

101

Questions

CABLERS

will be Asked when
Connecting to the
nbnTM network



ARC AUSTRALIAN
REGISTERED
CABLERS



CONTENTS

ACCESS TECHNOLOGIES..... 3-4

ACCESS TECHNOLOGY INFRASTRUCTURE 5

HOME WIRING 6-8

EXISTING TECHNOLOGY 9-10

GENERAL 11-12

SERVICE PERFORMANCE 13-14

BUSINESS 15

HOME SERVICES..... 16





ACCESS TECHNOLOGIES

1. What is FTTP?

Fibre to the Premises is where fibre is installed into the premises and terminated on a Network Termination Device (NTD) which provides an interface to the customer's equipment and cabling

2. What is FTTN?

Fibre to the Node is where fibre is installed to a Digital Subscriber Line Access Multiplexor (DSLAM) within 500 to 800m from the premises and the service is delivered to the premises using the existing telephone copper twisted pair cables and terminated on a standard telephone socket

3. What is FTTB?

Fibre to the Building is where fibre is installed to a Digital Subscriber Line Access Multiplexor (DSLAM) within the building and the service is delivered to the premises using the existing telephone copper twisted pair cables and terminates on a standard telephone socket.

4. What is FTTC?

Fibre to the kerb or distribution point which is in fact the pit outside the premises. A micro DSLAM is installed in the pit to convert fibre to copper and the existing copper lead-in cable is used into the premises and terminates onto a standard telephone socket. In the premises there is a Reverse Power Unit (RPU) connected to the telephone socket to provide power to the micro DSLAM.

5. What is HFC?

Hybrid Fibre Coax is where the existing pay-TV cable system is used to deliver the service into the premises and the pay-TV coax cable is terminated on a Network Termination Device (NTD) which provides an interface to the customer's equipment and cabling.

6. What is Fixed wireless?

Fixed Wireless is where technology similar to that used for mobile phones is used. The equipment in the premises is an antenna which is connected to a Network Termination Device which provides an interface to the customer's equipment and cabling.

7. What is Sky Muster™?

Sky Muster is where satellite technology is used to deliver the service to the premises. The equipment installed in the premises is a satellite dish connected to a Network Termination Device which provides an interface to the customer's equipment and cabling.

8. What is an RPU?

Reverse Power Unit will connect to the network boundary telephone socket and then to the RSP or customer provided gateway. The RPU will also need to be plugged into a power point.



ACCESS TECHNOLOGIES

9. What is a PSU?

Power Supply Unit that can be supplied and installed in premises where the services is delivered using FTTP. The PSU is the power supply for the FTTP NTD and has the capacity to have a battery so the service can be battery backed during mains power failure.

10. Who supplies and installs the NTD?

nbn™ is responsible for the supply and installation of the NTD.

11. Will FTTP support a standard telephony service?

Telephony services as we know it are supported on FTTP either directly via the NTD's UNI-V port or via the gateway's voice port if provided.

12. Will FTTN support a standard telephony service?

Yes, provided the RSP supplies a gateway with a telephony port.

13. Will FTTB support a standard telephony service?

Yes, provided the RSP supplies a gateway with a telephony port.

14. Will FTTC support a standard telephony service?

Yes, provided the RSP supplies a gateway with a telephony port.

15. Will HFC support telephony?

Yes, nbn's HFC broadband service will support a standard telephone service provided the RSP delivering the broadband service supports telephony.

16. Will Fixed wireless support telephony?

No, telephony is not supported on Fixed Wireless, only broadband. If an end user does have an existing copper telephone service there is no obligation to migrate this service to the nbn's network. This is not to say, that a customer with a broadband service delivered over Fixed Wireless could choose to access VoIP services over their broadband service. Services such as Skype and hangout etc.

