



A Brief Explanation of Some Key National Broadband Network Terminology

The NBN provides you with an optical fibre network connection, and involves the installation of active equipment into your premises. These diagrams and pictures endeavour to explain some of the new concepts involved!

Please note that you must also read the Internode NBN Service Schedule before ordering your service. This document is simply to introduce you to the fibre to the home technologies.

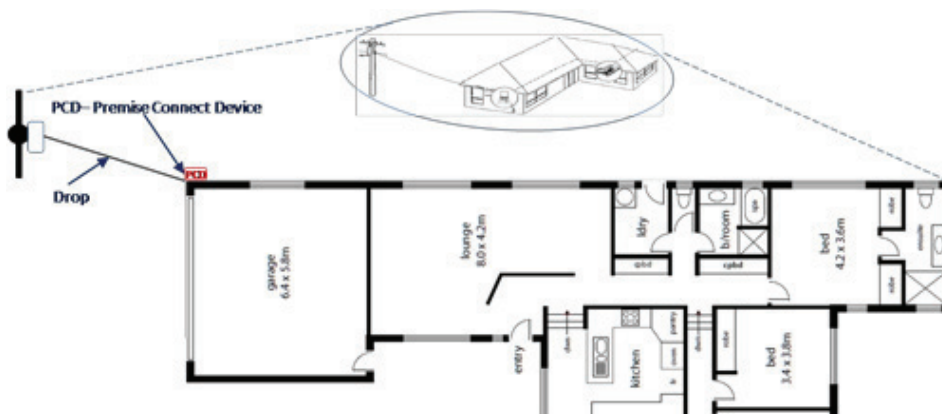
1.0 Build Drop

During the initial construction phase of the project, NBNCo encourages customers to make their premise 'NBN Ready' by opting in to what we refer to as a 'Build Drop'.

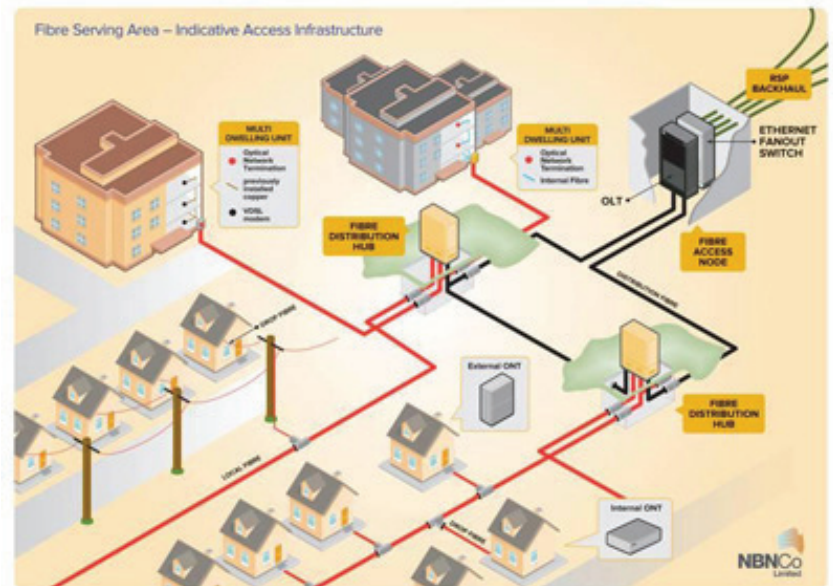
In simple terms a Build Drop is when a fibre drop cable is installed from a connection point in the street (aerial or underground) to the nearest practical and safe installation point on the premise, during the initial construction phase. This involves:

- A fibre drop cable is connected to a connection port on the local street fibre network, either on a pole or in an underground pit.
- The fibre drop cable is connected to the nearest practical point on the premise, and terminated inside a discrete 'box' called a Premise Connection Device (PCD).
- The PCD is installed onto the outside wall of the premise.

This does not include the installation of active equipment, such as the Optical Network Terminal Device (NTD) or Power Supply Unit (PSU).



Installation of the lead in cable at this time is more cost-effective for the project. You are not under any obligation to purchase services if you request the Build Drop.



2.0 Demand Install

The 'Demand Install' occurs when you order a service from a Retail Service Provider, such as Internode.

