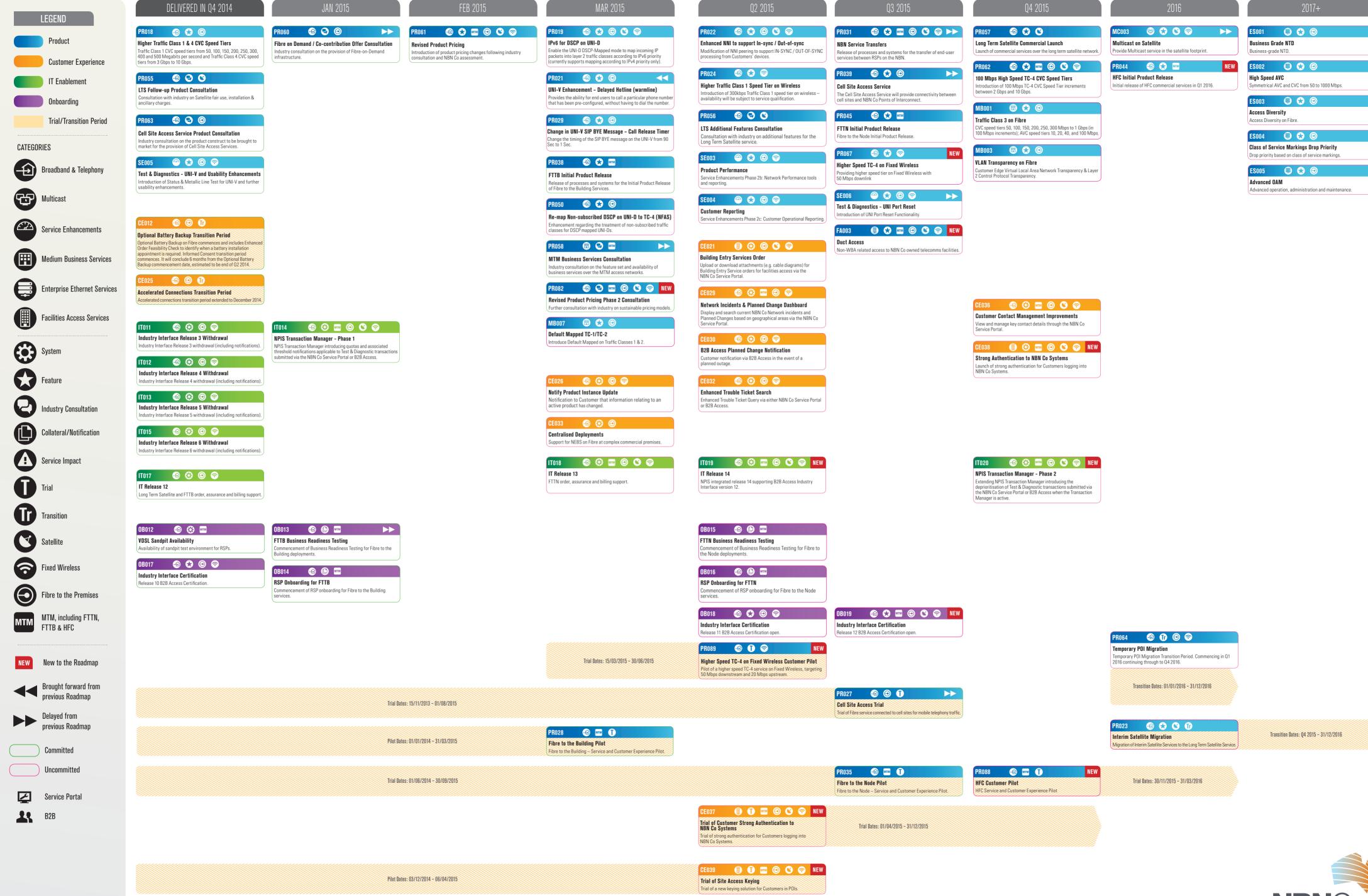
# Integrated Product Roadmap as at January 2015



CE040 📳 🕧 \bmod 🔇 🛜 NEW

Launch of a new keying solution for Customers in POIs.

