Frameworx 14.0
Product Conformance
Certification Report

CoralTree Systems
DaVinci Revenue Management V2.5

May 2015

Version 1.0

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1 Introduction

1.1 Executive Summary

This document provides details of CoralTree Systems' self-assessment and TM Forum's Conformance Assessment of the **CoralTree Systems daVinci Revenue Management** product, against the following Frameworx 14.0 components:

- Business Process Framework Version 14.0
- Information Framework Version 14.0

The assessment included a review of:

- The methodology approach to process modeling against the TM Forum's Business Process Framework Release 14.0 according to the specific processes submitted in scope for the Assessment.
- Conformance to the Information Framework Release 14.0 Domains/Aggregate Business Entities according to the specific ABEs submitted in scope for the Assessment.

2   Product Functionality/Capability Overview

2.1   CoralTree Systems daVinci Revenue Management – Product Overview

daVinci Revenue Management provides scalable and robust real-time rating and billing capability. Generic by design, daVinci enables your business to have the flexibility to offer, provide, bill and manage any type of service

With flexible configuration of charging, policies, products, and services, daVinci revenue management can fully support dynamic service bundles across both consumer and business hierarchies.

daVinci allows you to enjoy a dynamic revenue management environment that enables growth today and supports the business demands of future technologies. The code to your success is daVinci.

- Scalable from small scale start-ups to 'tier 1' operators
- Event based generic rating capability
- Flexible charging and billing function
- Robust and reliable operational platform.

Real-Time Usage Rating
daVinci offers a generic rating engine that supports real-time rating – empowering your customers to have more control over usage and improving loyalty. daVinci provides the flexibility to manage usage types common in today's telecoms and media markets, whilst positioning operators to take advantage of market opportunities.

Billing
The convergent daVinci billing system enables operators to be competitive in the market. With multi-level hierarchies and rich product and pricing capability, operators have the flexibility to meet the complex customer demands for innovative packages. With flexible and simplified billing, that supports in-depth, transparent reporting and full transaction trails, daVinci is the code to success for operator's growth

Account receivables and payment
daVinci offers enterprise class accounts receivable capability. Delivering timely and reliable data, that enables business critical management reporting and financial control, daVinci's accounts receivable provides robust auditability to international accounting standards.

Collections

With a full configurable collections workflow and automated case management and assignment functionality, daVinci applies rules-based collections treatment that allows operators to optimise debt recovery.

For more information on Coraltree Systems daVinci portfolio, please refer to, or contact:

Webpage: http://www.coraltreesystems.com/products/

Contact: http://www.coraltreesystems.com/about-coraltree-systems/contact-coraltree/

Email: contact@coraltreesystems.com

3 Business Process Framework Assessment Overview

3.1 Mapping Technique Employed

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

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

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

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

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

TM Forum Note 1: When process mappings are presented against Level 4 processes, the mappings are provided against the text in the "Mandatory" field for the process. In the event of the Mandatory field not being 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 blue) 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 Frameworx Conformance Result.
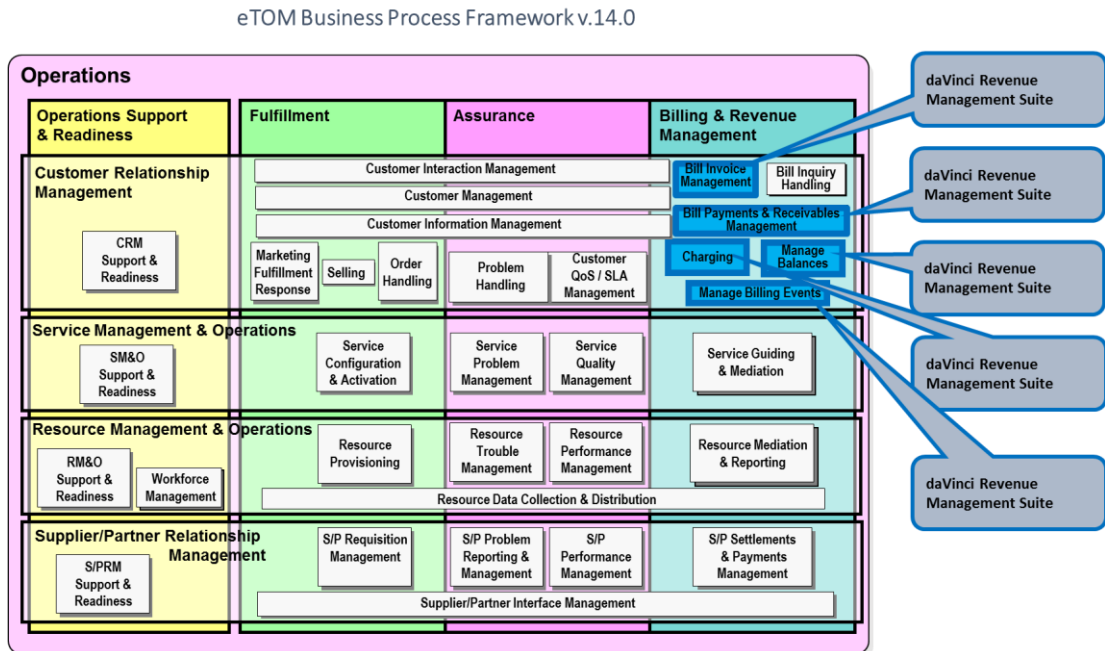
Figure 3-1 Level 2 process coverage for CoralTree Systems daVinci Revenue Management Assessment

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.

CoralTree Systems daVinci Revenue Management V2.5
Business Process Framework R14.0 - Level 3 Process Coverage
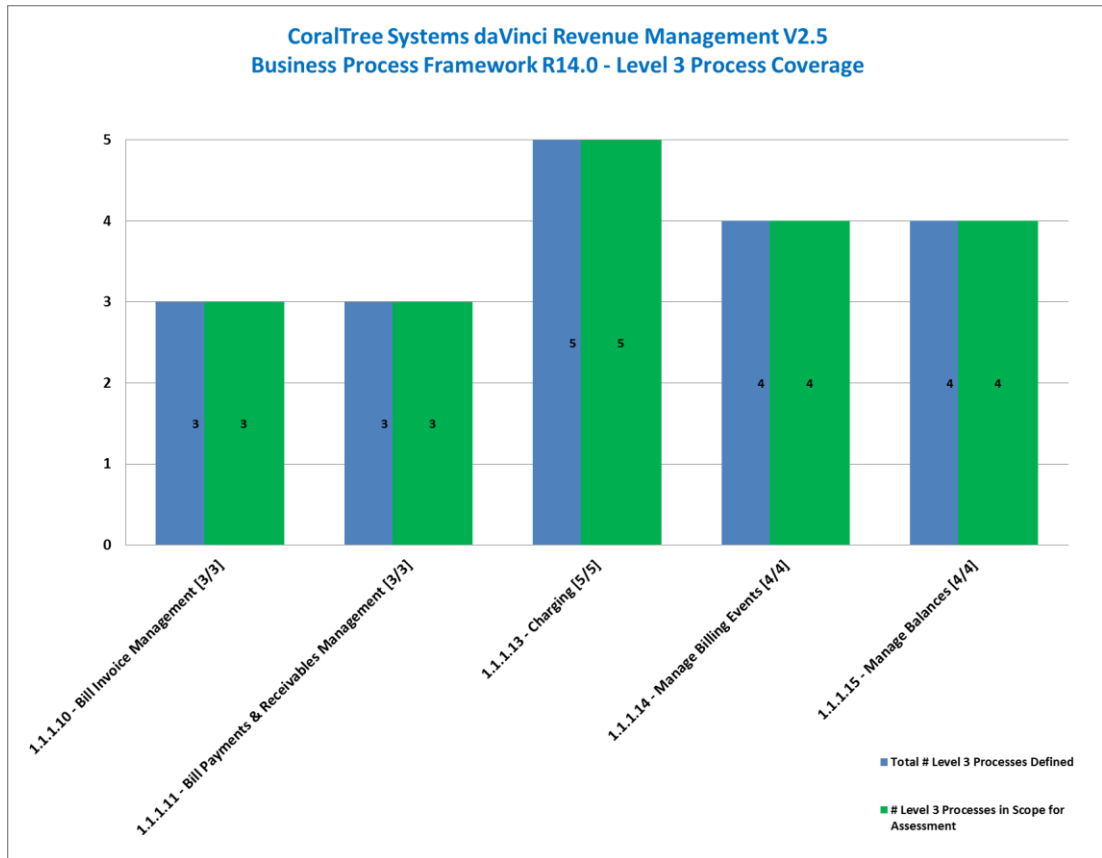
Figure 3-2 Level 3 process coverage for CoralTree Systems daVinci Revenue Management product Assessment

3.3 Product Scope

The diagram in Figure 3-3 represents CoralTree Systems' daVinci product with mappings to the Business Process Framework Level 2 processes that were submitted in scope for the Conformance Certification assessment.
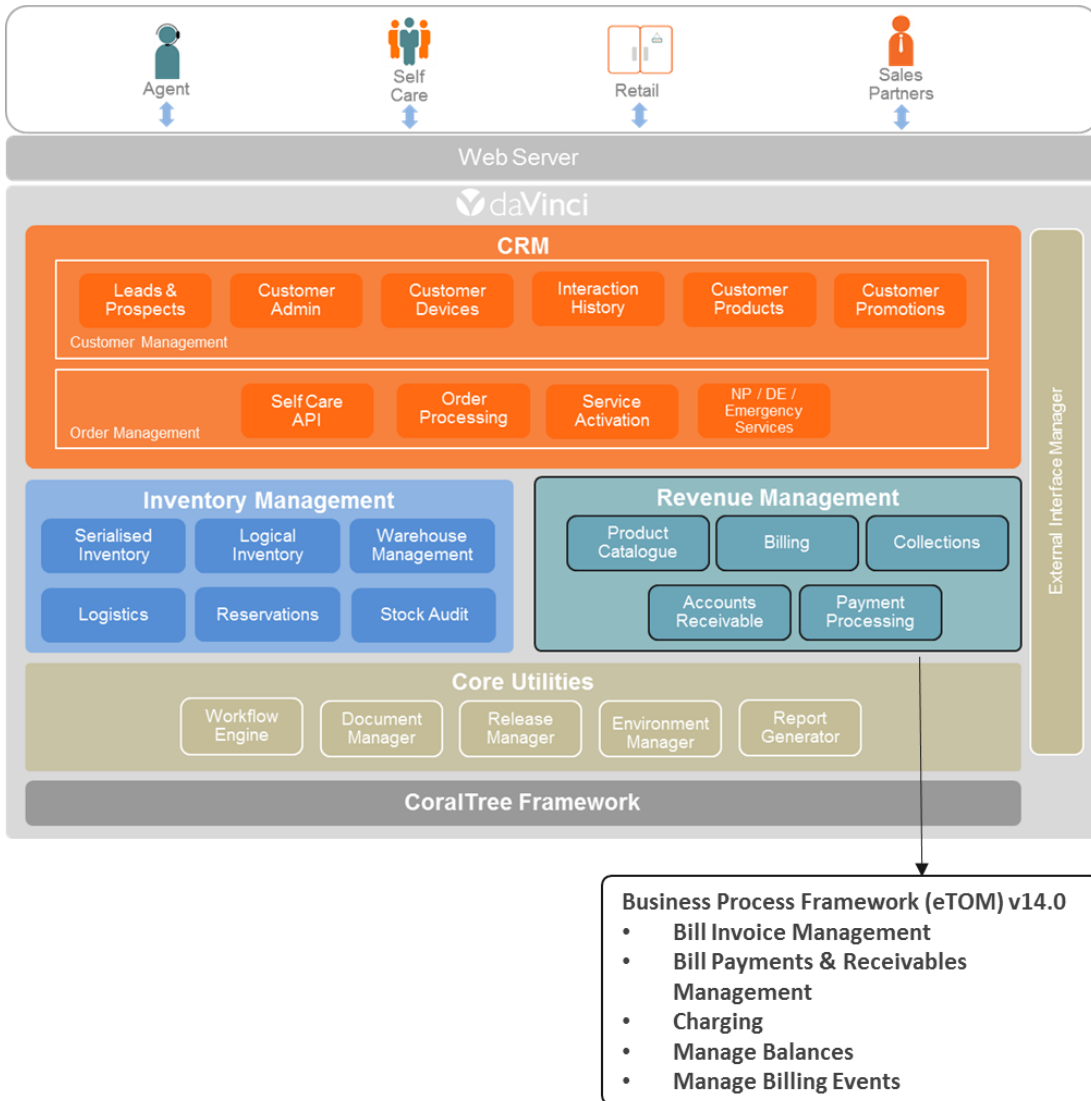
Figure 3-3 CoralTree Systems daVinci Revenue Management product mapping to eTOM L2 Processes in scope

4 Business Process Framework – Process Mapping Descriptions

This section provides the Process Mapping output from CoralTree Systems' self-assessment which was reviewed by TM Forum Subject Matter Experts alongside supporting documentation for CoralTree Systems' daVinci product.

4.1 L2: Bill Invoice Management (1.1.1.10)
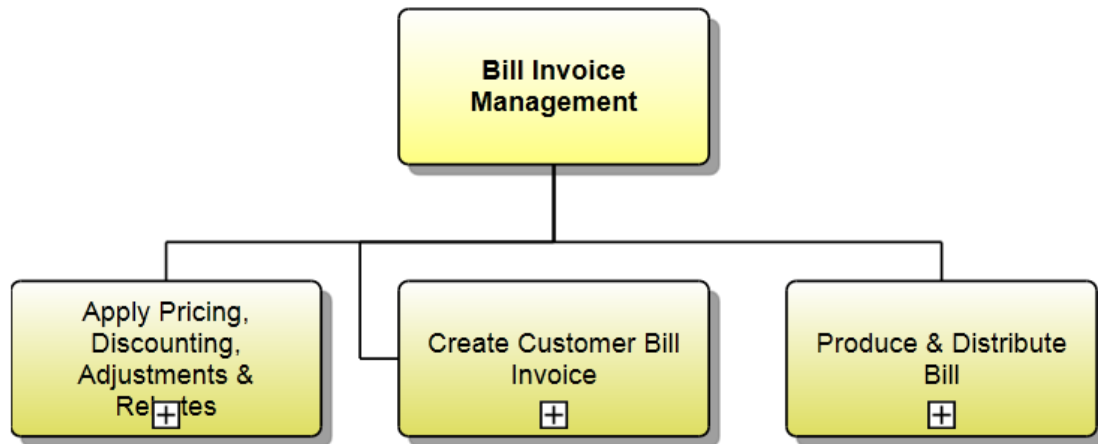
Process Identifier: 1.1.1.10

Process Context

This process element represents part of the overall enterprise, modelled 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.

4.1.1 L3: Apply Pricing, Discounting, Adjustments and Rebates 1.1.1.10.1

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.

4.1.1.1 *L4: 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 4 PROCESS MAPPING DETAILS Obtain Billing Events 1.1.1.10.1.1

Extended Description
 	
INSTRUCTION: Not required for process mapping UNLESS "Mandatory" field is not supported.
 	
Explanatory
 	
INSTRUCTION: Not required for process mapping.
 	
Mandatory
 	
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. **AM**
   daVinci is able to collate all billable services and events delivered to the customer within a bill cycle ready for rating and processing.
   CTS_FRS_RATING (Section 1.1, Section 2.2 TRATUSG)
   CTS_PS_CYCBILL (Section 1.2, Section 1.3.1, Section 1.3.2 details how the records discussed in CTS_FRS_RATING are processed for billing)
   CTS_PS_PRDCTBILL (explains more about how it gathers necessary data)
 	
INSTRUCTION: Into this table, copy in the process description from the Mandatory field in GB921-DX. Provide a textual description of mapping support for each Implied Task in the description as follows:
 	
• *High-light the Business Process Framework text according to the level of support*
   o *Green for full conformance*

- o *Yellow for partial conformance*
- o *Grey for non-conformance*
- *Append the Business Process Framework text according to the type of support*
  - o *A for Automated Support*
  - o *M for Manual Support*
  - o *AM for mix of Automated & Manual Support*
- *add a reference to supporting evidence documentation which should be delivered with the self-assessment material*

Optional

Not required for process mapping

Interactions

Not required for process mapping

4.1.1.2 *L4: 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 4 PROCESS MAPPING DETAILS
<Level 4 Process Name & Identifier>

Extended Description

INSTRUCTION: Not required for process mapping UNLESS "Mandatory" field is not supported.

Explanatory

INSTRUCTION: Not required for process mapping.

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 **AM**
  daVinci is capable of managing taxes against a geographic region/area, deal with national and local taxes, apply discounts and promotions and present the necessary ones to the customer.
  CTS_PS_TAXCALC (All Sections)
  CTS_SG_BILLADJ (Figures 1-9)
  CTS_FRS_USEDISC (Section 2.2)
  CTS_FRS_RATING (Section 2.2 - RUBILLCUST and RUBILLACCT)
  CTS_PS_CONTRACT (TCOMPHIST)

- 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. **A**
  The bill cycle processes the cost items included in the bill invoices against the individual accounts within a property, not against the property itself. If a customer account have multiple billing accounts Invoices can be created for each billing account.
  CTS_SG_BILLADJ (Figure 1, Figure 9 – Inspection of the customer bill will show the Customer number ending in /001 to denote which Account the bill is directed at)
  CTS_PS_BILLOUT (Table Format – output specifies Customer Number and Account Number in the billing output – couple this with CTS_UG_DVMCLA)
  CTS_UG_DVMCLA (Section 1.2 for customer with multiple Account Numbers)

INSTRUCTION: Into this table, copy in the process description from the Mandatory field of the Level 4 process in GB921-DX. Provide a textual description of mapping support for each Implied Task in the description as follows:

- *High-light the Business Process Framework text according to the level of support*
    - o *Green for full conformance*
    - o *Yellow for partial conformance*
    - o *Grey for non-conformance*
- *Append the Business Process Framework text according to the type of support*
    - o *A for Automated Support*
    - o *M for Manual Support*
    - o *AM for mix of Automated & Manual Support*
- *add a reference to supporting evidence documentation which should be delivered with the self-assessment material*

Optional

- A customer who may have multiple accounts can pay different cost item with different account. **A**
  A Single account may be liable for the billing across multiple accounts. The address' customer number (the person using the service) and ledger account number (the person

paying for the service) can be separate entities, with one account being in place across multiple ledger account numbers.
CTS_FRS_DVCS (Section 3.9, Section 4.5)

- <mark>A customer may be responsible for billing across multiple accounts and a single account may also have multiple bill payers who are responsible for paying for various bill charges</mark> **A daVinci is able to handle hierarchies with multiple liable accounts who are responsible for paying the bill. Non-liable sub accounts will not be added to the billing work file, whereas liable accounts will.**
CTS_FRS_DVCS (Section 3.9, Section 4.5)

Interactions

Not required for process mapping

4.1.1.3   *L4: 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 4 PROCESS MAPPING DETAILS
Apply Agreed Customer Bill Adjustments 1.1.1.10.1.3

Extended Description

INSTRUCTION: Not required for process mapping UNLESS "Mandatory" field is not supported.

