

# Product Description

**nbn**<sup>™</sup> BSS ILA Product Module

**nbn**<sup>™</sup> BSS Interim Launch Agreement

# Product Description

## nbn™ BSS ILA Product Module

## nbn™ BSS Interim Launch Agreement

Version	Description	Effective Date
1.0	First issued version of nbn™ BSS Interim Launch Agreement	Execution Date
1.1	Amendments relating to nbn™ VISP data usage allowances, ABP bandwidth allocation, Service Levels in respect of BoD and Operational Assurance Service processes	27 November 2019
1.2	Amendments relating to Installations, nbn™ ABSL3, nbn™ VISP, Assurance Self-Installation – Bronze and Disaster Recovery	3 August 2020
1.3	Amendments to introduce Relocation	28 July 2021

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### Environment

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# Introduction

This **nbn**<sup>TM</sup> BSS ILA Product Description describes the **nbn**<sup>TM</sup> BSS Products.

## Roadmap

A roadmap describing the structure of this **nbn**<sup>TM</sup> BSS ILA Product Description is provided below.

### Part A: The **nbn**<sup>TM</sup> BSS Products

Part A describes what the **nbn**<sup>TM</sup> BSS Products are.

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## Part A: The **nbn**<sup>TM</sup> BSS Products

### 1. **nbn**<sup>TM</sup> BSS Products

- (a) Each of the following is an **nbn**<sup>TM</sup> **BSS Product**:
- (i) **nbn**<sup>TM</sup> Virtual Internet Service Product (**nbn**<sup>TM</sup> **VISP**);
  - (ii) **nbn**<sup>TM</sup> Internet of Things (**nbn**<sup>TM</sup> **IoT**); and
  - (iii) **nbn**<sup>TM</sup> Access Bandwidth Services Layer 3 (**nbn**<sup>TM</sup> **ABSL3**),
- (together, the **nbn**<sup>TM</sup> **BSS Products**).
- (b) Each **nbn**<sup>TM</sup> BSS Product:
- (i) is an Ethernet-based Layer 3 virtual connection that carries traffic between a UNI used to serve a Premises and the **nbn**<sup>TM</sup> Upstream Network Boundary as described in the following table:

<b>nbn</b> <sup>TM</sup> BSS Product	OSI Layer	<b>nbn</b> <sup>TM</sup> Upstream Network Boundary
<b>nbn</b> <sup>TM</sup> VISP	Layer 3	Internet Point of Presence
<b>nbn</b> <sup>TM</sup> IoT	Layer 3	Internet Point of Presence
<b>nbn</b> <sup>TM</sup> ABSL3	Layer 3	<ul style="list-style-type: none"> <li>• B-NNI; or</li> <li>• where the UNI to UNI Product Feature is applied, the Satellite Midway Point</li> </ul>

- (ii) is supplied by means of the BSS Network;
- (iii) enables Customer or its Downstream Service Providers to supply a Carriage Service or Content Service to a Premises; and
- (iv) comprises:
  - (A) Product Components, which Customer must acquire as part of that **nbn**<sup>TM</sup> BSS Product; and
  - (B) optional Product Features, which Customer may elect to acquire, as specified in section 2.

### 2. Product Components and Product Features

- (a) Each **nbn**<sup>TM</sup> BSS Product comprises the Product Components, which Customer must acquire, as described in the following table:

<b>nbn</b> <sup>TM</sup> BSS Product	Product Components	Product Component described in
<b>nbn</b> <sup>TM</sup> VISP	UNI-D	Section 4
<b>nbn</b> <sup>TM</sup> IoT	IAC	Section 5
<b>nbn</b> <sup>TM</sup> ABSL3	B-NNI	Section 3

	UNI-D	Section 4
	BVC	Section 6

- (b) Each **nbn**<sup>TM</sup> BSS Product comprises the optional Product Features, which Customer may elect to acquire, as described in the following table:

Optional Product Feature	Optional Product Feature described in	<b>nbn</b> <sup>TM</sup> VISP	<b>nbn</b> <sup>TM</sup> IoT	<b>nbn</b> <sup>TM</sup> ABSL3
Access Bandwidth Pool (ABP)	Section 7	✘	✓	✓*
Additional VLANs	Section 8	✘	✘	✓
Bandwidth on Demand (BoD)	Section 9	✘	✘	✓*
B-NNI Redundancy	Section 10	✘	✘	✓
Burst	Section 11	✘	✘	✓*
Customised Reporting	Section 12	✓	✓	✓
Disaster Recovery (DR)	Section 13	✓	✘	✘
Encryption	Section 14	✓	✓	✓
Fleet Plan	Section 15	✓	✘	✘
Operational Assurance Service	Section 16	✓	✓	✓
Performance Enhancing Proxy (PEP)	Section 17	✓	✓	✓
QoS Marking	Section 18	✓	✓	✓
Time of Day (ToD)	Section 19	✘	✘	✓*
UNI to UNI	Section 20	✘	✘	✓
VoIP Prioritisation	Section 21	✓	✘	✓

\* **Note:** Not available in respect of **nbn**<sup>TM</sup> ABSL3 (Contended) Ordered Products.

- (c) Additional Product Features of Product Components are described in the sections that describe those Product Components.

## Part B: Required Product Components

Section 3 describes the B-NNI. Customer must order a B-NNI for each BSS POI where **nbn** supplies **nbn**<sup>TM</sup> ABSL3 to Customer.

### 3. BSS Network-Network Interface (B-NNI)

#### 3.1 Applicable **nbn**<sup>TM</sup> BSS Products

The B-NNI is a required Product Component for the following **nbn**<sup>TM</sup> BSS Products:

<b>nbn</b> <sup>TM</sup> VISP	<b>nbn</b> <sup>TM</sup> IoT	<b>nbn</b> <sup>TM</sup> ABSL3
✘	✘	✔

#### 3.2 B-NNI description

- (a) A **BSS-Network-Network Interface** or **B-NNI** is the interface at a BSS POI where Customer traffic is handed over to the BSS Network.
- (b) The B-NNI is the point of physical handover for all BVCs associated with that B-NNI.
- (c) A B-NNI supplied in respect of **nbn**<sup>TM</sup> ABSL3 may only be made available at a BSS POI.
- (d) The physical interface options for the B-NNI are:

B-NNI physical interface options
1 Gbps
10 Gbps

- (e) The B-NNI Bearers associated with a B-NNI must have the same physical interface profile selected from the physical interface options set out in section 3.2(d) and must not be a combination.

Section 4 describes the UNI which must be ordered in conjunction with the IAC or BVC (as relevant) for each Premises where **nbn** supplies **nbn**<sup>TM</sup> BSS to Customer.

### 4. User Network Interface (UNI)

#### 4.1 Applicable **nbn**<sup>TM</sup> BSS Products

- (a) The UNI is a required Product Component for the following **nbn**<sup>TM</sup> BSS Products:

<b>nbn</b> <sup>TM</sup> VISP	<b>nbn</b> <sup>TM</sup> IoT	<b>nbn</b> <sup>TM</sup> ABSL3
✔	✔	✔

#### 4.2 UNI description

- (a) The **User Network Interface** or **UNI** is the physical port on the VSAT NTD to which **nbn** supplies an **nbn**<sup>TM</sup> BSS Product in respect of a Premises.

- (b) Customer must order at least one UNI for each Premises to which an **nbn**<sup>™</sup> BSS Product will be supplied.
- (c) Further details of UNI particulars are set out at section 4 of the [nbn<sup>™</sup> BSS ILA Product Technical Specification](#).

### 4.3 UNI-D

- (a) The UNI-D port has an electrical interface and will not be made available with an optical interface.
- (b) It is a condition of the supply of a UNI-D Product Component that Customer must also specify:
  - (i) for **nbn**<sup>™</sup> VISP and **nbn**<sup>™</sup> IoT, Product Features which Customer will acquire and which **nbn** will use to configure the IAC Product Component; or
  - (ii) for **nbn**<sup>™</sup> ABSL3, Product Features which Customer will acquire and which **nbn** will use to configure the BVC Product Component,in conjunction with that UNI-D Product Component.

