

Glossary of terms

Access Aggregation Region (AAR)	The area served by a Point of Interconnect (PoI) located in an Aggregation Node (AN) and connected via Transit Fibre to regional Fibre Access Node (FAN) sites. The backhaul from the regional FAN to the AN is termed Transit Backhaul.
Access Seeker	A customer acquiring NBN Co wholesale services with the intention to supply internet services to Retail Service Providers (RSPs) or end-users.
Access Virtual Circuit (AVC)	The bandwidth allocated to the end-user premises.
Aggregation Node (AN)	A facility that provides a Point of Interconnect (PoI) to Retail Service Provider's (RSPs) / Wholesale Service Providers (WSPs) for an Access Aggregation Region (AAR), comprising a number of regional Fibre Access Node (FAN) sites. Note that an AN will also have a colocated FAN site for its local area.
Analogue Telephone Adapter (ATA)	The port on an NBN Co Network Termination Device (NTD) that is used to connect one or more standard analogue telephones to a digital phone system.
Asymmetric Digital Subscriber Line (ADSL)	A technology for delivering high speed data transmission over a copper phone line. As the name suggests, it provides different downstream (network to end-user) and upstream (end-user to network) bandwidth.
Australian Broadband Guarantee (ABG)	The Australian Broadband Guarantee (ABG) is an Australian Government initiative designed to help residential and small business premises access a high quality broadband service. The program targets premises unable to access commercial metro-comparable services, particularly those living in remote parts of Australia.
Average Busy Hour Throughput (ABHT)	A factor in network provisioning decisions, ABHT is the average transmission speed per end-user that can be expected during the hour in which a network is loaded the heaviest. ABHT varies from network to network depending on the end-user profile.
Average Revenue Per User (ARPU)	The total revenue divided by the number of subscribers.

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Average Revenue Per User (Restated)	ARPU excluding non end-user related charges which distort ARPU particularly in early years when number of end-users is low. Restated fibre ARPU excludes Network-to-Network Interface (NNI) charge and Multicast Domain charge.
Bank Bill Swap (BBSW) Reference Rate	The rate for a reset date will be the average mid rate, for Australian dollar bills of exchange, accepted by an approved bank, having a tenor with a designated maturity, that appears on an approved information vendors service (e.g. Thomson Reuters Screen BBSW page) at approximately 10.08am AEST, on the reset date.
Basis Points (bps)	One Basis Point is equal to 1/100 th of 1 percent.
BOT (Build-Operate-Transfer) Greenfields	Build-Operate-Transfer greenfields premises for which NBN Co will sub-contract third party fibre providers to build the network on NBN Co's behalf.
Broadacre	A type of greenfield development where a new premises is planned to be built on currently undeveloped land (i.e. where no copper services are currently available in the surrounding area). Broadacre premises are assumed to account for 40 percent of the growth market.
Brownfields	A pre-existing premises that will be covered by either fibre, wireless or satellite services.
Build Greenfields	Greenfields premises which are considered part of NBN Co's roll-out.
Business Support System (BSS)	The set of systems that will provide NBN Co with the capabilities to manage Access Seekers, take orders, process bills and collect payments.
Business-to-Business (B2B)	Commerce transactions between businesses.
Capital Expenditure (Capex)	The cost of purchasing tangible and intangible assets.
Committed Information Rate (CIR)	The guaranteed amount of bandwidth that NBN Co will provide to end-users.
Compound Annual Growth Rate (CAGR)	Year on year growth rate, over a specified period of time.