Site Access Keying

Transition Period: 06/04/2015 - 31/08/2015

# Integrated Product Roadmap as at January 2015

#### **ABOUT THIS DOCUMENT**

Expanding on NBN Co's Initial Roadmap, which sets out key information and targeted timelines in relation to NBN Co's initial planned Product, Product Component and Product Feature releases, NBN Co has developed an Integrated Product Roadmap. The aim of the Integrated Product Roadmap is to provide a coordinated view of customer experience, IT enablement and on-boarding developments with the details of the product feature releases. It should be noted that the forward looking statements set out in the Integrated Product Roadmap represent NBN Co's current position at the time of publication. This may change through further development and is not binding.

NEW		CE039	Trial of Site Access Keying	PRO39	Cell Site Access Service
PRO44	HFC Initial Product Release	CE040	Site Access Keying	PR058	MTM Business Services Consultation
PR067	Higher Speed TC-4 on Fixed Wireless	IT019	IT Release 14	PRO60	Fibre on Demand / Co-contribution Offer Consultation
PRO82	Revised Product Pricing Phase 2 Consultation	IT020	NPIS Transaction Manager - Phase 2	MC003	Multicast on Satellite
PRO88	HFC Customer Pilot	OB019	Industry Interface Certification	SE006	Test & Diagnostics - UNI Port Reset
PRO89	Higher Speed TC-4 on Fixed Wireless Customer Pilot	CHANGED		OB013	FTTB Business Readiness Testing
FA003	Duct Access	PRO21	UNI-V Enhancement – Delayed Hotline (warmline)	REMOVED	
CE037	Trial of Customer strong authentication to NBN Co systems	PRO27	Cell Site Access Trial	CE031	Enhanced Battery Backup Service Alarm Notification
CE038	Customer strong authentication to NBN Co systems	PRO31	NBN Service Transfers		

# **BROADBAND AND TELEPHONY**

PRO18 HIGHER TRAFFIC CLASS 1 & 4 CVC SPEED TIERS Introduction of additional Higher Traffic Class 1 & 4 CVC Speed Tiers

Broadband and Telephony release which introduces additional Traffic Class 1 CVC speed tiers of 50, 100, 150, 200, 250, 300, 400 and 500 Megabits per second and additional Traffic Class 4 CVC speed tiers of 3 Gbps up to 10 Gbps.

## PRO19 IPV6 FOR DSCP ON UNI-D

UNI-D DSCP-Mapped according to IPv6 Priority

Enables the UNI-D DSCP-Mapped mode to map incoming IP packets into layer 2 traffic classes according to IPv6 priority (currently supports mapping according to IPv4 priority only).

### PRO21 UNI-V ENHANCEMENT -

DELAYED HOTLINE (WARMLINE) FEATURE Provides the ability for end users to call a particular phone number

that has been pre-configured, without having to dial the number. Delayed Hotline will be an additional end user feature available on the UNI-V. The feature provides the ability for end users to call a particular phone number that has been pre-configured, without having to dial the number. Once set up, the end user can pick up the handset and after a pre-determined amount of time, the number is dialled automatically.

#### PRO22 ENHANCED NNI TO SUPPORT IN-SYNC / OUT-OF-SYNC

Modification of NNI peering to support IN-SYNC / OUT-OF-SYNC processing from Customers devices

Currently the NNI does not accept Link Aggregation Control Protocol (LACP) standby signalling from Customers. External devices cannot control the state of the Link Aggregation group (LAG) group using LACP. NBN Co will enhance the NNI behaviour to permit Customer devices to influence the state of the LAG group. NBN Co proposes that the NNI can accept "OUT\_OF\_SYNC" AND "IN\_SYNC" messages from Customers devices and process it. The enhancement will only be available to Diverse Chassis NNI mode.

# PRO23 INTERIM SATELLITE MIGRATION

Migration of Interim Satellite Services to the Long Term Satellite Service

Currently NBN Co is providing services to some of the most remote homes in Australia via the Interim Satellite Service. The Interim Satellite Service delivers an up to 6/1Mbps wholesale Layer 3 service. When the Long Term Satellite Service is introduced, the Interim Services will need to be migrated to the next generation NBN Co owned Satellite which NBN Co currently intends will deliver Layer 2 wholesale speeds of up to 12/1 Mbns and 25/5 Mbns.

