Implementation Conformance Certification Report

Business Process Framework (eTOM) v21.0 & Information Framework v21.0

for:

TAWAL

CRM Product and Service Order

November 2021

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1 Introduction

1.1 Executive Summary

This document provides details of Tawal's Self-Assessment of their implementation of CRM Product and Service Order, against the following ODA 21.0 components:

- Business Process Framework (eTOM) version 21.0
- Information Framework (SID) version 21.0

The assessment included a review of the methodology approach to business process and information modeling, respectively against the TM Forum's Business Process Framework (eTOM) and the Information Framework (SID) according to the specific processes and entities submitted in scope for the Assessment.

For more information on Tawal CRM Product and Service Order, please contact:

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

2   Product Overview

2.1   About Tawal

TAWAL is the largest regional provider of telecommunication infrastructure in the Middle East region. With +15,000 sites owned and managed in the Kingdom of Saudi Arabia, Tawal provides integrated solutions including but not limited to Built-to-Suit, Collocation, Small Cells, Fiber, IBS, Edge solutions and innovative digital infrastructure that allow people, businesses and things to be always connected.

TAWAL's core activities involve designing, building, and managing consolidated telecom infrastructure facilities that enable state-of-the-art and modular connectivity. By deploying and enhancing telecom infrastructure sharing, TAWAL enables its clients with new capabilities to attain and sustain operational excellence and accrue higher profits resulting from reduced CAPEX for network rollouts and lowered OPEX for managing infrastructure at multiple sites. Tawal Infrastructure sharing solutions also provides additional benefits for congested urban areas, including minimizing infrastructure duplications and excessive network redundancies, as well as reducing visual pollution that usually results from dense equipment rollouts.

For more information on our products and services, visit our website at www.tawal.com.sa

2.2   Product Functionality / Capability

TAWAL Order Management is a telecom E2E integrated customer-centric ordering system to deliver automated an accelerated ordering process making customers experience positive, seamless and efficient.

TAWAL Product Catalog contains and manages lifecycle of all TAWAL commercial portfolio information enabling TAWAL commercial staff to configure, customize and manage a catalog of product offerings that is adaptable and innovative.

2.2.1   Key Features:

TAWAL Order Management and Product catalog have the following features:
- Product catalog-driven order management
- End-to-End real time order tracking capability to minimize delays, re-processing and back-orders
- Shorter time-to-market for product configuration to order delivery and closure
- Efficient order processing from quote to cash
- 360° product overview to provide insightful status of product and service rollouts

2.2.2   Architecture

An overview of Tawal's CRM Product and Service Order is depicted below:
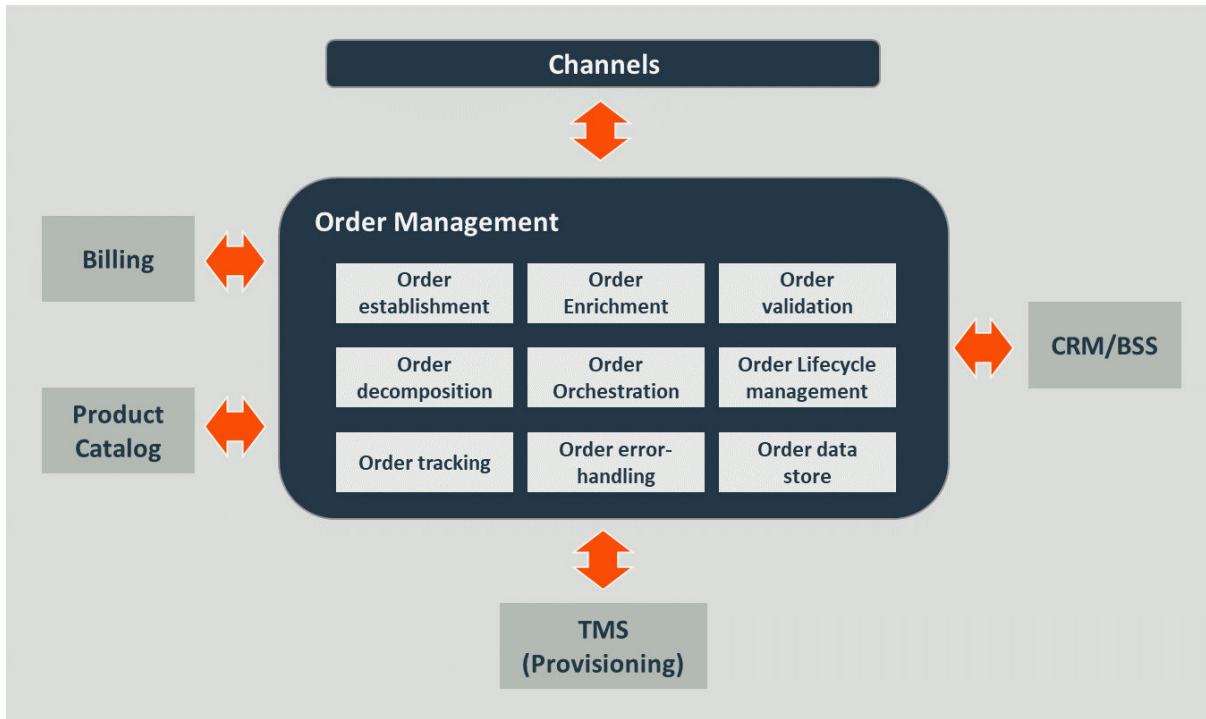
Figure 1 - Tawal's CRM Product and Service Order