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Connectivity Serving Area (CSA)	A logical collection of end-user premises defined by NBN Co. Each CSA has approximately the same number of end-user premises.
Connectivity Virtual Circuit (CVC)	Determines the capacity required to serve each Connectivity Serving Area (CSA). The CVC is an aggregation of the Access Virtual Circuits (AVCs) from the end-user premises back to the Point of Interconnect (PoI).
Customer Premises Equipment (CPE)	Any telephone terminal and associated internet equipment that is located at a end-user's premises and may require broadband connectivity.
Dark Fibre	Optical fibre with no active electronics attached.
Data Over Cable Service Interface Specification (DOCSIS)	An international standard that allows high speed digital data transmissions over existing Hybrid-Fibre Coaxial (HFC) cable infrastructure.
Deal Case	The base case used for the three year Corporate Plan, assuming Definitive Agreements are entered into with Telstra in line with the Financial Heads of Agreement.
Digital Subscriber Line (DSL)	A family of technologies that deliver high speed data transmission over a copper phone line.
Digital Subscriber Line Access Multiplexers (DSLAMs)	Network devices normally located in telephone exchanges providing multiple ports connecting end-user copper lines for the provision of Digital Subscriber Line (DSL) broadband service.
Distribution Fibre	Connection between the Fibre Distribution Hub (FDH) and the Fibre Access Node (FAN), for both regional FANs and the metro FANs, as well as the connectivity between the non-adjacent Fibre Serving Area Modules (FSAMs) in the capital cities and the metro FANs. Distribution fibre routes are designed in a ring structure to minimise the impact of any fibre break on consumer services as well as providing diverse paths for protected commercial point to point services.
Distribution Network	The part of the network that connects the Fibre Access Node (FAN) to the Fibre Distribution Hub (FDH).

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Drop (Final Drop)	The connection from the local network to the premises. This is also referred to as the Lead-in Fibre Connection to the premises from the Network Access Points (NAPs).
Drop Fibre	Connection from the Network Access Points (NAPs) to the termination point on an individual premises or building. Connections can be provided as either an underground or aerial connection. The drop fibre can be configured as a single fibre connection to a consumer Network Termination Device (NTD), while still allowing a dual fibre connection to commercial services if required.
Earnings Before Interest and Taxes (EBIT)	The operating profit before deduction of interest and income taxes.
Earnings Before Interest, Taxes, Depreciation and Amortisation (EBITDA)	The operating profit before deduction of interest, income taxes, depreciation and amortisation.
End-users	Customers to NBN Co's Access Seekers and/or Retail Service Providers (RSPs).
Enterprise Resource Planning (ERP)	The system that will provide NBN Co with the capabilities to manage enterprise functions such as finance, fixed assets, human resources, project management, supply chain management, and contract management.
Ethernet	A frame based transport protocol for forwarding traffic across Local Area Networks (LANs).
Ethernet Aggregation Switch (EAS)	An Ethernet switch that aggregates end-user traffic coming from Optical Line Terminals (OLTs) for high bit-rate transmission and logical separation to each Retail Service Provider (RSP) / Wholesale Service Provider (WSP).
Ethernet Fanout Switch (EFS)	An Ethernet switch that provides Point of Interconnect (PoI) for Retail Service Providers (RSPs) / Wholesale Service Providers (WSPs) to deliver telecommunication services to end-users on NBN Co's network.

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Fair Work Principles	Under the Department of Education, Employment and Workplace Relations, these principles support the creation of quality jobs by ensuring that NBN Co procurement decisions are consistent with the Fair Work Act and its aims, including promoting fair, cooperative and productive workplaces.
Fibre Access Node (FAN)	A facility that houses the active equipment providing services to a Fibre Serving Area (FSA). Note that urban Fibre Access Nodes (FANs) will also provide a Point of Interconnect (PoI) to Access Seekers.
Fibre Distribution Area (FDA)	The area served via a single Fibre Distribution Hub (FDH) which connects addresses to the serving Fibre Access Nodes (FAN) site(s) via local fibre.
Fibre Distribution Hub (FDH)	The equipment located in a Fibre Distribution Area (FDA) where distribution fibre is split to provide local fibre that runs down each street.
Fibre Footprint	The 93 percent of premises that will be serviceable by NBN Co's Fibre-to-the-Premises (FTTP) network by the end of the roll-out period.
Fibre Ready Area	Premises which are capable of connection to the NBN in order to receive an active NBN Co Fibre-to-the-Premises (FTTP) service (that is, premises in an area which has already been passed by the NBN fibre network and has been operationally approved as 'ready for service').
Fibre Serving Area (FSA)	The area served by a Fibre Access Node (FAN) site, which for the regional areas will be a cluster of Fibre Distribution Areas (FDAs) and for the 16 city metropolitan locations will be a cluster of Fibre Serving Area (FSA) Modules. The FDAs and FSA Modules will be connected via distribution fibre.
Fibre Serving Area Module (FSAM)	A series of up to 24 Fibre Distribution Areas (FDAs) linked in a double closed loop configuration.
Fibre-To-The-Building (FTTB)	The network design in which the fibre network is deployed to the boundary of each building. Where a building is a Multiple Dwelling Unit (MDU), the final connection to the individual premises is made by alternative technologies.
Fibre-To-The-Home (FTTH)	Same as Fibre-To-The-Premises (FTTP).

