tm**forum**

Frameworx 18.0

Product Conformance Certification Report

Whale Cloud
ZSmart 9

February 2019

Version 1.0

Website
www.tmforum.org

Phone
+1 973-944-5100

Address
4 Century Drive Suite 100 Parsippany, NJ 07054 USA

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1   Introduction

1.1   Executive Summary

This document provides details of Whale Cloud Technology (rebranded from **ZTESoft**) self-assessment and TM Forum's Conformance Assessment of ZSmart 9 product, against the following Frameworx components:

- Business Process Framework Version 18.0
- Information Framework Version 18.0

The assessment consisted of a review of:
- The methodology approach to process modeling against the TM Forum's Business Process Framework (eTOM) Release 18.0 according to the specific processes submitted in scope for the Assessment.
- Conformance to the Information Framework (SID) Release 18.0 Domains/Aggregate Business Entities according to the specific ABEs submitted in scope for the Assessment.

2   Product Functionality/Capability Overview

2.1   Whale Cloud Technology ZSmart 9 – Product Overview

ZSmart 9 is designed to address telecom business and operation challenges, e.g. flexibility of innovation, complexity of operation, real-time customer analytics, network virtualization, DevOps, business innovations, and so on, by taking a cloud-exclusive approach to products design, development and deployment. Combined with DevOps-driven R&D methods alongside Docker-based continuous testing and deployment, it can ensure CSPs to get the latest software release, constant updates and frequent business feature enhancements.

ZSmart 9 is all about digital business enablement with following key features:

AI-Driven, Omni-Channel Experience: Uses advanced big data analytics and AI technology to exploit potential customer insights; an analytics-driven customer journey across different touch-points; real-time, personal, proactive, omni-channel interaction and shopping experience that rivals with the best in e-commerce.

Digital Services and 3rd Party Product Offering: Leverages a centralized product catalog, order-to-bill for legacy, as well as 3rd party products and services, are guaranteed. Easy partner on-boarding makes sure there are always new offers for customers.

5G and IoT business Ready: To cater for 5G and IoT service characteristics, ZSmart 9 has made revenue management enhancements. For IoT service operators, a self-care portal with eSIM management and troubleshooting ticket system is provided as standard.

Partner Value Fabrics Monetization API: Creates greater value among business partners by providing support from your organization, sharing capability and insights securely via a set of APIs conformance to TM Forum Open API standards.

Digital Service Orchestration & Automation: Helps CSPs share digital service to the SME tenants, fasten time to market and build digital ecosystems with an open, flexible, fully integrated ZSmart AnyShare platform, which supports cloud XaaS offerings, VNF-FGaaS, on-demand SDN, and DevOps environment for third-party Independent Software Vendors (ISV)

Telecom Platform as a Service: Offers opportunities for CSPs to apply technological know-how to the physical world, accelerating traditional industry's digitalization progress.

Elastic Operation: Elastic Operation is the key element to achieve elastic networks promise of flexibility, scalability and cost efficiency, including: full automation and horizontal scalability (service creation & operations) and closed loop monitoring, analytics, policy and orchestration.

2.2 Business Process Framework Level 2 Process Scope

Figure 1 below represents a view of the Business Process Framework Level 2 processes. The textual callouts represent the process elements of ZSmart 9 and their relationship with the processes in the Business Process Framework (eTOM). For a view of the eTOM scope that was submitted for conformance certification, please refer to Figure 5 in section 3.2 below.
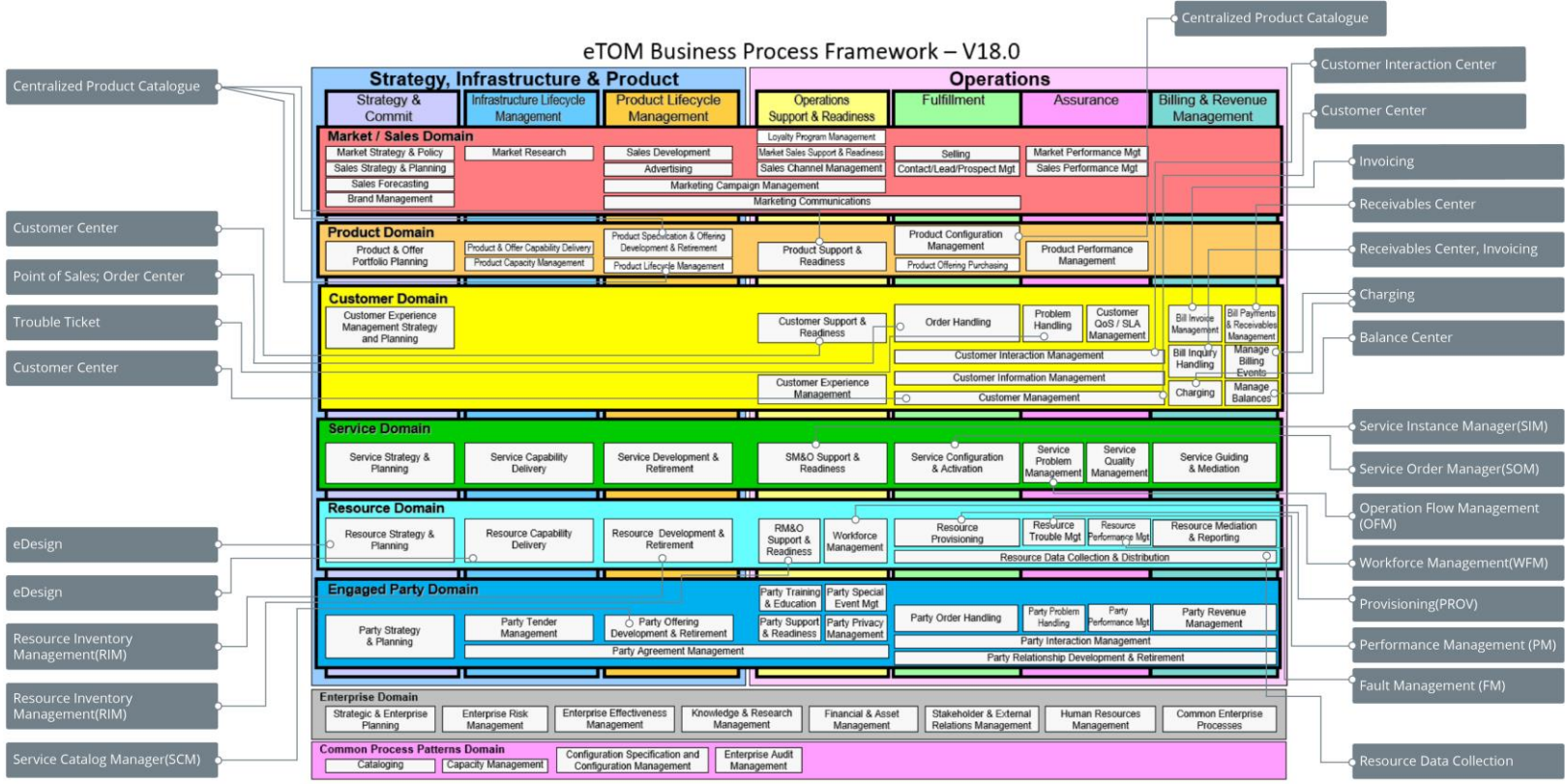
Figure 1 - Level 2 process coverage for Whale Cloud's ZSmart 9

