

Test Agreement

Test Description: **nbn**[™] Business Satellite Services
Trial Variation

Test Agreement

Test Description: **nbn**TM Business Satellite Services Trial Variation

Version	Description	Effective Date
1.0	Issued on 17 July 2019	Execution Date

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Environment

nbn asks that you consider the environment before printing this document.

Contents

Parties	4
Background	4
1. Interpretation and definitions	4
1.1 Interpretation	4
1.2 Definitions	4
2. Pre-conditions for participation	7
3. Documentation	7
4. Test Product	7
5. Service Levels	8
6. Test Participant's Obligations	8
6.1 General Obligations	8
6.2 Test Contact	9
6.3 Reports	9
6.4 Test Results	9
6.5 Marketing activities	9
7. Charges	10
8. Term, termination and withdrawal	10
8.1 Term and termination	10
8.2 Cancellation by nbn	10
8.3 Cancellations by Test Participant	11
8.4 Obligations regarding termination of supply	11
9. Liability exclusion	11
10. Test Participant Acknowledgements	12
Execution	13
Appendix A Test Products	14
Appendix B BSS Test Sandpit	27

Test Agreement

Test Description: **nbn**[™] Business Satellite Services Trial Variation (**BSSTV**)

Parties

- nbn co limited (ABN 86 136 533 741) of Level 11, 100 Arthur Street, North Sydney NSW 2060 (**nbn**);
- <insert Customer Name> (ABN <insert ABN>) of <insert registered address> (Test Participant).

Background

- A. This document constitutes a Test Description for the purposes of the Standard Test Terms.
- B. The purpose of the Test is to enable **nbn** and Test Participant to test:
 - the capability of **nbn** and Test Participant to deliver the Test Products and Downstream Products, respectively;
 - the performance and functionality of each of the Test Products;
 - the usage patterns of the Test Products by Test End Users; and
 - the capability of **nbn** and Test Participant to utilise the Test BSS Portal to order, provision, support, and operate the Test Products.
- C. **nbn** is conducting this Test at an earlier stage of its product development process than usual to allow the product development process to benefit directly from the results of this Test. Test Participant acknowledges that the commercial products being developed may be significantly different from the Test Products.

1. Interpretation and definitions

1.1 Interpretation

For the purposes of this Test Description:

- (a) any capitalised term used but not defined in this Test Description has the meaning given to that term in the Standard Test Terms unless expressly specified otherwise; and
- (b) any capitalised term used but not defined in this Test Description or the Standard Test Terms has the meaning given to that term in the standard form of access agreement version of the WBA published on the **nbn** website (**WBA SFAA**).

1.2 Definitions

In this Test Description:

ABP Member has the meaning given to that term in Appendix A clauses 2.3(a)(i), 3.4(a)(i) and 4.4(a)(i) (as the context requires).

ABSL2 Test Product means the ABSL2 product provided on a test basis described in Appendix A clause 4.

ABSL3 Test Product means the ABSL3 product provided on a test basis described in Appendix A clause 3.

Access Bandwidth Pool or **ABP** means the optional product feature of the IoT Test Product, the ABSL2 Test Product or the ABSL3 Test Product (as the context requires) described in Appendix A clauses 2.3(a), 3.4(a) and 4.4(a) respectively.

Agreement means this Test Description and the Standard Test Terms.

BSS Network means the Satellite Network and other network infrastructure owned, controlled or operated by or on behalf of **nbn** between a BSS POI and an Internet Point of Presence.

BSS POI means one of the following points of interconnection between the BSS Network and Test Participant's network, systems, equipment or facilities:

- (a) Eastern Creek, New South Wales; or
- (b) Wangara Perth, Western Australia.

BSS Test Sandpit means the Sandpit service provided on a test basis described in Appendix B.

Data Usage Limits means any limits, including any application-specific limits, on data usage in respect of either or both uplink and downlink calculated over the course of a specified length of time.

EOI Request means the document titled 'Business Satellite Services (BSS) Trial Variation Request for Expressions of Interest' dated on or about 3 July 2019.

Internet Point of Presence means the first point at which traffic carried by the BSS Network is transferred to or from the Internet via peering links.

IoT Test Product means the IoT product provided on a test basis described in Appendix A clause 2.

nbn Indemnified Parties means **nbn**, each of **nbn's** Related Bodies Corporate, each of the Personnel of **nbn** and **nbn's** Related Bodies Corporate, each of **nbn's** subcontractors and each of the Personnel of each of **nbn's** subcontractors.

Satellite Midway Point means the data processing server in the core BSS Network.

Standard Test Terms means the agreement entitled "Test Agreement – Standard Test Terms" entered between **nbn** and Test Participant.

Test Area means a geographical region within the footprint of the BSS Network to which **nbn** offers to supply the relevant Test Product.

Test B-NNI means the NNI product component of a Test Product described in Appendix A clauses 3.2(a) or 4.2(a) (as the context requires).

Test BSS Portal means the customer web interface which **nbn** makes available from time to time on a test basis in connection with the Test Product.

Test BVC means the BVC product component of the ABSL3 Test Product and ABSL2 Test Product (as the context requires) described in Appendix A clauses 3.2(b) and 4.2(b) respectively.

Test Contact means each person appointed by each of **nbn** and Test Participant as:

- (c) their single central contact point regarding the Test; and
- (d) any additional people appointed as contact points in relation to specific matters regarding the Test (such as operational or technical issues).

Test End User means a business located in the Test Area to which Test Participant supplies or proposes to supply (as the context requires) a Downstream Product.

Test End User Contract means a contract between Test Participant and Test End User which:

- (a) permits **nbn** to supply a Test Product to the Test End User Premises and conduct all related inspection, installation, maintenance and deinstallation works;
- (b) obliges Test End User to provide or procure all reporting, feedback and any other assistance that **nbn** or Test Participant may reasonably require in connection with this Test; and
- (c) includes any necessary consents from Test End User to permit Test End User's confidential information and its Personnel's Personal Information to be disclosed to and used and disclosed by **nbn** and its Personnel for the purposes of this Test.

Test End User Equipment means any equipment that is used by Test End User in connection with the Test Products, including routers and personal computers.

Test End User Premises means any Premises that is identified in a Test Plan and is owned or occupied by Test End User.

Test IAC means the IAC product component of the VISP Test Product or the IoT Test Product (as the context requires) described in Appendix A clauses 1.2(a) and 2.2(a) respectively.

Test Participant has the meaning given to that term in the "Parties" provision of this Agreement.

Test Product means the VISP Test Product, IoT Test Product, ABSL3 Test Product, ABSL2 Test Product and the BSS Test Sandpit, as relevant.

Test Product Component means the Test B-NNI, Test UNI, Test IAC and Test BVC of a Test Product, as relevant.

Test Product Feature means a product feature of a Test Product or a Test Product Component.

Test Term means the term of the Test as determined in accordance with clause 8.1.

Test UNI means the UNI product component of a Test Product described in Appendix A clauses 1.2(b), 2.2(b) 3.3 or 4.3 (as the context requires).

VISP Data Usage Allowance means a Data Usage Limit in respect of the VISP Test Product.

VISP Test Product means the VISP product provided on a test basis described in Appendix A clause 1.