2.3 Tawal CRM Product and Service Order – Benefits

TAWAL CRM Product and Service Order brings the following benefits:

- End-to-End Product Lifecycle Management that seamlessly manages Tawal product catalog and offers delivery phases, from customized design to order fulfillment and closure
- TAWAL CRM system provides flawless collaboration tool to functional cross teams to process and manage customer orders
- Full process automation: Improved quality and automation of product data moving among teams, systems and organizations.
- Accelerated Product Roll-out: Optimized time to market for new product offerings

2.4 Business Process Framework Level 2 Process Scope

The following figure represents the Business Process Framework Level 2 processes that were presented in scope for conformance certification.

Business Process Framework (eTOM) - v21.0 – Tawal CRM Product and Service Order – Conformance Footprint
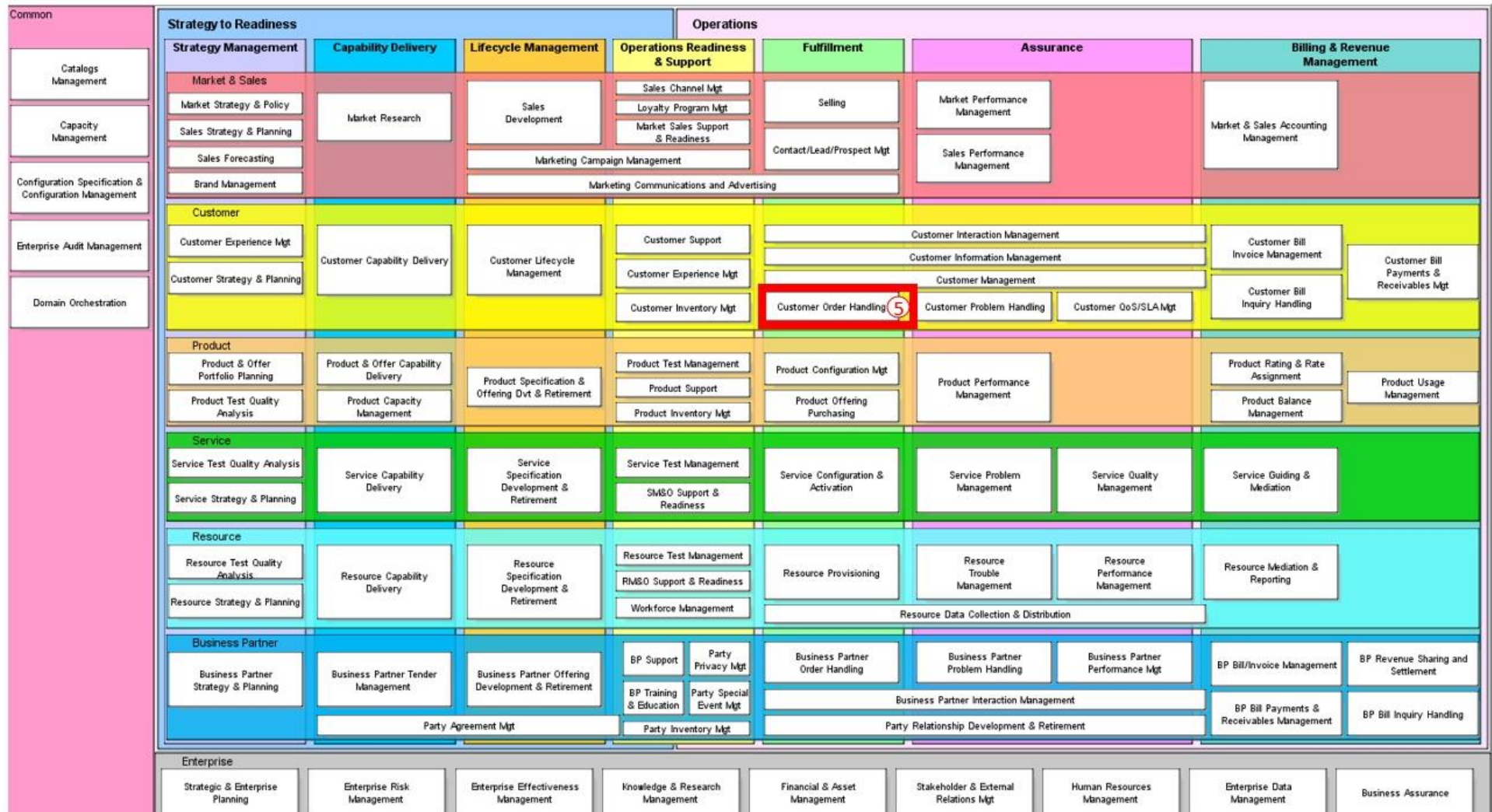
Figure 2 - Level 2 process coverage for Tawal CRM Product and Service Order Conformance Assessment

