nbn Cost Allocation Manual

April 2022

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Contents

1 Scope and purpose

This document is the Cost Allocation Manual (**CAM**) for the purpose of clause 2C.10.2(c) of the Special Access Undertaking given by **nbn** in accordance with Part XIC of the Competition and Consumer Act 2010 (**CCA**) and accepted by the ACCC on 13 December 2013, as varied from time to time (**SAU**). For the purposes of this document, **nbn** will use the term "SAU" to refer to the variation to the SAU that **nbn** submitted to the ACCC on 29 March 2022, which is currently being assessed by the ACCC in accordance with Part XIC of the CCA, and where clause references in this document are to those clause references in the variation lodged by **nbn**.

This CAM describes the detailed methodology pursuant to which **nbn**'s costs will be allocated in accordance with the cost allocation principles set out in clause 2C.10.2(b) of the SAU (**Cost Allocation Principles**).

This CAM also summarises aspects of the following, in order to give context to the cost allocation methodology:

- **nbn**'s network and access technologies;
- the products supplied by **nbn** (including Core Regulated Services and Competitive Services); and
- the role of cost allocation (including the Cost Allocation Principles and this CAM) under the SAU.

This document does not override the SAU or any access agreements entered into by **nbn**.

Under the SAU, the methodology described in this CAM is used for the purposes of:

- the forecast of **nbn**'s operating expenditure and capital expenditure submitted by **nbn** as part of each Replacement Module Application;
- the forecast of **nbn**'s operating expenditure and capital expenditure made or used by the ACCC in respect of any Replacement Module Determination;
- determining the methodology to allocate Construction in Progress, non-telco Revenue and Taxation Allowance;
- determining the Core Services RAB Portion as at 1 July 2020 and the annual roll-forward of it through to the commencement of the Subsequent Regulatory Period;
- determining the amount of **nbn**'s capital expenditure which is rolled into the Core Services RAB Portion at the end of a Regulatory Cycle; and
- allocating costs associated with a Product (or proposed new Product) at the time of its categorisation (or re-categorisation) as a Core Regulated Service or Competitive Service.

The methodology described in this CAM will also form part, alongside other materials used by **nbn** including the relevant LTRCM Proposal prepared by **nbn** for Module 3 of the SAU, of the cost allocation methodology applied to determine the Nominal Core Services ICRA and Core Services Unrecovered Cost Amounts at 1 July 2020 and the annual roll-forwards through to the commencement of the Subsequent Regulatory Period.

nbn may change this CAM from time to time, in accordance with clause 2C.10.2(e) of the SAU.

Capitalised terms that are used, but not explicitly defined, in this CAM have the meanings given to them in the SAU.

2 Categories of services

Consistent with the SAU, the CAM defines two service categories. **nbn**'s costs are allocated between these two service categories in accordance with this CAM:

- Core Regulated Services
- Competitive Services

2.1 Core Regulated Services

nbn offers wholesale services which are designed as inputs for services to consumer and small business customers. These services make up the bulk of core services offered by **nbn**.

Core Regulated Services means all products and services supplied by NBN Co other than the Competitive Services.

2.2 Competitive Services

nbn offers wholesale services which are designed as inputs for services to enterprise end users that typically require different levels of network availability, reliability and speed. These services include additional infrastructure and equipment that are tailored for enterprise end-users. They are also supplied into markets where **nbn** faces direct competition from other network infrastructure operators. For the purposes of the SAU, **nbn**'s 'Competitive Services' comprise the following:

- **NBN Co Enterprise Ethernet (EE)**, which uses a dedicated, high performance fibre optic cable connected from a business premises to **nbn**'s fibre access node.
- **NBN Co Business Satellite Service (BSS)**, which is an enterprise level satellite solution that combines access to satellite infrastructure with additional business services, such as a specialist Business Satellite Operations Centre to manage connections, service requests and services incidents.
- **NBN Co Satellite Mobility for Large Commercial Passenger Aircrafts**, which is a wholesale satellite access services which can be used for Wi-Fi services onboard large passenger aircraft.

Competitive Services are not subject to the same regulatory constraints as Core Regulatory Services under the SAU, reflecting the different commercial and competitive environment in which these services are provided.