17. Will Sky Muster™ support telephony?

No, telephony is not supported on Sky Muster™ as it is a satellite service. If an end user does have an existing copper telephone service there is no obligation to migrate this service to the Sky Muster™ broadband service. This is not to say, that a customer with Sky Muster™ service is not able to use VoIP type services over their broadband service. Services such as Skype and hangout etc.

ACCESS TECHNOLOGY INFRASTRUCTURE



18. What is a PCD?

Premises Connection Device is a box that is supplied and installed by nbn to allow for the connection of the external lead-in conduit from the starter pipe and the internal conduit in the premises to the network boundary location.

19. What is the lead-in conduit?

This is the conduit from the starter pipe to the location of the PCD and from the PCD to the location of the Network Boundary.

20. Who is responsible for the installation of the lead-in conduit?

The owner/developer is responsible for ensuring the lead-in conduit is supplied and installed in accordance with nbn's requirements, see www.nbnco.com.au/content/dam/nbnco/documents/key-information-for-builders-and-cablers.pdf

21. Why is a PCD required?

The PCD provides an interface point between external cabling coming from the pit to internal cabling extending the service onto the network boundary point.

22. Who supplies and installs the PCD?

nbn™ is responsible for the supply and installation of the PCD.

23. What type of conduit is to be installed from the starter pipe to the PCD?

Rigid white P20 (23mm internal diameter), see www.nbnco.com.au/content/dam/nbnco2/documents/builders-cabler-key-information.pdf

24. What type of conduit is to be installed between the PCD and the home distributor or network boundary position?

Rigid white P20 (23mm internal diameter), see www.nbnco.com.au/content/dam/nbnco2/documents/builders-cabler-key-information.pdf

25. Should conduits include a draw string?

Drawstrings should be included in both external and internal conduit, see www.nbnco.com.au/content/dam/nbnco2/documents/builders-cabler-key-information.pdf



HOME WIRING

26. If a customer needs to have cabling installed on the customer side of the network boundary, who can do it?

A person holding a cabler registration with one of the five registrars which are ASIAL, ACRS, BRCA, FPAA, TITAB.

27. Where is the network boundary in an installation serviced by FTTP, HFC, Fixed Wireless and Sky Muster™?

The network boundary is the Network Termination Device (NTD)

28. Where is the network boundary in an installation serviced by FTTN, FTTB, FTTC?

The network boundary is defined in AS/CA S009 and it is either:

- MDF, or if no MDF;
- NTD, or if there is no NTD;
- First telephone socket.

For full details see appendix J of AS/CA S009

29. Where does the customer's equipment or cabling connect to on and FTTP NTD for telephony services?

There are two options and it depends on how the RSP delivers the service:

1. using the NTD's UN-V ports for voice and one of the Ethernet ports for Data. In this case the existing telephone equipment or cabling has to be connected to the UNI-V port.
2. using a Gateway which connects to one of the NTD's Ethernet port. In this case the telephone equipment or cabling had to be connected to the voice port on the gateway which could be labelled ATA or phone.

30. Where does the customer's equipment or cabling connect to on and FTTP NTD to connect to the internet?

There are two options and it depends on how the RSP delivers the service:

1. using the NTD's UNI-D port, the data network or device need to connect to the UNI-D port.
2. using a Gateway which connects to one of the NTD's Ethernet port. The data networking cables can be connected to one of the Ethernet ports on the gateway.



HOME WIRING

31. Can I connect my telephone home wiring directly into the voice port of the gateway or the NTD?

No, only a registered cabler can make modification to telecommunications cabling. To connect the existing telephone home cabling to the voice port the cabler will need to install a New Telecommunications Outlet and connected it to the existing home wiring and then use a fly lead to connect the voice port on the NTD or Gateway to the New Telecommunications Outlet.

32. Can I use the existing home telephone cabling to connect devices to the internet?

Any internet connected device that you want to connect using cabling must be done using Cat 5 or 6 cabling as all 8 wires in the cable are used. You cannot use the traditional or legacy telephone home wiring as it generally only has four wires and in many cases is connected to many other telephone sockets.

