Open Digital Architecture-eTOM 21.0 Product Conformance Certification Report

Tecnotree
DLM: Digital Loyalty Manager v 5.0

January 2022
Version 1.0

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1 Introduction

1.1 Executive Summary

This document provides details of Tecnotree self-assessment and TM Forum's Conformance Assessment of the **DLM: Digital Loyalty Manager v 5.0** against the following ODA-eTOM 21.0 components:

- Business Process Framework (eTOM) Version 21.0

The assessment included a review of:
- The methodology approach to process modeling against the TM Forum's Business Process Framework (eTOM) Release 21.0 according to the specific processes submitted in scope for the Assessment.

For more information on the Tecnotree DLM Product please contact:
marketing@tecnotree.com

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

2   Product Functionality/Capability Overview

2.1   DLM: Digital Loyalty Manager v 5.0 Platform Overview

Tecnotree Digital Loyalty Manager (DLM) provides a highly flexible and easy to use solution to enable operators to launch various loyalty programs. Loyalty programs can be launched for any of the Operator and Partner products/services. User friendly GUI enables operators to design, execute & track multiple programs at ease.

Loyalty programs can be fully customized to ensure operators can reward loyalty members for whatever actions they want members to take. DLM can reward members for any of the actions such as recharge, usage, bundle purchase, renewing, Mobile money transactions etc and engagement activities such as signup, writing reviews, referrals and sharing on social media. DLM allows tiered based programs which will create a sense of exclusivity and offer continuous positive reinforcement that keeps members close and unconcerned with competitor products.

DLM enables near real-time points earning for events as defined by operators, that can vary per tier. DLM also maintains multiple point accounts based on programs so that marketing can track the effectiveness of each program.

DLM integrates with 3rd party Digital systems such as CRM, Billing, Partner management, Catalogue & Order Management to provide a seamless experience to loyalty members. Loyalty API's of DLM enables easy integration to multiple channels. DLM ensures that customer experience is unified and seamless across multiple channels and touch points. Also, DLM enables "Transfer" of points to strengthen loyalty engagement within members and "Manual credit of points" to enhance satisfaction & stickiness.

DLM equips users with 360-degree loyalty member view which includes loyalty information and a detailed view of transactional activities such as points accumulation, redemption, and so on.

DLM enables marketing team to analyze the effectiveness of launched programs in terms of accumulation & redemption. Apart from this, Dashboard also provides trends on member enrolments, points accumulated & redeemed. These statistics will help marketing team to understand the impact of each program in terms of value being provided to members and fine tune the program based on analysis & feedback.
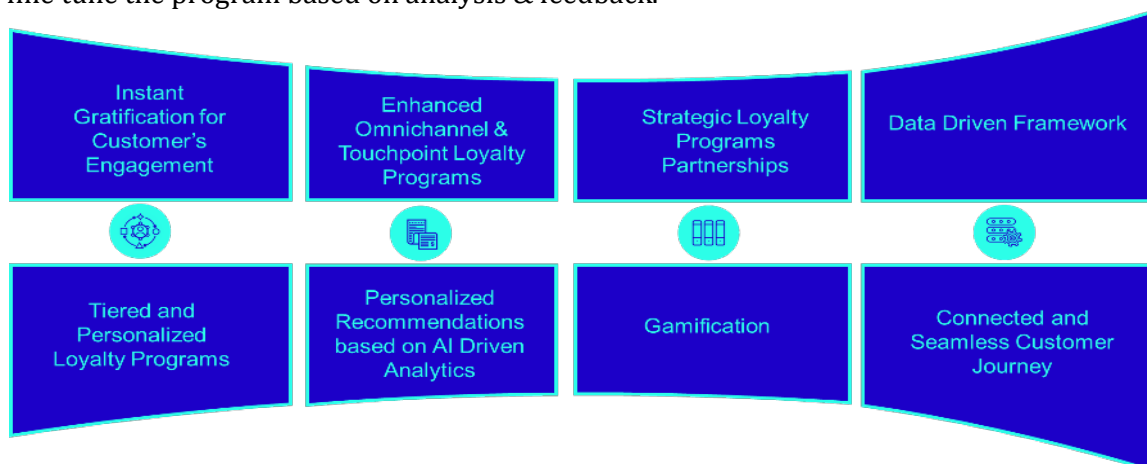

