

# Solution Conformance Certification Report

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

For:

## Jio Platforms Limited

JIO B2C System - ODA-C  
Business Assurance (JIBA)

September 2024

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## 1 Introduction

### 1.1 Executive Summary

This document provides details of JIO B2C System for Business Assurance, against the following ODA Core Frameworks:

- Business Process Framework (eTOM) version 23.5
- Information Framework (SID) version 23.5

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.

For more information on JIO B2C System for Business Assurance, please contact:

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For any additional information on this ODA Conformance Certification Report, please contact TM Forum at: [conformance@tmforum.org](mailto:conformance@tmforum.org).

## 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 advanced 4G network is future ready and can be easily upgraded to support advanced technologies of 5G, 6G and beyond.

Jio has revolutionized the telecommunication sector by democratizing 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](http://www.jio.com)

## 2.2 Solution Functionality / Capability

JIO Business Assurance framework is built on open-source tools with the purpose of identifying the weak points across the entire revenue chain for any possible leakage.

Business assurance is a process that is used by businesses to identify, analyze, mitigate and prevent revenue leakage through a range of measures. It aims to reduce risks of losses due to errors, negligence, or fraud. It also helps businesses identify opportunities to increase their revenues and maximize profits.

Jio Business Assurance is a complete framework built with commodity hardware in Open Source with near real time validation and online Dashboard, capable in processing all types of files (unlike other Assurance systems) to managing Business Intelligence, Margin Assurance & Asset Assurance, Revenue Assurance, Fraud Management, Migration Assurance and many more.

Jio Business Assurance can be used in any sector (Banking, Insurance, Retails...) where revenue chain is involved with minimum operational cost.

JIO's Business Assurance (JIBA), is the next gen, flexible, scalable, cloud native, Assurance platform providing feature of near real time, D, D-1, D-2, D-3, Ad hoc requests if any, which is aligned with the TM Forum's Frameworks.

JIO's Business Assurance application supports any file source (Storage, Data Lake, DB Sync, API, NAS, Kafka queue...) and supports any file type (Binary, ASN, ASCII, XML, XLSX...). JIO's Business Assurance application has capability to process 150 billion currently processing 94 billion CDR's per day. Unlike the traditional way of summary-based reconciliation JIO BA has capable to reconcile at the CDR's level.

- **Service Integration:** JIO's BA application ability to seamlessly integrate multiple services, such as retail, e-commerce, showcases its scalability. By consolidating diverse offerings within a single platform, the app accommodates the growing needs and demands of its expanding user base.
- **Technological Advancements:** Jio Platforms has adopted cutting-edge technologies and tools and optimized the technological framework to ensure scalability. Jio BA handles over 400 to 500 KPI's per day and over 94 billion CDR's.
- **Robust Infrastructure:** Jio BA is built on a robust and scalable infrastructure that can handle a high volume of users and traffic. Jio Platforms has made significant investments in building a strong network and data centres to support the operations.
- **Continuous Monitoring and Redundancy:** Jio BA employs robust monitoring systems to track performance metrics and identify potential issues in real-time. Backup servers and data replication are in place to ensure uninterrupted service availability in case of any failures or disruptions.

### 2.2.1 Key Features:

**#Generic Design Framework:** JIBA is developed with a generic design framework, that can be used in any sector (Banking, Insurance, Retails, E-commerce's ...) where revenue chain is involved with minimum operational cost. It has centralized Audit configuration for various sources. Platform is based on declarative principles where all components are independently designed and configured.

**#Open-Source Technologies:** JIBA cloud native architecture ensures each feature is developed, enhanced, and deployed independently. Various scheduling and monitoring tools can be integrated to re-form unified utility to cater smoother operations and monitoring on integrated open-source platform.

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

**#Scalable & resilient:** JIO's BA is built on a robust and scalable infrastructure that can handle a high volume of users and traffic also this can be scalable based on the increase in Volume's and users.

**#Data Import & Export capabilities:** Integrated aggregation module to support regulatory reporting, revenue assurance and analytics. Offers data import and export functionalities for managing business KPI's.

**#Operational Portal:** Dedicated web-based operations portal allows easy, efficient operational management. It offers enhanced operational capabilities to view and manage all activities from ETL till Report generation.