Explanatory

INSTRUCTION: Not required for process mapping.

Mandatory

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**
  Price adjustments entered before the customers' next bill cycle are processed and used to adjust the customers' bill invoice.
  CTS_SG_BILLADJ (Figures 1-9)

INSTRUCTION: Into this table, copy in the process description from the Mandatory field in GB921-DX. Provide a textual description of mapping support for each Implied Task in the description as follows:

- *High-light the Business Process Framework text according to the level of support*
  - o   *==Green for full conformance==*
  - o   *==Yellow for partial conformance==*
  - o   *Grey for non-conformance*
- *Append the Business Process Framework text according to the type of support*
  - o   *A for Automated Support*
  - o   *M for Manual Support*
  - o   *AM for mix of Automated & Manual Support*
- *add a reference to supporting evidence documentation which should be delivered with the self-assessment material*

Optional

Not required for process mapping

Interactions

Not required for process mapping

4.1.2   L3: Create Customer Bill Invoice 1.1.1.10.2

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.

4.1.2.1   *L4: Render and Format Invoice 1.1.1.10.2.1 – Mapping Details*

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.

Process Identifier: 1.1.1.10.2.1

LEVEL 4 PROCESS MAPPING DETAILS
Render and Format Invoice 1.1.1.10.2.1
Extended Description
INSTRUCTION: Not required for process mapping UNLESS "Mandatory" field is not supported.
Explanatory
INSTRUCTION: Not required for process mapping.
Mandatory
This process provides;
- Formatting of invoices in different ways and to achieve different publishing possibilities **AM** **Bill formatting can be handled within daVinci, with the ability for invoices to be generated with differing styles and text depending on the type of products and services used** CTS_PS_BILLOUT (Table Format – BORCDTYP) CTS_PF_DELIVER (List Billing Processes) CTS_SG_DOCTOOL (All Sections)   - Supports the creation of different invoice formats for different publication media **AM** **Invoices can be designed for print, or digital media** CTS_PS_BILLOUT (Table Format – BORCDTYP) CTS_SG_DOCTOOL (Section 1-8)
The process is further responsible for;

- <mark>Splitting and re-arranging invoices for customers (particularly customers with complex account structures) according to agreements made with these customers</mark> **AM**
  Invoices for hierarchies can be managed, with bills going to individual bill payers and/or main account holders. Splitting and re-arranging of invoices can also take place depending on the customer's payment methods and packages.

  CTS_FRS_DVCS (section 4.5 - Invoice Layout)
  CTS_SG_DOCTOOL (Section 9 – 12, User Guide: Document Element Selection)
  CTS_SG_BILLADJ (Figure 1, Figure 9 – Inspection of the customer bill will show the Customer number ending in /001 to denote which Account the bill is directed at)
  CTS_PS_BILLOUT (Table Format – output specifies Customer Number and Account Number in the billing output – couple this with CTS_UG_DVMCLA)
  CTS_UG_DVMCLA (Section 1.2 for customer with multiple Account Numbers)

INSTRUCTION: Into this table, copy in the process description from the Mandatory field of the Level 3 process in GB921-DX. Provide a textual description of mapping support for each Implied Task in the description as follows:

- *High-light the Business Process Framework text according to the level of support*
  - *Green for full conformance*
  - *Yellow for partial conformance*
  - *Grey for non-conformance*
- *Append the Business Process Framework text according to the type of support*
  - *A for Automated Support*
  - *M for Manual Support*
  - *AM for mix of Automated & Manual Support*
- *add a reference to supporting evidence documentation which should be delivered with the self-assessment material*

Optional

Not required for process mapping

Interactions

Not required for process mapping

L4: Deliver Electronic Invoice 1.1.1.10.2.2 – Mapping Details

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.

Process Identifier: 1.1.1.10.2.2

LEVEL 4 PROCESS MAPPING DETAILS Deliver Electronic Invoice 1.1.1.10.2.2

Extended Description
 	
INSTRUCTION: Not required for process mapping UNLESS "Mandatory" field is not supported.
 	
Explanatory
 	
INSTRUCTION: Not required for process mapping.
 	
Mandatory
 	
The purpose of Deliver Electronic Invoice process is to;
 	
• Deliver the electronic copy of an invoice to customers. **A Bill cycle procedure will format and ship an electronic bill to a customer (dependent on the customer wishing to receive electronic bills and the necessary contact methods being in place.**
CTS_PS_BILLOUT (Table Format – BORCDTYP)
CTS_PF_DELIVER (List Billing Processes)
CTS_SG_DLVRINV (Figure 1)
 	
INSTRUCTION: Into this table, copy in the process description from the Mandatory field of the Level 3 process in GB921-DX. Provide a textual description of mapping support for each Implied Task in the description as follows:
 	
• *High-light the Business Process Framework text according to the level of support*
    o *Green for full conformance*
    o *Yellow for partial conformance*
    o *Grey for non-conformance*
• *Append the Business Process Framework text according to the type of support*
    o *A for Automated Support*

- o *M for Manual Support*
- o *AM for mix of Automated & Manual Support*
- *add a reference to supporting evidence documentation which should be delivered with the self-assessment material*

Optional

Not required for process mapping

Interactions

Not required for process mapping

4.1.2.3 *L4: Verify Invoice Quality 1.1.1.10.2.3 – Mapping Details*

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.

Process Identifier: 1.1.1.10.2.3

LEVEL 4 PROCESS MAPPING DETAILS **Verify Invoice Quality 1.1.1.10.2.3**
Extended Description *INSTRUCTION: Not required for process mapping UNLESS "Mandatory" field is not supported.* **Explanatory** *INSTRUCTION: Not required for process mapping.* **Mandatory** The purpose of Verify Invoice Quality process is to; • <mark>Verify invoice quality prior to distribution to the customer in electronic form, or to the process responsible for physical invoice production and distribution</mark>. **AM daVinci has the ability to make a 'predictive bill' which will generate a customer bill with all services and products used to that point as well as being in the style of a finished bill. It**

is possible to 'view' the invoices that way to verify quality and that all expected features are present.
CTS_UG_DVPAoC (Section 1.1 Highlighted, Section 1.6)
The invoice creation tool allows the team responsible to add macro data to bill to view how they appear when data is input and preview the bill.
CTS_SG_DOCTOOL (Figures 6-8 in particular)

Verifying invoice quality is either a manual operation or an automatic behavior. The process is responsible for;

- <mark>Ensuring the invoice format and content can meet customer requirements</mark>. **AM**
  DaVinci bill creation tool and the daVinci bill preview tool allow CSRs and relevant staff involved in the bill design to check that it meets the needs of the customer, ensuring that all packages and bill types are accounted for.
  CTS_SG_DOCTOOL (Figures 6-8 in particular)

When verifying invoice quality is failed, the process is also responsible for;

- <mark>Sending the invoice back to another process to reprocess</mark>. **M**
  If using an internal team to design the bill, the bill creation tool allows 'previews' of bill layout, and various editions to be made and edited. As such the 'failed' bill should be with the necessary team when it has been failed.
  CTS_SG_DOCTOOL (All Figures, Figures 6-8 in particular)
  In addition, if a customer feels that a bill has failed in its quality, it is possible to see a copy of the bill in question through the customer ledger account. It can then be referred to the team in question
  CTS_UG_DVPAoC (Section 1.2)

INSTRUCTION: Into this table, copy in the process description from the Mandatory field of the Level 3 process in GB921-DX. Provide a textual description of mapping support for each Implied Task in the description as follows:

- *High-light the Business Process Framework text according to the level of support*
  - *o <mark>Green for full conformance</mark>*
  - *o <mark style="background:yellow">Yellow for partial conformance</mark>*
  - *o <mark style="background:grey">Grey for non-conformance</mark>*
- *Append the Business Process Framework text according to the type of support*
  - *o A for Automated Support*
  - *o M for Manual Support*
  - *o AM for mix of Automated & Manual Support*

- *add a reference to supporting evidence documentation which should be delivered with the self-assessment material*

Optional

Not required for process mapping

Interactions

Not required for process mapping

4.1.2.4   *L4: Manage Customer Invoice Archive 1.1.1.10.2.4 – Mapping Details*

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.

Process Identifier: 1.1.1.10.2.4

LEVEL 4 PROCESS MAPPING DETAILS
Manage customer Invoice Archive 1.1.1.10.2.4
Extended Description
INSTRUCTION: Not required for process mapping UNLESS "Mandatory" field is not supported.
Explanatory
INSTRUCTION: Not required for process mapping.
Mandatory
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 **A** **Bill are held electronically against the customer's account. It is possible to access the account and review all previous bills as PDFs regardless of the way in which they were delivered to the customer.** CTS_UG_DVPAoC (Section 1.2)

The process is further responsible for;

- <mark>Archiving the customer invoices to historical customer invoice after a period of time according to Service Provider's management requirements</mark>. **A**
  Depending on the service provider's requirements, it is possible to mask or archive customer bills. Currently bill remain against the customer account, held in chronological order (newest->oldest). Old invoices will be moved to other pages and accessed through the bill history tab.
  CTS_SG_INVARCH (Figures 1-2 in particular)

- <mark>Furthermore the process is responsible for managing and maintaining archiving cycle</mark>. **A**
  After time frames are set, daVinci will manage and archive customers, for example if they become inactive customers, when they've reached a certain age of inactivity. Archiving the account and the invoices against the customer.
  CTS_SG_INVARCH (Masking Customers)
  CTS_PS_MASKING (Section 2.3)

INSTRUCTION: Into this table, copy in the process description from the Mandatory field of the Level 3 process in GB921-DX. Provide a textual description of mapping support for each Implied Task in the description as follows:

- *High-light the Business Process Framework text according to the level of support*
    - *Green for full conformance*
    - *Yellow for partial conformance*
    - *Grey for non-conformance*
- *Append the Business Process Framework text according to the type of support*
    - *A for Automated Support*
    - *M for Manual Support*
    - *AM for mix of Automated & Manual Support*
- *add a reference to supporting evidence documentation which should be delivered with the self-assessment material*

Optional

Not required for process mapping

Interactions

Not required for process mapping

4.1.3 L3: Produce and Distribute Bill 1.1.1.10.3

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

4.1.3.1 *L4: Co-ordinate Billing Insertion 1.1.1.10.3.1 – Mapping Details*

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.

Process Identifier: 1.1.1.10.3.1

LEVEL 4 PROCESS MAPPING DETAILS Co-ordinate Billing Insertion 1.1.1.10.3.1
Extended Description *INSTRUCTION: Not required for process mapping UNLESS "Mandatory" field is not supported.* **Explanatory** *INSTRUCTION: Not required for process mapping.* **Mandatory** 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. **AM** 　　**The invoice creation tool enables variations of a bill go out with different content based on the customers products/services. As such, advertisements/promotional runs could be included into invoices and recommendation for billing methods.** 　　CTS_SG_DOCTOOL (All Figures) This process is also responsible for • Ensuring the billing insertion attracting the customer interests and not leading to customer complaints. **M** 　　**The ability to review all bills prior to distribution should aid in ensuring any insertions are pleasing to customers and won't lead to complaints.**
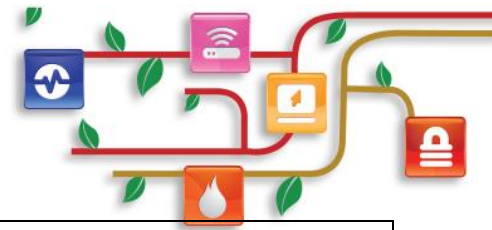
CTS_SG_DOCTOOL (Figures 1-8 In Particular)

INSTRUCTION: Into this table, copy in the process description from the Mandatory field of the Level 3 process in GB921-DX. Provide a textual description of mapping support for each Implied Task in the description as follows:

- *High-light the Business Process Framework text according to the level of support*
  - o <mark style="background-color: #00FF00">*Green for full conformance*</mark>
  - o <mark style="background-color: #FFFF00">*Yellow for partial conformance*</mark>
  - o <mark style="background-color: #BFBFBF">*Grey for non-conformance*</mark>
- *Append the Business Process Framework text according to the type of support*
  - o *A for Automated Support*
  - o *M for Manual Support*
  - o *AM for mix of Automated & Manual Support*
- *add a reference to supporting evidence documentation which should be delivered with the self-assessment material*

Optional

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

Interactions

Not required for process mapping

4.1.3.2   *L4: Establish and Manage Bill Production Cycle 1.1.1.10.3.2 – Mapping Details*

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.

Process Identifier: 1.1.1.10.3.2

LEVEL 4 PROCESS MAPPING DETAILS Establish and Manage Bill Production Cycle 1.1.1.10.3.2
Extended Description *INSTRUCTION: Not required for process mapping UNLESS "Mandatory" field is not supported.*
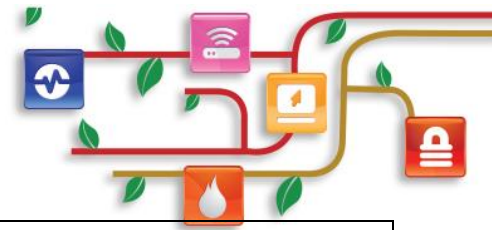
Explanatory

INSTRUCTION: Not required for process mapping.

Mandatory

This process is responsible for;

- <mark>Identifying the deadline of the customer requiring physical bill productions</mark> **AM**
  daVinci supports this process by providing a range of dates to help the business organised when a customer should require their bill to be physically produced. The bill cycle setup provides the Run Day, and a variable Funds Collect Date, enabling the business to determine how much time is required between the Bill Cycle and Bill Production so that the Bill Collection can be altered to allow the customer the contractually agreed time to pay the bill.
  CTS_UG_BILLCYC (All sections)

- <mark>Time cycle for producing and distributing to ensure that the physical bill production can be received by the customer on time</mark>. **AM**
  Again this is supported by allowing the service provider to alter the time before collections processes are begun against a customer based on the information they have available for how long the bill cycle and delivery of formatted customer bill data to the outsourced supplier (or in house manufacture) takes
  CTS_UG_BILLCYC (All Sections)

INSTRUCTION: Into this table, copy in the process description from the Mandatory field of the Level 3 process in GB921-DX. Provide a textual description of mapping support for each Implied Task in the description as follows:

- *High-light the Business Process Framework text according to the level of support*
    - o *<mark>Green for full conformance</mark>*
    - o *<mark>Yellow for partial conformance</mark>*
    - o *Grey for non-conformance*
- *Append the Business Process Framework text according to the type of support*
    - o *A for Automated Support*
    - o *M for Manual Support*
    - o *AM for mix of Automated & Manual Support*
- *add a reference to supporting evidence documentation which should be delivered with the self-assessment material*

Optional

Not required for process mapping

Interactions

Not required for process mapping

4.1.3.3 *L4: Deliver Invoice Information 1.1.1.10.3.3 – Mapping Details*

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.

Process Identifier: 1.1.1.10.3.3

LEVEL 4 PROCESS MAPPING DETAILS
Deliver Invoice Information 1.1.1.10.3.3
Extended Description
INSTRUCTION: Not required for process mapping UNLESS "Mandatory" field is not supported.
Explanatory
INSTRUCTION: Not required for process mapping.
Mandatory
The purpose of the Deliver Invoice Information process is to;
Ensure that the invoice information can be delivered to invoice physical production process. **AM**   **Test attempts can be made in advance of sending data to ensure that no problems exist between the connection of the service provider and the outsourced supplier.**   **Data to be sent can be broken into smaller packets, in the event of limits on file size transfer. In addition, the data can be sent in a variety of formats to best suit the supplier and ensure delivery.**   CTS_UG_INVDELIVER (Figures 1-6)
This process is also responsible for
Monitoring the status of information delivery channel and ensuring the channel availability.**AM**

Start and end data packets can be sent to ensure correct and full delivery of the required information and users or groups of users can be put against activities to be informed when the activities is successful/fails.
CTS_UG_INVDELIVER (Figures 1-6)

INSTRUCTION: Into this table, copy in the process description from the Mandatory field of the Level 3 process in GB921-DX. Provide a textual description of mapping support for each Implied Task in the description as follows:

- *High-light the Business Process Framework text according to the level of support*
    - o *Green for full conformance*
    - o *Yellow for partial conformance*
    - o *Grey for non-conformance*
- *Append the Business Process Framework text according to the type of support*
    - o *A for Automated Support*
    - o *M for Manual Support*
    - o *AM for mix of Automated & Manual Support*
- *add a reference to supporting evidence documentation which should be delivered with the self-assessment material*

Optional

Not required for process mapping

Interactions

Not required for process mapping

4.1.3.4   *L4: Administer Commercial Arrangement for Production and Distribution Capability 1.1.1.10.3.4 – Mapping Details*

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.

Process Identifier: 1.1.1.10.3.4

| **LEVEL 4 PROCESS MAPPING DETAILS** |
| **Administer Commercial Arrangement for Production and Distribution Capability** |
| **1.1.1.10.3.4** |

Extended Description

INSTRUCTION: Not required for process mapping UNLESS "Mandatory" field is not supported.

Explanatory

INSTRUCTION: Not required for process mapping.