VSAT NTD means a very small aperture terminal network termination device comprising:

- (a) an indoor unit; and
- (b) an outdoor unit comprising an antenna and transceiver.

VSAT NTD – ABSL2 has the meaning given to that term in Appendix A clause 4.3.

VSAT NTD – ABSL3 has the meaning given to that term in Appendix A clause 3.3.

VSAT NTD – IoT has the meaning given to that term in Appendix A clause 2.2(b).

VSAT NTD – VISP has the meaning given to that term in Appendix A clause 1.2(b).

WBA means an agreement between **nbn** and Test Participant entitled "Wholesale Broadband Agreement".

WBA SFAA has the meaning given to that term in clause 1.1.

2. Pre-conditions for participation

To participate in this Test, Test Participant must by the date notified by **nbn**:

- (a) have responded (or deemed to have responded) to the EOI Request and been selected (or deemed to have been selected) by **nbn** to participate in this Test;
- (b) have entered into the Standard Test Terms and this Test Description;
- (c) have completed (or deemed to have completed) the relevant on-boarding and certification activities required by **nbn** for this Test;
- (d) have in place (and maintain at all times during the Test Term) a Test End User Contract in respect of each Test End User;
- (e) have provided **nbn** with details of Test End User Contract to demonstrate Test End User(s) has been informed of Test Terms relating to Service Availability, as required by **nbn**; and
- (f) if the Test Participant is at any time during the Test Term a party to a WBA, at all such times be fully compliant with the terms of that WBA.

3. Documentation

- (a) **nbn** may, without limiting clause 8, amend or replace this Test Description by giving 20 Business Days' notice to Test Participant.
- (b) If **nbn** provides notice under clause 3(a), the parties will use reasonable endeavours to work with each other for the purpose of avoiding any inconvenience to any Test End User.

4. Test Product

- (a) **nbn** will supply the Test Products to Test Participant during the Test Term in accordance with this Agreement and each applicable Test Plan as updated from time to time.
- (b) Test Participant acknowledges and agrees that:
 - (i) **nbn** may not make all Test Products available at all times during any Test or throughout the Test Term; and
 - (ii) the supply of each Test Product is subject to the availability of any relevant inputs in connection with that Test Product, including any:
 - (A) Test Product Component;
 - (B) Test Product Feature (such as available bandwidth); and
 - (C) equipment, systems and infrastructure,at the time the Test Participant places an order or at any time during the Test Term, as determined by **nbn** in its discretion.
- (c) If requested by **nbn**, Test Participant must perform procedural operations in connection with the Test Products through the Test BSS Portal.

- (d) If **nbn** supplies the ABSL2 Test Product or ABSL3 Test Product to Test Participant, Test Participant must interconnect with **nbn** at one, or if permitted by **nbn** both, of the BSS POIs.
- (e) Unless notified otherwise by **nbn**, Test Participant may only elect which BSS POI(s) to interconnect at once, before the start of the first Test of a relevant Test Product.
- (f) Where **nbn** considers it to be desirable for the supply of the Test Product, and subject to clause 4(h), **nbn** will supply the Facilities Access Service to Test Participant on the same terms as it is supplied under the WBA SFAA.
- (g) To the extent necessary to give effect to clause 4(f), the terms of the WBA SFAA relevant to the supply of the Facilities Access Service to Test Participant are incorporated into this Agreement as if set out in full, with such amendments as necessary to give full effect to the intention of the parties as set out in this Agreement.
- (h) If there is any inconsistency between the terms incorporated by clause 4(g) and the remainder of this Agreement, the remainder of this Agreement prevails to the extent of any inconsistency.
- (i) Test Participant must provide any supporting infrastructure and utilities required in respect of the Test Products, including at Test End User Premises, as reasonably specified by **nbn** from time to time, including in any Test Plan.

5. Service Levels

- (a) No service levels apply in connection with this Test, the supply of any Test Product or the supply of the Facilities Access Service in connection with this Test.
- (b) **nbn** may interrupt a Product supplied to a Test End User Premises (for example, under a WBA) to which **nbn** is also supplying or proposing to supply a Test Product and any such interruption will not constitute an Outage or a Service Fault.

6. Test Participant's Obligations

6.1 General Obligations

Test Participant must:

- (a) perform any integration and acceptance testing activities as required by **nbn** from time to time; and
- (b) support and assist **nbn** with the conduct of this Test including by:
 - (i) undertaking Test related activities (including manual processes) in timeframes determined by **nbn** (acting reasonably) and notified to Test Participant;
 - (ii) providing dedicated resources to work with **nbn** to resolve issues that may arise during this Test;
 - (iii) working collaboratively with **nbn** to refine this Test;
 - (iv) notifying **nbn** of any matter which Test Participant considers to be a material error, defect or deficiency in the products, processes or procedures the subject of this Test, as soon as reasonably practicable after becoming aware of that material error, defect or deficiency;
 - (v) without limiting clause 6.1(b)(iv), providing feedback, including any feedback received from Test End User, for the purposes of improving the products, processes or procedures the subject of this Test;

- (vi) participate in weekly meetings with **nbn** and Test End Users to review test findings; and
- (vii) performing any other activities as required by a Test Plan.

6.2 Test Contact

- (a) Whenever requested by **nbn**, Test Participant must make its Test Contacts available to meet with **nbn's** Test Contacts (either in person or by videoconference) to discuss any matters relating to this Test.
- (b) **nbn** and Test Participant will provide telephone and email contact details of their Test Contacts to each other prior to the start of this Test and maintain and provide updates to these contact details for the duration of the Test Term.

6.3 Reports

- (a) Test Participant must provide **nbn** with feedback and reporting in the form, and at the times, defined in the Test Plan.
- (b) Test Participant must, where reasonably requested by **nbn** by giving 5 Business Days' notice:
 - (i) meet with **nbn** to review and evaluate the performance of any Test Products; and
 - (ii) use reasonable endeavours to obtain, and to assist **nbn** to obtain, additional feedback directly from Test End User and any relevant third parties regarding the performance of a Test Product, any infrastructure that is used to supply the Test Product, and **nbn's** relevant processes and procedures.

6.4 Test Results

- (a) Test Participant consents, and must obtain the written consent of each Test End User and their Personnel, to **nbn** monitoring and recording, for the purposes of this Test, the usage of Test Products and Downstream Products.
- (b) Test Participant must provide information and feedback to **nbn** regarding the Test Products by:
 - (i) providing information directly to **nbn** as requested by **nbn**;
 - (ii) providing any assistance reasonably requested by **nbn** to obtain feedback directly from Test End Users and their Personnel in relation to the Test Products and **nbn's** relevant processes and procedures; and
 - (iii) immediately notifying **nbn** if Test Participant becomes aware of any actual or likely unexpected or unintended impact of this Test, including in respect of any person not actively participating in this Test.

6.5 Marketing activities

Notwithstanding anything else in this Agreement, Test Participant consents to, and must obtain the written consent of each Test End User to, **nbn** making public details of:

- (a) this Test; and
- (b) the role of **nbn**, Test Participant and Test End User in relation to this Test, except where Test Participant notifies **nbn** by written notice to the contrary (which must not be unreasonably exercised).