### 4.4 IP Address

- (a) Each UNI-D facing the Customer Network used with **nbn**<sup>™</sup> VISP and **nbn**<sup>™</sup> IoT will be provisioned with a public IP address supplied by **nbn** that Customer may use for IP-based communications to and from Customer Network, third party networks, or both.
- (b) The particulars of the IP address provisioned in respect of a UNI-D depends on the applicable **nbn**<sup>™</sup> BSS Product and the functionality requested by Customer.
- (c) In respect of **nbn**<sup>™</sup> VISP and **nbn**<sup>™</sup> IoT Ordered Products, the products will, by default be supplied using NAT mode of UNI-D IP address allocation. Customer will have the option of requesting NAT or Route Mode of UNI-D IP address allocation.
- (d) Further details of IP address particulars are set out at section 4 of the [nbn<sup>™</sup> BSS ILA Product Technical Specification](#).

#### Notes:

- If Customer operates an **nbn**<sup>™</sup> VISP or **nbn**<sup>™</sup> IoT Ordered Product in Route Mode using **nbn**'s subnet, **nbn** will issue a /30 IP subnet address range to each Ordered Product
- If Customer operates an **nbn**<sup>™</sup> VISP or **nbn**<sup>™</sup> IoT Ordered Product in Route Mode, **nbn** may permit Customer to supply public /24 IP address subnet range. The subnet will only be published by **nbn**.
- **nbn**<sup>™</sup> ABSL3 will be provisioned with an IP address supplied by Customer.
- If Customer supplies an IP subnet it must inform **nbn** of how many IP addresses to allocate to an Ordered Product.

Section 5 describes the IAC which must be ordered for each Premises where **nbn** supplies **nbn**<sup>™</sup> VISP or **nbn**<sup>™</sup> IoT to Customer.

## 5. Internet Access Connection (IAC)

### 5.1 Applicable **nbn**<sup>™</sup> BSS Products

- (a) The IAC is a required Product Component for the following **nbn**<sup>™</sup> BSS Products:



nbn™ VISP	nbn™ IoT	nbn™ ABSL3
✓	✓	✗

## 5.2 IAC description

- (a) **Internet Access Connection** or **IAC** is an Ethernet-based Layer 3 virtual connection on the BSS Network that carries Customer traffic to and from a UNI used to serve a Premises.
- (b) Customer must specify Product Features which Customer will acquire and which **nbn** will use to configure an IAC Product Component for each Premises to which the relevant **nbn**™ BSS Product will be supplied:
- (i) for **nbn**™ VISP:
- (A) in one of the bandwidth profiles available for **nbn**™ VISP set out in section 5.2(d); and
- (B) with a data usage allowance set out in section 5.2(e); and
- (ii) for **nbn**™ IoT – in any of the PIR and CIR bandwidth profiles available for **nbn**™ IoT set out in section 5.2(d),
- subject to sections 6 and 10 of the [nbn™ BSS ILA Product Technical Specification](#).
- (c) **nbn** will map one IAC to a UNI used to serve the relevant Premises and will not map more than one IAC or one BVC to the same UNI.
- (d) Subject to section 5.2(f), the IAC bandwidth profiles are:

nbn™ BSS Product	CIR/PIR	Forward (Mbps)	Return (Mbps)	In increments of (Mbps)
<b>nbn</b> ™ VISP	PIR	30	1	N/A
	PIR	30	5	N/A
	PIR	13	13	N/A
	PIR	30	13	N/A
<b>nbn</b> ™ IoT	PIR	0.05 – 2.00	0.05 – 2.00	0.01
	CIR	0.01 – 2.00	0.01 – 2.00	0.01

**Note:** To be read subject to: (1) the capacity management provisions for the BSS Network in section 25.6 below; (2) the description of how the PIR and CIR for these bandwidth profiles is to be interpreted in section 25.1 and 25.2 below; and (3) sections 6 and 10 of the [nbn™ BSS ILA Product Technical Specification](#).

- (e) Subject to section 5.2(f), the IAC data usage allowances are:

nbn™ BSS Product	Maximum contracted IAC data usage allowance (GB)	Additional data usage allowance increments (GB)
<b>nbn</b> ™ VISP	100 – 1000	100

**Note:**

- *Data usage by each IAC includes both download and upload usage.*
  - *Data usage is measured based on Layer 3 packets traversing the IAC, calculated in accordance with section 6.3 of the [nbn™ BSS ILA Product Technical Specification](#).*
  - *Once the IAC reaches the allocated data usage allowance, the allocated data usage allowance will be automatically topped up in further increments of 100GB for the applicable period following standard processes determined by **nbn** from time to time.*
  - *Any additional data usage allowance increment will only be available to Customer until the end of the applicable period in which such an increment was acquired, following standard processes determined by **nbn** from time to time.*
- (f) The IAC bandwidth profiles and data usage allowances in respect of an **nbn™** BSS Product may be different to the profiles set out in sections 5.2(d) and 5.2(e) in the following circumstances:
- (i) for bandwidth profiles, if Customer acquires:
    - (A) ABP (as set out in section 7.2);
    - (B) DR (as set out in clause 13.2(c)); and
  - (ii) for data usage allowances in respect of **nbn™** VISP, if Customer acquires:
    - (A) DR (as set out in section 13.2(d)); and
    - (B) Fleet Plan (as set out in section 15.2(b)(ii)).

Section 6 describes the BVC which must be ordered for each Premises where **nbn** supplies **nbn™** ABSL3 to Customer.

## 6. Broadband Virtual Connection (BVC)

### 6.1 Applicable **nbn™** BSS Products

- (a) The BVC is a required Product Component for the following **nbn™** BSS Products:

<b>nbn™</b> VISP	<b>nbn™</b> IoT	<b>nbn™</b> ABSL3
<b>x</b>	<b>x</b>	✓

### 6.2 BVC description generally

- (a) **Broadband Virtual Connection** or **BVC** is an Ethernet-based Layer 3 virtual connection on the BSS Network that carries Customer traffic to and from a UNI used to serve a Premises.
- (b) Customer must specify:
- (i) product features which Customer will acquire and which **nbn** will use to configure a BVC Product Component for each Premises to which the relevant **nbn™** BSS Product will be supplied; and
  - (ii) the CIR bandwidth profiles from those available for that **nbn™** BSS Product set out in either section 6.3(a) or 6.4(b); and
  - (iii) in respect of **nbn™** ABSL3 (Contended), the individual BVCs that will be selected from those available in section 6.4(b), in accordance with section 6.4(a),

subject to sections 5 and 10 of the [nbn™ BSS ILA Product Technical Specification](#).

- (c) **nbn** will map one BVC to a UNI used to serve the relevant Premises and will not map more than one BVC or one IAC to the same UNI.

### 6.3 BVC description – nbn™ ABSL3 (Uncontended)

- (a) In respect of **nbn**™ ABSL3 (Uncontended), the BVC bandwidth profiles are:

nbn™ BSS Product	CIR/PIR	Forward (Mbps)	Return (Mbps)	In increments of (Mbps)
<b>nbn</b> ™ ABSL3	CIR	1 - 50	1 - 13	1

**Note:** To be read subject to: (1) the capacity management provisions for the BSS Network in section 25.6 below; (2) the description of how CIR for these bandwidth profiles is to be interpreted in sections 25.1 and 25.2 below; (3) sections 5 and 10 of the [nbn™ BSS ILA Product Technical Specification](#); and (4) where bandwidth is greater than 40Mbps the VSAT license must be upgraded to 60Mbps.

### 6.4 BVC description – nbn™ ABSL3 (Contended)

- (a) In respect of **nbn**™ ABSL3 (Contended), and subject to sections 6.4(b) and 6.4(c), Customer may order:
- (i) a CIR bandwidth service from one of the bandwidth profiles in section 6.4(b) that can be shared by one or more other BVCs on a contended basis; and
  - (ii) BVCs to be associated with that contended bandwidth (up to the applicable threshold set out in section 6.4(c)).
- (b) The bandwidth profiles available to Customer for CIR bandwidth under section 6.4(a)(i) are:

Contention ratio	CIR bandwidth profile Forward/Return (Mbps)				
10:1	10/5	20/5	50/5	20/10	50/10
5:1	10/5	20/5	50/5	N/A	N/A

**Note:** To be read subject to: (1) the capacity management provisions for the BSS Network in section 25.6 below; (2) the description of how CIR for these bandwidth profiles is to be interpreted in sections 25.1 and 25.2 below; (3) sections 5 and 10 of the [nbn™ BSS ILA Product Technical Specification](#); and (4) where bandwidth is greater than 40Mbps the VSAT license must be upgraded to 60Mbps.