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Fibre-To-The-Premises (FTTP)	The network design in which the fibre network is deployed to each premises.
Financial Heads of Agreement (FHOA)	The agreement entered into between NBN Co and Telstra Corporation on 20 June 2010.
First Release Site (FRS)	The first locations (after the Pre Release Sites in Tasmania) where NBN Co will deploy fibre services.
FY20XX	Financial Year ended 30 June 20XX.
Geocoded National Address File (GNAF)	GNAF information is provided by PSMA Australia Limited (PSMA). GNAF lists all valid physical addresses in Australia. It contains approximately 12.6 million physical addresses, each linked to its unique geocode (that is, the specific latitude and longitude of the address). Data used to build GNAF comes from contributors that include the Australian Electoral Commission, Australia Post, state, territory and Australian Government mapping agencies and land registries.
Gigabit-capable Passive Optical Network (GPON)	A point to multi-point fibre to the premises network architecture that uses combination of electronics network and passive optical splitters to deliver speeds up to 1,000mbps to end-users. The GPON active layer technology uses electronics that are designed to be compatible with a fibre that is subsequently split into multiple downstream fibres.
Gigahertz (GHz)	Unit for measurement of frequencies. One Gigahertz is equal to 10 ⁹ hertz.
Greenfields	A new development that can be either broadacre or infill premises (see the Glossary definitions of 'broadacre' and 'infill' for more information). Greenfields developments represent the growth of the premises market.
Health, Safety & Environment (HSE)	A supporting division of NBN Co that will not be directly involved in the operation of the NBN but will be responsible for establishing and maintaining the company's policies regarding employee health, safety and environment issues.
Home Run Topology	Topology where a dedicated access fibre connects every individual premises to the fibre exchange.

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GLOSSARY OF TERMS CONTINUED

Hybrid Fibre Coaxial (HFC) Network	A network utilising both optical fibre and coaxial cable for the delivery of Pay TV, internet and voice services.
Infills	A type of greenfields development where a new premises or a redevelopment (i.e. demolition and rebuild) is planned to be built on currently developed land that is surrounded by established areas, where Telstra copper services are currently available. Infill premises are assumed to account for 60 percent of the growth market.
Information Technology (IT)	An umbrella term for technologies that process, store and communicate information.
Internal Rate of Return (IRR)	The average annual total return from an investment over a specified time period, used to measure and compare the profitability of the investment.
Internet Protocol (IP)	The international standard by which data is transmitted between networks (packet data protocol by which data is routed between IP enabled devices (computers) and networks).
Internet Protocol Television (IPTV)	A service where video streams are delivered across Internet (broadband) connections for viewing at an end-user premises.
Internet Service Provider (ISP)	An organisation that offers access to the internet to its end-users.
Ka-band	Satellite radio frequency spectrum from 27 – 40GHz.
Kilobits per second (Kbps)	One kilobit per second is equal to 1,000 bits per second.
Key Performance Indicator (KPI)	A metric used to measure the progress or degree of fulfilment of a particular success criterion.
Ku-band	Satellite radio frequency spectrum from 15 – 17GHz.
Last 7 percent	The percentage of the Australian premises that will be connected via fixed wireless or satellite technologies.
Layer 1 Network/ Wholesale Services	The physical network layer providing electrical impulse or wavelength based services on a point-to-point basis.