7. Charges

- (a) Subject to clause 7(c):
 - (i) during Stage 1, no charges will apply to this Test or the supply of the Test Products; and
 - (ii) during Stage 2, no charges will apply to this Test or the supply of the Test Products for a period of one month from the date of activation to Test Participants (which may be extended at **nbn**'s discretion with five (5) Business Days' notice).
- (b) Each party to this Agreement will bear its own costs of participating in this Test.
- (c) If Test Participant:
 - (i) is a party to a WBA with **nbn**; and
 - (ii) acquires one or more Service Elements of the Facilities Access Service in connection with, but not for use exclusively with the Test Products (e.g. **nbn**TM Building Entry Service),

then Test Participant must pay to **nbn** any applicable charges for those Service Elements in accordance with the Facilities Access Service Price List and the WBA.

8. Term, termination and withdrawal

8.1 Term and termination

- (a) The supply of each Test Product under this Test Description:
 - (i) will start on the date specified in the applicable Test Plan unless amended by **nbn** by giving Test Participant 20 Business Days' written notice; and
 - (ii) will end on the date notified in a Cancellation Notice in respect of a Test relating to that Test Product issued in accordance with clause 4 of the Standard Test Terms.
- (b) This Test Description will expire on 31 December 2019 unless:
 - (i) terminated earlier in accordance with this Agreement; or
 - (ii) extended by **nbn** by giving notice in writing to Test Participant prior to expiry, in which case this Test Description will expire on that extended date.
- (c) Test Participant acknowledges and agrees that, upon the expiry or termination of this Test Description or the end of a Test relating to a Test Product in accordance with this clause 8, **nbn** may, at its discretion, by giving Test Participant 20 Business Days' written notice:
 - (i) cease supplying all or the relevant Test Products (as applicable) and remove any related equipment; or
 - (ii) if Test Participant is or becomes a party to another supply agreement under which **nbn** offers to supply a commercial product or products stated to be a replacement or successor to any affected Test Products, transition the supply of those Test Products the terms of that other relevant supply agreement, on and from the date notified by **nbn**.

8.2 Cancellation by **nbn**

Without limiting **nbn**'s rights under the Standard Test Terms, if Test Participant breaches any provision of this Agreement during the Test Term (including failing to comply with any condition in clause 2), **nbn** may immediately:

- (a) cancel Test Participant's participation in any Test or any part of any Test under this Test Description;
- (b) cease supplying one or more of the Test Products to Test Participant;
- (c) terminate this Test Description; and
- (d) terminate this Agreement.

8.3 Cancellations by Test Participant

- (a) Subject to clauses 8.3(b) and 8.3(c), Test Participant may cancel the supply of a Test Product in respect of a Test End User Premises by giving **nbn** at least 10 Business Days' written notice.
- (b) If Test Participant cancels the supply of a Test Product under clause 8.3(a), Test Participant will:
 - (i) inform **nbn** of the reason for the cancellation; and
 - (ii) use reasonable endeavours to assist **nbn** to mitigate any impact of the cancellation of the Test Product (including by using reasonable endeavours to identify, and procure the participation of, potential substitute end users if requested by **nbn**).
- (c) If Test Participant considers that the supply of a Test Product is resulting in an adverse impact on Test Participant's or Test End User's network or services:
 - (i) Test Participant will immediately notify **nbn**;
 - (ii) **nbn** will take reasonable steps to investigate and attempt to resolve the issue;
 - (iii) Test Participant will provide **nbn** with all reasonably requested assistance in its investigation and resolution activities; and
 - (iv) if the issue is not resolved within 5 Business Days after **nbn** receives Test Participant's notice, Test Participant may require **nbn** to promptly terminate the supply of that Test Product.

8.4 Obligations regarding termination of supply

- (a) The parties will use their reasonable endeavours to work with each other for the purpose of avoiding any inconvenience to any Test End User.
- (b) Without limiting clause 8.1(c), **nbn** is not obliged to supply any Test Product after termination of this Test Description.

9. Liability exclusion

- (a) Notwithstanding anything in the Standard Test Terms, to the full extent permitted by law, Test Participant:
 - (i) must not make a Claim against **nbn** for any Loss suffered or incurred by Test Participant in relation to this Test, the Test Products or this Agreement;
 - (ii) releases and forever discharges **nbn** from all Claims and Liabilities which Test Participant has (or at any time might have or may have had) in relation to this Test, the Test Products or this Agreement; and
 - (iii) indemnifies and holds each of the **nbn** Indemnified Parties harmless in respect of any Loss suffered or incurred as a result, or in connection with the supply of the Test Products other than in respect of **nbn**'s confidentiality obligations under this Agreement.

- (b) To the extent that clause 9(a) does not operate to exclude or limit a party's liability or to indemnify a party against Loss, clauses 10 to 11 of the Standard Test Terms will apply.

10. Test Participant Acknowledgements

Test Participant warrants and agrees that:

- (a) Test Participant has made and has relied on its own investigations, enquiries, knowledge and expertise in respect of all Tests, the Test Products and this Agreement and its own evaluation of any material provided by **nbn** to Test Participant or its Personnel including before the date of this Agreement;
- (b) as part of its investigations and enquiries in respect of all Tests, the Test Products and this Agreement, Test Participant or its representatives have had access to all documents and information they have requested from **nbn** or its Personnel;
- (c) Test Participant has extensive knowledge and experience in relation to the provision of services similar to the Downstream Products and has had the benefit of independent legal, financial and technical advice relating to its proposed participation in this Test and its entry into this Agreement;
- (d) **nbn** has not made, and no Personnel of **nbn** have made, any warranty as to the performance of any Test Product provided to Test Participant or its Personnel before the date of this Agreement; and
- (e) Test Participant is not entering into this Agreement in reliance on, and it may not rely on, any statement of opinion, statement of intention or any other warranty, representation or other statement made or purporting to be made by or on behalf of **nbn** or its or their Personnel, other than as expressly set out in this Agreement.

Execution

Executed as an agreement

Signed for **nbn co limited** by its authorised representatives:

Signature of authorised representative

Signature of authorised representative

Name of authorised representative

Name of authorised representative

Date of signature

Date of signature

Signed for **<insert company name>** in accordance with section 127 of the *Corporations Act 2001* (Cth) by:

Signature of director / company secretary

Signature of director

Name of director / company secretary

Name of director

Date of signature

Date of signature

Appendix A Test Products

Details of the initial Test Products are provided below. Without limiting its rights under this Agreement, **nbn** may at its discretion amend this Agreement to offer other products as Test Products during the Test Term.

1. VISP Test Product

1.1 Product

The VISP Test Product:

- (a) is a Layer 3 virtual connection that carries traffic between a Test UNI used to serve Test End User Premises and an Internet Point of Presence;
- (b) is supplied by means of the BSS Network;
- (c) enables Test Participant to supply business grade internet services to Test End User Premises; and
- (d) comprises two Test Product Components which Test Participant must acquire and optional or configurable Test Product Features as follows:

Test Product Component (required)	Test Product Feature (optional / configurable)
Test IAC	VISP Data Usage Allowance Bandwidth profile VoIP Prioritisation Encryption Disaster Recovery (DR) Performance Enhancing Proxy Fleet Plan Standard Reporting Customised Reporting QoS Marking
Test UNI	IP Address (nbn provided) DC Power Solar Power

1.2 Test Product Components (required)

(a) Test IAC

(i) The Test IAC:

- (A) terminates on a single Test UNI used to serve a Test End User Premises;
- (B) is a Layer 3 virtual connection between the Test UNI and the Internet Point of Presence; and
- (C) has one of the following combinations of downstream and upstream peak information rate:

PIRF (Mbps)	PIRR (Mbps)
30	1
30	5
13	13

(ii) For each rolling four week period, the Test IAC will have the following VISP Data Usage Allowance:

- (A) 1 Terabyte of data; or

(B) such other data allowance amount notified by **nbn**.