#### PRO24 HIGHER TRAFFIC CLASS 1 SPEED TIER ON WIRELESS

Introduction of 300 kbps Traffic Class 1 speed tier on Wireless availability will be subject to service qualification

Broadband and Telephony release which introduces a symmetrical Traffic Class 1 Committed Information Rate speed tier option of 300 kbps on the AVC for the NBN Co Wireless Access Service. This speed tier will be provided subject to availability and only after it has been confirmed by a service qualification.

#### PRO27 CELL SITE ACCESS TRIAL

Trial of fibre service connected to cell sites for mobile telephony traffic

loading and traffic demands of cellular network infrastructure. This information will provide insights for the potential longer term development of a cell site access product and also indicate whether or not a residential grade fibre service is sufficient to provide connectivity to cellular network infrastructure.

The cell site access trial aims to provide NBN Co with information on the

### PRO28 FIBRE TO THE BUILDING PILOT

Fibre to the Building – Service and Customer Experience Pilot Fibre to the Building (FTTB) - Service and Customer Experience Pilot. This is a pilot of NEBS services being delivered over copper using VDSL2 access technology and will include deployment of DSLAMs in around 10 MDUs each with an average of 80-100 premises. The buildings are planned to have a representative mix of residential and commercial premises

#### PRO29 CHANGE IN UNI-V SIP BYE MESSAGE -CALL RELEASE TIMER

Change the timing of the SIP BYE message on the UNI-V from 90 Sec to 1 Sec

Changes current timing of the SIP BYE message on the UNI-V from 90 seconds to 1 Second. In rare circumstances the 90 Second timing means a call can take up to 90 seconds to be terminated, even when the phone is returned to the 'on hook' position. This change will alleviate that issue and improve end user experience.

#### PRO31 NBN SERVICE TRANSFERS

NBN Service Transfers

Release of processes and systems for the transfer of end-user services between RSPs on the NBN.

#### **PRO35** FIBRE TO THE NODE PILOT

Fibre to the Node - Service and Customer Experience Pilot Fibre to the Node (FTTN) - Service and Customer Experience Pilot. This is a pilot of NEBS services being delivered over copper using VDSL2 access technology and will include deployment of DSLAMs in around 20 nodes located in residential neighbourhoods and connecting approximately 400 premises.

#### PRO38 FTTB INITIAL PRODUCT RELEASE

FTTB Initial Product Release

Release of processes and systems for the Initial Product Release of Fibre to the Building Services.

### PRO39 CELL SITE ACCESS SERVICE

The Cell Site Access Service will provide connectivity between cell sites and NBN Co Points of Interconnect

The Cell Site Access Service will provide connectivity between a network operator's mobile cell-sites and NBN Co's Points-of-Interconnect. The service will initially be offered within the FTTP footprint, with the potential for it to be expanded to include other parts of the 'Multi Technology Mix' network in the future.

#### PRO44 HFC INITIAL PRODUCT RELEASE HFC Product Release Phase 1

HFC Product Release Phase 1 to commence from March 2016

## PRO45 FTTN INITIAL PRODUCT RELEASE

Fibre to the Node Initial Product Release

Release of processes and systems for the Initial Product Release of Fibre to the Node Services.

#### PRO50 RE-MAP NON-SUBSCRIBED DSCP ON UNI-D TO TC-4 (NFAS)

Enhancement regarding the treatment of non-subscribed traffic classes for DSCP mapped UNI-Ds

Currently, in NFAS, traffic marked (using DSCP) for non-subscribed traffic classes are dropped. This change will allow IPv6 traffic marked for non-subscribed traffic classes to be re-mapped to TC-4.

#### PRO55 LTS FOLLOW-UP PRODUCT CONSULTATION

Industry consultation on Fair Use Policy business rules, installation and ancillary charges, POI diversity, service level remedies and migration of Interim Satellite Services to Long Term Satellite.

#### PRO56 LTS ADDITIONAL FEATURES CONSULTATION Consultation with industry on additional features for the Long Term Satellite service

Industry consultation on availability of multicast for selected applications over satellite and availability of TC-2 and TC-3 for Public Interest Premises and business use.