33. Can I wire up a mode 3 socket for a back to base or personal alarm system?

Yes, a mode 3 socket can be wired up as the first telephone socket after the NTD or Gateway provided they support telephone services.

34. Can I use the existing Telstra or nbn™ lead-in cable to facilitate the cabling of a telephony service at the time of migration?

Yes, under the Communications Alliances Guide G649 and Telstra's Authority to Alter and nbn's Authority to Alter a cabler can use the lead-in cable, conditions apply.

35. What should I do when pre wiring a residential premises?

The current recommended industry practice is to Smart Wire the residence. This entails installing the infrastructure required by nbn™ to allow nbn™ to install their cabling up to a Home Distributor. Install at 5 or better cable from the home distributor to every living area in the home. For more details see www.registeredcables.com.au/industry/smart-wired/.

36. I've been told everything is going wireless so cabling is not required, is this correct?

The best wireless network starts with wiring. The industry recommends ensuring there is enough cabling to deploy wireless access points. For a comparison on the connectivity technologies see www.registeredcables.com.au/home-networking-connectivity-solutions/.

37. Can I extend the telephone and broadband services to a remote building?

Yes you can but consideration must be given the cabling being used. If the cabling being used is twisted copper pair you will need to assess the location for lightning protection and install lightning protection. It may be easier to either use wireless technology or fibre.



HOME WIRING

38. Where can you get a guide on cabling for back to base alarms and personal alarms?

Communications Alliance has developed a guide G649 for cabling of existing telecommunications services in customer premises. The guide currently covers FTTP but will shortly cover all access technologies.

39. Are there any specific nbn™ requirements for cabling of MDUs?

Yes, MDUs in nbn™ network areas are required provide a direct path to each and every unit in the development. For full details, see www.nbnco.com.au/content/dam/nbnco/documents/preparation-and-installation-guide-for-sdus-and-mdus.pdf.

40. I am already connected to the nbn but I need to move the equipment to a new location, who can do this?

If the connection to the nbn™ is via FTTP, HFC, Fixed Wireless or Skymuster™ you will need to contact your internet or telephone service provider for them to arrange it with nbn™.

If you are on the FTTN, FTTB or FTTC you can as a Registered Cabler and they can undertake the work in accordance to nbn's "Authority to Alter facilities in residential and small business premises", see www.nbnco.com.au/content/dam/nbnco2/documents/authority-to-alter-facilities-on-residential-and-small-businesses-premises.pdf.

41. Can I use my existing telephone wiring to network my computers?

Whilst there are technologies that can achieve this they are not available in Australia and do not meet Australian Standards.

42. Can I use my TV cable to connect my computers together?

There are adaptors that allow you to use the coax cabling used for TV distribution to network computers. Care must be taken to:

- a. not interfere with Foxtel cable as this is part of their network
- b. that any adaptors used meet Australian Standards.

43. Will I need to replace my existing central filter?

The only time you need to even consider the issue of a filter is when you are on nbn's FTTN/FTTB access technology. You will only need to consider changing your central filter if you are migrating only your broadband and intend to keep the phone line until the cut off period which is at best 18 months.

EXISTING TECHNOLOGY



44. What is an ATA?

Analogue telephone adaptor.

45. I have an Optus eMTA box providing telephone and internet services, will I be able to migrate all the services to the nbn™?

Optus' eMTA is a device used to provide broadband and telephony services over Optus' Pay TV network. Both these services can easily be migrated to nbn's network. The migration will be arranged by the customer's chosen RSP.

46. What is eMTA?

A device to transmit telephone and broadband over Pay TV cable known as an embedded Multimedia Terminal Adaptor

47. What is a gateway?

A device that has two main functions:

1. Connection to the internet via one or many of the access technologies
2. Connection to customer equipment and cabling:
 - a. telephone via an ATA or similar port
 - b. network devices via Ethernet or WiFi

48. What is VoIP?

Voice over Internet Protocol – a protocol used to allow voice communications over the internet

49. How do you connect VoIP phones to the nbn™?

VoIP phones are just another network device, so they would connect via an Ethernet port or WiFi

50. Can I connect my existing cordless phone to my new nbn service?

Yes, you can connect it to the voice port on your RSP's gateway if one was provided or to the UNI-V port in the case of nbn's FTTP NTD. You can directly plug the cordless base station to the port or wire via your existing home cabling.