2.5 Information Framework Assessment - ABE Scope

The following diagram illustrates the Information Framework ABEs that were presented in scope for Certification.

Information Framework (SID) - v21.0 – Tawal CRM Product and Service Order – Conformance Footprint

Market / Sales
- Market Strategy Plan
- Market Segment
- Marketing Campaign
- Competitor
- Contact Lead Prospect
- Sales Statistic
- Sales Channel

Product
- Product
- Product Specification
- Product Test
- Product Offering
- Product Performance
- Product Usage
- Product Configuration
- Loyalty
- Strategic Product Portfolio Plan

Customer
- Customer
- Customer Interaction
- Customer Product Order
- Customer Statistic
- Customer Problem
- Customer Bill Inquiry
- Customer Bill Collection
- Customer Bill
- Customer Service Level Agreement
- Applied Customer Billing Rate

Service
- Service
- Service Specification
- Service Strategy & Plan
- Service Configuration
- Service Performance
- Service Usage
- Service Problem
- Service Test

Resource
- Resource Order
- Resource Party Roles
- Resource
- Resource Topology
- Resource Performance
- Resource Strategy & Plan
- Resource Party Roles
- Resource Specification
- Resource Configuration
- Resource Usage
- Resource Trouble
- Resource Test

Business Partner
- Party Strategy
- Party Statistic
- Party Order
- Party Revenue
- Party Interaction
- Party Privacy
- Agreement
- Additional Party Entities
- Party Service Level Agreement
- Party Product Specification & Offering