# PRO57 LONG TERM SATELLITE

**COMMERCIAL LAUNCH** Launch of commercial services over the long term satellite network **PROGO** FIBRE ON DEMAND / CO-CONTRIBUTION

OFFER CONSULTATION Industry consultation on the provision of Fibre-on-Demand infrastructure, including co-contribution provisions

# PRO61 REVISED PRODUCT PRICING

Introduction of product pricing changes following industry consultation and NBN Co assessment

#### PRO62 100 MBPS HIGH SPEED TC-4 CVC SPEED TIERS

Introduction of 100 Mbps TC-4 CVC Speed Tier increments between 2 Gbps and 10 Gbps

#### PRO63 CELL SITE ACCESS SERVICE PRODUCT CONSULTATION

Industry consultation on the product construct to be brought to market for the provision of Cell Site Access Services

#### **PRO64** TEMPORARY POI MIGRATION

Temporary POI Migration Transition Period

Migration commencement of CSAs currently serviced by Temporary POIs to Permanent POIs.

# PRO67 HIGHER SPEED TC-4 ON FIXED WIRELESS

Providing higher speed tier on Fixed Wireless with 50 Mbps downlink Introduction of new Fixed Wireless TC-4 AVC speed tier of up-to 50 Mbps downlink and up to 20 Mbps uplink for Fixed Wireless connected premises where the signal strength is high enough. No new WNTD or equipment is to be introduced and capacity dimensions are not being changed.

#### PRO82 REVISED PRODUCT PRICING PHASE 2 CONSULTATION

Further consultation with industry on sustainable pricing models

# PRO88 HFC CUSTOMER PILOT

#### HFC - Service and Customer Experience Pilot. PRO89 HIGHER SPEED TC-4 ON FIXED WIRELESS **CUSTOMER PILOT**

Pilot of a higher speed TC-4 service on Fixed Wireless, targeting 50 Mbps downstream and 20 Mbps upstream.

#### CEO12 OPTIONAL BATTERY BACKUP TRANSITION PERIOD Informed Consent transition period concludes 6 months from date of introduction of Optional Battery Backup

During the transition period, Service Providers may continue to place Supply with Battery Backup will continue to be installed as part of a standard fibre installation. Service Providers will need to select for each new connection order if informed consent has been obtained. When informed consent is obtained, the NFAS order must specify whether Battery Backup Service is required. At the end of the transition period, Service Providers must place NFAS orders with informed consent and must specify whether a Battery Backup Service is required. For new connect orders, where Battery Backup Service is ordered, NBN Co will install a Power Supply with Battery Backup and a Standard Power Supply will be installed where Battery Backup Service is not ordered.

### CEO25 ACCELERATED CONNECTIONS TRANSITION PERIOD Accelerated order and Installation Appointment supporting

Accelerated Connection Service Levels

Subject to the finalisation and execution of WBA Version 2 and the application of any associated contract transition arrangements, Customers may specify an accelerated order and accelerated installation Appointment to support an Accelerated Connection Service Level. Use of Accelerated Connections must be in accordance with their Wholesale Broadband Agreement. References to Type 1 Connection and Type 2 Connection within the order process will be removed.

## CEO26 NOTIFY PRODUCT INSTANCE UPDATE

Notification to Customers that information relating to an active product has changed

Introduction of a new B2B Access notification that will advise Customers when information relating to a product that is active on the network has changed. Example circumstances include where the AVC has moved to a new UNI as a result of a faulty port.

#### CEO29 NETWORK INCIDENTS & PLANNED CHANGE DASHBOARD

Display and search current NBN Co Network incidents and Planned Changes based on geographical areas via the NBN Co Service Portal

An online dashboard, available via the NBN Co Service Portal, to display current Network incidents and planned network changes. Customer may search for Infrastructure Restoration incidents or planned network changes based upon AVC ID, PRI ID, locality, street name, or NBN

#### CEO30 IT INCIDENT NOTIFICATION

Customer notification in the event of an unplanned IT outage NBN Co notification to inform Customer of an unplanned IT outage. Notification will include impacted business processes.

#### CEO31 ENHANCED BATTERY BACKUP SERVICE ALARM NOTIFICATION

Enhanced Battery Backup Service Alarm closure Improvements to the Replace Battery alarm mechanism that will provide more timely notification when the alarm has cleared in the Network.

# **CEO32** ENHANCED TROUBLE TICKET SEARCH

Enhanced Trouble Ticket Query via either NBN Co Service Portal or

- Improvements to Trouble Ticket queries including:
- Search by impacted service such as NNI or CVC.
- Column filtering of Trouble Ticket query results (NBN Co Service Portal only)

#### CEO33 CENTRALISED DEPLOYMENTS

Support for NEBS on Fibre at complex commercial premises Centralised Deployments introduces the option for NBN Co to pre-install Fibre NTD at central locations (such as a Communications Room) within Complex Premises to deliver NEBS on Fibre via structured in-building cabling to the end user location.