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Layer 2 Network/ Wholesale Services	The transmission layer that encodes and decodes information bits across Layer 1 infrastructure. Layer 2 is the active layer of an optical fibre network
Layer 3 Network/ Wholesale Services	The network layer responsible for defining how interconnected networks function; it includes routing, flow control, segmentation, error detection and error correction.
Line Sharing Service (LSS)	LSS is a regulated product that enables Internet Service Providers (ISPs) to access the frequencies within a copper phone line not used for voice, allowing the provision of DSL service using their own Digital Subscriber Line Access Multiplexers (DSLAM) equipment.
Local Fibre	Connection between the Fibre Distribution Hubs (FDHs) and the individual Geocoded National Address File (GNAF) or buildings via a series of radial fibre cables containing Network Access Points (NAPs), then a drop fibre to the building. Note that the local network fibre cables are not tapered, but the 'ends' of each segment are interconnected to provide through connection of the distribution and trunk fibres.
Local Area Network (LAN)	A computer network that connects computers and devices in a limited geographical area (e.g. home, office building).
Local Multipoint Distribution Services (LMDS)	A wireless broadband access technology that commonly operates on microwave frequencies across the 26 GHz and 29 GHz bands.
Local Network	The part of the network from the Fibre Distribution Hub (FDH) down each street. Typically serving between 50 and 200 premises each.
Long Term Evolution (LTE)	Standardisation work by the 3 rd Generation Partnership Project (3GPP) to define a new high speed performance air interface for mobile communication systems. Commonly regarded as a 4G technology.
Megabits Per Second (mbps)	A unit of measurement of transmission speeds. One megabit per second is equal to 1,000kbps. X/Ymbps means a maximum downstream speed of Xmbps and a maximum upstream speed of Ymbps.
Megahertz (MHz)	Unit for measurement of frequencies. One Megahertz is equal to 10 ⁶ hertz.

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GLOSSARY OF TERMS CONTINUED

Metro FAN	A Fibre Access Node (FAN) serving a metropolitan area.
Multiple Dwelling Unit (MDU)	A premises that contains more than one dwelling unit, which can range from duplexes to 200+ unit apartment blocks. Each dwelling unit is equivalent to one Geocoded National Address File (GNAF) (e.g. a 50 unit apartment block will have 50 GNAFs).
Naked Broadband	A marketing label for broadband services provided on an access line on which no voice service is active (this service offered by Retail Service Providers (RSPs) to enable homes without a fixed voice connection to have access to fixed broadband and potentially use a third party Voice Over Internet Protocol (VOIP) service).
National Broadband Network (NBN)	The nationwide broadband network that will be deployed by NBN Co and third parties engaged on behalf of NBN Co.
National Broadband Network Company Limited (NBN Co)	The legal entity of National Broadband Network Company Limited.
National Code of Practice for the Construction Industry	Sets minimum standards that businesses must meet to be eligible for certain Australian Government building and construction work.
National Housing Supply Council (NHSC)	An independent group established by the Australian Government that produces an annual State of Supply Report that assesses information on land supply and demand for housing from all levels of government and the private sector.
NBN Co Satellite Access Service (NSAS)	Also known as the Long Term Satellite Access Service solution, it is a Layer 2 wholesale Ethernet access product suite delivered by satellite to end-user premises. The NSAS will deliver at least 12Mbps peak download speed, and an Average Busy Hour Throughput (ABHT) of 300kbps, for up to 200,000 users.
Network Access Points (NAP)	The point at which drop fibre is connected to local fibre.
Network and Services Operations Centre (NSOC)	Facility overseeing management and operation of the network infrastructure.