Enterprise
- Enterprise Effectiveness
- Enterprise Risk
- Workforce

Common
- Party
- Base Types
- Capacity
- Business Interaction
- Test
- Location
- Performance
- Usage
- Metric
- Catalog
- Calendar
- Project
- Topology
- Account
- Users & Roles
- Policy
- Event
- Trouble Ticket
- Root Business Entities
- Configuration & Profiling
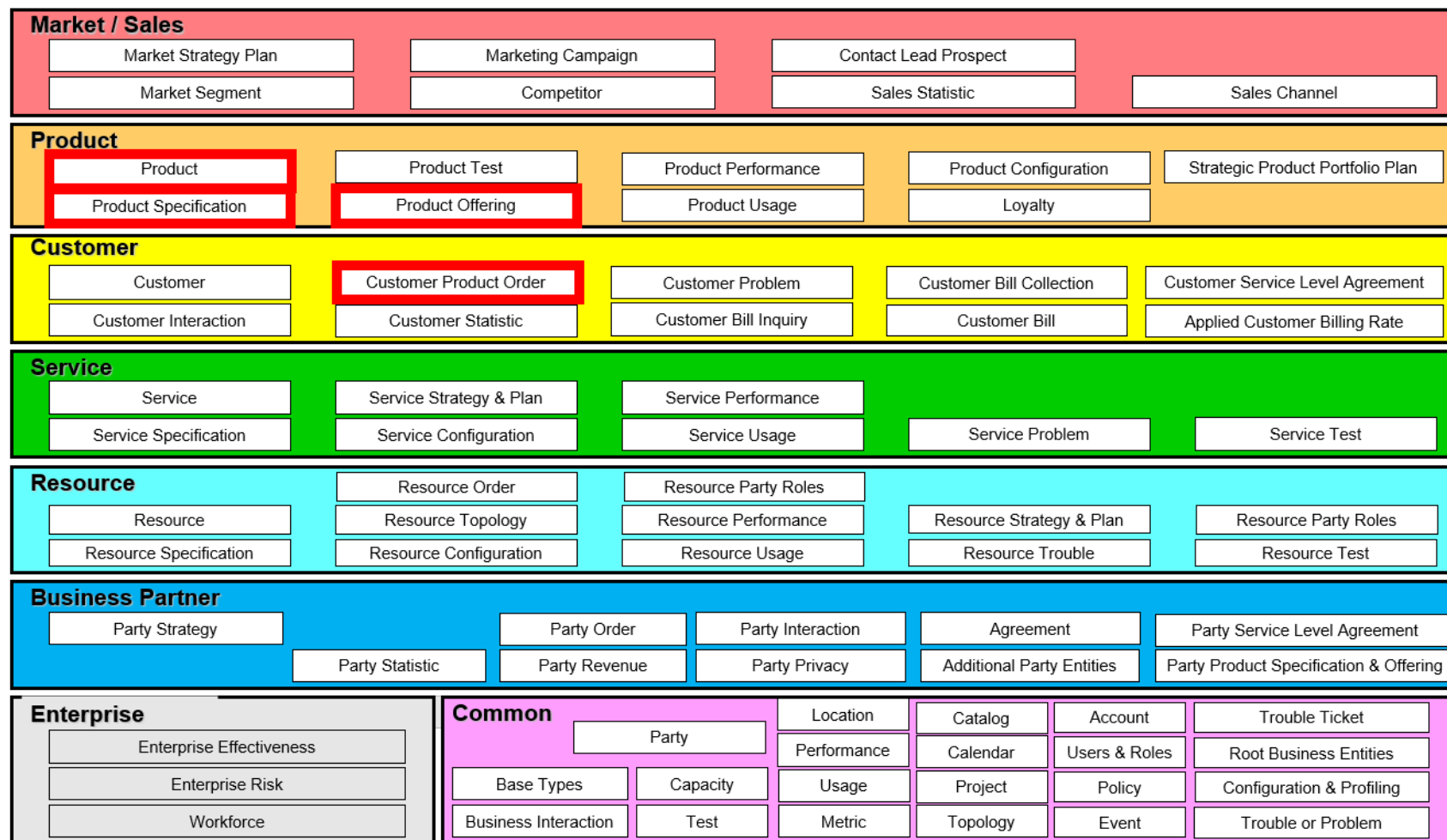- Trouble or Problem

Figure 3 - Level 1 ABEs - SID coverage for Tawal CRM Product and Service Order Conformance Assessment

3   Business Process Framework Assessment Overview

3.1   Mapping Technique Employed

Business Process Framework Level 3 descriptions are analyzed by focusing on implied tasks also referred to as implied functional requirements. (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.

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.

As of February 2018, TM Forum allows mappings to be provided against Level-3 process elements when:

- L3s have relevant, consistent full detailed descriptions reflecting all L4 process elements in their decomposition (usually implied tasks identified and separated by bullet points)
- No decomposition to Level 4 processes was available for a particular L3 process, but the Level-3 mappings fulfil the condition described above, therefore the score awarded hereafter is for the Level 3 process in its entirety.

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 most often provided against the text in the "Mandatory" field for the process. In the event of the Mandatory field not being defined in the eTOM specification, the process mappings are in that case provided

against the Level 4 Extended description. If an Extended description is not defined, then the mapping is provided against the Brief description.

TM Forum Note 2:

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

3.2 Scope of Conformance Certification (eTOM)

This document conveys information about the Business Processes implemented by Tawal's CRM Product and Service Order Solution in accordance to the TM Forum Frameworks Version 21.0. It also maps the processes with the Level 2 and Level 3 frameworks Activities. The document covers the following five L3 Processes under Resource Provisioning.