### 2.2.2 Architecture

The following is an overview of JIO B2C System for Business Assurance component level architecture:

## JIO B2C System for Business Assurance Component Level Architecture

Data Flow Diagram:

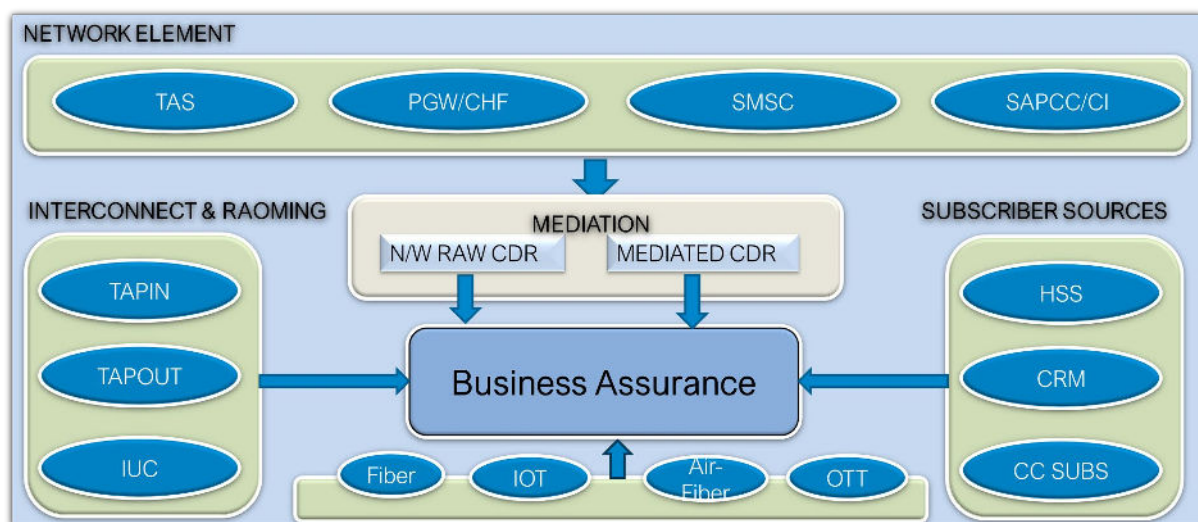


Figure 1 – JIO B2C System for Business Assurance – Data Flow Diagram



# Jio Business Assurance workflow

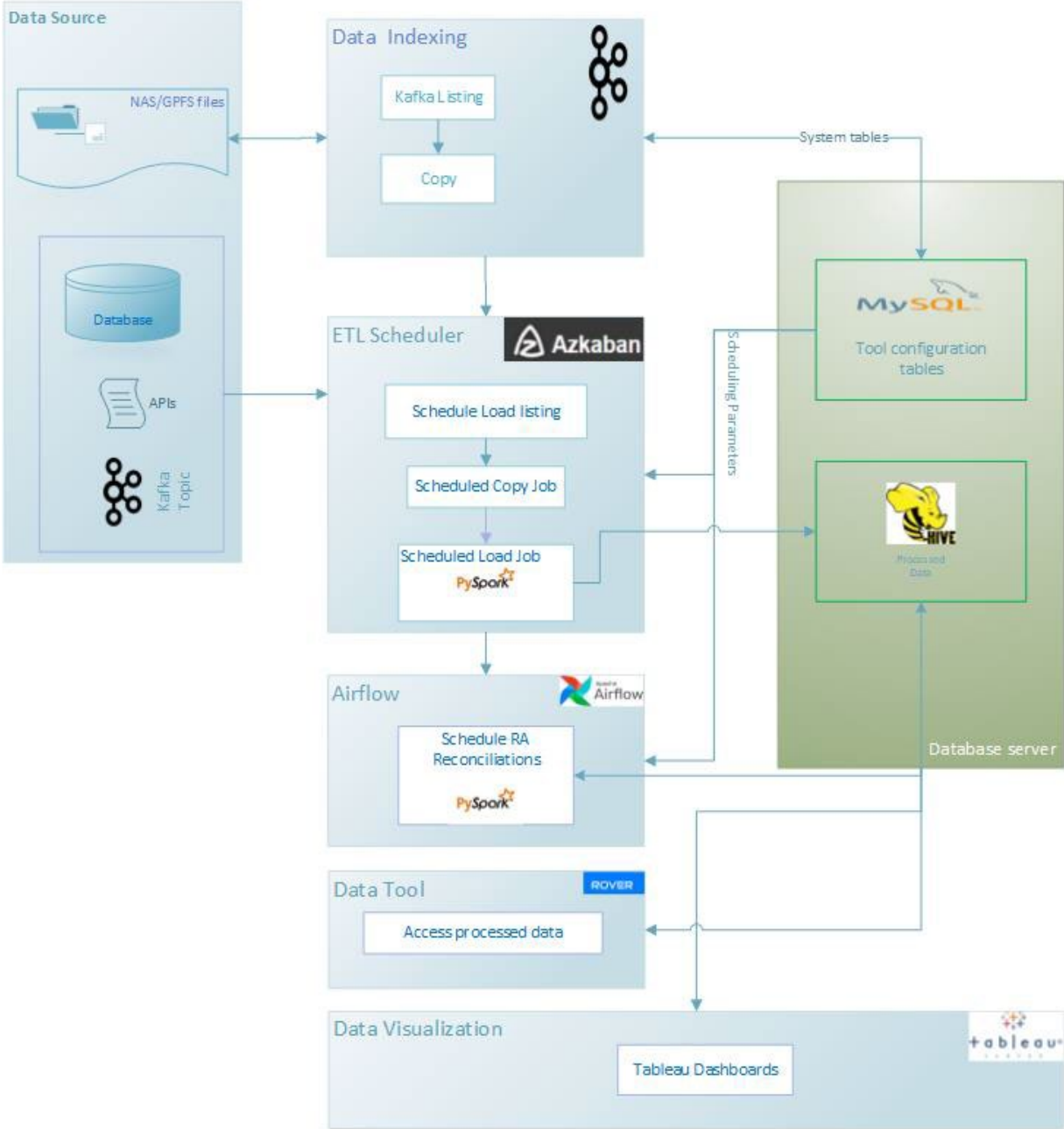


Figure 2 – JIO B2C System for Business Assurance Component level Architecture

## 2.3 JIO B2C System for Business Assurance – Benefits

- **Open-Source Technologies**
  - Cloud native architecture ensures each feature is independently developed, enhanced, and deployed with zero downtime.
- **Configurable**
  - Based on declarative principles where all components (File Collection, KPI Schedule) are independently designed and can be configured using Utility.
- **Compliance and Compatibility**
  - Compliance to TMForum ODA framework.
  - Entire application suit is enabled with 2FA on top of AD-OID authentication
  - JIBA application is Internal JIO security compliant as per the JIO security guidelines.
- **Data Collections**
  - Data can be read from Storage File system, DB Sync, Data Lake, Kafka, API with any data format like ASCII , JSON , ASN , Binary , XML , XLSX .
- **Fast Data Processing**
  - Data Processing is much faster than traditional way by using API's , Kafka , DB Sync , Data Lake.
- **KPI Execution**
  - Summarize data or aggregating data at the time data process which can be used directly in the KPI's or Reports for better performance.
  - Near real time KPI executions between sources which process near real time.
  - Rerating the records at the time of processing and using in rating validation KPI's for faster execution.
- **Dashboards**
  - Mobile APP dashboards to be published for management.
  - Online dashboard updates near real time.

Business Process Framework v23.5 – JIO B2C System for Business Assurance – Conformance Scope