Mandatory

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 **AM**
  In support of the process, bills can be provided in a number of different formats including; Flat file, XML or pre-formatted PDF, based on the outsourced suppliers preferred requirements. Algorithms are used to show how many customers will be billed and, subsequently, how many pages of bills will likely be in each bill cycle
  CTS_PS_BILLOUT (Table Format – BORCDTYP)
  CTS_PF_DELIVER (List Billing Processes)
  CTS_SG_DOCTOOL (All Sections)

- Amending the requirements based on the negotiation between Service Provider and outsourced supplier. **AM**
  The file formats and information held within, as well as the date of shipment of necessary files can all be amended based of the requirements and negotiation between the service provider and outsourced supplier.
  CTS_PS_BILLOUT (Table Format – BORCDTYP for Output type, Document to demonstrate depth of detail that can be processes for output)
  CTS_PF_DELIVER (List Billing Processes - Customer numbers/bill pages can be gathered from the billing output file generated as part of Billing Output Process)
  CTS_UG_BILLCYC (All Sections – date of shipments necessary to the third party)

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.
  Outside of remit/ability of the product in question

4.1.3.5 *L4: Manage Paper and Envelope Availability 1.1.1.10.3.5 – Mapping Details*

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.

Process Identifier: 1.1.1.10.3.5

LEVEL 4 PROCESS MAPPING DETAILS Manage Paper and Envelope Availability 1.1.1.10.3.5
Extended Description

INSTRUCTION: Not required for process mapping UNLESS "Mandatory" field is not supported.

Explanatory

INSTRUCTION: Not required for process mapping.

Mandatory

The purpose of the Manage Paper and Envelope Availability process is to
- <mark>Ensure the quantities of papers and envelopes are enough before starting invoice physical production</mark>. **AM**

  In support of this process, algorithms are used to generate an estimate on the number of customers and, subsequently, bill pages that will be needed in advance of the fact, so that the company can ensure that correct amounts of paper, envelopes etc. are in stock.
  CTS_PS_BILLOUT (Table Format – BORCDTYP for Document Types,)
  CTS_PF_DELIVER (List Billing Processes – Customer numbers/bill pages can be gathered from the billing output file generated as part of Billing Output Process)
  CTS_SG_DOCTOOL (All Sections – Demonstrating Document types, and number of pages per customer bill)

- <mark>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.</mark> **AM**

  In order to support this process, daVinci is able to provide bills in a variety of formats (Flat, XML, pre-formatted PDF) to suit which can be formatted to suit a range of paper shapes and sizes and formats (name address location for envelope windows etc). Algorithms are used to generate the number of customers in each cycle, so that physical bill production team can ensure the right volumes of paper and envelopes are in place.
  CTS_PS_BILLOUT (Table Format – BORCDTYP for Document Types,)
  CTS_PF_DELIVER (List Billing Processes – Customer numbers can be gathered from the billing output file generated as part of Billing Output Process)
  CTS_SG_DOCTOOL (All Sections – Demonstrating Document types, and number of pages per customer bill)

INSTRUCTION: Into this table, copy in the process description from the Mandatory field of the Level 3 process in GB921-DX. Provide a textual description of mapping support for each Implied Task in the description as follows:

- *High-light the Business Process Framework text according to the level of support*
  - *<mark style="background-color:#00FF00">Green for full conformance</mark>*
  - *<mark>Yellow for partial conformance</mark>*
  - *<mark style="background-color:#D3D3D3">Grey for non-conformance</mark>*

- *Append the Business Process Framework text according to the type of support*
  - *A for Automated Support*
  - *M for Manual Support*
  - *AM for mix of Automated & Manual Support*
- *add a reference to supporting evidence documentation which should be delivered with the self-assessment material*

Optional

Not required for process mapping

Interactions

Not required for process mapping

4.1.3.6   L4: Manage Production Run to Create Bill 1.1.1.10.3.6 – Mapping Details

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.

Process Identifier: 1.1.1.10.3.6

LEVEL 4 PROCESS MAPPING DETAILS Manage Production Run to Create Bill 1.1.1.10.3.6
Extended Description *INSTRUCTION: Not required for process mapping UNLESS "Mandatory" field is not supported.* **Explanatory** *INSTRUCTION: Not required for process mapping.* **Mandatory** 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

In order to support this process, daVinci is able to provide bills in a variety of formats (Flat, XML, pre-formatted PDF) to suit whatever the in house production team require. In addition, when the bill run is put through, we are able to generate a number of customer and, by estimate, bill pages to ensure correct amount of resources.
CTS_PS_BILLOUT (Table Format – BORCDTYP for Document Types,)
CTS_PF_DELIVER (List Billing Processes – Customer numbers can be gathered from the billing output file generated as part of Billing Output Process)
CTS_SG_DOCTOOL (All Sections – Demonstrating Document types, and number of pages per customer bill)

INSTRUCTION: Into this table, copy in the process description from the Mandatory field of the Level 3 process in GB921-DX. Provide a textual description of mapping support for each Implied Task in the description as follows:

- *High-light the Business Process Framework text according to the level of support*
  - *Green for full conformance*
  - *Yellow for partial conformance*
  - *Grey for non-conformance*
- *Append the Business Process Framework text according to the type of support*
  - *A for Automated Support*
  - *M for Manual Support*
  - *AM for mix of Automated & Manual Support*
- *add a reference to supporting evidence documentation which should be delivered with the self-assessment material*

Optional

Not required for process mapping

Interactions

Not required for process mapping

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.

Process Identifier: 1.1.1.10.3.7

LEVEL 4 PROCESS MAPPING DETAILS
Manage Physical Production & Distribution Quality 1.1.1.10.3.7
Extended Description
INSTRUCTION: Not required for process mapping UNLESS "Mandatory" field is not supported.
Explanatory
INSTRUCTION: Not required for process mapping.
Mandatory
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.
• <mark>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</mark>. **AM** **daVinci does not manage the physical production and distribution, but is able to aid in the quality checking, observation of distribution times.** CTS_UG_BILLCYC (All Sections – altering/managing the bill statement offset and bill collection dates to reflect the time taken to produce and distribute bills) CTS_SG_DOCTOOL (All Sections – Quality checking of bill parts and inserts) CTS_UG_INVDELIVER (figures 3-6 ensuring quality/validity of files delivered to internal print house through test runs etc)   • <mark>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.</mark> **AM**

daVinci can support this aspect, by allowing the business to alter the times and dates on bills relating to customer's bill cycles to ensure they arrive in a timely manner. The in house document creation tool means that there's no disconnect in the business between the creation and printing of bills and inserts, ensuring satisfied customers.
CTS_SG_DOCTOOL (All Sections – Quality checking of bill parts and inserts)
CTS_UG_BILLCYC (All Sections – altering/managing the bill statement offset and bill collection dates to reflect the time taken to produce and distribute bills)

- ==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**
  daVinci can support this aspect, by allowing the business to alter the times and dates on bills relating to customer's bill cycles to ensure the business runs efficiently with regards to the production process and ensure that production process is timely. The business can also be informed of a large number of customers as a part of the bill cycle workflow.
  CTS_PF_DELIVER (List Billing Processes – Customer numbers/bill pages can be gathered from the billing output file generated as part of Billing Output Process)
  CTS_UG_BILLCYC (All Sections – altering/managing the bill statement offset and bill collection dates to reflect the time taken to produce and distribute bills)

INSTRUCTION: Into this table, copy in the process description from the Mandatory field of the Level 3 process in GB921-DX. Provide a textual description of mapping support for each Implied Task in the description as follows:

- *High-light the Business Process Framework text according to the level of support*
  - o *Green for full conformance*
  - o *Yellow for partial conformance*
  - o *Grey for non-conformance*
- *Append the Business Process Framework text according to the type of support*
  - o *A for Automated Support*
  - o *M for Manual Support*
  - o *AM for mix of Automated & Manual Support*
- *add a reference to supporting evidence documentation which should be delivered with the self-assessment material*

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 required for process mapping

4.1.4 Supporting Evidence References (Works Cited)

CTS_FRS_RATING – daVinci Usage Rating

CTS_FRS_USEDISC – Usage Discounting

CTS_FRS_DELIVER – Deliver Invoice Information

CTS_PF_ONADJ – Online Adjustment Notes

CTS_PS_BILLOUT – Billing Output Specs 2.0

CTS_PS_CONTRACT – Contract Pricing

CTS_PS_CYCBILL – Cycle Billing Spec

CTS_PS_DOCMNGMT – daVinci_DocuWare_v2

CTS_PS_MASKING – daVinci Release Notes – Build 02.03.005

CTS_PS_PRDCBILL – Predictive Billing Spec

CTS_PS_TAXCALC – Tax Calculation

CTS_SG_BILLADJ – Bill Adjustment SG

CTS_SG_DLVRINV – Deliver Electronic Invoice

CTS_SG_DOCTOOL – Invoice Creation Tool

CTS_SG_INVARCH – Customer Invoice Archive

CTS_UG_BILLCYC – Maintain Billing Cycles

CTS_UG_DVMCLA – User Guide – Customer Ledger Accounts

CTS_UG_DVPAoC – User Guide – Provide Advice of Charge

CTS_UG_INDELIVER – Delivery to third party print house

CTS_FRS_DVCS - FRS contract support V0.2

4.1.5　L2: Bill Invoice Management (1.1.1.10) - Detailed Conformance Results

Level 2: 1.1.1.10 - Bill Invoice Management [3/3]		
Level 3 Process	**Level 4 Process**	**L4/L3 Process Score**
1.1.1.10.1 - Apply Pricing, Discounting, Adjustments & Rebates		5
	1.1.1.10.1.1 - Obtain Billing Events	100%
	1.1.1.10.1.2 - Apply Pricing, Discounting, Adjustments & Rebates to Customer Account	100%
	1.1.1.10.1.3 - Apply Agreed Customer Bill Adjustment	100%
1.1.1.10.2 - Create Customer Bill Invoice		5
	1.1.1.10.2.1 - Render & Format Invoice	100%
	1.1.1.10.2.2 - Deliver Electronic Invoice	100%
	1.1.1.10.2.3 - Verify Invoice Quality	100%
	1.1.1.10.2.4 - Manage Customer Invoice Archive	100%
1.1.1.10.3 - Produce & Distribute Bill		4.86
	1.1.1.10.3.1 - Co-ordinate Billing Insertion	100%
	1.1.1.10.3.2 - Establish & Manage Bill Production Cycle	100%
	1.1.1.10.3.3 - Deliver Invoice Information	100%
	1.1.1.10.3.4 - Administer Commercial Arrangement for Production and Distribution Capability	100%
	1.1.1.10.3.5 - Manage Paper and Envelope Availability	100%
	1.1.1.10.3.6 - Manage Production Run to Create Bill	75%
	1.1.1.10.3.7 - Manage Physical Production & Distribution Quality	75%

4.2 L2: Bill Payments & Receivables Management (1.1.1.11)
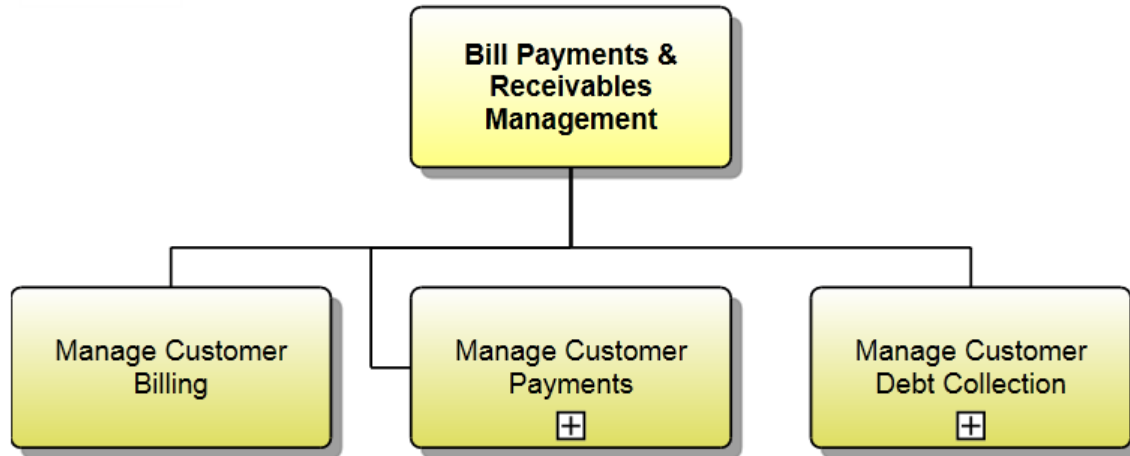
Process Identifier: 1.1.1.11

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 enterprise revenue is collected through pre-established collection channels and put in place procedures to recover past due payments.

Extended Description

The purpose of the Bill Payments & Receivables Management processes is to ensure that enterprise revenue is collected through pre-established collection channels and put in place procedures to recover past due payments. These processes are responsible for managing customer's billing account, processing their payments, performing payment collections and monitoring the status of the account balance.

These processes are responsible for, but not limited to:
- Establishment and management of customer payment processes and channels;
- Establishment and management of debt collection processes; and
- Establishment and management of third party arrangements to support collection and recovery of past due payments.

Explanatory

Reserved for future use.

Mandatory

Reserved for future use.

Optional

Reserved for future use.

Interactions

Reserved for future use.

4.2.1 L3: Manage Customer Billing 1.1.1.11.1 – Mapping Details

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.

NOTE: No decomposition exists against 1.1.1.11.1. As such mappings are provided against the Level 3 process descriptions and implied tasks.

LEVEL 3 PROCESS MAPPING DETAILS Manage Customer Billing 1.1.1.11.1

Extended Description
 	
The primary purpose of this process pertains to effective management of the customer's billing account as it relates to the products purchased and consumed throughout the appropriate billing cycle.
 	
• This process focuses on managing changes to the customer's billing account (for example, customer billing address, etc.) as it relates to the customer's service portfolio, such as ensuring that the correct purchased products are assigned to the customer's billing account for accurate billing. **AM**
Changes to a customer's billing details are handled within daVinci. Changes such as billing address, bank card/account can all be handled manually from within the customer's account page. As the billing details are associated with an account number (or numbers) then such changes will have no impact on the association of products and services to a customer's account when it comes to billing
CTS_SG_BAEDT (All sections)
 	
Explanatory
 	
INSTRUCTION: Not required for process mapping.
 	
Mandatory
 	
INSTRUCTION: Into this table, copy in the process description from the Mandatory field of the Level 3 process in GB921-DX. Provide a textual description of mapping support for each Implied Task in the description as follows:
 	
• High-light the Business Process Framework text according to the level of support
    o   Green for full conformance
    o   Yellow for partial conformance
    o   Grey for non-conformance
• Append the Business Process Framework text according to the type of support

- o *A for Automated Support*
- o *M for Manual Support*
- o *AM for mix of Automated & Manual Support*
- *add a reference to supporting evidence documentation which should be delivered with the self-assessment material*

Optional

Not required for process mapping

Interactions

Not required for process mapping

4.2.2 L3: Manage Customer Payments 1.1.1.11.2

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 *L4 Manage Customer Payment Plan 1.1.1.11.2.1 – Mapping Details*

Process Identifier: 1.1.1.11.2.1

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 4 PROCESS MAPPING DETAILS
Manage Customer Payment Plan 1.1.1.11.2.1
Extended Description *INSTRUCTION: Not required for process mapping UNLESS "Mandatory" field is not supported.* **Explanatory** *INSTRUCTION: Not required for process mapping.* **Mandatory** The purpose of Manage Customer Payment Plan process is to • <mark>Establish new payment plans, modify or remove existing payment plans.</mark> **AM Agents with appropriate authority access can edit, add and remove payment plans/methods within daVinci. daVinci will then automatically make use of them when the customer's account goes through the bill cycle including appropriate actions when the new/edited payment methods fails.** CTS_SG_BAEDT (Figure 3, Figure 4)

INSTRUCTION: Into this table, copy in the process description from the Mandatory field in GB921-DX. Provide a textual description of mapping support for each Implied Task in the description as follows:

- *High-light the Business Process Framework text according to the level of support*
  - o <mark style="background-color:#00ff00">*Green for full conformance*</mark>
  - o <mark style="background-color:#ffff00">*Yellow for partial conformance*</mark>
  - o *Grey for non-conformance*
- *Append the Business Process Framework text according to the type of support*
  - o *A for Automated Support*
  - o *M for Manual Support*
  - o *AM for mix of Automated & Manual Support*
- *add a reference to supporting evidence documentation which should be delivered with the self-assessment material*

Optional

Not required for process mapping

Interactions

Not required for process mapping

Process Identifier: 1.1.1.11.2.2

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 4 PROCESS MAPPING DETAILS
Collect Customer Payment 1.1.1.11.2.2

Extended Description

INSTRUCTION: Not required for process mapping UNLESS "Mandatory" field is not supported.

Explanatory

INSTRUCTION: Not required for process mapping.

Mandatory

The purpose of Collect Customer Payment process is to

- Collect the payments from the customer. To the extent that processing of any payments is undertaken internally, i.e. check processing, these processes are responsible for managing the operation and quality of the internal processing. **A**

.

> **daVinci is capable of handling customer payments in a secure way, ensuring the quality of data and integrity of the financial processes within the business.**

CTS_PF_LCKBOXPAY (All Sections)
CTS_FRS_LCKBOX (Overview of Requirements)
CTS_PS_PAYAL (Section 3.1, Section 3.3)
CTS_PS_FRPRT (Section 3.3, Section 3.4, Section 3.5)

INSTRUCTION: Into this table, copy in the process description from the Mandatory field in GB921-DX. Provide a textual description of mapping support for each Implied Task in the description as follows:

- *High-light the Business Process Framework text according to the level of support*
  - o *Green for full conformance*
  - o *Yellow for partial conformance*
  - o *Grey for non-conformance*
- *Append the Business Process Framework text according to the type of support*
  - o *A for Automated Support*
  - o *M for Manual Support*
  - o *AM for mix of Automated & Manual Support*
- *add a reference to supporting evidence documentation which should be delivered with the self-assessment material*

Optional

- These processes can include credit/debit/EFT payments using various channels, either directly or through third parties, and cash or check payments, either directly or through third parties. **A**
  daVinci is capable of handling a wide range of payment methods as stated in the document listed.
  CTS_PS_ARBatch (Section – Business Rules no.**17)**

Interactions

Not required for process mapping

49

4.2.2.3   *L4 Reconcile Customer Payment 1.1.1.11.2.3 – Mapping Details*

Process Identifier: 1.1.1.11.2.3

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 4 PROCESS MAPPING DETAILS
Reconcile Customer Payment 1.1.1.11.2.3

Extended Description

INSTRUCTION: Not required for process mapping UNLESS "Mandatory" field is not supported.