2.3 Categorisation and re-categorisation of services

The SAU sets out processes by which:

- **nbn** will determine, in the first instance, whether a new product or service is categorised as a Core Regulated Service or a Competitive Service, and the consequent allocation of building block costs to the new product or service;[1]
- the ACCC may disallow the categorisation and/or allocation of building block costs proposed by **nbn** in respect of such new products or services, and determine an alternate categorisation and/or allocation of building block costs;[2]

[1] SAU, clause 2C.10.4

[2] SAU, clause 2C.10.4

- as part of a Replacement Module Application, **nbn** may propose that an existing product or service is re-categorised as a Core Regulated Service or Competitive Service, as the case may be, and if **nbn** does so then **nbn** must also propose a consequent allocation of building block costs;[3] and
- as part of a Replacement Module Determination, the ACCC may determine that an existing product or service is re-categorised as a Core Regulated Service or Competitive Service, as the case may be, and if the ACCC does so then the ACCC must also determine a consequent allocation of building block costs.[4]

Without limiting **nbn**'s general rights to change this CAM, **nbn** may, before the time a new product or service is categorised as a Core Regulated Service or Competitive Service, or before an existing product or service is re-categorised as a Core Regulated Service or Competitive Service, change this CAM in order to provide for the allocation of building block costs associated with that categorisation or re-categorisation.

3 Cost Categories

The building block model which underpins the SAU (**BBM**) allocates capex asset categories and opex costs to one of eight cost categories. Each cost category is defined as either a 'core' or 'competitive' cost category.

Core cost categories are defined as:

- FTTP
- FTTC
- HFC
- FTTN
- FTTB
- Fixed Wireless
- Satellite

Competitive cost category is defined as:

- Competitive

[3] SAU, clause 2C.10.5

[4] SAU, clause 2C.10.5

4 Cost allocation principles

nbn has developed principles for attributing and allocating costs. These principles are defined in clause 2C.10.2(b) of the SAU and support efficient and transparent cost allocation procedures which will lead to outcomes that are consistent with the long-term interests of end-users.

The following standard definitions of costs are used for the purpose of cost allocation:

- 'Directly attributable costs' are costs that are specific to, and can be identified as belonging to, a specific service category. These costs are directly attributed to the service category to which they relate.
- 'Shared costs' are costs that are not specific to one service category, or cannot be directly assigned to a specific service category. These costs are allocated to services through the application of a suitable allocator.

The Cost Allocation Principles are:

- costs that are directly attributable to a Core Regulated Service will be allocated to that Core Regulated Service;
- costs that are directly attributable to a Competitive Service will be allocated to that Competitive Service;
- shared costs (i.e., costs that are not directly attributable to a Core Regulated Service or Competitive Service) will be allocated to reflect causal relationships between supplying services and incurring costs, unless establishing a causal relationship would require undue cost or effort in which case an alternative suitable allocator will be used;
- all costs will be allocated; and
- no cost should be allocated more than once to any service.