3.3 List of Certified Processes– Chart (eTOM)

| TM Forum Assessment Scoping Document - Business Process Framework (eTOM) v21.0		
Member:		TAWAL
Product:		CRM Product and Service Order Conformance
Assessment Type		Implementation Certification
Number of L3 Processes in Scope:		5
Level 1	Level 2	Level 3
eTOM		
Customer Domain		
	1.3.3 - Customer Order Handling	
		1.3.3.1 - Determine Customer Order Feasibility
		1.3.3.4 - Complete Customer Order
		1.3.3.5 - Issue Customer Orders
		1.3.3.7 - Close Customer Order
		1.3.3.9 - Customer Order Orchestration

Figure 4- Level 3 List of process certified
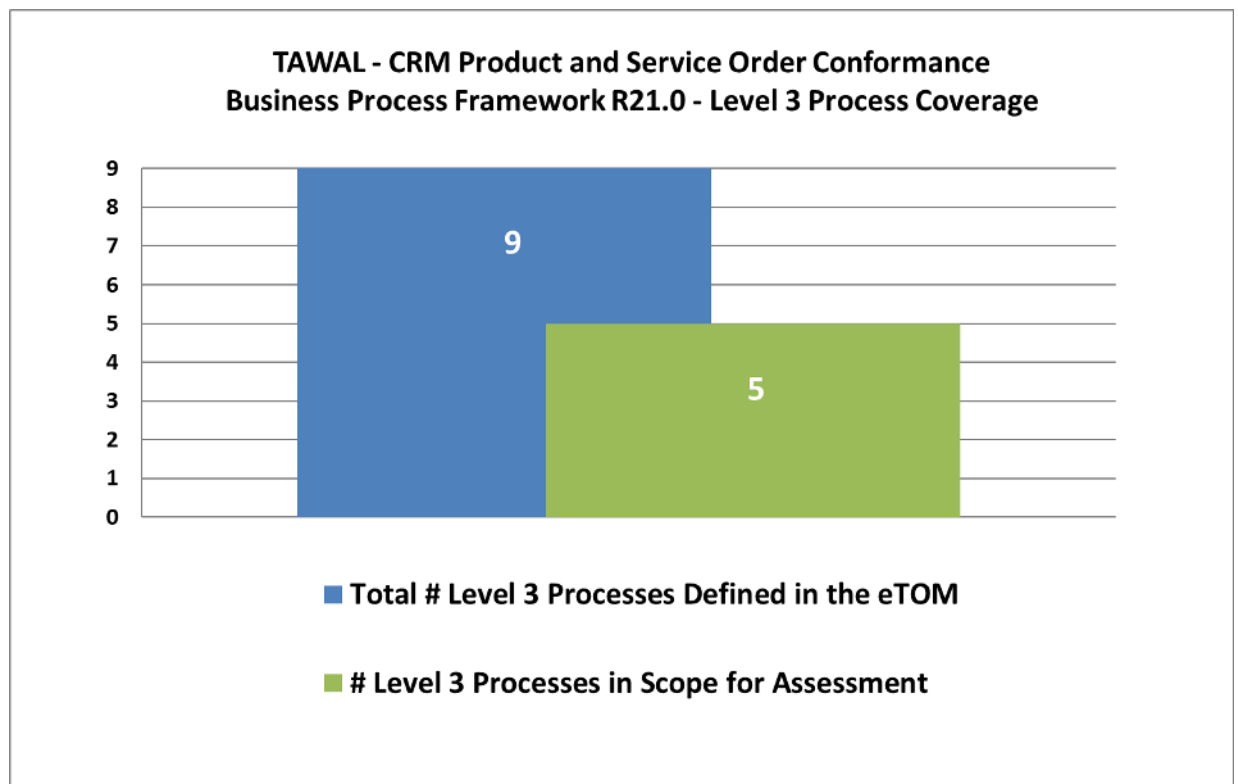
Figure 5- Level 3 process scope for certification

3.4 Business Process Framework – Scoring Guidelines

This section provides the Process Mapping output from the self-assessment carried out by TM Forum Subject Matter Experts alongside supporting documentation made available for this purpose.