Figure 1 DLM: Digital Loyalty Manager Overview

The following are the key features of DLM v 5.0:

- Loyalty member enrolment & de-enrolment
- Loyalty tiers
- Automatic upgrade/downgrade of member's loyalty tiers
- Loyalty programs – Create, View & Terminate
- Operator & Partner programs
- Program wise points accumulation
- Program effectiveness
- Point accumulation by events
- Redemptions
- Multiple channel support
- Loyalty Member Management
- Increase Operational Efficiency because of TM Forum Open API based integration to channels & backend systems

2.1.1   About Tecnotree

Tecnotree is a global provider of telecom IT solutions for the management of products, customers and revenue. Tecnotree helps Communications Service Providers to transform their business towards a marketplace of modern and digital services. Tecnotree empowers service providers to monetize service bundles, provide personalized user experiences and augment value throughout the customer lifecycle. Tecnotree serves around 90 service providers in more than 70 countries. Tecnotree is listed on the main list of NASDAQ Helsinki with the trading code TEM1V.

Tecnotree has a well-defined and augmented portfolio of products that is in line with the vision of Digital Transformation for DSPs and one which can provide a smooth transition from CSPs to DSPs. The following table provides this digital strategy that Tecnotree has embedded in its portfolio of products.

Table 1 Tecnotree's Digital BSS Strategy

Tecnotree Digital Strategy		
Digital for Business	Continuous customer engagement through different channels to understand consumer behaviors and generate higher revenues	▪ Omni Channel ▪ Digital Marketplace ▪ Digital Wallet ▪ Advanced Campaigns ▪ Loyalty Monetization ▪ Personalize Experience
Digital for Technology	Providing Platforms and Tools to achieve agility for delivering Business goals	▪ Orchestration ▪ Open API ▪ Service Innovation ▪ Micro services ▪ Advance Analytics/ML

Tecnotree Digital Strategy		
		▪ Containerization
Digital for Operations	Automation of tasks and providing insights into process or business performance through guided application intelligence	▪ Self-Healing -ML ▪ Operations Anywhere APP ▪ Continuous Deployment ▪ Automated Fault Management ▪ Self-Monitoring

Below table highlights Tecnotree signatures for Digital BSS Suite 5.

Table 2 Tecnotree Digital BSS signatures

Tecnotree Digital BSS Signatures	
Mobile First	Tecnotree's strategy is to move from Mobile too to Mobile first experience. Mobile native Apps are provided for partners, DSP's marketplace managers and consumers.
Omnichannel Enabled	Extending Omni channel experience which is all about creating an Omni-present and consistent experience across all channels.
Open APIs	Opening Partner ecosystem through Open API's and monetization capabilities with Seamless integrations
Reduced TCO	▪ Open source technical stack eliminates expensive license cost ▪ Standardized services increase reusability and reduce overall cost ▪ Improved performance and availability reduce the downtime
Cloud-Native	Embracing Cloud-Native technologies helps in selecting the right future-proof stack among the rapidly evolving options is critical and cannot wait
Micro-services Orchestration	Achieving Agility, Reusability, Self-Governing, Cohesiveness, Testability, Deploy-ability, Scalability, and high Availability
Incremental feature improvements	Continuous Delivery as the means of fast delivery of incremental features
AI Enabled	▪ AI Enabled digital products providing deep insights about Customers, Partners, Services/Products ▪ Adding intelligence to ease Operations
Self-healing	Proactive Managed Services through Self-Healing based on AI & ML capabilities
Automated fault management	Through Fault Tolerant and Resilient solution
Auto Scaling	Capability to augment capacity on demand basis

2.2 DLM: Digital Loyalty Manager v 5.0 Platform Benefits

The following diagram provides the key value proposition of DLM 5.0:

	Enabler	Description
	Interactive 360 Degree Sub-Profiles	• Quick snapshot and detailed view • Unique 360-degree view per subscriber • Perform actions right away
	Payments through Loyalty Points	• Postpaid bill payments can be made through Loyalty points • Converting points into monetary amount • Deducting the points used for payment from the available points balance
	Bulk credit of Loyalty points	• Manual credit of Loyalty points in bulk to multiple subscribers • File upload in csv format
	Partner Program Management	• Multi-Partner (Telco/Non-Telco) Loyalty program • Exchange Rules for Partner Loyalty • Partner Product Catalog
	Enterprise Loyalty Program	• Enhanced Loyalty Program for Enterprise • Flexible Accumulation & Redemption Rules for Enterprise Hierarchy