Explanatory

INSTRUCTION: Not required for process mapping.

Mandatory

The purpose of Reconcile Customer Payment process is to reconcile the payments to the invoices. This process is meant to

- Match these payments with the services/invoices delivered to this customer. **A**
  Payments are matched with customer's invoices, this can be seen within the Account Allocations tab within daVinci but is also expressed in the documents below.
  CTS_PS_PAYAL (Section 3.3.1, Section 3.3.2, Section 3.3.3, Section 3.3.5)
  CTS_SG_ACCALLO (All Sections)
  CTS_PF_LCKBOXPAY (Section 4)

- Where payments do not match invoices, this process is responsible for informing the Manage Customer Debt Collection processes of any underpayments, and the Bill Inquiry Handling processes for any over-payments. **AM**

  Overpayment, or unallocated payments, or even underpayments can be handled through the account allocations tab, it is possible then, for example, to 'allocate' overpayment to other bills or debt.
  CTS_SG_ACCALLO (all figures)
  CTS_PS_PAYAL (Section 3.4)

CTS_FRS_LCKBOX (Section 2.7)
CTS_PS_ARBatch (Business Rules no.20)

Incomplete or missed payment will become aged debt, moving a long a series of debt 'buckets'. When the debt reaches a certain 'age' (depending on business set up) the debt will trigger internal and ultimately, external, collections processes.
CTS_PS_COLLECT (Collection Parameters)
CTS_SG_CUSTCOLL (All Sections)

These processes are responsible for

- <mark>Reconciling the money received into the bank accounts against the payments expected in the invoices</mark>. **A**
  Each bill cycle produces a series of results, including estimated and actual payments received
  CTS_PS_PAYAL
  CTS_PS_FRPRT (Section 3.2, Section 3.3, Sections 3.4, 3.5, 3.6, 3.7, 3.8)

- <mark>Additionally these processes inform the Financial Management on all those payments for updating the ledger</mark>. **A**
  The result of the bill cycle (or summary of the results) can be sent to the appropriate members of Finance as part of the process flow governing Billing and bill cycles.
  CTS_PS_FRPRT (Section 3.2, Section 3.3, Sections 3.4)
    - CTS_PS_FRPRT (Sections 3.5, 3.6, 3.7, 3.8 as additional detail/depth of reporting ability)

INSTRUCTION: Into this table, copy in the process description from the Mandatory field in GB921-DX. Provide a textual description of mapping support for each Implied Task in the description as follows:

- *High-light the Business Process Framework text according to the level of support*
    - *Green for full conformance*
    - *Yellow for partial conformance*
    - *Grey for non-conformance*
- *Append the Business Process Framework text according to the type of support*
    - *A for Automated Support*
    - *M for Manual Support*
    - *AM for mix of Automated & Manual Support*
- *add a reference to supporting evidence documentation which should be delivered with the self-assessment material*
Optional

Not required for process mapping

Interactions

Not required for process mapping

4.2.2.4 *L4 Manage Back End Bank Account 1.1.1.11.2.4 – Mapping Details*

Process Identifier: 1.1.1.11.2.4

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 4 PROCESS MAPPING DETAILS Manage Back End Bank Account 1.1.1.11.2.4

Extended Description
 	
INSTRUCTION: Not required for process mapping UNLESS "Mandatory" field is not supported.
 	
Explanatory
 	
INSTRUCTION: Not required for process mapping.
 	
Mandatory
 	
The purpose of Manage Back-End Bank Account process is to
 	
• Manage back-end bank accounts for receipt of the customer payments and for the transfer of funds collected by third parties. **A**
    Management of back end bank accounts is handled through the billing portal and the finance portal of daVinci for users with the appropriate authorities.
    CTS_FRS_COLLAGENT (All Sections – demonstrating transfer of funds from third parties)
    CTS_PF_COLLECTIONS (Section 3) – demonstrating transfer of funds from third parties)
    CTS_PS_PAYAL (Section 3.4 – Unallocated accounts Back End Account Management)
 	
These processes are responsible for

- <mark>Managing payment commercial agreement agreed with banks and the payment interfaces for collecting the customer payments</mark>. **AM**

  Commercial agreements and processes with banks, such as lock box processing, are all supported within daVinci. Functionality exists for a range of interactions between external third parties.
  CTS_FRS_LCKBOX (Section 1.1-1.3, Section 2.1-2.4)
  CTS_FRS_LCKBOXPAY (All Sections)
  CTS_PS_PAYAL (Section 3.1, 3.2, 3.3)

INSTRUCTION: Into this table, copy in the process description from the Mandatory field in GB921-DX. Provide a textual description of mapping support for each Implied Task in the description as follows:

- *High-light the Business Process Framework text according to the level of support*
  - *Green for full conformance*
  - *Yellow for partial conformance*
  - *Grey for non-conformance*
- *Append the Business Process Framework text according to the type of support*
  - *A for Automated Support*
  - *M for Manual Support*
  - *AM for mix of Automated & Manual Support*
- *add a reference to supporting evidence documentation which should be delivered with the self-assessment material*

Optional

Not required for process mapping

Interactions

Not required for process mapping

L4 Administer Commercial Arrangement for Third Party Supplier 1.1.1.11.2.5 – Mapping Details

Process Identifier: 1.1.1.11.2.5

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 4 PROCESS MAPPING DETAILS** |
| Administer Commercial Arrangement for Third Party Supplier 1.1.1.11.2.5 |

Extended Description

INSTRUCTION: Not required for process mapping UNLESS "Mandatory" field is not supported.

Explanatory

INSTRUCTION: Not required for process mapping.

Mandatory

- The purpose of Administer Commercial Arrangement for Third Party Supplier process is to establish the requirements for, and manage any commercial arrangements agreed with, third party supplier of payment services. After commercial arrangements are agreed, this process is responsible for monitor the execution of the commercial arrangements. AM
  An example of this would be daVinci's management of Interfaces with banks or the commercial arrangement between the business and debt collection agencies. Collections work order processes include the passing of data to the collections agencies to begin debt recovery, and then passing data (and money) back to the company.
  CTS_SG_ACCGRP (Figures 1-5)
  CTS_PF_COLLECTIONS (All sections)

INSTRUCTION: Into this table, copy in the process description from the Mandatory field in GB921-DX. Provide a textual description of mapping support for each Implied Task in the description as follows:

- *High-light the Business Process Framework text according to the level of support*
  - o *Green for full conformance*

- - o Yellow for partial conformance
    - o Grey for non-conformance
- Append the Business Process Framework text according to the type of support
    - o A for Automated Support
    - o M for Manual Support
    - o AM for mix of Automated & Manual Support
- add a reference to supporting evidence documentation which should be delivered with the self-assessment material

Optional

Not required for process mapping

Interactions

Not required for process mapping

4.2.3 L3: Manage Customer Debt Collection 1.1.1.11.3

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.

Establish the requirements for, and manage any commercial arrangements agreed with, third party suppliers.

4.2.3.1 *L4 Identify Overdue Invoice 1.1.1.11.3.1 – Mapping Details*

Process Identifier: 1.1.1.11.3.1

Process Context

This process element represents part of the overall enterprise, modelled 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
Identify Overdue Invoice - 1.1.1.11.3.1

Extended Description
 	
INSTRUCTION: Not required for process mapping UNLESS "Mandatory" field is not supported.
 	
Explanatory
 	
INSTRUCTION: Not required for process mapping.
 	
Mandatory
 	
The purpose of Identify Overdue Invoice process is to
 	
• <mark>Identify invoices which are overdue for payment. It monitors the amount due from the customer</mark> **AM**
    The collections menu, through the billing interface within daVinci enables finance staff to identify all customers who are currently in collections. Their placement in 'collections' occurs as a result of nightly batch processes as a result of meeting the criteria of company rules.
    CTS_PS_COLLECT (all sections)
    CTS_SG_CUSTCOLL (all sections)

4.2.3.2 *L4 Administer Overdue Invoice Follow-up 1.1.1.11.3.2 – Mapping Details*

Process Identifier: 1.1.1.11.3.2

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 4 PROCESS MAPPING DETAILS
Administer Overdue Invoice Follow-up 1.1.1.11.3.2

Extended Description

INSTRUCTION: Not required for process mapping UNLESS "Mandatory" field is not supported.

Explanatory

INSTRUCTION: Not required for process mapping.

Mandatory

The purpose of Administer Overdue Invoice Follow-Up process is to initiate and manage follow-up with customers having overdue amounts.

- <mark style="background-color:#00ff00">This process is responsible for setting up the follow-ups based on the policies. The policies are associated to customer's profile such as customer credit, customer group, overdue amounts, debt occurrence times, purchased products and etc</mark>. **AM**
  When a customer enters collections because of non-pay then a series of work order activities (based on business rules) will engage, these range from starting with a collections letter to non-pay disconnects and passing the customer onto third party collections agencies. This will happen automatically based on a customer's account and product set up, but additional, or edits to existing work flow process may be done manually.
  CTS_PS_COLLECT (Figure 4, Figure 5)
  CTS_SG_CUSTCOLL

- <mark style="background-color:#00ff00">This process is also responsible for modifying or removing the designated follow-ups when the policies or situations are changed</mark>. **AM**
  This can happen automatically if a customer meets repayment requirements or certain criteria are met, but additionally, edits to existing work flow process may be done manually (such as adding or removing processes or suspending the collections process entirely)
  CTS_SG_CUSTCOLL(Figure 8, Figure 9, Figure 10)
        CTS_SG_CUSTCOLL (Figure 5 to demonstrate criteria based modification of work flow processes)
  CTS_PS_COLLECT

INSTRUCTION: Into this table, copy in the process description from the Mandatory field in GB921-DX. Provide a textual description of mapping support for each Implied Task in the description as follows:

- *High-light the Business Process Framework text according to the level of support*
  - o   *<mark style="background-color:#00ff00">Green for full conformance</mark>*
  - o   *<mark style="background-color:#ffff00">Yellow for partial conformance</mark>*
  - o   *<mark style="background-color:#cccccc">Grey for non-conformance</mark>*
- *Append the Business Process Framework text according to the type of support*
  - o   *A for Automated Support*
  - o   *M for Manual Support*
  - o   *AM for mix of Automated & Manual Support*

- *add a reference to supporting evidence documentation which should be delivered with the self-assessment material*

Optional

Not required for process mapping

Interactions
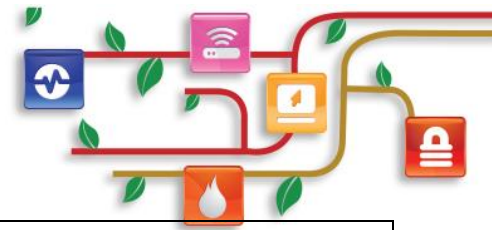
Not required for process mapping

4.2.3.3 *L4 Manage Overdue Invoice Payment 1.1.1.11.3.3 – Mapping Details*

Process Identifier: 1.1.1.11.3.3

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 4 PROCESS MAPPING DETAILS
Manage Overdue Invoice Payment 1.1.1.11.3.3

Extended Description

INSTRUCTION: Not required for process mapping UNLESS "Mandatory" field is not supported.

Explanatory

INSTRUCTION: Not required for process mapping.

Mandatory

The purpose of Manage Overdue Invoice Payment process is to arrange and monitor payment plans to allow customers to pay overdue amounts in installments.

- This process arranges payment plans to allow customers to pay overdue amounts, leads to an agreement with the customers, and monitors the execution of the payment plans. **AM Customers in collections can arrange repayment plans which will 'suspend' their account from progressing along the collections work flow enabling them time to pay off outstanding amounts.**

CTS_SG_CUSTCOLL (Figure 14, Figures 8, 9, 10)

- <mark>This process should consider the payment amounts in installment whether can be undertaken by the customer</mark>.AM
  Customer debt can be paid off directly to the customer in full or in installments, or through a collection agency again in full or in installments. Either way, the debt will be removed from the account in order from oldest debt to newest.
  CTS_SG_CUSTCOLL (Figure 14, Figures 8, 9, 10)
  CTS_SG_ACCALLO (Figures 8 – 13)

INSTRUCTION: Into this table, copy in the process description from the Mandatory field in GB921-DX. Provide a textual description of mapping support for each Implied Task in the description as follows:

- *High-light the Business Process Framework text according to the level of support*
  - o *Green for full conformance*
  - o *Yellow for partial conformance*
  - o *Grey for non-conformance*
- *Append the Business Process Framework text according to the type of support*
  - o *A for Automated Support*
  - o *M for Manual Support*
  - o *AM for mix of Automated & Manual Support*
- *add a reference to supporting evidence documentation which should be delivered with the self-assessment material*

Optional

Not required for process mapping
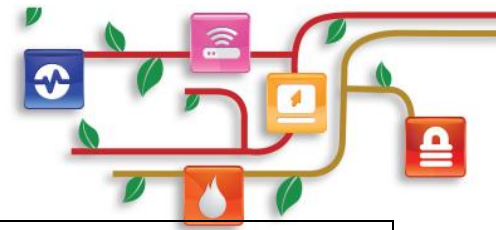
Interactions

Not required for process mapping

4.2.3.4 *L4 Initiate Customer Debt Recovery Activities 1.1.1.11.3.4 – Mapping Details*

Process Identifier: 1.1.1.11.3.4

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 4 PROCESS MAPPING DETAILS

Initiate Customer Debt Recovery Activities 1.1.1.11.3.4

Extended Description

INSTRUCTION: Not required for process mapping UNLESS "Mandatory" field is not supported.

Explanatory

INSTRUCTION: Not required for process mapping.

Mandatory

The purpose of Initiate Customer Debt Recovery process is to initiate customer debt recovery activities in accordance with appropriate commercial practice and policies.

- This process includes deciding appropriate recovery activities based on debt recovery policies, launching debt recovery activities and monitoring the executions. The debt recovery policies are associated to the customer's profile such as payment history, customer group, purchased products, overdue amounts. **A**
  A customer can enter and exit particular collections schemes (which can have their own work flow processes) based on the rules that put them there in the first place.
  CTS_PS_COLLECT (Section Schemes, Section Rules, Figures 1-5)

- This process includes overdue invoice reminding via phone call, SMS, email, by manually or automatically, by humans or applications. **AM**
  Phone, SMS, email and letter reminders can all be put in place to remind the customer of overdue invoice amounts. The nature of the communication method can either be based on preferred communication methods or via business rules. This will happen automatically, but addition contact activities can be added manually to the collections work flow process.
  CTS_SG_CUSTCOLL (Figure 4, Figure 5, Figure 12, Figure 13)

- This process is also responsible for terminating customer debt recovery activities when the customer pays. A
  Each customer collections scheme has exit criteria rules, which usually is a result of the customer paying all (if not most) of their outstanding debt. When day end collections routines are run and the customer meets the exit criteria then the customer will be pulled out of collections.
  CTS_PS_COLLECT (Section: Rules, Figures 1-5)
  CTS_SG_CUSTCOL (Figure 4, Figure 5)

4.2.3.5   *L4 Manage Aged Customer Debt Portfolio 1.1.1.11.3.5 – Mapping Details*

Process Identifier: 1.1.1.11.3.5

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 4 PROCESS MAPPING DETAILS
Manage Aged Customer Debt Portfolio 1.1.1.11.3.5
Extended Description   *INSTRUCTION: Not required for process mapping UNLESS "Mandatory" field is not supported.*

Explanatory

INSTRUCTION: Not required for process mapping.

Mandatory

The purpose of Manage Aged Customer Debt Portfolio process is to manage the aged customer debt portfolio.

- <mark>This process is responsible for transforming the overdue invoice to the aged customer debt portfolio when it didn't be recovered after a time of period or based on other triggers according to the Service Provider's policies. The aged customer debt portfolio should include all the information of the customer debt profiles. The process is also responsible for managing and maintaining transforming cycle</mark>. **A**
  daVinci handles aged debt through 'debt buckets'. The age brackets for the debt are defined by the customer, but can be used to trigger events such as collections, or account restrictions.
  CTS_SG_CUSTCOLL (Figure 11)

- <mark>When the overdue payment is recovered after transforming, this process is responsible to remove the aged customer debt portfolio and notice Establish & Manage Customer Debt Profiles process to update the customer debt profile</mark>. **A**
  Payment of overdue debt is done from the oldest bill to the newest bill first which will remove debt from the oldest buckets to the newest. Many debt triggers are based on debt age, which would remove the customer from these triggers and decrease the impact of their aged debt profile.
  CTS_SG_CUSTCOLL (Figure 11)

INSTRUCTION: Into this table, copy in the process description from the Mandatory field in GB921-DX. Provide a textual description of mapping support for each Implied Task in the description as follows:

- *High-light the Business Process Framework text according to the level of support*
  - *Green for full conformance*
  - *Yellow for partial conformance*
  - *Grey for non-conformance*
- *Append the Business Process Framework text according to the type of support*
  - *A for Automated Support*
  - *M for Manual Support*
  - *AM for mix of Automated & Manual Support*
- *add a reference to supporting evidence documentation which should be delivered with the self-assessment material*

Optional

Not required for process mapping

Interactions

Not required for process mapping

4.2.3.6 *L4 Establish and Manage Customer Debt Profiles 1.1.1.11.3.6 – Mapping Details*

Process Identifier: 1.1.1.11.3.6

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 4 PROCESS MAPPING DETAILS
Establish and Manage Customer Debt Profiles 1.1.1.11.3.6

Extended Description

INSTRUCTION: Not required for process mapping UNLESS "Mandatory" field is not supported.

Explanatory

INSTRUCTION: Not required for process mapping.

