tmforum

Frameworx 12
Product Conformance
Certification Report

Portugal Telecom Inovação, S.A.

NOSSIS Suite V2.0

October 2012

Table of Contents

List of Tables

List of Figures

1   Introduction

1.1   Executive Summary

This document provides details of Portugal Telecom Inovação's self-assessment and TM Forum's Conformance Assessment of **Portugal Telecom Inovação's NOSSIS Suite**, against the following Frameworx 12 components:

- Business Process Framework Version 12

- Information Framework Version 12

The assessment included a review of:

- The methodology approach to product modeling and Product Lifecycle Management (PLM) against the TM Forum's Business Process Framework Release 12 according to the specific processes submitted in scope for the Assessment.

- Conformance to the Information Framework Release 12 Domains/Aggregate Business Entities according to the specific ABEs submitted in scope for the Assessment.

2   Product Functionality/Capability Overview

2.1   Portugal Telecom Inovação NOSSIS SUITE Version 2.0 – Product Overview

Portugal Telecom Inovação NOSSIS is a Suite of fully integrated OSS products, designed according TM Forum Frameworx guidelines. It helps Service Providers to manage multi-technology and multiservice networks, and to simplify the implementation of their Operation Processes, including Network Project and Construction, Service Provisioning, Problem Management and Quality of Service processes.
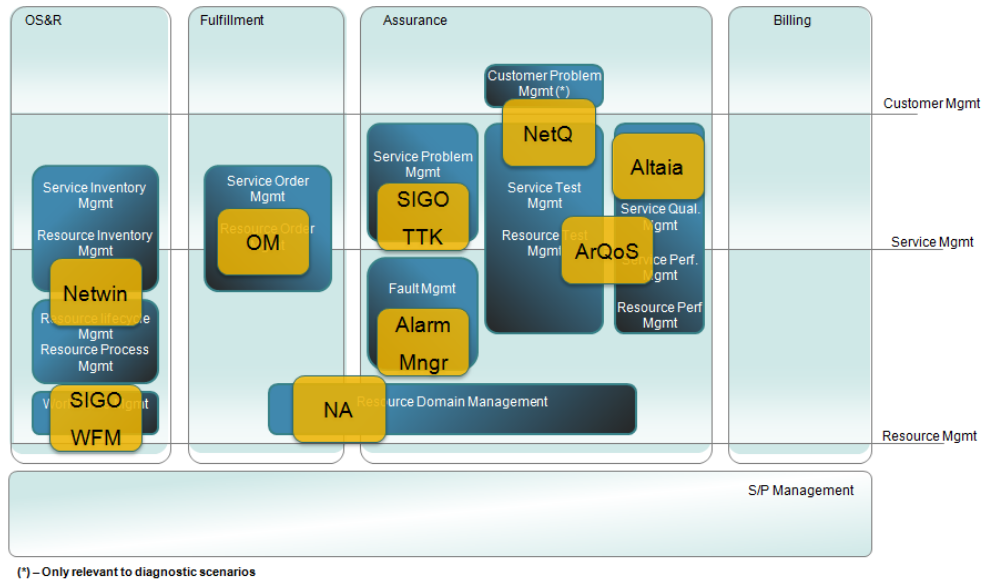
Figure 2.1 PT Inovação NOSSIS Suite

The suite enables enterprise process automation, with an integrated and complete view of all resources and activities, minimizing operational costs, and contributing to a faster and effective operational response time. The main NOSSIS benefits include:

- Maximizing operational efficiency
- Reducing maintenance times and costs
- Improving problem resolution responses
- Reducing service activation times
- Increasing end customer satisfaction levels

NOSSIS Suite covers end-to-end operational processes through its modular architecture, and can be integrated with other products available on the market, including BSS and OSS solutions. Offers functional and scalability features that allows managing new technologies, services, networks, etc. This means it easily handle growth in terms of new business models with a very aggressive time to market service deployment and in terms of organizational efficiency.

The Portugal Telecom Inovação NOSSIS Suite V2.0 products, presented for certification, focus on the 'Quality of Service' process. The aim of this process is to provide both passive (collection of resource indicators and probes) and active (taking network and service usage measurements using probes) performance monitoring, detection of SLA violations and production of reports and indicators.

The process starts receiving resource performance indicators (at preset intervals) and indicators from (intrusive and non-intrusive) probing systems and then generates QoS metrics for the resources and services. It analyses and compares metrics with SLA thresholds and if it detects any degradation in the services or resources it generates a degradation or violation event. Where possible, it controls the resources in order to minimize any degradation it has detected. Finally, it reports indicators to planning, operations or external entities (such as regulators), amongst others.
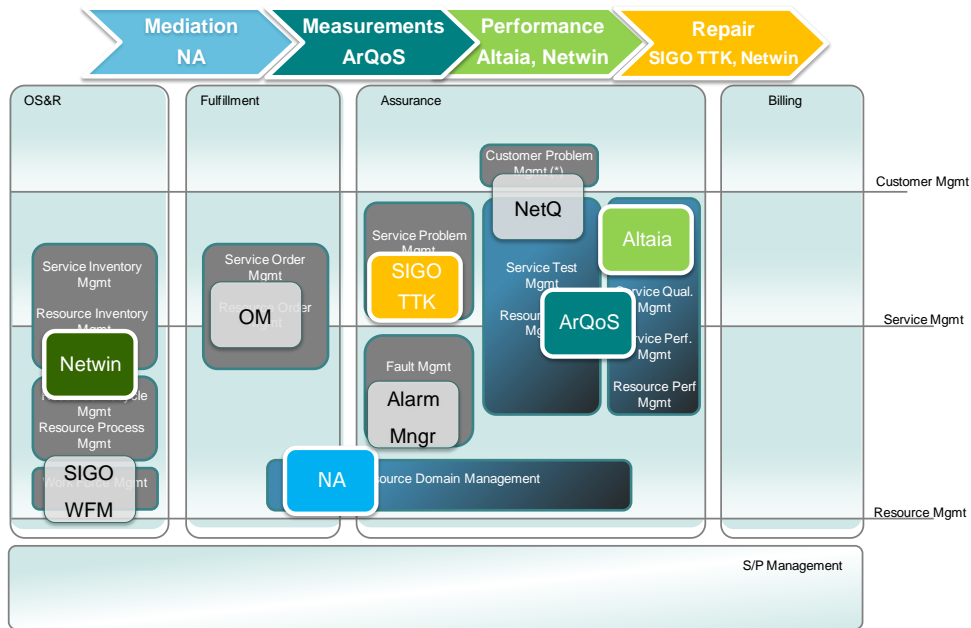
Figure 2.2 Quality of Service – products involved

The diagram in Figure 2.2 highlights the NOSSIS products involved in Quality of Service process main activities, namely:

- Altaia , for Quality and Performance Management;
- ArQoS, for Service and Resource Test Management;
- Network Activator (NA), for Network Mediation;
- Netwin, for Project, Construction and Inventory;
- Sigo TTK, for Problem Management.

3   Business Process Framework Assessment Overview

3.1   Mapping Technique Employed

Business Process Framework L3 descriptions are analyzed by looking for implied tasks. (This is similar to how process decomposition can use Semantic Analysis). Each eTOM 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.

The eTOM L3 descriptions are analyzed by looking for implied tasks. 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 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.

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).

3.2 Business Process Framework - Level 2 Process Scope

The following figure represents the Business Process Framework Level 2 processes that were presented in scope for the assessment, and the textual callouts represent the components of the Portugal Telecom Inovação NOSSIS Suite that were assessed and support the corresponding eTOM processes according to the results in Chapter 6 Frameworx Conformance.
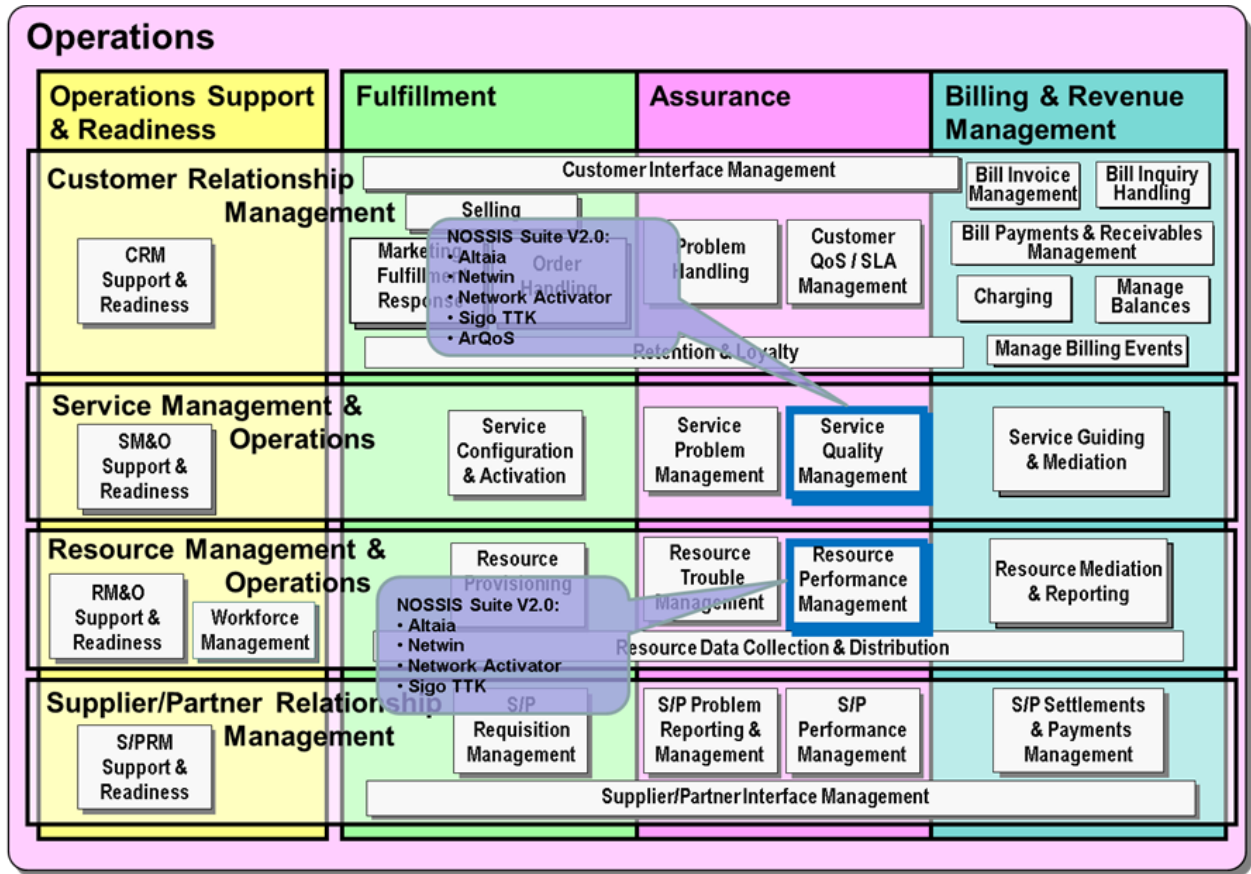
Figure 3.1 Business Process Framework 12 – Level 2 process coverage for NOSSIS V2.0 Assessment

The following diagram identifies the number of Level 3 processes that were submitted for assessment, for each Level 2 process that was submitted in scope for the Assessment.
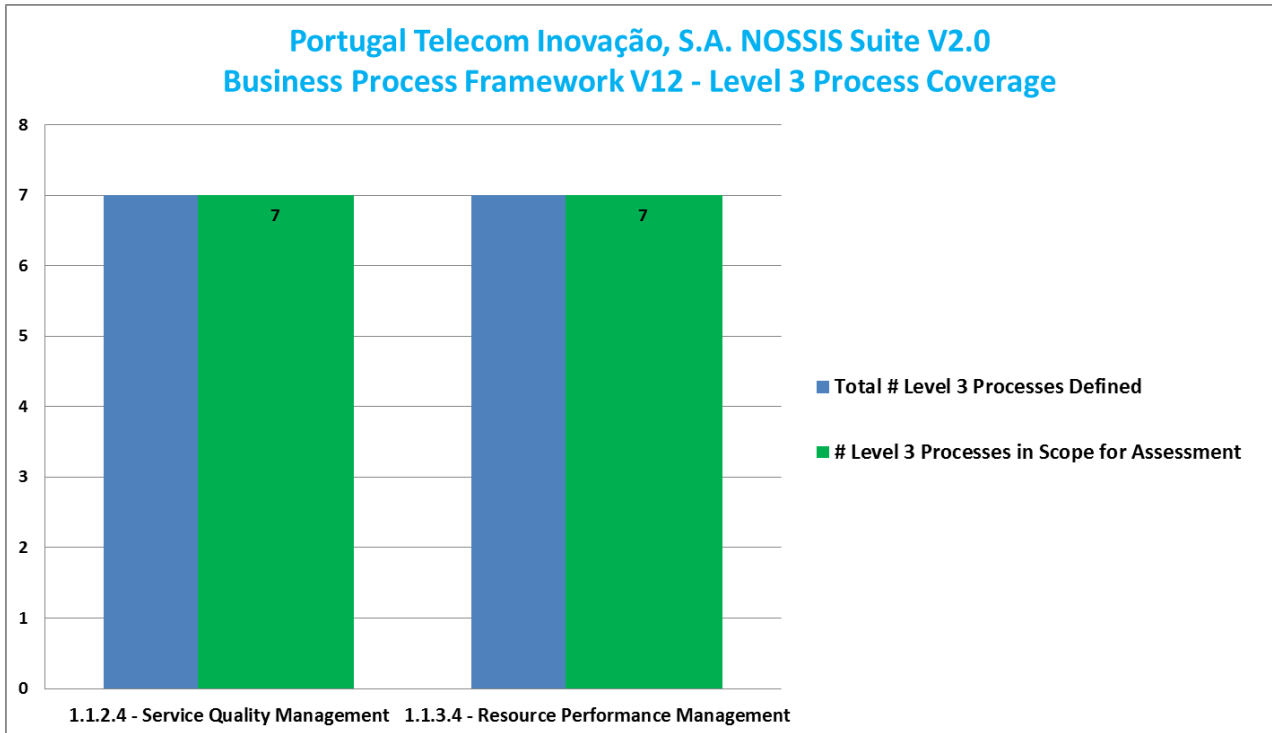
Figure 3.2 Level 3 process coverage for NOSSIS V2.0 Assessment