- (c) In respect of each BVC ordered under section 6.4(a)(ii):
- (i) each such BVC will not have a separate bandwidth profile as set out in section 6.3(a);
  - (ii) **nbn** will configure how CIR bandwidth is allocated to each such BVC in accordance with the contention ratio referred to in section 6.4(b);
  - (iii) the total bandwidth available to each such BVC, and all BVCs associated with the same CIR contended bandwidth, will not exceed the bandwidth ordered by Customer under section 6.4(b); and
  - (iv) **nbn** will supply QoS Profile 3 in respect of each such BVC.

## 6.5 Limitations on supply of BVCs

- (a) The BVC bandwidth profiles in respect of an **nbn**<sup>™</sup> BSS Product may be different to the profiles set out in section 6.3(a) if Customer acquires:
- (i) ABP (as set out in section 7.2);
  - (ii) Burst (as set out in section 11.3(a));
  - (iii) BoD (as set out in section 9.2(b)); and
  - (iv) ToD (as set out in section 19.2(b)).

## Part C: Optional Product Features

Section 7 describes the optional ABP Product Feature available for **nbn**<sup>™</sup> IoT and **nbn**<sup>™</sup> ABSL3.

### 7. Access Bandwidth Pool (ABP)

#### 7.1 Applicable **nbn**<sup>™</sup> BSS Products

- (a) ABP is available in respect of the following **nbn**<sup>™</sup> BSS Products:

<b>nbn</b> <sup>™</sup> VISP	<b>nbn</b> <sup>™</sup> IoT	<b>nbn</b> <sup>™</sup> ABSL3 (1)
✘	✓	✓

**Note:** (1) ABP is not available in respect of **nbn**<sup>™</sup> ABSL3 (Contended) Ordered Products, as these Ordered Products are individual services only operating in a bandwidth managed by **nbn**.

#### 7.2 ABP Description (Customer Managed)

- (a) **Access Bandwidth Pool** or **ABP** is an optional Product Feature of **nbn**<sup>™</sup> IoT and **nbn**<sup>™</sup> ABSL3 (not **nbn** managed ABP) that allows specified bandwidth to be shared by:
- (i) one or more IACs; or
  - (ii) one or more BVCs,
- (each an **ABP Member**).
- (b) Subject to section 7.2(c) and section 8.1 of the [nbn<sup>™</sup> BSS ILA Product Technical Specification](#), Customer may:
- (i) order an ABP in any of the bandwidth profiles set out in section 7.2 (**ABP Bandwidth**); and
  - (ii) associate an ABP with ABP Members delivered solely using one Beam.
- (c) Each ABP:
- (i) may only be associated with IACs or BVCs configured by **nbn** for Customer (and not any Other Customer);
  - (ii) may be associated with either IACs or BVCs, but not both; and
  - (iii) must not be associated with an IAC or BVC that is a member of another ABP.
- (d) Subject to section 8.1 of the [nbn<sup>™</sup> BSS ILA Product Technical Specification](#):
- (i) each ABP Member will not have a separate bandwidth profile as set out in section 5.2(d) or section 6.3(a);
  - (ii) Customer may configure how CIR and PIR bandwidth is allocated to each ABP Member in accordance with section 7.3(c);
  - (iii) the total bandwidth available to each ABP Member, and all ABP Members, of an ABP will not exceed the ABP Bandwidth; and

- (iv) for an ABP in respect of **nbn**<sup>TM</sup> ABSL3 BVCs, in addition to the PIR ABP Bandwidth it elects to acquire, Customer must acquire CIR bandwidth such that the maximum aggregate PIR:CIR ABP Bandwidth ratio in any ABP Beam is 4:1.
- (e) If Customer fails to comply with this section 7.2, without limiting any rights **nbn** may have in relation to such failure under the [Interim Terms](#) or the [nbn<sup>TM</sup> BSS ILA Fair Use Policy](#), **nbn** may modify the ABP and any associated IACs or BVCs following standard processes determined by **nbn** from time to time.

### 7.3 ABP bandwidth profiles

- (a) For an ABP supplied in respect of **nbn**<sup>TM</sup> IoT IACs the available bandwidth profiles are:

ABP mode	CIR/PIR	Forward (Mbps)	Return (Mbps)	In increments of (Mbps)
Beam ABP	PIR	1 – 50	1– 50	1

**Note:**

- To be read subject to: (1) the capacity management provisions for the BSS Network in section 25.6 below; (2) the description of how the PIR for these bandwidth profiles is to be interpreted in section 25.1 below; and (3) section 8.1 of the [nbn<sup>TM</sup> BSS ILA Product Technical Specification](#).
- nbn** will not provision ABP capacity in respect of an ABP Member in a Beam where that Beam is at or near capacity.
- Sharing ABP Bandwidth across multiple Beams is planned to be made available at a date to be notified by **nbn**.

- (b) For an ABP in respect of **nbn**<sup>TM</sup> ABSL3 BVCs, the available bandwidth profiles are:

ABP mode	CIR/PIR	Forward (Mbps)	Return (Mbps)	In increments of (Mbps)
Beam ABP	CIR	1 – 50	1 – 50	1
Beam ABP	PIR	1 – 50	1 – 50	1

**Note:**

- To be read subject to: (1) the capacity management provisions for the BSS Network in section 25.6 below; (2) the description of how the PIR and CIR for these bandwidth profiles is to be interpreted in sections 25.1 and 25.2 below; and (3) section 8.1 of the [nbn<sup>TM</sup> BSS ILA Product Technical Specification](#).
- nbn** will not provision ABP capacity in respect of an ABP Member in a Beam where that Beam is at or near capacity.
- Sharing ABP Bandwidth across multiple Beams is planned to be made available at a date to be notified by **nbn**.

- (c) Customer may allocate the ABP Bandwidth in a Beam to each ABP Member in that Beam in accordance with the following table and such other standard processes determined by **nbn** from time to time:

<b>nbn</b> <sup>TM</sup> BSS Product	ABP mode	ABP Member PIR / CIR	ABP bandwidth allocated per ABP Member (in Mbps)		In increments of
<b>nbn</b> <sup>TM</sup>	Beam ABP	CIR	Forward	0.01 – 50	0.01 Mbps up to 2

ABSL3			Return	0.01 – 13	Mbps, and 1 Mbps thereafter
					0.01 Mbps up to 2 Mbps, and 1 Mbps thereafter
	Beam ABP	PIR	Forward	1 – 50	1 Mbps
			Return	1 –13	1 Mbps
nbn™ IoT	Beam ABP	PIR	Forward	0.01 – 2.00	0.01 Mbps
			Return	0.01 – 2.00	0.01Mbps

**Note:** Where bandwidth is allocated to ABP member is greater than 40Mbps the VSAT license must be upgraded to 60Mbps.

Section 8 describes the optional Additional VLANs Product Feature available for nbn™ ABSL3.

## 8. Additional VLANs

### 8.1 Applicable nbn™ BSS Products

Additional VLANs are available in respect of the following nbn™ BSS Products:

nbn™ VISP	nbn™ IoT	nbn™ ABSL3
x	x	✓

### 8.2 Additional VLANs Description

- Additional VLANs** is an optional Product Feature of an nbn™ ABSL3 BVC Product Component, which is used to associate one or more VLAN (S-TAG) as part of a shared common network with Customer Network.
- An nbn™ ABSL3 BVC Product Component may be configured with multiple VLANs to logically partition traffic to reflect the logical structure of Customer Network or End User networks.
- nbn offers the following Additional VLAN options:

nbn™ ABSL3
1 Additional VLAN
2 Additional VLANs
3 Additional VLANs
4 Additional VLANs

- If Customer does not select any of the Additional VLAN options set out in section 8.2(c) in respect of an nbn™ ABSL3 BVC, nbn will configure the network with an initial VLAN.