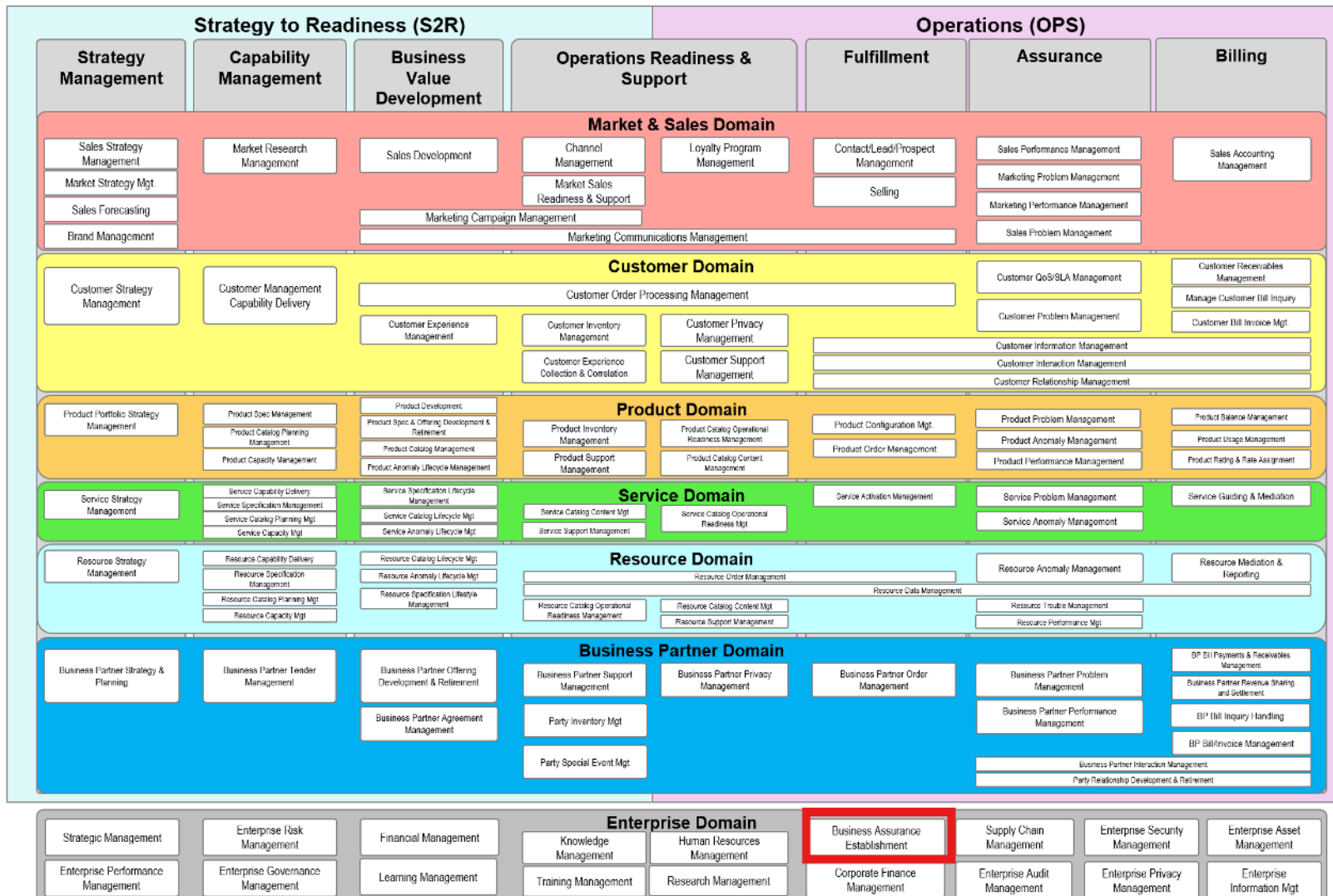


Figure 3 - Process coverage for JIO B2C System for Business Assurance - Conformance Certification