2.3 Information Framework Assessment - ABE Scope

The diagram in Figure 2 illustrates the Information Framework Level 1 ABEs and the textual callouts represent the different Whale Cloud's ZSmart functional models and their relationship with the domains and ABEs in the SID. For a view of the SID scope that was submitted for conformance certification, please refer to Figure 11 in section 7.2
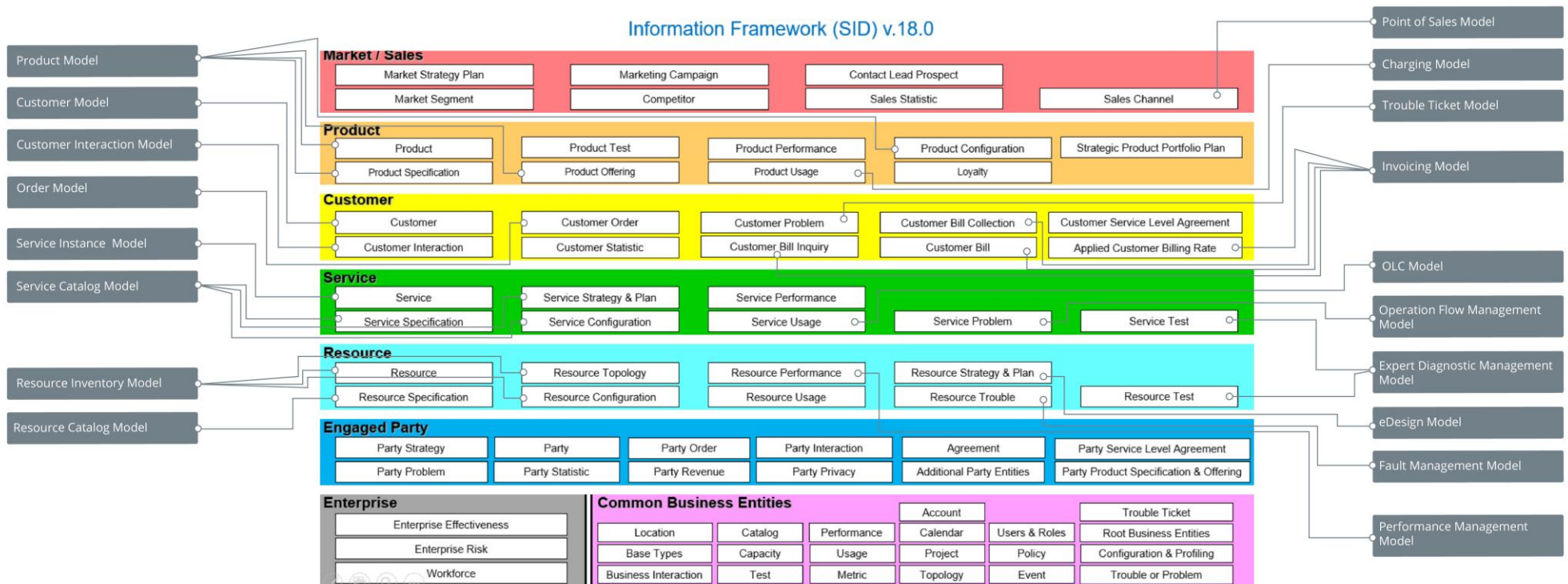
Figure 2- Level 1 ABEs coverage for Whale Cloud's ZSmart 9

2.4   Product Scope

The diagram below represents Whale Cloud's ZSmart 9 Functional architecture.
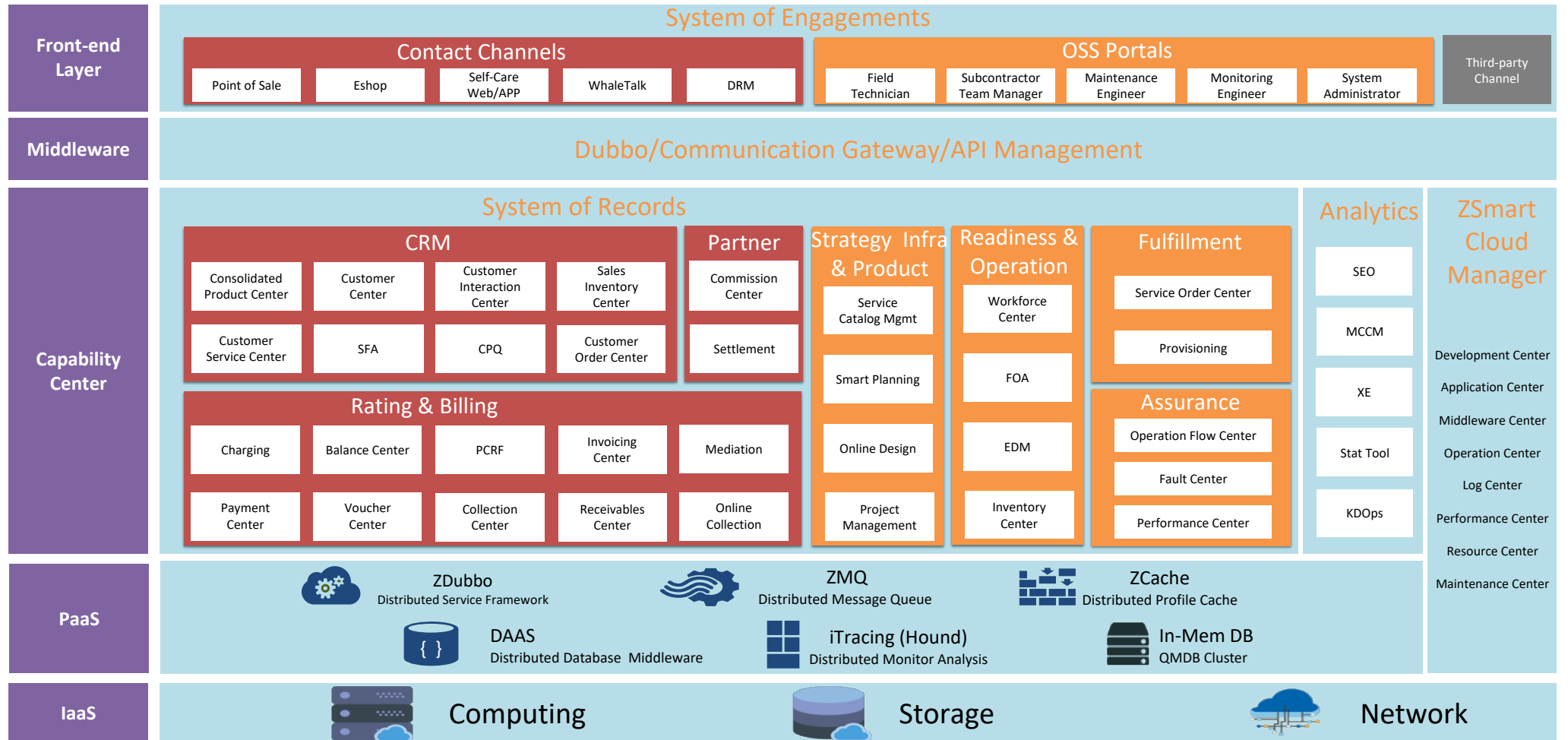
Figure 3 ZSmart Product – B/OSS Function Infrastructure

2.5 Whale Cloud ZSmart 9 Highlights

Cloud-Native Architecture

With the cloud-native architecture design and a variety of capability centers for both telecom and enterprise customers, ZSmart 9 enables CSPs towards their digital transformation journey. Based on general distributed technology platform, ZSmart 9 introduces micro-service, high-performance distributed asynchronous message queue, distributed cache, distributed database components. In ZSmart 9, data and application are separated; application can be dynamically scale-out/in on demand. This ultimately achieves high data availability, stateless billing & charging, and extremely load data processing.

Open Platform

ZSmart 9 provides full-range APIs to realize unified service registration, flexible API orchestration, and multiple protocols conversion. It brings CSPs with unified multi-channel service access, minimizes customization applications, and shortens the Time-To-Market for new business rollout. In addition, ZSmart 9 provides consolidated product catalog which supports both telecom products and vertical industry products.

Digital Experience

ZSmart 9 enables CSPs to facilitate the digital life for their customers. CSPs can deliver precise and personalized marketing campaigns with 360° customer insights analytics, engage and interact with them through omni-channels. The solution also allows CSPs to disseminate a wealth of assets including marketing trends, historical data and insights, and open data capabilities to third party partners, and helps CSPs onboard vertical industry product catalogue and provides digital services to customers in addition to traditional telecom products and services.

End-to-End Intelligent Operation & Maintenance

Capacity wise, CSPs can scale-in or scale-out with click-of-button in ZSmart ZCM, which is the integrated cloud application manager of ZSmart 9; functionality wise, A/B testing feature allows CSPs to apply specific function/release to target segments, enables fine-tuning of functions to cater custom preference. ZSmart 9 realizes system health monitoring, automatic diagnosis and fault processing suggestions. Furthermore, it also provides rich visual multi-dimensional interfaces for comprehensive monitoring, to enable CSPs with comprehensive, end to end, intelligent operation and maintenance.