Mandatory

- The purpose of Establish & Manage Customer Debt Profiles process is to establish and manage customer debt profiles to assist in managing debt recovery and debt risk on a customer, product or customer group basis. The customer debt profile is a part of customer's profile, which can include customer credit, customer group, overdue date, overdue amounts, overdue occurring times, debt recovery means and occurring times, customer debt recovery response and etc. **A
daVinci has available a range of information relating to a customer's debt profile in their customer profile page.**
CTS_SG_DBTPRFL (Sections 1-4)

- ==This process is responsible for keeping updates of the customer debt profiles according to results from Initiate Customer Debt Recovery Activities process==. **AM**
  daVinci provides a top level overview of the current activities taking place against the customer account for use by agents and other staff. (with the collections portal providing the more in depth profile information).
  CTS_SG_DBTPRFL (Sections 1-4)

INSTRUCTION: Into this table, copy in the process description from the Mandatory field in GB921-DX. Provide a textual description of mapping support for each Implied Task in the description as follows:

- *High-light the Business Process Framework text according to the level of support*
  - *==Green for full conformance==*
  - *==Yellow for partial conformance==*
  - *Grey for non-conformance*
- *Append the Business Process Framework text according to the type of support*
  - *A for Automated Support*
  - *M for Manual Support*
  - *AM for mix of Automated & Manual Support*
- *add a reference to supporting evidence documentation which should be delivered with the self-assessment material*

Optional

Not required for process mapping

Interactions

Not required for process mapping

4.2.3.7 *L4 Establish and Manage Commercial Debt Recovery Arrangement 1.1.1.11.3.7 – Mapping Details*

Process Identifier: 1.1.1.11.3.7

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.

Extended Description

INSTRUCTION: Not required for process mapping UNLESS "Mandatory" field is not supported.

Explanatory

INSTRUCTION: Not required for process mapping.

Mandatory

- The purpose of Establish & Manage Commercial Debt Recovery Arrangement process is to establish and manage commercial arrangements with third parties for the recovery of aged debt, and/or for the write-off and selling of parts of the debt portfolio to third parties. This process is responsible for filtering and packaging the aged customer debt portfolios based on the Service Provider's policies, deciding the third parties' action items and monitoring the status of the arrangements. **AM**
daVinci uses rules and schemes to decide if and when a customer account should be placed into collections. The rules and schemes also determine if and when a customer should go to third parties collection. From then on it is possible to view the current status of all customers with third party agents.**
CTS_SG_CUSTCOLL (Sections 1-2, Sections 14-16)
CTS_FRS_COLLAGENT (Section 1.1)
CTS_PS_COLLECT (Section Schemes, Section Rules, Figures 1-5)

INSTRUCTION: Into this table, copy in the process description from the Mandatory field in GB921-DX. Provide a textual description of mapping support for each Implied Task in the description as follows:

- *High-light the Business Process Framework text according to the level of support*
  - *Green for full conformance*
  - *Yellow for partial conformance*
  - *Grey for non-conformance*
- *Append the Business Process Framework text according to the type of support*
  - *A for Automated Support*
  - *M for Manual Support*
  - *AM for mix of Automated & Manual Support*
- *add a reference to supporting evidence documentation which should be delivered with the self-assessment material*

Optional

Not required for process mapping

Interactions

Not required for process mapping

4.2.4 Supporting Evidence References (Works Cited)

CTS_SG_DBTPRFL – Customer Debt Profile

CTS_SG_CUSTCOLL – Customer Collections Screen Grabs

CTS_SG_BAEDT – Customer Billing Account Edit

CTS_SG_ACGRP – Accounting Groups

CTS_SG_ACCALLO – Account Allocations

CTS_PS_PAYAL – Payment Allocations

CTS_PS_FRPRT – Financial Reporting

CTS_PS_COLLECT – daVinci Collections Doc

CTS_PS_ARBacth – AR Batch Processing

CTS_PF_LCKBOXPAY – Process flow for Lockbox Payment Allocation

CTS_PF_COLLECTIONS – BH_Process for Doubtful Debt Transactions

CTS_FRS_LCKBOX – FRS Multi-Bank Capability for Accounting Groups

CTS_FRS_COLLAGENT – Coll Agency_Accounting for Incoming Pay

4.2.5 L2: Bill Payments & Receivables Mgt (1.1.1.11) - Detailed Conformance Results

Level 2: 1.1.1.11 - Bill Payments & Receivables Management [3/3]		
Level 3 Process	**Level 4 Process**	**L4/L3 Process Score**
1.1.1.11.1 - Manage Customer Billing		5
1.1.1.11.2 - Manage Customer Payments		5
	1.1.1.11.2.1 - Manage Customer Payment Plan	100%
	1.1.1.11.2.2 - Collect Customer Payment	100%
	1.1.1.11.2.3 - Reconcile Customer Payment	100%
	1.1.1.11.2.4 - Manage Back-End Bank Account	100%
	1.1.1.11.2.5 - Administer Commercial Arrangement for Third Party Supplier	100%
1.1.1.11.3 - Manage Customer Debt Collection		5
	1.1.1.11.3.1 - Identify Overdue Invoice	100%
	1.1.1.11.3.2 - Administer Overdue Invoice Follow-Up	100%
	1.1.1.11.3.3 - Manage Overdue Invoice Payment	100%
	1.1.1.11.3.4 - Initiate Customer Debt Recovery Activities	100%
	1.1.1.11.3.5 - Manage Aged Customer Debt Portfolio	100%
	1.1.1.11.3.6 - Establish & Manage Customer Debt Profiles	100%
	1.1.1.11.3.7 - Establish & Manage Commercial Debt Recovery Arrangement	100%

4.3 L2: Charging (1.1.1.13)
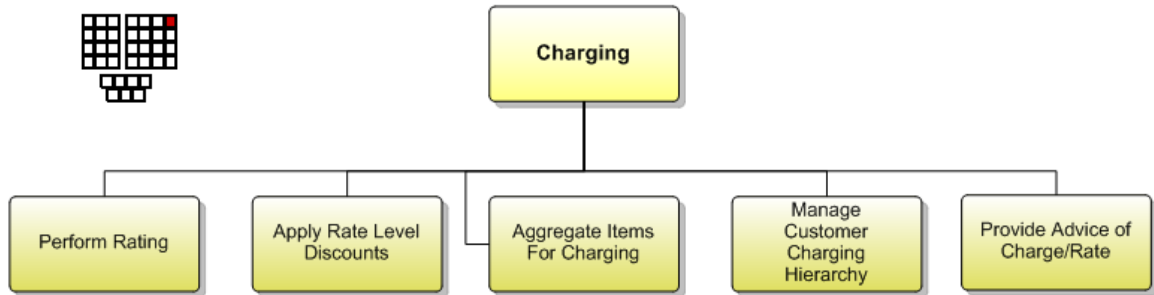
Process Identifier: 1.1.1.13

Process Context

This process element represents part of the overall enterprise, modelled 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 the assignment of a value (monetary or other) to an event or product, or combination (bundle or aggregate) of the above.

Extended Description

The purpose of Charging is to assign a value (monetary or other) to an event or product, or combination (bundle or aggregate) of the above. The charge may be either a credit or a debit and can be handled either online or offline.

Online charging is performed in real-time, requiring an authorization component which may affect how the service is rendered and enables an operator to provide prepaid services to its customers. Whereas offline charging is performed after the service is rendered and is not required to be done in real-time and generally relates to subscription based products.

The charge may appear on a customer invoice via Apply Pricing, Discounting, and Adjustments & Rebates.

Explanatory

Reserved for future use.

Mandatory

Reserved for future use.

Optional

Reserved for future use.

Interactions

Reserved for future use.

4.3.1   L3: Perform Rating 1.1.1.13.1 – Mapping Details

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

NOTE: No decomposition exists against 1.1.1.13.1. As such mappings are provided against the Level 3 process descriptions and implied tasks.

LEVEL 3 PROCESS MAPPING DETAILS Perform Rating 1.1.1.13.1
Extended Description Process responsible for • Calculating the value of the service/product, before, during or after the rendering of the service, based on parameters of the request (type, quantity, etc.), **A** daVinci rating engine calculates the value of a service/product across a range of differing parameter types **CTS_PS_DVUR (Section 2.7)** **CTS_PS_DVUR (Section 2.1)** • Parameters of the customer/subscriber (tariffs, price plans, accumulated usage, contracts, etc.) **A** The nature of the customer/subscriber account is full accounted for, with daVinci handling a range of account structures. **CTS_PS_DVUR (Section 2.6)** **CTS_PS_DVUR (Section 2.2)** • and other parameters (time-of-day, taxes, etc.). **A** daVinci handles a wide range of parameters which may have an impact on the final result of any rating. **CTS_PS_DVUR (Section 2.6, 2.7)** **CTS_PS_DVUR (Section 2.15)** • The same request maybe rated differently for different subscribers based on their purchased offers or service agreements. **A** Features such as promotions, purchase offers and discounts etc. are rated differently in order to take into account the potential impact on the bill total. **CTS_PS_DVUR (Section 2.6)** **CTS_PS_DVUR (Section 2.15)** **CTS_PS_DVUR (Section 5.3)**

Explanatory

INSTRUCTION: Not required for process mapping.

Mandatory

Reserved for future use.

Optional

Not required for process mapping

Interactions

Not required for process mapping

4.3.2 L3: Apply Rate Level Discounts 1.1.1.13.2 – Mapping Details

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

NOTE: No decomposition exists against 1.1.1.13.2. As such mappings are provided against the Level 3 process descriptions and implied tasks.

LEVEL 3 PROCESS MAPPING DETAILS
Apply Rate Level Discounts 1.1.1.13.2

Extended Description

This process applies discounts to product prices at an individual product level.

- A discount may be expressed as a monetary amount or percentage, and modifies a price for a product. When a discount is expressed as a percentage, the discounting process determines the discount calculated in relation to the price for the product.**AM**

  Discounts/Promotions are manually added, the discount application is automated. Discounts can be expressed as a set value or a percentage amount
  CTS_UG_DVPR (1.2 Method)

- The discount may be displayed as a separate entry on the bill or may be combined with the rate for the product to only show as one entry. **A**

  Discounts are recorded as separate bill entries, but their position/placement can be varied from a range of bill section options.

  CTS_UG_DVPR (1.2 Bill Section)

  CTS_UG_DVPR (1.6 Predictive Bill)

- Discounts may be a one-time event or may have some duration (days, months, life of product, etc.). **AM**

  A choice of start/end date is available, as is length/duration of the offer. Discount rules are manually added and automatically applied
  CTS_UG_DVPR (1.2 - Duration, Months before start, Available from, Available to)

- Discounts may apply to a specific customer or be generally available based on selection of products (for example - bundles). Discounting structures may involve tiers, tapers, or thresholds. **AM**

Rules are manually added and automatically applied. The availability of a discount/promotion is based on a wide range of criteria. Packages, Customer Groups, Sales Agents (i.e. Manager's Discount) etc and more.

CTS_UG_DVPR (Promo Availability 1.3)
CTS_UG_DVPR (Promo Availability Maintenance 1.4)
CTS_PS_DVUR (Section 5.4)

Explanatory

INSTRUCTION: Not required for process mapping.

Mandatory

Reserved for future use.

Optional

Not required for process mapping

Interactions

Not required for process mapping

4.3.3 L3: Aggregate Items for Charging 1.1.1.13.3 – Mapping Details

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

NOTE: No decomposition exists against 1.1.1.13.3. As such mappings are provided against the Level 3 process descriptions and implied tasks.

LEVEL 3 PROCESS MAPPING DETAILS Aggregate Items for Charging 1.1.1.13.3
Extended Description This process is responsible for • Accumulating contributing items, which can be quantities, values (monetary or other) or both. Aggregation can occur over time or can be initiated to gather a "snapshot" of the items at a point in time. **A** **daVinci is fully capable of handling aggregating charging alongside its usual charging mechanisms.** CTS_FRS_USGDSCT (All Sections) CTS_PF_CHRGE (Whole Document, Page Two in particular) • The aggregated items may be used in Perform Rating or Apply Rate Level Discounts to determine the applicable price or discount and may further be used as a quantity in the calculation of a rate or discount. **A** **discounts and rating can be applied to aggregated items and further still, may be used as a quantity in the calculation of a rate or discount**. CTS_FRS_USGDSCT (All Sections) **Explanatory** *INSTRUCTION: Not required for process mapping.* **Mandatory** Reserved for future use. **Optional** Not required for process mapping **Interactions** Not required for process mapping

4.3.4   L3: Manage Customer Charging Hierarchy 1.1.1.13.4 – Mapping Details

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

NOTE: No decomposition exists against 1.1.1.13.4. As such mappings are provided against the Level 3 process descriptions and implied tasks.

LEVEL 3 PROCESS MAPPING DETAILS
Manage Customer Charging Hierarchy 1.1.1.13.4

Extended Description

Customer hierarchies are commonly used for corporate customers, family plans or other type of affinity groups.

- This process manages the charging relationships among subscribers, e.g. sharing, inheriting or restricting balances, price plans account balance and discounts. Thereby assuring that a charge is added to or subtracted from the correct (sub-). **AM**
daVinci can handle multiple ledger accounts for a single customer entry as demonstrated in this document;
CTS_UG_MCLA (Section 1.1, Section 1.2)
And is also able to handle account hierarchy. Structure of account hierarchies including the account liability is held here;
CTS_FRS_DVCS (Section 3.9 – Hierarchies)

The billing of account hierarchies is detailed in the FRS at the following section
CTS_FRS_DVCS (Section 4.5 – Billing of Account Hierarchies)

Explanatory

INSTRUCTION: Not required for process mapping.

Mandatory

Reserved for future use.

Optional

Not required for process mapping

Interactions

Not required for process mapping

4.3.5   L3: Provide Advice of Charge/Rate 1.1.1.13.5 – Mapping Details

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

NOTE: No decomposition exists against 1.1.1.13.5. As such mappings are provided against the Level 3 process descriptions and implied tasks.

LEVEL 3 PROCESS MAPPING DETAILS Provide Advice of Charge/Rate
Extended Description The activity of Provide Advice of Charge/Rate is responsible for • Providing advice on rates, in real-time or offline, an estimate or value of the charge or rate for a specific usage or service request. The advice is usually based upon performing a full rating process for the request. **AM** Predictive billing will produce a PDF of the customer's next invoice based on the current state of the ledger. Enabling an agent to provide advice based on output PDF. **CTS_UG_DVPAoC (Section 1.1)** **CTS_UG_DVPAoC (Section 1.6)** The accuracy of the Advice underlies the complexity of the product offering - so that a 100% accurate AOC might not always be available in real-time. In these cases alternatives are usually sought (for example offline presentation / product type offering change. • Advice of charge can be provided pre-, during or post event. Advice of charge can be used/utilized by several different end-2-end processes. **AM** Predictive billing will produce a PDF of the customer's next invoice based on the current state of the ledger. Enabling an agent to provide advice based on output PDF. **CTS_UG_DVPAoC (Section 1.1)** **CTS_UG_DVPAoC (Section 1.6)** **CTS_UG_DVPPS (All Sections)** Previous Bills (with PDF view), Unbilled Transactions, Customer Account Collections and Ledger Account History are also sources of additional information for advice on charges. All of which are accessible via the customer ledger tab. **CTS_UG_DVPAoC (Sections 1.1 – 1.6)**   **Billing History**: Previous charges, invoice and balance. With PDF view of previous bills.

Predictive Bill: Offline bill rating based on current account status. Enables the agent to view a predictive bill based on the current state of the customer's ledger.

Unbilled Transactions: lists any billing adjustments that have been posted to the account but not yet billed, as well as transactions that have not yet been posted to the account.

Account Select: Allows the agent to view another account for the same customer so as to view the same billing information for the alternative account.

Using the above features the agent is then able to provide advice on rates and charges.

Explanatory

INSTRUCTION: Not required for process mapping.

Mandatory

Reserved for future use.

Optional

Not required for process mapping

Interactions

Not required for process mapping

4.3.6 Supporting Evidence References (Works Cited)

[CTS_FRS_DVCS]   FRS Contract Support v0.2

[CTS_PS_DVPBS]   Predictive Billing Spec

[CTS_PS_DVUR]   daVinci Usage Rating v0.4

[CTS_UG_DVMCLA]   User Guide - Multiple Customer Ledger Accounts

[CTS_UG_PAoC]   User Guide – Provide Advice of Charge

[CTS_UG_DVPR]   User Guide – Promos

[CTS_FRS_USGDSCT]   Usage Discounting FRS

[CTS_PF_CHRGE]   Charge Generation Process

4.3.7 L2: Charging (1.1.1.13) - Detailed Conformance Results

Level 2: 1.1.1.13 - Charging [5/5]		
Level 3 Process	**Level 4 Process**	**L4/L3 Process Score**
1.1.1.13.1 - Perform Rating		5
1.1.1.13.2 - Apply Rate Level Discounts		5
1.1.1.13.3 - Aggregate Items For Charging		5
1.1.1.13.4 - Manage Customer Charging Hierarchy		5
1.1.1.13.5 - Provide Advice of Charge/Rate		5

4.4   L2: Manage Billing Events (1.1.1.14)
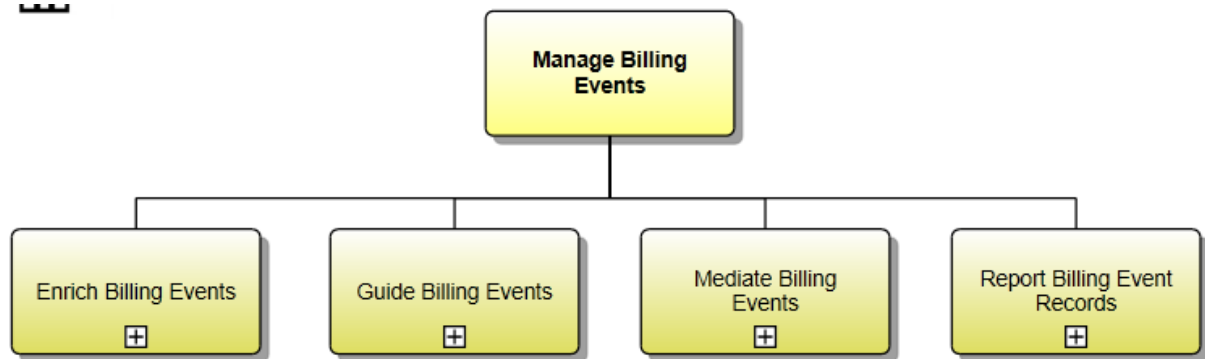
Process Identifier: 1.1.1.14

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

Encompasses the functions required to guide, distribute, mediate, summarize, accumulate, and analyze billing event records.