3.3   Product Scope

The diagram in Figure 3.3 represents the Portugal Telecom Inovação NOSSIS Suite and how it is mapped to the Business Process Framework processes that were assessed as part of this Frameworx Conformance Assessment.
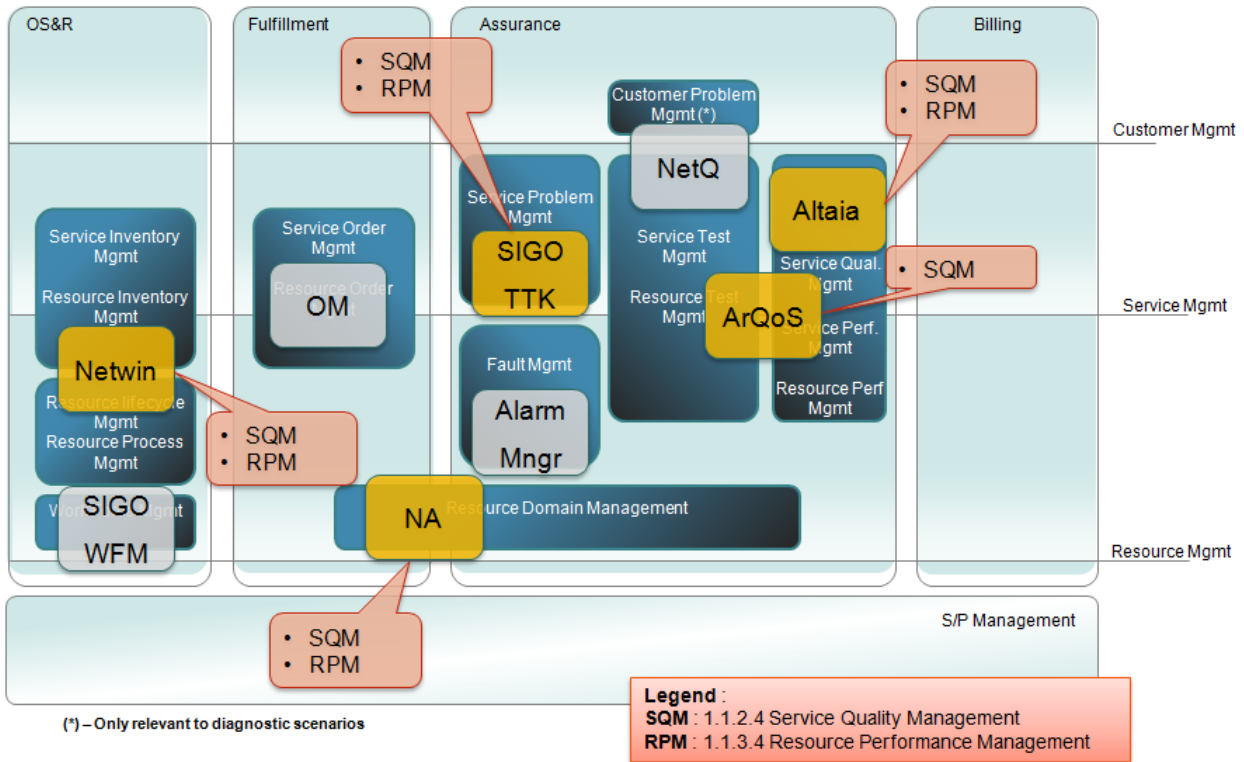
Figure 3.3 NOSSIS Suite V2.0 Product Footprint – Product Scope for eTOM Assessment

4   Business Process Framework – Process Mapping Descriptions

This section provides the Process Mapping output from Portugal Telecom Inovação's Self-Assessment which was reviewed by TM Forum Subject Matter Experts alongside supporting documentation for the Portugal Telecom Inovação NOSSIS Suite.

4.1   Service Management & Operations [1.1.2]

4.1.1   Service Quality Management [1.1.2.4] - Mapping Details

4.1.1.1 Monitor Service Quality (1.1.2.4.1)

Table 4.1 Monitor Service Quality (1.1.2.4.1) Mapping Details

LEVEL 3 PROCESS MAPPING DETAILS 1.1.2.4.1 Monitor Service Quality
Brief Description Monitor received service quality information and undertake first-in detection **A** (Supported by Network Activator (NA) and Altaia. First in detection and collection is made by Network Activator. Altaia monitors received service quality information. [TD_Overview] C5.5 P56 about NOSSIS in E2E Quality of Service Process; [TD_Overview] C4 P19 about NOSSIS Products (Altaia(P32), Network Activator(P24), ArQoS(P34) e Netwin(P20)); Further details covered within the body of the Extended Description Mapping.) **Extended description** The objective of the Monitor Service Quality processes is to monitor received service quality information and undertake first-in detection. **A** (First-in detection and collection is made by Network Activator. The monitor of received service quality information is made by Altaia. See details below. [TD_NA] C6.5 P30 for Data Collection; [TD_ALTAIA] C6.5 P30 about Configuration of entities to be monitored; [TD_ALTAIA] C6.1.2 P24 about several monitoring components.)   The responsibilities of the processes include, but are not limited to: · Undertake the role of first in detection and collection by monitoring and logging the received specific service performance quality data; **A**

(First in detection and collection is made by Network Activator and Altaia and is taken in two steps:

- first step : Network Activator logs full service performance data in data source connected with Altaia DBN0, according with :
[TD_NA] C6.5 P30 for Data Collection;
[TD_NA] C5.1 P24 see interface description for NA-Altaia;

- second step : Altaia access DBN0 data, monitors, analyze and log the result in DBN1 according with:
 [TD_ALTAIA] C6.1.2 P24 for the "Collector" Component;
[TD_ALTAIA] C6.5 P30 about metrics calculation and management.)

· Comparing the received specific service performance quality data to performance quality standards set for each specific service (available from the Service Inventory); **A**

(Comparing the received data to performance Quality standards is achieved by Altaia through thresholds analysis, via threshold module, according with:
[TD_ALTAIA] C6.6 P31 for Threshold management;
[TD_ALTAIA] C4.1 P17 for use cases examples.

The set of Performance Quality standards are implemented as 'metrics' in Altaia, and are defined by metrics module. The values to be compared with are thresholds, according with :
[UM_ALTAIA] C4.4 P30 for Metrics Management;
[TD_ALTAIA] C6.5 P30 for Metrics definition.

 The Services can be available by integration to a Service Inventory System (like Netwin) or through network discovery functions, available at Altaia Mediation, according with:
[TD_NA] C6.4 P29 about Discovery Functions;
[TD_ALTAIA] C5.1 P21 about Inventory Integration – interface Altaia with Netwin.)

· Assessing and recording received specific service performance quality data which is within tolerance limits for performance quality standards, and for which continuous monitoring and measuring of performance is required; **A**

(Assessing and recording data is done by Network Activator, according with:
[TD_NA] C5.1 P24 about interface description for NA-Altaia.

Rules (including tolerance limits for continuous monitoring and measuring) for data collection are defined in Network Activator, according with:
[TD_NA] C3.2.7 P17 about rules configuration in Network Activator.

Network Activator validates the data collected to ensure that it is within the tolerance Limits for performance Quality standards, according with:
[TD_NA] C3.2.7 P17 about the configuration of the rules that govern the loading of data into database.)

· Recording the results of the continuous monitoring for reporting through the Report Service Quality Performance processes; **A**

(The performance quality data results are recorded by Altaia in DBN1, according with :
[TD_ALTAIA] C5.1 P21 about interface description for NA-Altaia;
[TD_ALTAIA] C6.5 P30 for metrics definition and calculation;
[UM_ALTAIA] C4.4 P30 For metrics Management.

Report Service is available in Altaia portal, through the reporting modules, according with:
 [TD_ALTAIA] C6.2 P27 for performance reports.)

· Detect performance quality threshold violations which represent specific service failures due to abnormal performance; **A**

(Detection of performance quality threshold violations is made by Altaia threshold module, according with:
[TD_ALTAIA] C6.6 P31 about configuration and management of thresholds;
[TD_ALTAIA] C6.7 P34 about displaying and managing alarms;
[TD_ALTAIA] C4.1 P17 for use cases examples.)

· Pass information about specific service failures due to performance quality threshold violations to Service Problem Management to manage any necessary restoration activity as determined by that process; **A**

(Every time a performance quality threshold violation occurs, a performance violation alarm appears in Altaia Alarm Manager Module. Also a performance violation Alarm is notified to external Problem Management system (SIGO TTK), in order to manage any necessary restoration or repair activity, according with :
[UM_ALTAIA] C4.8 P113 about managing alarms;
[TD_ALTAIA] C5.1 P21 about interface description for Altaia-SIGO TTK;
[TD_ALTAIA] C4.1 P17 for use cases examples.)

· Pass information about potential specific customer SLA/QoS performance degradations arising from specific service quality performance degradations (using knowledge about service to purchased product offering linkages) to Problem Handling to manage any necessary restoration activity as determined by that process; **A**

(Services contained in a product and the clients of these services are available in the inventory system, Netwin, according with:
[TD_Netwin] C6.5 P65 for services and resources information via Inventory API.

Altaia identifies potential SLA/QoS performance degradations, comparing metric data with thresholds, according with :
[TD_ALTAIA] C4.1 P17 for use cases examples.

An external system (e.g Customer QoS/SLA Management) have access to service quality degradation information (through performance alarm notifications) and information about the service (including potential specific customer reference, through Netwin inventory), according with:
[TD_ALTAIA] C5.1 P21 about interfaces descriptions for Altaia-Alarm Manager and Altaia-Sigo TTK.)

· Detect performance degradation for specific services which provide early warning of potential issues; **A**

(Detection of Performance degradation for specific services is made by Altaia through threshold violation applied for specific entity, according with:
[TD_ALTAIA] C6.6 P31 for threshold management.

All potential issues are threshold violation alarms managed in Altaia Performance Alarm Module, according with:
[TD_ALTAIA] C5.1 P21 about interface description for Altaia-Alarm Manager;
[TD_ALTAIA] C6.7 P34 displaying and managing alarms;
[UM_ALTAIA] C4.8 P113 about managing alarms.)

· Forward service performance degradation notifications to other Service Quality Management processes, which manage activities to restore normal specific service performance quality; and **A**

(Every time a performance degradation occurs, Altaia Performance Alarm module is notified, in order to start activities to restore normal service performance quality.
Notification Profiles are configured initially in Altaia, by a manual activity. After that the system operates automatically. Afterwards it's possible to adjust manually the configuration at any time, if necessary, and the system still operating automatically adopting the new one.
[TD_ALTAIA] C6.7 P34 for Display, analyze and investigate the cause of degradation and manage alarms;
[TD_ALTAIA] C5.1 P21 see interface description for Altaia-SIGO TTK.)
[UM_ALTAIA] C4.5.6 P70, about notification profiles.

· Log specific service performance quality degradation and violation details within the repository in the Manage Service Inventory processes to ensure historical records are available to support the needs of other processes. **A**

(Specific service performance quality degradation and violation details are logged at Altaia Performance Alarm module, according with:
[TD_ALTAIA] C6.7 P34 about displaying and managing alarms;
[UM_ALTAIA] C4.8 P113 about managing alarms;
[TD_ALTAIA] C5.1 P21 see interface description for Altaia-Alarm Manager.)

The processes also perform automated service testing using simulated calls simulating standard user behavior, and collect data related to service usage which may supply information to other processes (i.e. marketing, service cost, etc) and identify abnormal usage by the service users (i.e. bad

passwords, terminal configurations, etc). **A**

(Service testing is available at ArQoS product. Simulated calls (including standard user behavior) are available and are known in ArQoS as 'Intrusive Tests', according with:
[TD_ArQoS] C6.3 P37 about running Intrusive Test.

The result of ArQoS service usage data, generated by simulated calls (by intrusive tests) or normal usage too (by non intrusive probing), will be collected by ArQoS and available to Altaia through a specific interface available between both systems, according with:
[TD_ArQoS] C6.4 P47 about collected data from service normal usage (non intrusive probing);
[TD_ArQoS] C5.1 P29 see interface description for ArQoS-Altaia.

The service usage information generated by ArQoS is also available to other processes and systems.
 ArQoS will identify abnormal usage of the service, according with:
[TD_ArQoS] C5.1 P29 see interface description for ArQoS-Alarm Manager;
[TD_ArQoS] C6.1.7 P36 about ArQoS Alarms & Thresholds.)

4.1.1.2   Analyze Service Quality (1.1.2.4.2)

Table 4.2 Analyze Service Quality (1.1.2.4.2) Mapping Details

LEVEL 3 PROCESS MAPPING DETAILS 1.1.2.4.2 Analyze Service Quality
Brief Description Analyze and evaluate the service quality performance of specific services **A** (Supported by Altaia. Altaia metrics are calculated over service quality performance data and compared with service quality performance thresholds. When a degradation or violation occurs an alarm is generated and managed by Altaia Alarm Manager Module. [TD_Overview] C5.5 P56 about NOSSIS in E2E Quality of Service Process; [TD_Overview] C4 P19 about NOSSIS Products (Altaia(P32)). Further details covered within the body of the Extended Description Mapping.) **Extended description** The purpose of the Analyze Service Quality processes is to analyze the information received from the Monitor Service Quality process to evaluate the service quality performance of specific services.**A** (Supported by Altaia. Altaia metrics are calculated over service quality performance data and compared with service quality performance thresholds. When a degradation or violation occurs an alarm is generated and managed by Altaia Alarm Manager Module. [UM_ALTAIA] C4.5 P41 about thresholds configuration and management; [TD_ALTAIA] C4.1 P17 for use cases examples; [UM_ALTAIA] C4.8 P113 about displaying and managing alarms.) Using the data from Monitor Service Quality, these processes will correlate events in order to filter repetitive alarms and failure events that do not affect the quality delivered, and they will calculate key service quality indicators, (such as Mean Time Between Failures and other chronic problems). **A** (Altaia events result from calculation of metrics and the application of thresholds. These events identify both situations: the ones that affect the quality delivered and the ones that do not affect it. Altaia Alarm Manager Module correlates the events according with several aspects, for example the number of occurrences. [UM_ALTAIA] C4.8 P113 about alarm management, more specifically C4.8.1 refers to the main alarms window that correlates repetitive alarms, represented in number of occurrences field: '#'. With Altaia metrics and thresholds it's possible to calculate several key service quality indicators. More complex thresholds, like multi-metric and/or composed thresholds, help to correlate several indicators and generate new ones (for example Mean Time Between Failures). [UM_ALTAIA] C4.5.3 P55 about multi-metric thresholds;

[UM_ALTAIA] C4.5.4 P59 about composed thresholds.)

The responsibilities of the processes include, but are not limited to:

· Undertaking analysis as required on specific service performance information received from the Monitor Service Quality processes; **A**

(Altaia analyses the data from Monitor Service Quality processes using metrics calculation and thresholds. Both (metrics and thresholds) could be simple or more complex, like multi-metric and/or composed.
[UM_ALTAIA] C4.4 P30 about metrics management;
[UM_ALTAIA] C4.5 P41 about thresholds management.)

