

Assurance Approach

For the
TIBCO EMS upgrade Market Change

Prepared by: Version 1 Retail Market Electricity Assurance Team
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Version Control

Date	Version	Changed By	Reason for Change
24/02/2026	V0.1	J McKnight	Initial draft
01/04/2026	V0.2	J McKnight	Project updates
20/05/2026	V0.3	J McKnight	Updated test exit criteria and plan

Circulation List

Organisation	Reason
RMDS	Review
CRU	Approval
IGG	Approval

Reference Documents

Title	Description	Owner
Draft High-Level Timeline	Appendix 2 - outlines the updated project steps, stages and key milestones (with more granularity).	ESB Networks

Glossary

Additional terms can be found: [Glossary of Terms](#)

Title	Definition	Description
TIBCO	Messaging Hub	Hub responsible for routing XML market messages into or out of SAP.
EMMA	Electricity Market Message Application	Application to send and receive market messages in a secure and reliable manner with ESB Networks.
SAP-ISU	SAP application for Utilities business	Passes the message to the Messaging HUB for routing to the required Market Participant.
SIT	System Integration Testing	The process of validating that multiple integrated components or systems work together correctly, ensuring proper data flow, functionality, and reliability.
Pre-Prod	Pre-Production Environment	A controlled space where software is tested and validated before its release. Serves as a final testing ground, that closely mirrors the production environment.
Dev Hub	Development HUB environment	A dedicated space where software undergoes experimental use to identify bugs,

assess performance and test functionality before further deployment.

1. INTRODUCTION

This document outlines the approach that Version 1 (the Assurance Body) will apply when providing Assurance for the TIBCO Enterprise Message Service (EMS) upgrade project 2026. The project scope, steps and timeline are outlined within the ESB Networks Project overview, together with a 'plan on a page' (Appendix 2 refers - [Section 6.2](#)). This approach is following the Market Change Assurance Approach process as detailed in the Market Change Assurance Strategy (September 2023).

1.1. Summary of changes being introduced by the TIBCO EMS upgrade

Currently ESB Networks use a TIBCO application to provide Market Message communications between market participants within the Retail Electricity Market. The solution consists of a TIBCO hub which sends and receives messages on behalf of ESB Networks. Large / Small Suppliers (and other Market Participants e.g. Eirgrid the TSO) have locally installed 'EMMA' solutions based on the TIBCO technology stack. This allows them to exchange their respective messages with ESB Networks centralised TIBCO hub.

The market messages flowing between the DSO (ESB Networks) and Market Participants are aligned with market operations such as registrations, change of tenancy, consumption information, meter changes etc. Schema Version 14 is the current baseline which these messages adhere to.

Software Element	Current		Target	
	Version	Hotfix	LTS Version	Hotfix
Business Works (BW)	5.15.1	Hotfix 2	5.16.1	4
Business Connect (BC)	7.4.0	Hotfix 3	7.5.0	NA
Administrator	5.12.4	Hotfix 1	5.13.0	NA
Runtime Agent (TRA)	5.12.4	Hotfix 2	5.13.0	3
EZComm	6.3.0	Hotfix 2	6.4.0	NA
BC Palette	6.5.0	NA	6.5.0	NA
EMS	10.3.0	Hotfix 1,2,4 & 7	10.4.0	3
Hawk	6.3.1	NA	6.3.1	NA
RV	8.7.0	Hotfix 2	8.8.1	NA

Table 1 - TIBCO software elements being upgraded including current and target versions

ESB Networks are undertaking a project to upgrade various software components on the TIBCO servers (running the EMMA solutions) from the current version to the new upgraded (target) version. In addition to the component upgrades outlined in table 1, all Suppliers will require to be upgraded to Window Server 2022, dependant on individual supplier circumstances their TIBCO servers are either residing on Window Server 2016 or 2019.

The changes are mainly to ensure the existing solution does not breach end of life support. Message types, contents, and flow between SAP, the HUB, and Market Participants will remain unchanged.

2. OBJECTIVES

2.1. The focus and objective of this Assurance Approach

The overall focus of assurance is to provide confidence in the continued operability of the retail electricity market following cut over after the changes have been made within the 2026 TIBCO EMS and Window Server Upgrade project, in addition all market participants are aware of the changes.