	Enabler	Description
	Gamification	• Leader Boards • Rewards & Offers • Raffle (Lucky Draw)
	Accumulation and Segmentation	• Loyalty Points Accumulation • Automatic Customer Segmentation based on loyalty Points Accumulation
	Loyalty Analysis	• Report on Enrolments • Loyalty effective analysis
	Rewards	• Partner products/services, Postpaid bill adjustment, Vouchers, Discounts, Gifts, etc • Rewards – "Points only", "Points plus voucher" – different for each channel
	Notifications	• Execute multi-channel loyalty strategy through notifications • Notify through SMS, Flash SMS and USSD

Figure 2 DLM 5.0 value proposition

tmforum.org

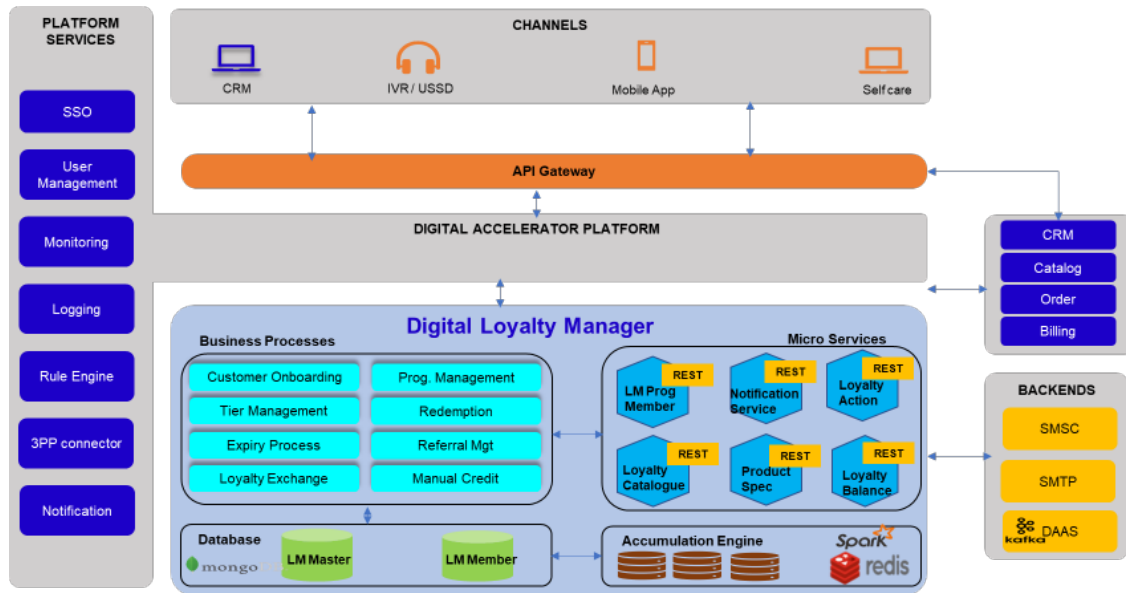## 2.3 DLM: Digital Loyalty Manager v 5.0 Modules

Figure 3 DLM Architecture

2.4 DLM - Digital Loyalty Manager v 5.0 Supported Installation Models

The following installation models are applicable for DLM – Digital Loyalty Manager v 5.0:

