

Solution Conformance Certification Report

Business Process Framework (eTOM)
&
Information Framework (SID)

For:

Jio Platforms Limited

Jio Orchestrator (JIO OC)

Incorporating ODA Component TMFC007

October 2024

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1 Introduction

1.1 Executive Summary

This document provides details of JIO's Self-Assessment of JIO Orchestrator (JIO OC), incorporating ODA Component TMFC007, against the following ODA Core Frameworks:

- Business Process Framework (eTOM) version 24.0
- Information Framework (SID) version 24.0

The assessment included a review of the methodology approach to 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.

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2 Solution Overview

2.1 About JIO

Reliance Jio Infocomm Limited (Jio) is India's largest telecom operator with over 470 Mn subscribers. Jio's advance 4G network is future ready and can be easily upgraded to support advance technologies of 5G, 6G and beyond.

Jio has revolutionized the telecommunication sector by democratising access to high-speed internet and digital services. This empowered millions of people across India and bridged the digital divide and fostered inclusive growth. Jio has brought transformational changes in the Indian digital services space to enable the vision of Digital India for 1.3 billion Indians and propel India into global leadership in the digital economy.

Jio has been focused on developing in-house applications spanning various technology domains to support all industry verticals from education to healthcare, are designed to streamline processes, enhance efficiency, and improve accessibility. These carefully crafted strategic plans to leverage digital transformation for the benefit of the Indian population at large have been, alongside company growth, proactively addressing societal needs.

Jio has created an eco-system comprising of network, devices, applications and content, service experience and affordable tariffs for everyone to live the Jio Digital Life. Since launch of its commercial operations in 2016, it has been redefining benchmarks, setting new milestones, inspiring unprecedented adoption, usage, and service metrics that are among the best in the industry.

For more information on our products and services, visit our website at: www.jio.com

2.2 Solution Functionality / Capability

JIO Orchestrator (JIO OC) is a comprehensive BPMN 2.0 compliant microservices-based order management system, designed with the latest technological advancements to offer a seamless and efficient experience for managing the entire order lifecycle. It empowers customers to control every aspect of their order journey while ensuring real-time synchronization of inventory and network resources.

The system begins by receiving customer orders through a user-friendly interface or an integrated API. Once an order is placed, it undergoes validation against a set of customizable, predefined conditions, such as product availability, feasibility checks for the service and customer credentials. This flexible validation process ensures that only feasible and compliant orders proceed to the next stage, minimizing errors and delays.

In scenarios where there are multiple orders or conflicting priorities, JIO OC's dynamic prioritization engine can assign different levels of urgency based on factors like customer type, order size or order types. This helps optimize order processing and fulfillment to meet business needs and customer expectations efficiently.

Further, JIO OC decomposes the validated order into smaller, manageable service components. For example, if a customer orders multiple items or services, the system breaks these down into individual tasks or workflows. Each service is tracked and managed independently, ensuring that even complex orders are fulfilled in an organized and timely manner.

The system then facilitates the fulfillment process by orchestrating the workflow with relevant integration points for device inventory, network and number inventory, depending on the nature of the order. As each service is fulfilled, JIO OC monitors the progress, ensures quality control, and updates the order status in real-time.

Finally, once the entire order is processed and fulfilled, JIO OC sends notifications and updates to upstream systems, such as CRM platforms, inventory management, or billing systems, ensuring a consistent flow of information across all channels. This comprehensive approach enhances the customer experience, streamlines operations, and ensures that all stakeholders remain informed throughout the order lifecycle.

2.2.1 Key Features:

The key features offered by JIO OC are as follows:

Microservices based architecture: A cloud-native microservices architecture enables each feature to be developed, upgraded, and deployed independently, ensuring continuous operations with zero downtime for other services.

Segregation of Business and Implementation: One of the key highlights of JIO OC is that it separates technical implementation from Business. Workflows can be built independently with business and backend logic can be handled parallelly by a developer and both can be plugged together in one go.

360° Systems Integration Capability: The system can integrate with any or all interfaces. The system uses next generation protocols and interfaces to achieve 360° integrations.

Zero downtime deployment: JIO OC segregates the business layer and technical layer. New business workflows providing additional capabilities could be deployed by operational user without any business down time. New Rules takes effect immediately. It provides version control capabilities to manage different versions of the rule objects and allows operations to switch back to older version.

Scalable & resilient: The platform is cloud-enabled and built on a Docker and Kubernetes-based deployment architecture, leveraging open-source technologies for superior scalability and performance. It is designed for horizontal scalability, incorporating a highly optimized caching layer and a self-healing architecture that automatically recovers from outages, ensuring 99.999% uptime. JIO OC also offers near-instantaneous failover capabilities to a Disaster Recovery Site, ensuring seamless continuity and minimal downtime in case of disruptions.

User Friendly Dashboard: JIO OC includes a user-friendly interface that allows users to monitor the real-time progress of their orders throughout the entire lifecycle. This intuitive dashboard provides detailed visibility into each stage of order processing, enabling users to track statuses such as order validation, service decomposition, fulfillment, and final delivery.