5 Cost allocation approach

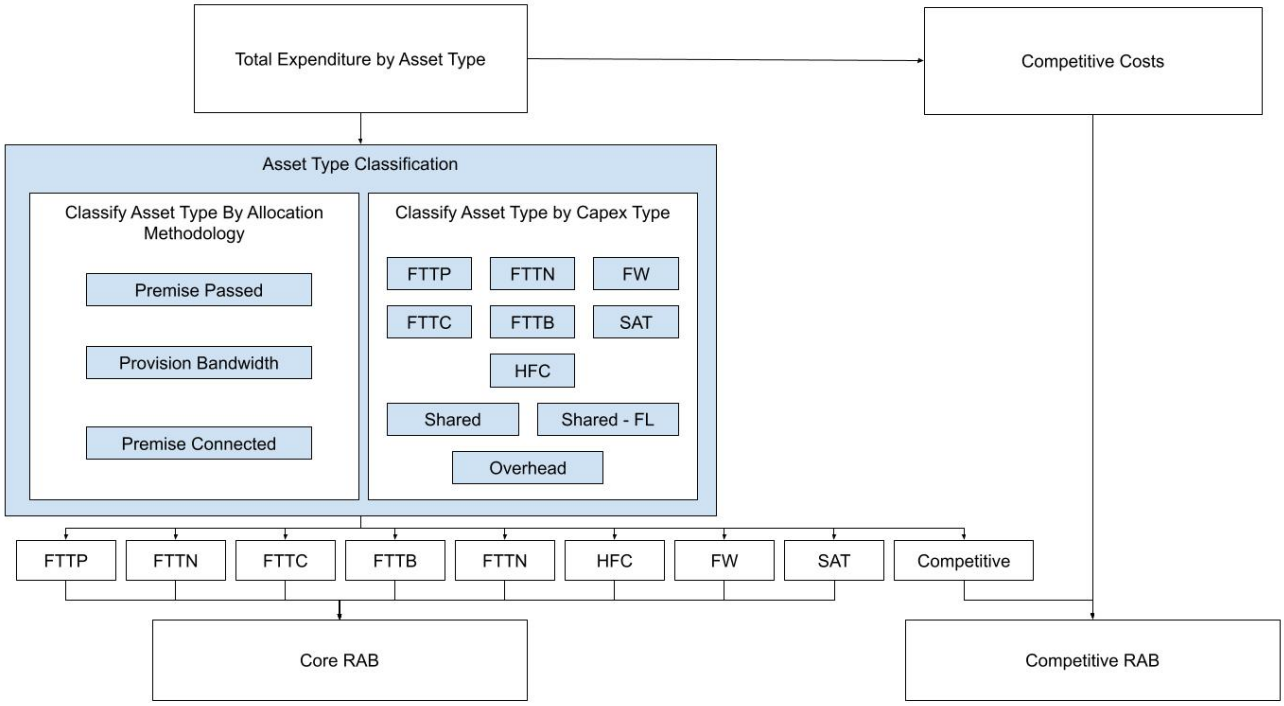
5.1 Overview of approach

A summary of the cost attribution and allocation approach to capital expenditure is outlined in Figure 1:

- First, **nbn** has determined certain capex types that are directly attributable to Competitive Services.
- Second, **nbn** has identified whether the remaining asset costs in an asset category are solely related to a single connection cost category (FTTx, HFC, Fixed Wireless, Satellite) or, if not, it is classified as either Overhead, Shared or Shared-FL (Shared Fixed Line) reflecting that the costs are spread across multiple cost categories incorporating both Core Regulated Services and Competitive Services.
- If a cost is not attributed to a single cost category, the asset is assigned an allocation methodology: either premises passed, premises connected or provisioned bandwidth.

A more detailed description is provided in sections 5.3 and 5.4.

Figure 1 Allocation of capex costs



A simpler approach is applied for opex, which is allocated between Core Regulated services and Competitive services using the shares of revenues. A second stage allocation allocates these costs further between Core Regulated services (section 5.5).

5.2 Cost capture system

nbn recognises the need to establish and maintain appropriate accounting and related systems that provide sufficient flexibility to allow for future scenarios. **nbn**'s accounting system is based on the Oracle-E Business Suite.

All cost information will be extracted from **nbn**'s core financial systems, which are and will be subject to an independent financial audit each year.

The core financial systems that are used to collate cost, revenue, asset and liability information include:

- Oracle modules for Procurement, Inventory, Project Accounting
- General Ledger
- Fixed Asset Register
- Oracle Asset Tracking
- Billing and Revenue Management

nbn's General Ledger Accounting String is divided in 8 segments (company, cost code, account, project, technology, spare 1, inter-company and spare 2), containing 30 digits that aid the classification and allocation of costs, assets, revenues and liabilities.

Projects are classified by technology into delivery programs and capital expenditure is recorded at a project level, which categorises expenditure by the nature of the activity (e.g., Design and Build activities by technology). This allows **nbn** to directly attribute some capex costs to Competitive Services or Core Regulated Services.

Operating expenditure includes telecommunication and network costs, employee benefits expenses and other employee driven costs as well as other expenses, including, but not limited to: outsourced and corporate services; IT and software expenses; and communication and public information.

Australian accounting standards are used to determine whether expenditure is operating or capital expenditure.

5.3 Directly attributed capital costs for Competitive Services and Core Regulated Services

Directly attributable costs are costs that are specific to, and can be identified as belonging to, a specific cost category. These costs are directly attributed to the cost category to which they relate.

As indicated above, the allocation of directly attributable costs to cost categories is managed through coding of data inputs in **nbn**'s Oracle E-Business Suite.