DLM application is based on Containerization and uses the Docker Containerized model.
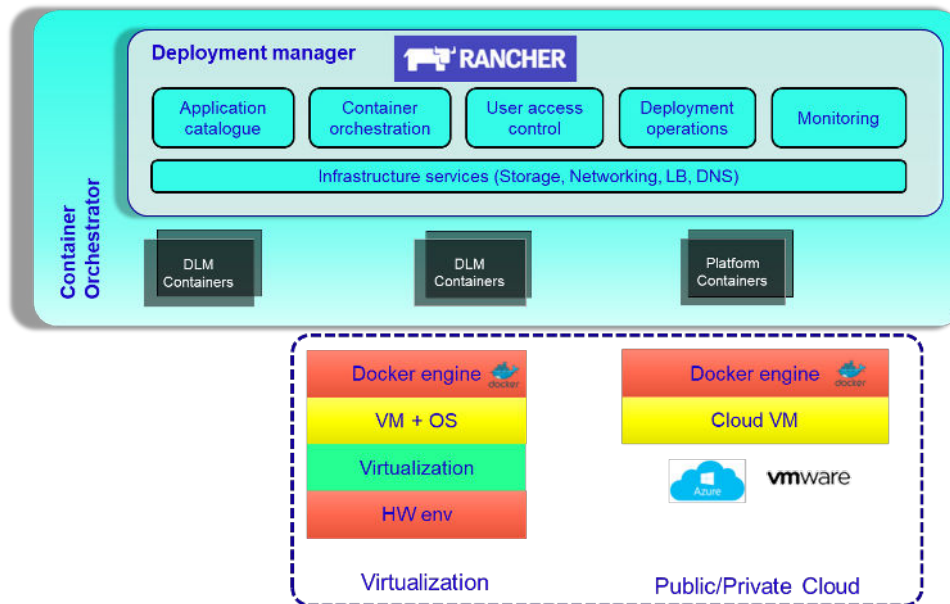

Figure 4 DLM Installation Models

2.5 Product Scope

The following diagram depicts the scope of DRM that includes the functional modules, the NFRs (Non Functional Requirements) and the cross-module features.

Presentation Layer
Web-based user interface to Create Loyalty Point Reward Programs, Tier Configuration, Master data definition, Service wise Earn point definition Reports & Dashboards

Workflow Modeler & Orchestrator
Web used user interface to define business process workflow - comprises of Tasks, Gateways, Events and sub processes

Reward Management Engine
Powerful engine to provide capabilities like Loyalty Program Management, Event Based Loyalty Point Accumulation, Redemption, Computation Rules, Automatic Upgrade/Downgrade of Loyalty Tiers, Transfer Points, Historical data of Loyalty Points, Referral Management, Reward Posting – Data Bundle, Promo Code

Data Persistence Layer
Stores all the information about Referrals & Customer Loyalty Programs

Monitoring Layer
24*7 Monitoring, Alarm Generation, Send Notifications, High Availability, Scalability, Logging
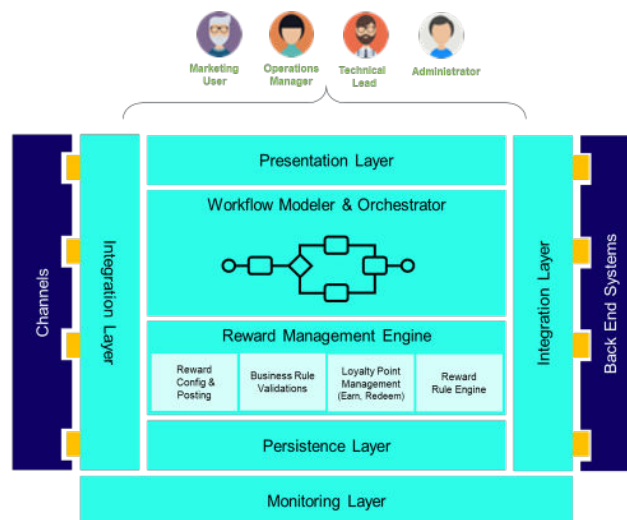
Figure 5 DLM Scope

2.6 Business Process Framework Level 2 Process Scope

The following figure on next page represents the Business Process Framework Level 3 processes that were presented in scope for conformance certification.