2.2.2 Architecture

An overview of JIO Orchestrator (JIO OC) component level architecture is as follows:

JIO OC Component Level Architecture

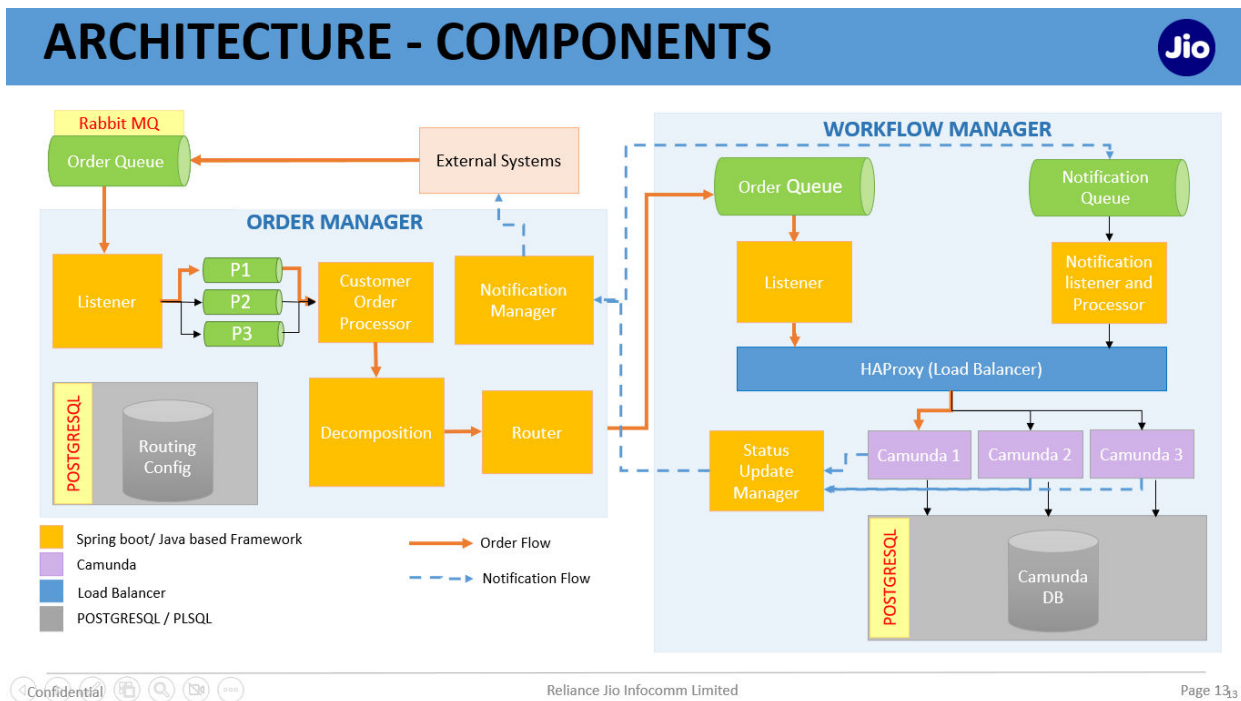


Figure 1 – JIO OC Component level Architecture

2.3 JIO Orchestrator (JIO OC) – Benefits

As new business models emerge, and the networks start to evolve and consolidate, there is a need for the future operations model.

Following are the benefits of JIO Orchestrator (JIO OC).

- Horizontally scalable platform uses highly engineered caching layer and self-healing design to automatically recover from outages
- Microservices based cloud native architecture ensures each feature is independently developed, enhanced, and deployed with zero downtime
- Based on declarative principles where all components are independently designed and can be configured using backend
- API driven interfaces maximize compatibility with third party infrastructure.
- Includes a user-friendly interface that allows users to monitor the real-time progress of their orders throughout the entire lifecycle.

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) – v24.0 – JIO Orchestrator (JIO OC) – Conformance Footprint