### **CE036** CUSTOMER CONTACT MANAGEMENT **IMPROVEMENTS**

View and manage key contact details through the NBN Co Service Portal

Enhancement to the NBN Co Service Portal allowing Customer to review and manage key NBN Co contact details including:

- Updating Customer points of contact (by a user with appropriate authority).
- View all Customer and NBN Co points of contact (by any Authorised User)

### CEO37 TRIAL OF CUSTOMER STRONG **AUTHENTICATION TO NBN CO SYSTEMS**

Trial of strong authentication for Customers logging into NBN Co Systems CEO38 CUSTOMER STRONG AUTHENTICATION

#### TO NBN CO SYSTEMS Strong authentication for Customers logging into NBN Co Systems Security enhancement for Customers accessing to NBN Co systems (NBN

Co Service Portal, NBN Co EUAP, NBN Co SharePoint sites and others). The initiative introduces three new Strong Authentication methods:

- 1. Federated Identity Management Browser Certificates

Following take up, current method of customer authentication using username and password alone will be not available.

#### CEO39 TRIAL OF SITE ACCESS KEYING **SERVICE ENHANCEMENTS**

#### Trial of a new keying solution for Customers in POIs.

**CEO40** SITE ACCESS KEYING

Access Card:

NPIS infrastructure.

**ITO17** IT RELEASE 12

**ITO18** IT RELEASE 13

**ITO19** IT RELEASE 14

Interface version 12.

Building deployments

Node deployments

FTTN order, assurance and billing support

New keving solution for Customers in POIs.

keys with electronic access control overlay.

New keying solution in all POIs which will provide Customers with the

1. Access co-location racks without a need to be escorted by NBN Co;

2. Use key cabinets provided by NBN Co by swiping NBN Co Electronic

3. Access co-Location racks using pre-programmed electro-mechanical

ITO11 INDUSTRY INTERFACE RELEASE 3 WITHDRAWAL

ITO12 INDUSTRY INTERFACE RELEASE 4 WITHDRAWAL

ITO13 INDUSTRY INTERFACE RELEASE 5 WITHDRAWAL

Industry Interface Release 3 withdrawal (including notifications)

Industry Interface Release 4 withdrawal (including notifications)

Industry Interface Release 5 withdrawal (including notifications)

NBN Co plans to introduce a Transaction Manager, applicable

will assist NBN Co to manage the performance of the shared

ITO15 INDUSTRY INTERFACE RELEASE 6 WITHDRAWAL

Industry Interface Release 6 withdrawal (including notifications)

Long Term Satellite and FTTB order, assurance and billing support

NPIS integrated release 14 supporting B2B Access Industry

ITO20 NPIS TRANSACTION MANAGER - PHASE 2

Extending NPIS Transaction Manager introducing the deprioritisation

Portal or B2B Access when the Transaction Manager is active.

or B2B Access when the Transaction Manager is active.

**OBO12** VDSL SANDPIT AVAILABILITY

Availability of sandpit test environment for RSPs

**OBO13** FTTB BUSINESS READINESS TESTING

**OBO14** RSP ONBOARDING FOR FTTB

**OBO16** RSP ONBOARDING FOR FTTN

Release 10 B2B Access Certification open

Release 11 B2B Access Certification open

Release 12 B2B Access Certification open

MCOO3 MULTICAST ON SATELLITE

Provide Multicast service in the satellite footprint.

Release 12 B2B Access Certification open.

MULTICAST

Release 11 B2B Access Certification open.

Release 10 B2B Access Certification open.

Extending NPIS Transaction Manager introducing the deprioritisation of

Test & Diagnostic transactions submitted via the NBN Co Service Portal

NBN Co provides VDSL sandpit functionality to enable RSPs to perform

in preparation for the release of Fibre to the Building and Fibre to the

Commencement of Business Readiness Testing for Fibre to the

NBN Co commences business readiness testing with RSP involvement to

Commencement of RSP onboarding for Fibre to the Building services

In January, NBN Co commences onboarding of RSPs to begin to offer

commercial services over the Fibre to the Building access network.