Level 3
1.1.19.1 - Loyalty Program Development & Retirement
1.1.19.2 - Loyalty Program Operation
1.3.1.4 - Support Retention & Loyalty
1.3.4.1 - Enable Retention & Loyalty
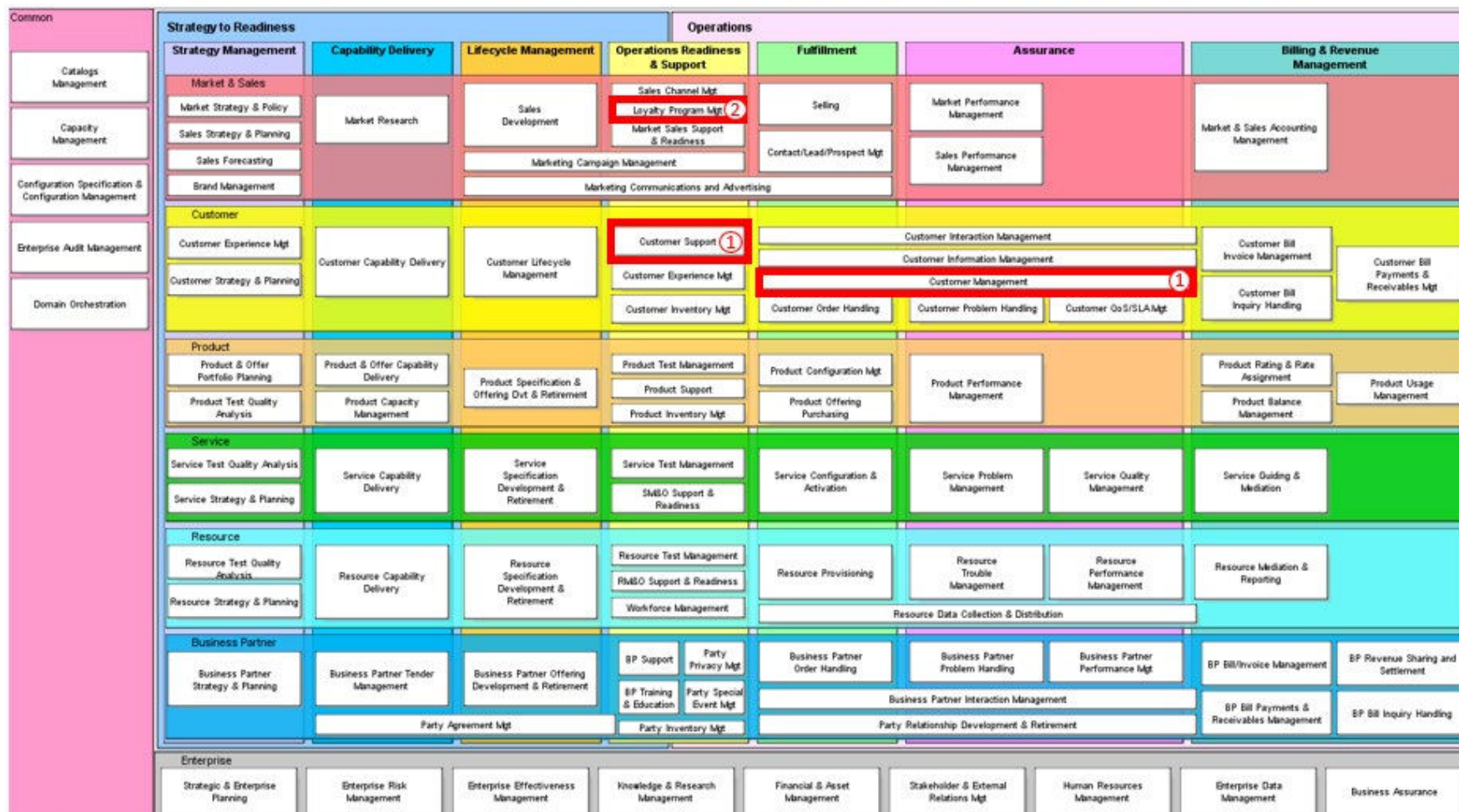
Figure 6 eTOM DLM Scope

3 Business Process Framework Assessment Overview

3.1 Mapping Technique Employed

Business Process Framework Level 3 descriptions are analyzed by focusing on implied tasks also referred to as implied functional requirements. (This is similar to how process decomposition can use Semantic Analysis). Each Business Process Framework process is supported by descriptive text. In many cases, each process is aligned and mapped to appropriate company documentation references solution, methodology or modeling material.

Color coded text as highlighted below is used as part of the process mapping whereby highlighted text indicates the level of support for a Level 4 process implied task:

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

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

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

Manual and Automated Support

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

TM Forum Note 1:

When process mappings are presented against Level 4 processes, the mappings are most often provided against the text in the "Mandatory" field for the process. In the event of the Mandatory field not being defined in the eTOM specification, the process mappings are in that case provided

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

TM Forum Note 2:

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

3.2 Scope of Conformance Certification (eTOM)

This document conveys information about the Business Processes implemented by Tecnotree's DLM - Digital Loyalty Manager v 5.0 in accordance to the TM Forum Frameworks Version 21.0. It also maps the processes with the Level 2 and Level 3 frameworks Activities. The document covers the following five L3 Processes under Resource Provisioning.