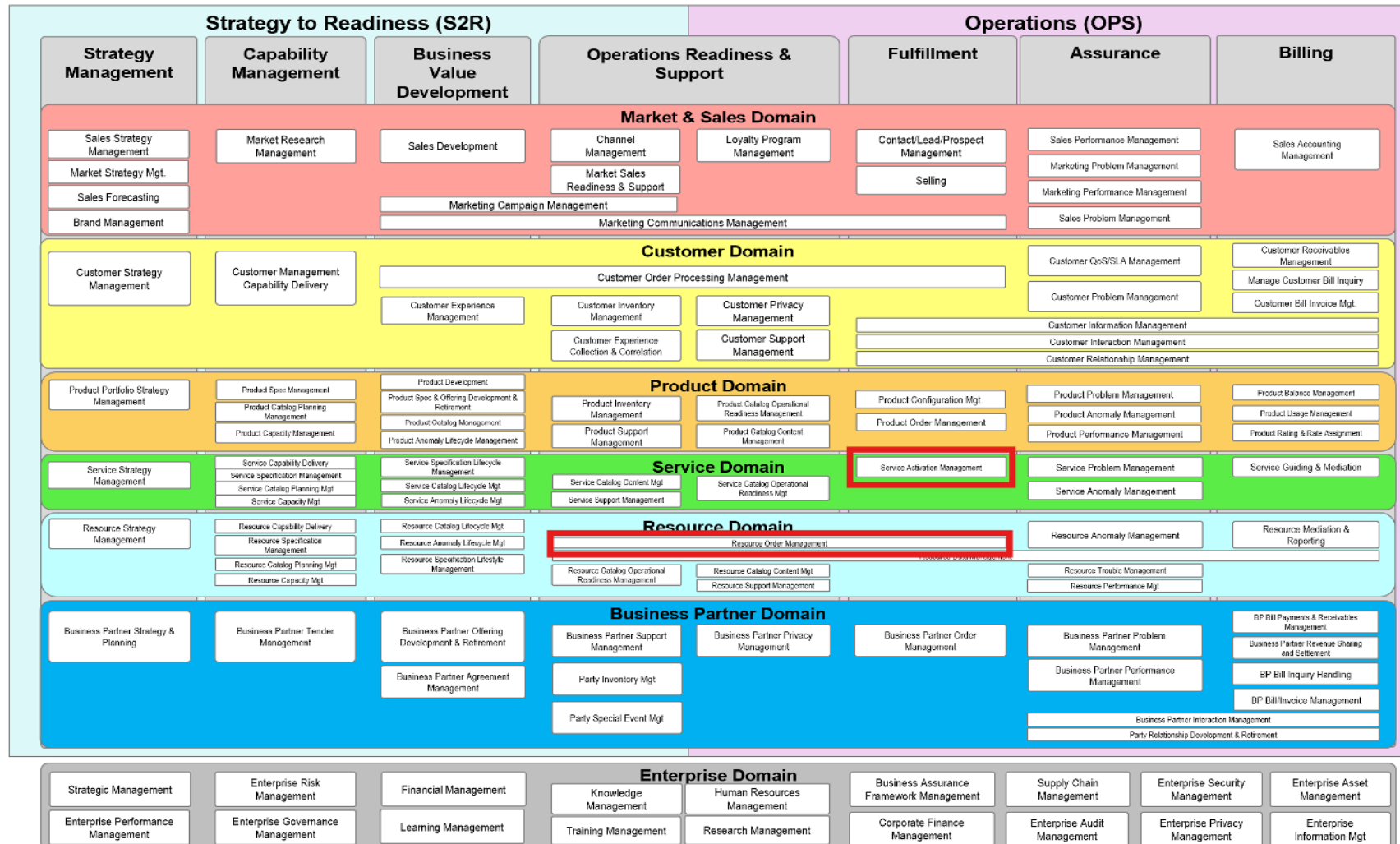


Figure 2 - Level 2 process coverage for JIO Orchestrator (JIO OC) Conformance Assessment

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) - v24.0 – JIO Orchestrator (JIO OC) – Conformance Footprint