Business Process Framework - Conformance Certification 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.		
Additional Notes		
Note 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.		
Note 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.		
Note 3 - The Conformance Assessment shall be carried out at process level 3 (if there are no level 4 process elements defined for a specific level 3 in scope) or at level 4 (if there are level 4 process elements defined for a specific level 3 in scope). For each Level 3 process (when there are no level 4 processes available), conformance shall be deduced according to the documented support for the process implied tasks. For each Level 4 process (when available), conformance shall be deduced according to the documented support for the process implied tasks, as decomposed and described in the 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.		
Note 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.		
Note 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.		

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

3.5 Business Process Framework – Process Mapping Descriptions

This section provides the mapping of Business Process Framework v21.0 against the processes performed by Tawal CRM Product and Service Order.

The self-assessment was reviewed by TM Forum Subject Matter Experts alongside supporting documentation provided.

3.5.1 Customer Domain

3.5.1.1 *Mapping Details & Supporting Evidence*

The documented mapping information for all Level 3 processes in scope for the '1.3 – Customer Domain' business processes are available from the following link:

https://www.tmforum.org/wp-content/uploads/2021/11/TAWAL-eTOM-Conformance-Mapping-Template-V2RF.pdf

Mappings and supporting evidence were presented for the following **L3** processes:

1.3.3 - Customer Order Handling
- 1.3.3.1 - Determine Customer Order Feasibility
- 1.3.3.4 - Complete Customer Order
- 1.3.3.5 - Issue Customer Orders
- 1.3.3.7 - Close Customer Order
- 1.3.3.9 - Customer Order Orchestration

3.6 Conformance Result

This Section details the Scores awarded to reflect Conformance to the Business Process Framework components of eTOM v21.0.

TM Forum Business Process Framework (eTOM) - Assessment Scores		
Member	**TAWAL**	**Level 3 Process Elements Scores achieved**
Product	***CRM Product and Service Order Conformance***	
Assessment Type	***Implementation Certification***	
Framework Version	***21.0***	
Number of L3 Processes in Scope:	**5**	
Level 2	**Level 3**	
1.3 - Customer Domain		
1.3.3 - Customer Order Handling		
	1.3.3.1 - Determine Customer Order Feasibility	**5**
	1.3.3.4 - Complete Customer Order	**5**
	1.3.3.5 - Issue Customer Orders	**5**
	1.3.3.7 - Close Customer Order	**5**
	1.3.3.9 - Customer Order Orchestration	**5**

