Assurance Approach

TIBCO Hub Upgrade 2019 - Software Updates

14 June 2019

V1.0
Final

Gemserv

Contents

CHANGE HISTORY

Version	Status	Issue Date	Author	Comments
0.1	Initial Draft	28 May 2019	Elizabeth Montgomerie	
0.2	Draft post review	4 June 2019	Elizabeth Montgomerie	
0.3	Draft for review by RMDS	5 June 2019	Elizabeth Montgomerie	
0.4	Draft for approval	6 June 2019	Elizabeth Montgomerie	Updates post RMDS review
1.0	Final	14 June 2019	Elizabeth Montgomerie	CRU Approved

DOCUMENT CONTROLS

Reviewer	Role	Responsibility	Date
Sarah Fuller	RMDS Contract Manager	Technical Reviewer	04 June 19
Lindsay Sharpe	RMDS Manager	Reviewer	06 June 19
Alan Keegan	CRU	Approver	13 June 19
IGG	Industry Governance Group	For Information	14 June 10

1. INTRODUCTION

This paper describes the approach that will be employed by Gemserv to deliver assurance for the changes to be made under the TIBCO Upgrade Project, led and owned by ESB Networks (ESBN). RMDS has engaged Gemserv to provide assurance services on behalf of the CRU, to ensure that the impact of the changes to the market is mitigated successfully.

Market Participants can use this approach to make themselves aware of the type and scale of activity expected of them through the assurance processes. Further information will be provided closer to each step of assurance to provide deeper clarity.

RMDS, on behalf of the CRU, requires an assurance approach to be developed and delivered to give confidence that the TIBCO Upgrade Project is helping mitigate risk to the market, where this risk is identifiable, and delivery is in compliance with the technical and timescale requirements. Overall the assurance services will review the impact on the integrity of the Retail Market Design.

This document describes the different stages of assurance, and the delivery of the assurance approach. Also described in this document is the scope of what is and isn't included in the approach.

Cut-over for the TIBCO Upgrade Project is scheduled to take place on 6 October 2019.

In this context of the implementation of the defined TIBCO Upgrade Project, the overall objective of the assurance strategy is to provide confidence to the CRU in the continued operability of the markets following cut-over. More precisely this assurance work includes verifying:

- That ESBN have designed, developed and tested the changes according to a robust programme management regime, taking into account functional, performance and resilience requirements. Gemserv will assess this by inspection of ESBN programme records through the Self-Assessment and Formal Assessment assurance techniques.
- That ESBN has in place a well-defined readiness plan and that all Market Participants are aware of the upgrade.
  Gemserv will do this using Self-Assessment assurance technique for ESBN.
- That key market functions and processes can be operated by all Market Participants and remain unchanged by the changes.
  Gemserv will do this by designing a series of Inter Participant Testing (IPT) scenarios for Market Participants to undertake (facilitated and controlled by RMDS) and reviewing the results against clear expected outcomes.

This approach will be guided by a set of principles that Gemserv will follow to undertake the assurance techniques. These principles are listed below. The assurance services that Gemserv provides will:

- Provide transparency to all stakeholders,
- Be timely, accurate and complete in the provision of the assurance services and associated toolkits,
- Be independent and impartial,
- Impose the least burden on Market Participants that is possible without compromising confidence in the assurance techniques, and
- Inspire confidence in the assurance regime.

This strategy can only be delivered in collaboration with the TIBCO Upgrade Project with transparency and commitment from both the project and the assurance body. The delivery of the assurance approach **_may_** result in altering the timeframe of the TIBCO Upgrade delivery if a significant issue is identified that requires assessment and addressing.

2. ROLES & RESPONSIBILITIES

Area of Ownership	Role	Role Description
Gemserv, as the Assurance Body	Assurance Lead	To lead the independent assurance activities in providing confidence of the mitigated impact of these changes to the Retail Market Design Service.
RMDS	Retail Market Design Service Manager & Team	To lead assurance function for Retail Market on behalf of the CRU. Act as subject matter expert on the Retail Market Design Service and to manage communications and coordination with the Retail Market in relation to all assurance activities between all stakeholders. Facilitate, manage and co-ordinate IPT following IPT scenario provision by Gemserv.
ESBN	TIBCO Hub Upgrade Project Manager and ESBN project representative	To Project manage the TIBCO Hub Upgrade changes through to implementation in the live environments.
CRU	Authority	To receive the output of the assurance strategy for review. Provide direction based on output and recommendation in assurance report in the interest of market operational integrity.