· Initiating, modifying and cancelling continuous performance data collection schedules for specific services required to analyze specific service performance. These schedules are established through requests sent to the Enable Service Quality Management processes. **A**

(Network Activator provides the data performance collection management, configuring tasks and scheduling it.
Data collection tasks and schedules are configured initially in Network Activator, by a manual activity. After that the system operates automatically. Afterwards it's possible to adjust manually the configuration at any time, if necessary, and the system still operating automatically adopting the new one.
[AM_NA] C3 P12, and more specifically:
-    C3.3 P16, to scheduling tasks (mainly to collect, process and insert data in database DBN0);
-    C3.4 P18, about Data Collection Tasks.)
-    C3.6 P21, about linking data collection tasks and schedules.

· Determining the root causes of specific service performance degradations and violations; **A**

(The Correlation engine of Altaia Alarm Manager module correlates events, to determine if there's a root cause. When a root cause exists the event is issued and an alarm is generated in Alarm Manager module, associating the correlated events.
[UM_ALTAIA] C4.8.4.3 P142 about correlation and root cause detection.)

· Recording the results of the analysis and intermediate updates in the Service Inventory for historical analysis and for use as required by other processes; and **A**

(Altaia records all analysis results, or other service intermediate updates, in DBN1 and provides means to query that information. This data remains available to be consulted by other systems too.
[UM_ALTAIA] C4.9.3.2 P155 and C4.9.3.3 P156 about historic data navigation;
[TD_ALTAIA] C5.1 P21 about interfaces, with Planning and Other Systems.)
[TD_ALTAIA] C6.1.2 P25, about Altaia framework component "Altaia Data Warehouse".

· Undertaking specific detailed analysis (if the original requested came from Customer QoS/SLA Management processes) to discover the root cause of customer QoS performance degradations that

<mark>may be arising due to interactions between service instances, without any specific service instance having an unacceptable performance in its own right.</mark> **A**

(It's possible to configure specific metrics/thresholds in Altaia to undertake specific detailed analysis, even to detect situations where the service instance it's not having an unacceptable performance (e.g. SLA violation).
[UM_ALTAIA] C4.4 P30 about configuration and management of Metrics;
[UM_ALTAIA] C4.5 P41 about configuration and Management of Thresholds.

The Correlation engine of Altaia Alarm Manager module correlates events, to determine if there's a root cause;
[UM_ALTAIA] C4.8.4.3 P142 about correlation and root cause detection.)

4.1.1.3 Improve Service Quality (1.1.2.4.3)

Table 4.3 Improve Service Quality (1.1.2.4.3) Mapping Details

LEVEL 3 PROCESS MAPPING DETAILS 1.1.2.4.3 Improve Service Quality
Brief Description Restore the service quality to a normal operational state as efficiently as possible. **AM** (Supported by Altaia and Sigo TTK. Once identified an abnormal service quality state that needs to be improved, Altaia interacts with Sigo TTK to create a ticket. Improvement plans starts in Altaia with definition of 'procedures' and are sent to Sigo TTK at the time of ticket creation. Sigo TTK manages the activities needed to improve service quality performance. If applicable, services could be re-assigned or have parameters re-configured through Network Activator. [TD_Overview] C5.5 P56 about NOSSIS in E2E Quality of Service Process; [TD_Overview] C5.4 P47 about NOSSIS in E2E Problem Management Process; [TD_Overview] C4 P19 about NOSSIS Products (Altaia(P32), Sigo TTK(P27),Network Activator(P24)); Further details covered within the body of the Extended Description Mapping.) **Extended description** The objective of the Improve Service Quality processes is to restore the service quality to a normal operational state as efficiently as possible. **AM** (Supported by Altaia and Sigo TTK. Once identified an abnormal service quality state that needs to be improved, Altaia interacts with Sigo TTK to create a ticket. Improvement plans starts in Altaia with definition of 'procedures' and are sent to Sigo TTK at the time of ticket creation. Sigo TTK manages the activities needed to improve service quality performance. If applicable, services could be re-assigned or have parameters re-configured through Network Activator. [UM_ALTAIA] C4.8.4.2 P141 and C4.8.2.8.6 P130 about procedures; [TD_ALTAIA] C5.1 P21, see interface description for Altaia - SIGO TTK; [TD_SigoTTK] C6.1.2 P31, about problem management.) These processes follow service improvement plans specified by the supplier/partner, or use service improvement plans developed by the service provider. Where appropriate service improvement plans are not available these processes are responsible for developing appropriate service improvement plans. **AM** (Improvement plans starts in Altaia, regardless of who specify it (supplier/partner, service provider, …). If there's no appropriate service improvement plan available for a certain situation, Altaia Alarm Manager Module provides the ability to configure one. [UM_ALTAIA] C4.8.4.2 P141 about procedures configuration.)

Where activity to improve service quality performance is likely to impact other in-use specific services, this process is responsible for providing appropriate notification of the improvement proposal and ensuring authorization is received to proceed with the service improvement plan. When the service improvement activity is about to commence, these processes are responsible for notifying when service improvement activity is commencing and when it is completed. **AM**

(When necessary, Sigo TTK has the capacity to notify the right entity ('s) with the improvement proposal, asking for an authorization to proceed with it. Sigo TTK assigns a participation to the team responsible for the authorization, and changes the ticket status for 'Pending'.
[TD_SigoTTK] C6.1.2 P31 about participation types and trouble ticket status.

Sigo TTK provides several types of notifications, particularly when the improvement activity begins and when it is completed.
[TD_SigoTTK] C6.3 P38 about Sigo TTK notifications.)

Based on the information determined within the Analyze Service Quality processes and the nature of the specific service degradation, these processes may possibly re-assign services or re-configure service parameters. **A**

(Network Activator accepts requests from Sigo TTK (Problem Management System) to perform some tasks like re-assign or re-configure service, that contribute to bring resource/service instances to normal operation.
[TD_NA] C5.1 P24, see interface description for Network Activator - SIGO TTK;
[TD_SigoTTK] C5.1 P26, see interface description for SIGO TTK - Network Activator.)

4.1.1.4   Report Service Quality Performance (1.1.2.4.4)

Table 4.4 Report Service Quality Performance (1.1.2.4.4) Mapping Details

LEVEL 3 PROCESS MAPPING DETAILS 1.1.2.4.4 Report Service Quality Performance
Brief Description Monter the status of service performance degradation reports, provide notifications of any changes and provide management reports. **A** (Supported by Altaia. All the service quality performance status monitoring is made by Altaia. Notifications and report generation on it are also supported by Altaia. [TD_Overview] C5.5 P56 about NOSSIS in E2E Quality of Service Process; [TD_Overview] C4 P19 about NOSSIS Products (Altaia(P32)). Further details covered within the body of the Extended Description Mapping.) **Extended description** The objective of the Report Service Quality Performance processes is to monitor the status of service performance degradation reports, provide notifications of any changes and provide management reports. **A** (Once service performance degradation is detected, notifications are sent by Altaia Alarm Manager Module. This module also manages and monitors the status of service performance degradation reports. [TD_ALTAIA] C6.7 P34 about display, analysis and management of alarms; [UM_ALTAIA] C4.8.2 P118 about managing alarms; [UM_ALTAIA] C4.5.6 P70 about Notification profiles configuration. Altaia Reports Module provides reports for all the service performance history data and also reports could be generated over all performance degradation events. [UM_ALTAIA] C4.8.3 P135 about Altaia Reports Module.)   These processes are responsible for continuously monitoring the status of service performance degradation reports and managing notifications to other processes in the SM&O and other process layers, and to other parties registered to receive notifications of any status changes. Notification lists are managed and maintained by the Enable Service Quality Management processes. **A** (Altaia monitors service performance reports status changes through Altaia Alarm Manager Module. [UM_ALTAIA] C4.8.2 P118 about managing alarms. Notification profiles could be configured in Altaia. Notifications can be sent to other systems or other entities. [UM_ALTAIA] 4.5.6 P70 about how to configure and maintain Notification Profiles and all C4.5 P41

for thresholds management and the association with notification profiles.)

These processes record, analyze and assess the service performance degradation report status changes to provide management reports and any specialized summaries of the efficiency and effectiveness of the overall Service Quality Management process. These specialized summaries could be specific reports required by specific audiences. **A**

(Altaia records the status change in service performance degradation and provides management reports using Altaia Alarm Reports Module.
Altaia Reports Module provides reports for all the service performance history data and also reports could be generated over all performance degradation events.
[UM_ALTAIA] C4.8.3 P135 about Altaia Reports Module.

Altaia also provide specialized reports on the efficiency and effectiveness of the overall Service Quality Management process. It provides pre-defined reports but also allows to configure specific reports required by specific audiences (for example using Dashboards).
[UM_ALTAIA] C4.9 P145 about query and navigation report;
[UM_ALTAIA] C4.10 P157 about consulting and configuring Dashboards.

All the configuration capabilities are only a way to give flexibility to the user to customize its own reports. However, Altaia have a set of default reports.
[UM_ALTAIA] C4.8.3.10 P137 about default reports available.

Furthermore, once configured and scheduled, It's also possible to automatically send by mail a report to a list of recipient contacts. The rules for sending Reports by email could be configured initially in Altaia, by a manual activity. After that the system operates automatically. Afterwards it's possible to adjust manually the configuration at any time, if necessary, and the system still operating automatically adopting the new one.
[UM_ALTAIA] C4.9.1.6 P150 about sending reports by email.

These processes also report any identified constraints that can affect service quality standards to other processes. These constraints may include specific resource failures, capacity shortages due to unexpected demand peaks, etc. **A**

(All constraints are detected by Altaia based on metrics and thresholds. The notifications could be configured to report all that situations like specific resource failures, capacity shortages, etc.
[UM_ALTAIA] C4.8.2 P118 about alarm management;
[UM_ALTAIA] 4.5.6 P70 about how to configure and maintain Notification Profiles and all C4.5 P41 for thresholds management and the association with notification profiles.)

4.1.1.5 Create Service Performance Degradation Report (1.1.2.4.5)

Table 4.5 Create Service Performance Degradation Report (1.1.2.4.5) Mapping Details

LEVEL 3 PROCESS MAPPING DETAILS **1.1.2.4.5 Create Service Performance Degradation Report**

Brief Description

Create a new service performance degradation report. **AM**

(Supported by Altaia. Altaia metrics are calculated over service quality data and compared with service performance thresholds. When a performance degradation threshold is violated a new service degradation report is created (known and treated in Altaia as a performance alarm). All that information could be consulted via Altaia Reports Module.
[TD_Overview] C5.5 P56 about NOSSIS in E2E Quality of Service Process;
[TD_Overview] C4 P19 about NOSSIS Products (Altaia(P32)).

Further details covered within the body of the Extended Description Mapping.)

Extended description

The objective of the Create Service Performance Degradation Report process is to create a new service performance degradation report, modify existing service performance degradation reports, and request cancellation of existing service performance degradation reports. **AM**

(Supported by Altaia. Altaia metrics are calculated over service quality data and compared with service performance thresholds. When a performance degradation threshold is violated a new service degradation report notification is created (known and treated in Altaia as a performance alarm).
Altaia provides a main alarms window, where the service degradation reports are displayed and managed. Altaia Reports Module provides reports for all the service performance history data and also reports could be generated over all performance degradation events.
[UM_ALTAIA] C4.8.1 P113, about main alarms window;
[UM_ALTAIA] C4.8.2 P118, about Alarms Configuration and Management;
[UM_ALTAIA] C4.8.3 P135 about Altaia Reports Module.)

A new service performance degradation report may be created as a result of specific service performance notifications undertaken by the Monitor Service Performance processes, or at the request of analysis undertaken by other CRM, SM&O or RM&O processes which detect that some form of deterioration or failure has occurred requires an assessment of the specific service performance. **AM**

(When a performance degradation threshold is violated a new service degradation notification is created by Altaia (known and treated in Altaia as a performance alarm).
[TD_ALTAIA] C4 P17 for Use Cases examples;
[UM_ALTAIA] C4.4 P30 for metrics Configuration and Management;

[UM_ALTAIA] C4.5 P41 Thresholds Configuration and Management.

When detected, by other systems or processes, some form of deterioration or failure related to a specific service performance, users with the adequate profile could create in Altaia new metrics and/or thresholds, and configure and activate new collecting tasks. Once data begins to be collected and Altaia analysis starts, new reports could be generated automatically by Altaia .

[AM_NA] C3 P12, more specifically:

- C3.3 P16, to scheduling tasks (mainly to collect, process and insert data in database DBN0);
- C3.4 P18, for Data Collection Tasks;

[UM_ALTAIA] C4.8.2 P118, about Alarms Configuration and Management.

Other systems could obtain from ALTAIA service performance metrics and degradation reports through Altaia performance API.

[TD_ALTAIA] C5.1 P21 about interface with "Other systems";

[TD_ALTAIA] C6.1.6 about interfaces/APIs.)

If the service performance degradation report is created as a result of a notification or request from processes other than Monitor Service Performance processes, the Create Service Performance Degradation Report processes are responsible for converting the received information into a form suitable for the Service Performance Management processes, and for requesting additional information if required. **A**

(Altaia Alarm Manager Module provides an API to receive notifications from service performance degradation from other processes.

[TD_ALTAIA] C5.1 P21 about interface with "Other systems";

[TD_ALTAIA] C6.1.6 P26 about interfaces/APIs.)

4.1.1.6 *Track & Manage Service Quality Performance Resolution (1.1.2.4.6)*

Table 4.6 Track & Manage Service Quality Performance Resolution (1.1.2.4.6) Mapping Details

LEVEL 3 PROCESS MAPPING DETAILS **1.1.2.4.6 Track & Manage Service Quality Performance Resolution**
Brief Description Efficiently assign, coordinate and track specific service performance analysis, restoration and improvement activities, and escalate any open service performance degradation reports in jeopardy. **AM** (Supported by Altaia and Sigo TTK. Altaia generates service performance degradation reports and manages them, since creation to closure. If the situation requires an improvement activity, Altaia notifies Sigo TTK which creates a ticket and manages all the related improvement activities until it becomes resolved. Sigo TTK also co-ordinate all the actions necessary (for instance escalate degradation reports in jeopardy) in order to guarantee all improvement activities (for instance, tasks are finished at the appropriate time and in the appropriate sequence). Sigo TTK notifies Altaia whenever a change occurs in the status of the ticket. [TD_Overview] C5.5 P56 about NOSSIS in E2E Process Management Process; [TD_Overview] C4 P19 about NOSSIS Products (Sigo TTK(P27)). Further details covered within the body of the Extended Description Mapping.) **Extended description** The objective of the Track & Manage Service Quality Performance Resolution processes is to efficiently assign, coordinate and track specific service performance analysis, restoration and improvement activities, and escalate any open service performance degradation reports in jeopardy. **AM** (After the QoS data analysis and detections of exceeded thresholds, Altaia can open degradation tickets directly to the problem management system (Sigo TTK). [TD_ALTAIA] C5.1 P21, about interface description for Altaia – Sigo TTK; [TD_ALTAIA] C4.1.2 P19, for use case example. Sigo TTK manages tickets starting with the creation, choosing the team to be assigned, until it reaches a completion status. [TD_SigoTTK] C6.3 P38, about management of a ticket; [TD_SigoTTK] C6.1.2 P31, about Problem Management; [TD_SigoTTK] C4.3 P23, for use case example. When SIGO TTK detects that a SLA of an activity was 'violated' a notification is send to alert an intervening party. This notification escalates the situation. [TD_SigoTTK] C6.3 P38, about management of a ticket.)