Commencement of Business Readiness Testing for Fibre to the

Commencement of Business Readiness Testing for Fibre to the Node

Commencement of RSP onboarding for Fibre to the Node services

Commencement of RSP onboarding for Fibre to the Node services.

**OBO17** INDUSTRY INTERFACE CERTIFICATION

**OBO18** INDUSTRY INTERFACE CERTIFICATION

**OBO19** INDUSTRY INTERFACE CERTIFICATION

**OBO15** FTTN BUSINESS READINESS TESTING

ensure that the Fibre to the Building product is ready for deployment.

testing and validation of network functionality and modem interoperability

of Test & Diagnostic transactions submitted via the NBN Co Service

to both the NBN Co Service Portal and B2B Access, which

ITO14 NPIS TRANSACTION MANAGER - PHASE 1

### **SEOO3** PRODUCT PERFORMANCE

Service Enhancements Phase 2b: Network Performance tools

Service Enhancements is a set of on-line near-real time and historical Performance Management tools and service reports using automated systems and processes, accessible by the network B2B interface and the NBN Co Web Portal. Service Enhancements Phase 2b will enable NBN Co Customers to view information at a detailed level for the purposes of managing their services. This phase is scheduled to provide reporting based on CVC & NNI Utilisation, along with Traffic Class performance and

#### **SEOO4** CUSTOMER REPORTING

Service Enhancements Phase 2c: Customer Operational Reporting Customer Operational Reporting will introduce scheduled reporting for regular Operational items such as Activations and Assurance to reduce the volume of individual pieces of communication and aggregate standard data

#### SEOO5 TEST & DIAGNOSTICS -UNI-V AND USABILITY ENHANCEMENTS

Introduction of Status & Metallic Line Test for UNI-V and further usability enhancements

NBN Co will introduce support for retrieving the current UNI-V operational status and requesting a UNI-V Metallic Line Test. Usability enhancements to existing tests will include:

- Search by Customer test reference identifier.
- Inclusion of any applicable battery alarm information to the NTD Operational Status Enquiry
- Option for Customer to specify the test packet size when requesting a Loopback Test.
- Ability for Customer to cancel a Loopback or Network Performance Test. **SEOO6** TEST & DIAGNOSTICS - UNI PORT RESET

Introduction of UNI Port Reset Functionality NBN Co will introduce support for resetting the UNI Port on a NTD.

Usability enhancements to existing tests will include: Restart the DHCP session of the service for troubleshooting purposes.

### **MEDIUM BUSINESS SERVICES**

#### PRO58 MTM BUSINESS SERVICES CONSULTATION

Industry consultation on the feature set and availability of business services over the MTM access networks.

# MBOO1 TRAFFIC CLASS 3 ON FIBRE

CVC speed tiers 50, 100, 150, 200, 250, 300 Mbps to 1 Gbps (in 100 Mbps increments) AVC speed tiers 10, 20, 40, and 100 Mbps Medium Business Phase 2 plans to include the release of symmetric bandwidth profiles with the introduction of Traffic Class 3.

Traffic Class 3 has been designed to provide a committed capacity with an ability to burst to a peak speed. The symmetric Traffic Class 3 AVC bandwidths being introduced are:

- 10 Megabits per second, 20 Megabits per second, 40 Megabits per second and 100 Megabits per second.
- The symmetric Traffic Class 3 CVC bandwidths being introduced are: • 50 Megabits per second, 100 Megabits per second, 150 Megabits per second, 200 Megabits per second, 250 Megabits per second, 300 Megabits per second to 1 Gigabit per second (in 100Mbps

# MB003 VLAN TRANSPARENCY ON FIBRE

Customer Edge Virtual Local Area Network Transparency & Layer 2 Control Protocol Transparency

Medium Business Phase 2 plans to release Virtual Local Area Network (VLAN) Transparency on Fibre Transparency capabilities to be introduced include: CE-VLAN

- Transparency and Layer 2 Control Protocol Transparency. • CE-VLAN Transparency – ensures that whatever CE-VLAN is used by
- (dynamic) in a transparent manner. Layer 2 Control Protocol Transparency – as per MEF recommendations for Ethernet Virtual Private Line. (AVC level)

the Service Provider, the value is maintained between UNI and NNI

# MBOO7 DEFAULT MAPPED TC-1/TC-2

## Introduce Default Mapped on Traffic Classes 1 & 2

This enhancement will provide flexibility for RSPs to build voice and data only solutions using CIR Traffic classes as well as enhance migration pathways across the traffic classes. Will also provide alignment across all available traffic classes. (i.e. TC-1, 2 & 4).