TABLE 1: ROLES AND RESPONSIBILITIES

3. TIBCO HUB UPGRADE PROJECT OBJECTIVES & CHANGES

The technical scope of the project is:

- NIEN/ESBN are undertaking a project to upgrade various software components which form part of the current TIBCO Market Message solution in order to continue to avail of vendor support.
- The upgrade approach is based on a fresh install of the latest TIBCO solution components (application and database software) on new VMs running the latest applicable version of RHEL.
- Subject project covers the creation of new upgraded DEV, SIT, IPT and Pre-Production TIBCO Market Message environments and associated testing by the Atos TIBCO support team.

TIBCO Upgrade Project - In Scope:

- Currently NIEN/ESBN use a TIBCO based solution to provide Market Message functionality for the whole of Ireland. The solution consists of a central hub which sends and receives messages on behalf of NIEN and ESBN, with suppliers having locally installed EMMAs based on a TIBCO technology stack that allows them to exchange messages with the central hub.
- The scope of this project is the upgrade of the TIBCO hub solution and supplier EMMAs.

TIBCO Upgrade Project - Out of Scope:

- Changes to functionality or integration of the Tibco solution.
- Encryption of data at rest in DB2.
- Upgrade of IBM Webform Components

TIBCO Upgrade Project - Outputs:

- New TIBCO Production platform based on latest available compatible versions of TIBCO component software
- New DB2 Production database based on latest compatible version of DB2 software
- Upgraded supplier EMMAs running supported versions of TIBCO software

TIBCO Upgrade Project - Outcomes:

- Fully supported TIBCO solution in terms of software, underlying OS and database for both the Hub and supplier EMMAs
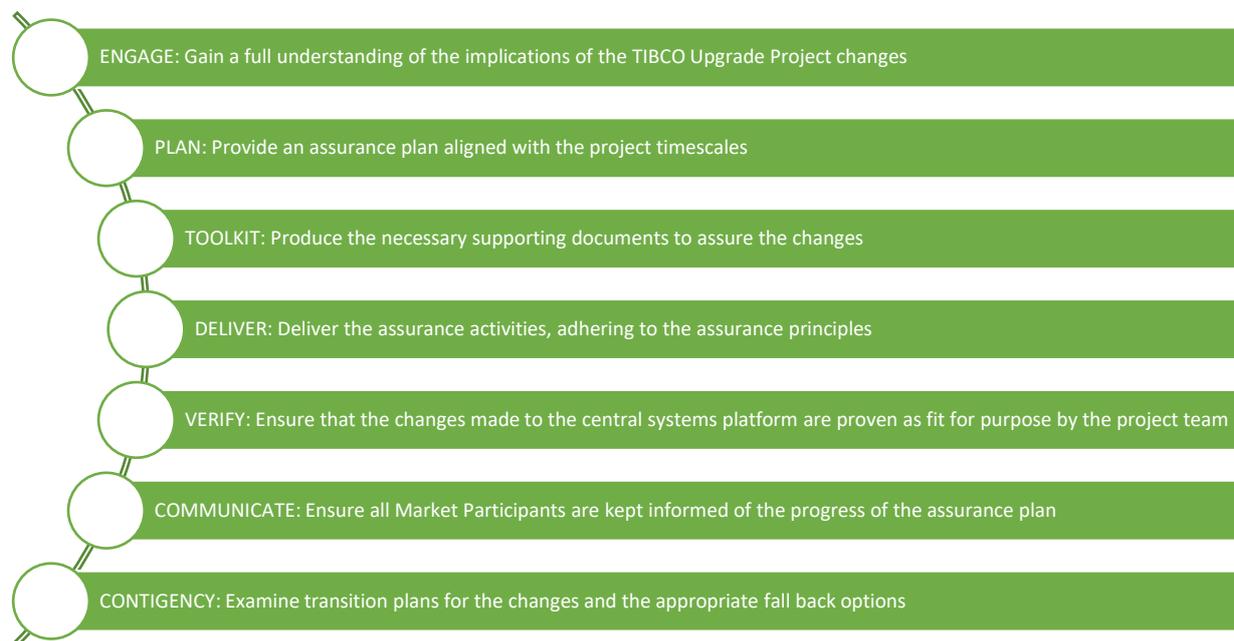
4. ASSURANCE ASSUMPTIONS AND OBJECTIVES