Responsibilities of these processes include, but are not limited to:

· Adding additional information to an open service performance degradation report based on the first-in and on-going analysis; **AM**

(After identifying the source/origin of the TTK, its information is enriched with useful data for locating and solving the problem (example: service inventory and resources information). Sigo TTK provides the user with the capability to add additional information to the ticket (directly via the trouble ticket registry, or via the related participation(s)/intervention(s) registry).
[TD_SigoTTK] C5.1 P26, about interface between Sigo TTK and Netwin;
[TD_SigoTTK] C6.1.2 P31, about problem management, more specifically the kind of information that can be added/updated.)

· Scheduling, assigning and coordinating analysis and specific service performance restoration activities and/or repair activities delegated to other processes; **AM**

(Sigo TTK has mechanisms that allow coordinating and reassigning restoration activities delegated to other processes (for instance Configuration Management processes, Service Providers/Suppliers Processes).
[TD_SigoTTK] C6.1.2 P31, about problem management, more specifically assigning participation to a team managed by other system.)

· Generating the respective resource trouble report creation request(s) to Create Resource Trouble Report based on specific service performance degradation reports where analysis the root cause is related to resources; **A**

(Sigo TTK creates a ticket based on the information received from Altaia request. If it's a root cause, Altaia could identify to SIGO TTK all the events associated to the root cause, when applicable.
[TD_SigoTTK] C4.3 P23, for use case example.)

· Modifying information in an existing service performance degradation report based on assignments; **AM**

(Sigo TTK provides assigned teams with the capability to add additional information to the ticket in any phase of the workflow. Each team, as a result of the work performed to solve the problem, will fill out an intervention register in Sigo TTK.
[TD_SigoTTK] C6.1.2 P31, about problem management, more specifically about team intervention information register;
[TD_SigoTTK] C6.3 P38, about managing a ticket, more specifically about team intervention information upload in offline mode.)

· Modifying the service performance degradation report status; **A**

(Since the service performance degradation report needs improvement activities, Altaia interfaces with Sigo TTK that creates a ticket and manages its status. Sigo TTK notifies ALTAIA whenever a

change occurs in the status of the ticket thus allowing the update of the status of the service performance degradation report in Altaia.
[TD_SigoTTK] C6.3 P38, about managing a ticket;
[TD_SigoTTK] C4.3 P23, for use case example.)

· Canceling a service performance degradation report when the specific request was related to a false service failure event; and **AM**

(SIGO TTK allows the termination of a ticket that results from a false service failure event. The ticket status becomes 'Canceled' in Sigo TTK, and Altaia will be notified.
[TD_SigoTTK] C6.1.2 P31, about ticket status;
[UM_ALTAIA] C4.8.2.4 P123, about manual termination of an Alarm;
[TD_SigoTTK] C4.3 P23, for use case example.)

· Monitoring the jeopardy status of open service performance degradation reports, and escalating service performance degradation reports as necessary. **A**

(Sigo TTK monitors jeopardy status, based on SLA definitions.When necessary it can escalate to an intervening party using notifications facilities.
[TD_SigoTTK] C6.3 P38, about managing a ticket, more specifically SLA configurations and notifications.)

Note that some specific resource components may be owned and managed by suppliers/partners. In these cases the Track & Manage Service Quality Performance process is responsible for initiating requests, through S/P Performance Management for resolution by the supplier/partner of the specific resource components. **AM**

(SigoTTK identifies when some activity(ies) needs to be performed by a supplier/partner(S/P) and in that case SIGO TTK assigns it to a S/P team. Sigo TTK manages the ticket according with the SLA defined with the S/P for each type of activity.
[TD_SigoTTK] C6.1.2 P31, about problem management;
[TD_SigoTTK] C6.3 P38, about managing a ticket.)

These processes will co-ordinate all the actions necessary in order to guarantee that all tasks are finished at the appropriate time and in the appropriate sequence. **AM**

(Sigo TTK monitors and manages the status of the ticket according with the configured rules.
[TD_SigoTTK] C6.3 P38, about managing a ticket;
[TD_SigoTTK] C6.1.2 P31, Problem Management, more specifically about ticket status.)

The Track & Manage Service Quality Performance Resolution processes will also inform the Close Service Performance Degradation Report processes by modifying the service performance degradation report status to cleared when the specific service performance quality issues have been resolved. **AM**

(Sigo TTK notifies ALTAIA whenever a change occurs in the status of the ticket thus allowing the update of the status of the service performance degradation report in Altaia.
[TD_SigoTTK] C6.1.2 P31, about managing ticket status.)

4.1.1.7   Close Service Performance Degradation Report (1.1.2.4.7)

Table 4.7 Close Service Performance Degradation Report (1.1.2.4.7) Mapping Details

LEVEL 3 PROCESS MAPPING DETAILS
1.1.2.4.7 Close Service Performance Degradation Report

Brief Description

Close a service performance degradation report when the service performance has been resolved. **A**

(Supported by Altaia. Altaia provides a main screen for alarms management where the service performance degradation report could be closed.
[TD_Overview] C5.5 P56 about NOSSIS in E2E Quality of Service Process;
[TD_Overview] C4 P19 about NOSSIS Products (Altaia(P32)).

Further details covered within the body of the Extended Description Mapping.)

Extended description

The objective of the Close Service Performance Degradation Report processes is to close a service performance degradation report when the service performance has been resolved. **A**

(The normal behavior is an automatic close of the service performance degradation report. Preventing some exceptional/abnormal situations, Altaia allows the user to close manually a performance report.
Altaia could manage the alarm status based on the data received from monitoring the service/resource, based on SigoTTK notifications or manually at Altaia.
[UM_ALTAIA] C4.5.1 P42, about the automatic behavior of a threshold.
[UM_ALTAIA] C4.8.2.4 P123, about Manual Termination of an Alarm.)

These processes monitor the status of all open service performance degradation reports, and recognize that a service performance degradation report is ready to be closed when the status is changed to cleared. **A**

(Altaia detects when the event that originated an open service performance report has disappeared, and manage automatically the closure of the alarm updating it to the 'Close' status.
[UM_ALTAIA] C4.5.5 P64 about the options available for configuring thresholds.)
[UM_ALTAIA] C4.5.1 P42, about the automatic behavior of a threshold.

4.1.2 Supporting Evidence References (Works Cited)

[**TD_Overview**]   [NOSSIS Overview Technical Document]   NOSSIS_Overview_2012_v1.1

[**TD_NA**]   [Network Activator Technical
                  Document]   NOSSIS_DT_NA_2012_v1.0

[**TD_ALTAIA**]   [Altaia Technical Document]   NOSSIS_DT_ALTAIA_2012_v1.1

[**TD_ArQoS**]   [ArQoS Technical Document]   NOSSIS_DT_ArQoS_2012_v1.0

[**TD_Netwin**]   [Netwin Technical Document]   NOSSIS_DT_Netwin_2012_v1.0

[**TD_SigoTTK**]   [SigoTTK Technical Document]   NOSSIS_DT_SigoTTK_2012_v1.2

[**UM_ALTAIA**]   [Altaia User Manual]   Altaia_V5.2_MNMU_V1.0

[**AM_NA**]   [Network Activator Administration
                 Manual]   NetworkActivator_V3.3_MNMA_QoS Collector
                              V1.3

4.1.2 Supporting Evidence References (Works Cited)

4.1.3 Scores for 1.1.2.4 - Service Quality Management [7/7]

Each Level 3 Process was scored by breaking down groupings of Implied Tasks according the decomposition to Level 4 processes as defined in Frameworx 12. This methodology is used to provide a more granular level of scoring of the Business Process Framework Level 3 Processes.

4.1.3.1 Monitor Service Quality (1.1.2.4.1)

1.1.2.4.1 - Monitor Service Quality - Scores	
Grouping of Implied Tasks	**Score**
Manage Service Performance Quality Data (1.1.2.4.1.1)	100%
Record Service Performance Quality Data (1.1.2.4.1.2)	100%
Correlate Service Performance Event Notifications (1.1.2.4.1.3)	100%
Total score for Parent Level 3 Process	**5**

4.1.3.2 Analyze Service Quality (1.1.2.4.2)

1.1.2.4.2 - Analyze Service Quality - Scores	
Grouping of Implied Tasks	**Score**
Perform Specific Service Performance Diagnostics (1.1.2.4.2.1)	*100%*
Manage Service Performance Data Collection Schedules (1.1.2.4.2.2)	*100%*
Total score for Parent Level 3 Process	**5**

4.1.3.3 Improve Service Quality (1.1.2.4.3)

1.1.2.4.3 - Improve Service Quality - Scores	
Grouping of Implied Tasks	**Score**
Reassign / Reconfigure Service or Service Parameters (1.1.2.4.3.1)	100%
Manage Service Improvement Notification and Authorization (1.1.2.4.3.2)	100%
Develop Service Improvement Plans (1.1.2.4.3.3)	100%
Total score for Parent Level 3 Process	**5**

4.1.3.4 Report Service Quality Performance (1.1.2.4.4)

1.1.2.4.4 - Report Service Quality Performance - Scores	
Grouping of Implied Tasks	**Score**
Monitor Service Performance Degradation Report (1.1.2.4.4.1)	*100%*
Report Constraints to Other Processes (1.1.2.4.4.2)	*100%*
Distribute Service Quality Management Reports & Summaries (1.1.2.4.4.3)	*100%*
Total score for Parent Level 3 Process	**5**

4.1.3.5 Create Service Performance Degradation Report (1.1.2.4.5)

1.1.2.4.5 - Create Service Performance Degradation Report - Scores	
Grouping of Implied Tasks	**Score**
Generate Service Performance Degradation Problem (1.1.2.4.5.1)	*100%*
Convert Report To Service Performance Degradation Report Format (1.1.2.4.5.2)	*100%*
Total score for Parent Level 3 Process	**5**

4.1.3.6 Track & Manage Service Quality Performance Resolution (1.1.2.4.6)

1.1.2.4.6 - Track & Manage Service Quality Performance Resolution - Scores	
Grouping of Implied Tasks	**Score**
Coordinate Service Quality (1.1.2.4.6.1)	*100%*
Request Service Performance Degradation Report Creation and Update (1.1.2.4.6.2)	*100%*
Update First in Service Testing Results (1.1.2.4.6.3)	*100%*
Cancel Service Performance Degradation Report (1.1.2.4.6.4)	*100%*

Escalate/End Service Performance Degradation Report (1.1.2.4.6.5)	*100%*
Clear Service Performance Degradation Report Status (1.1.2.4.6.6)	*100%*
Engage External Service Suppliers (1.1.2.4.6.7)	*100%*
Total score for Parent Level 3 Process	**5**

4.1.3.7 Close Service Performance Degradation Report (1.1.2.4.7)

1.1.2.4.7 - Close Service Performance Degradation Report - Scores	
Grouping of Implied Tasks	**Score**
No decomposition to Level 4 processes – score awarded for the Level 3 process in its entirety	*100%*
Total score for Parent Level 3 Process	**5**

4.2   Resource Management & Operations [1.1.3]

4.2.1   Resource Performance Management (1.1.3.4) - Mapping Details

4.2.1.1   *Monitor Resource Performance (1.1.3.4.1)*

Table 4.8 Monitor Resource Performance (1.1.3.4.1) Mapping Details

LEVEL 3 PROCESS MAPPING DETAILS 1.1.3.4.1 Monitor Resource Performance

Brief Description

Monitor received resource performance information and undertake first-in detection. **A**

(Supported by Network Activator (NA) and Altaia. First in detection and collection is made by Network Activator. Altaia monitors received resource performance information.
[TD_Overview] C5.5 P56 about NOSSIS in E2E Quality of Service Process;
[TD_Overview] C4 P19 about NOSSIS Products (Altaia(P32), Network Activator(P24) e Netwin(P20));

Further details covered within the body of the Extended Description Mapping.)

Extended description

The objective of the Monitor Resource Performance processes is to monitor received resource performance information and undertake first-in detection. **A**

(First-in detection and collection is made by Network Activator. The monitor of received resource performance information is made by Altaia. See details below.
[TD_NA] C6.5 P30 for Data Collection;
[TD_ALTAIA] C6.5 P30 about Configuration of entities to be monitored;
[TD_ALTAIA] C6.1.2 P24 about several monitoring components.)

The responsibilities of the processes include, but are not limited to:

· Undertaking the role of first in detection by monitoring the received specific resource performance data; **A**

(First in detection and collection is made by Network Activator and Altaia and is taken in two steps:

- first step : Network Activator logs full resource performance data in data source connected with Altaia DBN0, according with :
[TD_NA] C6.5 P30 for Data Collection;
[TD_NA] C5.1 P24 see interface description for NA-Altaia;

- second step : Altaia access DBN0 data, monitors, analyze and log the result in DBN1 according with:
[TD_ALTAIA] C6.1.2 P24 for the "Collector" Component;

[TD_ALTAIA] C6.5 P30 about metrics calculation and management.)

· Comparing the received specific resource performance data to performance standards set for each specific resource (available from the Resource Inventory); **A**

(Comparing the received data to performance standards is achieved by Altaia through thresholds analysis, via threshold module, according with:
[TD_ALTAIA] C6.6 P31 for Threshold management;
[TD_ALTAIA] C4.1 P17 for use cases examples.

The set of Performance standards are implemented as 'metrics' in Altaia, and are defined by metrics module. The values to be compared with are thresholds, according with :
[UM_ALTAIA] C4.4 P30 for Metrics Management;
[TD_ALTAIA] C6.5 P30 for Metrics definition.

The Resources can be available by integration to a Resource Inventory System (like Netwin) or through network discovery functions, available at Altaia Mediation, according with:
[TD_NA] C6.4 P29 about Discovery Functions;
[TD_ALTAIA] C5.1 P21 about Inventory Integration – interface Altaia with Netwin.)

· Assessing and recording received specific resource performance data which is within tolerance limits for performance standards, and for which continuous monitoring and measuring of specific resource performance is required; **A**

(Assessing and recording data is done by Network Activator, according with:
[TD_NA] C5.1 P24 about interface description for NA-Altaia.