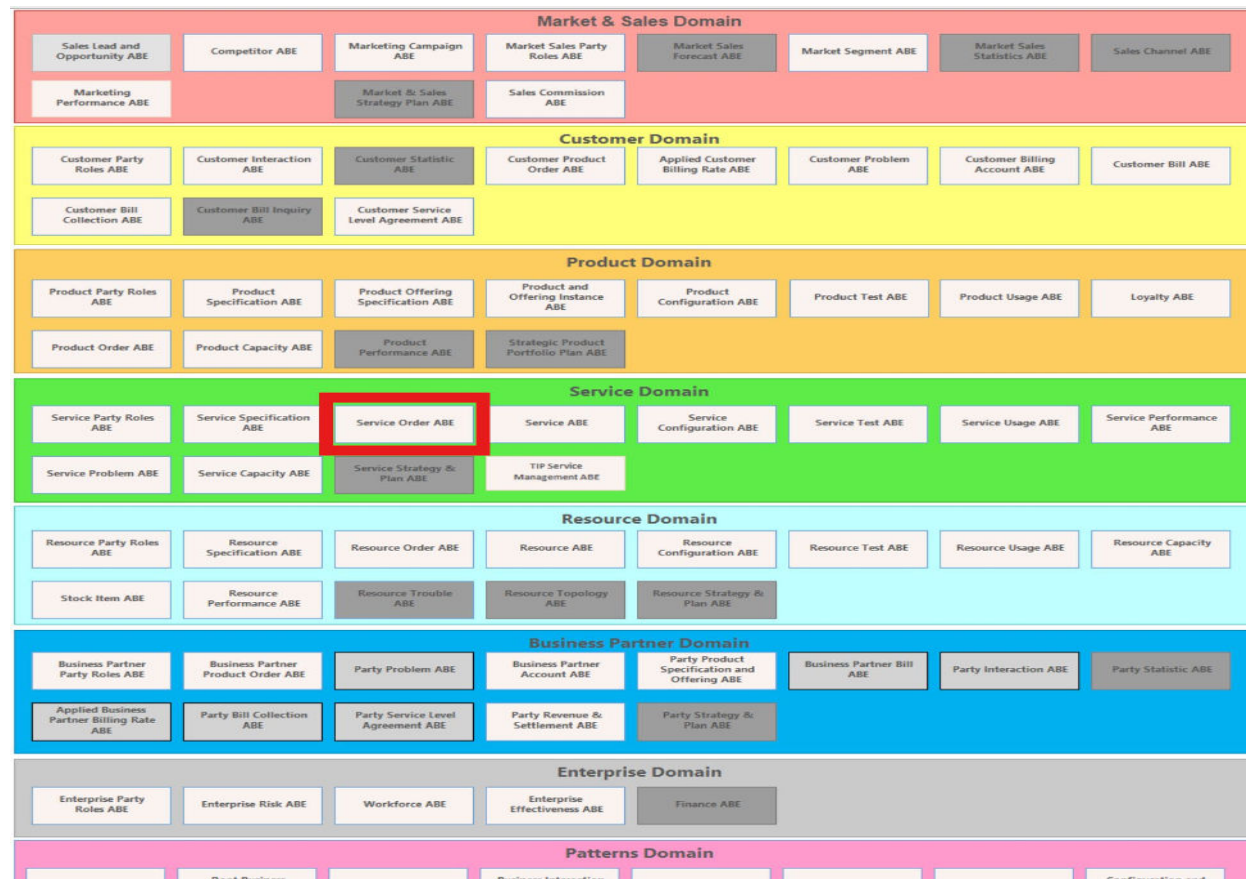


Figure 3 - Level 1 ABEs - SID coverage for JIO Orchestrator Conformance Assessment

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.

Since 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 JIO Orchestrator (JIO OC) in accordance to the TM Forum Business Process Framework. It also maps the processes with the Level 2 and Level 3 frameworks Activities. The document covers the following L3 Processes in scope for certification.