More precisely this assurance work includes:

- Inspection of programme records, that the changes due to the TIBCO Upgrade project have been designed, developed, tested, and shown to fully support the retail market;
- Provide confidence that the introduction of the new changes will not detrimentally impact the retail market in a material way.

2.2. The guiding principles of this Assurance Approach

The guiding principles underpinning this Assurance Approach can be condensed into the following;

- Assurance activities should not place an unnecessary burden on market participants;
- Assurance process must be appropriate to the change being implemented;
- Market assurance should be evidence based;
- There should be transparency on the activities being performed; and
- The approach and outcomes provide confidence for the CRU and Market to proceed with the implementation of the release into production.

The Assurance Body is providing assurance that the market will not be negatively impacted by the TIBCO EMS and Window Server Upgrade market change.

3. ASSURANCE APPROACH

3.1. Specific Approach for the ESB Networks TIBCO EMS Upgrade

Aligned to the Market Change Assurance Strategy (February 2025) the Assurance Body has developed an Assurance Approach to mitigate and provide comfort for a successful Retail Market Change implementation. The summary of the Assurance Approach is outlined in Appendix 1 [Section 6.1](#).

The Assurance Body conducted a high-level assessment of the market change from this project and defined the extent of assurance activities that would be performed. This assessment was conducted from a meeting with the ESB Networks project team responsible for the project (also attended by RMDS), the TIBCO EMS upgrade project plan and follow up queries.

The changes being made are being managed and conducted by the ESB Networks project team (in conjunction with the Hub Support team). The overarching plan will follow four phases:

1. Upgrade Development TIBCO HUB & EMMA ¹
2. SIT / IPT / Pre-Prod TIBCO HUB & EMMA ¹
3. Repoint & Test, then Upgrade MPs Pre-Prod (Test) TIBCO & EMMAs ¹
4. Upgrade All Production TIBCO HUB and Production EMMAs ²

¹ Assurance Body to be provided with test evidence

² The start of stage 4 upgrades effectively is the commencement of Cutover

3.1.1. Overview of Performance Testing for the 2026 project

Noting the issue encountered with a slow down to the Hub EMMA processing times subsequent to the 2025 TIBCO EMS upgrade project, the approach by ESNB is cognisant of this and there are improvements being made to the performance testing stages of the 2026 project, as detailed below.

TIBCO Upgrade 2025 - High level performance testing overview:

- A 50% performance test was run in IPT (IPT is half the size of the Production Hub).
- Performance Testing was carried out in the Pre-Production Hub connected to the internal Pre-Production EMMA with limited variation of digital authorities.
- Following the TIBCO Upgrades in 2025, the TIBCO Production Hub experienced performance issues related to JAVA and digital cert authorities.

TIBCO Upgrade 2026 - Overview of the performance testing activities for the 2026 upgrade:

- Similar to 2025, a 50% performance test will be run in IPT.
- The Pre-Production Hub (which is the same size as the Production Hub) does not currently connect to any external Market Participant Test EMMAs.
- However, Market Participant Test EMMAs will now be connected into the Pre-Production HUB as part of our Performance Testing.
- 2 Large EMMAs plus Electric Ireland and 2 Small EMMAs (5 MP Test EMMAs Total) will be used to carry out this performance testing.
- As the previous issue was related to certificates, ESNB is aiming to get a good mix of MP EMMAs who use different digital cert authorities (GoDaddy, DigiCert, Sectigo etc).

This change of approach brings the below benefits:

1. Connecting the 5 external MP test EMMAs into the Pre-Production HUB creates an environment which is closer to the Production setup.
2. There will be a wider variation of digital cert authorities used during the performance testing which allow us to better identify if there is any slowdown in performance.

3.1.2. Summary of Assurance Approach

The changes being made are being managed and conducted by the ESB Networks project team (in conjunction with the Hub Support team), the production MP and HUB TIBCO & EMMA upgrades will be conducted as a repeatable process i.e. not all Suppliers will be upgraded on the same date, they will be staggered over the course of four weeks.

The Assurance Body has deemed that assurance will consist of a review of the internal and integration testing outcomes for:

1. The Upgrade to the Development HUB & EMMA;
2. The Upgrade to SIT/IPT/Pre-Prod HUB & EMMA;
3. The 5 MPs Pre-Production testing (to be selected to provide maximum market coverage (i.e. volume of MPRNs, additionally cover a wide variation of digital certificate authorities)³.