Rules (including tolerance limits for continuous monitoring and measuring) for data collection are defined in Network Activator, according with:
[TD_NA] C3.2.7 P17 about rules configuration in Network Activator.

Network Activator validates the data collected to ensure that it is within the tolerance limits for performance standards, according with:
[TD_NA] C3.2.7 P17 about the configuration of the rules that govern the loading of data into database.)

· Recording the results of the continuous monitoring for reporting through the Report Resource Performance processes; **A**

(The performance data results are recorded by Altaia in DBN1, according with :
[TD_ALTAIA] C5.1 P21 about interface description for NA-Altaia;
[TD_ALTAIA] C6.5 P30 for metrics definition and calculation;
[UM_ALTAIA] C4.4 P30 For metrics management.

Report Resource Performance is available in Altaia portal, through the reporting modules, according with:

 [TD_ALTAIA] C6.2 P27 for performance reports.)

· Detecting performance threshold violations which represent specific resource failures due to abnormal performance; **A**

(Detection of performance threshold violations is made by Altaia threshold module, according with:

[TD_ALTAIA] C6.6 P31 about configuration and management of thresholds;

[TD_ALTAIA] C6.7 P34 about displaying and managing alarms;

[TD_ALTAIA] C4.1 P17 for use cases examples.)

· Passing information about resource failures due to performance threshold violations to Resource Trouble Management to manage any necessary restoration activity as determined by that process; **A**

(Every time a performance threshold violation occurs, a performance violation alarm appears in Altaia Alarm Manager Module. Also a performance violation Alarm is notified to external Problem Management system (Sigo TTK), in order to manage any necessary restoration or repair activity, according with :

[UM_ALTAIA] C4.8 P113 about managing alarms;

[TD_ALTAIA] C5.1 P21 about interface description for Altaia-Sigo TTK;

[TD_ALTAIA] C4.1 P17 for use cases examples.)

· Passing information about potential specific service performance degradations arising from specific resource degradations to Service Quality Management to manage any necessary restoration activity as determined by that process; **A**

(The resources 'contained' in a service are available in the inventory system, Netwin, according with:

[TD_Netwin] C6.5 P65 for services and resources information via Inventory API.

Altaia identifies potential service performance degradations, comparing metric data with thresholds, according with :

[TD_ALTAIA] C4.1 P17 for use cases examples.

When Altaia calculates metrics it detects resource performance degradations and, when applicable, also potential service degradations. The information about potential service performance degradation arises to Service Quality Management process, through metrics calculation in Altaia.

[UM_ALTAIA] C4.4 P30 about metrics management.)

· Detecting performance degradation for specific resources which provide early warning of potential issues; **A**

(Detection of Performance degradation for specific resources is made by Altaia through threshold violation applied for specific entity, according with:

[TD_ALTAIA] C6.6 P31 for threshold management.

All potential issues are threshold violation alarms managed in Altaia Performance Alarm Module,

according with:

[TD_ALTAIA] C5.1 P21 about interface description for Altaia-Alarm Manager;

[TD_ALTAIA] C6.7 P34 displaying and managing alarms;

[UM_ALTAIA] C4.8 P113 about managing alarms.)

· Forwarding resource performance degradation notifications to other Resource Performance Management processes, which manage activities to restore normal specific resource performance; and **A**

(Every time a performance degradation occurs, Altaia Performance Alarm module is notified, in order to start activities to restore normal resource performance, according with :

[TD_ALTAIA] C6.7 P34 for Display, analyze and investigate the cause of degradation and manage alarms;

[TD_ALTAIA] C5.1 P21 see interface description for Altaia-Sigo TTK.

The system has automatic mechanisms to notify other processes, according with:

[UM_ALTAIA] C4.5.6 P70, about notification profiles.)

· Logging specific resource performance degradation and violation details within the repository in the Manage Resource Inventory processes to ensure historical records are available to support the needs of other processes. **A**

(Specific resource performance degradation and violation details are logged at Altaia Performance Alarm module, according with:

[TD_ALTAIA] C6.7 P34 about displaying and managing alarms;

[UM_ALTAIA] C4.8 P113 about managing alarms;

[TD_ALTAIA] C5.1 P21 see interface description for Altaia-Alarm Manager.)

4.2.1.2 *Analyze Resource Performance (1.1.3.4.2)*

Table 4.9 Analyze Resource Performance (1.1.3.4.2) Mapping Details

LEVEL 3 PROCESS MAPPING DETAILS 1.1.3.4.2 Analyze Resource Performance

Brief Description

Analyze and evaluate the performance of specific resources **A**

(Supported by Altaia. Altaia metrics are calculated over resource performance data and compared with resource performance thresholds. When a degradation or violation occurs an alarm is generated and managed by Altaia Alarm Manager Module.
[TD_Overview] C5.5 P56 about NOSSIS in E2E Quality of Service Process;
[TD_Overview] C4 P19 about NOSSIS Products (Altaia(P32)).

Further details covered within the body of the Extended Description Mapping.)

Extended description

The objective of the Analyze Resource Performance processes is to analyze the information received from the Monitor Resource Performance process to evaluate the performance of a specific resource. **A**

(Supported by Altaia. Altaia metrics are calculated over resource performance data and compared with resource performance thresholds. When a degradation or violation occurs an alarm is generated and managed by Altaia Alarm Manager Module.
[UM_ALTAIA] C4.5 P41 about thresholds configuration and management;
[TD_ALTAIA] C4.1 P17 for use cases examples;
[UM_ALTAIA] C4.8 P113 about displaying and managing alarms.)

The responsibilities of the processes include, but are not limited to:
· Undertaking analysis as required on specific resource performance information received from the Monitor Resource Performance processes; **A**

(Altaia analyses the data from Monitor Resource Performance processes using metrics calculation and thresholds. Both (metrics and thresholds) could be simple or more complex, like multi-metric and/or composed.
[UM_ALTAIA] C4.4 P30 about metrics management;
[UM_ALTAIA] C4.5 P41 about thresholds management.)

· Initiating, modifying and cancelling continuous performance data collection schedules for specific resources required to analyze specific resource performance. These schedules are established through requests sent to the Enable Resource Data Collection & Distribution processes; **A**
(Network Activator provides the data performance collection management, configuring tasks and scheduling it.
[AM_NA] C3 P12, and more specifically:

- C3.3 P16, to scheduling tasks (mainly to collect, process and insert data in database DBN0);
- C3.4 P18, about Data Collection Tasks;
- C3.6 P21, about linking data collection tasks and schedules.)

· Determining the root causes of specific resource performance degradations and violations; **A**

(The Correlation engine of Altaia Alarm Manager module correlates events, to determine if there's a root cause. When a root cause exists the event is issued and an alarm is generated in Alarm Manager module, associating the correlated events.
[UM_ALTAIA] C4.8.4.3 P142 about correlation and root cause detection.)

· Recording the results of the analysis and intermediate updates in the Resource Inventory for historical analysis and for use as required by other processes; and **A**
(Altaia records all analysis results, or other resource intermediate updates, in DBN1 and provides means to query that information. This data remains available to be consulted by other systems too.
[UM_ALTAIA] C4.9.3.2 P155 and C4.9.3.3 P156 about historic data navigation;
[TD_ALTAIA] C6.1.2 P25, about Altaia framework component "Altaia Data Warehouse";
[TD_ALTAIA] C5.1 P21 about interfaces, with Planning and Other Systems.)

· Undertaking specific detailed analysis (if the original requested came from Service Quality Management processes) to discover the root cause of service performance degradations that may be arising due to interactions between resource instances, without any specific resource instance having an unacceptable performance in its own right. **A**

(It's possible to configure specific metrics/thresholds in Altaia to undertake specific detailed analysis, even to detect situations where the resource instance it's not having an unacceptable performance.
[UM_ALTAIA] C4.4 P30 about configuration and management of Metrics;
[UM_ALTAIA] C4.5 P41 about configuration and Management of Thresholds.

The Correlation engine of Altaia Alarm Manager module correlates events, to determine if there's a root cause;
[UM_ALTAIA] C4.8.4.3 P142 about correlation and root cause detection.)

4.2.1.3 Control Resource Performance (1.1.3.4.3)

Table 4.10 Control Resource Performance (1.1.3.4.3) Mapping Details

LEVEL 3 PROCESS MAPPING DETAILS 1.1.3.4.3 Control Resource Performance
Brief Description Apply controls to resources in order to optimize the resource performance. **AM** (Supported by Altaia and Sigo TTK. Once identified an abnormal resource performance state that needs to be optimized or even restored, Altaia interacts with Sigo TTK to create a ticket. Control plans starts in Altaia with definition of 'procedures' and are sent to Sigo TTK at the time of ticket creation. Sigo TTK manages the activities needed to optimize or restore resource performance. For automatic intervention in a resource (for instance a re-configuration, a reboot, …), Sigo TTK uses Network Activator. [TD_Overview] C5.5 P56 about NOSSIS in E2E Quality of Service Process; [TD_Overview] C5.4 P47 about NOSSIS in E2E Problem Management Process; [TD_Overview] C4 P19 about NOSSIS Products (Altaia(P32), Sigo TTK(P27)); Further details covered within the body of the Extended Description Mapping.)   **Extended description** The objective of the Control Resource Performance processes is to apply controls to resource instances in order to optimize the resource performance. **AM** (Supported by Altaia and Sigo TTK. Once identified an abnormal resource performance state that needs to be optimized or even restored, Altaia interacts with Sigo TTK to create a ticket. Control plans starts in Altaia with definition of 'procedures' and are sent to Sigo TTK at the time of ticket creation. Sigo TTK manages the activities needed to optimize or restore resource performance. For automatic intervention in a resource (for instance a re-configuration, a reboot, …), Sigo TTK uses Network Activator. [UM_ALTAIA] C4.8.4.2 P141 and C4.8.2.8.6 P130 about procedures; [TD_ALTAIA] C5.1 P21, see interface description for Altaia - Sigo TTK; [TD_SigoTTK] C6.1.2 P31, about problem management; [TD_SigoTTK] C5.1 P26, see interface description for Sigo TTK - Network Activator.) The responsibilities of the processes include, but are not limited to: ·   Instantiating controls to attempt to restore resource instances to normal operation, at the request of Analyze Resource Performance processes. These controls may be based on established control plans, or the controls may be developed within the Control Resource Performance processes depending on circumstances. **AM** (Control plans starts in Altaia. If there's no appropriate resource control plan available for a certain

situation, Altaia Alarm Manager Module provides the ability to configure one.
[UM_ALTAIA] C4.8.4.2 P141 about procedures configuration.

Once identified an abnormal resource performance state that needs to restore resource instance to normal operation, Altaia interacts with Sigo TTK to create a ticket. Control plans are sent to Sigo TTK at the time of ticket creation. Sigo TTK manages the activities needed to restore resource performance.
[TD_ALTAIA] C5.1 P21, see interface description for Altaia - Sigo TTK;
[TD_ Sigo TTK] C6.1.2 P31, about problem management.)

·   Instantiating controls to attempt to restore failed resource instances to normal operation, at the request of Resource Trouble Management or Service Quality Management processes. These controls may be based on established control plans, or the controls may be developed within the Control Resource Performance process depending on circumstances. **AM**

(Control plans starts in Altaia. If there's no appropriate resource control plan available for a certain situation, Altaia Alarm Manager Module provides the ability to configure one.
[UM_ALTAIA] C4.8.4.2 P141 about procedures configuration.)

Once identified an abnormal resource performance state that needs to restore failed resource instance to normal operation, Altaia interacts with Sigo TTK to create a ticket. Control plans are sent to Sigo TTK at the time of ticket creation. Sigo TTK manages the activities needed to restore resource performance.
[TD_ALTAIA] C5.1 P21, see interface description for Altaia - Sigo TTK;
[TD_ Sigo TTK] C6.1.2 P31, about problem management.)

Report Resource Performance (1.1.3.4.4)

Table 4.11 Report Resource Performance (1.1.3.4.4) Mapping Details

LEVEL 3 PROCESS MAPPING DETAILS 1.1.3.4.4 Report Resource Performance

Brief Description

Monitor the status of resource performance degradation reports, provide notifications of any changes and provide management reports. **A**

(Supported by Altaia. All the resource performance status monitoring is made by Altaia. Notifications and report generation on it are also supported by Altaia.

[TD_Overview] C5.5 P56 about NOSSIS in E2E Quality of Service Process;

[TD_Overview] C4 P19 about NOSSIS Products (Altaia(P32)).

Further details covered within the body of the Extended Description Mapping.)

Extended description

The objective of the Report Resource Performance processes is to monitor the status of resource performance degradation reports, provide notifications of any changes and provide management reports. **A**

(Once resource performance degradation is detected, notifications are sent by Altaia Alarm Manager Module. This module also manages and monitors the status of resource performance degradation reports.

[TD_ALTAIA] C6.7 P34 about display, analysis and management of alarms;

[UM_ALTAIA] C4.8.2 P118 about managing alarms;

[UM_ALTAIA] C4.5.6 P70 about Notification profiles configuration.

Altaia Reports Module provides reports for all the resource performance history data and also reports could be generated over all performance degradation events.
 All the manual interaction shown in references bellow refers to Altaia configuration capabilities which are only a way to give flexibility to the user to customize its own reports. However, Altaia have a set of default reports.

[UM_ALTAIA] C4.8.3 P135 about Altaia Reports Module;

[UM_ALTAIA] C4.8.3.10 P137 about default reports available.

Furthermore, once configured and scheduled, It's also possible to automatically send by mail a report to a list of recipient contacts. The rules for sending Reports by email could be configured initially in Altaia, by a manual activity. After that the system operates automatically. Afterwards it's possible to adjust manually the configuration at any time, if necessary, and the system still operating automatically adopting the new one.

[UM_ALTAIA] C4.9.1.6 P150, about sending reports by email).

These processes are responsible for continuously monitoring the status of resource performance degradation reports and managing notifications to other processes in the RM&O and other layers, and to other parties registered to receive notifications of any status changes. Notification lists are managed and maintained by the Enable Resource Performance Management processes. **A**

(Altaia monitors resource performance reports status changes through Altaia Alarm Manager Module.
[UM_ALTAIA] C4.8.2 P118 about managing alarms.

Notification profiles could be configured in Altaia. Notifications can be sent to other systems or other entities.
[UM_ALTAIA] 4.5.6 P70 about how to configure and maintain Notification Profiles and all C4.5 P41 for thresholds management and the association with notification profiles.)

These processes record, analyze and assess the resource performance degradation report status changes to provide management reports and any specialized summaries of the efficiency and effectiveness of the overall Resource Performance Management process. These specialized summaries could be specific reports required by specific audiences. **A**

(Altaia records the status change in resource performance degradation and provides management reports using Altaia Alarm Reports Module.
Altaia Reports Module provides reports for all the resource performance history data and also reports could be generated over all performance degradation events.
[UM_ALTAIA] C4.8.3.10 P137 about default reports available;
[UM_ALTAIA] C4.9.1.6 P150, about sending reports by email;
[UM_ALTAIA] C4.8.3 P135 about Altaia Reports Module.