3.3 List of Certified Processes– Chart (eTOM)

TM Forum Assessment Scoping Document - Business Process Framework (eTOM) v21.0		
Member:	**Tecnotree**	
Product:	**DLM: Digital Loyalty Manager**	
Assessment Type	**Product**	
Number of L3 Processes in Scope:	**4**	
Level 1	**Level 2**	**Level 3**
1.1 - Market / Sales Domain		
	1.1.19 - Loyalty Program Management	
		1.1.19.1 - Loyalty Program Development & Retirement
		1.1.19.2 - Loyalty Program Operation
1.3 - Customer Domain		
	1.3.1 - Customer Support	
		1.3.1.4 - Support Retention & Loyalty
	1.3.4 - Customer Management	
		1.3.4.1 - Enable Retention & Loyalty

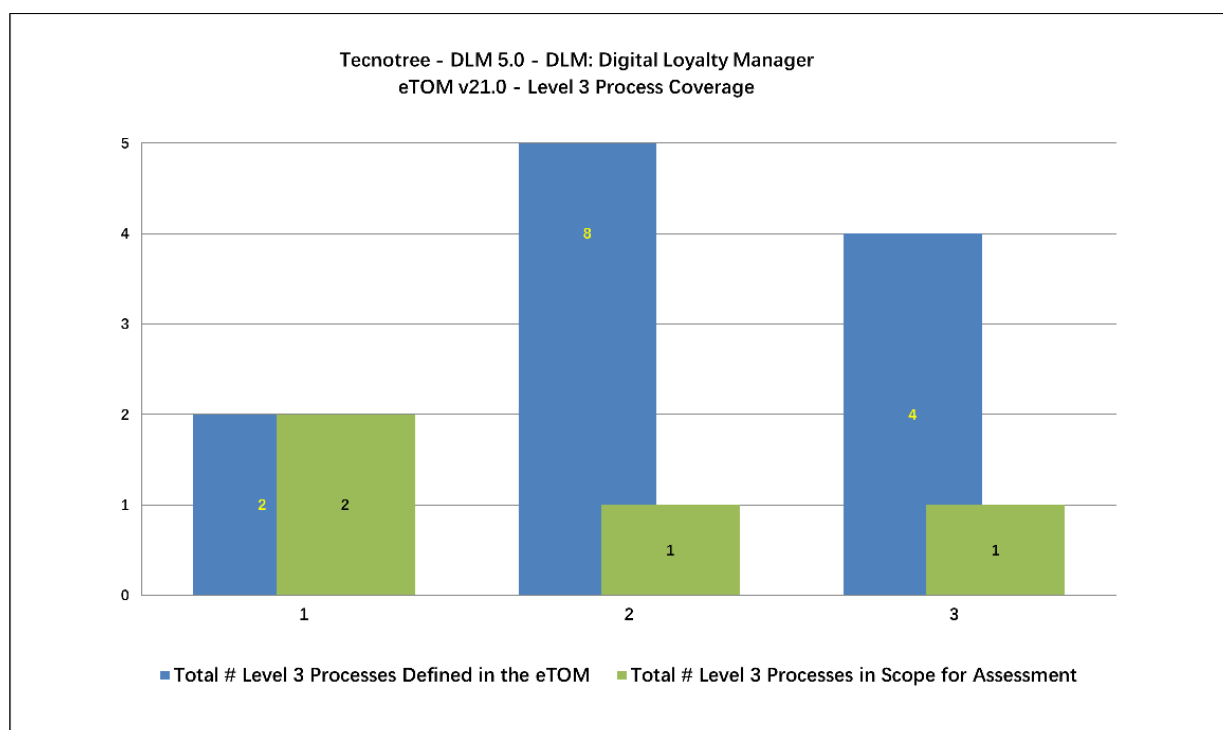**Figure 7- Level 3 List of process certified**