- (iii) The Test IAC will operate subject to any VISP Data Usage Allowance notified by **nbn** to Test Participant from time to time, including as set out in an applicable Test Plan.
- (iv) Any breach by Test Participant of the VISP Data Usage Allowance may result in **nbn** shaping the information rate for the VISP Test Product in respect of one or more Test End User Premises.
- (v) **nbn** may measure data transfers and traffic related to the VISP Test Product at any time throughout the Test Term.

(b) Test UNI

The Test UNI:

- (i) is a RJ-45 port into which Test Participant or Test End User may plug in a Layer 3-capable Test End User Equipment which has been approved by **nbn**;
- (ii) is capable of operating in 10/100/1000 Base-T interfacing modes;
- (iii) supports the 802.1Q VLAN standard;
- (iv) is addressable by an IPv4 Address; and
- (v) is located on a dedicated VSAT NTD that is optimised for the VISP Test Product (**VSAT NTD – VISP**).

1.3 Test Product Features (optional)

The Test Product Features of the VISP Test Product will function and perform as determined by **nbn**.

1.4 Other product information

(a) Supported applications

- (i) The VISP Test Product supports applications delivered over IPv4 with NAT including e-mail, web browsing and VoIP.
- (ii) Test Participant must agree with **nbn** which such applications to supply or make available to Test End Users.
- (iii) **nbn** will not supply or make available any such applications.

(b) Network boundaries

- (i) Test Participant is responsible for ensuring that each Test End User has all necessary Test End User Equipment required to support applications supplied or made available by Test Participant.
- (ii) To acquire the VISP Test Product, Test Participant need not connect with **nbn** at, and **nbn** will not supply any connection at, any BSS POI.
- (iii) Figure A1 illustrates, at a high level, the VISP Test Product:

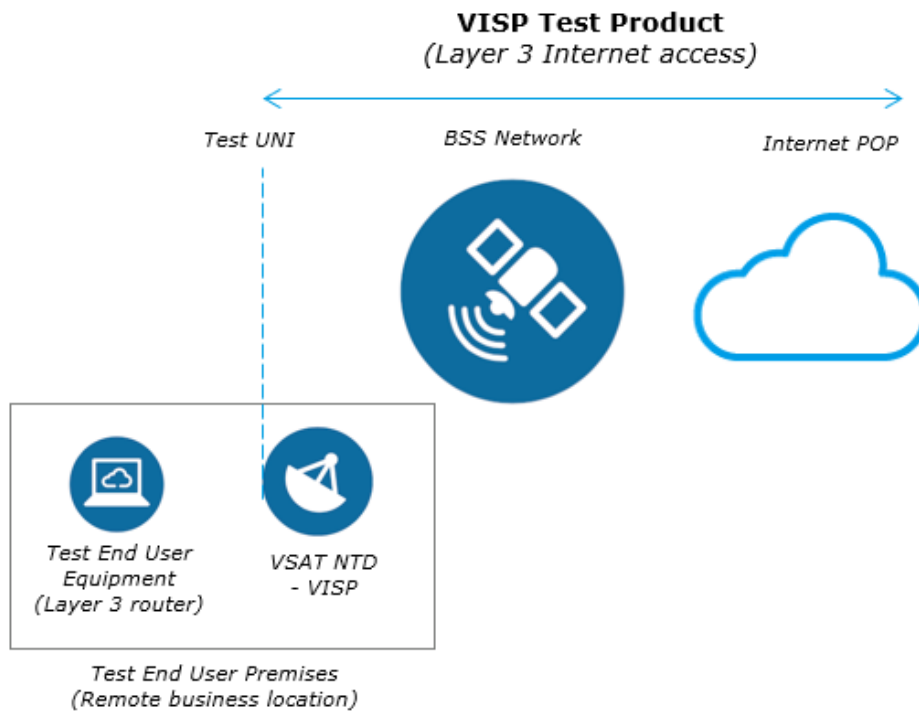


Figure A1: VISP Test Product

2. IoT Test Product

2.1 Product

(a) The IoT Test Product:

- (i) is a Layer 3 low bitrate virtual connection that carries traffic between:
 - (A) the Test UNI used to serve Test End User Premises; and
 - (B) an Internet Point of Presence;
- (ii) is supplied by means of the BSS Network;
- (iii) enables Test Participant to supply a low bit rate Carriage Service or Content Service to IoT devices owned or operated by Test End Users; and
- (iv) comprises two Test Product Components, which Test Participant must acquire, and a number of optional or configurable Test Product Features as follows:

Test Product Component (required)	Test Product Feature (optional / configurable)
Test IAC	Bandwidth profile ABP Encryption Performance Enhancing Proxy Standard Reporting Customised Reporting IoT Bandwidth Pool (PIR)
Test UNI	IP Address (nbn provided)

Test Product Component (required)	Test Product Feature (optional / configurable)
	DC Power Solar Power

2.2 Test Product Components (required)

(a) Test IAC

- (i) The Test IAC:
 - (A) terminates on a single Test UNI used to serve a Test End User Premises;
 - (B) is a Layer 3 virtual connection between the Test UNI and the Internet Point of Presence; and
 - (C) has a combination of peak information rate and committed information rate;

(ii) To the extent the Test IAC is supplied with:

- (A) a peak information rate, to be determined by **nbn** up to a maximum of:

PIRF and PIRR (Mbps)	In increments of (Mbps)
Up to 2	0.01

- (B) a committed information rate, to be determined by **nbn** up to a maximum of:

CIRF and CIRR (Mbps)	In increments of (Mbps)
Up to 2	0.01

- (iii) The Information Rate of a Test IAC may be specified as part of an ABP as described in section 2.3(a), instead of being specified separately under section 2.2(a)(ii).
- (iv) The Test IAC may be subject to any Data Usage Limits notified by **nbn** to Test Participant from time to time, including as set out in an applicable Test Plan.
- (v) Any breach by Test Participant of the Data Usage Limits may result in **nbn** shaping the information rate for the IoT Test Product in respect of one or more Test End User Premises.
- (vi) **nbn** may measure data transfers and traffic related to the IoT Test Product, including on an application-specific basis, at any time throughout the Test Term.

(b) Test UNI

The Test UNI:

- (i) is a RJ-45 port into which Test Participant or Test End User may plug in the Layer 3-capable Test End User Equipment;
- (ii) is capable of operating in 10/100/1000 Base-T interfacing modes;
- (iii) supports the 802.1Q VLAN standard;
- (iv) is addressable by an IPv4 Address; and
- (v) is located on a dedicated VSAT NTD that is optimised for the IoT Test Product, or equivalent (**VSAT NTD – IoT**).