Some costs associated with Competitive Services can be identified directly from **nbn**'s cost capture systems. These costs are available by asset class and directly attributed to Competitive Services before the subsequent attribution of remaining asset costs to cost categories and the allocation of shared costs is undertaken.

Where an asset category is identified as directly attributable to the core cost categories (referred to in the BBM as FTTP, FTTN, FTTB, FTTC, HFC, Fixed Wireless or Satellite), all costs in that asset category are allocated to the corresponding cost category. This ensures that Competitive Services are not allocated any of these costs.

Costs that are directly attributed, and their basis for attribution, to Competitive Services are explained in **Table 1**.

Table 1: **Directly attributed costs of Competitive Services**

Direct cost type	Description	Basis for attribution
Enterprise Ethernet fibre	Includes deployment of a dedicated, high performance fibre optic cable connected	The direct capex is captured as a direct cost associated with deployment activities. This cost captures the design and project

Direct cost type	Description	Basis for attribution
deployment capex	from a business premises to **nbn**'s fibre access node.	management costs, cost of deploying the fibre, costs of activating the service which includes outsourced capitalised labour mobilisation costs and EE program overheads directed to deployment partners.
Business Satellite Service and Satellite Mobility capex	These services are enterprise level satellite solutions that combine access to satellite infrastructure with additional business services.	The direct capex is captured as a direct cost associated with deployment activities. This cost captures the cost of equipment, costs of installation and costs of hardware support.
Distribution network capex	Involves the underground fibre pathways between FAN sites and the first point where individual fibres can be accessed for each Access Distribution Area. Costs attributable to Competitive Services are removed.	Newly acquired assets (either tangible or intangible) that are specific to and can be identified as belonging to a specific cost category (based on the nature of the asset being acquired) are considered directly attributable. Capital expenditure is then attributed to the relevant cost category.
Passive fibre capex	Uses optical splitters to separate and collect optical signals as they move through the network. Any costs attributable to Competitive Services are removed.	
Active Equipment capex	Uses electrically powered switching equipment, such as a router or a switch aggregator, to manage signal distribution and direct signals to specific customers. This is only used for delivering Core Regulated Services.	

5.4 Shared capital costs between Competitive Services and Core Regulated Services

Shared costs are costs that are not specific to one cost category or cannot be directly assigned to a specific cost category. These costs are allocated to services through the application of a suitable allocator.

The shared capital costs (i.e. those that are not directly attributable) are allocated as either Shared, Shared-FL (shared among fixed line networks) and Overhead and are allocated proportionally based on (one of) the number of premises passed, the number of premises connected or the amount of provisioned bandwidth depending on the allocation percentages for that year in the model, as illustrated in **Table 2**.

Table 2: **Capex allocations**

	FTTP	FTTN	FTTC	FTTB	HFC	Fixed Wireless	Satellite	Competitive
Overhead	✓	✓	✓	✓	✓	✓	✓	✓
Shared	✓	✓	✓	✓	✓	✓	✓	✓
Shared-FL	✓	✓	✓	✓	✓			✓

Where more than one cost driver may be relevant, the cost driver which best reflects how costs are incurred must be applied. The number of premises passed, and the number of premises connected are actual historical and forecast future values.

For each year in the model the following calculations are made.

Calculation of Premises Passed: Cost allocation factor

Premises passed refers to the actual or forecast total number of premises that are able to connect to an **nbn** Core Regulated Service or Competitive Service. In general, this allocator represents the share of available footprint and is used to allocate network assets that are planned around the footprint size rather than the number of active premises or active services. Examples of costs that are allocated on this basis include land, TAND, network assets, office equipment, and machinery and equipment. For Competitive Services the number of premises connected equals the number of premises passed.

The premises passed cost allocation factor by cost category is calculated by taking the number of premises passed by a given cost category in that year, divided by the total number of premises passed in that year.

Where the allocation methodology is Shared-FL, the number of Fixed Wireless and Satellite premises passed is zero.

Calculation of Premises Connected: Cost allocation factor

Premises connected refers to the actual or forecast number of premises with an active connection to an **nbn** Core Regulated Service or Competitive Service. In general, this allocator represents the share of active services and is used to allocate network assets that have port constraints or other capacity constraints around the number of end-users. Examples of costs that are allocated on this basis include fibre, transit costs, building improvements, and access networks.