IoT & Vertical Business

ZSmart 9 supports not only traditional telecom but also cross-industry businesses. With integration of big data and AI capability, ZSmart 9 offers intelligent capabilities and features, such as chatbot-powered agent for customer service, AI-driven marketing, analytics-driven IoT business for various business scenarios, e.g. Retail, Finance, and City.

E2E orchestration platform for SDN/NFV Enablement

ZSmart 9 adopts SDN/NFV technologies to improve operational efficiencies, such as unified customer views across all lines of business and meeting the growing demand of consumers and enterprises for a greater range of digital services and greater flexibility in delivering 5G microservices on an on-demand and network slicing basis. It offers a full-suite solution along with SDN, NFV management and orchestration (MANO) and real-time analytics solutions targeting closed-loop automation with artificial intelligence/machine learning (AI/ML) and orchestration.

On-demand SaaS
The microservices based, cloud native ZSmart 9 solution adopts SaaS model to facilitate CSPs to expand into new revenue territory, beef up experience & offering, and cut down TTM. It offers options for CSPs to pick and choose what, when and how to deploy the desired services in the cloud, dynamically modify scope and scale to best meet respective business needs.

2.6 Whale Cloud ZSmart 9 Supported Installation Models

Whale Cloud ZSmart 9 supports 3 installation models:

- On Premise
- Public Cloud
- Hybrid Cloud

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.
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.

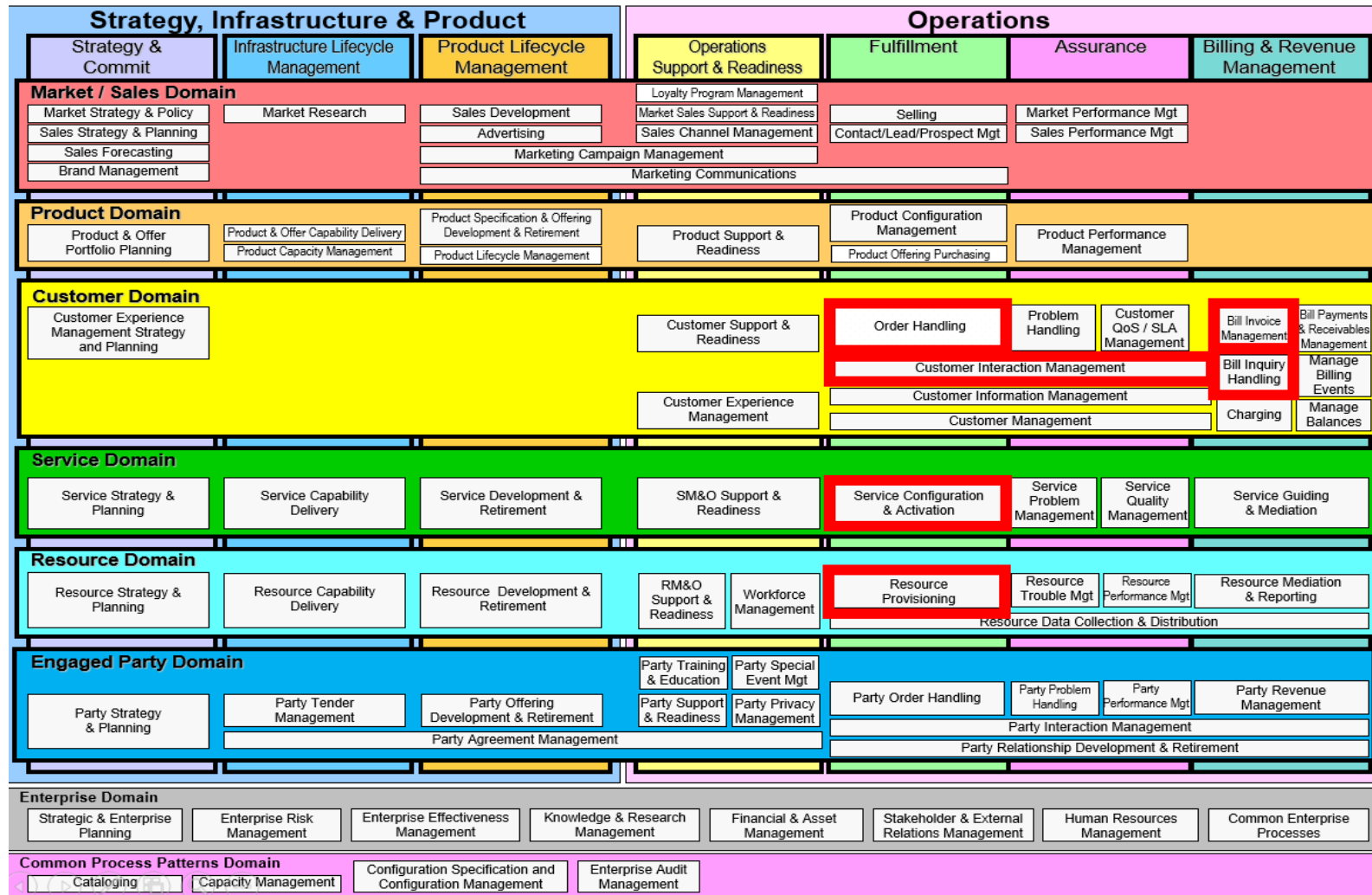## 3.2 Business Process Framework Level 2 – Certified Process Scope

Figure 4 - - Level 2 eTOM processes in scope for Whale Cloud ZSmart 9 Conformance Certification

The following diagram depicts the number of Level 3 processes that were submitted for conformance certification, for each Level 2 process within the defined scope.
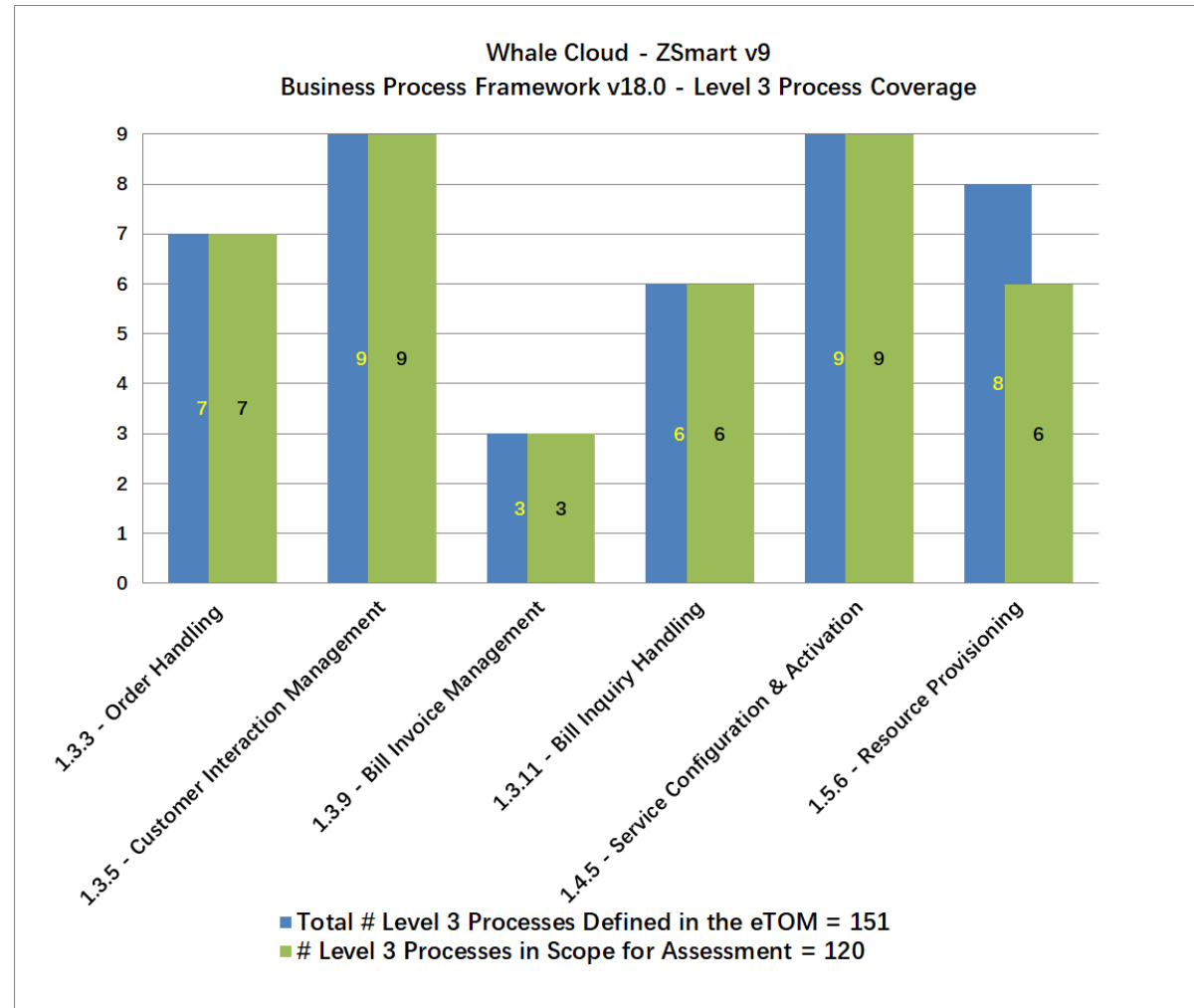
Figure 5 - Level 3 process scope for certification