3.3 Scope of Conformance Certification – List (eTOM)

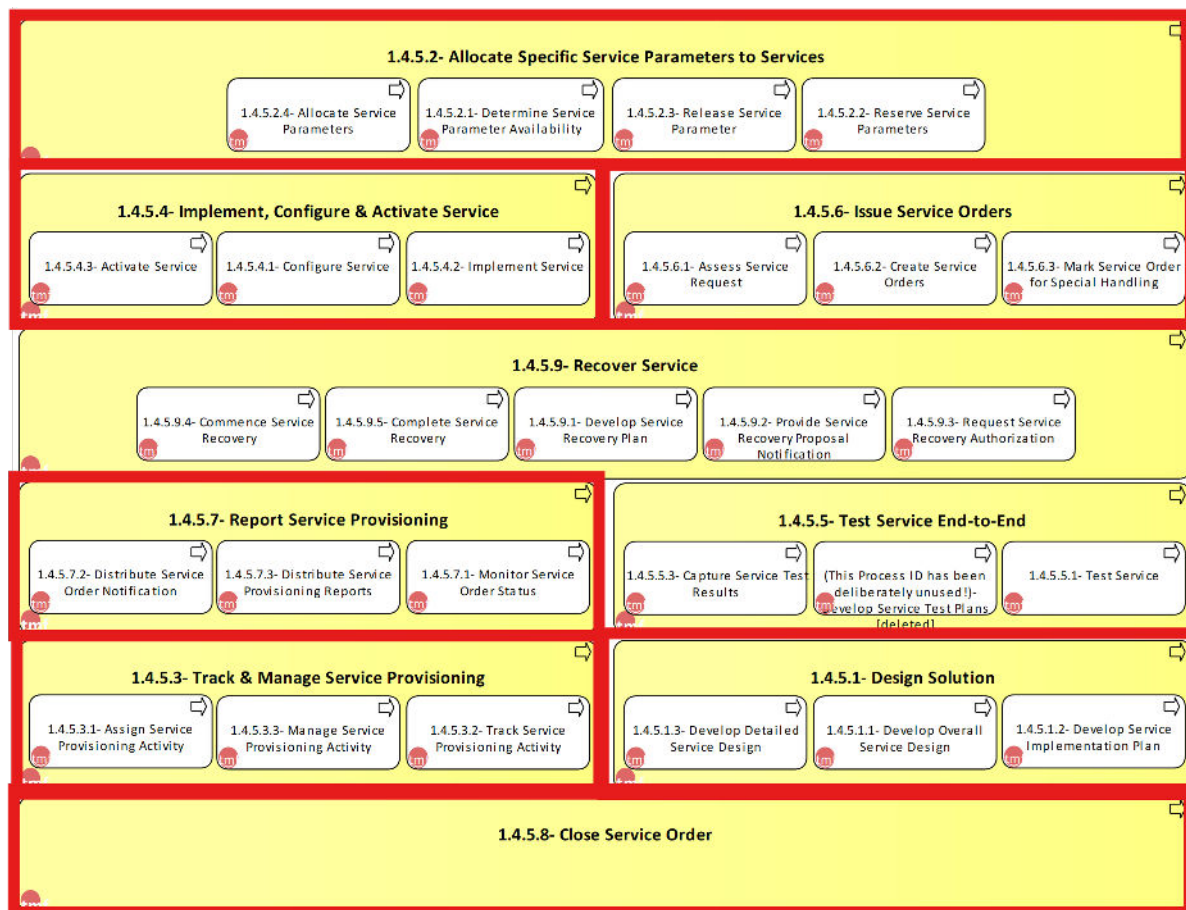


Figure 4- Level 3 processes in scope for certification – Service Domain



Figure 5- Level 3 processes in scope for certification – Resource Domain

3.4 Scope of Conformance Certification – Chart (eTOM)

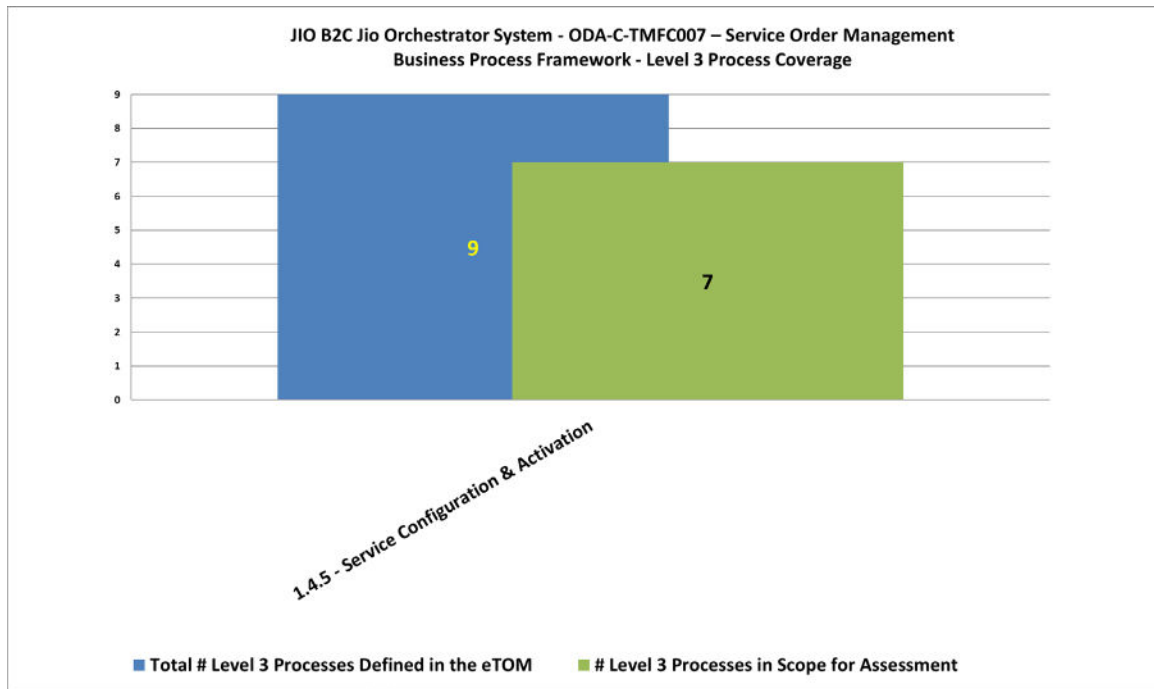


Figure 6- Level 3 process scope for certification – Service Domain

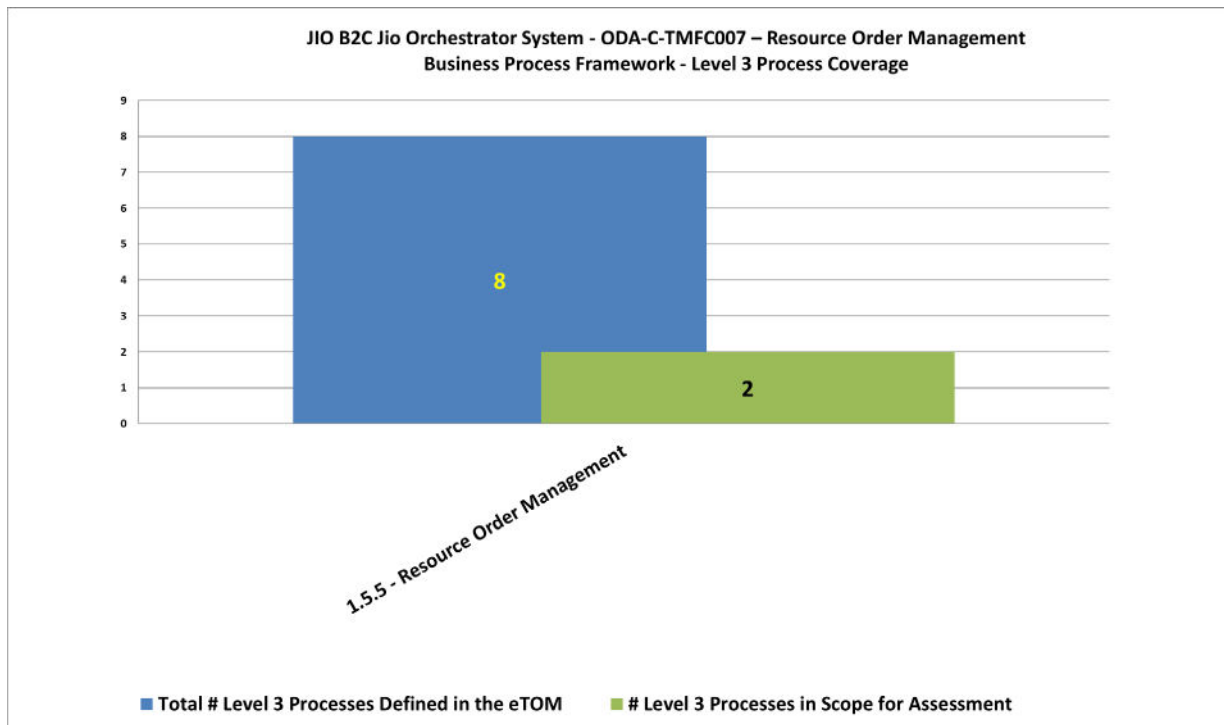


Figure 7- Level 3 process scope for certification – Service Domain

3.5 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 Framework 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 8- TM Forum Business Process Framework: Conformance Scoring Rules

3.6 Business Process Framework – Process Mapping Descriptions

This section provides the mapping of Business Process Framework against the processes supported by JIO Orchestrator (JIO OC).

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

3.6.1 Mapping Details & Supporting Evidence

The documented mapping information for all Level 3 business processes in scope is available from the following link:

https://www.tmforum.org/wp-content/uploads/2024/10/eTOM-24.0_Conformance_Mapping_Template-JIO-B2C-System-ODA-C-TMFC007-VFRF-1.pdf

3.7 Conformance Result

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

TM Forum Assessment Scoping Document - Business Process Framework (eTOM) v24.0			
<i>Member:</i>		<i>JIO</i>	
<i>Solution:</i>		<i>JIO B2C Jio Orchestrator System - ODA-C-TMFC007 – Service Order Management</i>	
<i>Assessment Type</i>		<i>Solution</i>	
<i># of L3 Processes in Scope:</i>		<i>7</i>	