2.3 Test Product Feature (optional)

(a) Access Bandwidth Pool (ABP)

The ABP for IoT:

- (i) is an optional Test Product Feature that may be supplied in respect of one or more Test IACs (each an **ABP Member**);
- (ii) is specified as a best effort peak information rate to be determined by **nbn** up to a maximum of:

PIRF (Mbps)	PIRR (Mbps)
50	13

- (iii) may be accessed by multiple ABP Members supplied to Test Participant by **nbn** using a single Beam of the BSS Network; and
- (iv) may be added to, or removed from, an ABP Member at any time at **nbn**'s discretion.

(b) IoT Burst

IoT Burst to be provided on a date notified by **nbn**

- (i) is an optional Test Product Feature that may be supplied in respect of an IoT Test Product not operating in an ABP; and
- (ii) is ordered in addition to the committed information rate to be determined by **nbn** up to a maximum of:

CIRF (Mbps)	CIRR (Mbps)
.01	2

- (iii) is specified as a peak information rate service with a burst speed to be determined by **nbn** up to a maximum speed of 2 Mbps.

(c) The other Test Product Features of the IoT Test Product will function and perform as determined by **nbn**.

(d) A public IP subnet/s needs to be provided by the Test Participant for the ABP Members. The Test Participant agrees that **nbn** may publish upstream the IPs allocated to the ABP Members from that subnet/s.

2.4 Other product information

(a) Supported applications

- (i) The IoT Test Product supports applications specifically designed or configured for IoT device configuration or connectivity, delivered over IPv4 with optional NAT.
- (ii) Test Participant must co-operate with **nbn** to agree which such applications to supply or make available to Test End Users.
- (iii) **nbn** will not supply or make available any such applications.

(b) Network boundaries

- (i) Test Participant is responsible for ensuring that each Test End User has all necessary Test End User Equipment required to support applications supplied or made available by Test Participant.
- (ii) To acquire the IoT Test Product, Test Participant does not need to connect with **nbn** at, and **nbn** will not supply any connection at, any BSS POI.
- (iii) Figure A2 illustrates, at a high level, the IoT Test Product:

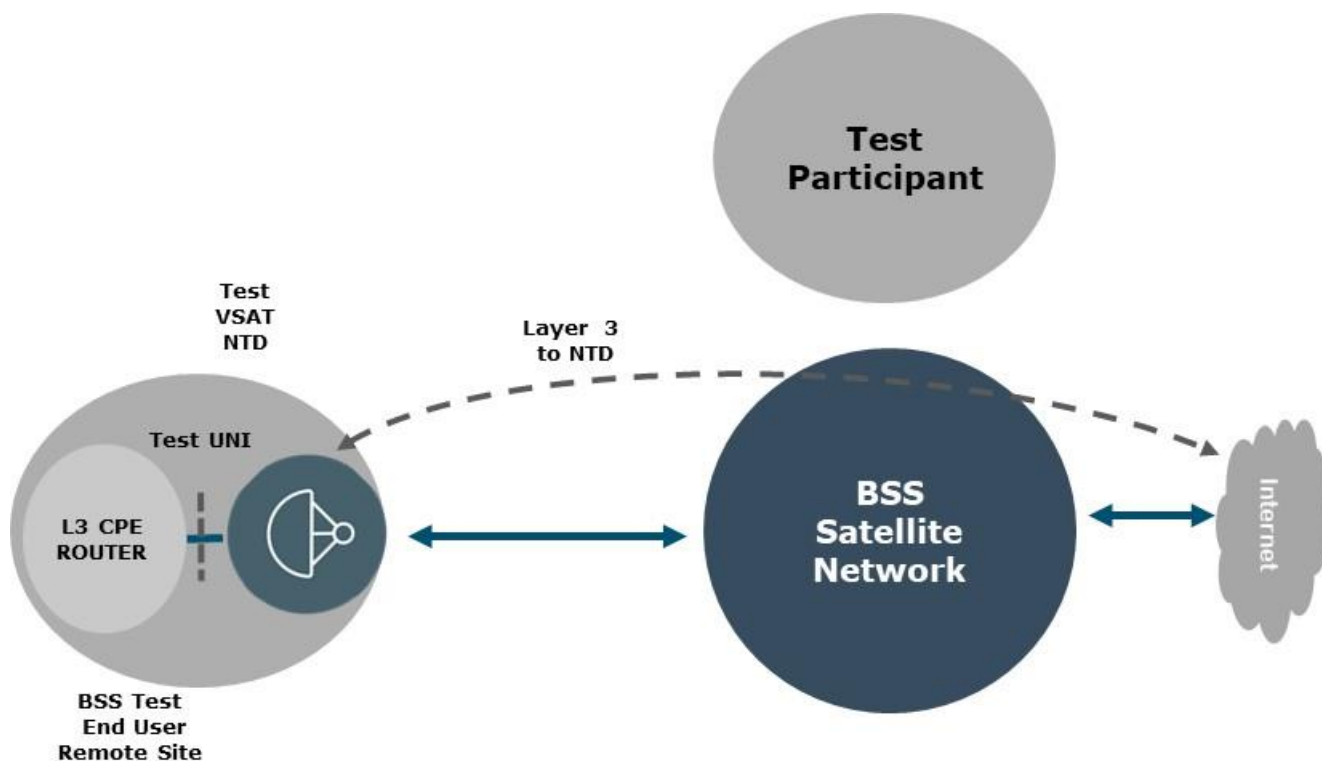


Figure A2: IoT Test Product

Note: Access to the Internet from the End User CPE Router is via the Test UNI and Test VSAT NTD.

3. ABSL3 Test Product

3.1 Product

The ABSL3 Test Product:

- (a) is a Layer 3 virtual connection that carries traffic between a Test UNI used to serve Test End User Premises and:
 - (i) a Test B-NNI at a BSS POI; or
 - (ii) another Test UNI used to serve a Test End User Premises and provided as part of another Test Product;
- (b) is supplied by means of the BSS Network;
- (c) enables Test Participant to supply a Carriage Service or Content Service to a Test End User Premises; and
- (d) comprises three Test Product Components which Test Participant must acquire and optional or configurable Test Product Features as follows:

Test Product Component	Test Product Feature (optional / configurable)
Test B-NNI	Test B-NNI Redundancy
Test BVC	ABP Bandwidth profile Encryption QoS Marking

Test Product Component	Test Product Feature (optional / configurable)
	VoIP Prioritisation Performance Enhancing Proxy Time of Day (ToD) Bandwidth on Demand (BoD) ABSL3 Burst Additional VLANs UNI to UNI
Test UNI	DC Power Solar Power Standard Reporting Customised Reporting

3.2 Test Product Components (required)

(a) Test B-NNI

Where a Test B-NNI is required, the Test B-NNI is a physical port at a BSS POI where Test Participant's traffic is handed over to the BSS Network.

(b) Test BVC

(i) The Test BVC:

- (A) terminates on a single Test UNI used to serve a Test End User Premises;
- (B) is a Layer 3 virtual connection between the Test UNI and:
 - (1) a Test B-NNI at a BSS POI; or
 - (2) where the UNI to UNI Test Product Feature is used, the Satellite Midway Point; and
- (C) has a committed information rate.