## 2.4 Information Framework Assessment - ABE Scope

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

### Information Framework (SID) - v23.5 – JIO B2C System for Business Assurance – Conformance Footprint

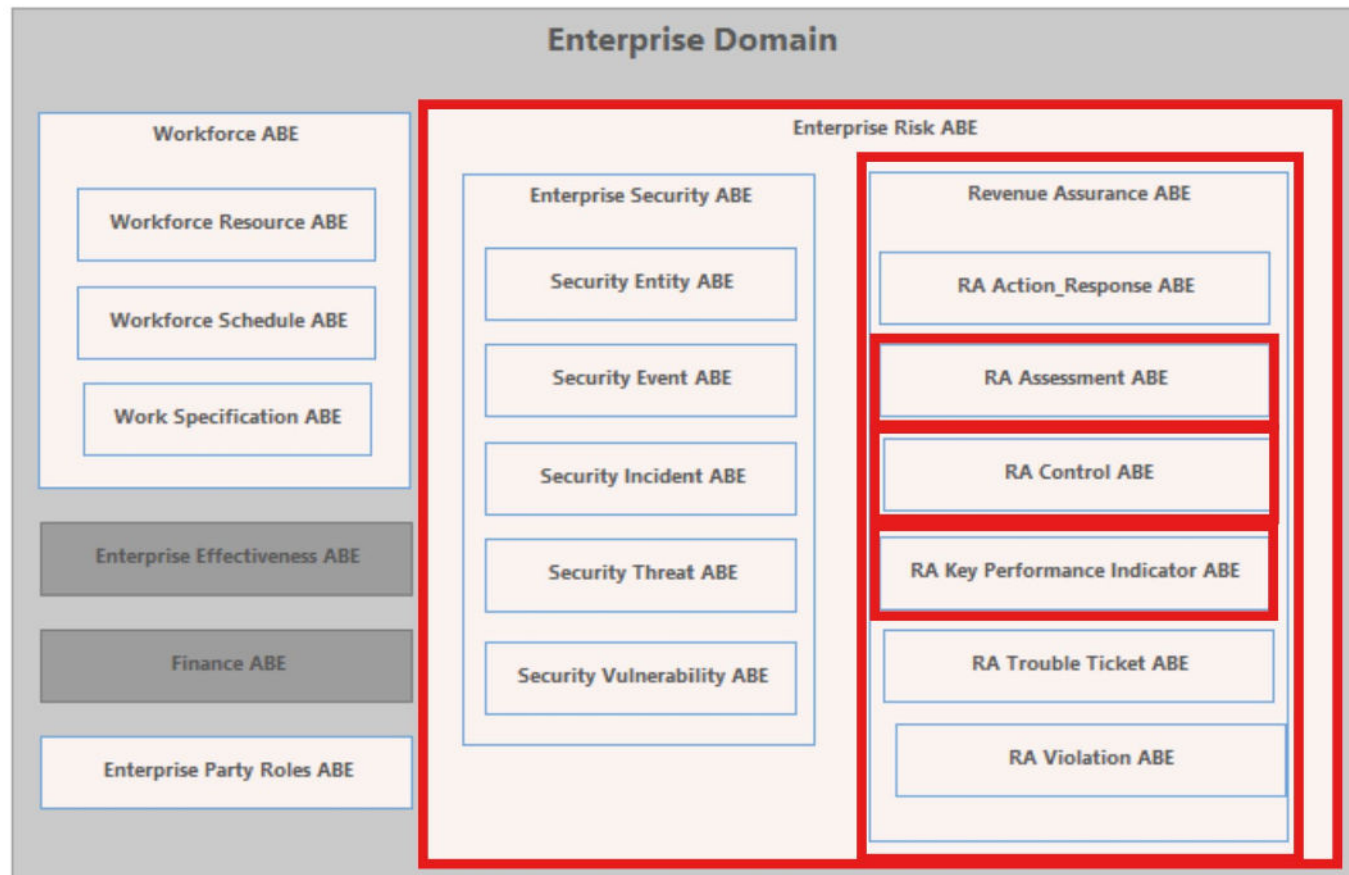


Figure 4 - Level 1 ABEs - SID coverage for JIO B2C System for Business Assurance Conformance Certification

### 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 3 or a Level 4 implied task within a process element:

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

#### Manual and Automated Support

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

#### TM Forum Note 1:

When process mappings are presented against Level 3 processes, such mappings are provided against the process’ extended description. If an Extended Description is not defined, then the mapping is provided against the Brief Description.

### 3.2 Scope of Conformance Certification (eTOM)

This document conveys information about the Business Processes implemented by for JIO B2C System for Business Assurance in accordance to the TM Forum Business Process Framework. It also maps the processes with the Level 2 and Level 3 frameworks' business activities. The document covers the following L3 Processes in scope for certification.