- If there is no Build Drop already installed, a fibre 'Demand Drop' will be installed. The key difference between this and the 'Build Drop' is that the Premise Connection Device is not installed for an Outdoor NTD – instead, the fibres can be terminated directly on the NTD.
- The Optical Network Terminal Device (NTD) is installed inside its protective housing, which enables the broadband service. NTDs can be installed either externally or internally - internal installations are more common. NBN will determine this installed based on a combination of premise based factors and some operational evaluation objectives.
- A Power Supply Unit (PSU) is installed inside the premise to power the NTD. You need to have a suitable domestic power outlet available for this PSU. A low voltage cable will be run by the installation technician from the PSU to the NTD.
- The NTD is then activated and tested by the installation technician.

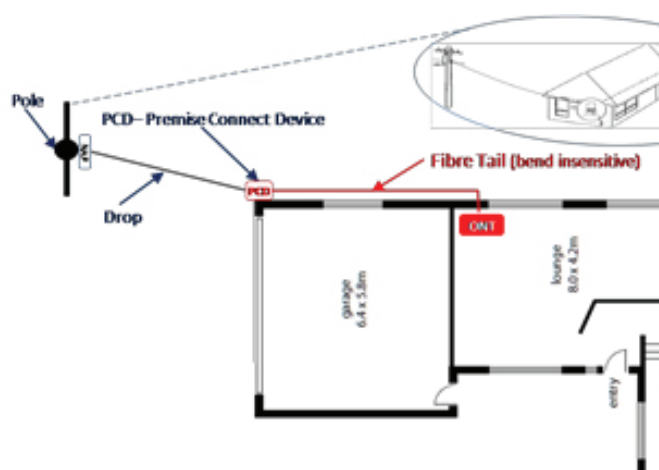
The fibre drop cable, PCD (if installed), NTD and PSU always remain the property of NBNSCo and if you cause damage to them, charges will be applied to remedy this damage.

It is also important to be aware that whenever an aerial Build Drop or Demand Drop planned for installation crosses a neighbour's property, NBNSCo will attempt to obtain consent to cross the property. This called a Way Leave consent request, and may lead to delays in your installation.

Indoor or Outdoor NTU

If an internal NTU installation is undertaken then the following occurs during the Demand Install:

- If there is no Build Drop already installed, a fibre drop cable will be installed from the closest street connection point to the premise.
- The fibre drop cable is connected to the nearest practical point on the premise inside a discrete 'box' called a Premise Connection Device (PCD). The PCD is installed onto the outside wall of the premise.
- A 'bend insensitive' fibre cable is installed around the outside wall to reach the internal room where the NTD will be installed.
- A small hole is drilled through a premise wall for the fibre cable to enter the premise.
- The NTD is installed inside the premise.
- A Power Supply Unit (PSU) is installed inside the premise, close to the NTU in order to power it.





The Network Boundary Point

Whether it is installed indoors or outdoors, the NTD forms the 'Network Boundary Point', and you are responsible for arranging and paying for the cabling required from the NTD to the position inside your house where you would like the service delivered, typically on a wall plate.

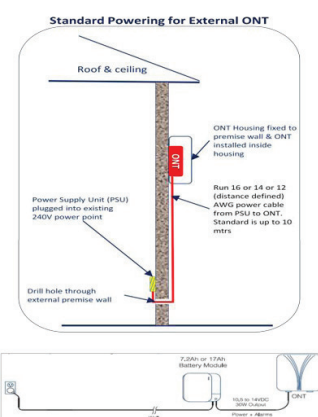
- We recommend that you discuss your specific requirements for this with the installation technician.
- If cabling within your house is required, you will need to arrange your own appropriately licensed cabler.

We recommend two Cat5e cables with wall plates suitable for Ethernet connections, and (if required in future) a telephone point as well.

3.0 Power Supply Units

All installations of NTDs require the installation of a **Power Supply Unit (PSU)**. The PSU provides a regulated power supply and comes with an empty battery backup compartment.

- The PSU is always installed inside the premises, for weather protection and also to facilitate your maintenance of the battery.
- It will be plugged into an existing 240V normal power point which is as close as practical to the NTD, irrespective of whether it is an external or internal NTD installation.
- A cable supplying the 12V power will be attached to the NTD from the PSU.