- (e) Full details of VLAN configurations are set out at sections 5.3 and 8.3 of the [nbn™ BSS ILA Product Technical Specification](#).

Section 9 describes the optional BoD Product Feature available for **nbn™** ABSL3.

## 9. Bandwidth on Demand (BoD)

### 9.1 Applicable **nbn™** BSS Products

BoD is available in respect of the following **nbn™** BSS Products:

<b>nbn™</b> VISP	<b>nbn™</b> IoT	<b>nbn™</b> ABSL3 (1)
✘	✘	✔

**Note:** (1) Not available in respect of **nbn™** ABSL3 (Contended) Ordered Products.

### 9.2 BoD Description

- (a) **Bandwidth on Demand** or **BoD** is an optional Product Feature of the BVC Product Component that allows Customer to access BVC bandwidth during a Demand Event.
- (b) The BoD bandwidth profiles are:

CIR/PIR	Forward (Mbps)	Return (Mbps)	In increments of (Mbps)
CIR	1 – 50	1 – 13	1

**Note:** To be read subject to: (1) the capacity management provisions for the BSS Network in section 25.6 below; (2) the description of how the CIR for these bandwidth profiles is to be interpreted in sections 25.1 and 25.2 below; and (3) section 8.4 of the [nbn™ BSS ILA Product Technical Specification](#).

- (c) While the BVC is not operating at the selected BoD bandwidth profile during a Demand Event, only a nominal stream of data will be accepted on the BVC to enable “keep alive” messages to be sent.
- (d) BoD bandwidth will only be accessible:
- (i) if a Demand Event occurs; and
  - (ii) for the duration of the Demand Event.
- (e) BoD cannot be used in respect of an Ordered Product in respect of which **nbn** supplies the following Product Features:
- (i) Burst; and
  - (ii) ToD.
- (f) If Customer fails to comply with this section 9.2, without limiting any rights **nbn** may have in relation to such failure under the [Interim Terms](#) or the [nbn™ BSS ILA Fair Use Policy](#), **nbn** may modify the BoD and any associated BVC following standard processes determined by **nbn** from time to time.



Section 10 describes the optional B-NNI Redundancy Product Feature available in respect of **nbn**<sup>™</sup> ABSL3.

## 10. B-NNI Redundancy

### 10.1 Applicable **nbn**<sup>™</sup> BSS Products

B-NNI Redundancy is available in respect of the following **nbn**<sup>™</sup> BSS Products:

<b>nbn</b> <sup>™</sup> VISP	<b>nbn</b> <sup>™</sup> IoT	<b>nbn</b> <sup>™</sup> ABSL3
✘	✘	✔

### 10.2 B-NNI Redundancy Description

- (a) **B-NNI Redundancy** is an optional Product Feature of the B-NNI Product Component that provides Customer with physical interface redundancy, geographic redundancy, or both.
- (b) **nbn** offers the following B-NNI Redundancy options:

Options
Single Interface (Single BSS POI)
Redundant Interface (Single BSS POI)
Single Interface (Redundant BSS POI)
Redundant Interface (Redundant BSS POI)

**Note:** To be read subject to: (1) section 3.2 of the [nbn<sup>™</sup> BSS ILA Product Technical Specification](#); and (2) section 3 of the [nbn<sup>™</sup> BSS ILA Service Level Schedule](#).

- (c) If Customer does not select any of the B-NNI Redundancy options set out in section 10.2(b) in respect of a specific B-NNI Ordered Product Component, the Single Interface (Single BSS POI) configuration will apply by default.
- (d) Further details of all B-NNI Redundancy options are set out at section 3.2 of the [nbn<sup>™</sup> BSS ILA Product Technical Specification](#).
- (e) To acquire B-NNI Redundancy in a Single Interface (Redundant BSS POI) variant or Redundant Interface (Redundant BSS POI) variant, Customer must interconnect with the BSS Network at both BSS POIs.

Section 11 describes the optional Burst Product Feature available for **nbn**<sup>™</sup> IoT and **nbn**<sup>™</sup> ABSL3.

## 11. Burst

### 11.1 Applicable **nbn**<sup>™</sup> BSS Products

- (a) The Burst option is available in respect of the following **nbn**<sup>™</sup> BSS Products:

<b>nbn</b> <sup>™</sup> VISP	<b>nbn</b> <sup>™</sup> IoT	<b>nbn</b> <sup>™</sup> ABSL3(1)
✘	✘	✔

**Note:** (1) Not available in respect of **nbn**<sup>™</sup> ABSL3 (Contended) Ordered Products.

## 11.2 Burst Description

- (a) Burst is an optional Product Feature of the BVC Product Component.
- (b) Customer:
- (i) may order Burst in any of the PIR bandwidth profiles set out in section 11.3(a);
  - (ii) must meet any minimum CIR bandwidth profile order requirements set out in section 11.3(a); and
  - (iii) may only order Burst with respect to a Product Component that is not an ABP Member.
- (c) Burst cannot be ordered in respect of an Ordered Product in respect of which **nbn** supplies the following Product Features:
- (i) ABP;
  - (ii) BoD; and
  - (iii) ToD.
- (d) If Customer fails to comply with this section 11.2, without limiting any rights **nbn** may have in relation to such failure under the [Interim Terms](#) or the [nbn™ BSS ILA Fair Use Policy](#), **nbn** may modify the relevant BVC following standard processes determined by **nbn** from time to time.

## 11.3 Burst options

- (a) The available Burst options and corresponding minimum CIR bandwidth profile order requirements are:

nbn™ BSS Product	Burst Option (Mbps)	Minimum CIR bandwidth profile order requirement	
		Forward (Mbps)	Return (Mbps)
nbn™ ABSL3	10 PIRF	1	1
	20 PIRF	2	1
	50 PIRF	5	1

**Notes:** To be read subject to: (1) the maximum CIR bandwidth profiles for the relevant **nbn**™ BSS Products set out in section 6.3(a); (2) the capacity management provisions for the BSS Network in section 25.6 below; (3) the description of how the PIR for these bandwidth profiles is to be interpreted in section 25.1 below; and (4) where bandwidth is greater than 40Mbps the VSAT license must be upgraded to 60Mbps.

Section 12 describes the optional Customised Reporting Product Feature available for the **nbn**™ BSS Products.

## 12. Customised Reporting

### 12.1 Applicable nbn™ BSS Products

Customised Reporting is available in respect of the following **nbn**™ BSS Products:

nbn™ VISP	nbn™ IoT	nbn™ ABSL3
✓	✓	✓

## 12.2 Customised Reporting Description

- (a) **Customised Reporting** is an optional Product Feature available in respect of an **nbn™** BSS Product that provides Customer with the ability to request the development of bespoke enhanced customised reporting.
- (b) If Customer does not select the Customised Reporting option in respect of a specific **nbn™** BSS Ordered Product, Standard Reporting will apply by default.
- (c) **nbn** may provide further details of Standard Reporting as part of any standard processes determined by **nbn** from time to time.

*Section 13 describes the optional DR Product Feature available for **nbn™** VISP.*

## 13. Disaster Recovery (DR)

### 13.1 Applicable nbn™ BSS Products

Disaster Recovery is available in respect of the following **nbn™** BSS Products:

nbn™ VISP	nbn™ IoT	nbn™ ABSL3
✓	✗	✗

### 13.2 DR Description

- (a) **Disaster Recovery** or **DR** is an optional Product Feature of **nbn™** VISP that allows Customer to access IAC bandwidth and data usage allowances during specified circumstances.
- (b) Customer may select one of the following two modes of operation:
- (i) **Seamless mode:** Customer may access IAC bandwidth selected from the relevant table in section 13.2(c) along with:
- (A) an initial DR data usage allowance for each Billing Period as set out in section 13.2(d); and
- (B) if that initial DR data usage allowance is exceeded during a Billing Period, allocated DR data usage allowances (including as topped up in accordance with section 13.2(e)) allocated in accordance with section 13.2(d).
- (ii) **Manual mode:** When the IAC is not operating at the IAC bandwidth selected by Customer from the relevant table in section 13.2(c), the IAC will operate with a bandwidth of 10/10 kbps. The relevant DR bandwidth and data usage allowances (including as topped up in accordance with section 13.2(e)) will only be accessible:
- (A) if a Disaster Event occurs; and
- (B) for the duration of the Disaster Event.
- (c) The available DR bandwidth profiles are:

- (i) in respect of the manual mode the following symmetrical bandwidth profile:

CIR/PIR	Symmetrical Forward and Return (Mbps)
PIR	13

- (ii) in respect of the seamless mode, the following bandwidth profiles:

CIR/PIR	Forward and Return (Mbps)
PIR	30/1
PIR	30/5
PIR	30/13

**Note:** To be read subject to: (1) the capacity management provisions for the BSS Network in section 25.6 below; (2) the description of how the PIR for these bandwidth profiles is to be interpreted in section 25.1 below; (3) section 8.5 of the [nbn™ BSS ILA Product Technical Specification](#); and (4) section 4.4 of the [nbn™ BSS ILA Fair Use Policy](#).