### 3.3 Scope of Conformance Certification – Business Assurance

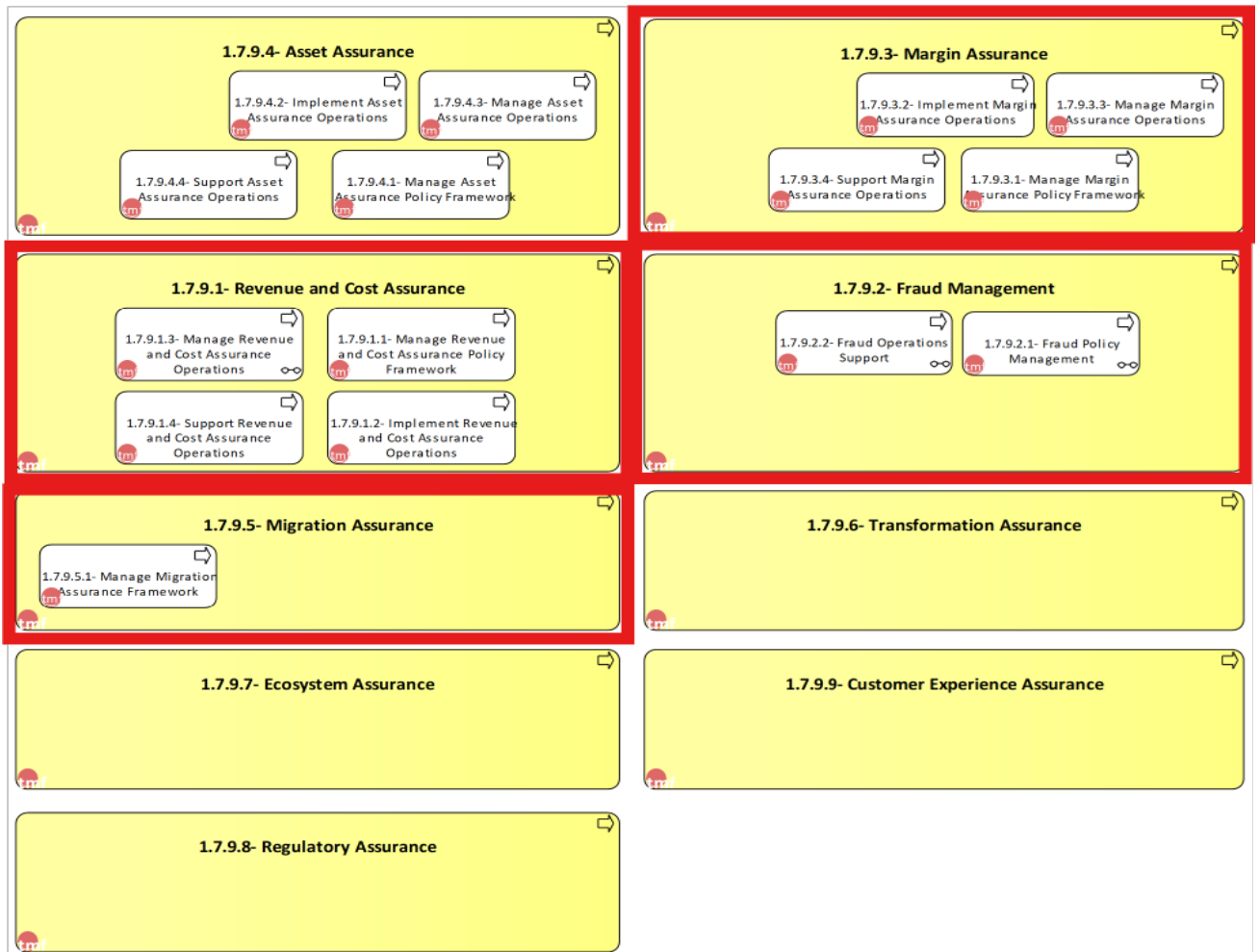


Figure 5- Business Assurance Establishment - Level 3 processes in scope for certification