Table 1 - Business Process Frameworx Assessment Scope

TM Forum Frameworx 18.0 Assessment Scoping Document - Business Process Framework (eTOM)			
Member:	Whale Cloud Technology Ltd		**Recertification Scope for Level-3 Process Elements "N" indicates new processes added to previous certification "R" indicates recertified processes from previous certification**
Product:	ZSmart V9		
Assessment Type	Solution		
Number of L3 Processes in Scope:	40		
Level 1	Level 2	Level 3	

Level 1	Level 2	Level 3	
1.3 - Customer Domain			
	1.3.3 - Order Handling		
		1.3.3.1 - Determine Customer Order Feasibility	R
		1.3.3.2 - Authorize Credit	R
		1.3.3.3 - Track & Manage Customer Order Handling	R
		1.3.3.4 - Complete Customer Order	R
		1.3.3.5 - Issue Customer Orders	R
		1.3.3.6 - Report Customer Order Handling	R
		1.3.3.7 - Close Customer Order	R
	1.3.5 - Customer Interaction Management		
		1.3.5.1 - Create Customer Interaction	N
		1.3.5.2 - Update Customer Interaction	N
		1.3.5.3 - Close Customer Interaction	N
		1.3.5.4 - Log Customer Interaction	N
		1.3.5.5 - Notify Customer	N
		1.3.5.6 - Track and Manage Customer Interaction	N
		1.3.5.7 - Report Customer interaction	N
		1.3.5.8 - Authenticate User	N
		1.3.5.9 - Customer Interface Management	R
	1.3.9 - Bill Invoice Management		
		1.3.9.1 - Apply Pricing, Discounting, Adjustments & Rebates	R
		1.3.9.2 - Create Customer Bill Invoice	R
		1.3.9.3 - Produce & Distribute Bill	R
	1.3.11 - Bill Inquiry Handling		
		1.3.11.1 - Create Customer Bill Inquiry Report	R
		1.3.11.2 - Assess Customer Bill Inquiry Report	R
		1.3.11.3 - Authorize Customer Bill Invoice Adjustment	R
		1.3.11.4 - Track & Manage Customer Bill Inquiry Resolution	R
		1.3.11.5 - Report Customer Bill Inquiry	R
		1.3.11.6 - Close Customer Bill Inquiry Report	R
1.4 - Service Domain			
	1.4.5 - Service Configuration & Activation		
		1.4.5.1 - Design Solution	R
		1.4.5.2 - Allocate Specific Service Parameters to Services	R
		1.4.5.3 - Track & Manage Service Provisioning	R
		1.4.5.4 - Implement, Configure & Activate Service	R
		1.4.5.5 - Test Service End-to-End	R
		1.4.5.6 - Issue Service Orders	R
		1.4.5.7 - Report Service Provisioning	R
		1.4.5.8 - Close Service Order	R
		1.4.5.9 - Recover Service	R
1.5 - Resource Domain			
	1.5.6 - Resource Provisioning		
		1.5.6.1 - Allocate & Install Resource	N
		1.5.6.2 - Configure & Activate Resource	N
		1.5.6.3 - Test Resource	
		1.5.6.4 - Track & Manage Resource Provisioning	N
		1.5.6.5 - Report Resource Provisioning	N
		1.5.6.6 - Close Resource Order	N
		1.5.6.7 - Issue Resource Orders	N
		1.5.6.8 - Recover Resource	

4 Business Process Framework – Scoring Guidelines

This section provides the Process Mapping output from Whale Cloud self-assessment which was reviewed by TM Forum Subject Matter Experts alongside supporting documentation for Whale Cloud ZSmart 9.

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

5 Business Process Framework – Process Mapping Descriptions

This Section provides a summary of the solution mappings that Whale Cloud Technologies provided in the form of self-assessment.

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

5.1 Level 2: 1.3.3 - Order Handling

5.1.1 Mapping Details & Supporting Evidence

The documented mapping information for all Level 3 processes in scope for the "1.3.3 - Order Handling" business processes are available from the following link:

https://s3.amazonaws.com/tmforum-resources/Conformance+Certifications+/WhaleCloud-ZSMART+V9+BSS_1.3.3+Order+Handling-V1RF-NC.pdf

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

1.3.3 - Order Handling
    1.3.3.1 - Determine Customer Order Feasibility
    1.3.3.2 - Authorize Credit
    1.3.3.3 - Track & Manage Customer Order Handling
    1.3.3.4 - Complete Customer Order
    1.3.3.5 - Issue Customer Orders
    1.3.3.6 - Report Customer Order Handling
    1.3.3.7 - Close Customer Order

5.2 Level 2: 1.3.5 - Customer Interaction Management

5.2.1 Mapping Details & Supporting Evidence

The documented mapping information for all Level 3 processes in scope for the "1.3.5 - Customer Interaction Management" business processes are available from the following link:

https://s3.amazonaws.com/tmforum-resources/Conformance+Certifications+/WhaleCloud-ZSmart_v9-eTOM_Certification_Mappings_R18.0-CIM-1.3.5-V2RF-NC.pdf

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

1.3.5 - Customer Interaction Management
    1.3.5.1 - Create Customer Interaction
    1.3.5.2 - Update Customer Interaction
    1.3.5.3 - Close Customer Interaction
    1.3.5.4 - Log Customer Interaction
    1.3.5.5 - Notify Customer
    1.3.5.6 - Track and Manage Customer Interaction
    1.3.5.7 - Report Customer interaction
    1.3.5.8 - Authenticate User
    1.3.5.9 - Customer Interface Management

5.3   Level 2: 1.3.9 - Bill Invoice Management

5.3.1   Mapping Details & Supporting Evidence

The documented mapping information for all Level 3 processes in scope for the "1.3.9 - Bill Invoice Management" business processes are available from the following link:

https://s3.amazonaws.com/tmforum-resources/Conformance+Certifications+/WhaleCloud-ZSmart_v9-eTOM_Certification_Mappings_R18.0-BIM-1.3.9-V2R1-NC.pdf

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

1.3.9 - Bill Invoice Management
  1.3.9.1 - Apply Pricing, Discounting, Adjustments & Rebates
  1.3.9.2 - Create Customer Bill Invoice
  1.3.9.3 - Produce & Distribute Bill

5.4 Level 2: 1.3.11 - Bill Inquiry Handling

5.4.1 Mapping Details & Supporting Evidence

The documented mapping information for all Level 3 processes in scope for the "1.3.11 - Bill Inquiry Handling" business processes are available from the following link:

https://s3.amazonaws.com/tmforum-resources/Conformance+Certifications+/WhaleCloud-ZSmart_v9-eTOM_Certification_Mappings_R18.0-BIH-1.3.11-V2R2-NC.pdf

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

1.3.11 - Bill Inquiry Handling
    1.3.11.1 - Create Customer Bill Inquiry Report
    1.3.11.2 - Assess Customer Bill Inquiry Report
    1.3.11.3 - Authorize Customer Bill Invoice Adjustment
    1.3.11.4 - Track & Manage Customer Bill Inquiry Resolution
    1.3.11.5 - Report Customer Bill Inquiry
    1.3.11.6 - Close Customer Bill Inquiry Report