³Combining a performance test across 5 MPs in conjunction with the HUB EMMA, is more associated with an IPT assurance phase. Albeit not an end to end process scenario review, limited to an IPT performance test.

The timeline for the project and assurance activities is detailed in [Appendix 1](#) below.

The Assurance Body has established this assurance approach to align with the ESNB and TIBCO Apps team activities and the additional performance testing for the 2026 TIBCO upgrade.

Any concerns or issues will be raised with ESB Networks and where appropriate the CRU.

3.1.3. Assess and Define stages

This step covers the assess, define and self-assessment stages, from review of documents shared with the assurance body as well as the initial meeting discussions. The required assurance steps have been defined.

Table 2 outlines the assurance steps that will be taken for the NIE Networks TIBCO EMS upgrade market change.

	Control	Assess	Define	Self-Assessment	ITA (FA)	IPT	Go Live Readiness
Overall	Yes	Yes	Yes				
ESB Networks (DSO)				No	Yes ¹	Yes ²	Yes

¹ Review of test evidence for Dev, SIT, IPT & Pre-Production upgrades

² 5 MPs selected in conjunction with the TIBCO Pre-Production HUB & EMMA

Large Supplier	No	No	Yes ²	No
Small Supplier	No	No	Yes ¹	No
Self-Supplier, Export Only, Demand Side Unit, Generator Unit	No	No	No	No

Table 2 - Summary of assurance activities to be performed for the 2026 TIBCO EMS & WS Upgrade

3.1.4. Self-Assessment PQ

The Assurance Body deemed it not necessary to complete the Self-Assessment stage, noting ESNB complete an upgrade of the TIBCO servers every 18-24 months, there are no changes to any of the retail market processes, or the market schema and ESNB (NIE Networks applications team) upgrade each suppliers TIBCO / EMMA individually, in conjunction with the central hub. Supplier's activities are conducted in conjunction with the TIBCO Apps team and are advised within the greater ESNB project plan.

3.1.5. ITA / Formal Assessment

The Assurance Body has deemed the ITA assessment stage will be required for this TIBCO EMS Upgrade project albeit very light in nature. The format will follow a review of the Integrated / Internal Test Assessment records and outcomes provided by ESNB (via the NIE Networks TIBCO applications team). This is only considered necessary for the Hub upgrades on the Test EMMA environment. The Large and Small Supplier test TIBCO/EMMA upgrades will form part of the IPT assessment stage, noting ESNB plan to combine the testing of Participant EMMAs, therefore better represented as Inter-Participant Testing.

3.1.6. Interparticipant Testing (IPT) – Performance Test

The assurance body deemed that review of the IPT Performance Testing evidence (for the selected 5 MPs) a requirement for the reasons noted in sections 3.1 & 3.1.1. The format will be similar to the ITA/Formal Assessment stage, being a review of the Performance Testing evidence and outcomes provided by ESNB (via the NIE Networks TIBCO applications team).

The 5 Suppliers have not been finalised as yet, however the minimum market coverage by MPRN volume should be >60% of the market. It was not deemed necessary by the Assurance Body to perform IPT for all Suppliers as it would be unlikely to provide additional comfort. Coverage of over 60% is a significant volume of the market across a range of digital certificate authorities.

The key exit criterion for the test evidence review is that the Pre-Prod HUB and EMMAs show no performance degradation, as defined in the Testing Approach, Success Criteria and Exit Strategy document. This document also sets out the performance testing parameters, test cases, volumes and exit criteria.

3.1.7. Cutover

ESB Networks will be issued a self-declaration to be returned to the Assurance Body showing the confidence and approval of their ability to proceed with the upgrades to the TIBCO HUBs and all EMMAs and the respective changes being implemented. The declaration should be returned after Milestone 4 (Step 13) i.e. before the upgrades to the Production HUB and EMMA servers commence.

3.1.8. Final Assurance Outcome report

The Final Assurance Outcome report will outline the assurance activities, assessment findings and any recommendations. The report will be issued for information to the CRU, the Assurance Body will however revert to the CRU should any issues be encountered during the project and assurance assessment.