(ii) To the extent the Test BVC is supplied with:

- (A) a committed information rate for an ABSL3 Test Product, it has a combination of downstream and upstream committed information rates to be determined by **nbn** up to a maximum of:

CIRF(Mbps)	CIRR (Mbps)
50	13

- (iii) The information rate of a Test BVC may be specified as part of an ABP as described in section 3.4(a), instead of being determined separately under section 3.2(b)(ii).
- (iv) The Test BVC will be subject to any Data Usage Limits notified by **nbn** to Test Participant from time to time, including as set out in an applicable Test Plan.
- (v) Any breach by Test Participant of the Data Usage Limits may result in **nbn** shaping the information rate for the ABSL3 Test Product in respect of one or more Test End User Premises.
- (vi) **nbn** may measure data transfers and traffic related to the ABSL3 Test Product, including on an application-specific basis, at any time throughout the Test Term.

3.3 Test UNI

The Test UNI:

- (a) is a RJ-45 port into which Test Participant or Test End User may plug in the Layer 3-capable Test End User Equipment;
- (b) is capable of operating in 10/100/1000 Base-T interfacing modes;
- (c) supports the 802.1Q VLAN standard;
- (d) is addressable by an IPv4 Address as applicable per Test Product; and
- (e) is located on a dedicated VSAT NTD that is optimised for the ABSL3 Test Product (**VSAT NTD - ABSL3**).

3.4 Test Product Features (optional)

(a) Access Bandwidth Pool (ABP)

The ABP:

- (i) is an optional Test Product Feature that may be supplied in respect of one or more Test BVCs (each an **ABP Member**);
- (ii) is specified as a combination of:
 - (A) a committed information rate dedicated per beam to be determined by **nbm** up to a maximum of:

CIRF (Mbps)	CIRR (Mbps)
50	13

- (B) a peak information rate dedicated per beam to be determined by **nbm** up to a maximum of:

PIRF (Mbps)	PIRR (Mbps)
50	13

- (iii) single beam may be accessed by multiple ABP Members supplied to Test Participant by **nbm** using a single Beam of the BSS Network; or
- (iv) may be added to, or removed from, an ABP Member at any time at **nbm**'s discretion.

(b) ABSL3 Burst

ABSL3 Burst, to be provided on a date notified by **nbm**:

- (i) is an optional Test Product Feature that may be supplied in respect of an ABSL3 Test Product not operating in an ABP; and
- (ii) is specified as a peak information rate to be determined by **nbm** up to a maximum speed of:
 - (A) 10Mbps (downstream) available in addition to a minimum 1/1 CIR provisioning; or
 - (B) 20Mbps (downstream) available in addition to a minimum 2/1 CIR provisioning; or
 - (C) 50Mbps (downstream) available in addition to a minimum 5/1 CIR provisioning.

- (c) The other Test Product Features of the ABSL3 Test Product will function and perform as determined by **nbm**.

3.5 Other product information

(a) Supported applications

- (i) Test Participant must supply an IPv4 for each ABSL3 Test Product.
- (ii) The ABSL3 Test Product supports applications delivered over IPv4 with NAT including e-mail, web browsing and VoIP.
- (iii) Test Participant must co-operate with **nbn** to agree which such applications to supply or make available to Test End Users.
- (iv) **nbn** will not supply or make available any such applications.

(b) Network boundaries

- (i) Test Participant is responsible for ensuring that each Test End User has all necessary Test End User Equipment required to support applications supplied or made available by Test Participant.
- (ii) To acquire the ABSL3 Test Product, Test Participant must interconnect with **nbn** at a BSS POI.
- (iii) Figure A3 illustrates, at a high level, the ABSL3 Test Product configured to provide connectivity between a Test UNI serving a Test End User Premises and a BSS POI:

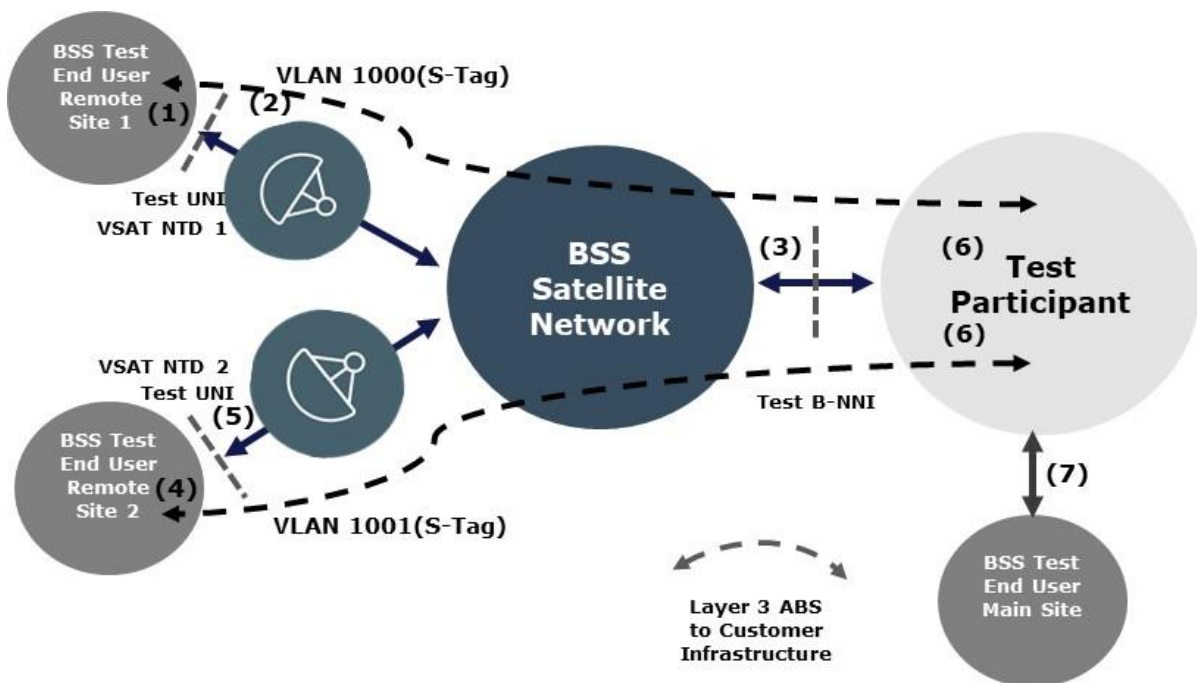


Figure A3: ABSL3 Test Product (Test UNI to BSS POI configuration)

- (iv) Figure A4 illustrates, at a high level, the ABSL3 Test Product configured to provide connectivity between a Test UNI serving a Test End User Premises and a Test UNI supplied as part of another Test Product. Traffic flow in UNI to UNI connection is (1) to (4) via UNI (2) and UNI (5) on the VLAN 1000:

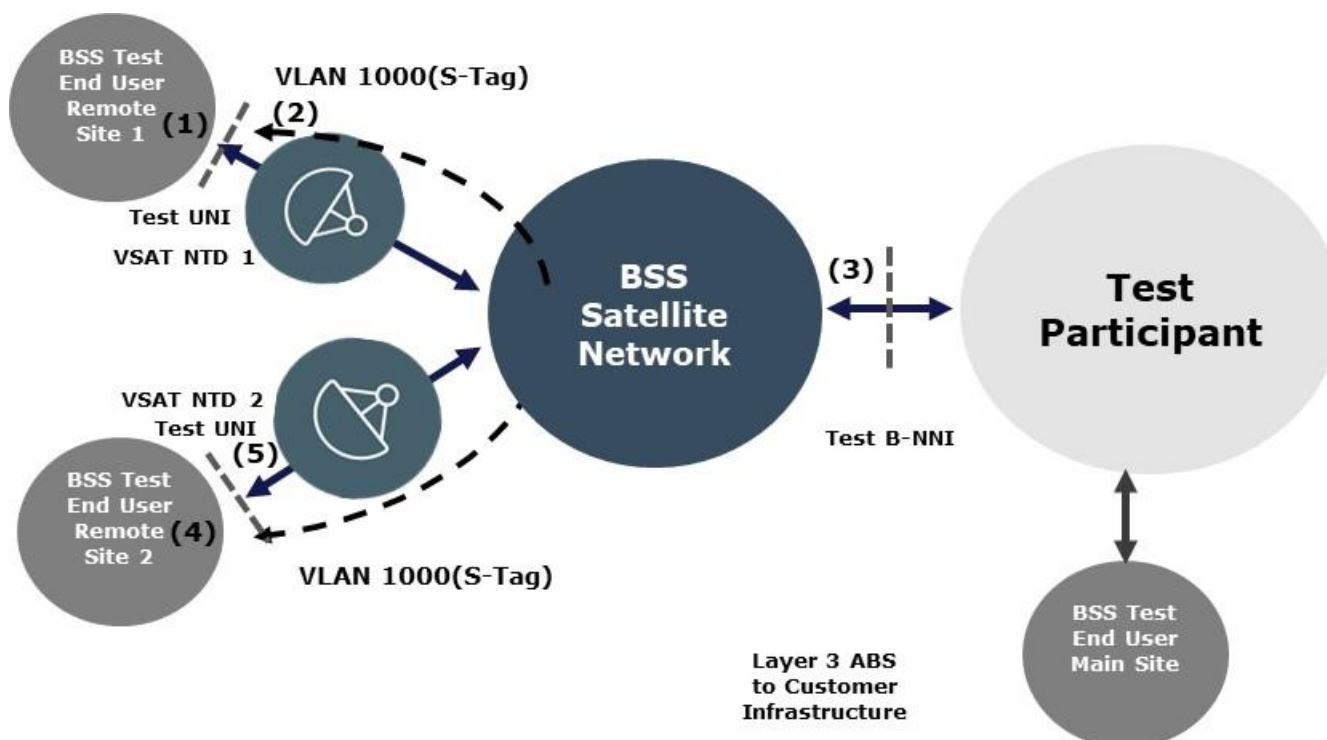


Figure A4: ABSL3 Test Product (Test UNI to Test UNI configuration)

4. ABSL2 Test Product

4.1 Product

The ABSL2 Test Product:

- (a) is a Layer 2 virtual connection that carries traffic between a Test UNI used to serve Test End User Premises and a Test B-NNI at a BSS POI;
- (b) if configured by the Test Participant in its network, the ABSL2 Test Product may be used by Test Participant to carry traffic between a Test UNI and another Test UNI used to serve a Test End User Premises and provided as part of another Test Product to that Test Participant;
- (c) is supplied by means of the BSS Network;
- (d) enables Test Participant to supply a Carriage Service or Content Service to a Test End User Premises; and
- (e) comprises three Test Product Components which Test Participant must acquire and optional or configurable Test Product Features as follows:

Test Product Component	Test Product Feature (optional / configurable)
Test B-NNI	Test B-NNI Redundancy
Test BVC	ABP Bandwidth Profile Encryption QoS Marking VoIP Prioritisation Performance Enhancing Proxy Time of Day (ToD) Bandwidth on Demand (BoD)

Test Product Component	Test Product Feature (optional / configurable)
Test UNI	DC Power Solar Power Standard Reporting Customised Reporting

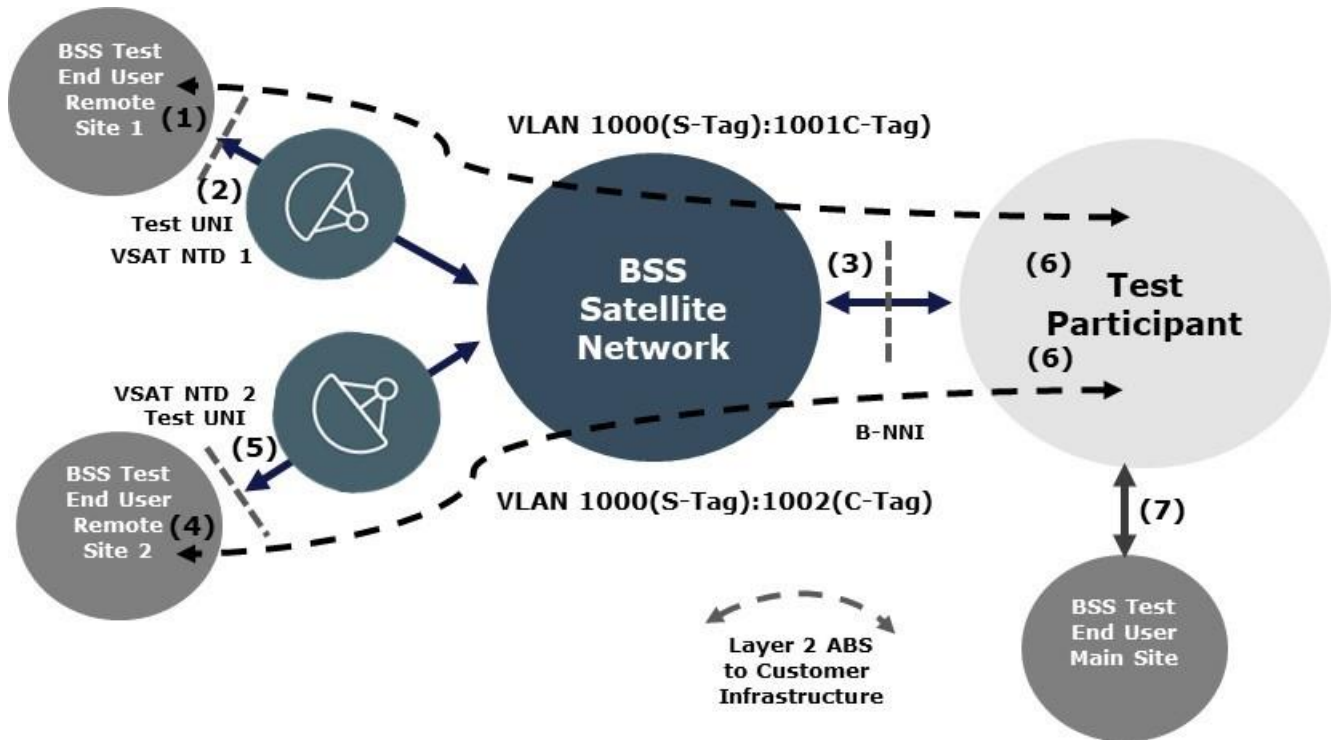


Figure A5: ABSL2 Test Product

4.2 Test Product Components (required)

(a) Test B-NNI

Where a Test B-NNI is required, the Test B-NNI is a physical port at a BSS POI where Test Participant's traffic is handed over to the BSS Network.