- (d) The initial DR data usage allowance allocated by **nbn** if Customer acquires DR is:

Operational mode	Bandwidth profile when not operating at DR bandwidth	Bandwidth profile during DR event	Initial allocated DR data usage allowance by IAC (GB)	Allocated DR data usage allowance by IAC (GB)	Allowance reset cycle
Seamless	As selected by Customer	N/A	5	20	See section 13.2(f)
Manual	10/10 Kbps	As selected by Customer	N/A	100	See section 13.2(f)

**Note:**

- Data usage by each IAC includes both download and upload usage.
  - Data usage is measured based on Layer 3 packets traversing the IAC, calculated in accordance with section 6.3 of the [nbn™ BSS ILA Product Technical Specification](#).
- (e) Once Customer reaches the allocated DR data usage allowance, the allocated DR data usage allowance will be automatically topped up in increments of 20GB for seamless mode and 100GB for manual mode for the applicable period following standard processes determined by **nbn** from time to time.
- (f) Any seamless mode DR data usage allowance acquired by Customer will be available to Customer until the end of the current Billing Cycle. Any unused DR data usage allowance will not rollover into any subsequent period.
- (g) Any manual mode DR data usage allowance acquired by Customer will be available to Customer until the current anniversary date. Any unused DR data usage allowance will not rollover into any subsequent period.

- (h) If Customer selects the DR Product Feature in respect of an IAC, Customer will not have access to any bandwidth or data usage allowance in respect of that IAC other than the DR bandwidth and data usage allowance under this section 13.2.
- (i) DR cannot be used in connection with an Ordered Product in respect of which **nbn** supplies the Fleet Plan Product Feature.
- (j) If Customer fails to comply with this section 13.2, without limiting any rights **nbn** may have in relation to such failure under the [Interim Terms](#) or the [nbn™ BSS ILA Fair Use Policy](#), **nbn** may modify the DR and any associated IAC following standard processes determined by **nbn** from time to time.

*Section 14 describes the optional Encryption Product Feature available for the nbn™ BSS Products.*

## 14. Encryption

### 14.1 Applicable nbn™ BSS Products

Encryption is available in respect of the following nbn™ BSS Products:

nbn™ VISP	nbn™ IoT	nbn™ ABSL3
✓	✓	✓

### 14.2 Encryption Description

- (a) **Encryption** is an optional Product Feature that takes place over-the-air using Advanced Encryption Standard with 256 bits (AES-256).
- (b) Encryption is applied to traffic between the relevant VSAT NTD used to serve the relevant Premises and the DPS. Encryption is not applied to traffic between the DPS and the nbn™ Upstream Network Boundary in respect of an IAC or BVC (as applicable) that serves that Premises.
- (c) If Encryption is applied to:
  - (i) an IAC, additional data usage required for encrypted data will not count towards the ordered IAC data usage allowance; and
  - (ii) an IAC or a BVC, additional bandwidth used for encrypted traffic will detract from IAC or BVC bandwidth available for use by Customer.
- (d) Further details of Encryption are set out at section 8.6 of the [nbn™ BSS ILA Product Technical Specification](#).

*Section 15 describes the optional Fleet Plan Product Feature available for nbn™ VISP.*

## 15. Fleet Plan

### 15.1 Applicable nbn™ BSS Products

Fleet Plan is available in respect of the following nbn™ BSS Products:

nbn™ VISP	nbn™ IoT	nbn™ ABSL3
✓	✗	✗

## 15.2 Fleet Plan Description

- (a) **Fleet Plan** is an optional Product Feature of **nbn**<sup>TM</sup> VISP that allows data usage allowances to be shared amongst two or more **nbn**<sup>TM</sup> VISP IACs (each, a **Fleet Plan Member**).
- (b) Subject to section 15.2(c):
- (i) a Fleet Plan may be associated with Fleet Plan Members delivered solely using one Beam or delivered using different Beams;
- Note:** nbn will not provision Fleet Plan capacity in respect of a Fleet Plan Member in a Beam where that Beam is at or near capacity.*
- (ii) each Fleet Plan Member must have the same bandwidth profile and may have an individual data usage allowance selected by Customer as set out in section 5.2;
  - (iii) the data usage allowance for the Fleet Plan is the sum of all IAC data usage allowances of all of its Fleet Plan Members (the **Fleet Plan Data Allowance**);
  - (iv) any Fleet Plan Member may access all of the Fleet Plan Data Allowance;
  - (v) any data usage (upload and download) by any Fleet Plan Member is counted against the Fleet Plan Data Allowance; and
  - (vi) if data usage (upload and download) by a Fleet Plan Member results in the Fleet Plan Data Allowance being exceeded, the data usage allowance for that Fleet Plan Member will be topped up for the applicable period, following standard processes determined by **nbn** from time to time.
- (c) Each Fleet Plan:
- (i) may only be associated with **nbn**<sup>TM</sup> VISP IACs supplied to Customer;
  - (ii) must not be associated with an **nbn**<sup>TM</sup> VISP IAC that is a member of another Fleet Plan; and
  - (iii) may only comprise Fleet Plan Members that have the same IAC bandwidth profile.
- (d) Fleet Plan cannot be used in respect of an Ordered Product in respect of which **nbn** supplies the DR Product Feature.
- (e) If Customer fails to comply with this section 15.2, without limiting any rights **nbn** may have in relation to such failure under the [Interim Terms](#) or the [nbn<sup>TM</sup> BSS ILA Fair Use Policy](#), **nbn** may modify the Fleet Plan and any associated IACs following standard processes determined by **nbn** from time to time.

*Section 16 describes the optional Operational Assurance Service Product Feature available for the **nbn**<sup>TM</sup> BSS Products.*

## 16. Operational Assurance Service

### 16.1 Applicable **nbn**<sup>TM</sup> BSS Products

Operational Assurance Service is available in respect of the following **nbn**<sup>TM</sup> BSS Products:

<b>nbn</b> <sup>TM</sup> VISP	<b>nbn</b> <sup>TM</sup> IoT	<b>nbn</b> <sup>TM</sup> ABSL3
✓	✓	✓

## 16.2 Operational Assurance Service Description

- (a) **Operational Assurance Service** is an optional Product Feature available in respect of an **nbn™** BSS Product that provides Customer with enhanced operational and maintenance support and fault rectification options per Ordered Product.
- (b) **nbn** offers the following Operational Assurance Service options:

Options
Assurance Self-Installation – Bronze
Assurance - Bronze
Assurance - Silver
Assurance - Gold

- (c) If Customer does not select any of the Operational Assurance Service options set out in section 16.2(b) in respect of a specific **nbn™** BSS Ordered Product, the Assurance - Bronze Operational Assurance Service or Assurance Self-Installation - Bronze Operational Assurance Service, as relevant (depending on whether Customer has selected the Self-Installation Option), will apply by default.
- (d) The Operational Assurance Service option for an Ordered Product will be provided on an annual basis, and automatically renewed in accordance with standard processes determined by **nbn** from time to time on each anniversary of that 12-month period, until the date that:
- (i) Customer modifies the Operational Assurance Service option; or
  - (ii) **nbn** disconnects or otherwise ceases to supply the relevant Ordered Product in accordance with this Agreement,
- unless terminated earlier by Customer giving no less than 30 calendar days' notice before the expiry of the relevant 12-month period.
- (e) Section 16.2(d) does not affect any Minimum Term that Customer has selected for that Ordered Product or any Early Termination Payment that would otherwise be payable in the event of a disconnection or modification contemplated by section 22(a)(ii) of the [nbn™ BSS ILA Price List](#).
- (f) If Customer upgrades an Operational Assurance Service option in respect of an Ordered Product (e.g. from Assurance - Bronze to Assurance - Silver or Assurance - Gold, or from Assurance - Silver to Assurance - Gold), all existing Service Levels, Operational Targets or Performance Objectives in respect of the previous Operational Assurance Service option will continue to apply until the date that is 30 calendar days from the date on which the upgrade is completed.
- (g) Further details of all Operational Assurance Services are set out at sections 2 and 7 of the [nbn™ BSS ILA Service Level Schedule](#).