4. ASSURANCE ASESMENT TECHNIQUES

The project conducted by ESB Networks will occur over four Phases:

- Phase 1: Dev TIBCO Hub server & Emma reconfiguration and internal testing (Steps 1-4).
- Phase 2: SIT / IPT / Pre-Production TIBCO Hub servers reconfiguration and internal testing (Steps 5-8).
- Phase 3: Repoint Test MP's HUB in Production and upgrade Pre-Production EMMAs (Steps 9-13).
- Phase 4: Upgrade Production TIBCO HUB and MP Production EMMAs (Steps 14-17).

A project plan has been produced detailing the necessary steps involved within each testing phase, detailed in [section 4.1](#) below:

4.1. Project plan encompassing Test steps

Item	Description	Start	Finish	Responsible
1	Hub Support Team to confirm with TIBCO all component versions to be included as part of the upgrade rollout, and TIBCO to confirm that all component versions are compatible with each other. This will also include all TIBCO released Hot Fixes to fix any vulnerabilities in the current solution.	Jan '26	27 th Jan '26	Hub Support Team
2	NIE Access to be reviewed and granted, if required			ESB Networks
3	3.1: Upgrade Dev HUB 3.2: Test Upgraded DEV HUB with Current Dev EMMA running on Windows Server 2016 3.3: Upgrade Dev EMMA servers to Windows Server 2019 3.4: Test Upgraded DEV HUB with Current Dev EMMA running on Windows Server 2019 3.5: Upgrade Dev EMMA servers to Windows Server 2022 3.6: Test Upgraded DEV HUB with Current Dev EMMA running on Windows Server 2022 3.7: Upgrade the TIBCO components on DEV EMMA to the agreed LTS versions 3.8: Test Upgraded DEV HUB with upgraded Dev EMMA running on Windows Server 2022	2 nd Feb '26	27 th Feb '26	Hub Support Team
4	Milestone 1: Go/No Go to proceed with the remaining internal testing: Comms to market for MPs to upgrade their test EMMA servers to Windows Server 2022. The servers for the remaining internal test EMMAs to be upgraded to Windows Server 2022	9 th April '26		ESBN, Hub Support Team
5	5.1 Upgrade SIT HUB 5.2 Upgrade SIT EMMA 5.3 Test upgraded SIT HUB with upgraded SIT EMMA	18 th March '26	27 th March '26	Hub Support Team
6	6.1 Upgrade IPT HUB 6.2 Upgrade IPT EMMA 6.3 Test Upgraded IPT HUB with Upgraded IPT EMMA (end to end testing with SAP)	30 th March '26	8 th April '26	Hub Support Team
7	7.1 Upgrade Pre-Prod HUB			

	7.2 Upgrade Pre-Prod EMMA	9 th April '26	20 th April '26	Hub Support Team
	7.3 Test New Pre-Prod HUB with upgraded Pre-Prod EMMA (Internal Testing)			
8	Milestone 2: Go/No Go to proceed with external testing	27 th April '26		ESBN, Hub Support Team
9	Share the link to Supplier to download the upgrade files			
	10.1: IPT External Testing (HBs and single inbound & Outbound MM for each MP test EMMA)			
	10.2 Repoint agreed MP test EMMAs to the Preproduction HUB	29 th April '26	8 th May '26	Hub Support Team
10	10.3 Test New Pre-Prod HUB with existing MP Test EMMA (performance testing with external MP test EMMA. Agreed MP test EMMAs will be repointed to the Pre-Prod HUB). This covers upgraded HUB with existing MP Test EMMA software			
11	Milestone 3: Go/No Go to proceed with MP Test EMMA TIBCO LTS Upgrades	27 th May '26		ESBN, Hub Support Team
	12.1 TIBCO LTS upgrade MP Test EMMAs. Agreed suppliers from 10.2 to be upgraded first	3 rd June '26	17 th June '26	Hub Support Team
12	12.2 Rerun the performance test with Agreed MP test EMMAs. This covers upgraded HUB with Upgraded MP Test EMMA software			
	12.3 Share External Test evidence document with Business/RMDS / Version 1 (Upgraded HUBs and Upgraded EMMAs) (ITA, IPT & Cut-over Assurance Technique)	18 th June '26	26 th June '26	ESBN, Hub Support Team, RMDS, Assurance Body
13	Milestone 4: Go/No to proceed with the Production upgrades: Comms to market for MPs to upgrade their Production EMMA servers to Windows Server 2022.	30 th June '26		ESBN, Hub Support Team
14	Upgrade the Production TIBCO HUB			
15	Upgrades are then rolled out to all MP's PROD EMMAs. Again, this is to take two weeks to complete.	1st July '26	9 th Aug '26	Hub Support Team
16	As part of phased approach, there will be post-go-live checks and monitoring performed for all MP's PROD EMMAs as upgrades are rolled out to ensure that EMMAs are working as expected.			
17	Milestone 5: All upgrades are deemed complete and hyper care period finished. Notification is sent to the market.	16 th September '26		ESBN, Hub Support Team, RMDS