51. Can I connect my back to base alarm system through the nbn™ network?

Yes it can be done but you need to check with the RSP if it will support the alarm system and also with the back to base service provider that the system is compatible.

52. Can I connect my personal alarm system through the nbn™ network?

Yes it can be done but you need to check with the RSP if it will support the personal alarm system and also with the personal alarm service provider that the system is compatible.



EXISTING TECHNOLOGY

53. I live in a building with a lift, what will happen to the lift phone?

You will need to contact the company that provides your lift maintenance as the phone in the lift will need to be upgraded.

54. We have a fire panel in our building, will this be impacted by the nbn™?

Yes, You will need to contact the company that provides your fire panel maintenance/monitoring as the phone line to it will need to be upgraded.

55. Will I be able to continue to use my fax machine?

You will need to check with the your telephone service provider if they will support fax transmission.

56. Where do I connect my existing telephone handset too on an FTTP service?

If your service provider is using the UNI-V port on the nbn™ supplied NTD then you can plug your existing phone handset to the UNI-V port. If your service provider supplied you with a Gateway then you need to plug your phone to the designated "Phone port" on the gateway.

57. I have only one computer that was connected to the ADSL modem Yellow ports, where does the computer connect to on nbn's NTD device?

If your service provider is using the UNI-D port to provide your broadband service then you need to plug your computer to the UNI-D port that your service provider tells you it is active.

58. I have a computer networking switch, will I be able to still use it?

Yes, the switch can be plugged into the ethernet port UNI-D on nbn's NTD or the gateway.



GENERAL

59. What is an RSP?

RSP stands for Retail Service Provider, these are the companies that will supply the internet and telephone services to the customers in residential and commercial premises. RSPs are Telstra, Optus, iiNet, TPG, Adam Internet and many more.

60. What is the role of the RSP?

The RSP provided telephone and/or internet services to end users using the nbn™ network. You can in simple terms think of nbn as providing the suburban roads and the RSPs as the cars, trucks and buses to provide the services.

61. What equipment is provided by the RSP?

Typically the RSP will provide what is known as a Gateway, an interface device between nbn's network and the customers equipment and cabling.

62. Will I be able to keep my existing phone number?

If you are in an area where nbn™ will use FTTP, FTTN, FTTB, FTTC or HFC to connect to your premises then you can choose to migrate your phone number onto these technologies. This will be arranged by your RSP.

63. Do I have to migrate my services?

If you are in an area where nbn™ will use FTTP, FTTN, FTTB, FTTC or HFC to connect to your premises then you will have to migrate your services within 18 months from a date when nbn™ declares the area is ready for service. Nbn™ will notify all residents and business by post when this declaration is made. There are exceptions to this and that is if you have a special service, see special services: www.nbnco.com.au/connect-home-or-business/information-for-home/will-it-work-over-the-nbn/what-services-will-be-switched-off.html

64. What services are not been migrated?

The link will take you to services that will not be migrated: www.nbnco.com.au/connect-home-or-business/information-for-home/will-it-work-over-the-nbn/what-services-will-be-switched-off.html

65. Whom do I contact to migrate to the nbn™?

You need to contact your preferred RSP. Note the consumers know these companies as Internet and Telephone Service Providers.

66. Can I buy my services directly from nbn™?

No, nbn™ is a wholesale only network provider and does not provide any retail services.



GENERAL

67. What will it cost me to have the nbn installed?

A standard installation is currently free of charge. You will need to talk to your preferred internet or telephone service provider.