4.2. ASSURANCE ASSUMPTIONS

Resources	Timescales	Market Design	Testing	Cut over	Changes
• ESBN are available to support delivery of the plan. • Suppliers and ESBN can support the IPT process. • All Market Participants provide responses that are accurate, informative and provide supporting evidence.	• Individual project tasks and milestones are completed on schedule. • Any assurance stage delays will result in the overal delivery being delayed. • Any project stage delays will result in the overall delivery being delayed.	• The Retail Market Design must not be altered by these changes. • IPT will be required to prove there has been zero impact on the operation of the Retail Market Design.	• All testing will be auditable and an approritate quality control method employed (including defect and issue management) by ESBN • Defects and issues are captured at the earliest stage possible and communicated accordingly. • There will be no significant or critical defects or issues remaining open following testing by ESBN. • Any open defects or issues will be within defined thresholds	• Cut over proceeds as planned and all issues at cut over are managed quickly and logged appropriately. • Market Participants should see a seemless cutover.	• Suppliers are suitably informed about the changes and have the knowledge and resources to complete the IPT as anticipated within the project and assurance timescales. • No migration of data will be undertaken as part of these changes. • No changes to status quo should be experienced by Market Participants.

4.3. ASSURANCE OBJECTIVES

ENGAGE: Gain a full understanding of the implications of the TIBCO Upgrade Project changes

PLAN: Provide an assurance plan aligned with the project timescales

TOOLKIT: Produce the necessary supporting documents to assure the changes

DELIVER: Deliver the assurance activities, adhering to the assurance principles

VERIFY: Ensure that the changes made to the central systems platform are proven as fit for purpose by the project team

COMMUNICATE: Ensure all Market Participants are kept informed of the progress of the assurance plan

CONTIGENCY: Examine transition plans for the changes and the appropriate fall back options

5. ASSURANCE SCOPE

5.2. IN SCOPE

ESBN - (all roles that it performs) to ensure that they are ready to implement the changes, as necessary and to ensure no change is introduced to the way the market operates

Market Participants – Some Market Participants will be required to assist with risk mitigation by undergoing limited IPT and providing evidence of some key Market Processes. Market Participants will not be making any changes to their systems but will assist in the provision of assurance which aims to ensure the integrity of the Market Design/systems has not been altered by the changes brought about by the TIBCO Upgrade Project. Market Participants will be made aware of the TIBCO Upgrade for information purposes only during the assurance stages, however they will be required to accommodate their EMMAs being updated during cut over activities.

The Retail Market Design – Assurance aims to prove that the changes introduced have not impacted on the retail market design.

5.3. OUT OF SCOPE

The RoI Wholesale Market

Supplier Backend Systems

6. ASSURANCE APPROACH

To deliver assurance for the TIBCO Hub Upgrade (2019), Gemserv will apply the Self-Assessment, Formal Assessment and Inter-Participant Testing assurance techniques.

For Market Participants to exit successfully from the assurance activities, Gemserv must have been satisfied that the changes will result in zero negative impacts to any or all Market Participants or on market performance.

6.2. ASSURANCE TECHNIQUES BY PARTICIPANT TYPE

Table 2 shows how each technique will be applied to the different categories of Market Participant.

Assurance Technique	ESBN	Large Supplier	Small Supplier
Self-Assessment	✓	✗	✗
Formal Assessment	✓	✗	✗
Inter Participant Testing	✓	✓	✓

TABLE 2: ASSURANCE TECHNIQUES DEPLOYED BY PARTICIPANT TYPE

6.3. SELF ASSESSMENT (SA)

The Self-Assessment technique will be used to gather information on ESBN project management methodology and progress to date (with a detailed approach).

Suppliers will not be subject to the Self-Assessment technique because these types of Market Participants will not be required to make any changes nor are they able to effect the changes that ESBN will be undertaking.