Table 3 - 2026 TIBCO EMS & Window Server upgrade project plan

The upgrade to the Market Participants EMMAs will be conducted in two phases (phase 3&4), for each Market Participant on an individual basis. Assurance will be conducted for the 5 MPs (to be selected) Pre-Prod TIBCO server to be upgraded, on the basis there are no issues or concerns and satisfaction with the ESB Networks test evidence provided, the TIBCO upgrade will then be rolled out across all Market Participants'.

This will be the same format for each Phase. Phase three will be completion and testing of all Market Participants test (pre-production) TIBCO servers. Upon completion and satisfaction of a successful upgrade of all the Test TIBCO servers (EMMAs) and the associated test evidence, the project will progress to the final phase 4 (with the same series of steps to migrate the Production environment EMMAs on the principles).

4.2. Test Evidence

The Assurance Body will be provided the outputs of the ESB Networks testing at various stages during the project timeline. The evidence packs that will comprise screenshot

evidence of tests conducted, including the various market messages being transmitted satisfactorily.

5. ASSURANCE TIMELINE

The following outlines our proposed Assurance timeline for the TIBCO EMS Upgrade market change.

Summary Activities	Dates
Assurance approach approved by CRU / IGG	3 rd June 2026
ITA / Formal Assessment (review of test evidence at the following step):	
Step 12.34: Upgraded HUBs and existing EMMA external test evidence review	18 th - 26 th June 2026
IPT - Performance Testing (review of test evidence at the following step):	
Step 12.3: Upgraded HUB V Upgraded EMMA external test evidence review	18 th - 26 th June 2026
ESBN complete Cutover declaration	18 th - 26 th June 2026
Assurance Assessment Outcome Report issued to CRU for information	16 th September 2026

Table 4 - Assurance timeline for the 2026 TIBCO EMS & Window Server Market upgrade.

6. APPENDICES

6.1. Appendix 1 – Summary of our Assurance Methodology

The assurance approach contains seven distinct stages, which typically occur in sequence. It should be noted however depending on the level of change being introduced by the release, the depth of probing may differ for certain stages and some stages may not be required.

