

Connectivity
Your questions
answered?

Introduction

The world of connectivity is often made more complex than it needs to be. 'Super-fast' services, fibre vs copper, internet vs private, contended vs uncontended and ADSL vs Ethernet in many cases adds to the baffling jargon. Unless you are a connectivity expert, you may be confused as to the options available to you and what is appropriate for your business or parts of your business.

We thought we would help you out and provide a simple guide to the connectivity options available and where they are appropriate. We have tried our best to keep our guide 'jargon free' however, it is not simple in this highly technical area.

We hope you find this guide useful and If you would like more information on any of the areas covered, please get in touch and we will be happy to answer your questions.



ADSL/FTTC

In simple terms ADSL (Asymmetric Digital Subscriber Line) is a technology used today to provide a data connection (either to the internet or into your corporate network) over a standard telephone line all the way back to your local exchange.

FTTC (Fibre To The Cabinet) provides ADSL services over a mixture of standard copper and fibre circuits. The street cabinet is linked to the local exchange by fibre and a standard copper pair is utilised to deliver the service into your home or office. FTTC is the latest evolution of ADSL and delivers greater download and upload speeds, as well as better line stability, versus copper only delivery. This is also known as 'Superfast Fibre' or 'Superfast Broadband'.

When is ADSL/FTTC appropriate?

This connectivity is ideal for home workers or for small offices/branches that do not have a high bandwidth requirement.

FTTC can offer download bandwidths of up to 80 Mbps which is more than sufficient for these environments, however, it is a contended service i.e. you share bandwidth with other users, so speeds will drop during periods of high traffic through the local exchange.

ADSL/FTTC is also a viable option to provide a backup circuit for those organisations using other technologies as their primary circuit.

The benefits of ADSL/FTTC from amatis

amatis can provide ADSL/FTTC for either internet facing connections or as part of a private network and we offer these as a managed service.

What differentiates our solution is that we interface directly into the BT network through a 'BT Central' point enabling us to deliver our own Superfast Fibre without transitioning other 3rd party networks. This enables us to control and optimise performance as well as deliver highly responsive customer service.

GEA

Generic Ethernet Access is the latest evolution of Ethernet connectivity technology. It combines true business-grade Ethernet connectivity with presentation at the customer site utilising FTTC and as such provides cost-effective symmetric (upload and download) bandwidth up to 20 Mbps.

It works in a similar way to ADSL/FTTC in that copper is utilised to connect you to the nearest on-street cabinet and then fibre is used to connect the cabinet to the local exchange. The difference with GEA is that it is an uncontended service and as such guaranteeing performance.

When is GEA appropriate?

GEA is ideal for home workers or small branches that operate on a WAN (Wide Area Network) as unlike ADSL it is able to support end-to-end QoS (Quality of Service).

For any organisation utilising VoIP or video, then GEA provides a better solution to ADSL which is unable to guarantee quality for voice and video. GEA also provides a cost-effective option for a backup to a higher-bandwidth primary circuit as it supports all of the same features.

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+ The benefit of GEA from amatis

amatis is able to provide GEA where BT has coverage to a local cabinet and backs the service up with an 8 hour service restoration SLA ensuring that any loss of service is quickly restored. We are also able to quickly deploy GEA services with lead-times of around 20 working days.



EFM

EFM (Ethernet First Mile) was introduced into the network in 2009 and has replaced SDSL as a connectivity service. It effectively enables the first-mile of connectivity from your location to utilise Ethernet providing you with an uncontended service. EFM also provides some degree of resilience as it utilises multiple pairs of copper to connect rather than a single pair (as with ADSL); if a pair fails, the circuit will still function albeit at lower performance.

When is EFM appropriate?

In terms of price/performance, EFM sits between ADSL and Ethernet and can deliver bandwidths of up to 35 Mbps. Not every exchange is configured for EFM although today it does cover most of the businesses in the UK. It should be noted that EFM is a distance-related service and as such the closer you are to the exchange, the better the speeds available will be. It is best positioned for small to mid-sized businesses that are looking for uncontended internet service or looking for reliable connectivity into cloud services.

The benefit of EFM from amatis

In a similar way to ADSL/FTTC, amatis can offer a EFM service connected directly to the BT network with built-in resilience and reliability and an 8 hour service restoration SLA. With direct access to amatis owned data centres in Reading and Newbury, this provides the capability of establishing a private cloud connection.