Section 17 describes the optional PEP Product Feature available for **nbn**<sup>TM</sup> BSS Products.

## 17. Performance Enhancing Proxy (PEP)

### 17.1 Applicable **nbn**<sup>TM</sup> BSS Products

- (a) PEP is available in respect of the following **nbn**<sup>TM</sup> BSS Products:

<b>nbn</b> <sup>TM</sup> VISP	<b>nbn</b> <sup>TM</sup> IoT	<b>nbn</b> <sup>TM</sup> ABSL3
✓	✓	✓

### 17.2 Performance Enhancing Proxy (PEP) Description

- (a) The BSS Network processes traffic carried by an IAC or a BVC through the DPS.
- (b) Customer may elect to disable the use of PEP for any given IAC or a BVC.
- (c) If Customer elects to disable the use of PEP for an IAC or a BVC, the performance and reliability of that IAC or a BVC (as relevant) may be adversely affected.
- (d) Further details in relation to PEP are set out at section 8.8 of the [nbn<sup>TM</sup> BSS ILA Product Technical Specification](#).

Section 18 describes the optional QoS Marking Product Feature available for **nbn**<sup>TM</sup> BSS Products.

## 18. QoS Marking

### 18.1 Applicable **nbn**<sup>TM</sup> BSS Products

- (a) QoS Marking is available in respect of the following **nbn**<sup>TM</sup> BSS Products:

<b>nbn</b> <sup>TM</sup> VISP	<b>nbn</b> <sup>TM</sup> IoT	<b>nbn</b> <sup>TM</sup> ABSL3
✓	✓	✓

### 18.2 QoS Marking Description

- (a) **Quality of Service Marking** or **QoS Marking** is an optional Product Feature available in respect of an **nbn**<sup>TM</sup> BSS Product that provides a capability for Customer traffic carried by a BVC or IAC to be scheduled within the BSS Network in traffic classes according to specified QoS Marking profile options.
- (b) The QoS Marking options, Queue Type, and BSS Traffic Class in respect of the relevant **nbn**<sup>TM</sup> BSS Products are:

QoS Marking Options		Queue Type	BSS Traffic Class	<b>nbn</b> <sup>TM</sup> BSS Product
Standard	QoS Profile 1	Priority	BSS-TC1	<b>nbn</b> <sup>TM</sup> ABSL3*
		Best Effort	Default	
	QoS Profile 2	Priority	BSS-TC1	<b>nbn</b> <sup>TM</sup> ABSL3*
		Weighted	BSS-TC2	



		Best Effort	Default	
	QoS Profile 3	Priority	BSS-TC1	<b>nbn™</b> ABSL3 <b>nbn™</b> VISP <b>nbn™</b> IoT
		Weighted	BSS-TC2	
		Weighted	BSS-TC3	
		Best Effort	Default	
Customised	QoS Profile Customised	Priority	BSS-TC1	<b>nbn™</b> ABSL3*
		Weighted	BSS-TC2	
		Weighted	BSS-TC3	
		Weighted	BSS-TC4	
		Weighted	BSS-TC5	
		Best Effort	BSS-TC6	

**\*Note:** Not available in respect of **nbn™** ABSL3 (Contended).

- (c) If Customer does not select any of the QoS Marking options set out in section 18.2(b) in respect of an **nbn™** BSS Ordered Product, **nbn** will carry any Customer traffic in the default BSS Traffic Class with the Queue Type of Best Efforts.
- (d) Customer must select the same QoS Marking option to apply to all ABP Members of any single ABP.
- (e) Further details of QoS Marking profile options and traffic class configurations are set out in section 8.9 of the [nbn™ BSS ILA Product Technical Specification](#).

Section 19 describes the optional ToD Product Feature available for **nbn™** ABLS3.

## 19. Time of Day (ToD)

### 19.1 Applicable **nbn™** BSS Products

- (a) ToD is available in respect of the following **nbn™** BSS Products:

<b>nbn™</b> VISP	<b>nbn™</b> IoT	<b>nbn™</b> ABSL3(1)
<b>x</b>	<b>x</b>	✓

**Note:** (1) Not available in respect of **nbn™** ABSL3 (Contended) Ordered Products.

### 19.2 ToD Description

- (a) **Time of Day** or **ToD** is an optional Product Feature of the BVC Product Component that allows Customer to access a BVC bandwidth profile for a specified period of a day (**Profile 2**) and another BVC bandwidth profile at all other times of the day (**Profile 1**).

**Note:** "Day" in respect of ToD means each period between 00:00 and 23:59 in the local time of the Premises to which the associated BVC is supplied.

- (b) If Customer orders ToD, Customer must:

- (i) select BVC bandwidth profiles for each of Profile 1 and Profile 2 from the bandwidth profiles set out in section 6.3(a) in accordance with section 6.2(b); and
  - (ii) indicate the times in a day between which Profile 2 will apply.
- (c) ToD cannot be used in respect of an Ordered Product in respect of which **nbn** supplies the following Product Features:
- (i) Burst; and
  - (ii) BoD.

*Section 20 describes the optional UNI to UNI Product Feature available for **nbn**™ ABLS3.*

## 20. UNI to UNI

### 20.1 Applicable **nbn**™ BSS Products

- (a) The UNI to UNI Product Feature is available in respect of the following **nbn**™ BSS Products:

<b>nbn</b> ™ VISP	<b>nbn</b> ™ IoT	<b>nbn</b> ™ ABLS3
✘	✘	✔

### 20.2 UNI to UNI Description

- (a) **UNI to UNI** is an optional Product Feature of the **nbn**™ ABLS3 BVC Product Component that may be configured to carry traffic between the UNI to which the BVC is mapped under section 6.2(c) (the **A-end Component**) and the UNI of another **nbn**™ ABLS3 Ordered Product supplied to Customer (**B-end Component**).
- (b) If a BVC is configured for the UNI to UNI Product Feature as described in section 20.2(a):
- (i) the BVC can still carry traffic to and from the B-NNI to which it is mapped; and
  - (ii) Customer must ensure the B-end Component is configured for UNI to UNI connectivity with the A-end Component.
- (c) Further details of the UNI to UNI Product Feature are set out at section 5.4 of the [nbn™ BSS ILA Product Technical Specification](#).

*Section 21 describes the optional VoIP Prioritisation Product Feature available for **nbn**™ VISP and **nbn**™ ABLS3.*

## 21. VoIP Prioritisation

### 21.1 Applicable **nbn**™ BSS Products

- (a) VoIP Prioritisation is available in respect of the following **nbn**™ BSS Products:

<b>nbn</b> ™ VISP	<b>nbn</b> ™ IoT	<b>nbn</b> ™ ABLS3
✔	✘	✔

## 21.2 VoIP Prioritisation Description

(a) **VoIP Prioritisation** is an optional Product Feature of the **nbn™** VISP IAC and **nbn™** ABSL3 BVC Product Components that enables Customer to prioritise specified traffic carried by the IAC or BVC in respect of VoIP services.

