

Solution Conformance Certification Report

Information Framework
v23.0

for

HUAWEI
BSS R.23.4

March, 2024

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1 Introduction

1.1 Executive Summary

This document provides details of Huawei’s self-assessment and TM Forum’s Conformance Assessment of Huawei data model deployed in their **BSS R.23.4** solution, against the following TM Forum ODA core frameworks:

- Information Framework (SID) version 23.0

The assessment included a review of:

- Conformance to the Information Framework (SID), according to the specific ABEs submitted in scope for the Assessment.

For more information on Huawei’s BSS solution, please contact:

Name – Ma Xu

[mailto: maxu@huawei.com](mailto:maxu@huawei.com)

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

1.2 About Huawei

Huawei is a leading global provider of information and communications technology (ICT) infrastructure, business software, smart devices. Huawei has over 200,000 employees and operates in over 170 countries and regions, serving more than three billion people around the world. Huawei is committed to bringing digital to every person, home and organization for a fully connected, intelligent world.

Huawei has built its prominence in BSS (Business Supporting System) since 1990s and owns the complete business software lines covering CRM, Convergent Billing, Call Center, Mediation, Provisioning and other critical telecom operation software products.

2 Solution Functionality/Capability Overview

2.1 Solution Overview – Huawei BSS

Huawei BSS, as the future-oriented IT enablement solution and based on digital architecture design, is an excellent product portfolio in helping operators in transformation.

Huawei BSS is composed of the following pre-integrated products. These products are designed to be available independently and able to work coordinately.

- Huawei CRM (Customer Relationship Management), it is also named as Huawei Commerce.
- Huawei CBS (Convergent Billing System), it is also named as Huawei RM (Revenue Management).
- Huawei AICC (Artificial Intelligence Contact Center) for new generation of call center.
- Huawei Mobile Money for telecom payment and wallet

2.1.1 Benefits of Huawei's BSS

Huawei BSS contributes to **LINK** the digital world with the advanced software solution:

1) L - Leading Experience of Transformation

- 100% successful transformation with Telco
- New BSS contract every year
- Migration of 200M subscribers in last 3 years
- E2E delivery with mature assets & tools

2) I - Intelligent Solution

- AI-driven customer insight
- Lightweight embedded AI engine
- Real-time & personalized MKT: NBO & NBA
- Prediction of customer churn risk
- Intelligent order troubleshooting

3) N - New Era Evolution

- Enabling B2B evolution (LEAP in new direction):
 - **Loaded** with proven B2B soul
 - **Enlarge** telco process value
 - **All**y the ecosystem and achieving **Profitable** growth.

- Fast offer/promotion TTM by flexible configuration
- Zero touch partnering with rapid on-boarding

4) **K - Keep Value-growing**

- API monetization
- Integration openness
- Omni-channel collaboration
- Reusable business and IT assets
- Enriched offer category
- Cloud-native with Elastic scaling & High performance
- Automatic O & M
- Fully decoupled COTS
- Micro-service based

2.1.2 Solution Capabilities and Architecture

Huawei BSS (including Huawei CRM, CBS, AICC, Mobile Money) responds to the transformation challenges by helping the operators to redefine the business process from supporting business operation to enabling digital operation. It consists of omni-channel collaboration, customer engagement, offering catalogue, convergent order, intelligent marketing, business orchestration, revenue management etc. It aims to help the operators quickly transform into digital Telcos by improving NPS, boosting business agility, and increasing digital service revenue.