68. How do we know when the nbn is coming?

You can check nbn's roll out plan on their website and also check if your address is in an nbn™ area. See www.nbnco.com.au.

69. Where should the nbn™ equipment be installed?

Ideally the nbn™ equipment should be installed in a location with easy access for maintenance purposes, near a power point and ability to run cable to and from the location.

70. Can I choose to upgrade my nbn™ access technology?

Yes, nbn™ provides what they call a "Technology Choice Program", you can find out more by going to nbn™ website.

71. I am subdividing my block of land and building a new house, who can install the telecommunications services?

For new developments, the permanent cabling required to complete the connection to the nbn™ network will need to be organised by the property owner and their registered cabler. Speak to a registered cabler or your preferred phone or internet service provider about the specific requirements for your home. See <http://www.nbnco.com.au/develop-or-plan-with-the-nbn/new-developments/design-build-install/cabling.html>

72. I am looking at buying a new home and some of the developers are claiming to be "nbn™ ready", what does this mean?

It means your property developer has applied to have your premises connected to the nbn™ network. This means all you have to do to have a service activated is call your preferred telephone or internet service provider and sign up for the service.

73. Connecting services to a granny flat

If the granny flat shares the same address as the main home then nbn™ will not supply a separate service to the granny flat. You will need to contact your telephone or internet service provider or a registered cabler to extend the service from the main residence to the granny flat.

74. I hear bits and bytes being thrown around, is there a difference?

Yes, there are 8 bits in a byte. Access speeds are states in bits per seconds, so 10Mbps is in fact 10,000,000 bits in 1 second. So if you are trying to transfer a file that is 700MBytes it is in fact made up of 5,600Mbits. Bytes are denoted by upper case "B" and bits by lower case "b".

SERVICE PERFORMANCE



75. Can you tell me why my internet speed is slow?

There are a range of things that can impact on internet speed, these are:

1. home network, e.g. wired, wireless
2. access technology
3. RSP's network
4. Servers being accessed

76. How can I test my internet speed?

You can check the speed of each link used to connect to the Internet:

1. the home network speed:
 - a. wired link speed - from the connected device
 - b. wireless link speed - from the connected device
2. nbn's access technology - accessing the gateway
3. RSP by running speed test via the internet.

77. Will my broadband service work during a blackout?

With the exception of FTTP the short answer is no. For more details on what impact a blackout will have go to www.nbnco.com.au/connect-home-or-business/information-for-home/what-happens-in-a-power-blackout.html

78. I sit on the strata management committee and we have been approached to have equipment installed in our building to give us very high broadband, is this possible?

Yes, it is. The key is making sure any agreement you sign up for does not restrict you from accessing all the major Internet and telephone service providers and it will not interfere with any existing system installed outside the building.

79. What factors can affect my internet experience?

There are a range of factors that can impact your internet experience, these can be divided into two broad categories:

1. The set up at your home or business - network equipment, cabling, WiFi interface, the number of devices online at the same time.
2. Your phone and internet service provider - network congestion, the plan from your provider the quality of the equipment provided by service provider.



SERVICE PERFORMANCE

80. Which is the best technology to use when connecting my devices in my home or business?

Like all decisions there are two competing forces, one is speed and reliability and the other mobility so you need to aim for both. Use wired connections for anything that does not need to move such as set top boxes, appliances, Smart TV and wireless for mobile devices. In fact you should also make sure you have a wiring to the optimum location of your wireless access points. Sometimes, you need to use what ever is available see www.copper.com.au/copper/wcms/en/home/projects/smartwiring/6912_07-SW-Whitepaper-proof-.pdf

81. What type of cabling should I use in my home or office to get the best speed?

The best cabling to use is Cat 6 or Category 6 cabling.

82. Should I use fibre in my house so I can get the best performance from my internet service?

Whilst fibre is the best for speed, in a home it is not practical and Category 6 twisted pair copper cable will give you gigabit to each device.