### 3.4 Scope of Conformance Certification – Chart (eTOM)

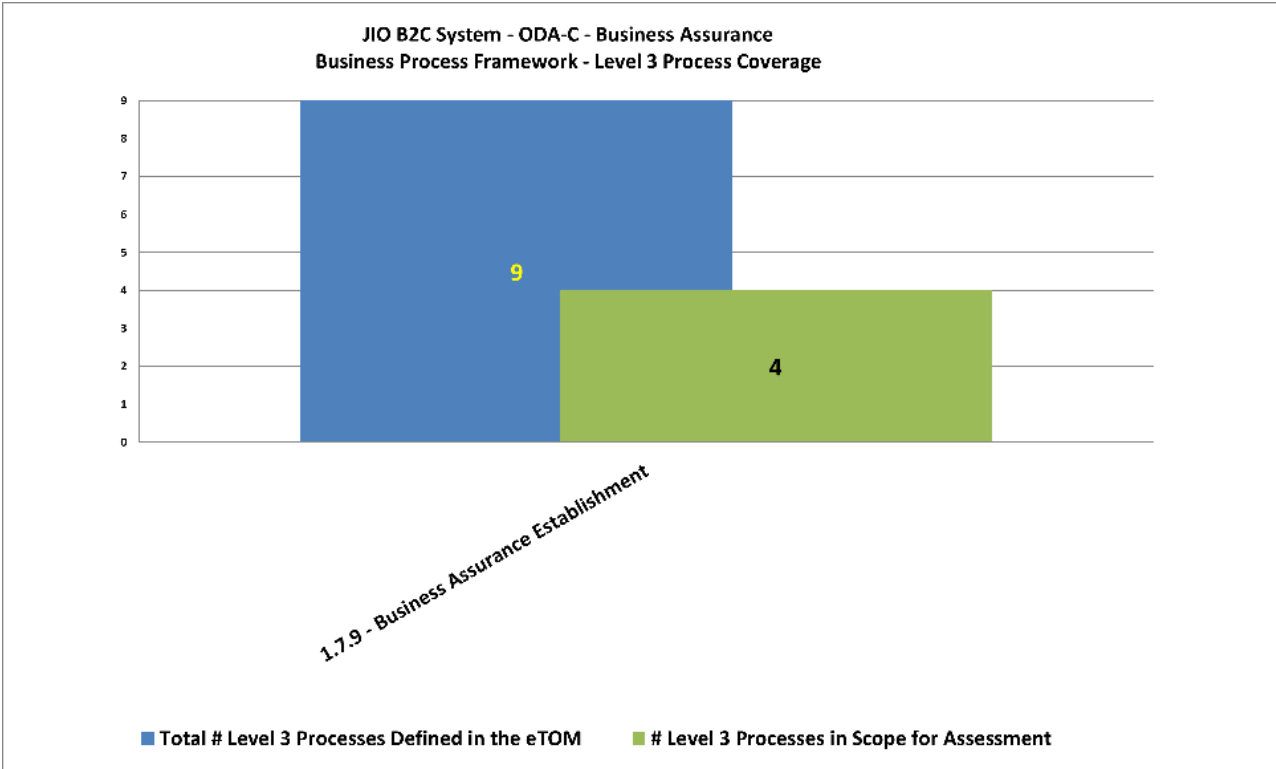


Figure 6- Level 3 process scope for certification

### 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 give 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 7- 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 B2C System - ODA-C - Business Assurance.

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/2024/09/eTOM-23.5\\_Conformance\\_Mapping\\_Template-JIO\\_B2C\\_System\\_ODA\\_C\\_BusinessAssurance\\_VFRF.pdf](https://www.tmforum.org/wp-content/uploads/2024/09/eTOM-23.5_Conformance_Mapping_Template-JIO_B2C_System_ODA_C_BusinessAssurance_VFRF.pdf)

### 3.7 Conformance Result

This Section details the Scores awarded to reflect Conformance to the Business Process Framework (eTOM).

TM Forum Assessment Scoping Document - Business Process Framework (eTOM) v23.5			
<i>Member:</i>		<i>JIO</i>	
<i>Product:</i>		<i>JIO B2C System - ODA-C - Business Assurance</i>	
<i>Assessment Type</i>		<i>Solution</i>	
<i># of L3 Processes in Scope:</i>		4	
<i>Level 1</i>	<i>Level 2</i>	<i>Level 3</i>	Level 3 Process Elements Scores achieved
<b>1.7 - Enterprise Domain</b>			
	<b>1.7.9 - Business Assurance Establishment</b>		
		<b>1.7.9.1 - Revenue and Cost Assurance</b>	5/5
		<b>1.7.9.2 - Fraud Management</b>	5/5
		<b>1.7.9.3 - Margin Assurance</b>	5/5
		<b>1.7.9.5 - Migration Assurance</b>	5/5

Figure 8- - eTOM Conformance Scores Summary

## 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)

SID Certification Scope JIO B2C System - ODA-C - Business Assurance = 4 ABEs	
L1/L2 ABEs	L2/L3 ABEs
<b>Enterprise Domain</b>	
Enterprise Risk ABE	Revenue Assurance ABE
Revenue Assurance ABE	RA Assessment ABE
Revenue Assurance ABE	RA Control ABE
Revenue Assurance ABE	RA Key Performance Indicator ABE