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GLOSSARY OF TERMS CONTINUED

Network Termination Device (NTD)	NBN Co's termination point on each premises, for residential fibre services (typically) featuring four Ethernet and two telephone interfaces. Also referred to previously as the Network Termination Unit (NTU).
Network-to-Network Interface (NNI)	The port at NBN Co's Point of Interconnect (PoI) where Access Seekers connect their internet transmission backhaul.
No Deal Case	Alternative to the Deal Case, assuming no deal with Telstra.
Occupational Health & Safety (OHS)	A discipline concerned with protecting the safety, health and welfare of people engaged in work or employment.
Office of the Telecommunication Authority Hong Kong (OFTA)	The arm of the Telecommunications Authority in Hong Kong that is responsible for telecommunications regulation.
Operational Support Systems (OSS)	The set of systems that will provide NBN Co with the capabilities to provision, configure, manage, and operate the NBN.
Operating Expenditure (Opex)	The ongoing cost of running a business, system or product.
Optical Line Terminal (OLT)	The equipment to provide the Gigabit-capable Passive Optical Network (GPON) signals to each of the Fibre Distribution Areas (FDAs).
Optical Transport Platform (OTP)	The equipment providing data transport between Fibre Access Node (FAN) sites. It is also referred to as 'transmission' and 'transit backhaul – active equipment'.
Passive Optical Network (PON)	An active layer technology that uses electronics that are designed to be compatible with a fibre that is subsequently split into multiple downstream fibres.
Payback	The payback period is the length of time required for the cumulative incoming returns (e.g. cumulative revenues) to equal the cumulative costs of an investment (e.g. the sum of the capital expenditure and operating expenditure). It is measured in years.

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GLOSSARY OF TERMS CONTINUED

Peak Information Rate (PIR)	The theoretical speed that an end-user could receive if there were no other end-users using at the same time. PIR is limited by the speed of the physical port of connection.
Personal Protection Equipment (PPE)	Safety equipment worn by NBN Co construction staff.
Point of Interconnect (PoI)	The connection point that allows allows Retail Service Providers (RSPs) and Wholesale Service Provides (WSPs) to connect to the NBN Co access capability. In the field, this is the physical port on the Ethernet Fanout Switch (EFS) switch located at NBN Co's PoI, where an Access Seeker connects to establish exchange of traffic with NBN Co's network.
Point-to-Point (P2P)	A network design in which a dedicated access fibre connects an individual premises directly to the fibre exchange.
Power Supply Unit (PSU)	A component which provides power to a device.
Pre Release Sites	The locations in Tasmania where Fibre-to-the-Premises was first deployed, before the First Release Sites.
Public Switched Telephone Network (PSTN)	The network of traditional voice telephone systems.
Public Works Committee (PWC)	The PWC was established in 1913 and is one of the oldest investigative committees of the Parliament. The Committee is constituted by the Public Works Committee Act 1969. The PWC Act provides that (with certain limited exceptions) a public work with an estimated cost exceeding \$15 million shall not be commenced unless it has been referred to the Parliamentary Standing Committee on Public Works (PWC).
Quality of Service (QoS)	The traffic engineering term Quality of Service (QoS) refers to resource reservation control mechanisms rather than the achieved service quality. QoS is the ability to provide different priority to different applications, users, or data flows, or to guarantee a certain level of performance to a data flow.
Radio Frequency (RF)	The frequency of electrical signals used to produce and detect radio waves.

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Radio Frequency over Glass (RfOG)	A fibre network design in which the coaxial portion of a Hybrid-Fibre Coaxial (HFC) network is replaced by a single-fibre, passive optical network architecture.
Regional Backhaul Blackspots Program	An initiative of Department of Broadband, Communications and the Digital Economy (DBCDE), as part of the NBN, which is investing up to \$250 million to immediately address areas where existing backhaul does not provide broadband access throughout regional Australia.
Regional Contractor Package (RCP)	NBN Co has sub-divided the Fibre-to-the-Premises (FTTP) network into 16 roll-out regions. The 16 regions have been further sub-divided for the purposes of awarding 31 nominal work packages (RCPs) to contractors. The RCPs do not necessarily align with a specific geographic boundary within the region but provide NBN Co with the flexibility to allocate any Fibre Serving Area Module (FSAM) within a region to a contractor who has been successfully contracted within that region, thereby fostering a competitive framework.
Release 2 Sites	The locations where NBN Co will deploy fibre services after the First Release Sites.
Retail Service Provider (RSP)	A third party provider of retail broadband services to end-users.
Request for Capability Statement (RCS)	An invitation for suppliers to submit a statement of their capabilities to perform a specific activity.
Request for Proposal (RFP)	An invitation for suppliers to submit a proposal on a specific commodity or service.
Request for Quote (RFQ)	An invitation for suppliers to submit a quotation to estimate the price that a specific set of requirements would cost to complete.
Sales, General and Administration (SG&A)	The operating costs which are not directly related to the production and delivery of the company's products and services.
Single Dwelling Unit (SDU)	A premises that contains only one dwelling unit. One SDU is equivalent to one Geocoded National Address File (GNAF).