5.5   Level 2: 1.4.5 - Service Configuration & Activation

5.5.1   Mapping Details & Supporting Evidence

The documented mapping information for all Level 3 processes in scope for the "1.4.5 - Service Configuration & Activation" business processes are available from the following link:

https://s3.amazonaws.com/tmforum-resources/Conformance+Certifications+/WhaleCloud-ZSmart_v9-eTOM_Certification_Mappings_R18.0-SC%26A-1.4.5-V1R2-NC.pdf

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

1.4.5 - Service Configuration & Activation
    1.4.5.1 - Design Solution
    1.4.5.2 - Allocate Specific Service Parameters to Services
    1.4.5.3 - Track & Manage Service Provisioning
    1.4.5.4 - Implement, Configure & Activate Service
    1.4.5.5 - Test Service End-to-End
    1.4.5.6 - Issue Service Orders
    1.4.5.7 - Report Service Provisioning
    1.4.5.8 - Close Service Order
    1.4.5.9 - Recover Service

5.6 Level 2: 1.5.6 - Resource Provisioning

5.6.1 Mapping Details & Supporting Evidence

The documented mapping information for all Level 3 processes in scope for the "1.5.6 - Resource Provisioning" business processes are available from the following link:

https://s3.amazonaws.com/tmforum-resources/Conformance+Certifications+/WhaleCloud-ZSmart_v9-eTOM_Certification_Mappings_R18.0-RP-1.5.6-V1R2-NC.pdf

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

1.5.6 - Resource Provisioning
    1.5.6.1 - Allocate & Install Resource
    1.5.6.2 - Configure & Activate Resource
    1.5.6.3 - Test Resource
    1.5.6.4 - Track & Manage Resource Provisioning
    1.5.6.5 - Report Resource Provisioning
    1.5.6.6 - Close Resource Order
    1.5.6.7 - Issue Resource Orders
    1.5.6.8 - Recover Resource

6 Frameworx Conformance Result

This Section details the Scores awarded to reflect Conformance for Whale Cloud Technologies ZSmart 9 to the Business Process Framework components of Frameworx 18.0.

TM Forum Frameworx 18.0 Assessment Scoping Document - Business Process Framework (eTOM)			
Member:	**Whale Cloud Technology Ltd**		**Overall Scores Achieved in the certification**
Product:	**ZSmart V9**		
Assessment Type	**Solution**		
Number of L3 Processes in Scope:	**40**		
Level 1	**Level 2**	**Level 3**	
1.3 - Customer Domain			
	1.3.3 - Order Handling		
		1.3.3.1 - Determine Customer Order Feasibility	5
		1.3.3.2 - Authorize Credit	5
		1.3.3.3 - Track & Manage Customer Order Handling	5
		1.3.3.4 - Complete Customer Order	5
		1.3.3.5 - Issue Customer Orders	5
		1.3.3.6 - Report Customer Order Handling	5
		1.3.3.7 - Close Customer Order	5
	1.3.5 - Customer Interaction Management		
		1.3.5.1 - Create Customer Interaction	5
		1.3.5.2 - Update Customer Interaction	5
		1.3.5.3 - Close Customer Interaction	5
		1.3.5.4 - Log Customer Interaction	5
		1.3.5.5 - Notify Customer	5
		1.3.5.6 - Track and Manage Customer Interaction	5
		1.3.5.7 - Report Customer interaction	5
		1.3.5.8 - Authenticate User	5
		1.3.5.9 - Customer Interface Management	5
	1.3.9 - Bill Invoice Management		
		1.3.9.1 - Apply Pricing, Discounting, Adjustments & Rebates	5
		1.3.9.2 - Create Customer Bill Invoice	5
		1.3.9.3 - Produce & Distribute Bill	5
	1.3.11 - Bill Inquiry Handling		
		1.3.11.1 - Create Customer Bill Inquiry Report	5
		1.3.11.2 - Assess Customer Bill Inquiry Report	5
		1.3.11.3 - Authorize Customer Bill Invoice Adjustment	5
		1.3.11.4 - Track & Manage Customer Bill Inquiry Resolution	5
		1.3.11.5 - Report Customer Bill Inquiry	5
		1.3.11.6 - Close Customer Bill Inquiry Report	5
1.4 - Service Domain			
	1.4.5 - Service Configuration & Activation		
		1.4.5.1 - Design Solution	5
		1.4.5.2 - Allocate Specific Service Parameters to Services	5
		1.4.5.3 - Track & Manage Service Provisioning	5
		1.4.5.4 - Implement, Configure & Activate Service	5
		1.4.5.5 - Test Service End-to-End	5
		1.4.5.6 - Issue Service Orders	5
		1.4.5.7 - Report Service Provisioning	5
		1.4.5.8 - Close Service Order	5
		1.4.5.9 - Recover Service	5
1.5 - Resource Domain			
	1.5.6 - Resource Provisioning		
		1.5.6.1 - Allocate & Install Resource	5
		1.5.6.2 - Configure & Activate Resource	5
		1.5.6.3 - Test Resource	Out of Scope
		1.5.6.4 - Track & Manage Resource Provisioning	5
		1.5.6.5 - Report Resource Provisioning	5
		1.5.6.6 - Close Resource Order	5
		1.5.6.7 - Issue Resource Orders	5
		1.5.6.8 - Recover Resource	Out of Scope

Figure 7 - TM Forum Business Process Framework: Conformance Scores

6.1 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 Whale Cloud ZSmart 9 conformance assessment. 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)

6.1.1 Customer Domain
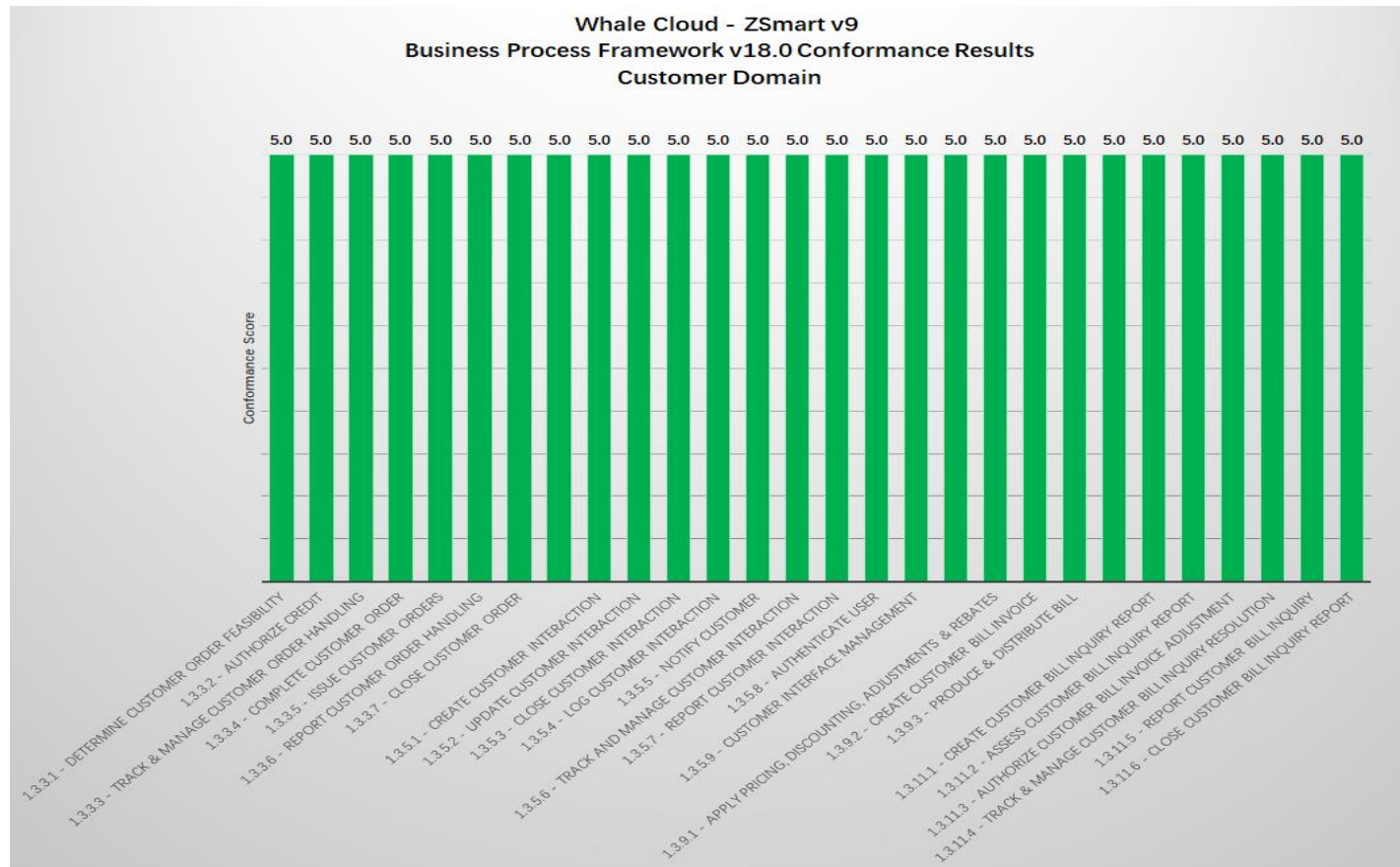
Figure 8 - Business Process Framework: Conformance Scores for Customer Domain.