Fibre Ethernet Leased Lines

This is a carrier-class Ethernet service that is delivered over optical fibre providing a dedicated point-to-point or internet connection. As a dedicated service you are not sharing bandwidth with other network users and as such the bandwidth you select is the bandwidth that is guaranteed.

Ethernet over Fibre Leased lines gives you flexibility and scalability, circuits can be delivered as 100Mbps, 1Gbps and 10Gbps bearers and then you are able to purchase the required bandwidth in increments to meet your needs. What is more, you gain the benefit of being able to flex up bandwidth as required.

When are Fibre Ethernet Leased Lines appropriate?

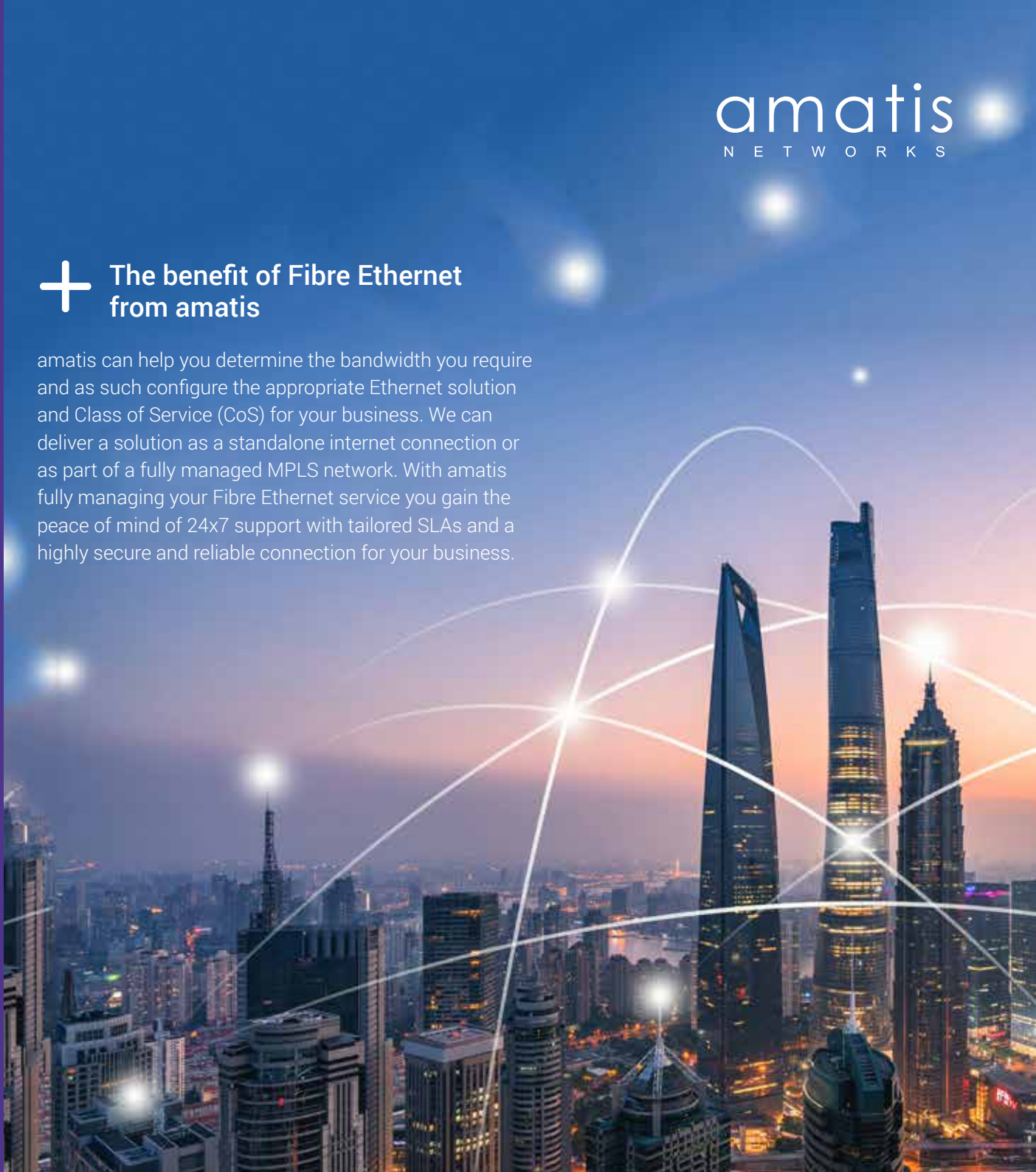
This is the right solution for mid-sized and large organisations looking for a high-bandwidth internet access or WAN connectivity.