Figure 7- - eTOM Conformance Scores Summary

3.7 Business Process Framework – Conformance Result Summary

This Section provides a graphical view of the conformance levels granted to the Level 3 Processes presented in scope for Tawal CRM Product and Service Order. Each Level 3 process was measured using a Business Process Framework (eTOM) conformance score according to the level of Conformance – Full Conformance (Score = 5) or Partial Conformance (Score below 5)
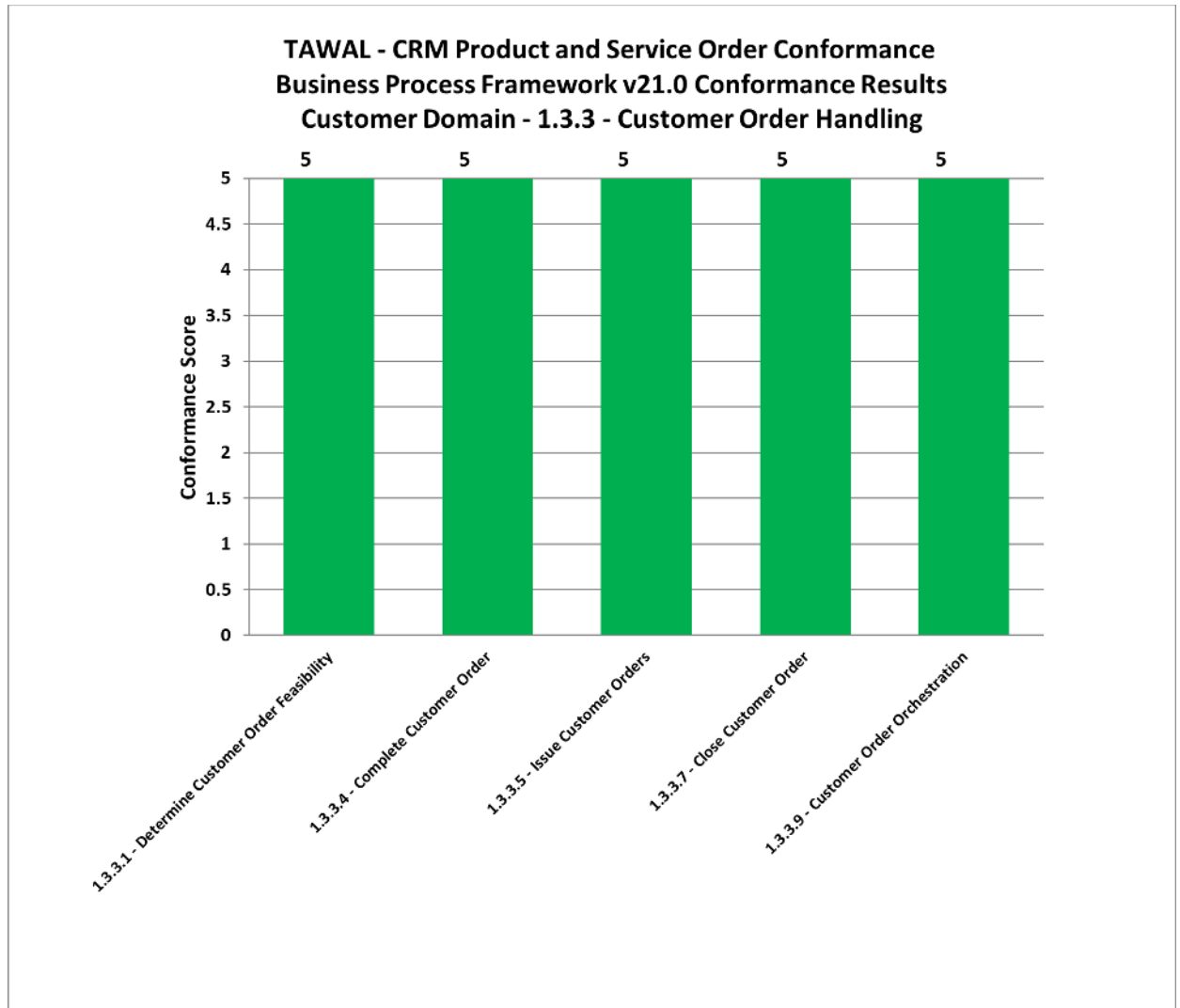

Figure 8- eTOM Conformance Scores

4 Information Framework Assessment Overview

4.1 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 organization undergoing the assessment must map their information model to the core entities and dependent entities and the required and optional attributes for each entity, as defined in the SID model, according to what is supported for the product/solution under assessment.

For a view of the ABEs that were submitted in scope for conformance certification, please refer to Figure 3 - Level 1 ABEs - SID coverage for Tawal CRM Product and Service Order Conformance Assessment on page 8.

4.2 Information Frameworx Conformance Result

This Section details the Scores awarded to reflect Conformance of Tawal CRM Product and Service Order to the Information Framework components release 21.0.

4.2.1 Information Framework – Scoring Rules

Between 2013 (Frameworx 14.0) and the end of 2017, TM Forum applied a combined scoring method based on two different categories of conformance scoring:

1. Information Framework Maturity
2. Information Framework Adoption

Starting on the 1st of January 2018, only one method has been retained instead of these two scoring methods (Maturity + Adoption). The use of two different methods made interpretation and understanding difficult and ambiguous for many of our members, on the ground of such experience, the TM Forum decided to keep only the "Adoption" scoring method and discard the "Maturity" scoring method.

Adoption scoring ensures a good balance between qualitative and quantitative criteria on SID conformance criteria. The adoption scoring method consists of a range of scores from 1 to 10 which makes it intuitive and fair, it is also based on weighted criteria e.g. core element, dependent, required, optional, etc.

This section provides further details about the **Adoption** scoring method.

4.2.2 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 was introduced to complement the Maturity Levels that have been used since the launch of the Frameworx Conformance Program.

Information Framework Adoption scores are granted based on the detailed scoring guidelines outlined in Table 1 below.

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 and 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 1 - TM Forum Information Framework Adoption Conformance - Scoring Rules Table 1 below.