### **ENTERPRISE ETHERNET SERVICES**

#### **ESOO1** BUSINESS GRADE NTD

Business grade NTD The business-grade Network Termination Device used for the Enterprise Ethernet Service is proposed to be backwards compatible to support a Gigabit Passive Optical Network uplink interface. This allows Service Providers to build a solution with a device that is canable of delivering features and bandwidths consistent with the NFAS offering, while at the same time enabling an efficient and transparent migration path to direct fibre point-to-point (Enterprise Ethernet Service) when their end-users/ customers require additional bandwidth and scalability.

NBN Co will release a full description of the Business NTD device including additional technical details closer to launch.

#### **ESOO2** HIGH SPEED AVC

#### Symmetrical AVC and CVC from 50 to 1000 Mbps

NBN Co's Enterprise Ethernet Service is intended to support the needs of large, more complex enterprises and government customers, by providing very high capacity, transparency and redundancy.

NBN Co's Enterprise Ethernet Service is intended to be delivered via a dedicated point-to-point Access Fibre from the end-user's premises to the Fibre Access Node using a business-grade Network Termination Device, with symmetrical speeds from 50 Megabits per second to in excess of one Gigabit per second.

#### **ESOO3** ACCESS DIVERSITY

Access Diversity on Fibre

These will include:

In addition to the Standard Single Uplink connectivity, the Enterprise Ethernet Service plans to provide access diversity/resiliency options to enable high and ultra-high service availability.

- 1. Dual Diverse Uplink Access with Single Network Aggregation Element - Single Network Termination Device connected using diverse lead-in fibres, distribution fibres – using a single port from different line termination cards on the same Network Aggregation element at the Fibre Access Node site.
- 2. Dual Diverse Uplink Access with Dual Network Aggregation Elements - Single Network Termination Device connected using diverse lead-in fibres, distribution fibres - using a single port from different line terminat cards on physically separate and diverse Network Aggregation elements.
- connected using diverse lead-in fibres, distribution fibres using a single port from different line termination cards on different Network

**ESOO4** CLASS OF SERVICE MARKINGS DROP PRIORITY

3. Fully Redundant Access – Two Network Termination Devices

#### Drop priority based on class of service markings This service is intended to be delivered via a dedicated point-to-point Access Fibre from the end-user's premises to the Fibre Access Node using a business-grade Network Termination Device. NBN Co is proposing

a semi-intelligent pipe model with drop priority based on the Service

Provider's Class of Service (Priority Code Point/Priority-Bit), which is important for contended services that may experience congestion. Service Providers will have the opportunity to provide an uncontended (1:1) AVC and CVC bandwidth contention ratio or potentially contend AVC connections into a CVC using the semi-intelligent pipe model, thus ensuring traffic prioritisation through their network, during times

#### of congestion **ESOO5** ADVANCED OAM

# Advanced operation, administration and maintenance

NBN Co plans to offer Advanced Service Operations, Administration and Maintenance features, including 802.1ag Connectivity Fault Management with the potential for Operations Administration and Maintenance peering for Fault Propagation and early fault detection for Service Providers.

#### **FACILITIES ACCESS**

FAOO3 DUCT ACCESS

Non-WBA related access to NBN Co owned telecomms facilities. NBN Co has a regulatory obligation to provide Facilities Access services to carriers eligible to request them. An interim service is currently being provided, however the service needs to be fully developed to ensure that safety and assurance aspects are comprehensively managed. The service will provide Customers with an expectation of costs and timeframes to install, with all standards and processes documented within an Operations manual The benefits of this initiative are regulatory compliance, avoidance of reputational damage, reduced risk of network impacts and to foster a reasonable approach to utilisation of NBN Co's scarce duct infrastructure to minimise replacement capex.

#### **CUSTOMER EXPERIENCE** CEO21 BUILDING ENTRY SERVICES ORDER

Upload or download attachments (e.g. cable diagrams) for Facilities Access Building Entry Service orders via the NBN Co Service Portal Upload or download attachments (e.g. cable diagrams) for Building Entry Service orders for facilities access via the NBN Co Service Portal.

