

Product Description

Cell Site Access Service (CSAS)

CSAS Interim Terms



This agreement is a Standard Form of Access Agreement for the purposes of Part XIC of the Competition and Consumer Act 2010.

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Version	Description	Effective Date
1.0	Issued on 22 September 2016	Execution Date

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Environment

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Introduction

This document applies to the CSAS Interim Terms. This document describes the **Cell Site Access Service (CSAS)** which NBN Co supplies to its customers. The CSAS:

- is an Ethernet-based Layer 2, VLAN-transparent Bitstream product that carries traffic between a NNI and a UNI used to serve a CSAS Point;
- is supplied by means of the NBN Co Fibre Network;
- enables Customer or its Downstream Customers to supply public mobile telecommunications services (as that term is defined in the Telecommunications Act) via Customer Equipment at a CSAS Point; and
- comprises 3 Product Components:

Type	Product Component
Product Components (required)	NNI; AVC; UNI

Further details of the Product Components and Product Features of the CSAS are described in:

- Parts A and B of this Product Description; and
- the Product Technical Specification for the CSAS.

The Charges payable for the CSAS are set out in the [CSAS Price List](#).

The AVC and UNI Product Components are supplied as a bundle. NBN Co supplies the AVC to Customer on condition that Customer also acquires a UNI in conjunction with that AVC.

Roadmap

A roadmap describing the structure of this CSAS Product Description follows for the assistance of Customer.

Part A: Core components

Part A describes the three core Product Components of the CSAS which Customer must order.

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Part B: Optional components and Features

Part B describes the optional Product Features of the CSAS which Customer may elect to order.

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Part C: General conditions of supply

Part C sets out general conditions which apply to the supply of the CSAS to Customer.

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Part A: Core components

Section 1 describes the NNI. Customer must order an NNI at each POI where NBN Co supplies the CSAS to Customer. Customer connects its backhaul network to the NBN Co Network at the POI where the NNI is located.

1. Network-Network Interface (NNI)

1.1 NNI description

- (a) A **Network-Network Interface** or **NNI** is the interface at a POI where Customer traffic is handed over from Customer's backhaul network to the NBN Co Network.
- (b) The **NNI Bearer** is the physical interface between the Customer switch and the NBN Co Network.
- (c) An NNI Bearer must be configured as a member of an **NNI Group**, which is a logical interface comprising one or more NNI Bearers supplied by NBN Co to Customer.
- (d) One NNI can be used to serve multiple CSAS Points where NBN Co supplies the CSAS to Customer, but cannot be shared with other Products supplied to Customer under other agreements with NBN Co (such as the NBN Co Ethernet Bitstream Service).

1.2 NNI Bearer

The physical interface options for the NNI Bearer are:

NNI Bearer profile
1000BaseLX
10GBaseLR
1000BaseEX
10GbaseER

1.3 NNI Group

- (a) An NNI Bearer can only be configured as a member of an NNI Group if its interface rate is the same as the interface rate of the NNI Group.
- (b) Each NNI Bearer must be configured with a logical single or diverse chassis redundancy mode, together forming an NNI Group.
- (c) Single chassis is the only redundancy mode available for an NNI Group comprised of a single NNI Bearer.
- (d) If Customer selects single chassis as the redundancy mode for an NNI Group:
 - (i) each NNI Bearer in that NNI Group will be connected to the same chassis; and
 - (ii) the NNI will operate as a single, unprotected interface.
- (e) Each NNI Bearer in an NNI Group where Customer selects diverse chassis as the redundancy mode will be connected across a pair of chassis.

- (f) Once an NNI Group is activated, the redundancy mode of that NNI Group cannot be reconfigured.

Section 2 describes the AVC. Customer must order an AVC for each CSAS Point where NBN Co supplies the CSAS to Customer.

2. Access Virtual Circuit (AVC)

2.1 AVC description

- (a) An **Access Virtual Circuit** or **AVC** is an Ethernet-based Layer 2 virtual connection on the NBN Co Fibre Network that carries Customer traffic to and from a UNI used to serve a CSAS Point.
- (b) An AVC must be ordered by Customer for each CSAS Point to which the CSAS will be supplied.
- (c) NBN Co will make the AVC available in traffic class 1 (**AVC TC-1**) and traffic class 2 (**AVC TC-2**).
- (d) Customer must acquire both an AVC TC-1 and an AVC TC-2 in respect of each CSAS Ordered Product.
- (e) Customer may select any of the bandwidth profiles available for AVC TC-2 in section 2.3.
- (f) The CSAS will feature VLAN transparency to allow Customer to perform traffic separation and prioritisation between AVC TC-1 and AVC TC-2. AVC TC-2 is intended for the carriage of mobile payload traffic, while the expedited traffic class, AVC TC-1, is intended for the carriage of mobile signalling traffic.