Extended Description

The billing events management processes encompass the functions required to guide, distribute, mediate, summarize, accumulate, and analyze billing event records. These processes may occur in real-time, near real-time, or may be executed on a periodic basis.

Billing event records include records produced by network elements (service events), records that indicate the need for periodic billing of a reoccurring product rate, and records that indicate the need for billing of a non-reoccurring rate.

The guiding processes ensures that the event records used in the billing processes are appropriately related to the correct customer billing account and products.

The billing event records are edited and if necessary reformatted (mediated) to meet the needs of subsequent processes. The billing event records may also be enriched with additional data during this process.

Explanatory

Reserved for future use.

Mandatory

Reserved for future use.

Optional

Reserved for future use.

Interactions

Reserved for future use.

4.4.1 L3: Enrich Billing Events 1.1.1.14.1

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

4.4.1.1 *L4 Add Billing Event Data 1.1.1.14.1.1*

Process Identifier: 1.1.1.14.1.1

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 Add Billing Event Data 1.1.1.14.1.1

Extended Description
 	
INSTRUCTION: Not required for process mapping UNLESS "Mandatory" field is not supported.
 	
Explanatory
 	
INSTRUCTION: Not required for process mapping.
 	
Mandatory
 	
The purpose of Add Billing Event Data process is to
 	
- Add data to the records from sources such as customer, product, or other reference data to augment the billing event records. **A daVinci collects a wide array of data from product, usage, customer, tax, locale etc to build a complete usage picture of the customer. This can then be used by daVinci or any other third party billing engine**. **The 'Generic' event file format [TGENUSG] means this can take almost any form.**
  CTS_FRS_RATING (Generic Usage)
  CTS_FS_USGEFILE (Tabs TGENUSG, TBILLINP, TRATUSG)
 	
This process is responsible for

- <mark style="background-color:#00ff00">Enriching billing events with additional data which is not provided by or known by services providing the billing events, but needed by other billing processes. Hence this process is also responsible for obtaining additional data from corresponding data sources based on each billing events record information</mark>. **A**

  daVinci collects a wide array of data from product, usage, customer, tax, locale etc to build a complete usage picture of the customer. This can then be used by daVinci or any other third party billing engine. The 'Generic' event file format [TGENUSG] means this can take almost any form.
  CTS_FRS_RATING (2.1 Generic Usage)
  CTS_FS_USGEFILE (Tabs TGENUSG, TBILLINP, TRATUSG)

INSTRUCTION: Into this table, copy in the process description from the Mandatory field in GB921-DX. Provide a textual description of mapping support for each Implied Task in the description as follows:

- *High-light the Business Process Framework text according to the level of support*
    - o *Green for full conformance*
    - o *Yellow for partial conformance*
    - o *Grey for non-conformance*
- *Append the Business Process Framework text according to the type of support*
    - o *A for Automated Support*
    - o *M for Manual Support*
    - o *AM for mix of Automated & Manual Support*
- *add a reference to supporting evidence documentation which should be delivered with the self-assessment material*

Optional

Not required for process mapping

Interactions

Not required for process mapping

4.4.1.2 *L4 Assign Billing Event Price 1.1.1.14.1.2*

Process Identifier: 1.1.1.14.1.2

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 4 PROCESS MAPPING DETAILS

Assign Billing Event Price 1.1.1.14.1.2

Extended Description

INSTRUCTION: Not required for process mapping UNLESS "Mandatory" field is not supported.

Explanatory

INSTRUCTION: Not required for process mapping.

Mandatory

The purpose of Assign Billing Event Price process is to

- <mark>Assign a price to a billing event without consideration of specific product or customer information. This process performs static rating of service events without considering customer or product information</mark>. **AM**
  daVinci holds a standard price that is based on the simple baseline of customer group (Residential or Business) though the prices for a package across both can be same. The billing engine can take this standard price as its baseline for billing the customer. Otherwise a manual price or override price based on filtering factors is used.
  CTS_UG_PRDCTPRCE (All Sections, highlights)

INSTRUCTION: Into this table, copy in the process description from the Mandatory field in GB921-DX. Provide a textual description of mapping support for each Implied Task in the description as follows:

- *High-light the Business Process Framework text according to the level of support*
  - o *Green for full conformance*
  - o *Yellow for partial conformance*
  - o *Grey for non-conformance*
- *Append the Business Process Framework text according to the type of support*
  - o *A for Automated Support*
  - o *M for Manual Support*
  - o *AM for mix of Automated & Manual Support*
- *add a reference to supporting evidence documentation which should be delivered with the self-assessment material*

Optional

Not required for process mapping

Interactions

Not required for process mapping

4.4.2 L3: Guide Billing Event 1.1.1.14.2

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

4.4.2.1 L4 Ensure Billing Event Usage 1.1.1.14.2.1

Process Identifier: 1.1.1.14.2.1

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 4 PROCESS MAPPING DETAILS
Ensure Billing Event Usage 1.1.1.14.2.1

Extended Description

INSTRUCTION: Not required for process mapping UNLESS "Mandatory" field is not supported.

Explanatory

INSTRUCTION: Not required for process mapping.

Mandatory

The purpose of Ensure Event Record Usage process is to

- <mark>Ensure that the event records used in the billing process relate to the correct customer billing account and products</mark>. **A**
  The file structures used ensure that each event record relates to a product and the corresponding customer (which record the customer at the address and the billable customer).
  CTS_FRS_RATING (Generic Usage, Rated Usage)
  TGENUSG record is assigned a unique USID (Usage Record ID), this relates to RUID (Rated Usage ID) in TRATUSG. The TRATUSG file holds both RUBILLCUST Billing Customer Number and RUBILLACC Billing Account Number ensuring each record is related to the correct billing account and product.

4.4.2.2 *L4 Distribute Billing Event 1.1.1.14.2.2*

Process Identifier: 1.1.1.14.2.2

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.

Extended Description

INSTRUCTION: Not required for process mapping UNLESS "Mandatory" field is not supported.

Explanatory

INSTRUCTION: Not required for process mapping.

Mandatory

The purpose of Distribute Billing Event process is to

- <mark style="background-color:#00ff00">Distribute billing events to other processes which need access to billing events</mark>. **A**
  daVinci's hierarchical billing process, in which each of the steps are separate from each other require that the billing event information is made available to any additional step that may require it. Another example includes 'predictive billing' which requires access to unrated billing data.
  CTS_PS_PRDCTBILL (All Sections)

This process is also responsible for

- <mark style="background-color:#00ff00">Recording distribution logs to avoid duplicated billing event distribution</mark>. **A**
  Each billing process output file is stamped with a unique ID relating to the bill run no, ensuring that it is not possible to cross contaminate records.
  CTS_FRS_RATING (Rated Usage) TRATUSG file, the record for each record usage event is assigned the bill run and sequence number as a measure against duplication [RULIVERSEQ, RULIVEBRUN, RUTESTRSEQ, RUTESTBRUN]

INSTRUCTION: Into this table, copy in the process description from the Mandatory field in GB921-DX. Provide a textual description of mapping support for each Implied Task in the description as follows:

- *High-light the Business Process Framework text according to the level of support*
    - *<mark style="background-color:#00ff00">Green for full conformance</mark>*
    - *<mark style="background-color:#ffff00">Yellow for partial conformance</mark>*
    - *<mark style="background-color:#cccccc">Grey for non-conformance</mark>*
- *Append the Business Process Framework text according to the type of support*
    - *A for Automated Support*
    - *M for Manual Support*
    - *AM for mix of Automated & Manual Support*

- *add a reference to supporting evidence documentation which should be delivered with the self-assessment material*

Optional

Not required for process mapping

Interactions

Not required for process mapping

4.4.3 L3: Mediate Billing Events 1.1.1.14.3

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

4.4.3.1 *L4 Edit Billing Events 1.1.1.14.3.1*

Process Identifier: 1.1.1.14.3.1

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 4 PROCESS MAPPING DETAILS Edit Billing Events 1.1.1.14.3.1
Extended Description *INSTRUCTION: Not required for process mapping UNLESS "Mandatory" field is not supported.* **Explanatory** *INSTRUCTION: Not required for process mapping.* **Mandatory** This process is responsible for • <mark>Editing billing events to adapt to the contents expected by receiving processes and applications. This includes examining individual fields in billing events, modifying the contents of individual fields in billing events and removing unwanted data and fields, identifying billing event type.</mark> **AM** **Generic bill output table contains a vast array of data in order to adapt to most expected required data for receiving processes and applications. It is then possible to adapt or extract that data to suit those processes and applications. Data can also be modified, such as date and time fields, to suit preferred formats (MM-DD-YYYY, DD-MM-YYYY etc)** CTS_PS_BILLOUT CTS_SG_DOCTOOL

Additionally, this process is also responsible for

- <mark>Billing events consolidation, billing event splitting, billing events correlation and duplicated billing events deletion if necessary</mark>. **AM**
  Bill event consolidation also takes place, collating, for example, multiple products into a single record, and presenting the customer with a unit amount and total cost. Bill event correlation, also takes place, such as attributing a discount to a particular product etc.
  CTS_SG_EVENT (Figures 1-3)
  CTS_FRS_RATING (2.1 TGENUSG blurb)

INSTRUCTION: Into this table, copy in the process description from the Mandatory field in GB921-DX. Provide a textual description of mapping support for each Implied Task in the description as follows:

- *High-light the Business Process Framework text according to the level of support*
  - o *Green for full conformance*
  - o *Yellow for partial conformance*
  - o *Grey for non-conformance*
- *Append the Business Process Framework text according to the type of support*
  - o *A for Automated Support*
  - o *M for Manual Support*
  - o *AM for mix of Automated & Manual Support*
- *add a reference to supporting evidence documentation which should be delivered with the self-assessment material*

Optional

Not required for process mapping

Interactions

Not required for process mapping

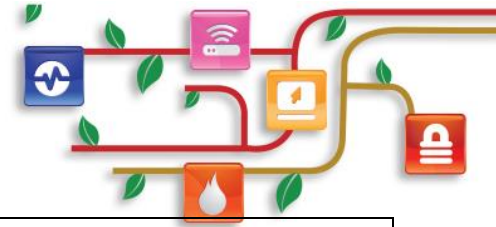## 4.4.3.2 *L4 Reformat Billing Event 1.1.1.14.3.2*

Process Identifier: 1.1.1.14.3.2

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.

<table>
<tr><td>

LEVEL 4 PROCESS MAPPING DETAILS
Reformat Billing Event 1.1.1.14.3.2

Extended Description

INSTRUCTION: Not required for process mapping UNLESS "Mandatory" field is not supported.

Explanatory

INSTRUCTION: Not required for process mapping.

Mandatory

The purpose of Reformat Billing Event process is to

- <mark>Reformat billing events to adapt to the format expected by receiving processes and applications. This includes examining individual fields in billing events and translating billing events from one format to another</mark> **AM**
  It is entirely possible to adapt or extract that data in such a way as to suit processes and applications. Data can also modified, such as date and time fields, to suit preferred formats (MM-DD-YYYY, DD-MM-YYYY etc), language and locale specific formatting and presentation can be handled.
  CTS_UG_CUSTMAINT (Customer Group, Preferred Language)

Additionally, this process is also responsible for

- <mark>Maintenance the input and output format template</mark>. **AM**
  Maintenance can take place quite easily through renaissance using the Bill formatting features.
  CTS_SG_DOCTOOL (All Sections. Figures 3-5, 9-12 in particular)

INSTRUCTION: Into this table, copy in the process description from the Mandatory field in GB921-DX. Provide a textual description of mapping support for each Implied Task in the description as follows:

- *High-light the Business Process Framework text according to the level of support*
  - o *<mark>Green for full conformance</mark>*

</td></tr>
</table>

- o *Yellow for partial conformance*
  - o *Grey for non-conformance*
- *Append the Business Process Framework text according to the type of support*
  - o *A for Automated Support*
  - o *M for Manual Support*
  - o *AM for mix of Automated & Manual Support*
- *add a reference to supporting evidence documentation which should be delivered with the self-assessment material*

Optional

Not required for process mapping

Interactions

Not required for process mapping

4.4.4 L3: Report Billing Event Records 1.1.1.14.4

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

4.4.4.1 *L4 Generate Billing Event Report 1.1.1.14.4.1*

Process Identifier: 1.1.1.14.4.1

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 4 PROCESS MAPPING DETAILS
Generate Billing Event Report 1.1.1.14.4.1

Extended Description
 	
INSTRUCTION: Not required for process mapping UNLESS "Mandatory" field is not supported.
 	
Explanatory
 	
INSTRUCTION: Not required for process mapping.
 	
Mandatory
 	
The purpose of the Generate Billing Event Report process is to generate reports on billing event records.
 	
    • This process produces reports that may identify abnormalities, which may be caused by fraudulent activity or related to customer complaints. **A**
       Each bill run creates an audit log, which also includes start/finish logs so that instances of internal fraud can be established (re-runs, pausing, editing of bill steps), each bill step also has an error/issue logging which is added into each bill log.
       CTS_UG_BILLRPRT (Figure 1, Sections 1.1-1.4 relating to auditing/job logging)
       CTS_UG_BILLRPRT (Figure 2-5, Sections 1.5 relating to error/issue logging)

4.4.4.2   *L4 Investigate Billing Event Related Problem 1.1.1.14.4.2*

Process Identifier: 1.1.1.14.4.2

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 4 PROCESS MAPPING DETAILS
Investigate Billing Event Related Problem 1.1.1.14.4.2

Extended Description

INSTRUCTION: Not required for process mapping UNLESS "Mandatory" field is not supported.

Explanatory

Mandatory

The purpose of the Investigate Billing Event Related Problem process is to

- <mark>Investigate problems related to billing event records. Where reporting indicates problems with billing event records such as data format errors, configuration problems, system or network problems this process initiates and manages an investigation and follow-up of the indicated problems</mark>. **AM**
  daVinci billing has a few ways of handling errors. Each bill process in the hierarchical bill cycle can be made dependent on previous bill cycles to prevent further problems. An error threshold can be set so that one or two problem events/customers will not hold up a whole bill run (they can be placed into the next bill run, or investigated). If the threshold is met (say 100 customers in that bill cycle) then the process will stop, and the necessary staff are informed so that investigation can begin. Correction of the data means that the failed process can be restarted.
  CTS_UG_BILLRPRT (Figure 2-5, Sections 1.5 relating to error/issue logging)
  CTS_UG_BILLRPRT (Sections 1.6, 1.7 relating to handling 'in error' customers)

Optional

Not required for process mapping

Interactions

Not required for process mapping

4.4.4.3   *L4 Support Billing Event Related Process 1.1.1.14.4.3*

Process Identifier: 1.1.1.14.4.3

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.

<table>
<tr><td align="center">**LEVEL 4 PROCESS MAPPING DETAILS**
Support Billing Event Related Process</td></tr>
<tr><td>

Extended Description

INSTRUCTION: Not required for process mapping UNLESS "Mandatory" field is not supported.

Explanatory

INSTRUCTION: Not required for process mapping.

Mandatory

The purpose of the 'Support Billing Event Related Process' process is to

- <mark>Support other processes which use or consume billing events</mark>. **A Billing supports other processes such as predictive billing which use the billing event data to provide customer information. In addition, this support is demonstrated by the hierarchical bill processes. With each being a separate instance, with each supporting the next.**
CTS_PS_PRDCTBILL (Overview, All Sections)

INSTRUCTION: Into this table, copy in the process description from the Mandatory field in GB921-DX. Provide a textual description of mapping support for each Implied Task in the description as follows:

- *High-light the Business Process Framework text according to the level of support*
    - o <mark>*Green for full conformance*</mark>
    - o <mark style="background:yellow">*Yellow for partial conformance*</mark>
    - o *Grey for non-conformance*
- *Append the Business Process Framework text according to the type of support*
    - o *A for Automated Support*
    - o *M for Manual Support*

</td></tr>
</table>

- - o *AM for mix of Automated & Manual Support*
- *add a reference to supporting evidence documentation which should be delivered with the self-assessment material*

Optional

Not required for process mapping

Interactions
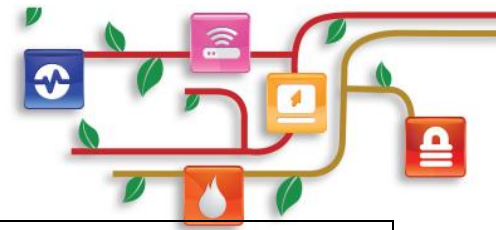
Not required for process mapping

4.4.5 Supporting Evidence References (Works Cited)

[CTS_FRS_RATING]   daVinci Usage Rating v0.4

[CTS_FS_USGEFILE]   Usage and Bill Input File Structure

[CTS_PS_PRDCTBILL]   Predictive Billing Spec

[CTS_SG_DOCTOOL]   Invoice Creation Tool

[CTS_SG_EVENT]   Billing Event on Bills

[CTS_UG_BILLRPRT]   Bill Event Reporting

[CTS_UG_CUSTMAINT]   Maintaining Customer Details

[CTS_UG_PRDCTPRICE] User Guide Product Price

4.4.6 L2: Manage Billing Events (1.1.1.14) - Detailed Conformance Results

Level 2: 1.1.1.14 - Manage Billing Events [4/4]		
Level 3 Process	**Level 4 Process**	**L4/L3 Process Score**
1.1.1.14.1 - Enrich Billing Events		5
	1.1.1.14.1.1 - Add Billing Event Data	100%
	1.1.1.14.1.2 - Assign Billing Event Price	100%
1.1.1.14.2 - Guide Billing Events		5
	1.1.1.14.2.1 - Ensure Billing Event Usage	100%
	1.1.1.14.2.2 - Distribute Billing Event	100%
1.1.1.14.3 - Mediate Billing Events		5
	1.1.1.14.3.1 - Edit Billing Event	100%
	1.1.1.14.3.2 - Reformat Billing Event	100%
1.1.1.14.4 - Report Billing Event Records		5
	1.1.1.14.4.1 - Generate Billing Event Report	100%
	1.1.1.14.4.2 - Investigate Billing Event Related Problem	100%
	1.1.1.14.4.3 - Support Billing Event Related Process	100%

4.5 L2: Manage Balances (1.1.1.15)
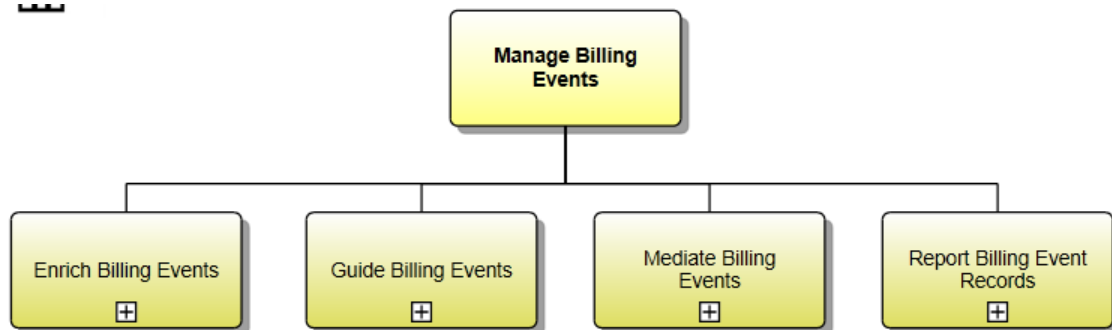
Process Identifier: 1.1.1.15

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

Management of customer and/or subscriber account balances.

