eTOM) Release 15.0 Conformance		
L1 / L2 / L3 Process	L3 Process Score [L2 Coverage]	Comments
Level 1: 3 - Customer Domain		
Level 2: 3.3 Order Handling [6/7]		
<i>3.3.1 - Determine Customer Order Feasibility</i>	<i>Not in Scope</i>	<i>Not in Scope</i>
3.3.2 - Authorize Credit	5.0	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).
3.3.3 - Track & Manage Customer Order Handling	5.0	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).
3.3.4 - Complete Customer Order	5.0	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).
3.3.5 - Issue Customer Orders	5.0	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).

3.3.6 - Report Customer Order Handling	5.0	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).
3.3.7 - Close Customer Order	5.0	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: 3.6 - Customer Information Management [5/5]		
3.6.1 - Create Customer Record	5.0	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).
3.6.2 - Update Customer Data	5.0	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).
3.6.3 - Notify Customer Data Change	5.0	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).
3.6.4 - Archive Customer Data	5.0	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).
3.6.5 - Build a unified customer view	5.0	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

Not applicable for this assessment.

6.4.1 Information Framework Maturity Conformance Scoring Methodology

Not applicable for this assessment.

6.4.2 Information Framework Adoption Conformance Scoring Methodology

Not applicable for this assessment.

6.5 Information Framework – Conformance Result Summary

Not applicable for this assessment.

6.5.1 Information Framework - Maturity Conformance Result Summary

Not applicable for this assessment.

6.5.2 Information Framework - Adoption Conformance Result Summary

Not applicable for this assessment.

6.6 Information Framework – Detailed Conformance Result

Not applicable for this assessment.