The premises connected cost allocation factor by cost category is calculated by taking the number of premises connected by a given cost category in that year, divided by the total number of premises connected in that year.

Where the allocation methodology is Shared-FL, the number of Fixed Wireless and Satellite premises connected is zero.

Calculation of Provisioned Bandwidth: Cost allocation factor

Provisioned Bandwidth refers to the actual or forecast provisioned download capacity in respect of active **nbn** Core Regulated Services or Competitive Services. In general, this allocator represents the share of total provisioned bandwidth on the network and is generally used to allocate network assets that are driven by throughput capacity or traffic growth. Examples of costs allocated on this basis include fibre to the distribution network, distribution cable, and access network assets.

The amount of provisioned bandwidth in a year is calculated from the FY21 provisioned capacity per premises per cost category scaled by the number of premises connected.

The provisioned bandwidth cost allocation factor by cost category in a year is calculated by taking the total amount of provisioned bandwidth in a given cost category in that year, divided by the total provisioned bandwidth in that year.

Where the allocation methodology is Shared-FL, the amount of provisioned Fixed Wireless and Satellite bandwidth is zero.

Shared capex costs that are allocated are broadly grouped and their basis for allocation is explained in **Table 3**.

Table 3: **Allocated capex costs**

Allocated cost type	Description	Allocator applied	Basis for allocation
Active Plant (OLT, DWDM)	Active cabling and equipment installed in a facility, including main distribution frame and all the equipment extending inward therefrom.	Provisioned Bandwidth	Active Plant costs are related to the capacity of the network. The greater the bandwidth in the network, the greater the active costs incurred. Therefore, using the provisioned bandwidth allocator is considered to facilitate a reasonable allocation of relevant active plant costs to the cost category which causes those costs to arise.
Passive Plant (FAN Plant)	Passive cabling and equipment installed in a facility, including main distribution frame and all the equipment extending inward therefrom.	Premises Passed	Passive Plant costs are related to the size of the network. The greater the size of the network, the greater the passive plant costs incurred. Therefore, using the premises passed allocator is considered to facilitate a reasonable allocation of relevant passive plant costs to the cost category which causes those costs to arise.
Other network costs	Costs including transit networks	Premises connected	Other network costs such as those relating to transit networks have costs driven primarily by the number of connections activated in an area. Therefore, using the premises connected allocator is considered to facilitate a reasonable allocation of these costs.

Allocated cost type	Description	Allocator applied	Basis for allocation
Overheads	Costs incurred to run the administrative side of **nbn**.	Premises Passed	As above.

nbn also provides an allocation of costs by Traffic Class. This is effectively a secondary allocation that uses revenue to separate capex and opex by cost category down to Traffic Class. This allocation of costs is not provided for, and does not have any function, under the SAU – it is provided for information only.

Allocators should not be regarded as static or permanent, and as such allocators may be updated over time to ensure casual causal relationships remain relevant. This may involve, ahead of a Regulatory Cycle, revising existing forecasts for years in that Regulatory Cycle.

Total costs must be allocated. That is, the portions of a cost allocated on a direct or shared basis must add to the total amount of that cost incurred.

5.5 Opex Cost allocation

Operating costs are incurred to connect and maintain premises on **nbn's** networks, while non-network and overhead costs are incurred to run the administrative side of **nbn**.

Opex is allocated using a two-step process.

First, opex is allocated between Core Regulated Services and Competitive Services proportionally based on Revenue. The proportion is calculated by taking the total actual or forecast value of Core Services Revenue or Revenue in connection with Competitive Services (as the case may be) in the relevant year, divided by the total actual or forecast Revenue in that year.

Revenue is considered the most accurate allocator available for this allocation because it best reflects the higher average value of Competitive Services (as premium business services).

Second, opex allocated to Core Regulated Services in the first step is then allocated across the cost categories proportionally based on the number of connected premises. This split is calculated for each cost category by taking the total actual or forecast number of connected premises for that category in the relevant year, divided by the total actual or forecast number of connected premises in respect of Core Regulated Services in that year.

Opex for Core Regulated Services is then allocated based on premises connected because network and non-network opex are most closely driven by the number of connections activated rather than e.g., premises passed or bandwidth.

The number of premises connected is determined annually using actual historical (where known) or forecast customer connections.