Extended Description

This process is responsible for holding, calculating, applying policies and managing functionality/interfaces for the account balances of a customer and/or a subscriber.

Here the values resulting from rating and the application of discounts are applied to a customer's balance. The balance affected by the value may be monetary or other balances such as minutes, points, or tokens. Authorizing service requests based on available balance is optional.

Explanatory

Reserved for future use.

Mandatory

Reserved for future use.

Optional

Reserved for future use.

Interactions

Reserved for future use.

4.5.1 L3: Manage Balance Containers 1.1.1.15.1 – Mapping Details

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.

NOTE: No decomposition exists against 1.1.1.15.1. As such mappings are provided against the Level 3 process descriptions and implied tasks.

LEVEL 3 PROCESS MAPPING DETAILS Manage Balance Containers 1.1.1.15.1
Extended Description This process • Manages the balance containers assigned to a customer and/or subscriber and is used to keep track of usage events, **A** **Customer monetary balances are managed via aged 'buckets'. The customer's current balance is then used to determine the state of the customer and can provide input for decision making processes such as product deactivation. Usage events can be viewed through the unbilled transactions tab.** CTS_UG_MNGBAL (Sections 1.1, 1.2, 1.3) CTS_PS_POSTPAY (Processing Billing Input, Generating The Open Item And Statement – processing the rated usage at a later date and updating the account balance) **Balance such as free minutes are also maintained through the TDISCPLN file, a customer's free minutes are reduced after each applicable rating instance. Other rating plans/charges can then be implemented when the balance is emptied.** CTS_FRS_USGDISC (Section 2.1, Section 3.1 DPUNITS) • Providing input for decision making processes (such as service or product authorization) by means of the balance policies. **A** CTS_UG_AUTHTRAN (Figures 1 and 2, Section 1.1 this is a supporting document demonstrating the rules engine for daVinci which can be used to authorise and carry out actions against a customer based on balances and usage) • The containers include monetary and non-monetary balances (or shared) and are used as prepaid balances (enabling real-time service or product authorization), postpaid balances (in conjunction with an Account-Receivables [AR] application). Examples of non-monetary balances and allowances are: free minutes, WAP-only quota, etc. **A** **Monetary and Non-monetary balances are recorded and tracked and can then be used as pre-paid balances, allowing customers to perform actions such as free calls or free data use. Alternatively, these features and service usage can be made post-paid and applied to the customer's account retrospective to its usage.** CTS_FRS_USGDISC (Section 2.1, Section 3.1 DPUNITS)

CTS_UG_MNGBAL (Sections 1.3)
CTS_PS_POSTPAY (Process Billing Input)

Explanatory

INSTRUCTION: Not required for process mapping.

Mandatory

INSTRUCTION: Into this table, copy in the process description from the Mandatory field of the Level 3 process in GB921-DX. Provide a textual description of mapping support for each Implied Task in the description as follows:

- *High-light the Business Process Framework text according to the level of support*
  - o <mark style="background-color:#00ff00">*Green for full conformance*</mark>
  - o <mark style="background-color:#ffff00">*Yellow for partial conformance*</mark>
  - o <mark style="background-color:#cccccc">*Grey for non-conformance*</mark>
- *Append the Business Process Framework text according to the type of support*
  - o *A for Automated Support*
  - o *M for Manual Support*
  - o *AM for mix of Automated & Manual Support*
- *add a reference to supporting evidence documentation which should be delivered with the self-assessment material*

Optional

Not required for process mapping

Interactions

Not required for process mapping

4.5.2 L3: Manage Balance Policies 1.1.1.15.2 – Mapping Details

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

NOTE: No decomposition exists against 1.1.1.15.2. As such mappings are provided against the Level 3 process descriptions and implied tasks.

LEVEL 3 PROCESS MAPPING DETAILS Manage Balance Policies 1.1.1.15.2

Extended Description
 	
Balance policies are rules that describe how balance affecting events are to be handled. This is done by;
 	
• Comparing the value of each event against criteria such as the following:
    o a minimum allowable balance limit (e.g. balance must remain above zero)
    Not supported in daVinci at this time.
 	
    o balance expiration dates,
    For features such as free minutes/data, the amount available can have an expiration date such as 'end of the month', or at the end of a calendar period.
    CTS_FRS_USGDISC (Section 3.1 DPUNITS, Section 3.4 DTDOW+DTCALCODE)
 	
    o balance thresholds actions and notifications
    Not supported in daVinci at this time.
 	
    o Roll-over & cyclic policies.
    For features such as free minutes/data, it is possible to allow a 'roll over' to carry over these benefits into the next bill cycle, otherwise the features/policies are renewed each month if associated with a package/product.
    CTS_FRS_USGDISC (Section 3.1 DPCARRY, DPPRODCODE)
 	
Explanatory
 	
INSTRUCTION: Not required for process mapping.
 	
Mandatory

INSTRUCTION: Into this table, copy in the process description from the Mandatory field of the Level 3 process in GB921-DX. Provide a textual description of mapping support for each Implied Task in the description as follows:

- *High-light the Business Process Framework text according to the level of support*
  - *Green for full conformance*
  - *Yellow for partial conformance*
  - *Grey for non-conformance*
- *Append the Business Process Framework text according to the type of support*
  - *A for Automated Support*
  - *M for Manual Support*
  - *AM for mix of Automated & Manual Support*
- *add a reference to supporting evidence documentation which should be delivered with the self-assessment material*

Optional

Not required for process mapping

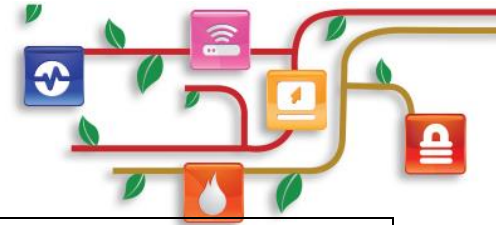**Interactions**

Not required for process mapping

4.5.3 L3: Manage Balance Operations 1.1.1.15.3 – Mapping Details

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

NOTE: No decomposition exists against 1.1.1.15.3. As such mappings are provided against the Level 3 process descriptions and implied tasks.

LEVEL 3 PROCESS MAPPING DETAILS Manage Balance Operations 1.1.1.15.3
Extended Description Balance operations processes the charged events, using balance policies and then guides the results towards the relevant balance containers. Operations include: • Reserving amounts from any balance for any session, and crediting unused reservations back into the balance, when a session is released. **A** **daVinci rating will look at the customer product usage when rating, take into account, for example, the free minutes available then 'release' any that were unused, so that they may be consumed by the customer at a later date.** CTS_FRS_USGDISC (Section 2.1) CTS_PF_USGACC (Process Flow – demonstrating how the 'discount usage' engine works) • Updating balances by applying charges to the balance and credit/debit adjustments. **A** **Balances, monetary and non-monetary are updated when a customer usage event takes place, either through the unbilled transactions tab or subsequently to update the account balance table post bill run. Credit/debit adjustments follow the same course, being held in the unbilled transactions tab and then through the account balance table post bill run.** CTS_FRS_USGDISC (Section 3.1 DPUNITS updating non-monetary balances)   CTS_UG_MNGBAL (Section 1.2 for Unbilled Transactions including credit/debit adjustments) CTS_SG_BILLADJ (All sections – supporting evidence credit/debit adjustments to an account)   CTS_PS_POSTPAY (Generating The Open Item And Statement – updating the account balance) CTS_UG_MNGBAL (Sections 1.1 and 1.3 for post-billing balance updates – couple with CTS_PS_POSTPAY) • Balance queries. **M** **Balance queries are possible through the customer's account.** CTS_UG_MNGBAL (Sections 1.1, 1.2, 1.3)
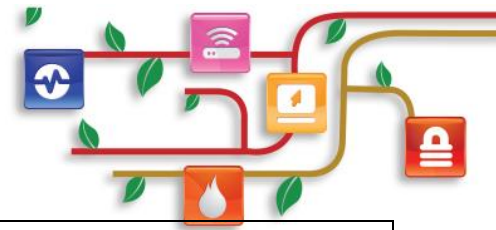
- <mark>Transferring amounts from one balance to another</mark>. **A**
  It is possible to transfer minutes and texts etc. (such as unused amounts) from one monthly balance to the next.
  CTS_FRS_USGDISC (Section 3.1 DPCARRY, DPPRODCODE)

Explanatory

INSTRUCTION: Not required for process mapping.

Mandatory

INSTRUCTION: Into this table, copy in the process description from the Mandatory field of the Level 3 process in GB921-DX. Provide a textual description of mapping support for each Implied Task in the description as follows:

- *High-light the Business Process Framework text according to the level of support*
    - *<mark>Green for full conformance</mark>*
    - *<mark>Yellow for partial conformance</mark>*
    - *Grey for non-conformance*
- *Append the Business Process Framework text according to the type of support*
    - *A for Automated Support*
    - *M for Manual Support*
    - *AM for mix of Automated & Manual Support*
- *add a reference to supporting evidence documentation which should be delivered with the self-assessment material*

Optional

Not required for process mapping

Interactions

Not required for process mapping

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

NOTE: No decomposition exists against 1.1.1.15.4. As such mappings are provided against the Level 3 process descriptions and implied tasks.

LEVEL 3 PROCESS MAPPING DETAILS **Authorise Transaction Based On Balance 1.1.1.15.4**
Extended Description • This process may include balance reservation and • Must be performed online. • Subsequent balance updates are not required to be done in real-time. In this context a service is provided by the network, e.g. voice call. Product is digital content delivered via the network, e.g. content such as music, games, etc. A **Depending on the source type, daVinci can handle usage rating instantly, thus enabling online service provision such as data, calls and texts to be handled online. Balance updates etc. are provided at a later date (such as post bill run) whilst the unbilled transactions will be shown against the customer account.** CTS_FRS_USGRATE (Section 4.1 Running Rater As A Service Job, Data Queue Listener – to demonstrate the rater as a responsive service rating as soon as the CDN/VOD interface or other data source delivers the necessary data) CTS_PF_DVRATE (Process Flow Diagram – supporting document to demonstrate real time rating as soon as data is input) CTS_UG_AUTHTRAN (Figures 1 and 2, Section 1.1 this is a supporting document demonstrating the rules engine for daVinci which can be used to authorise and carry out actions against a customer based on balances and usage) CTS_PS_POSTPAY (Processing Billing Input, Generating The Open Item And Statement – processing the rated usage at a later date and updating the account balance)   **Explanatory** *INSTRUCTION: Not required for process mapping.* **Mandatory** *INSTRUCTION: Into this table, copy in the process description from the Mandatory field of the Level 3 process in GB921-DX. Provide a textual description of mapping support for each Implied Task in the description as follows:*

- *High-light the Business Process Framework text according to the level of support*
  - o *Green for full conformance*
  - o *Yellow for partial conformance*
  - o *Grey for non-conformance*
- *Append the Business Process Framework text according to the type of support*
  - o *A for Automated Support*
  - o *M for Manual Support*
  - o *AM for mix of Automated & Manual Support*
- *add a reference to supporting evidence documentation which should be delivered with the self-assessment material*

Optional

Not required for process mapping

Interactions

Not required for process mapping

4.5.5 Supporting Evidence References (Works Cited)

[CTS_FRS_USGDISC]   Usage Discounting

[CTS_FRS_USGRATE]   daVinci Usage Rating v0.4

[CTS_PF_DVRATE]   daVinci Rating Engine Process Flow

[CTS_PF_USGACC]   Usage Accumulation and Discounting Process Flow

[CTS_PS_POSTPAY]   Cycle Billing Spec

[CTS_SG_BILLADJ]   Bill Adjustment SG

[CTS_UG_AUTHTRAN]   Rules Engine Based on Customer Balance

[CTS_UG_MNGBAL]   Manage Balance Containers

4.5.6 L2: Manage Balances (1.1.1.15) - Detailed Conformance Results

Level 2: 1.1.1.15 - Manage Balances [4/4]		
Level 3 Process	**Level 4 Process**	**L4/L3 Process Score**
1.1.1.15.1 - Manage Balance Containers		4.75
1.1.1.15.2 - Manage Balance Policies		4
1.1.1.15.3 - Manage Balance Operations		5
1.1.1.15.4 - Authorize Transaction Based on Balance		4.75

5   Information Framework Assessment Overview

5.1   Mapping Technique Employed

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

5.2   Information Framework Assessment - ABE Scope

The diagram in Figure 5-1 illustrates the Information Framework Level 1 ABEs (as highlighted in blue) that were presented in scope for the Assessment.
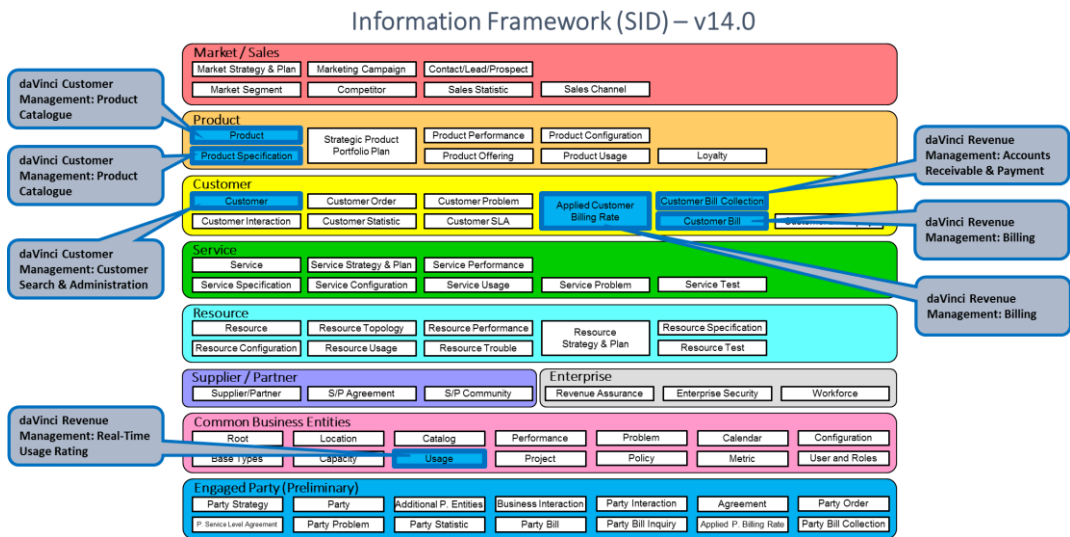

Figure 5-1 Level 1 ABEs in scope for CoralTree Systems daVinci Revenue Management Assessment

5.3 Product Scope

The diagram in
Figure 5-2 represents the mapping of CoralTree Systems daVinci product to the
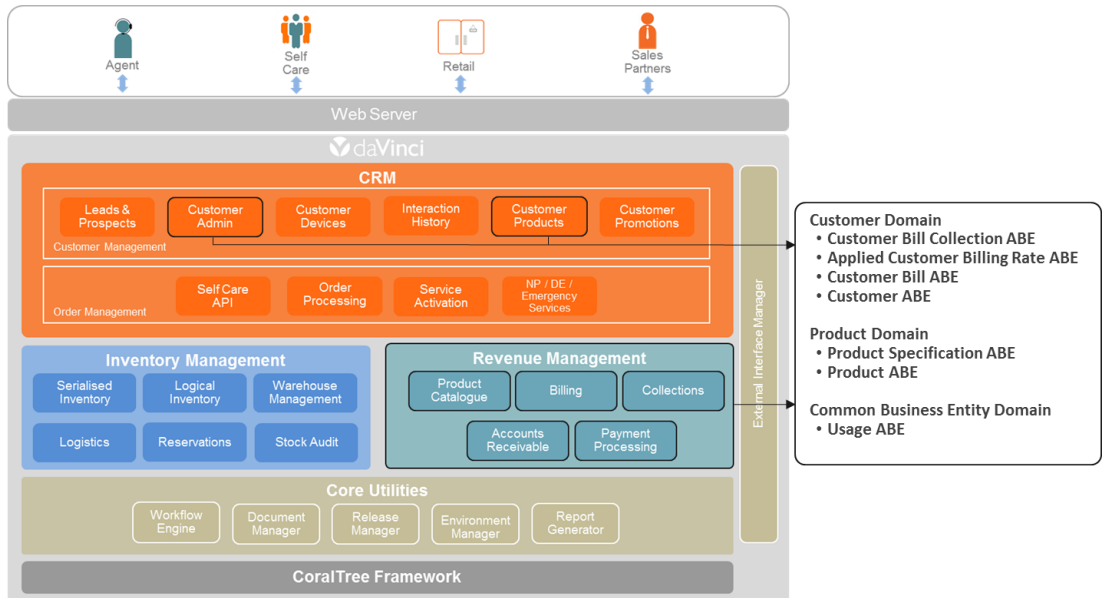Information Framework ABEs in scope for the assessment.