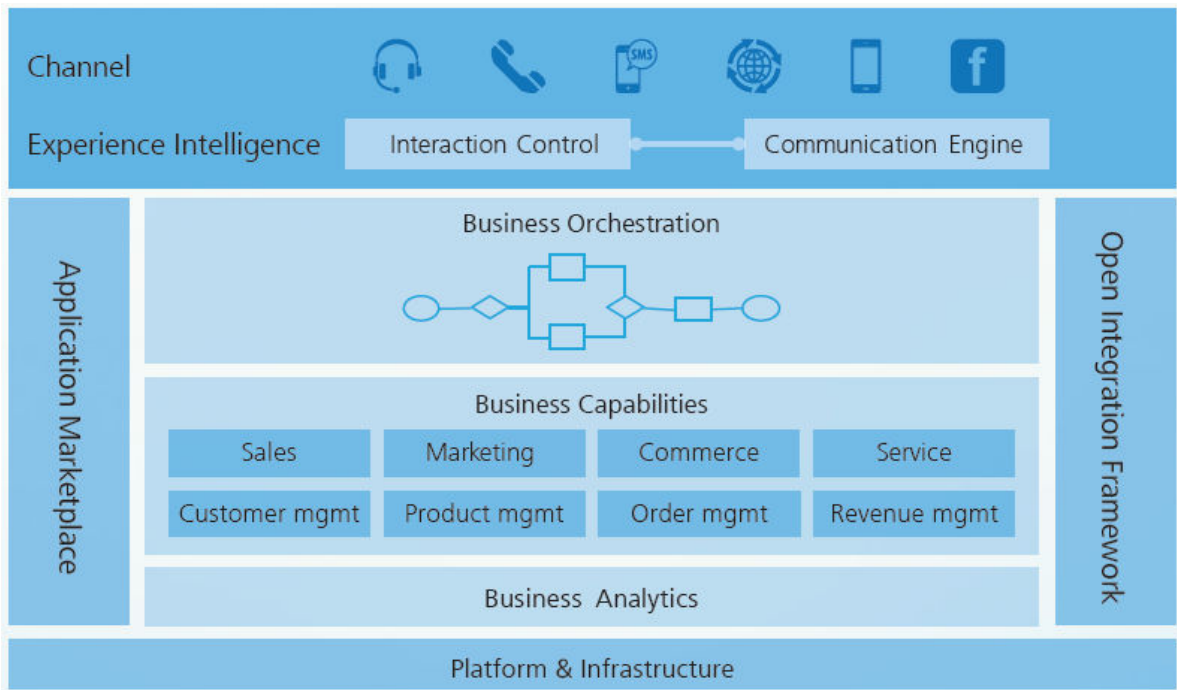


Figure 1 - Huawei BSS Architecture (R23.4)

2.2 Solution Scope

The table in figure below represents Huawei’s BSS solution with mappings to the Information Framework ABEs that were submitted in scope for the Conformance Certification assessment.

TM Forum - Assessment Scoping Document - Information Framework (SID) v23.0	
Member:	Huawei
Product:	Huawei BSS R.23.4
Assessment Type:	Product
ABEs in Scope:	6
Level 1 ABEs	Level 2 ABEs
Product Domain	
Product ABE	
Product Configuration ABE	
Product Configuration ABE	Product Action ABE
Product Offering ABE	
Product Offering ABE	Product Catalog ABE
Product Specification ABE	

Figure 2 - SID ABEs in scope of Huawei BSS Conformance Certification

2.3 Information Framework (SID) Certification Scope

The following figure represents the Information Framework (SID) ABEs that were presented in scope for conformance certification.