(b) Test BVC

(i) The Test BVC:

- (A) terminates on a single Test UNI used to serve a Test End User Premises;
- (B) is a Layer 2 virtual connection between the Test UNI and a Test B-NNI at a BSS POI; and
- (C) has a committed information rate.

(ii) To the extent the Test BVC is supplied with:

- (A) a committed information rate for an ABSL2 Test Product, it has a combination of downstream and upstream committed information rates to be determined by **nbn** up to a maximum of:

CIRF (Mbps)	CIRR (Mbps)
50	13

- (iii) The information rate of a Test BVC may be specified as part of an ABP as described in section 4.4(a), instead of being determined separately under section 0(b)(ii).
- (iv) The Test BVC will be subject to any Data Usage Limits notified by **nbn** to Test Participant from time to time, including as set out in an applicable Test Plan.
- (v) Any breach by Test Participant of the Data Usage Limits may result in **nbn** shaping the information rate for the ABSL2 Test Product in respect of one or more Test End User Premises.
- (vi) **nbn** may measure data transfers and traffic related to the ABSL2 Test Product, including on an application-specific basis, at any time throughout the Test Term.

4.3 Test UNI

The Test UNI:

- (a) is a RJ-45 port into which Test Participant or Test End User may plug in the Layer 2-capable Test End User Equipment;
- (b) is capable of operating in 10/100/1000 Base-T interfacing modes;
- (c) supports the 802.1Q VLAN standard;
- (d) is addressable by an IPv4 Address; and
- (e) is located on a dedicated VSAT NTD that is optimised for the ABSL2 Test Product (**VSAT NTD – ABSL2**).

4.4 Test Product Features (optional)

- (a) Access Bandwidth Pool (ABP)

The ABP:

- (i) is an optional Test Product feature that may be supplied in respect of one or more Test BVCs (each an **ABP Member**);
- (ii) is specified as a combination of:
- (A) a committed information rate dedicated per beam to be determined by **nbn** up to a maximum of:

CIRF (Mbps)	CIRR (Mbps)
50	13

- (B) a peak information rate dedicated per beam to be determined by **nbn** up to a maximum of:

PIRF (Mbps)	PIRR
50	13

- (iii) single beam may be accessed by multiple ABP Members supplied to Test Participant by **nbn** using a single beam of the BSS Network; or
- (iv) may be added to, or removed from, an ABP Member at any time at **nbn**'s discretion.

(b) The other Test Product Features of the ABSL2 Test Product will function and perform as determined by **nbn**.

4.5 Other product information

(a) MAC Addresses

- (i) Test Participant will be supplied with a maximum of 10 concurrent MAC addresses that are applied to each Layer 2 service.
- (ii) An unused MAC address flushes every 300 (by default) seconds.
- (iii) Any excess MAC addresses will not have end to end connectivity until any of the exiting MAC addresses flushed, for each ABSL2 Test Product.

(b) Network boundaries

- (i) Test Participant is responsible for ensuring that each Test End User has all necessary Test End User Equipment required to support applications supplied or made available by Test Participant.
- (ii) To acquire the ABSL2 Test Product, Test Participant must interconnect with **nbn** at a BSS POI.
- (iii) Figure A6 illustrates, at a high level, the ABSL2 Test Product configured to provide connectivity between a Test UNI serving a Test End User Premises and a BSS POI:

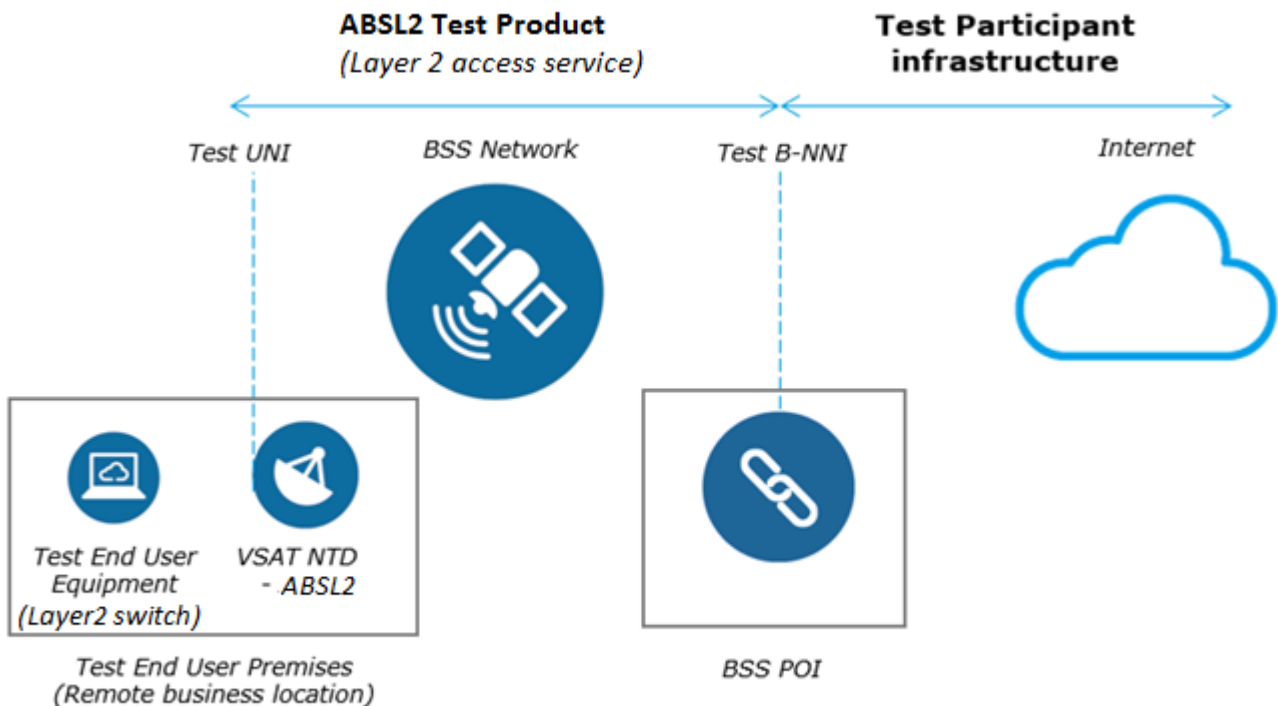


Figure A6: ABSL2 Test Product (Test UNI to BSS POI configuration)

Appendix B BSS Test Sandpit

Function of the BSS Test Sandpit

- (a) The BSS Test Sandpit is made available by **nbn** only for the specific testing and development purposes.
- (b) Test Participant must not use the BSS Test Sandpit to supply any products or services to Downstream Service Providers or end users without the prior written consent of **nbn**.

Permitted testing activities

Test Participant may use the BSS Test Sandpit to:

- (a) prepare for and perform:
 - Test Participant equipment testing;
 - development activities; and
 - any related or ancillary activities,

in respect of any Test Product (**nbn™ Business Satellite Services Testing and Development Activities**); and

- (b) conduct any other activities which **nbn** notifies to Customer.

BSS Test Sandpit architecture

The BSS Test Sandpit comprises elements that enable Test Participant to perform **nbn™ Business Satellite Services Testing and Development Activities**.

The figure below illustrates the Test Participant-hosted variant of the BSS Test Sandpit. The high-level architecture diagram depicts how the technical/non-technical components are connected to form the BSS Test Sandpit.