2.2 AVC TC-1

The AVC TC-1 bandwidth profile for the CSAS is:

AVC TC-1 symmetrical Mbps (CIR)
5

2.3 AVC TC-2

The AVC TC-2 bandwidth profiles for the CSAS are:

AVC TC-2 symmetrical Mbps (CIR)
50
100
150
200
300
500
900

Section 3 describes the UNI which must be ordered in conjunction with the AVC for each CSAS Point where NBN Co supplies the CSAS to Customer.

3. User Network Interface (UNI)

3.1 UNI description

- (a) The **User Network Interface** or **UNI** is a physical port to which NBN Co supplies the CSAS in respect of a CSAS Point. The general specifications for the UNI are set out in the table below.

Type of UNI	Port	Location of UNI port	Number of available ports on NTD
UNI-D	Ethernet	NTD	1

- (b) Both the AVC TC-1 capacity and AVC TC-2 capacity of a CSAS Ordered Product will be mapped to a single UNI.

Part B: Optional components and Features

Section 4 describes the optional supply of a CSAS Test and Verification Service which is available on request, subject to the conditions set out in this section, if Customer is acquiring or considering acquiring the CSAS.

4. CSAS Test and Verification Service

4.1 Description of the CSAS Test and Verification Service

- (a) The CSAS Test and Verification Service is a CSAS Ordered Product which allows Customer to conduct testing of applications, Customer Products, the Customer Network and the Customer Platform in connection with the CSAS.
- (b) The CSAS Test and Verification Service comprises an AVC TC-1, an AVC TC-2 and an associated UNI.
- (c) Subject to section 4.1(d), on request by Customer, NBN Co will supply to Customer an NNI for use in conjunction with the AVC and UNI components of the CSAS Test and Verification Service.
- (d) NBN Co will not provide Customer with a dedicated NNI under section 4.1(c) if:
 - (i) NBN Co is already supplying (at the time of the request) an NNI to Customer at the POI from which NBN Co will supply the requested CSAS Test and Verification Service; and
 - (ii) the NNI is supplied as a Product Component of the CSAS.
- (e) NBN Co will only supply the CSAS Test and Verification Service to a single CSAS Point.
- (f) NBN Co will only supply the CSAS Test and Verification Service in response to a request from Customer if:
 - (i) the CSAS is available in the location requested by Customer;
 - (ii) NBN Co has constructed an extension to the NBN Co Fibre Network to the relevant CSAS Point for the supply of CSAS;
 - (iii) Customer has successfully On-boarded, or is in the process of On-boarding, for the CSAS; and
 - (iv) NBN Co determines, acting reasonably, that Customer requires the CSAS Test and Verification Service to successfully supply Customer Products to which the CSAS is an input.
- (g) NBN Co will not conduct, or assist Customer to conduct, any testing in connection with the CSAS Test and Verification Service except to the extent of supplying the CSAS Test and Verification Service under this section 4.

4.2 Conditions of supply of the CSAS Test and Verification Service

- (a) The CSAS Test and Verification Service and any NNI provided under section 4.1(c) is made available by NBN Co only for the purposes set out in section 4.1(a).
- (b) Customer must not use the CSAS Test and Verification Service or any NNI provided under section 4.1(c):

- (i) for a purpose other than the purpose set out in section 4.1(a); or
 - (ii) to supply any Customer Products to Downstream Customers or End Users, without the prior written consent of NBN Co.
- (c) Customer must not use the CSAS Test and Verification Service or any NNI provided under section 4.1(c) for any non-functional testing, such as performance testing, volume testing, reliability testing or disaster recovery testing.
- (d) Customer:
 - (i) must comply with any technical and test specifications notified by NBN Co to Customer from time to time in relation to the supply of the CSAS Test and Verification Service;
 - (ii) must, on request by NBN Co, use reasonable endeavours to make available to NBN Co Customer Personnel who are subject matter experts to support any root cause analysis and incident resolution that may be performed by NBN Co in connection with Customer's access to or use of the CSAS Test and Verification Service; and
 - (iii) is responsible for use of the CSAS Test and Verification Service by any person accessing the CSAS Test and Verification Service with the permission of Customer.
- (e) Notwithstanding any provision of the Price List, no recurring Charge will apply for the supply of:
 - (i) the AVC Product Component or any associated UNI Product Component of that CSAS Test and Verification Service; or
 - (ii) any NNI Product Component of the CSAS to the extent that it is provided under section 4.1(c).
- (f) Without limiting any other right that NBN Co may have, if Customer uses any Product Component of the CSAS Test and Verification Service or any NNI provided under section 4.1(c) contrary to section 4.2(b), section 4.2(e) will not apply and NBN Co may invoice Customer all relevant charges that would have applied in respect of the Product Components and associated Product Features but for section 4.2(e).
- (g) Notwithstanding any provision of the Service Levels Schedule, no supply or non-supply of the CSAS Test and Verification Service, or performance or non-performance of any Activity required or performed in connection with the CSAS Test and Verification Service will be subject to, or contribute to, any Service Level, Operational Target or Performance Objective.
- (h) In addition to the terms and conditions set out in this section 4, the supply of the CSAS Test and Verification Service is subject to the terms and conditions set out in Part C below. In the event of any inconsistency, the terms and conditions set out in this section 4 shall prevail.