HUAWEI – SID – v23.0 – Level-1 ABEs in Scope

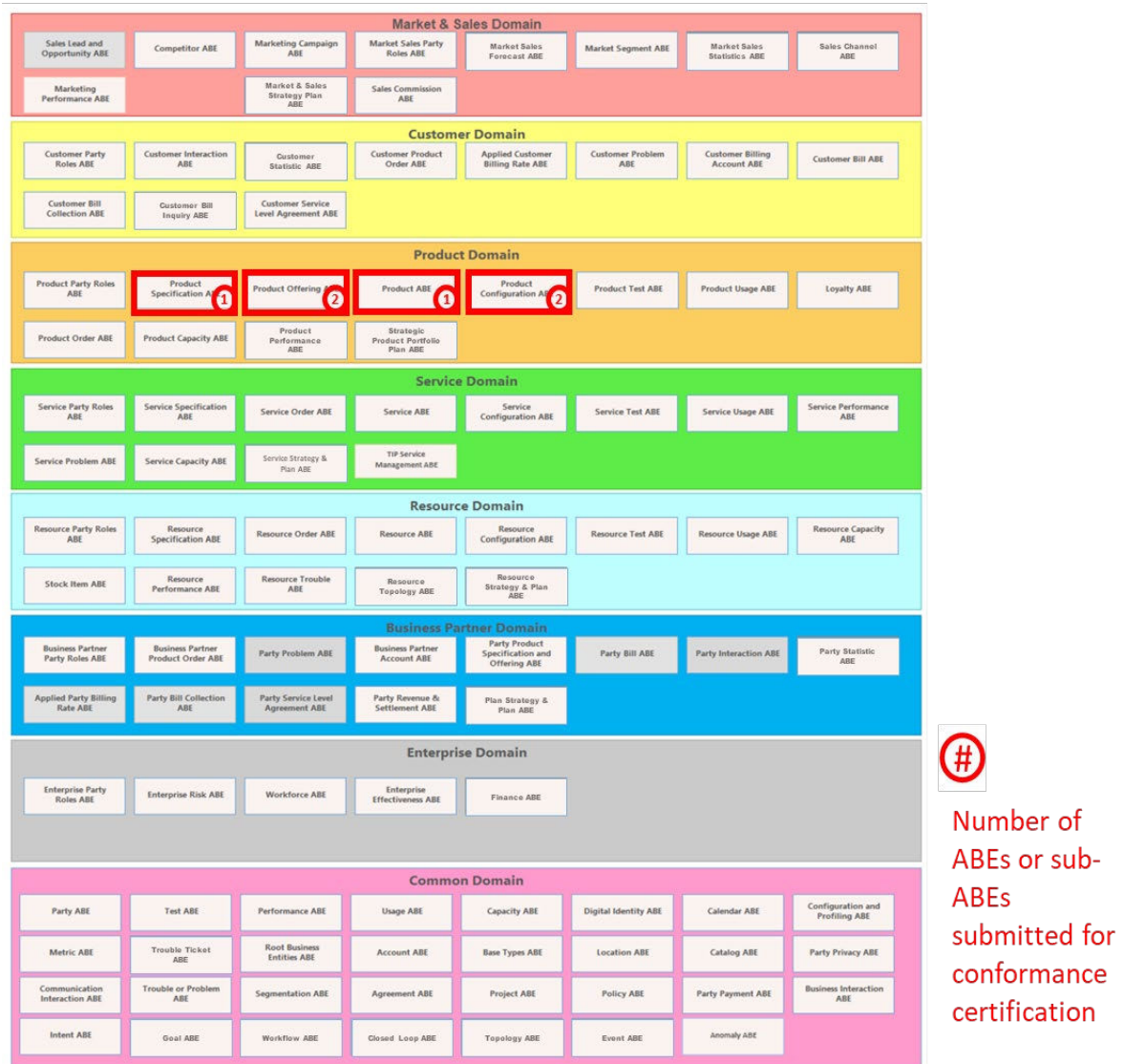


Figure 3 – SID ABEs coverage for Huawei BSS Conformance Certification

3 Information Framework Assessment Overview

3.1 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 scope in previous page.

3.2 Information Framework Conformance Result

This Section details the Scores awarded to reflect Conformance of Huawei BSS solution to the Information Framework components release 23.0.

3.2.1 Information Framework – Scoring Rules

Starting on the 1st of January 2018, one single method has been retained instead of the two previous 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.

3.2.2 Information Framework Adoption Conformance Scoring Methodology

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 1 - TM Forum Information Framework Adoption Conformance - Scoring Rules Table 2 below.

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]
<p>NOTES:</p> <p>1. The score values for each SID component are added together to get the overall Adoption Conformance score.</p> <p>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.</p> <p>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 Conformance) & Adoption Conformance score = 5.2 (Medium Conformance).</p>						

Figure 4- TM Forum Information Framework Adoption Conformance - Scoring Rules

3.2.3 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.

3.3 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 Huawei BSS solution.

Each ABE was measured using the Information Framework (SID) conformance scoring guidelines as described in section 3.2.2 above.

3.4 Information Framework – Conformance Results

The data in these columns is based on the SID Release 23.0 Information Model				For use during Self-Assessments by	Member & TM Forum Comments	Final Scores
Predefined SID Model Data - Please do not modify data in these columns - For TM Forum use only				For Member Use - Mandatory Mapping	Comments w.r.t. Mapping Review	
ABE name	Entity name	Item Type	Conformance Result	Member Mapping: ENTITY	For comments impacting full conformance, please use red font.	ABE Conformance Score Adoption
Product ABE		ABE	Y	Product	TMF-AAD<Reviewed and AGREED>See comment on A34	10 Full Conformance
Product ABE	Product	CE	Y	Product	✓	
Product Configuration ABE		ABE	Y	Product	TMF-AAD<Reviewed and AGREED>See comment on A34	9.5 Very High Conformance
Product Configuration ABE	ProductConfiguration	CE	Y	Product	✓	
Product Configuration ABE :: Product Action ABE		ABE	Y	Operation	TMF-AAD<Reviewed and AGREED>	10 Full Conformance
Product Configuration ABE :: Product Action ABE	ProductActionType	CE	Y	OperationType	✓	
Product Offering ABE		ABE	Y	Offering	TMF-AAD<Reviewed and AGREED>	9.9 Very High Conformance
Product Offering ABE	ProductOffering	CE	Y	Offering	✓	
Product Offering ABE :: Product Catalog ABE		ABE	Y	SalesCategoryDef	TMF-AAD<Reviewed and AGREED>	8.0 High Conformance
Product Offering ABE :: Product Catalog ABE	ProductCatalog	CE	Y	SalesCategoryDef (or ClassificationDef, they are essentially one entity)	✓	
Product Specification ABE		ABE	Y	Product, Offering	TMF-AAD<Reviewed and AGREED>See comment on A34	9.8 Very High Conformance
Product Specification ABE	ProductSpecification	CE	Y	Product, Offering	✓	