(b) **nbn** offers the following VoIP Prioritisation options:

<b>nbn™</b> BSS Product	Option
<b>nbn™</b> VISP	1 VoIP service
<b>nbn™</b> ABSL3	1 VoIP service
	5 concurrent VoIP services
	10 concurrent VoIP services

**Note:** The VoIP Prioritisation options show the indicative number of VoIP services supported by each option. As VoIP services differ, including in their bandwidth requirements, these descriptions may not be accurate for every VoIP service Customer elects to supply or support.

(c) Further details of VoIP Prioritisation are set out at section 8.11 of the [nbn™ BSS ILA Product Technical Specification](#).

## Part D: General conditions of supply

Section 22 sets out obligations of Customer in relation to the downstream supply of services to which **nbn**<sup>TM</sup> BSS is an input.

### 22. Downstream supply

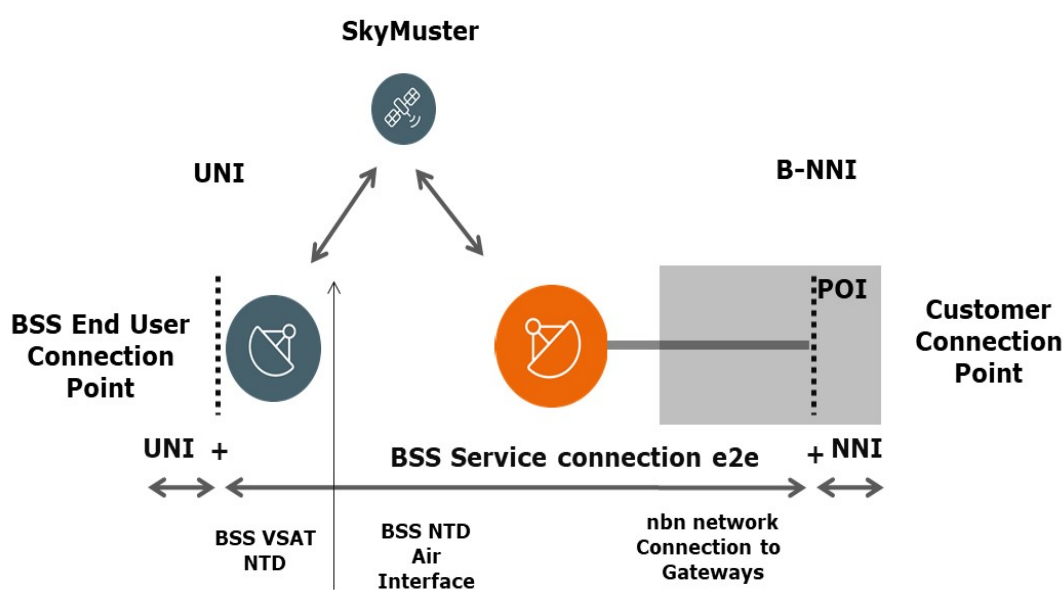
- (a) **nbn** is responsible for supplying, or arranging the supply of, all **nbn**<sup>TM</sup> Equipment required for the supply of **nbn**<sup>TM</sup> BSS.
- (b) Customer is responsible for supplying or arranging the supply of, all End User Equipment required for the supply of services which interconnect with or use **nbn**<sup>TM</sup> BSS, including Customer Products and Downstream Products.
- (c) Customer is responsible for supplying, operating and maintaining, in accordance with this [nbn<sup>TM</sup> BSS ILA Product Description](#), the [nbn<sup>TM</sup> BSS ILA Product Technical Specification](#) and the [nbn<sup>TM</sup> BSS ILA Network Interface Specification](#), any VSAT NTD installed by **nbn** (or Customer, if Customer has selected the Self-Installation Option) under this Agreement from completion of installation.
- (d) Customer must not use **nbn**<sup>TM</sup> BSS as an input into the supply of:
  - (i) a Downstream Priority Assistance Service; or
  - (ii) a Downstream CSG Service.

Section 23 sets out some general obligations of **nbn** and Customer which apply in relation to the end-to-end supply of services to which **nbn**<sup>TM</sup> BSS is an input.

### 23. Interconnection and network supply chain

#### 23.1 Interconnection and network supply chain

- (a) The diagram below depicts an example of **nbn**<sup>TM</sup> BSS as one part of the overall network supply chain:



- (b) Customer is responsible for:
  - (i) ordering sufficient capacity across the relevant Product Components and Product Features of each **nbn**<sup>™</sup> BSS Product to meet its own capacity requirements in respect of the supply of Customer Products to its Downstream Service Providers and Contracted End Users; and
  - (ii) separately acquiring, operating and maintaining all connections made to the Customer-side of the B-NNI.

## 23.2 **nbn**<sup>™</sup> BSS exclusions

**nbn**<sup>™</sup> BSS does not include:

- (a) facilities access;
- (b) any backhaul transmission, Cross Connections or cabling from the Customer-side of the B-NNI;
- (c) any In-building Wiring;
- (d) any IP transit, Internet gateway connection, BGP routing, soft switching infrastructure and all international connectivity beyond the **nbn**<sup>™</sup> Upstream Network Boundary in respect of an **nbn**<sup>™</sup> BSS Product;
- (e) any content or applications;
- (f) Customer Equipment and End User Equipment;
- (g) any other end user equipment, such as modems, personal computers, network attached storage solutions, central splitters, in-line splitters, power extension cables, and power outlets;
- (h) any network fault or performance monitoring probe or device supplied by **nbn** in relation to the BSS Network; or
- (i) any equipment (including any Lines) upstream of the **nbn**<sup>™</sup> Upstream Network Boundary, excluding any **nbn**<sup>™</sup> Equipment.

*Section 24 describes the structure of the BSS Network and the boundaries of **nbn**<sup>™</sup> BSS.*

## 24. BSS Network architecture and **nbn**<sup>™</sup> BSS boundaries

### 24.1 BSS Network architecture

In the BSS Network, each Premises at which **nbn**<sup>™</sup> BSS is available is located within a Beam.

### 24.2 **nbn**<sup>™</sup> BSS boundaries

**nbn**<sup>™</sup> BSS carries traffic in respect of a Premises over the BSS Network between the following boundaries:

- (a) the UNI-D used to serve that Premises; and
- (b) the **nbn**<sup>™</sup> Upstream Network Boundary applicable to that Premises.

### 24.3 Power Outages – BSS Network

**nbn** may not be able to supply an **nbn**<sup>™</sup> BSS Ordered Product in the event of a Power Outage affecting:

- (a) a VSAT NTD or any **nbn**<sup>TM</sup> Equipment located at a Premises served by the BSS Network; or
- (b) any other active equipment that forms part of the BSS Network and is not located within a BSS POI.

*Section 25 describes the factors that are relevant to the speed, performance and availability of **nbn**<sup>TM</sup> BSS.*

## 25. Speeds, performance and availability

### 25.1 Speeds and performance of Ordered Products

- (a) References to download and upload speeds (PIR and CIR) in this **nbn**<sup>TM</sup> BSS Product Description are to Layer 3 speeds and are references to the maximum data throughput that the BSS Network is designed to make available to Customer at the **nbn**<sup>TM</sup> Downstream Network Boundary in respect of the relevant Premises, not the minimum data throughput.
- (b) The speeds and performance (including stability) of **nbn**<sup>TM</sup> BSS Ordered Products actually experienced by Customer, Downstream Service Providers, Contracted End Users and other End Users will vary and depend upon a number of factors including:
  - (i) the contention ratios (and priority classifications) that are determined by Customer;
  - (ii) the equipment that is used by Customer, Downstream Service Providers, Contracted End Users and other End Users (which can also affect the speeds experienced at the **nbn**<sup>TM</sup> Downstream Network Boundary of the relevant Premises in respect of products supplied to End Users and end users of Other Customers);
  - (iii) the nature and quality of the Customer Product or Downstream Product acquired by Downstream Service Providers and Contracted End Users;
  - (iv) in the case of PIR only, the number of simultaneous end users being served by the BSS Network;
  - (v) interference caused by the equipment or network of any third party; and
  - (vi) the nature, quality and length of the connection to, and signal reception (including any interference with in-building cabling, line-of-sight interference, weather, wireless signals, Satellite Limitations or prevailing radio conditions) at or affecting, the relevant Premises.