It is also appropriate for any organisation deploying IP Telephony, requiring a transfer of large volumes of data between locations, or utilising cloud services or cloud backup services.

The benefit of Fibre Ethernet from amatis

amatis can help you determine the bandwidth you require and as such configure the appropriate Ethernet solution and Class of Service (CoS) for your business. We can deliver a solution as a standalone internet connection or as part of a fully managed MPLS network. With amatis fully managing your Fibre Ethernet service you gain the peace of mind of 24x7 support with tailored SLAs and a highly secure and reliable connection for your business.

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4G

An alternative to using a wired connection to a local exchange, organisations can utilise the cellular network for data connectivity and leverage 4G. This can be used as either a direct internet connection to the web or as a 4G connection into your MPLS network.

The solution can be deployed as a single SIM solution into a basic router that supports 4G or as a dual SIM and even dual mobile carrier solution through more advanced routers.

The bandwidth available is subject to network coverage but can be up to 70 Mbps download and 35 Mbps upload.

When is 4G appropriate?

4G provides a viable solution to anyone who is looking to provide connectivity to a temporary location and/or needs to establish connectivity quickly. With no physical installation of wires required, only the provisioning of a SIM, rapid deployment is achievable within 24 hours.

4G is also ideal for business continuity, providing a secondary or fail-over solution that is not dependent on a local cabinet or exchange. If your primary circuit fails then you are able to simply switch over to the 4G connection.

The benefits of 4G from amatis?

amatis is able to support all of the different options that 4G provides and can quickly provision your desired service. For organisations utilising our managed service for their primary connectivity, we are able to provide 4G as part of this service as a fully automatic fail-over.

We are also able to deliver 4G directly into MPLS as a true layer 3 connection, enabling you to support remote or temporary locations with a secure private circuit into your network as opposed to standard 4G web connectivity or VPN.



MPLS

Multi-Protocol Label Switching (MPLS) is a way for organisations to utilise the connectivity options outlined in this guide to create a highly secure, flexible and scalable next generation intelligent Wide Area Network (WAN).

Traditionally inter-office connectivity has been supported by VPN (Virtual Private Network) solutions that create a secure encrypted tunnel over the Internet to connect remote offices or home workers to applications and data. Although VPN solutions are effective they do have a number of weaknesses including variable performance, inherent security weakness and complexity in configuration.

MPLS offers a number of advantages over VPN connectivity; it delivers a secure private network, enables end-to-end intelligent Quality of Service between sites to support voice and video, and enables managed internet access with a single entry and exit point to the corporate network.

When should you look at an MPLS network?

For any organisation which has multiple locations or remote workers that require access to sensitive company data then an MPLS network can deliver that additional level of security. For organisations that are looking to make use of their inter-site data network for voice and video collaboration, then by putting in place a MPLS WAN that can support QoS in this manner is essential.

+ Why amatis for an MPLS network?

We are experts in connectivity and in particular delivering MPLS networks for our customers. We understand the technology and have our own corporate-grade MPLS service and as such do not rely on third-party service providers. This enables us to deliver service that is 100% tailored to your business needs wrapped with a managed service and SLAs to ensure business continuity.



Summary

We hope that you have found this simple guide both informative and useful. As technologies continue to evolve businesses have an increasing number of options and it often looks daunting in trying to identify which service is best for your needs. At amatis we have a comprehensive portfolio of connectivity services that we can offer; we do this so that we are able to put the customer's needs first and then align the best service to meet these needs.

We love to talk networking and connectivity so are more than happy to spend time with you to understand your business requirements, hear about your current challenges and explain to you what is possible and the pros and cons of each solution.

You can contact the amatis team on **0118 321 9944** or visit our website **www.amatisnetworks.com**

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