<i>Level 1</i>	<i>Level 2</i>	<i>Level 3</i>	
1.4 - Service Domain			
1.4.5 - Service Activation Management			
		1.4.5.1 - Design Solution	5/5
		1.4.5.2 - Allocate Specific Service Parameters to Services	5/5
		1.4.5.3 - Track & Manage Service Provisioning	5/5
		1.4.5.4 - Implement, Configure & Activate Service	5/5
		1.4.5.5 - Test Service End to End	Out of Scope
		1.4.5.6 - Issue Service Orders	5/5
		1.4.5.7 - Report Service Provisioning	5/5
		1.4.5.8 - Close Service Order	5/5
		1.4.5.9 - Recover Service	Out of Scope

Figure 9- - eTOM Conformance Scores Summary – Service Domain

TM Forum Assessment Scoping Document - Business Process Framework (eTOM) v24.0			
<i>Member:</i>		<i>JIO</i>	
<i>Solution:</i>		<i>JIO B2C Jio Orchestrator System - ODA-C-TMFC007 – Resource Order Management</i>	
<i>Assessment Type</i>		<i>Solution</i>	
<i># of L3 Processes in Scope:</i>		<i>7</i>	
<i>Level 1</i>	<i>Level 2</i>	<i>Level 3</i>	
1.5 - Resource Domain			
1.5.5 - Resource Order Management			
		1.5.5.6 - Manage Resource Order Capture	5/5
		1.5.5.7 - Manage Resource Work Order	5/5
		1.5.5.8 - Manage Resource Order Fulfillment	Out of Scope
		1.5.5.9 - Manage Resource Order Picking/Packing	Out of Scope
		1.5.5.10 - Manage Resource Order Shipment	Out of Scope
		1.5.5.11 - Manage Resource Order Returns	Out of Scope
		1.5.5.12 - Manage Resource Order Tracking	Out of Scope
		1.5.5.13 - Manage Resource Order Closure	Out of Scope

Figure 10- - eTOM Conformance Scores Summary – Resource Domain

3.8 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 JIO Orchestrator (JIO OC). 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)