Altaia also provide specialized reports on the efficiency and effectiveness of the overall Resource Performance Management process. It provides pre-defined reports but also allows to configure specific reports required by specific audiences (for example using Dashboards).
[UM_ALTAIA] C4.9 P145 about query and navigation report;
[UM_ALTAIA] C4.10 P157 about consulting and configuring Dashboards.)

4.2.1.5 *Create Resource Performance Degradation Report (1.1.3.4.5)*

Table 4.12 Create Resource Performance Degradation Report (1.1.3.4.5) Mapping Details

LEVEL 3 PROCESS MAPPING DETAILS **1.1.3.4.5 Create Resource Performance Degradation Report**
Brief Description Create a new resource performance degradation report. **AM** (Supported by Altaia. Altaia metrics are calculated over resource performance data and compared with resource performance thresholds. When a performance degradation threshold is violated a new resource degradation report is created (known and treated in Altaia as a performance alarm). All that information could be consulted via Altaia Reports Module. [TD_Overview] C5.5 P56 about NOSSIS in E2E Quality of Service Process; [TD_Overview] C4 P19 about NOSSIS Products (Altaia(P32)). Further details covered within the body of the Extended Description Mapping.) **Extended description** The objective of the Create Resource Performance Degradation Report process is to create a new resource performance degradation report, modify existing resource performance degradation reports, and request cancellation of existing resource performance degradation reports. **AM** (Supported by Altaia. Altaia metrics are calculated over resource performance data and compared with resource performance thresholds. When a performance degradation threshold is violated a new resource degradation report notification is created (known and treated in Altaia as a performance alarm). Altaia provides a main alarms window, where the resource performance degradation reports are displayed and managed. Altaia Reports Module provides reports for all the resource performance history data and also reports could be generated over all performance degradation events. [UM_ALTAIA] C4.8.1 P113, about main alarms window; [UM_ALTAIA] C4.8.2 P118, about Alarms Configuration and Management; [UM_ALTAIA] C4.8.3 P135 about Altaia Reports Module.) A new resource performance degradation report may be created as a result of specific resource performance notifications undertaken by the Monitor Resource Performance processes, or at the request of analysis undertaken by other RM&O, SM&O or S/PRM processes which detect that some form of deterioration or failure has occurred requires an assessment of the specific resource performance. **AM** (When a performance degradation threshold is violated a new resource degradation notification is created by Altaia (known and treated in Altaia as a performance alarm). [TD_ALTAIA] C4 P17 for Use Cases examples; [UM_ALTAIA] C4.4 P30 for metrics Configuration and Management; [UM_ALTAIA] C4.5 P41 Thresholds Configuration and Management.

When detected, by other systems or processes, some form of deterioration or failure related to a specific resource performance, users with the adequate profile could create in Altaia new metrics and/or thresholds, and configure and activate new collecting tasks. Once data begins to be collected and Altaia analysis starts, new reports could be generated automatically by Altaia.

[AM_NA] C3 P12, more specifically:

- C3.3 P16, to scheduling tasks (mainly to collect, process and insert data in database DBN0);
- C3.4 P18, for Data Collection Tasks;

[UM_ALTAIA] C4.8.2 P118, about Alarms Configuration and Management.

Other systems could obtain from ALTAIA resource performance metrics and degradation reports through Altaia performance API.

[TD_ALTAIA] C5.1 P21 about interface with "Other systems";

[TD_ALTAIA] C6.1.6 P26 about interfaces/APIs.)

If the resource performance degradation report is created as a result of a notification or request from processes other than Monitor Resource Performance processes, the Create Resource Performance Degradation Report processes are responsible for converting the received information into a form suitable for the Resource Performance Management processes, and for requesting additional information if required. **A**

(Altaia Alarm Manager Module provides an API to receive notifications from resource performance degradation from other processes.

[TD_ALTAIA] C5.1 P21 about interface with "Other systems";

[TD_ALTAIA] C6.1.6 P26 about interfaces/APIs.)

4.2.1.6 Track & Manage Resource Performance Resolution (1.1.3.4.6)

Table 4.13 Track & Manage Resource Performance Resolution (1.1.3.4.6) Mapping Details

LEVEL 3 PROCESS MAPPING DETAILS 1.1.3.4.6 Track & Manage Resource Performance Resolution
Brief Description Ensure testing, repair and restoration activities are assigned, coordinated and tracked efficiently, and that escalation is invoked as required for any open resource performance degradation reports in jeopardy. **AM** (Supported by Altaia and Sigo TTK. Altaia generates resource performance degradation reports and manages them, since creation to closure. If the situation requires a restoration activity, Altaia notifies Sigo TTK which creates a ticket and manages all the related improvement activities until it becomes resolved. Sigo TTK also co-ordinate all the actions necessary (for instance testing activities, escalate degradation reports in jeopardy) in order to guarantee all activities (for instance, tasks are finished at the appropriate time and in the appropriate sequence). Sigo TTK notifies Altaia whenever a change occurs in the status of the ticket. [TD_Overview] C5.5 P56 about NOSSIS in E2E Process Management Process; [TD_Overview] C4 P19 about NOSSIS Products (Sigo TTK(P27)). Further details covered within the body of the Extended Description Mapping.) **Extended description** The objective of the Track & Manage Resource Performance Resolution processes is to efficiently assign, coordinate and track specific resource performance analysis and control activities, and escalate any open resource performance degradation reports in jeopardy. **AM** (After the QoS data analysis and detections of exceeded thresholds, Altaia can open degradation tickets directly to the problem management system (Sigo TTK). [TD_ALTAIA] C5.1 P21, about interface description for Altaia – Sigo TTK; [TD_ALTAIA] C4.1.2 P19, for use case example. Sigo TTK manages tickets starting with the creation, choosing the team to be assigned, until it reaches a completion status. [TD_SigoTTK] C6.3 P38, about management of a ticket; [TD_SigoTTK] C6.1.2 P31, about Problem Management; [TD_SigoTTK] C4.3 P23, for use case example. When Sigo TTK detects that a SLA of an activity was 'violated' a notification is send to alert an intervening party. This notification escalates the situation. [TD_SigoTTK] C6.3 P38, about management of a ticket.) Responsibilities of these processes include, but are not limited to:

· Adding additional information to an open resource performance degradation report based on the first-in and on-going analysis; **AM**

(After identifying the source/origin of the TTK, its information is enriched with useful data for locating and solving the problem (example: resource inventory information). Sigo TTK provides the user with the capability to add additional information to the ticket (directly via the trouble ticket registry, or via the related participation(s)/intervention(s) registry).
[TD_SigoTTK] C5.1 P26, about interface between Sigo TTK and Netwin;
[TD_SigoTTK] C6.1.2 P31, about problem management, more specifically the kind of information that can be added/updated.)

· Scheduling, assigning and coordinating analysis and specific resource performance restoration activities and/or repair activities delegated to other processes; **AM**

(Sigo TTK has mechanisms that allow coordinating and reassigning restoration activities delegated to other processes (for instance Configuration Management processes, Service Providers/Suppliers Processes).
[TD_SigoTTK] C6.1.2 P31, about problem management, more specifically assigning participation to a team managed by other system.)

· Generating the respective S/P problem report creation request(s) to Initiate S/P Problem Report processes based on specific resource performance degradation reports where analysis the root cause is related to S/P products; **A**

(Sigo TTK creates a ticket based on the information received from Altaia request. If it's a root cause, Altaia could identify to Sigo TTK all the events associated to the root cause, when applicable. If that root cause is related with S/P products, Sigo TTK will notify the S/P to solve the problem.
[TD_SigoTTK] C4.3 P23, for use case example.
[TD_SigoTTK] C6.3 P38, about managing a ticket, more specifically a FR to S/P.)

· Modifying information in an existing resource performance degradation report based on assignments; **AM**

(Sigo TTK provides assigned teams with the capability to add additional information to the ticket in any phase of the workflow. Each team, as a result of the work performed to solve the problem, will fill out an intervention register in Sigo TTK.
[TD_SigoTTK] C6.1.2 P31, about problem management, more specifically about team intervention information register;
[TD_SigoTTK] C6.3 P38, about managing a ticket, more specifically about team intervention information upload in offline mode.)

· Modifying the resource performance degradation report status; **A**

(Since the resource performance degradation report needs restoration activities, Altaia interfaces with Sigo TTK that creates a ticket and manages its status. Sigo TTK notifies ALTAIA whenever a change occurs in the status of the ticket thus allowing the update of the status of the resource

performance degradation report in Altaia.

[TD_SigoTTK] C6.3 P38, about managing a ticket;

[TD_SigoTTK] C4.3 P23, for use case example.)

· Canceling a resource performance degradation report when the specific request was related to a false resource failure event; and **AM**

(Sigo TTK allows the termination of a ticket that result from a false resource failure event. The ticket status becomes 'Canceled' in Sigo TTK, and Altaia will be notified.

[TD_SigoTTK] C6.1.2 P31, about ticket status;

[UM_ALTAIA] C4.8.2.4 P123, about manual termination of an Alarm;

[TD_SigoTTK] C4.3 P23, for use case example.)

· Monitoring the jeopardy status of open resource performance degradation reports, and escalating resource performance degradation reports as necessary. **A**

(Sigo TTK monitors jeopardy status, based on SLA definitions.When necessary it can escalate to an intervening party using notifications facilities.

[TD_SigoTTK] C6.3 P38, about managing a ticket, more specifically SLA configurations and notifications.)

These processes will co-ordinate all the actions necessary in order to guarantee that all tasks are finished at the appropriate time and in the appropriate sequence. **AM**

(Sigo TTK monitors and manages the status of the ticket according with the configurated rules.

[TD_SigoTTK] C6.3 P38, about managing a ticket;

[TD_SigoTTK] C6.1.2 P31, Problem Management, more specifically about ticket status.)

The Track & Manage Resource Performance Resolution processes will also inform the Close Resource Performance Degradation Report processes by modifying the resource performance degradation report status to cleared when the specific resource performance issues have been resolved. **AM**

(Sigo TTK notifies ALTAIA whenever a change occurs in the status of the ticket thus allowing the update of the status of the resource performance degradation report in Altaia.

[TD_SigoTTK] C6.1.2 P31, about managing ticket status.)

4.2.1.7   Close Resource Performance Degradation Report (1.1.3.4.7)

Table 4.14 Close Resource Performance Degradation Report (1.1.3.4.7) Mapping Details

LEVEL 3 PROCESS MAPPING DETAILS 1.1.3.4.7 Close Resource Performance Degradation Report
Brief Description Close a resource performance degradation report when the resource performance has been resolved**. A** (Supported by Altaia. Altaia provides a main screen for alarms management where the resource performance degradation report could be closed. [TD_Overview] C5.5 P56 about NOSSIS in E2E Quality of Service Process; [TD_Overview] C4 P19 about NOSSIS Products (Altaia(P32)). Further details covered within the body of the Extended Description Mapping.) **Extended description** The objective of the Close Resource Performance Degradation Report processes is to close a resource performance degradation report when the resource performance has been resolved. **A** (Altaia manage the alarm status based on the data received from monitoring the resource. Preventing some exceptional/abnormal situations, Altaia allows the user to close manually a performance report. [UM_ALTAIA] C4.5.1 P42, about the automatic behavior of a threshold; [UM_ALTAIA] C4.8.2.4 P123, about Manual Termination of an Alarm.)   These processes monitor the status of all open resource performance degradation reports, and recognize that a resource performance degradation report is ready to be closed when the status is changed to cleared. **A**   (Altaia detects when the event that originated an open resource performance degradation report has disappeared, and manage automatically the closure of the alarm updating it to the 'Close' status. [UM_ALTAIA] C4.5.1 P42, about the automatic behavior of a threshold; [UM_ALTAIA] C4.5.5 P64 about the options available for configuring thresholds, and C4.5.5.6 P68 about Threshold violations and severities, more specifically the 'Closing Occurrences".)

4.2.2 Supporting Evidence References (Works Cited)

[**TD_Overview**]   [NOSSIS Overview Technical Document]   NOSSIS_Overview_2012_v1.1

[**TD_NA**]   [Network Activator Technical Document]   NOSSIS_DT_NA_2012_v1.0

[**TD_ALTAIA**]   [Altaia Technical Document]   NOSSIS_DT_ALTAIA_2012_v1.1

[**TD_Netwin**]   [Netwin Technical Document]   NOSSIS_DT_Netwin_2012_v1.0

[**TD_SigoTTK**]   [SigoTTK Technical Document]   NOSSIS_DT_SigoTTK_2012_v1.2

[**UM_ALTAIA**]   [Altaia User Manual]   Altaia_V5.2_MNMU_V1.0

[**AM_NA**]   [Network Activator Administration Manual]   NetworkActivator_V3.3_MNMA_QoS Collector V1.3

4.2.3 Scores for 1.1.3.4 – Resource Performance Management [7/7]

Each Level 3 Process was scored by breaking down groupings of Implied Tasks according the decomposition to Level 4 processes as defined in Frameworx 12. This methodology is used to provide a more granular level of scoring of the Business Process Framework Level 3 Processes.