Figure 9- - SID Certification Scope

### 4.3 Information Framework Conformance Result

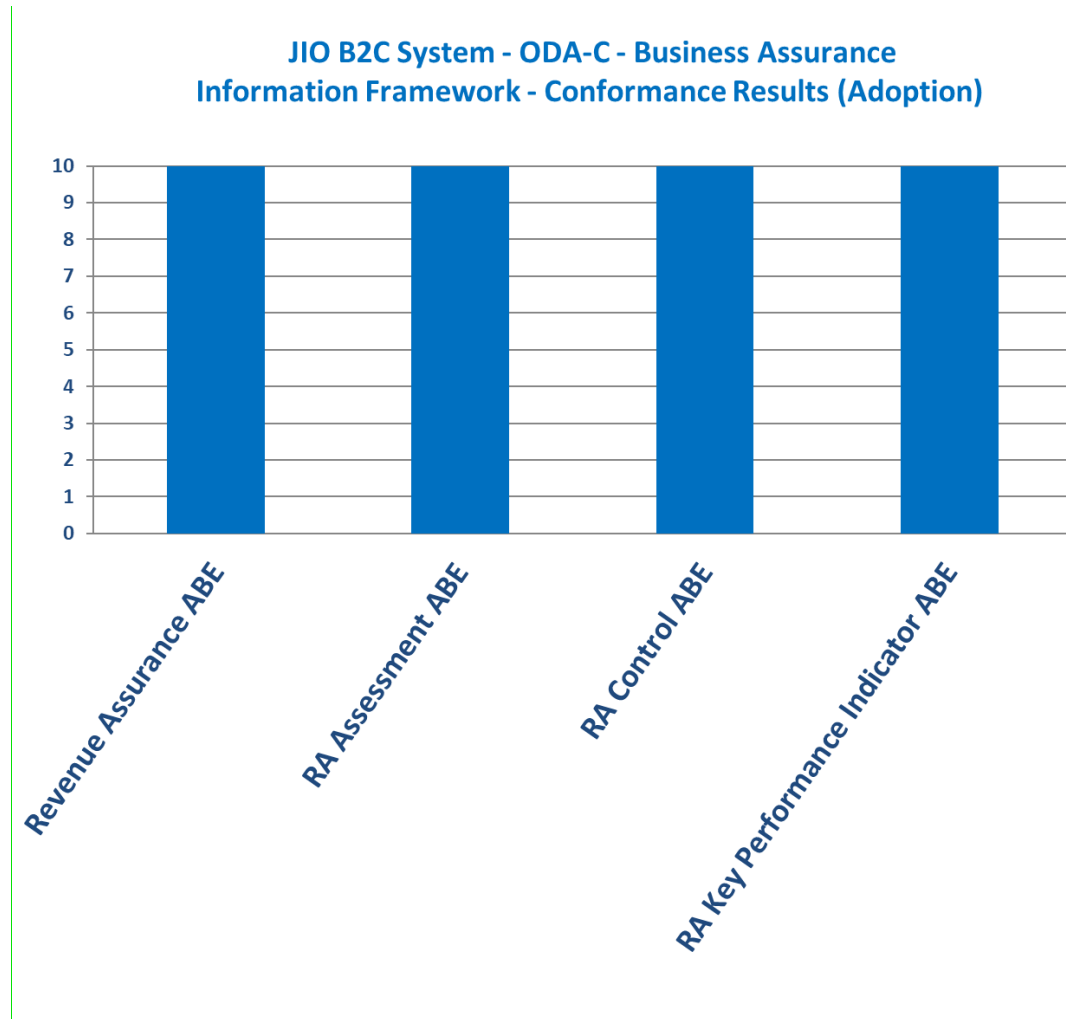


Figure 10 - Information Framework: Conformance Scores

### 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.

### 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.

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.

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><b>NOTES:</b></p> <ol style="list-style-type: none"> <li>The score values for each SID component are added together to get the overall Adoption Conformance score.</li> <li>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.</li> <li>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) &amp; Adoption Conformance score = 5.2 (Medium Conformance).</li> </ol>						

Figure 11 - 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.