### 25.2 Line Rate and Information Rate

Customer must consider, and acknowledges, the following matters in connection with **nbn**'s supply of each **nbn**<sup>TM</sup> BSS Ordered Product:

- (a) if:
  - (i) Customer configures a UNI-D; or
  - (ii) a UNI-D negotiates with any attached device upstream of the **nbn**<sup>TM</sup> Upstream Network Boundary or downstream of the UNI-D,

to operate over a Line Rate which is insufficient to deliver the ordered IAC or BVC capacity (as applicable), traffic loss may occur at the UNI-D;

- (b) **nbn**'s ability to deliver IAC or BVC bandwidth profiles selected by Customer (including in all relevant traffic classes, and in respect of both PIR and CIR) will be affected by actual Line Rates achieved in operation; and
- (c) without limiting section 25.1, if the Line Rate of an **nbn**<sup>TM</sup> BSS Ordered Product is not capable of supporting the provision of all IAC or BVC bandwidth profiles ordered by Customer in respect of that **nbn**<sup>TM</sup> BSS Ordered Product, then for both IAC and BVC:
  - (i) the Information Rate experienced by Customer, Downstream Service Provider and End Users may each be significantly less than the CIR Forward and CIR Return of the bandwidth profile ordered by Customer in respect of the relevant Ordered Product; and
  - (ii) the Frame Delay, Frame Delay Variation and Frame Loss of the relevant Ordered Product may each be significantly worse than the performance specified in section 9 of the [nbn<sup>TM</sup> BSS ILA Product Technical Specification](#).

### 25.3 NTD Throughput Limits

- (a) If the aggregate bandwidth profiles of ordered products supplied to the same VSAT NTD exceed that VSAT NTD's maximum aggregate throughput set out in the [nbn<sup>TM</sup> BSS ILA Network Interface Specification](#), the ordered products supplied to that VSAT NTD may not achieve maximum peak throughput simultaneously.
- (b) Customer must ensure that End Users are aware of the potential maximum aggregate throughput of VSAT NTDs to affect the ability of multiple ordered products supplied using the same VSAT NTD to achieve maximum peak data throughput simultaneously.

### 25.4 Availability of supply of **nbn**<sup>TM</sup> BSS

Notwithstanding anything else in this **nbn**<sup>TM</sup> BSS Product Description, the supply of **nbn**<sup>TM</sup> BSS by **nbn** to Customer is subject to the availability of each of the **nbn**<sup>TM</sup> BSS Product Components and Product Features at the time at which Customer places an order.

### 25.5 Temporary interruption of **nbn**<sup>TM</sup> BSS

- (a) The supply of an **nbn**<sup>TM</sup> BSS Ordered Product to a Premises may experience a temporary interruption during the performance of any work required in relation to installation, activation, relocation of, and any activities reasonably incidental to installation, activation and relocation of another Ordered Product including any Installation or any other service-affecting activities by **nbn** (or any of its Personnel or other persons authorised by **nbn**) supplied using the same VSAT NTD or the same **nbn**<sup>TM</sup> Infrastructure that supplies the Premises as the **nbn**<sup>TM</sup> BSS Ordered Product.
- (b) The supply of an **nbn**<sup>TM</sup> BSS Ordered Product may experience interruptions during the performance of any work required in relation to any Relocation of the Ordered Product.
- (c) Customer acknowledges that the activities contemplated in sections 25.5(a) and 25.5(b) may involve **nbn** (or any of its Personnel or other persons authorised by **nbn**):
  - (i) adding, removing or relocating **nbn**<sup>TM</sup> Equipment or a VSAT NTD; or
  - (ii) relocating End User Equipment, Customer Equipment or Downstream Service Provider Equipment.

### 25.6 BSS Network capacity management

In respect of **nbn**<sup>TM</sup> BSS:

- (a) Customer must not place, and **nbn** may decline, an order for an **nbn**<sup>™</sup> BSS Product if the supply of that **nbn**<sup>™</sup> BSS Product would result in **nbn** supplying more than one IAC or BVC to all **nbn** customers in respect of that Premises;
- (b) Customer must suspend or terminate any Customer Product that Customer becomes aware is being used by a Downstream Service Provider or End User in connection with the bonding of two or more UNIs (even if **nbn** is only supplying one of the UNIs to Customer and the other UNI(s) to an Other Customer);
- (c) **nbn** may decline an order or modification (as applicable) which would require additional Beam capacity to be supplied during any period in which a Beam is at or near maximum capacity; and
- (d) **nbn** may deprioritise data transfers or reduce the maximum data transfer rate of any IAC or BVC (as applicable) contributing disproportionately to Beam capacity utilisation.

*Section 26 describes the factors that are relevant to bandwidth reservation of **nbn**<sup>™</sup> BSS.*

## 26. Bandwidth Reservation

### 26.1 Bandwidth Reservation

- (a) Where Customer intends to acquire **nbn**<sup>™</sup> BSS Products but has not yet entered into contractual arrangements with a Contracted End User or Downstream Service Provider, Customer may request **nbn** to reserve bandwidth for future Ordered Products (in this section 26, the **Reserved Capacity**).
- (b) **nbn** may accept or reject a request for Reserved Capacity, in accordance with standard processes determined by **nbn** from time to time.
- (c) Subject to section 26.1(b), **nbn** is not required to reserve Beam capacity if:
  - (i) **nbn** considers, acting reasonably, that Customer does not intend to acquire Ordered Products in respect of the Reserved Capacity; or
  - (ii) the Reserved Capacity would, if used for one or more Ordered Products, exceed the aggregate bandwidth of 20 Mbps (CIR Forward) and 5 Mbps (CIR Return), unless Customer demonstrates to **nbn**'s reasonable satisfaction that the Reserved Capacity is required for the Ordered Products that Customer wishes to acquire in respect of the Reserved Capacity.
- (d) If **nbn** determines (acting reasonably) that the Reserved Capacity is required to provision other ordered products:
  - (i) **nbn** must:
    - (A) give notice of such a requirement to Customer; and
    - (B) offer Customer such a timeframe, as notified by **nbn** in accordance with standard processes determined by **nbn** from time to time, in which to place an Order for an Ordered Product in respect of the Reserved Capacity; and
  - (ii) Customer must either accept or decline the such an opportunity, within the timeframe set out in section 26.1(d)(i).
- (e) If Customer declines the opportunity in section 26.1(d), or does not place an order for an Ordered Product in respect of the Reserved Capacity within the relevant timeframe notified under section 26.1(d)(i)(B), **nbn** may immediately terminate the reservation for the Reserved Capacity.



## 26.2 Bandwidth Reservation conditions

- (a) **nbn** reserves the right to limit the Reserved Capacity per Customer per Beam, having regard to factors including:
- (i) any existing reservations of capacity;
  - (ii) the size of the Reserved Capacity; and
  - (iii) the duration for which Customer intends to hold the Reserved Capacity.

**Notes:**

1. *No services will be enabled on the reserved capacity until Customer places an order for an Ordered Product.*
2. *Customer may acquire an Ordered Product in respect of the Reserved Capacity at any time.*

*Section 27 describes the Self-Installation Option available to Customer.*

## 27. Installations

### 27.1 Installation options

- (a) Customer may elect to install and make ready for service Connecting Equipment at Premises to which **nbn** will supply **nbn**<sup>™</sup> BSS Ordered Products, subject to, and in accordance with, this section 27.1 and applicable standard processes determined by **nbn** from time to time (the **Self-Installation Option**).
- (b) If Customer selects the Self-Installation Option, Customer will be responsible for installing and making ready for service Connecting Equipment in respect of all **nbn**<sup>™</sup> BSS Ordered Products on and from the date **nbn** approves this selection [until Customer advises **nbn** otherwise, and **nbn** approves this revocation].
- (c) If Customer does not make the election in section 27.1(a), **nbn** will, by default, perform all activities in respect of Installation and activation of Customer's **nbn**<sup>™</sup> BSS Ordered Products.
- (d) **nbn** may require Customer to undergo additional On-boarding activities in order prior to being permitted to select the Self-Installation Option.

**Note:** *Charges may apply in respect of such additional onboarding (refer to section 17 of the [nbn<sup>™</sup> BSS ILA Price List](#)).*