4.2.3.1 Monitor Resource Performance (1.1.3.4.1)

1.1.3.4.1 Monitor Resource Performance - Scores	
Grouping of Implied Tasks	**Score**
Manage Resource Performance Data (1.1.3.4.1.1)	*100%*
Record Resource Performance Data (1.1.3.4.1.2)	*100%*
Correlate Resource Performance Event Notifications (1.1.3.4.1.3)	*100%*
Total score for Parent Level 3 Process	**5**

4.2.3.2 Analyze Resource Performance (1.1.3.4.2)

1.1.3.4.2 - Analyze Resource Performance - Scores	
Grouping of Implied Tasks	**Score**
Perform Specific Resource Performance Diagnostics (1.1.3.4.2.1)	*100%*
Manage Resource Performance Data Collection Schedules (1.1.3.4.2.2)	*100%*
Total score for Parent Level 3 Process	**5**

4.2.3.3 Control Resource Performance (1.1.3.4.3)

1.1.3.4.3 - Control Resource Performance - Scores	
Grouping of Implied Tasks	**Score**
Instantiate Resource Performance Controls (1.1.3.4.3.1)	*100%*
Initiate Resource Trouble Controls (1.1.3.4.3.2)	*100%*
Total score for Parent Level 3 Process	**5**

4.2.3.4 *Report Resource Performance (1.1.3.4.4)*

1.1.3.4.4 - Report Resource Performance - Scores	
Grouping of Implied Tasks	**Score**
Monitor Resource Performance Degradation Report (1.1.3.4.4.1)	*100%*
Distribute Resource Quality Management Reports & Summaries (1.1.3.4.4.2)	*100%*
Total score for Parent Level 3 Process	**5**

4.2.3.5 *Create Resource Performance Degradation Report (1.1.3.4.5)*

1.1.3.4.5 - Create Resource Performance Degradation Report - Scores	
Grouping of Implied Tasks	**Score**
Generate Resource Performance Degradation Problem (1.1.3.4.5.1)	*100%*
Convert Report To Resource Performance Degradation Report Format (1.1.3.4.5.2)	*100%*
Total score for Parent Level 3 Process	**5**

4.2.3.6 *Track & Manage Resource Performance Resolution (1.1.3.4.6)*

1.1.3.4.6 - Track & Manage Resource Performance Resolution - Scores	
Grouping of Implied Tasks	**Score**
Coordinate Resource Performance (1.1.3.4.6.1)	*100%*
Request S/P Performance Degradation Report Creation and Update (1.1.3.4.6.2)	*100%*
Update First in Resource Testing Results (1.1.3.4.6.3)	*100%*
Cancel Resource Performance Degradation Report (1.1.3.4.6.4)	*100%*
Escalate/End Resource Performance Degradation Report (1.1.3.4.6.5)	*100%*
Clear Resource Performance Degradation Report Status (1.1.3.4.6.6)	*100%*

Engage External REsource Suppliers (1.1.3.4.6.7)	*100%*
Total score for Parent Level 3 Process	**5**

4.2.3.7 Close Resource Performance Degradation Report (1.1.3.4.7)

1.1.3.4.7 - Close Resource Performance Degradation Report - Scores	
Grouping of Implied Tasks	**Score**
No decomposition to Level 4 processes – score awarded for the Level 3 process in its entirety	*100%*
Total score for Parent Level 3 Process	**5**

5   Information Framework Assessment Overview

5.1   Mapping Technique Employed

The certification scope defines the list of ABEs (Aggregated Business Entities) to be addressed during the assessment. The entities, association classes and dependent entities for each ABE in scope are also included in the assessment.

The mapping technique used, was based on the analysis of the SID model files and addendum specifications for the entities', association classes' in scope and its related attributes. The role of each entity', association class or attribute is then interpreted and mapped into the NOSSIS SUITE information model related element. This will clearly state how the SID model is supported by NOSSIS SUITE.

5.2   Information Framework Assessment - ABE Scope

Figure 5.1 illustrates the Information Framework Level 1 ABEs that were presented in scope for the Assessment, and the textual callouts represent the domain areas of the Portugal Telecom Inovação NOSSIS Suite that were assessed and support the corresponding SID ABEs.

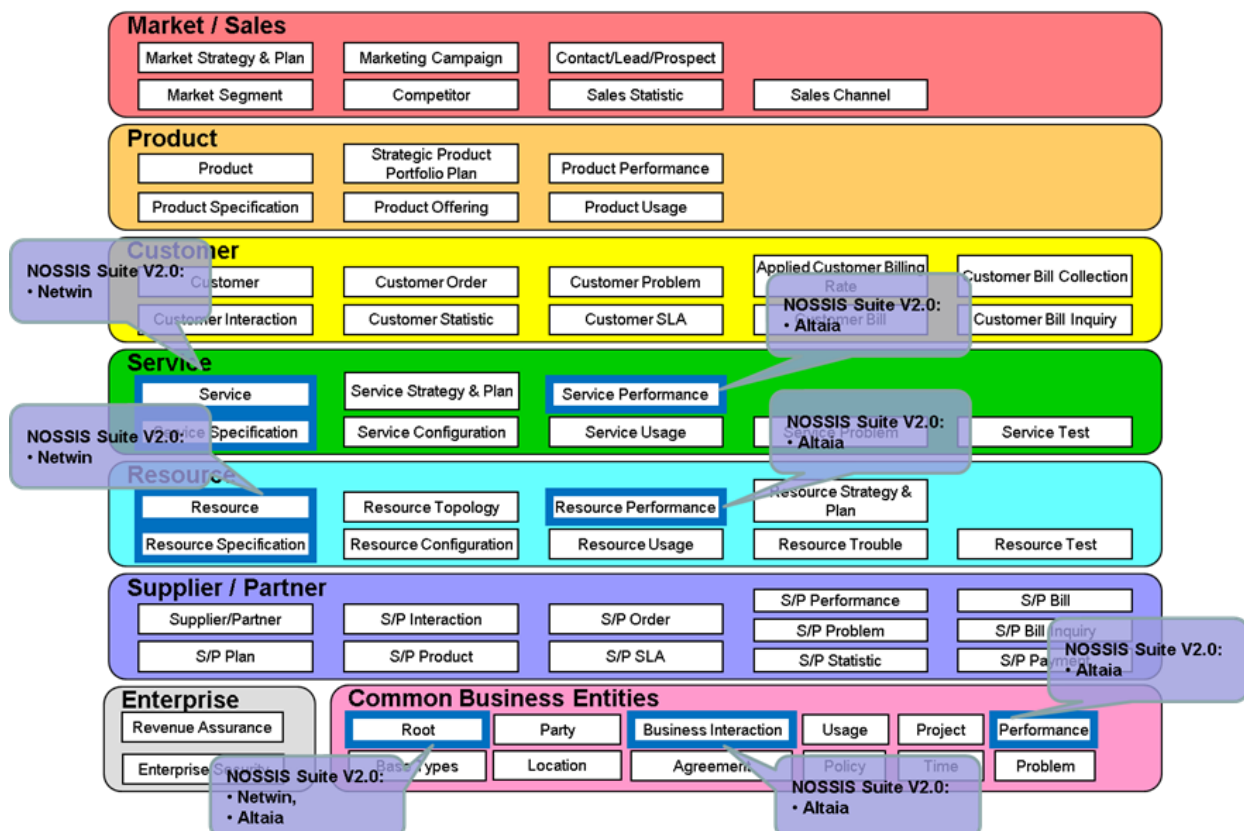**Figure 5.1 Information Framework 12 – Level 1 ABEs in scope for NOSSIS V2.0 Assessment**

5.3 Product Scope

The diagram in Figure 5.2 represents the Portugal Telecom Inovação NOSSIS Suite and how it is mapped to the Information Framework Level 1 ABEs that were assessed as part of this Frameworx Conformance Assessment.
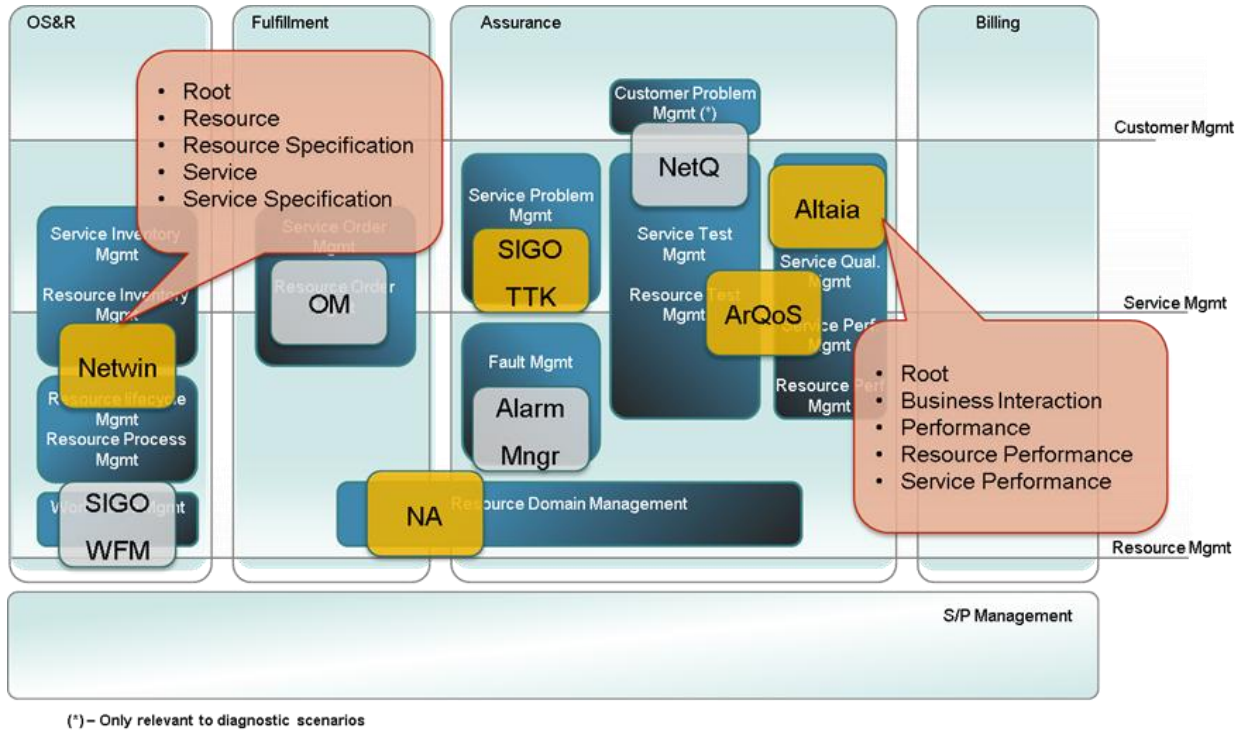

Figure 5.2 NOSSIS Suite V2.0 Product Footprint – Product Scope for SID Assessment

6 Frameworx Conformance Result

This section details the Scores awarded to reflect Conformance of the Portugal Telecom Inovação NOSSIS Suite to the Business Process Framework & Information Framework components of Frameworx 12.

6.1 Business Process Framework – Scoring Rules

The conformance scores granted were based on the following TM Forum scoring rules:

Frameworx 12.0 Conformance Certification (Product/Solution/Implementation)		
Business Process Framework (eTOM) - Conformance Level Descriptions (Level 3 processes)		
Process level	**Conformance Score**	**Qualifier**
Level 1	Not applicable	Conformance Assessment shall not be carried out at this process level - hence Confomance Level shall not be awarded at this level.
Level 2	Not applicable	A conformance level is not awarded to Level 2 processes in Frameworx 12.0 Assessments. The Certification Report shall highlight the coverage of 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 for the Level 2 process.
Level 3	Score is awarded between 3.1 & 5.	The Conformance Score is awarded for each Level 3 processes 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. *Any manual implementation of the process support shall be noted in the Conformance Report and Detailed Results Report.*

Figure 6.1 TM Forum Business Process Framework – Conformance Scoring Rules

6.2   Business Process Framework - Conformance Result Summary

The graph in this section provides an overview of the conformance levels granted to the Level 3 Processes presented in scope for the Portugal Telecom Inovação NOSSIS Suite Assessment. Each Level 3 process was measured using a Business Process Framework (eTOM) conformance score according to level of Conformance – Full Conformance or Partial Conformance as described in section 6.1 Business Process Framework – Scoring Rules.
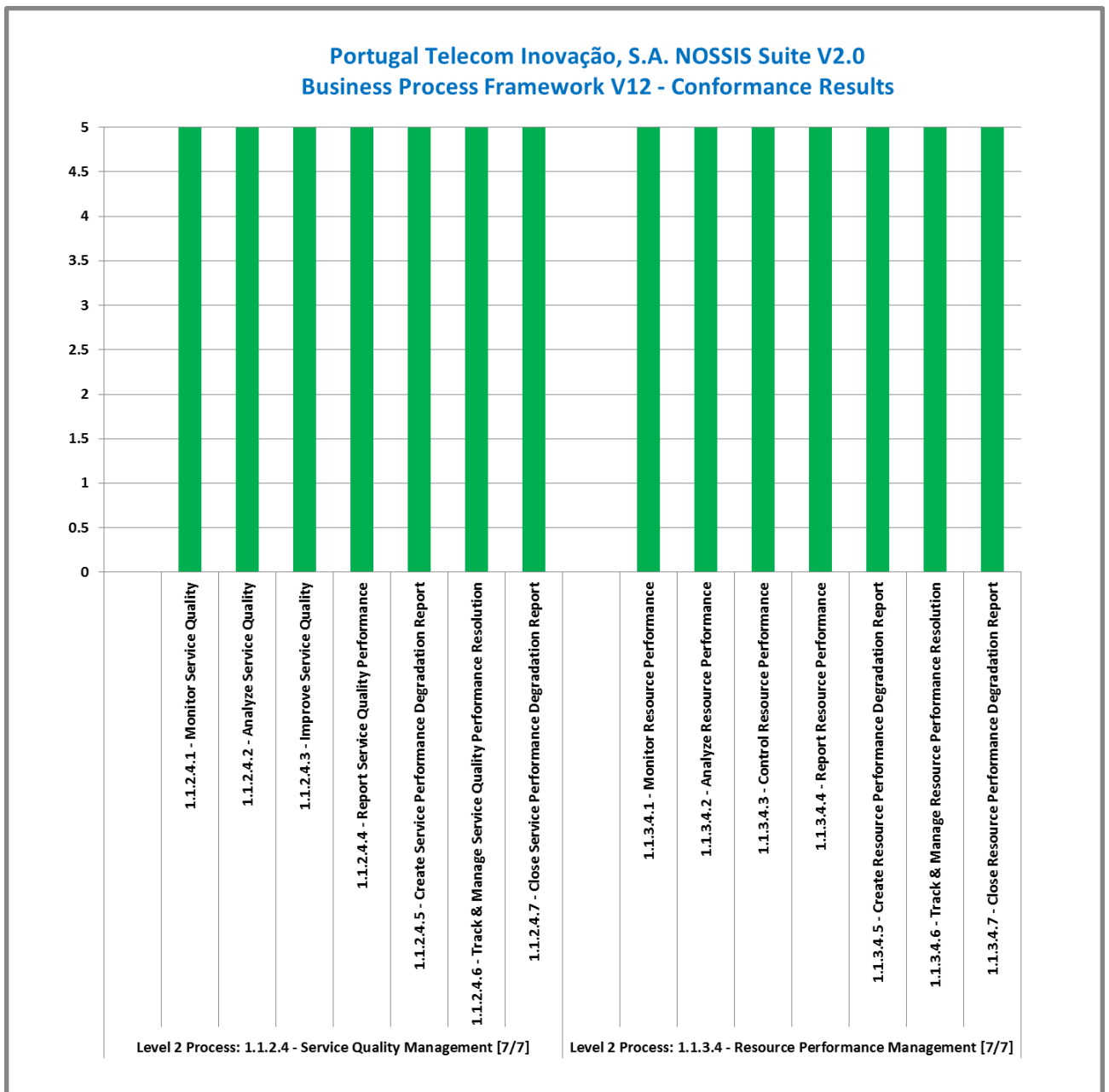

Figure 6.2 Business Process Framework - Conformance Result Summary

6.3   Business Process Framework – Conformance Results Detailed

The following table provides a more detailed breakdown of the scores awarded with some additional commentary.