The ESBN Self-Assessment Participant Questionnaire will be used to build the requirements for the later Formal Assessment stage, which will take place once a considerable volume of testing has been undertaken by ESBN.

ESBN will be provided with a PQ that elicits details that demonstrate their approach to delivering the changes and will require ESBN to give significant consideration and provision of all appropriate supporting documents.

The minimum standard of response will be identified in advance and there will also be guidance on the type of supporting information that is required. The completed PQ and all evidence will be provided to Gemserv, who will assess the details against the identified exit criteria detailed below.

Any necessary clarifications required by Gemserv will be sought by email or phone with the appropriate Market Participant.

Assurance Technique	Market Participant	Coverage	Exit Criteria
Self-Assessment (Participant Questionnaires)	ESBN	Project Management: • Project governance • Implementation plans • Testing strategies • Risk management • Issue management • Authorisation procedures and sign off • Resourcing	Delivery of: 1. Best practice project management methodology in delivering the changes 2. Implementation plan, delivery timetable & associated resourcing plan 3. Testing strategy and plan 4. Risk & Issue management process (including escalation route) 5. Project authorisation process & sign off procedures

TABLE 3: SELF-ASSESSMENT REQUIREMENTS

6.4. FORMAL ASSESSMENT (FA)

The FA assurance technique includes a site visit made to the Market Participants' offices to undertake records reviews, witnessing and/or sampling processes.

A site visit will only be required to **ESBN**. The areas to be covered within this stage are detailed in the table below.

At the visit, the design, implementation and testing of the changes will be verified by inspection of the supporting documents, test strategy, test scripts and results, including defect identification and management.

An assessment will also be made of the change processes and/or the project to develop and implement the necessary changes.

Any identified deficiencies will be raised with ESBN, to enable them to take the necessary remedial actions and provide evidence of such to Gemserv.

When we are satisfied that the responses are adequate and meet the required expectations, ESBN and RMDS will be informed and we can then move on from FA to the next stage of the assurance process.

Any significant issues identified will be raised immediately with RMDS and the CRU, otherwise a full overview of the FA will be provided in the final Assurance Report.

Assurance Technique	Coverage	Exit Criteria
Formal Assessment (Records Review, Evidence Review, Witnessing)	General: • ESBN Project Delivery • Project PID (current version) • Project Plan • Test Strategy • Quality Reviews • Entry & Exit criteria for test stages • Minutes/records of the latest Project Board Meeting • Requirements Matrix • Cut-over plan, strategy, approach • High Level contingency plan	1. Testing has been carried out to ensure changes in functionality conform to Market Design and Business Requirements. 2. Any defects identified by testing are resolved, or prioritised, according to the impact to delivery. 3. Analysis on the number and nature of defects. Including which functional areas the defects are categorised in. 4. Testing to highlight the functional areas that have undergone the most change by defects identified 5. Testing has been carried out and recorded to ensure there aren't unspecified changes in functionality.

| | | 6. Testing has been carried out and recorded to ensure that there will be zero negative impacts to Market Participants. |
| | | 7. Processes are in place to ensure very high probability of successful implementation of the changes. |

TABLE 4: FORMAL ASSESSMENT REQUIREMENTS

6.5. INTER-PARTICIPANT TESTING (IPT)

The objective of this assurance technique is to assess that the TIBCO Upgrade does not negatively impact the Market, Market Participants, and the operations of the existing systems and processes. A selection of tests have been identified as being necessary to exercise the key market processes in a simulated environment.

Each IPT is defined in terms of a scenario that sets out:

- Objectives
- Initial Conditions
- Market Transactions - steps to complete
- Exit Conditions
- Required Evidence

Gemserv will finalise the scenarios based on the objective that the tests need to assess for negative impacts to the Market Design and operation. As such we have selected a draft 'core set' of tests to be executed by a sample group of Market Participants.

This group will represent the different types of Market Participants within the Market based on types of business solutions and segments that each operates. *It does not require all Market Participants to take part in the IPT stage.* If any Market Participant is not selected but would like to be involved in the IPT stage, they can enquire about the possibility of doing so through the RMDS.