Figure 8- Level 3 process scope for certification

3.4 Business Process Framework – Scoring Guidelines

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

Business Process Framework - Conformance Certification Methodology		
Process Level	**Conformance Score**	**Qualifier**
Level 1 Process	*Not applicable*	Conformance Assessment shall not be carried out at this process level.
Level 2 Process	*Not applicable*	A conformance level is not awarded to Level 2 processes in Frameworx Certification. The Certification Report shall highlight the coverage within a Level 2 process submitted in scope for an Assessment, in terms of number of Level 3 processes submitted for assessment out of the total number defined in the Business Process Framework for the Level 2 process.
Level 3 Process	Conformance Score is awarded between 3.1 & 5.0	The Conformance Score is awarded for each Level 3 process submitted in scope for the Assessment. The Conformance Score awarded can be a value between 3.1* & 5 depending on the level of coverage & conformance to the Level 3 process based on the alignment to the level 3 Implied Tasks as decomposed in the Level 4 process definitions. If a Level 3 process has not been decomposed to Level 4 processes, the Level score is awarded according to alignment to the Level 3 defined Implied Tasks.
Level 4 Process	*Level of conformance is calculated as input to parent Level 3 Process Score*	Levels of conformance are calculated for Level 4 processes according to alignment to the individual implied tasks. Level 4 scores are summed and averaged to given an overall score for the parent Level 3 process.
* In earlier Conformance Assessments, scores were awarded to Level 1 & Level 2 processes using values 1 through to 3. For this reason, the Level 3 scores start from > 3.		
Additional Notes		
Note 1 - Level 1 processes shall be presented to define the assessment scope only. i.e. they shall not be assessed as self-contained processes since the level of detail is not considered sufficient. A conformance level shall not be awarded for Level 1 processes.		
Note 2 - Level 2 processes shall be presented to define the assessment scope only. i.e. they shall not be assessed as self-contained processes since the level of detail is not considered sufficient. A conformance level shall not be awarded for Level 2 processes. However, the Certification Report shall provide good indication of the coverage of the Level 2 process in terms of number of contained Level 3 processes submitted in scope for the Assessment.		
Note 3 - The Conformance Assessment shall be carried out at process level 3 (if there are no level 4 process elements defined for a specific level 3 in scope) or at level 4 (if there are level 4 process elements defined for a specific level 3 in scope). For each Level 3 process (when there are no level 4 processes available), conformance shall be deduced according to the documented support for the process implied tasks. For each Level 4 process (when available), conformance shall be deduced according to the documented support for the process implied tasks, as decomposed and described in the Level 4 process descriptions. The score awarded for a Level 3 process, is deduced according to the support mapped to the Level 4 processes/Implied Tasks.		
Note 4 - In evaluating conformance to the standards, manual intervention shall not impact the conformance score granted. However, any level of manual support shall be noted in the Conformance Report and Detailed Results Report. This note specifically applies to Product & Solution Assessments.		
Note 5 - Processes that are supported via manual implementation only, are not considered in scope for the Assessment. This note specifically applies to Product & Solution Assessments.		

Figure 9- TM Forum Business Process Framework: Conformance Scoring Rules

3.5 Business Process Framework – Process Mapping Descriptions

This section provides the mapping of Business Process Framework v21.0 against the processes performed by Tecnotree's DLM - Digital Loyalty Manager v 5.0.

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

3.5.1 Market/Sales & Customer Domains

3.5.1.1 *Mapping Details & Supporting Evidence*

The documented mapping information for all Level 3 processes in scope for the '1.1 – Market /Sales' and '1.3 – Customer' domains is available from this link.

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

1.1 - Market / Sales Domain
     1.1.19 - Loyalty Program Management
          1.1.19.1 - Loyalty Program Development & Retirement
          1.1.19.2 - Loyalty Program Operation
1.3 - Customer Domain
     1.3.1 - Customer Support
          1.3.1.4 - Support Retention & Loyalty
     1.3.4 - Customer Management
          1.3.4.1 - Enable Retention & Loyalty

3.6 Conformance Result

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

TM Forum Open Digital Architecture v.21.0 Assessment Scoring Document - Business Process Framework (eTOM)			
Company:		Tecnotree	**Certification Final Scores for Level-3 Process Elements**
Product:		DLM: Digital Loyalty Manager	
Assessment Type:		Product	
Number of L3 Processes in Scope:		4	
Level 1	Level 2	Level 3	
1.1 - Market / Sales Domain			
	1.1.19 - Loyalty Program Management		
		1.1.19.1 - Loyalty Program Development & Retirement	5
		1.1.19.2 - Loyalty Program Operation	5
1.3 - Customer Domain			
	1.3.1 - Customer Support		
		1.3.1.4 - Support Retention & Loyalty	5
	1.3.4 - Customer Management		
		1.3.4.1 - Enable Retention & Loyalty	5