Figure 5 - Information Framework: Conformance Assessment Summary View

TM Forum - Assessment Scoping Document - Information Framework (SID) v23.0		
Member:	Huawei	Conformance Certification Final Scores Achieved for ABEs
Product:	BSS R.23.4	
Assessment Type:	Solution	
ABEs in Scope:	6	
Level 1 ABEs	Level 2 ABEs	
Product ABE		10 Full Conformance
Product Configuration ABE		9.5 Very High Conformance
Product Configuration ABE	Product Action ABE	10 Full Conformance
Product Offering ABE		9.9 Very High Conformance
Product Offering ABE	Product Catalog ABE	8.0 High Conformance
Product Specification ABE		9.8 Very High Conformance

Figure 6 - Information Framework: Conformance Scores List

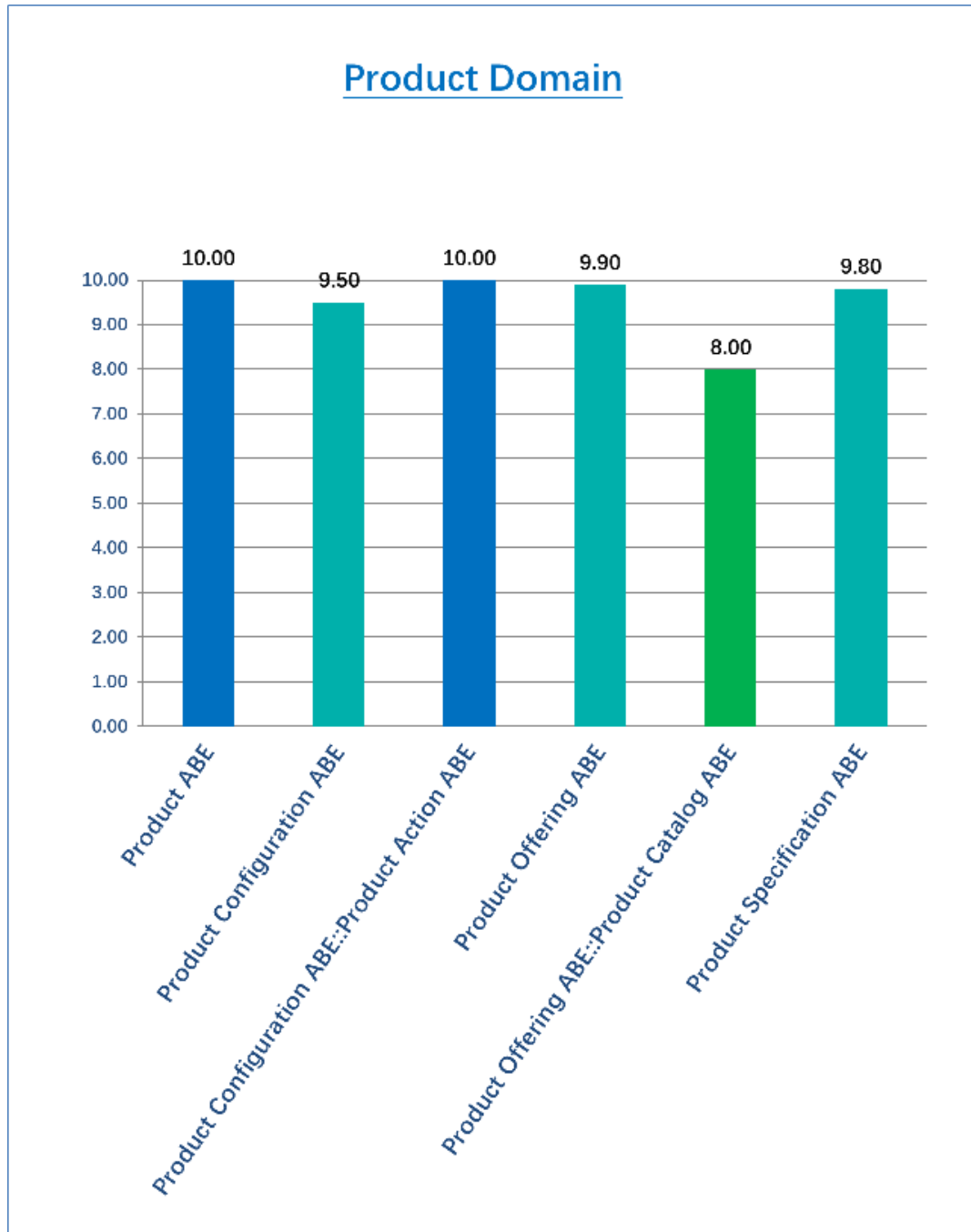


Figure 7 - Information Framework : Conformance Scores Graph