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6.1.2   Service Domain
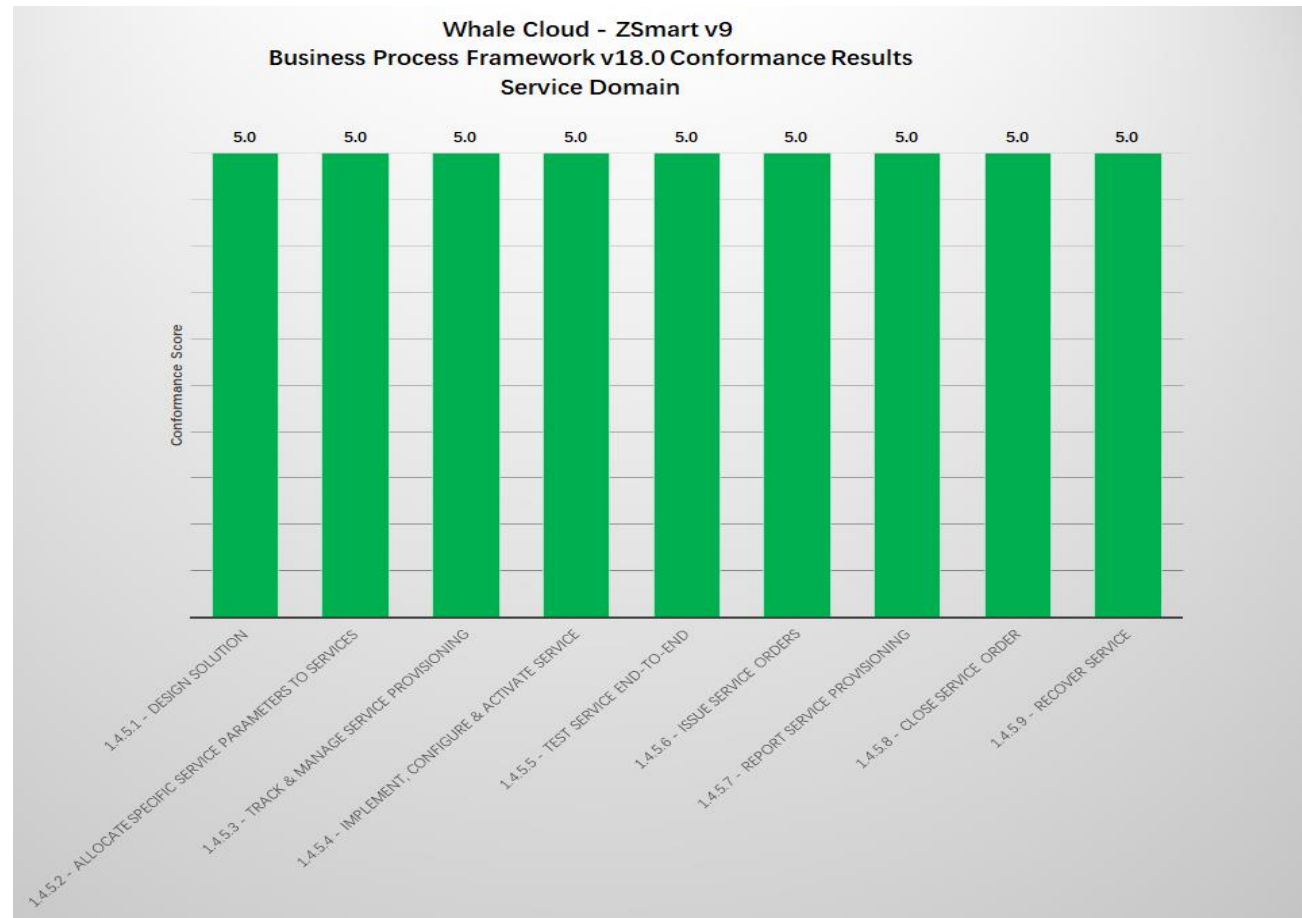
Figure 9 - Business Process Framework: Scores for Service Domain

6.1.3 Resource Domain
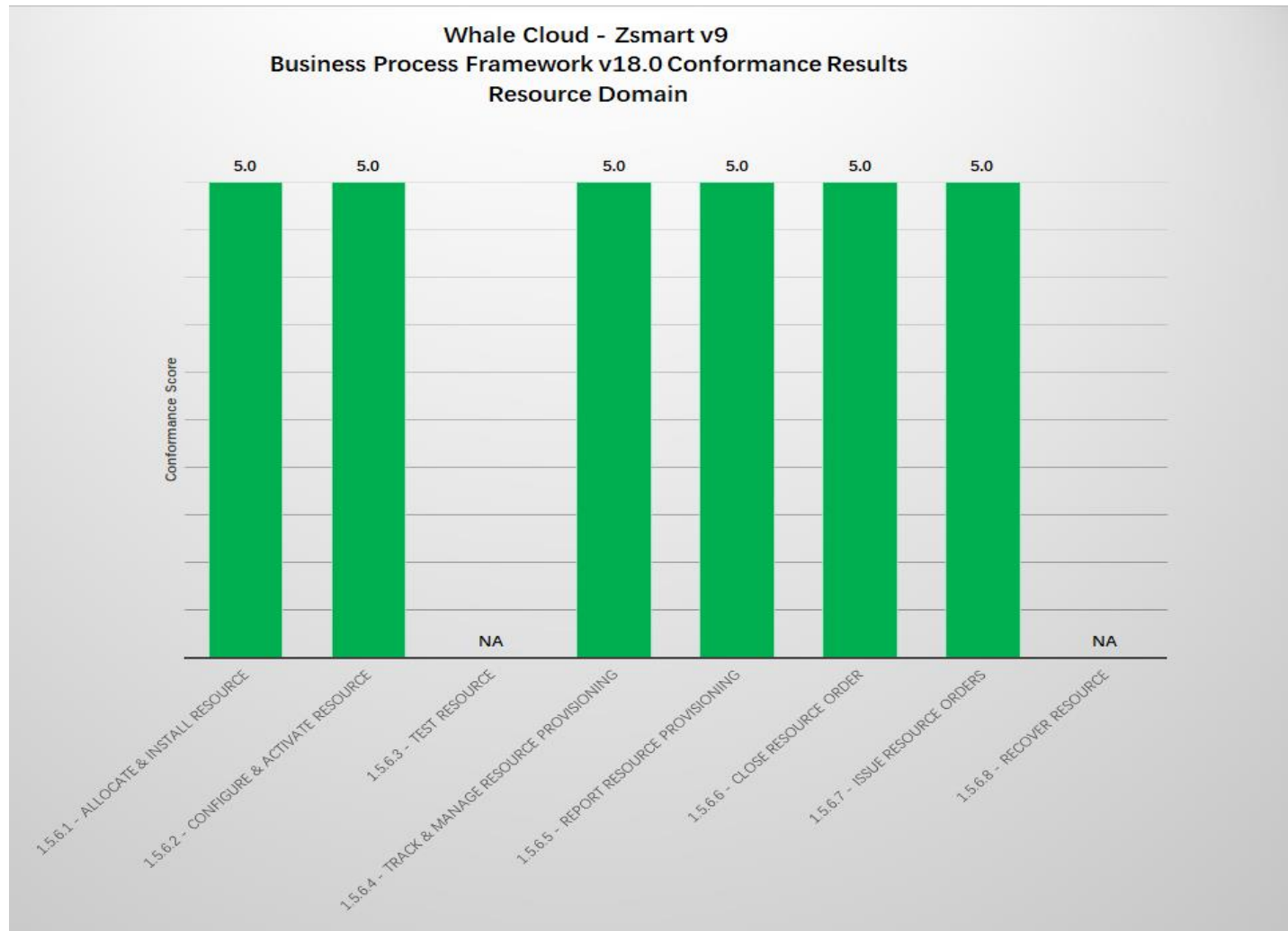
Figure 10 - Business Process Framework: Scores for Resource Domain

7 Information Framework Assessment Overview

7.1 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.