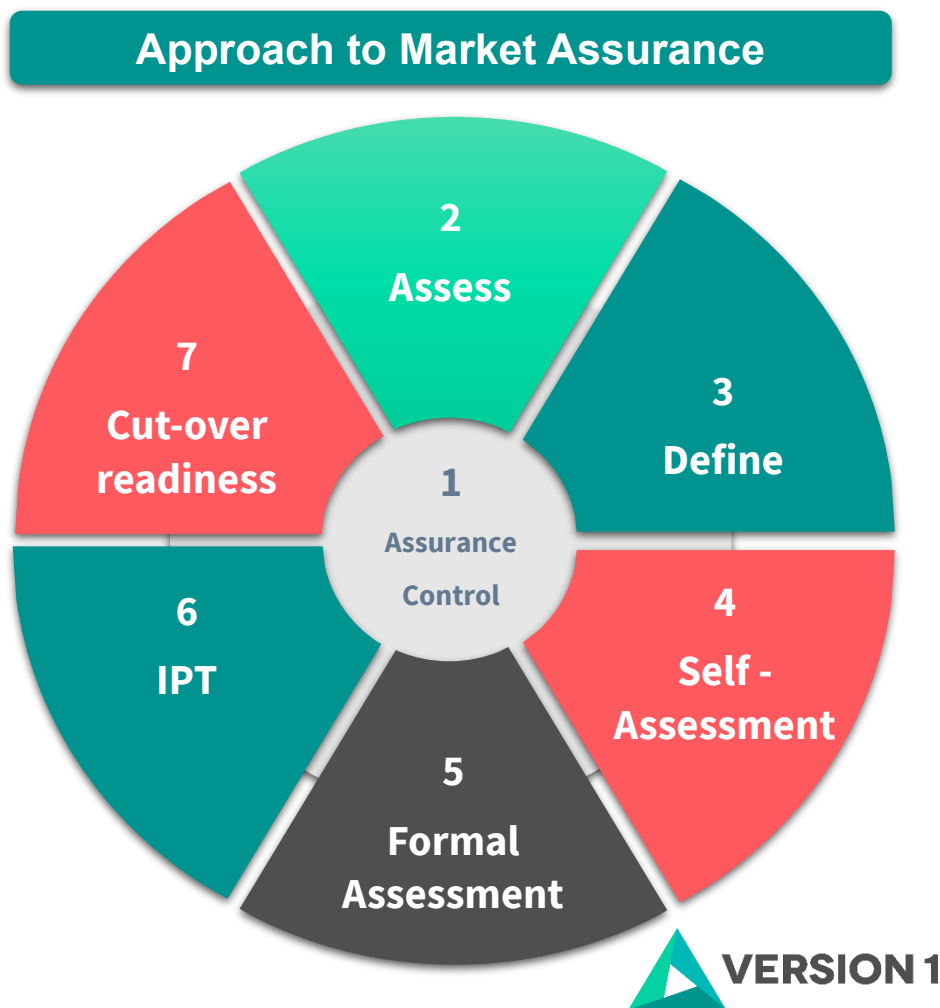


Figure 1 - Outline approach to Market Assurance

The key stages of the approach are as follows:

1. **Assurance control** - the overall project governance that the Assurance Body will follow including plans, communication strategy and reporting back to Market Participants and CRU either through step completion documentation, meetings, IGG presentations or an ad-hoc targeted intervention.
2. **Assess** - the approach to reviewing the market change documentation (i.e. Project Initiation Document), assessing the effective impact on the market, and assessing our Assurance Approach techniques that will be required.
3. **Define** - defining our Assurance approach for the TIBCO EMS Upgrade market change for approval by the CRU and IGG through the creation of the Assurance Approach document.

4. **Self-assessment Market Participant questionnaire** - the primary stage of the Assurance Approach impacting Market Participants. A Market Participant questionnaire is completed and returned to the Assurance Body together with evidence (where requested) in support of their response. The Self-Assessment approach is similar to a maturity model where responses are assessed against our expected results. The Assurance Body will then assign an overall risk score against the quality of the result. The Assurance Body may follow up with a meeting with Suppliers should there be any issues with their response. This stage is not applicable for this Assurance Approach as outlined in section 3.2.2.
5. **Formal Assessment** - is typically focused on the ESB Networks project. However, this stage could also impact a Market Participant Supplier who did not meet the required exit criteria from the Self-Assessment. This stage primarily comprises:
 - a. Deeper investigation of the responses to the Self-Assessment questionnaire especially where a higher risk has been identified; and
 - b. Additional areas of focus on the core elements of the system development project lifecycle.