Table 1 - TM Forum Information Framework Adoption Conformance - Scoring Rules

Information Framework 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 [Must support min 50% of Required Attributes]
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 to 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]

NOTES:

1. The score values for each SID component are added together to get the overall Adoption Conformance score.

2. If 50% of of the required attributes of Core entities are not supported, scores for following components 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 recognise 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 Confomance) & Adoption Conformance score = 5.2 (Medium Conformance).

4.2.3 Additional Notes on Information Framework Conformance Adoption 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. Adoption Scoring is based on the progressive scoring schema from the former "Maturity" scoring, however it provides additional flexibility in-so-far as it allows to score all attributes and entities in an assessed ABE. In the former "Maturity" scoring, when not all required attributes of the Core Entity were supported, the Maturity Level score would not progress to the next level, regardless of conformance to other "subordinate" components of the ABE (e.g. dependent entities, optional attributes). "Adoption" scoring fixes this constraint as it provides a weighting mechanism to score all elements supported, regardless of the absence of the core entity or/and required attributes.

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.

5. The score values for each SID component are added together to get the overall Adoption Conformance score.

6. 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.

4.3 Information Framework – Conformance Result Summary

The following sections provide the summary results of the Information Framework Adoption scores granted to the ABEs presented in scope for the assessment of Tawal CRM Product and Service Order.

Each ABE was measured using the Information Framework (SID) conformance scoring guidelines as described in section 4.2.2 above.

4.4   Information Framework – Conformance Results

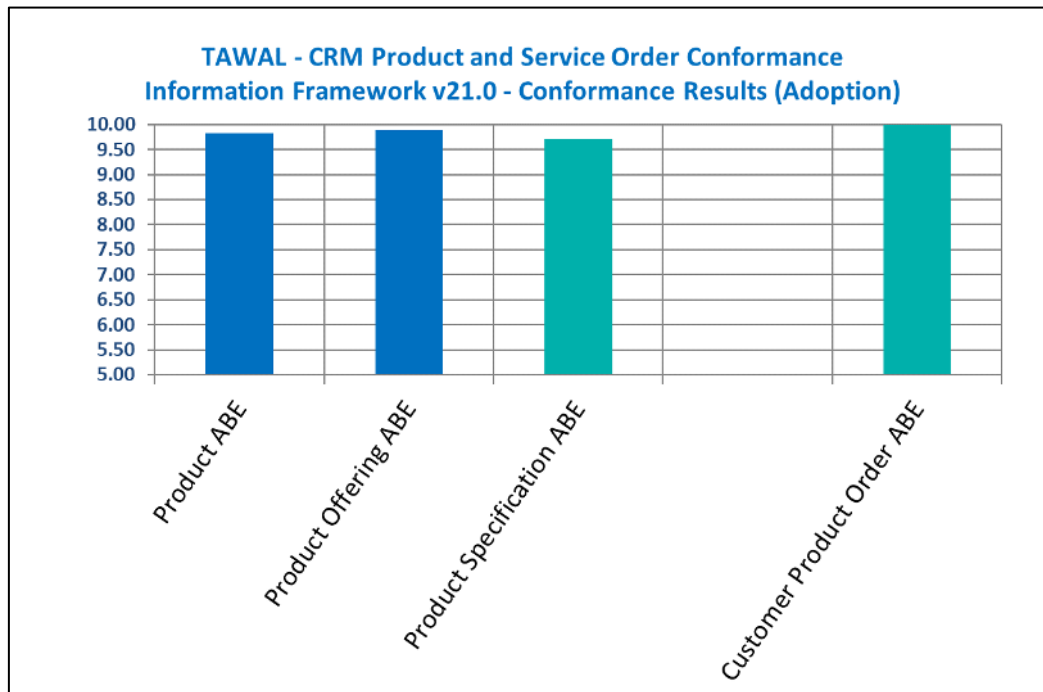| Member	TAWAL	Conformance Certification Final Scores Achieved for ABEs
Product	CRM Product and Service Order Conformance	
Assessment Type	Implementation Certification	
Framework Version	21.0	
ABEs in Scope	4	
Level 1 ABEs		
Product Domain		
Product ABE		9.82 - Very High Conformance
Product Offering ABE		9.90 - Very High Conformance
Product Specification ABE		9.70 - Very High Conformance
Customer Domain		
Customer Product Order ABE		10 - Full Conformance

Table 2 - Information Framework: Conformance Scores

Table 3 - Information Framework: Conformance Scores