Table 6.1 Business Process Framework – Detailed Conformance Result

eTOM process element	Conformance Score	Comment
Within Level 1: **1.1.2 Service Management & Operations**	*N/A* *(Level 1 Processes are not assessed)*	The following Level 2 process elements were submitted in scope for this Level 1 process: **1.1.2.4 - Service Quality**
Within Level 2: **1.1.2.4 - Service Quality Management**	**Scope** **7/7**	The following Level 3 processes were assessed for conformance: **1.1.2.4.1 - Monitor Service Quality** **1.1.2.4.2 - Analyze Service Quality** **1.1.2.4.3 - Improve Service Quality** **1.1.2.4.4 - Report Service Quality Performance** **1.1.2.4.5 - Create Service Performance Degradation Report** **1.1.2.4.6 - Track & Manage Service Quality Performance Resolution** **1.1.2.4.7 - Close Service Performance Degradation Report** These processes represent the full level 3 process scope (7 out of 7) defined within the 1.1.2.4 - Service Quality Management (level 2) process.
1.1.2.4.1 - Monitor Service Quality	**5**	*Fully Conformant* *Supporting evidence and documentation submitted for the assessment of this level 3 process fulfilled alignment criteria with the standard Business Process Framework (eTOM).*
1.1.2.4.2 - Analyze Service Quality	**5**	*Fully Conformant* *Supporting evidence and documentation submitted for the assessment of this level 3 process fulfilled alignment criteria with the standard Business Process Framework (eTOM).*

1.1.2.4.3 - Improve Service Quality	**5**	*Fully Conformant* *Supporting evidence and documentation submitted for the assessment of this level 3 process fulfilled alignment criteria with the standard Business Process Framework (eTOM).*
1.1.2.4.4 - Report Service Quality Performance	**5**	*Fully Conformant* *Supporting evidence and documentation submitted for the assessment of this level 3 process fulfilled alignment criteria with the standard Business Process Framework (eTOM).*
1.1.2.4.5 - Create Service Performance Degradation Report	**5**	*Fully Conformant* *Supporting evidence and documentation submitted for the assessment of this level 3 process fulfilled alignment criteria with the standard Business Process Framework (eTOM).*
1.1.2.4.6 - Track & Manage Service Quality Performance Resolution	**5**	*Fully Conformant* *Supporting evidence and documentation submitted for the assessment of this level 3 process fulfilled alignment criteria with the standard Business Process Framework (eTOM).*
1.1.2.4.7 - Close Service Performance Degradation Report	**5**	*Fully Conformant* *Supporting evidence and documentation submitted for the assessment of this level 3 process fulfilled alignment criteria with the standard Business Process Framework (eTOM).*
Within Level 1: **1.1.3 Resource Management & Operations**	**N/A** **(Level 1 Processes are not assessed)**	*The following Level 2 process elements were submitted in scope for this Level 1 process:* *1.1.3.4 – Resource Performance Management*
Within Level 2: **1.1.3.4 - Resource Performance Management**	**Scope** **7/7**	The following Level 3 processes were assessed for conformance: **1.1.3.4.1 - Monitor Resource Performance** **1.1.3.4.2 - Analyze Resource Performance** **1.1.3.4.3 - Control Resource Performance** **1.1.3.4.4 - Report Resource Performance** **1.1.3.4.5 - Create Resource Performance Degradation**

		Report **1.1.2.4.6 - Track & Manage Resource Performance Resolution** **1.1.3.4.7 - Close Resource Performance Degradation Report** These processes represent the full level 3 process scope (7 out of 7) defined within the 1.1.3.4 – Resource Performance Management (level 2) process.
1.1.3.4.1 - Monitor Resource Performance	5	*Fully Conformant* *Supporting evidence and documentation submitted for the assessment of this level 3 process fulfilled alignment criteria with the standard Business Process Framework (eTOM).*
1.1.3.4.2 - Analyze Resource Performance	5	*Fully Conformant* *Supporting evidence and documentation submitted for the assessment of this level 3 process fulfilled alignment criteria with the standard Business Process Framework (eTOM).*
1.1.3.4.3 - Control Resource Performance	5	*Fully Conformant* *Supporting evidence and documentation submitted for the assessment of this level 3 process fulfilled alignment criteria with the standard Business Process Framework (eTOM).*
1.1.3.4.4 - Report Resource Performance	5	*Fully Conformant* *Supporting evidence and documentation submitted for the assessment of this level 3 process fulfilled alignment criteria with the standard Business Process Framework (eTOM).*
1.1.3.4.5 - Create Resource Performance Degradation Report	5	*Fully Conformant* *Supporting evidence and documentation submitted for the assessment of this level 3 process fulfilled alignment criteria with the standard Business Process Framework (eTOM).*
1.1.3.4.6 - Track & Manage Resource Performance Resolution	5	*Fully Conformant* *Supporting evidence and documentation submitted for the assessment of this level 3 process fulfilled alignment criteria with the standard Business Process Framework (eTOM).*

1.1.3.4.7 - Close Resource Performance Degradation Report	**5**	***Fully Conformant*** *Supporting evidence and documentation submitted for the assessment of this level 3 process fulfilled alignment criteria with the standard Business Process Framework (eTOM).*

tmf⦵rum

6.4   Information Framework – Scoring Rules

The conformance scores granted were based on the following TM Forum scoring rules:

Frameworx 12.0 Conformance Certification (Product/Solution/Implementation)	
Information Framework (SID) - Conformance Score Descriptions	
Conformance Score	**Qualifier**
Non Conformance [Score = 1]	The content of the model is compatible with a subset of the Information Framework (SID) ABEs that define its domain coverage. This provides two interacting components/solutions with a common vocabulary and model structure. The subset represents the scope of the model, expressed in Information Framework (SID) domains
Non Conformance [Score = 2]	The model has passed level 1 conformance and the content of the ABE, part of the domain coverage and defined in the model, contains the ABE's core business entity or entities. A core business entity is an entity upon which other entities within the ABE are dependent. e.g. Service in the Service ABE. A core entity is also an entity whose
Very Low Conformance [2.0 < Score <= 3.0]	The model has passed level 2 conformance and *a percentage of the required attributes of the ABE's core entity or entities are defined in the model.
Low Conformance [3.0 < Score <= 4.0]	The model has passed level 3 conformance and *a percentage of the dependent entities within the ABE are defined in the model. 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.
Medium Conformance [4.0 < Score <= 5.0]	The model has passed level 4 conformance and *a percentage of the required attributes of the ABE's dependent entities are defined in the model.
High Conformance [5.0 < Score <= 6.0]	The model has passed level 5 conformance and *a percentage of all attributes of the ABE's core entities are defined in the model.
Very High Conformance [6.0 < Score < 7.0]	The model has passed level 6 conformance and *a percentage of all attributes of the ABE's dependent entities are defined in the model.
Full Conformance [Score = 7.0]	The model has achieved Level 7 conformance (Full Conformance) and all attributes of the ABE's core & dependent entities are defined in the model.
* 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).	

Figure 6.3 TM Forum Information Framework – Conformance Scoring Rules

Notes:

*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.*

*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.*

6.5   Information Framework – Conformance Result Summary

The following graph provides an overview of the conformance levels granted to the ABEs presented in scope for the Portugal Telecom Inovação NOSSIS Suite Information Framework Assessment. Each ABE was measured using an Information Framework (SID) conformance scale of 1–7 as described in section 6.4.
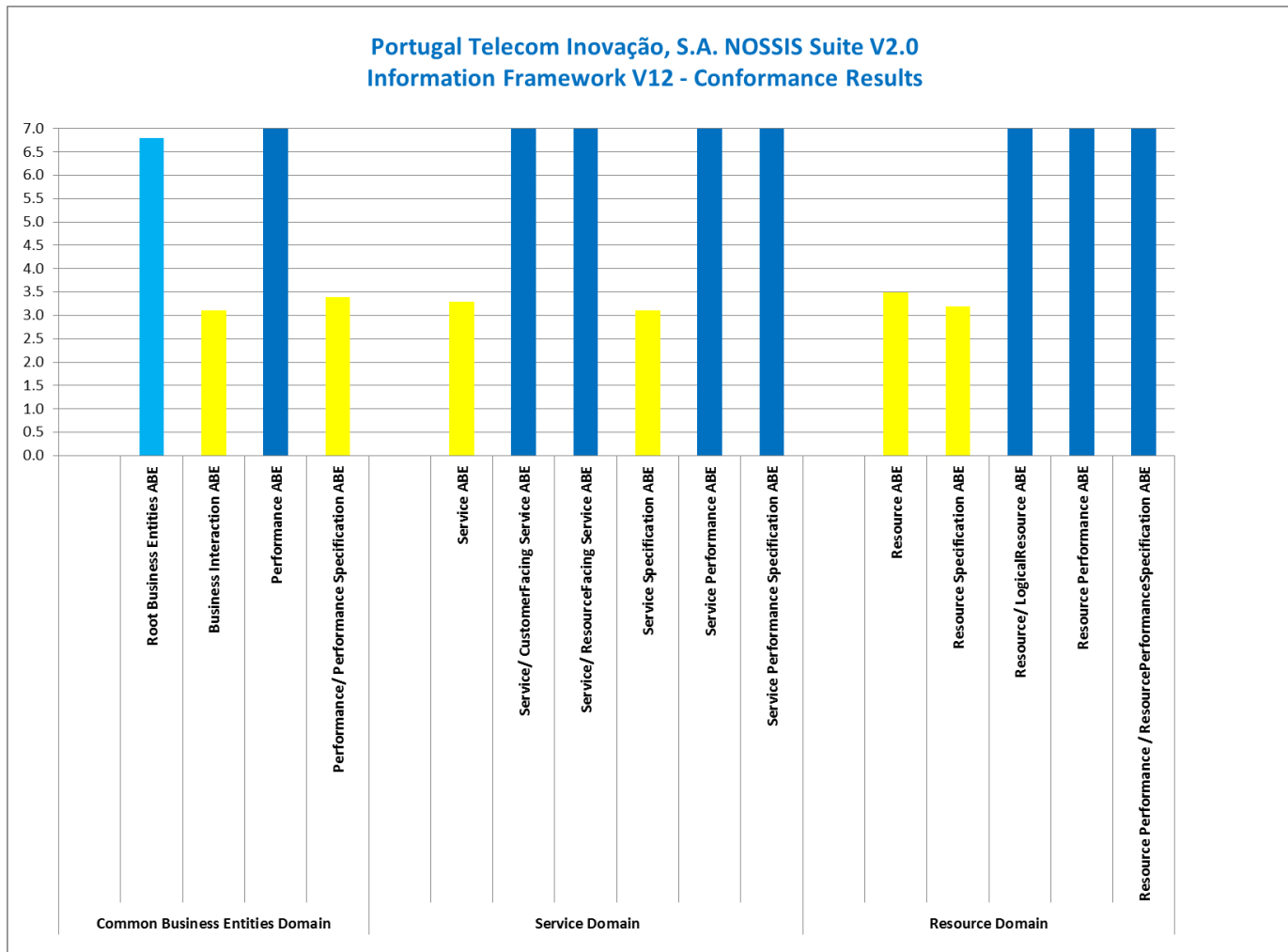

Figure 6.4 Information Framework - Conformance Result Summary

6.6   Information Framework – Conformance Result Detailed

The following table provides a more detailed breakdown of the scores awarded with some additional commentary.

Table 6.2 Information Framework – Detailed Conformance Result

Information Framework (SID) Domain	Information Framework (SID) ABE	Conformance Score	Comment
Common Business Entities Domain			
	Root Business Entities ABE	6.8	Core entity, required attributes, dependent entities, required attributes of dependent entities, all attributes of the core entity, all required attributes of dependent entities, 80% of dependent entity optional attributes.
	Business Interaction ABE	3.1	Core entity, required attributes, 10% of dependent entities.
	Performance ABE	7.0	Core entity, required attributes, dependent entities, required attributes of dependent entities, all attributes of the core entity, all attributes of dependent entities.
	Performance/ Performance Specification ABE	3.4	Core entity, required attributes, 40% of dependent entities.
Service Domain			
	Service ABE	3.3	Core entity, required attributes, 30% of dependent entities.
	Service/ CustomerFacing Service ABE	7.0	Core entity, required attributes, dependent entities, required attributes of dependent entities, all attributes of the core entity, all attributes of dependent entities. TM Forum Notes: 1. See Service conformance score. 2. Although the Customer Facing Service Spec ABE was not assessed the CustomerFacingServiceSpec

Information Framework (SID) Domain	Information Framework (SID) ABE	Conformance Score	Comment
Portugal Telecom Inovação NOSSIS SUITE Release 2.0 **Information Framework (SID) Release 12 Conformance**			
			entity was mapped.
	Service/ ResourceFacing Service ABE	7.0	Core entity, required attributes, dependent entities, required attributes of dependent entities, all attributes of the core entity, all attributes of dependent entities. TM Forum Notes: 1. See Service conformance score. 2. Although the Resource Facing Service Spec ABE was not assessed the ResourceFacingServiceSpec entity was mapped.
	Service Specification ABE	3.1	Core entity, required attributes, 10 % of dependent entities.
	Service Performance ABE	7.0	Core entity, required attributes, dependent entities, required attributes of dependent entities, all attributes of the core entity, all attributes of dependent entities.
	Service Performance Specification ABE	7.0	Core entity, required attributes, dependent entities, required attributes of dependent entities, all attributes of the core entity, all attributes of dependent entities. TM Forum note: See Performance Specification conformance score.
Resource Domain			
	Resource ABE	3.5	Core entity, required attributes, 50% of dependent entities.
	Resource Specification ABE	3.2	Core entity, required attributes, 20% of dependent entities.
	Resource/ LogicalResource ABE	7.0	Core entity, required attributes, dependent entities, required attributes of dependent entities, all attributes of the core entity, all attributes of dependent entities. TM Forum Notes: 1. See Resource ABE conformance score. 2. Although the LogicalResource

Portugal Telecom Inovação NOSSIS SUITE Release 2.0 Information Framework (SID) Release 12 Conformance			
Information Framework (SID) Domain	**Information Framework (SID) ABE**	**Conformance Score**	**Comment**
			Specification ABE was not assessed the LogicalResourceSpec entity was mapped.
	Resource Performance ABE	7.0	Core entity, required attributes, dependent entities, required attributes of dependent entities, all attributes of the core entity, all attributes of dependent entities.
	Resource Performance/ Resource Performance Specification ABE	7.0	Core entity, required attributes, dependent entities, required attributes of dependent entities, all attributes of the core entity, all attributes of dependent entities. TM Forum note: See Performance Specification conformance score.