

Fact Sheet: 1000 Node Construction Trial

The Trial

NBN Co and Telstra have agreed to pilot the planning, design and construction of 1000 nodes across Queensland and New South Wales ahead of the anticipated large scale integration of Fibre-to-the-Node technology (FTTN) into the National Broadband Network.

Trial Locations

Queensland: Bribie Island, Bundaberg, Gympie, Caboolture, Warner (outer Brisbane).

NSW: Belmont, Boolaroo, Morisset and Hamilton in the Hunter Region and Gorokan on the Central Coast.

Scope of Trial

The pilot agreement involves planning, design and construction of the FTTN technology after which the companies will contemplate piloting the connection of premises to the NBN. Customer migration is not part of the construction trial.

Site Selection

A range of criteria was used including:

- Proximity to other NBN Co activities. This is necessary to facilitate connection to core NBN infrastructure such as transit (the main transmission systems and cables) and the Points of Interconnect where network traffic is transferred to service providers
- An assessment of the existing infrastructure, including broadband availability and quality
- Growing the network logically. NBN Co needs to get a mix of locations but ultimately improve the cost-effectiveness of the rollout by more contiguous construction activity.

Fibre to the Node

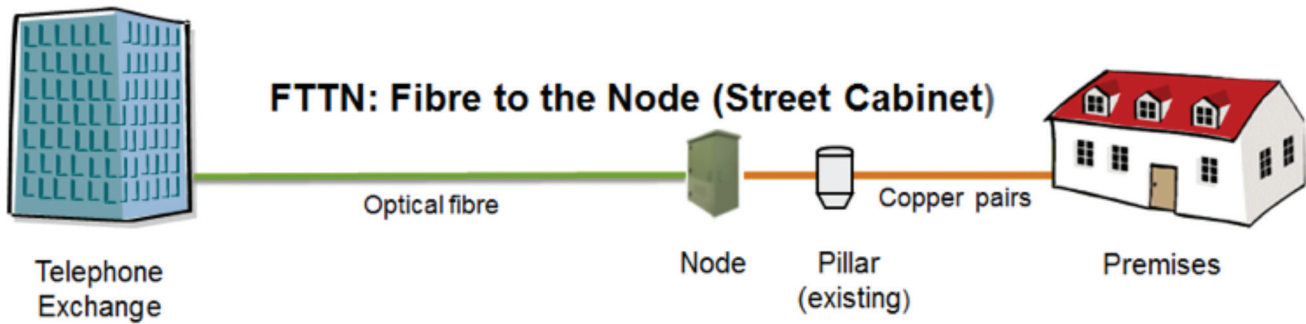
Fibre to the Node is a way of providing very fast broadband by running fibre to a neighbourhood node/pillar and from there using the existing copper network to connect to the premises. It can be faster to deploy because there is no need to replace the entire connection from the exchange to the home or business. Putting network equipment in the street reduces the distance data needs to travel over copper, allowing very-high speeds to be achieved.

Why Fibre to the Node?

NBN Co is transitioning the NBN rollout to a faster, more cost-effective approach as recommended in the Strategic Review. The fastest and most affordable way to deliver the NBN is to maximise the use of existing infrastructure utilising a mix of technologies based on their fit with infrastructure already in place.

Placement of Nodes

There are already telecommunications pillars in the street – they are the dome-topped metal cylinders that contain connections to copper services for around 200 premises. A node is a cabinet that can be installed on the street near the pillar to house new broadband equipment and enable the physical connection to existing copper in the pillar.



Technology Used

For the trials NBN Co is using Alcatel-Lucent ISAM 7330 VDSL2 Vectoring hardware. VDSL2 Vectoring delivers significant improvements to broadband performance. Extensive trials and commercial deployments by Alcatel Lucent have demonstrated capabilities of up to 100Mbps downstream and 40Mbps upstream on lines approximately 400m from the premises. Actual performance will vary based on a range of factors including the distance from the node, the quality of the copper, equipment used in the premises and the service providers' own network.

How Big is the Cabinet?

The cabinets being supplied by Alcatel-Lucent are, in their words, the smallest possible to minimise visual impact. The actual size is 850mm wide x 1150mm high x 500mm deep and are planned to be installed on a concrete plinth that is expected to sit a few centimetres above the ground. Each cabinet can support up to 384 lines.

When will Services be Available?

The aim is to have the nodes commissioned and ready for provision of FTTN-based services once NBN Co has a commercial FTTN-based product available and the arrangements are in place with Telstra under the amended Definitive Agreements to support those services.

The process of migrating end users from Telstra exchange-based connections to NBN Co's FTTN-based services is one of the matters being discussed in the wider DA re-negotiations.

User Trials

Separate to the 1000 node rollout, NBN Co is undertaking a small-scale end-user FTTN trial at up to 20 nodes in Umina (NSW) and Epping (VIC). This FTTN trial is confined to a "second line only" utilising spare pairs. As such there is no migration of active services. NBN Co also plans to construct additional nodes at Woy Woy (NSW).

Timeframe

The 1000 node construction program is scheduled to run for approximately 12 months.

Technology Explained

VDSL2: Very-high-bit-rate Digital Subscriber Line. The latest technology protocol enabling broadband on copper wires. An evolution of ADSL2.

Vectoring: A method of noise or interference cancellation to improve VDSL2 broadband performance.



Source Alcatel-Lucent