83. Do I get the speed I am paying for?

Not necessarily, what you are paying for is a combination of access speed, how big the pipe is into the premises and the throughput, how much can you get through at any give time. The size of the pipe is fixed but the throughput is dependant on the service providers network. Typically, the more you pay the better quality of service you will get.

84. How can I check the speed?

Currently there is a website "speedtest.net" where you can test our speed and store the results so you can compare the speed by date and time. It is a good way to bench mark the speed you get.

85. Will the speed vary markedly if I am connected using ethernet cabling to the gateway or using WiFi?

A wired connection will typically give you consistent performance between the device and the gateway or access equipment whilst using WiFi will vary because it is impacted by the location your are in, any interference and the number of users on the WiFi at any given time.



BUSINESS

86. I have an ISDN service do I need to replace it?

ISDN services will not be replaced by nbn but you may consider looking at options to upgrade to take advantage of the nbn network.

87. We own and operate a public phone, do we have to migrate that across?

Payphone as we know them and customer operated payphones will not be switched off as part of the nbn™ rollout.

88. We have a DDS services, do we have to migrate this to nbn™?

No, this service will not be switched off by the rollout of the nbn™ network.

89. We have a Telstra Ethernet service, what will happen to this service?

The service will not be impacted by the rollout of the nbn™ network. Although you may consider talking to your service provider about upgrading to the nbn™.

90. We use Telstra's Megalink service, do we need to migrate?

No, this service will not be switched off by the rollout of the nbn™ network.

91. We have a home business and use an EFTPOS terminal, what will happen to this services?

You will need to contact your EFTPOS service provider to see what if any is the impact of the rollout of the nbn™ network on the service.

92. We have two phone lines on our telephone system, what if anything do we need to do?

Any existing copper phone line provided by Telstra or a reseller of Telstra services will need to migrate to the nbn™ network. You will need to check with your service provider or equipment supplier to find out what are your options.

93. We have a health claim terminal, do we need to migrate this to the nbn™?

Call your terminal provider to find out if your device is compatible before moving to the nbn™ network.

94. I have an existing VoIP system, will I need to upgrade it when moving to the nbn™?

Most probably not but you will need to check with the service provider or equipment supplier.



HOME SERVICES

95. Will Telstra home or landline phones be switched off once the nbn arrives?

Yes, Telstra's copper phone lines as we know them will be switched off 18 months from the date when nbn declares the area "service ready" where the delivery technology is FTTP, FTTN, FTTB, FTTC, HFC.

96. I am not a Telstra customer so will my copper phone line be disconnected?

There are two main providers of copper telephone lines in Australia, Telstra and Optus. Any other provider will be reselling these phone lines and they will also be switched off after 18 months once nbn™ declares the area "Service ready" where the delivery technology is FTTP, FTTN, FTTB, FTTC and HFC.

97. Will I need to change my Foxtel Service when the nbn™ network is available in my area?

If you access Foxtel via satellite or cable the service will remain the same. If you access Foxtel through the internet you will need to get an internet service with the minimum level of performance as required by Foxtel.

98. Will Optus landline phones be switched off once the nbn arrives?

Yes, Optus phone lines as we know them will be switched off 18 months from the date when nbn declares the area "service ready" where the delivery technology is FTTP, FTTN, FTTB, FTTC, HFC.

99. Will my phone service provided over the nbn™ work during a black out?

Generally speaking, no unless you have the phone service connected to the UNI-V port of nbn's NTD and you've had the battery back up installed as well.

100. I already have a VoIP service, will I be able to continue to use this service?

There is no reason why not but you should ask your service provider?

101. We have a fetch TV box, will this work on the nbn™ network?

Yes, you will simply need to move it to the network equipment provided by your internet service provider.



ARC AUSTRALIAN
REGISTERED
CABLERS

**For more information visit
www.registeredcablars.com.au**

Whilst every effort has been made to ensure the question and answers are correct it is the responsibility of the reader to ensure the application of the information is validated