7.2 Information Framework Assessment - ABE Scope

The diagram in Figure 11 illustrates the Information Framework Level 1 ABEs (as highlighted in green) that were presented in scope for the Assessment. The full scope for the assessment, including lower level ABEs, is provided in Figure 12 - ABEs in scope for Whale Cloud ZSmart 9 Re-certification.

Figure 11 - Level 1 ABEs in scope for Whale Cloud ZSmart 9 Assessment

7.2.1 Information Framework Assessment – Previous vs. New Certification Scope

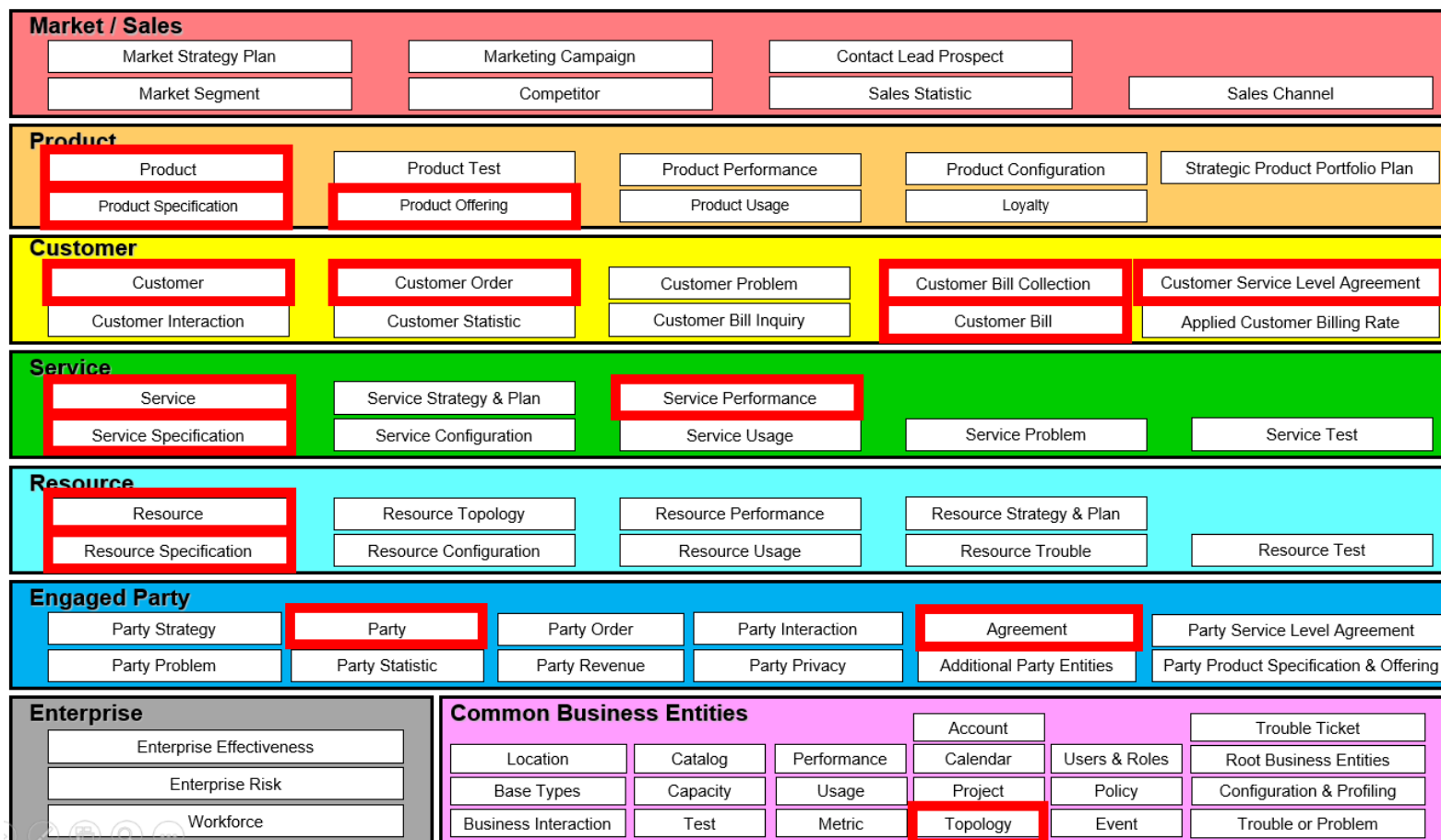| TM Forum Frameworx 18.0 - Assessment Scoping Document - Information Framework (SID)				
Member:	Whale Cloud Technology Ltd			Recertification Scope for ABEs "N" indicates new ABEs added to previous certification; "R" indicates recertified ABEs from previous certification
Product:	ZSmart V9			
Assessment Type:	Solution			
ABEs in Scope:	0			
Level 1 ABEs	**Level 2 ABEs**	**Level 3 ABEs**	**Level 4 ABEs**	
Service Domain				
Service ABE	Service ABE			R
Service ABE	Customer Facing Service ABE	Customer Facing Service ABE		R
Service ABE	Resource Facing Service ABE	Resource Facing Service ABE		R
Service ABE	Service Order ABE			R
Service Specification ABE	Service Specification ABE			R
Service Specification ABE	Customer Facing Service Spec ABE	Customer Facing Service Spec ABE		R
Service Specification ABE	Customer Facing Service Spec ABE	Service Package ABE	Service Package ABE	R
Service Specification ABE	Resource Facing Service Spec ABE	Resource Facing Service Spec ABE		R
Service Performance ABE	Service Performance ABE			R
Resource Domain				
Resource Specification ABE	Resource Specification ABE			R
Resource Specification ABE	LogicalResource Specification ABE	LogicalResource Specification ABE		R
Resource Specification ABE	LogicalResource Specification ABE	Software Resource and SW Specifications ABE	SW Resource and SW Specifications ABE	N
Resource Specification ABE	PhysicalResource Specification ABE	PhysicalResource Specification ABE		R
Resource Specification ABE	CompoundResource Specification ABE			N
Resource ABE	Resource ABE			R
Resource ABE	LogicalResource ABE	LogicalResource ABE		R
Resource ABE	LogicalResource ABE	Computing and Software ABE	Software Resource and Software ABE	N
Resource ABE	LogicalResource ABE	Address ABE		R
Resource ABE	LogicalResource ABE	Logical Device ABE		R
Resource ABE	PhysicalResource ABE	PhysicalResource ABE		N
Resource ABE	CompoundResource ABE			R
Product Domain				
Product Specification ABE	Product Specification ABE			R
Product Offering ABE	Product Offering ABE			R
Product Offering ABE	Product Offering Price ABE			R
Product Offering ABE	Product Catalog ABE			R
Product ABE	Product Price ABE			R
Market_Sales Domain				
Enterprise Domain				
Customer Domain				
Customer Order ABE				R
Customer ABE				R
Customer Service Level Agreement ABE				R
Customer Bill ABE	Customer Bill ABE			R
Customer Bill ABE	Customer Billing Statistic ABE			R
Customer Bill ABE	Customer Account Balance ABE	Customer Account Balance ABE		N
Customer Bill Collection ABE	Customer Payment ABE			N
Common Business Entities Domain				
Topology ABE				N
Agreement ABE	Agreement ABE			N
Party ABE	Party ABE			R

Figure 12 - ABEs in scope for Whale Cloud ZSmart 9 Re-certification

8   Information Frameworx Conformance Result

This Section details the Scores awarded to reflect Conformance of the Whale Cloud ZSmart 9 to the Information Framework components of Frameworx 18.0.

8.1   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 **<u>Adoption</u>** scoring method.

8.1.1 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 2 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 2 - TM Forum Information Framework Adoption Conformance - Scoring RulesTable 2 below.

Table 2 - 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).

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.