The PSU has a series of lights on it, which enables you to easily determine if there is power to the NTD or not. For example, the 240V power outlet may have been turned off, or the plug to the PSU pulled out. The same displays can also indicate if the optional battery requires maintenance. A detailed guide is provided by NBNCo when the unit is installed.

Battery Backup

At this stage Internode are not offering 'landline' telephone services across the NBN, although we intend to in future. Currently, NodePhone VoIP services are available as a cost-effective alternative for your fixed line phone.

With only a broadband and VoIP service delivered via the NTD data port, the need for a battery backup is quite marginal. The battery backup will only power the phone port on the NTD, not the data port.

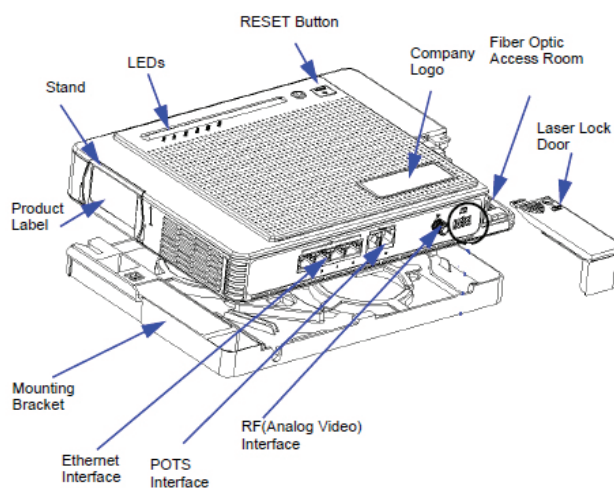
Internode recommend the use of a mobile phone in the event of a mains power outage and an emergency situation.

4.0 Optical Network Termination Device (NTD)

The NTD – sometimes called the ONT - is used to terminate the fibre optic cable from the street, and provide the standard telephone or Internet ports which can be shared by various devices within your home or business and deliver the services you want.

In this initial phase of NBN, Internode is simply offering high speed broadband – and so the first Ethernet port is the crucial one.

The telephone port may be used in future to deliver an Internode telephone service; and you should consider this when arranging for your premises cabling. Meantime, you can keep using your existing phone service, or cancel that and go naked – the choice is yours!



5.0 Customised Installs

NBNCo has defined the parameters to be used for Standard Installation Practices, in order to manage both the quality and costs of providing large numbers of Demand Installs. The fundamental parameters are:

- The fibre drop cable to the premise will be attached to the closest allocated street connection point to the premise.
- The fibre drop cable will then be installed on the premise at the closest practical point from the street connection point, which meets all safety requirements.
- The NTD will also be installed at a location that supports all safety requirements.

At the beginning of a Demand Install and before commencing any work, the field contractor will explain to you what is going to happen during the installation. A standard install approach is required to be safe, practical, and also efficient.

If you object to the contractor's planned standard approach and want something dramatically different, this then becomes a Customised Install. For example:

- "I don't want any boxes on my wall" or "I don't want the NTD there, can you put it around the back?"
- "I don't want the fibre cable along the outside of the house, can you go through the roof?" (NBNCo cannot guarantee that an installation will be undertaken inside roof spaces due to safety).
- "I don't want you to dig through my garden/lawn, can you bore underground?"

All of these examples and more will trigger the need for the field contractor to produce a quotation for you to consider and agree to any additional charges for your Customised Installation.



6.0 Your Equipment

You'll need an Ethernet router for your broadband service – an ADSL router won't do the job.

Internode recommend, sell and support a range of suitable routers.

You can choose from devices featuring high speed and secure 802.11n WiFi, VoIP capabilities and more. Our sales staff can assist in selecting the right router for your requirements.



There aren't any special requirements for your telephone handset, in fact landline phone services are not part of our initial product offering on the NBN. However if you are interested in also using a VoIP service such as Internode's NodePhone, we recommend, sell and support the **Gigaset**.

This is a dual mode IP and analog telephone system. It uses the DECT system, so that you can have up to six cordless handsets.

Further information on recommended hardware is available at www.internode.on.net/ftth/hardware