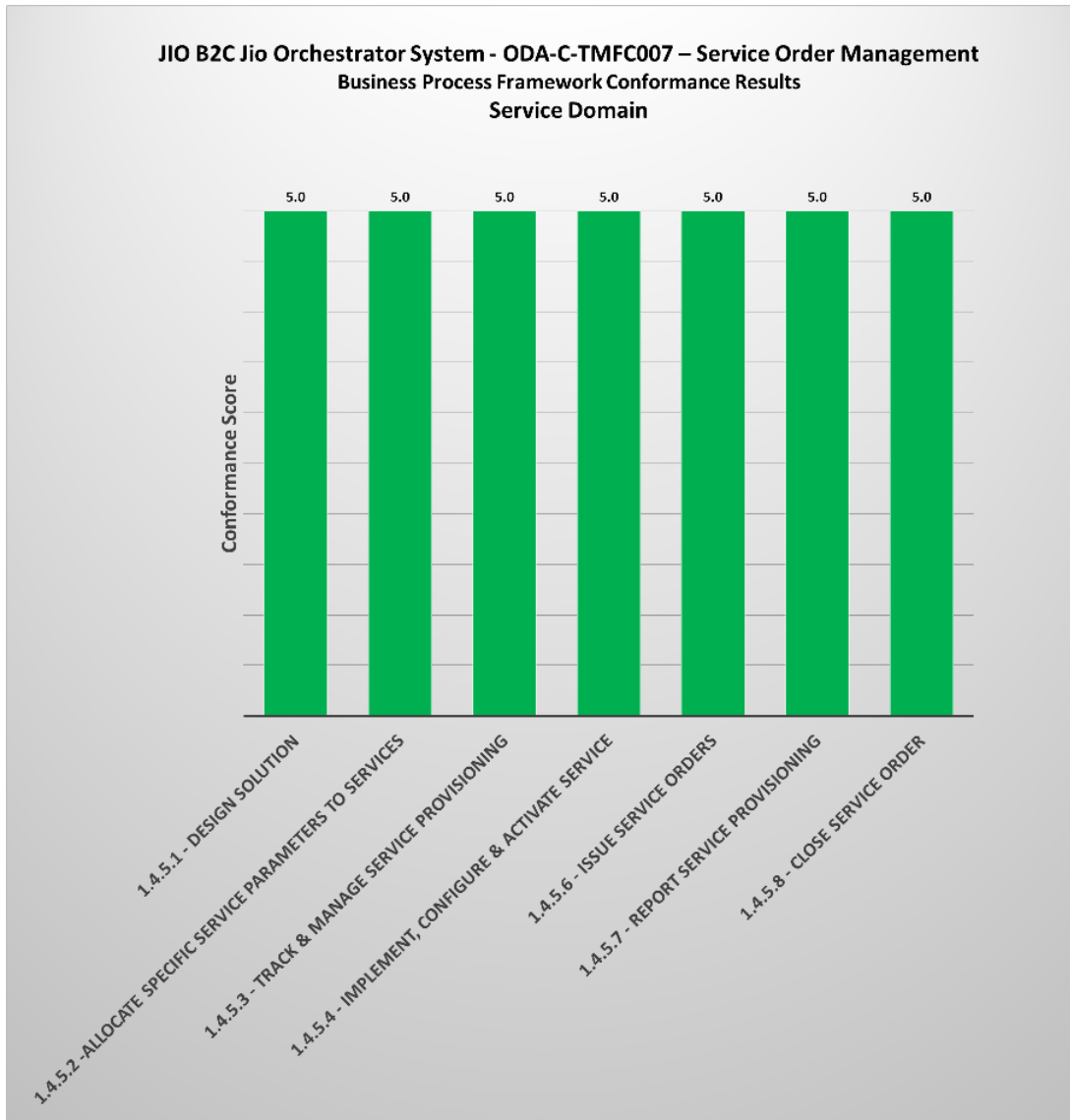


Figure 11- eTOM – Conformance Scores Graph - Service Domain

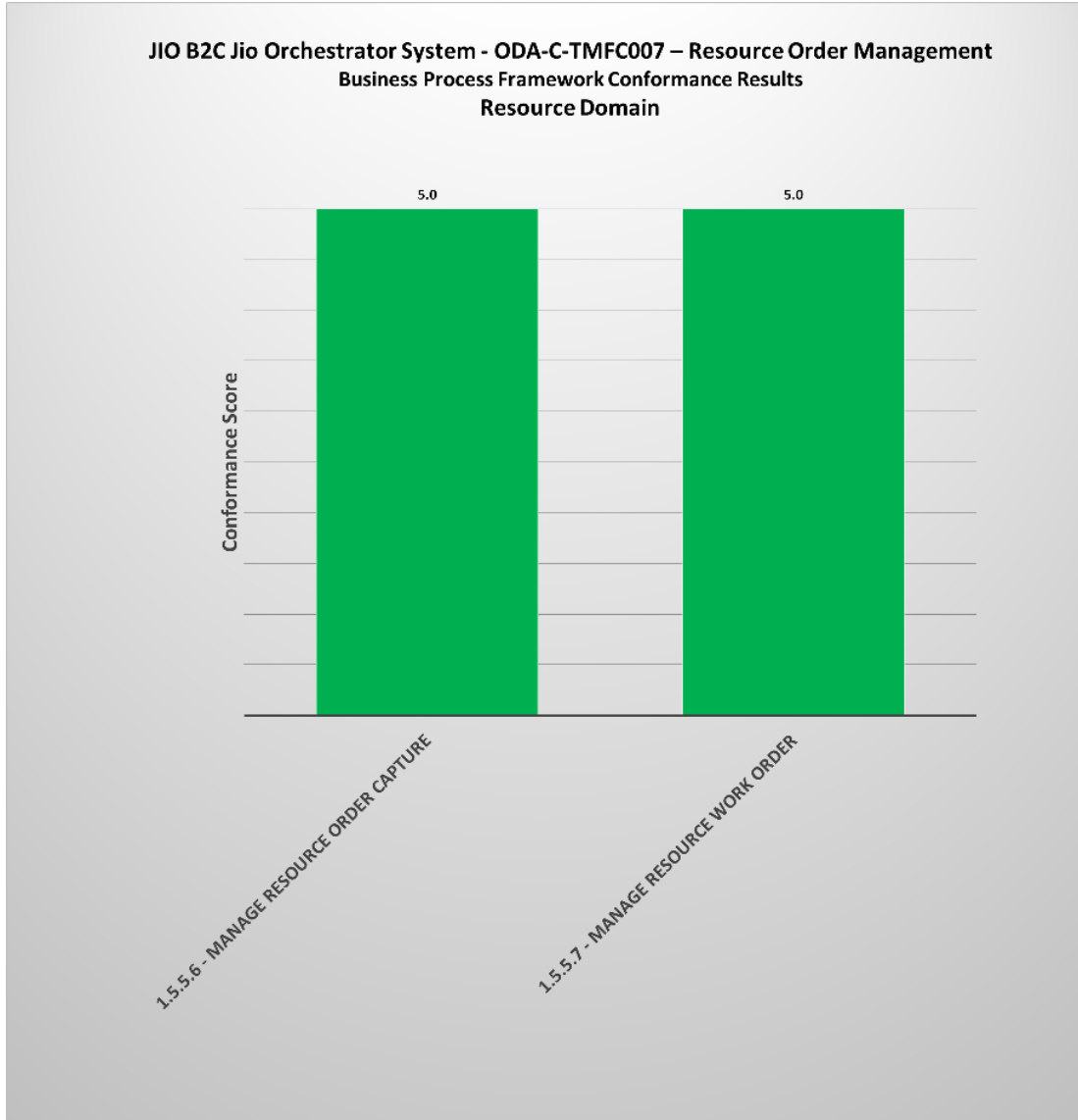


Figure 12- eTOM – Conformance Scores Graph - Resource Domain

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.

4.2 Scope of Conformance Certification (SID)

This following list conveys information about the ABEs implemented by JIO Orchestrator (JIO OC) in accordance with the TM Forum Information Framework (SID). The scope for certification includes the following ABEs.

JIO B2C System - ODA-C-TMFC007 – Service Order Management = 2 ABE
<i>L1/L2 ABEs</i>
Service Domain
Service Order ABE
Patterns Domain
Business Interaction ABE

Figure 13- SID – Conformance Scope Graph

4.3 Information Framework Conformance Result

This Section details the Scores awarded to reflect Conformance of JIO Orchestrator (JIO OC) to the Information Framework.

4.3.1 Information Framework – Scoring Rules

Between 2013 (Framework 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.