8.2   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 Whale Cloud ZSmart 9 Frameworx Assessment.

Each ABE was measured using the Information Framework (SID) conformance scoring guidelines as described in section 8.1.1 above.
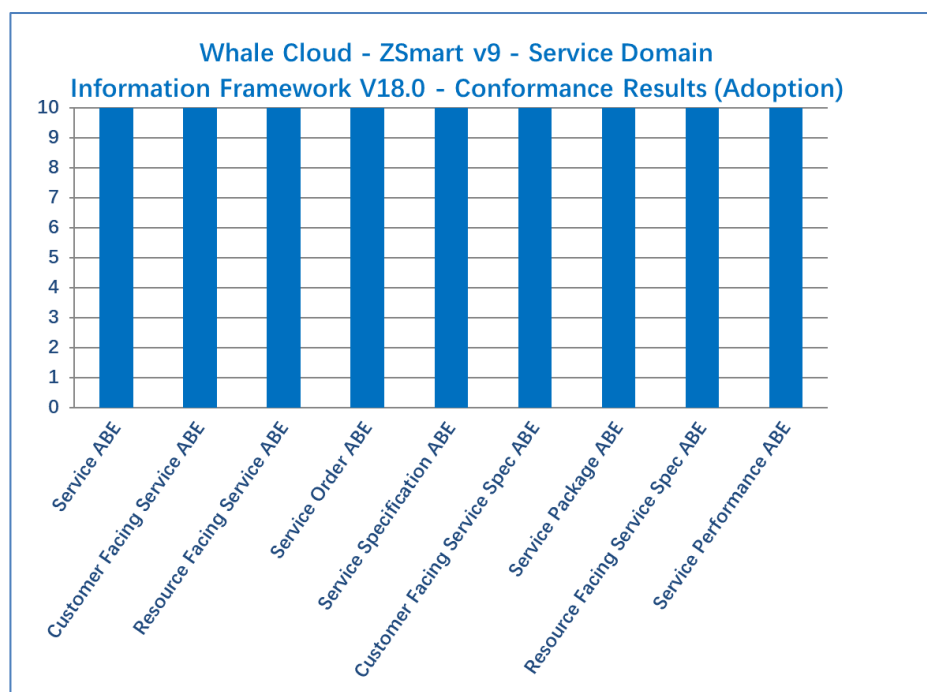
8.3 Information Framework – Detailed Conformance Results

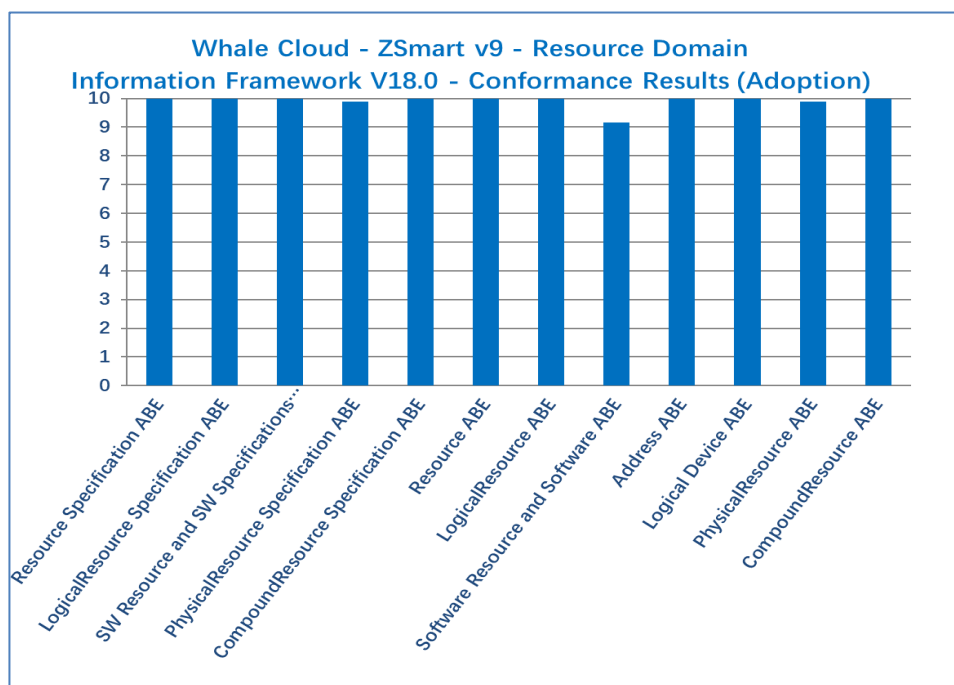**Table 3 - Information Framework: Detailed Conformance Result**

TM Forum Frameworx 18.0 - Assessment Scoping Document - Information Framework (SID)				
Member:	Whale Cloud Technology Ltd			**Conformance Certification Final Scores Achieved**
Product:	ZSmart V9			
Assessment Type:	Solution			
ABEs in Scope:	36			
Level 1 ABEs	**Level 2 ABEs**	**Level 3 ABEs**	**Level 4 ABEs**	
Service Domain				
Service ABE	Service ABE			10
Service ABE	Customer Facing Service ABE	Customer Facing Service ABE		10
Service ABE	Resource Facing Service ABE	Resource Facing Service ABE		10
Service ABE	Service Order ABE			10
Service Specification ABE	Service Specification ABE			10
Service Specification ABE	Customer Facing Service Spec ABE	Customer Facing Service Spec ABE		10
Service Specification ABE	Customer Facing Service Spec ABE	Service Package ABE	Service Package ABE	10
Service Specification ABE	Resource Facing Service Spec ABE	Resource Facing Service Spec ABE		10
Service Performance ABE	Service Performance ABE			10
Resource Domain				
Resource Specification ABE	Resource Specification ABE			10
Resource Specification ABE	LogicalResource Specification ABE	LogicalResource Specification ABE		10
Resource Specification ABE	LogicalResource Specification ABE	Software Resource and SW Specifications ABE	SW Resource and SW Specifications ABI	10
Resource Specification ABE	PhysicalResource Specification ABE	PhysicalResource Specification ABE		9.89
Resource Specification ABE	CompoundResource Specification ABE			10
Resource ABE	Resource ABE			10
Resource ABE	LogicalResource ABE	LogicalResource ABE		10
Resource ABE	LogicalResource ABE	Computing and Software ABE	Software Resource and Software ABE	9.15
Resource ABE	LogicalResource ABE	Address ABE		10
Resource ABE	LogicalResource ABE	Logical Device ABE		10
Resource ABE	PhysicalResource ABE	PhysicalResource ABE		9.9
Resource ABE	CompoundResource ABE			10
Product Domain				
Product Specification ABE	Product Specification ABE			10
Product Offering ABE	Product Offering ABE			10
Product Offering ABE	Product Offering Price ABE			10
Product Offering ABE	Product Catalog ABE			10
Product ABE	Product Price ABE			10
Market_Sales Domain				
Enterprise Domain				
Customer Domain				
Customer Order ABE				10
Customer ABE				10
Customer Service Level Agreement ABE				10
Customer Bill ABE	Customer Bill ABE			10
Customer Bill ABE	Customer Billing Statistic ABE			10
Customer Bill ABE	Customer Account Balance ABE	Customer Account Balance ABE		10
Customer Bill Collection ABE	Customer Payment ABE			10
Common Business Entities Domain				
Topology ABE				NA
Agreement ABE	Agreement ABE			10
Party ABE	Party ABE			10

8.4 Information Framework - Adoption Conformance Result Summary

8.4.1 Service Domain

Whale Cloud – ZSmart v9 – Service Domain
Information Framework V18.0 – Conformance Results (Adoption)

8.4.2 Resource Domain

Whale Cloud – ZSmart v9 – Resource Domain
Information Framework V18.0 – Conformance Results (Adoption)

8.4.3   Product Domain

Whale Cloud - ZSmart v9 - Product Domain
Information Framework V18.0 - Conformance Results (Adoption)

8.4.4   Customer Domain

Whale Cloud - ZSmart v9 - Customer Domain
Information Framework V18.0 - Conformance Results (Adoption)

8.4.5   Common Business Entities Domain

Whale Cloud - ZSmart v9 - Common Business Entities Domain Information Framework V18.0 - Conformance Results (Adoption)

Bar chart showing values of 10 for both Agreement ABE and Party ABE.