Figure 10- - eTOM Conformance Scores Summary

3.7

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 Tecnotree's DLM - Digital Loyalty Manager v 5.0. 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)

Tecnotree - DLM 5.0 - DLM: Digital Loyalty Manager
eTOM v21.0 - Level 3 Process Scores
1.1 - Market / Sales Domain & 1.3 - Customer Domain
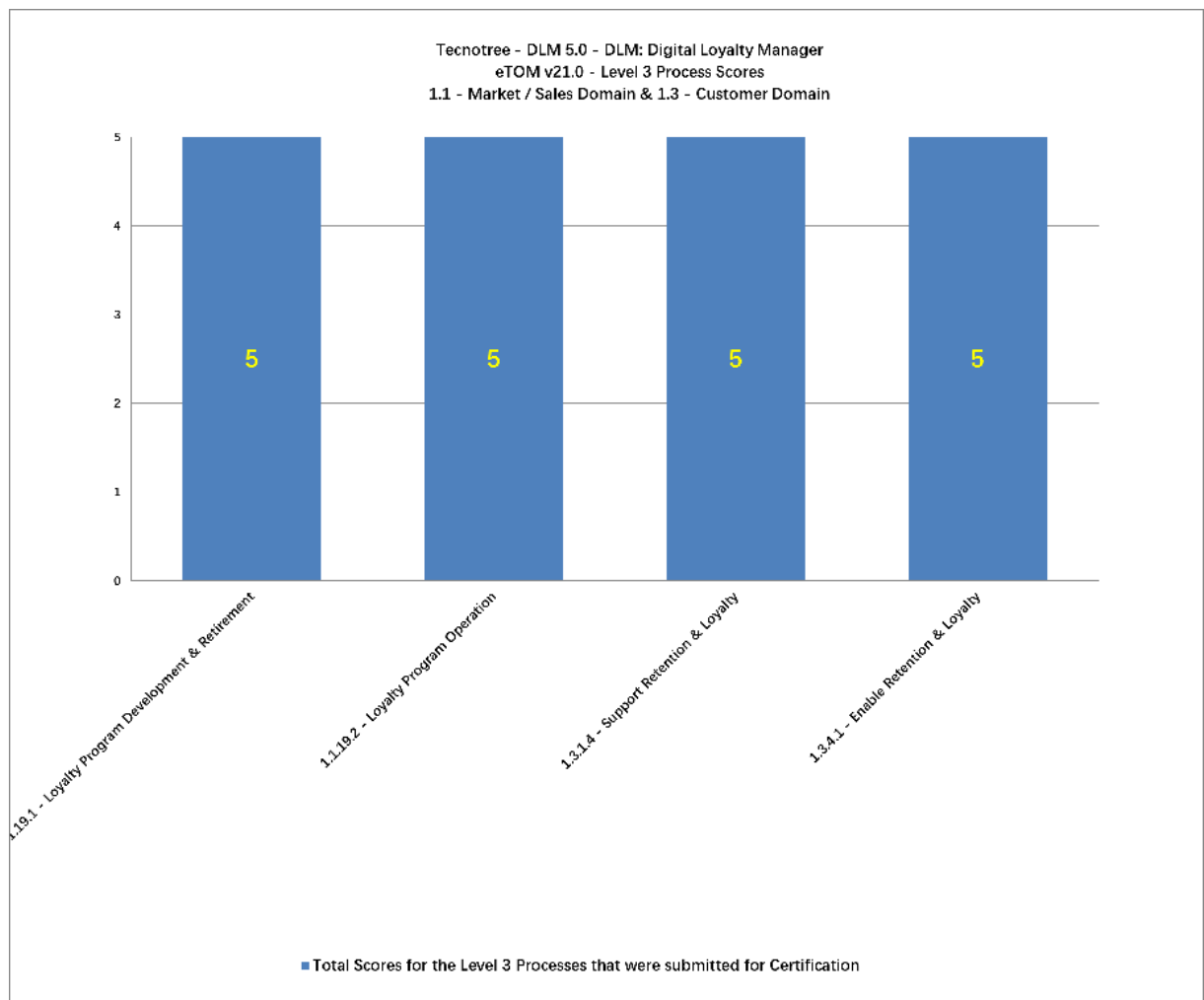
■ Total Scores for the Level 3 Processes that were submitted for Certification

Figure 11- eTOM Conformance Scores

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