The focus of IPT is for Market Participants to provide support through testing which will confirm that the TIBCO Hub Upgrade has not impacted the core Market Processes or functions. The intention is not for Market Participants to pass or fail the scenarios.

We require three Large Suppliers and one Small Supplier to undertake IPT.

The draft set of Market Scenario tests can be found in Table 5 below, these will be further refined and communicated within the preparation period for the IPT assurance stage. Essentially the tests will be designed and refined to test the core functionality of the Retail Market, to look for positive affirmation that the market remains unaffected by the changes taking place under the TIBCO Hub Upgrade project.

IPT Ref	Scenario	Market Messages
IPT001	NQH COS Gain	010, 102, 105, 310, 310W, 320
IPT002	NQH COS Loss	105L, 110, 208, 310, 310W
IPT003	NQH COS Gain - Objection and Cancellation	010, 011, 012, 012W 102, 111, 112W 112
IPT003a	NQH Debt Flagging	010, 011, 012, 102, 110, 111, 111L, 112
IPT006	NQH De-Energisation	017, 131, 306, 332
IPT009	NQH CoLE	016, 116
IPT011	NQH Readings	300
IPT101	QH COS Gain	010, 102, 105, 331, 341
IPT102	QH COS Loss	105L, 110, 341
IPT105	QH New Connection	010, 101, 101P, 331
IPT107	QH Re-energisation	17, 106E, 131
IPT110	QH CoCD	013, 114
IPT111	QH Interval Data	341
IPT113	QH De-registration	021, 122

TABLE 5: DRAFT IPT SCENARIOS

7. ASSURANCE TIMELINE

Assurance Milestone	Target Date
Assurance Approach Approved by CRU	10 June 2019
Self-Assessment Participant Questionnaire issued	17 June 2019
Self-Assessment Participant Questionnaire Return Deadline	28 June 2019
Gemserv issues Self-Assessment Report to the CRU	5 July 2019
RMDS Issue IPT plan	22 July 2019
ESBN Formal Assessment performed	By 20 August 2019
Gemserv issues Formal Assessment Report[1]	By 30 August 2019
IPT Window	2 -13 September 2019
Gemserv issues Final Assurance Outcome Report to the CRU	20 September 2019
Cut Over	6 October 2019

TABLE 6: ASSURANCE TIMELINES

8. COMMUNICATION

The table below summarises the frequency, methods and rationale for the regular communications between the relevant parties during the assurance process. This is the minimum and it is likely that further communication points will be established, dependant on need.

Who	When	What	Why	How
Reporting to CRU	On completion of Self-Assessment stages Final Assurance Outcome Report	Progress on the assurance strategy, execution and outcomes	To inform the CRU of the outcomes of the assurance techniques	By email, presentation and call via RMDS. RMDS will be primary contact between Gemserv and CRU and all assurance activities. Final Assurance report is provided to CRU by Gemserv.

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[1] A Formal Assessment report is only required were issues / risks or significant concerns are raised.

RMDS	Weekly	Progress reporting on delivering the assurance strategy	To provide information on the progress of the assurance process and their roles and responsibilities, raise issues and as an initial point of escalation	By call
IGG meeting and IGG conference call	Every 4 weeks	Progress on the assurance strategy and execution	To provide updates on progress as required.	By presentation and call
Market Participants	As required	Details about the assurance process	To enable readiness and collaboration	By call, face to face and email
TIBCO Hub Upgrade Project	Fortnightly or weekly	Progress on the assurance strategy and execution and to receive information on the progress of the project, discuss issues, assurance findings and actions required. Plan Formal Assessment, provide updates on defects identified and resolution actions and potential delays to the project.	To ensure that the assurance services are aligned to the project performance and to deliver the assurance strategy effectively. To ensure that the project is on track and able to deliver the product.	By call

TABLE 7: COMMUNICATIONS

9. REPORTING

Gemserv will report to the CRU via RMDS within the required assurance timescales in section 7.

The Final Assurance Report will cover (this list is not exhaustive and may also be changed to best reflect the requirements of the CRU):

- An overview of the assurance project plan versus progress and delivery

- An overview of each of the assurance techniques and its outcomes

- Any issues or risks identified during the assurance period (and any resolution or remedial activities associated to them)

- Outstanding risks and concerns

- Assurance body opinion & recommendations

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