4.3.2 Information Framework Adoption Conformance Scoring Methodology

As of Framework 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 Framework 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 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]
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 Conformance) & Adoption Conformance score = 5.2 (Medium Conformance).						

Figure 14 - TM Forum Information Framework Adoption Conformance - Scoring Rules

4.3.3 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.

4.4 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 JIO Orchestrator (JIO OC).

Each ABE was measured using the Information Framework (SID) conformance scoring guidelines as described in section 4.3.2 above.

4.5 Information Framework – Detailed Conformance Results

**JIO B2C System - ODA-C-TMFC007 – Service Order Management
Information Framework - Conformance Results (Adoption)**

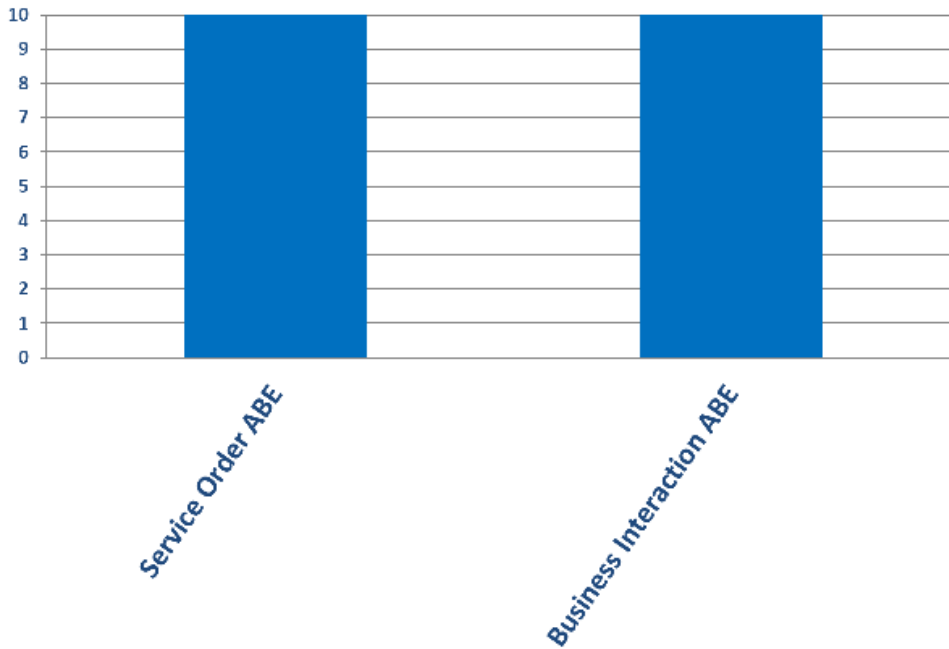


Figure 15 - Information Framework (SID) Conformance Scores