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GLOSSARY OF TERMS CONTINUED

Shared Topology	Topology where a single fibre runs from the fibre exchange to a passive 'splitter' in the field. This splitter divides the optical signal multiple times, with each split signal travelling down a separate fibre to an end-user premises. Splits of 1:32 are common in Fibre-to-the-Premises systems and reduce the amount of fibre that must be run from an exchange to the point of the splitter.
Significant Development	Any greenfields development that is projected to yield no less than 100 dwellings within a three year period and which receives stage five development approval after 1 January 2011.
System Integrator (SI)	The supplier that is chosen to implement and integrate a system.
Telecommunication Standardisation Sector (ITU-T)	Co-ordinates standards for telecommunications on behalf of the International Telecommunication Union (ITU).
Telstra Definitive Agreements	The Definitive Documentation referred to in Section 3.2 of the Financial Heads of Agreement.
Time Division Multiplexing (TDM) Passive Optical Network (PON)	A variant of the PON that utilises TDM technology to deliver Point-to-Multipoint services in a fibre to the premises network architecture.
Transit Backhaul	The fibre rings which connect the regional Fibre Access Node (FAN) sites and the nearest Point of Interconnect (PoI), served by transit fibre.
Transit Fibre	Connection between Points of Interconnect (Pols) where the Retail Service Providers (RSPs) connect to the NBN, and the regional based Fibre Access Node (FANs). Transit fibre can also provide connectivity for the metro FANs to Points of Interconnect (Pols) if required.
Unconditioned Local Loop Service (ULLS)	A regulated product allowing Internet Service Providers (ISPs) to rent a physical copper line between an exchange and a customer, which when connected to an ISP's Digital Subscriber Line Access Multiplexer (DSLAM) is the platform for the delivery of internet and voice services.

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GLOSSARY OF TERMS CONTINUED

User Network Interface (UNI)	The physical port on the NBN Co Network Termination Device (NTD) at the end-user premises which connects the end-user's residential gateway or Ethernet enabled device to the NBN.
Video-on-Demand (VoD)	A technology or service that allows people to select and watch video content at the time of their choosing, unrestricted by a linear schedule.
Voice Over Internet Protocol (VOIP)	Technology that allows voice and video calls to be made over a data network, most often the internet.
Wavelength Division Multiplexing (WDM) Passive Optical Network (PON)	A type of PON in which the multiple wavelengths of a WDM-PON can be used to separate Optical Network Units into several virtual PONs co-existing on the same physical infrastructure.
Weighted Average Cost of Capital (WACC)	The cost of capital determined by the weighted average, at market value, of the cost of all sources of capital in the company's capital structure.
Wholesale Broadband Agreement (WBA)	A document which sets out the terms and conditions of access to NBN Co's services and products and will constitute NBN Co's standard form of access for the purposes of the Access Arrangements Bill.
Wholesale Service Provider (WSP)	A provider of wholesale services to Retail Service Provider (RSPs).
Wide Area Network (WAN)	A computer network that connects computers and devices in a large geographical area, typically across metropolitan or regional boundaries.
Worldwide Interoperability for Microwave Access (WiMAX)	A telecommunications protocol (IEEE 802.16) designed for high speed wireless data transmission.
xDSL	Any form of Digital Subscriber Line (DSL) technology (e.g. Asymmetric Digital Subscriber Line, Very-fast Digital Subscriber Line).

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