Figure 5-2 CoralTree Systems daVinci Footprint: Product Scope for SID Assessment

6 Frameworx Conformance Result

This section details the Scores awarded to reflect Conformance of CoralTree Systems' daVinci Revenue Management product to the Business Process Framework & Information Framework components of Frameworx 14.0.

6.1 Business Process Framework – Scoring Rules

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

Frameworx 14.0 Conformance Certification (Product/Solution/Implementation)		
Business Process Framework (eTOM) - Conformance Score Methodology		
Process Level	**Conformance Score**	**Qualifier**
Level 1 Process	*Not applicable*	*Conformance Assessment shall not be carried out at this process level.*
Level 2 Process	*Not applicable*	*A conformance level is not awarded to Level 2 processes in Frameworx Certification. The Certification Report shall highlight the coverage within a Level 2 process submitted in scope for an Assessment, in terms of number of Level 3 processes submitted for assessment out of the total number defined in the Business Process Framework for the Level 2 process.*
Level 3 Process	Conformance Score is awarded between 3.1 & 5.0	The Conformance Score is awarded for each Level 3 process submitted in scope for the Assessment. The Conformance Score awarded can be a value between 3.1* & 5 depending on the level of coverage & conformance to the Level 3 process based on the alignment to the level 3 Implied Tasks as decomposed in the Level 4 process definitions. If a Level 3 process has not been decomposed to Level 4 processes, the Level score is awarded according to alignment to the Level 3 defined Implied Tasks.
Level 4 Process	*Level of conformance is calculated as input to parent Level 3 Process Score*	*Levels of conformance are calculated for Level 4 processes according to alignment to the individual implied tasks. Level 4 scores are summed and averaged to given an overall score for the parent Level 3 process.*
* In earlier Conformance Assessments, scores were awarded to Level 1 & Level 2 processes using values 1 through to 3. For this reason, the Level 3 scores start from > 3.		

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

Additional Notes on Business Process Framework Conformance Scoring

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

2. Level 2 processes shall be presented to define the assessment scope only. i.e. they shall not be assessed as self-contained processes since the level of detail is not considered sufficient.
A conformance level shall not be awarded for Level 2 processes. However, the Certification Report shall provide good indication of the coverage of the Level 2 process in terms of number of contained Level 3 processes submitted in scope for the Assessment.

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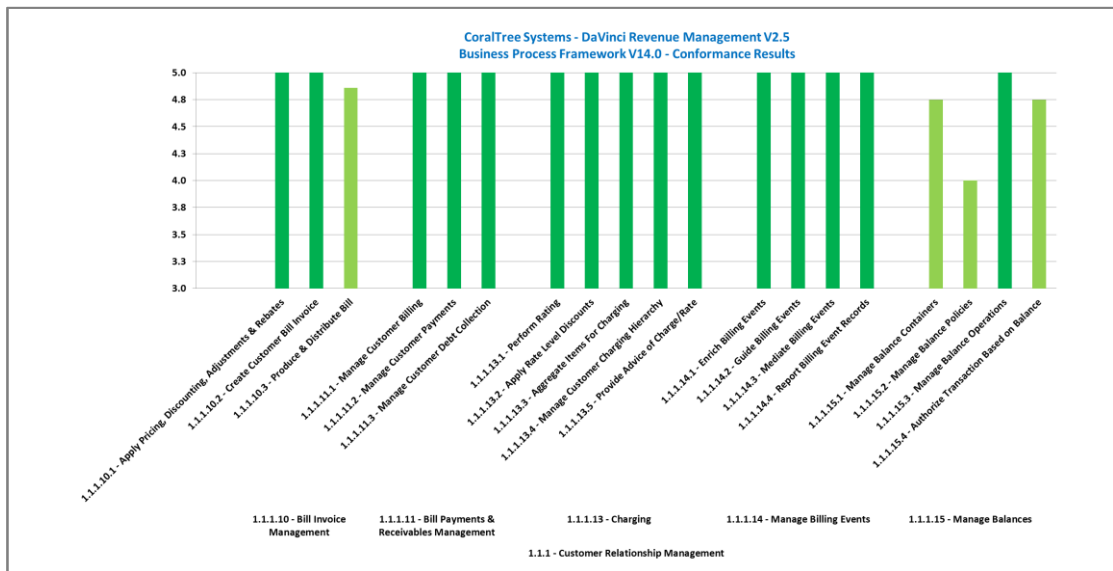

Figure 6-2 Business Process Framework: Conformance Result Summary

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

CoralTree Systems – daVinci Revenue Management V2.5 Business Process Framework v14.0 - Conformance Results			
Level 1: 1.1.1 – Customer Relationship Management			
Level 2: 1.1.1.10 - Bill Invoice Management [3/3]]			
1.1.1.10.1 - Apply Pricing, Discounting, Adjustments & Rebates	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).	
1.1.1.10.2 - Create Customer Bill Invoice	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).	
1.1.1.10.3 - Produce & Distribute Bill	4.9	**Partially Conformant** Supporting evidence and documentation submitted for the assessment of this level 3 process fulfilled alignment criteria with the standard Business Process Framework (eTOM) but with some deviations. See Mapping Table for more details.	
Level 2: 1.1.1.11 - Bill Payments & Receivables Management [3/3]			
1.1.1.11.1 - Manage Customer Billing	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.	
1.1.1.11.2 - Manage Customer Payments	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.	
1.1.1.11.3 - Manage Customer Debt Collection	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: 1.1.1.13 - Charging [5/5]			
	1.1.1.13.1 - Perform Rating	**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).
	1.1.1.13.2 - Apply Rate Level Discounts	**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)..
	1.1.1.13.3 - Aggregate Items For Charging	**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)..
	1.1.1.13.4 - Manage Customer Charging Hierarchy	**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).
	1.1.1.13.5 - Provide Advice of Charge/Rate	**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: 1.1.1.14 - Manage Billing Events [4/4]			
	1.1.1.14.1 - Enrich Billing Events	**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).
	1.1.1.14.2 - Guide Billing Events	**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)..
	1.1.1.14.3 - Mediate Billing Events	**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)..

	1.1.1.14.4 - Report Billing Event Records	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: 1.1.1.15 - Manage Balances [4/4]			
	1.1.1.15.1 - Manage Balance Containers	4.8	**Partially Conformant** Supporting evidence and documentation submitted for the assessment of this level 3 process fulfilled alignment criteria with the standard Business Process Framework (eTOM) but with some deviations. See Mapping Table for more details.
	1.1.1.15.2 - Manage Balance Policies	4.0	**Partially Conformant** Supporting evidence and documentation submitted for the assessment of this level 3 process fulfilled alignment criteria with the standard Business Process Framework (eTOM) but with some deviations. See Mapping Table for more details.
	1.1.1.15.3 - Manage Balance Operations	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)..
	1.1.1.15.4 - Authorize Transaction Based on Balance	4.8	**Partially Conformant** Supporting evidence and documentation submitted for the assessment of this level 3 process fulfilled alignment criteria with the standard Business Process Framework (eTOM) but with some deviations. See Mapping Table for more details.

6.4 Information Framework – Scoring Rules

As of Frameworx 14.0 Conformance Assessments, TM Forum awards two categories of conformance scoring to the Information Framework assessment as follows:

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

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

6.4.1 Information Framework Maturity Conformance Scoring Methodology

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

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

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

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

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

As of Frameworx 14.0 based Conformance Assessments, to recognize the overall adoption of the Information Framework SID Information model, the Information Framework Adoption Scoring system is applied. See 6.4.2 Information Framework Adoption Conformance Scoring Methodology for details of this Conformance category.

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

Information Framework R14.0: Maturity Conformance Scoring Guidelines	
Maturity Conformance Level	**Progressive Scoring Qualifiers**
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 and ABEs.
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 absence in the ABE would make the ABE incomplete.
Very Low Conformance [2.0 < Score <= 3.0]	The model has passed level 2 conformance and *a percentage of the required attributes of the ABE's core entity or entities are defined in the model.
Low Conformance [3.0 < Score <= 4.0]	The model has passed level 3 conformance and *a percentage of the dependent entities 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 *a percentage of the required attributes 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 *a percentage of all attributes 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 *a percentage of all attributes 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 all attributes of the ABE's core & dependent entities are defined in the model.

Additional Notes on Information Framework Conformance Maturity Level scoring:

1. *For each level, according to what is required, a value is calculated based on the percentage of entities/attributes supported - as appropriate. This will result in a decimal figure (rounded to one decimal place).*

2. *Maturity Level versus Adoption Score: Using the progressive scoring schema for Maturity Level, an assessed ABE for which there is equivalence to 2/3 required core attributes and 8/10 dependent entities would be awarded Maturity Level Score = 2.5 (Very Low Conformance) & Adoption Conformance score = 5.2 (Medium Conformance). For the Maturity Level, because not all required attributes of the Core Entity are supported, the Maturity Level score does not progress to the next level, regardless of conformance to other components of the ABE.*

3. *A **core business entity** is an entity upon which other entities within the ABE are dependent. For example, Service in the Service ABE. A model should strive to attain as high a level of Information Framework (SID) conformance as possible. A core entity is also an entity whose absence in the ABE would make the ABE incomplete.*

4. *A **dependent entity** is one whose instances are dependent on an instance of a core entity. For example, a ServiceCharacteristic instance within the Service ABE is dependent upon an instance of the Service entity.*

6.4.2 Information Framework Adoption Conformance Scoring Methodology

As of Frameworx 14.0 based Conformance Assessments, to recognize the overall adoption of the Information Framework SID Information model, the Information Framework Adoption Scoring system is introduced to complement the Maturity Levels that have been used since the launch of the Frameworx Conformance Programme.

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

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

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

Information Framework R14.0: Adoption Conformance Scoring Guidelines

SID Component	Weighted Scoring Calculation
Lowest Level ABE	Equivalent – 1 score point
Core Entity	Equivalent – 2 score points
Core Entity Required Attribute	% equivalent * 2 [See note 2]
Dependent Entity	% equivalent * 1.5
Dependent Entities – Required Attributes	% equivalent * 1.5
Core Entity – Optional Attributes	% equivalent * 1.2
Dependent Entity – Optional Attributes	% equivalent * 0.8

Adoption Conformance Score Graduation

Non Conformance [Score=1-3]	Very Low Conformance [3.0 < Score <= 4.0]	Low Conformance [4.0 < Score <= 5.0]	Medium Conformance [5.0 < Score <= 6.0]	High Conformance [6.0 < Score <= 8.0]	Very High Conformance [8.0 < Score < 10.0]	Full Conformance [Score = 10.0]

Additional Notes on Information Framework Conformance Adoption scoring:

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

6.5 Information Framework – Conformance Result Summary

The following sections provide the summary results of the Information Framework Maturity Levels & Information Framework Adoption scores granted to the ABEs presented in scope for the CoralTree Systems daVinci Revenue Management Frameworx Assessment.

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

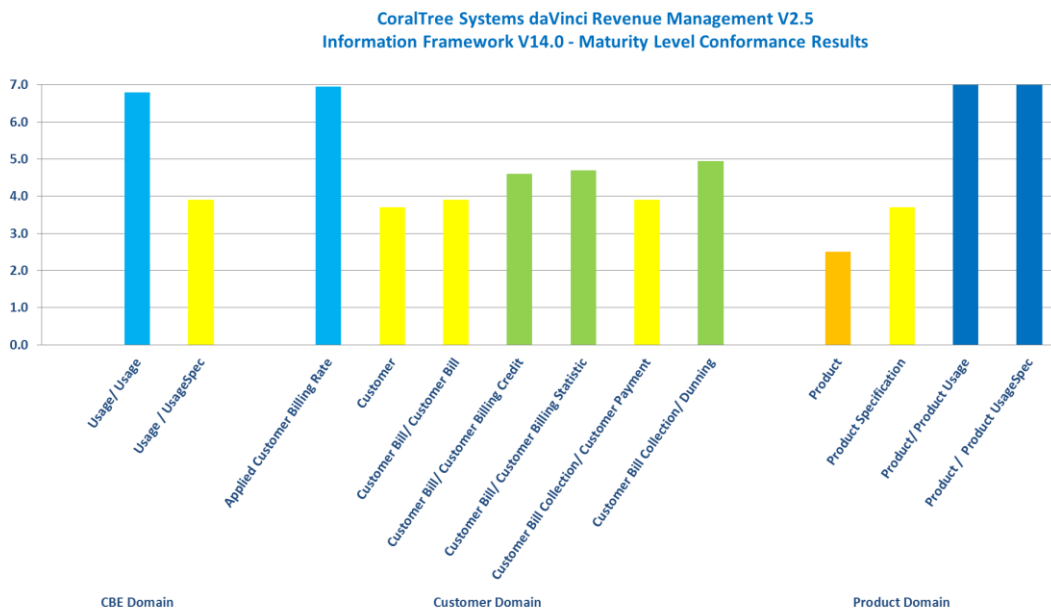### 6.5.1 Information Framework - Maturity Conformance Result Summary

Figure 6-3 Information Framework – Maturity Conformance Results Summary

6.5.2 Information Framework - Adoption Conformance Result Summary

CoralTree Systems daVinci Revenue Management V2.5
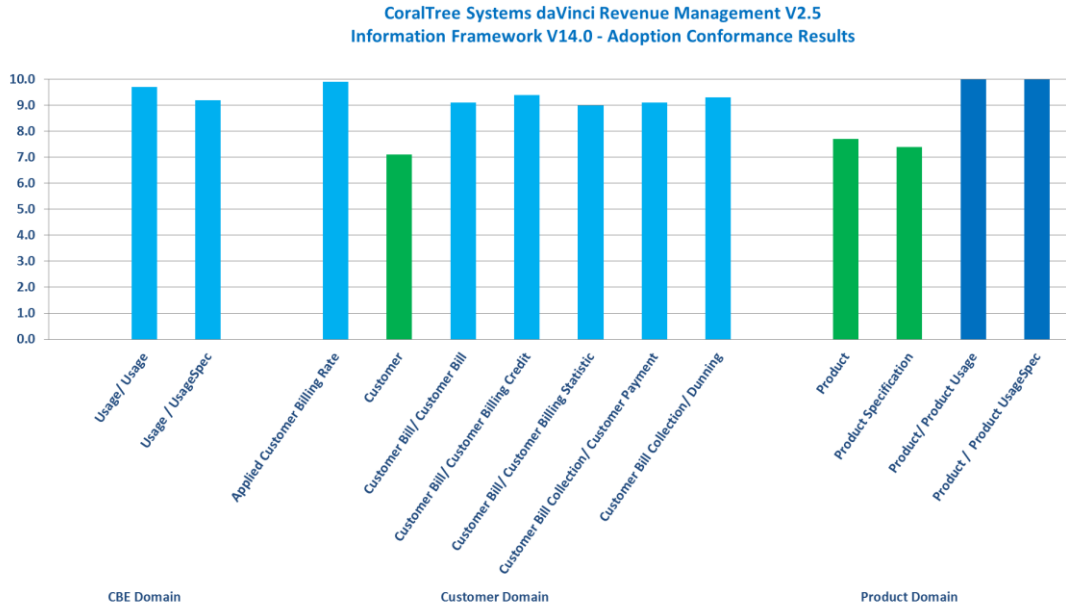**Information Framework V14.0 - Adoption Conformance Results**

Figure 6-4 Information Framework – Adoption Conformance Results Summary

6.6 Information Framework – Detailed Conformance Result

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

Table 6-4 Information Framework: Detailed Conformance Result

CoralTree Systems - daVinci Revenue Management V2.5 TM Forum Frameworx 14.0 Information Framework (SID) - Conformance Scores				
Domain/ABE	Maturity Conformance Score (1-7)	Assessment Comments	Adoption Conformance Score (1-10)	Assessment Comments
CBE Domain				
Usage/ Usage	6.8	Very High Conformance Core entity, required attributes, dependent entities, required attributes of dependent entities, all attributes of the core entity, 80% attributes of dependent entities supported.	9.7	Very High Conformance
Usage / UsageSpec	3.9	Low Conformance Core entity, required attributes, 90% of dependent entities supported.	9.2	Very High Conformance
Customer Domain				
Applied Customer Billing Rate	6.95	Very High Conformance Core entity, required attributes, dependent entities, required attributes of dependent entities, all attributes of the core entity, 95% attributes of dependent entities supported.	9.9	Very High Conformance

Customer	3.7	**Low Conformance** Core entity, required attributes, 70% of dependent entities supported.	7.1	**High Conformance**
Customer Bill/ Customer Bill	3.9	**Low Conformance** Core entity, required attributes, 90% of dependent entities supported.	9.1	**Very High Conformance**
Customer Bill/ Customer Billing Credit	4.6	**Medium Conformance** Core entity, required attributes, dependent entities, 60% of required attributes of dependent entities supported.	9.4	**Very High Conformance**
Customer Bill/ Customer Billing Statistic	4.7	**Medium Conformance** Core entity, required attributes, dependent entities, 70% of required attributes of dependent entities supported.	9.0	**Very High Conformance**
Customer Bill Collection/ Customer Payment	3.9	**Low Conformance** Core entity, required attributes, 90% of dependent entities supported.	9.1	**Very High Conformance**
Customer Bill Collection/ Dunning	4.95	**Medium Conformance** Core entity, required attributes, dependent entities, 95% of required attributes of dependent entities supported.	9.3	**Very High Conformance**
Product Domain				
Product	2.5	**Very Low Conformance** Core entity, 50% of required attributes of core entities supported.	7.7	**High Conformance**

Product Specification	3.7	**Low Conformance** Core entity, required attributes, 70% of dependent entities supported.	7.4	**High Conformance**
Product/ Product Usage	7	**Full Conformance** Core entity, required attributes, dependent entities, required attributes of dependent entities, all attributes of the core entity, all attributes of dependent entities supported.	10	**Full Conformance** Core entity, required attributes, dependent entities, required attributes of dependent entities, all attributes of the core entity, all attributes of dependent entities supported.
Product / Product UsageSpec	7	**Full Conformance** Core entity, required attributes, dependent entities, required attributes of dependent entities, all attributes of the core entity, all attributes of dependent entities supported.	10	**Full Conformance** Core entity, required attributes, dependent entities, required attributes of dependent entities, all attributes of the core entity, all attributes of dependent entities supported.