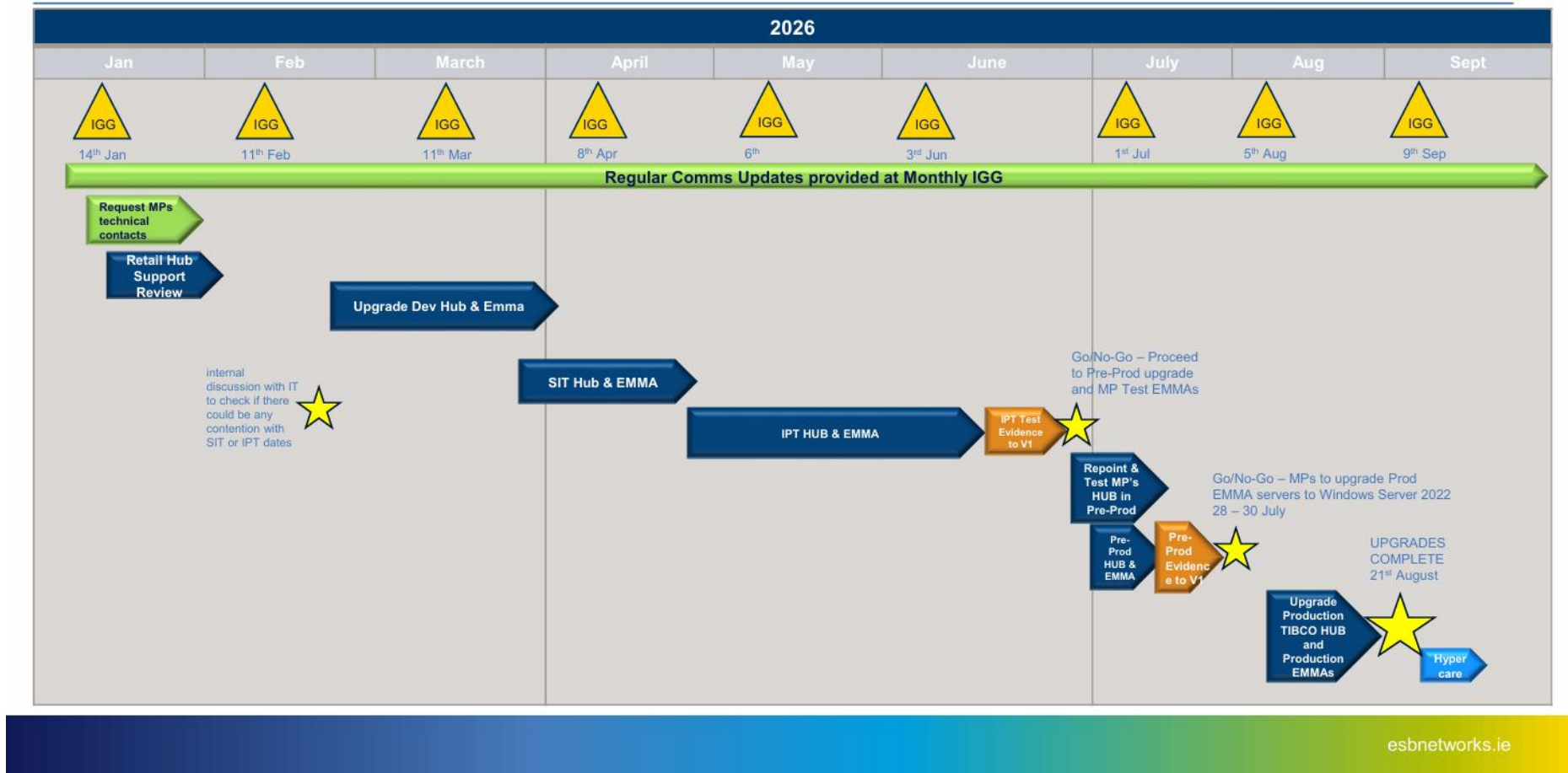
A formal assessment will involve a meeting with the Assurance Body and the development of a formal outcome report. This stage can also encompass Integration Test Assessment (ITA) that is focused on assessing the evidence provided on completion of the internal & integration testing scenarios. With the prime objective of verifying that Market Participants have carried out satisfactory testing of their systems and processes.

6. **Interparticipant Testing (IPT)** - IPT provides an opportunity for market testing in a simulated live environment. IPT is seeking to ensure the changes made between the ESB Networks and Market Participant Suppliers are working as expected before they are released into production. Essentially, this is the final opportunity for the market to test the changes made to their systems.
7. **Cutover readiness** - focused on the ability and confidence to proceed the change being introduced, the Go-Live or the cut-over. This stage also seeks to gain confidence in the post go-live support model and contingency plans. From a Market Participant perspective, a self-declaration will be returned to the Assurance Body showing the confidence and approval of the Market Participants ability to proceed with the market change being implemented.

Following these key stages, The Assurance Body will then develop a final report for approval by CRU. This report provides an outline of the assurance work performed, resultant outcomes, together with a recommendation regarding the progression to Go-Live and/or Cutover.

6.2. Appendix 2 – High Level Project Timeline

High-Level Timeline





Thank you

For more information,
please visit version1.com