Part C: General conditions of supply

Section 5 sets out some general obligations of NBN Co and Customer which apply in connection with the supply of the CSAS.

5. General obligations

5.1 Customer use of the CSAS

Subject to section 4 above, Customer must not use any CSAS Ordered Product except as an input to the supply of public mobile telecommunications services (as that term is defined in the Telecommunications Act) via Customer Equipment at the CSAS Point to which NBN Co supplies the CSAS Ordered Product.

5.2 Interconnection

- (a) NBN Co will only supply the CSAS to a CSAS Point after it has been connected to the NBN Co Fibre Network.
- (b) Where a CSAS Point is not yet connected to the NBN Co Fibre Network, Customer may request the CSAS in respect of that CSAS Point provided that NBN Co has first agreed, in accordance with a CSAS Build Master Agreement, to construct a Network Extension to that CSAS Point. If NBN Co does agree to provide the CSAS in these circumstances, NBN Co will not supply the CSAS to the CSAS Point unless and until the CSAS Point is connected to the NBN Co Fibre Network.
- (c) Customer is responsible for:
 - (i) ordering sufficient capacity across the relevant Product Components and Product Features of the CSAS to meet its own capacity requirements in respect of the supply of Customer Products to its Downstream Customers;
 - (ii) separately acquiring, operating and maintaining all connections made to the Customer-side of the NNI and downstream of the UNI;
 - (iii) supplying and installing all Customer Equipment and Downstream Customer Equipment required for the supply of the CSAS; and
 - (iv) supplying power to Customer Equipment, Downstream Customer Equipment and any NBN Co Equipment used in connection with the supply of the CSAS to Customer and located at a CSAS Point.

5.3 Prohibition on supplying Downstream CSG Service using the CSAS

Customer must not use, and warrants to NBN Co that it will not use, the CSAS, or permit any Downstream Customer to use a Customer Product which relies on the CSAS as an input, to supply a Downstream CSG Service (including a public mobile telecommunications service that is supplied or offered to be supplied to fulfil an obligation under section 9(1)(a) of the TCPSS Act).

Section 6 describes the network architecture and boundaries of the CSAS.

6. NBN Co Network architecture and CSAS boundaries

6.1 NBN Co Network architecture

- (a) Each CSAS Point to which NBN Co supplies the CSAS is served by an Established POI.
- (b) Each Established POI at which NBN Co offers the CSAS may serve multiple CSAS Points.
- (c) NBN Co will determine which Established POI will serve a CSAS Point.

6.2 CSAS boundaries

The CSAS carries traffic in respect of a CSAS Point over the NBN Co Fibre Network between the following boundaries:

- (a) the UNI used to serve that CSAS Point; and
- (b) the NNI that serves the CSAS Point.

6.3 CSAS Points

Each CSAS Point is a Premises for the purposes of paragraph (i) of the definition of Premises.

6.4 CSAS Exclusions

The CSAS does not include:

- (a) facilities access;
- (b) any backhaul transmission, cross connects or cabling from the Customer-side of the NNI;
- (c) any content or applications, including IP transit, Internet gateway connection, any other Customer equipment, BGP routing, soft switching infrastructure or any international connectivity associated with the supply of the CSAS; or
- (d) Customer Equipment, Downstream Customer Equipment or End User Equipment, such as cabling, microwave equipment and mobile transceiver equipment.

Section 7 sets out the factors that may affect the speeds experienced by Customer with the CSAS as well as potential limitations on its availability.

7. Speeds and availability

7.1 Speeds of Ordered Products

- (a) References to download and upload speeds in this CSAS Product Description are to Layer 2 speeds. They refer to the maximum data throughput that the NBN Co Fibre Network is designed to make available to Customer at the UNI.
- (b) The speeds actually experienced by Customer will vary and depend upon a number of factors including:
 - (i) performance of Customer Equipment;
 - (ii) the traffic packet size (as defined in the Product Technical Specification);
 - (iii) the equipment that is used by Customer, Downstream Customers and End Users (which can also affect the speeds experienced at the UNI used to serve the

- relevant CSAS Point in respect of Downstream Products supplied to End Users or Downstream Customers);
- (iv) the nature and quality of the Customer Product or Downstream Product acquired by Downstream Customers;
 - (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 or prevailing radio conditions) at or affecting, the relevant CSAS Point.
- (c) If Customer makes representations to third parties about the speeds which may be achieved by Customer Products, Customer must not expressly or impliedly represent that any Estimated Speed provided by NBN Co constitutes a representation by NBN Co about the speeds which might actually be experienced by Downstream Customers or End Users.

7.2 Availability of supply of Product

Notwithstanding anything else in this CSAS Product Description, the supply of the CSAS by NBN Co to Customer is subject to the availability of each of the CSAS Product Components and Product Features at the time at which Customer places an order.