5.6 Other allocations

5.6.1 Revenue allocation

Core Services Revenue for each Financial Year from FY18 onwards is allocated based on the actual proportion of revenue recorded in **nbn**'s systems by cost category. With the exception of RBS Third Party Contribution

Amounts, non-telco Revenue is allocated between Core Regulated Services and Competitive Services proportionally. Non-telco revenue includes developer charges, O&M licence fees, commercial works, technology choice and non-WBA facilities access. It is allocated by multiplying the non-telco revenue by the total actual and forecast amount of nominal Core Services Revenue or Competitive Services Revenue in that year, divided by the total actual or forecast nominal Revenue in that year.

Consistent with the SAU, RBS Third Party Contribution Amounts are directly attributed to Fixed Wireless and Satellite Core Regulated Services. RBS NBN Co Competitive Service Contribution Amounts are included in total Core Services Revenue. It is allocated by multiplying the RBS NBN Co Competitive Service Contribution Amounts by the total Fixed Wireless or Satellite Revenue in that year, divided by the total Fixed Wireless and Satellite nominal Revenue in that year.

Revenue prior to FY18 is allocated proportionally based on the actual number of premises passed by cost category in that year, as a proportion of the total number of premises passed in that year.

Competitive Services Revenue is directly attributed minus RBS NBN Co Competitive Service Contribution Amounts plus its share of non-telco Revenue.

5.6.2 Construction in progress allocation

The Construction in Progress allowance is allocated for each year based on the proportion of capex by cost category in that year. It is calculated for each cost category by taking the total amount of capex for a given category in that year, divided by the total capex in that year.

5.6.3 Tax allocation

Tax is calculated separately for Core Regulated Services and Competitive Services.

The Core Services Tax Allowance is allocated proportionally to cost categories based on nominal Revenue. It is calculated for each cost category by taking the total actual or forecast amount of nominal Revenue for that category in that year, divided by the total actual or forecast Core Services Revenue in that year (noting that the Core Services Revenue value is determined in accordance with section 5.6.1 above). That proportion is then applied against the total core services tax allowance to derive the amount of the core services tax allowance that will be allocated to that cost category.

5.7 Core Services ABBRR and Core Services ICRA

Application of the cost allocation methodology allows **nbn** to calculate the Core Services RAB Portion, the Core Services ABBRR and the Core Services ICRA.

Appendix A

This appendix is provided for completeness. It is not intended to be used in setting **nbn's** revenue allowance or prices. It is legacy information that **nbn** intends to remove in future versions of the CAM and BBM.

Shared costs between Core Regulated Services

Where applicable, **nbn** provides an allocation of costs by Traffic Class. This is effectively a secondary allocation that uses revenue to separate capex and opex by cost category down to Traffic Class. This allocation of costs is not provided for, and does not have any function, under the SAU – it is provided for information only.

Traffic Class	Designed for	Core Cost Category
Traffic Class 1 (TC1)	**nbn**'s highest priority traffic class. It is delivered as a Committed Information Rate (CIR) with defined latency, jitter and loss characteristics – suitable for applications that require highly deterministic traffic parameters such as voice.	All
Traffic Class 2 (TC2)	Provides support for latency sensitive, interactive applications such as video conferencing, converged business collaboration, IPTV or gaming. It is delivered as a Committed Information Rate (CIR) with defined latency, jitter and loss characteristics.	FTTP, FTTC, FTTN, FTTB, HFC
Traffic Class 4 (TC4)	Designed for browser-based applications such as the internet and web browsing. It is delivered in a range of Peak Information Rate (PIR) speeds that are asymmetrical.	All

The costs for these Traffic Classes are entirely shared and have been allocated as detailed in **Table 4**.

Table 4: **Shared Core Regulated Service Costs**

Class of service	Description	Allocator applied	Basis for allocation
TC1 / TC2 / TC4	Cost category costs broken down to the Traffic Class level.	The cost allocator is determined using actual and forecast annual revenue.	**nbn** does not have different cost structures or cost drivers by traffic class. Revenue share provides a reasonable basis for allocating shared costs, because the primary basis for the different charges for TC1/2/4 is willingness-to-pay. TC1 and TC2 are prioritised traffic within the TC4 bandwidth i.e., they are not separate bandwidth.