



Get to know our Wholesale Ethernet portfolio

btwholesale.com/ethernet

The current market is changing

Digital transformation is at the heart of driving end users' IT strategies as we move to an all-IP world. Cloud services, collaboration and a reliance on connectivity are now everyday parts of doing business. And with heavier use of the Internet of Things (IoT), artificial intelligence (AI), cloud applications and big data, this is only set to grow further. In order for this to happen, your customers will need more bandwidth and to manage what they have more efficiently.

Bandwidth is exploding

Businesses need more and more bandwidth, and as their demands grow, they're looking to new technologies like Fibre to the Premises (FTTP) and 5G. This is driving new, high bandwidth access and backhaul requirements, as well as an increased need for reliability, resilience and diversity.

All-IP is gathering pace

The traditional PSTN and ISDN networks are set to be switched off, which is leading to rapid growth in IP and cloud voice services. That change means customers throughout the UK need access solutions that are all-IP ready.

An Internet-first approach

Businesses are moving to internet-first access to support a growing uptake in cloud applications like Office 365, Oracle and AWS. That's driving the need for fast, reliable connectivity. Software-defined networking (SDWAN) is also expanding quickly, with business-class internet becoming more important than ever.

We're moving to an online world. The stats say it all.

25%

annual growth in managed SD-WAN
(IDC, 2022)

85%

UK FTTP coverage expected by 2025
(thinkbroadband, 2023)

57%

of UK workers can't work for more than an hour without collaboration tools
(TechRadar Pro, 2023)

72%

of SMEs can now access gigabit connectivity
(Ofcom, 2023)

£6.8bn

is the market value of industrial IoT
(Statista, 2023)

25-30%

annual growth in the UK cloud infrastructure market
(Ofcom, 2023)



Our Wholesale Ethernet portfolio

Our Wholesale Ethernet portfolio offers extensive coverage in the UK and the greatest choice of access solutions with flexible bandwidth options to suit your customers' needs. We offer unrivalled choice, flexibility and versatility, so you can pick and mix access technologies and bandwidths when building network solutions.

That gives you much greater selling power. It also means you can give your customers the flexibility to realise their digital transformation goals, helping you win in a competitive marketplace.

In this brochure

Our network

Learn about our 21C Ethernet network, its performance and coverage, and why it's good for your business.

Our solutions

Discover the solutions that form our Wholesale Ethernet product portfolio, offering both layer 2 and layer 3 connectivity.

Our access technologies

Find out about the tech that connects and provides service to make up our solutions and give access to our network. These include dedicated fibre, FTTP, Single order Generic Ethernet Access (SoGEA), radio and Data Centre Access.

Etherways and Etherflows explained

Our Ethernet portfolio is component-based, consisting of a physical access circuit (which we call 'Etherway Access') and virtual paths (which we call 'Etherflows'). Combined, these create connections between two Ethernet ports in a point-to-point, point-to-multipoint, meshed or any-to-any configuration.

This lets customers connect sites into the BT 21C network using Etherway Access and link those sites throughout the UK via virtual Etherflow connections. A range of layer 2 and layer 3 solutions are available, utilising our wide range access technologies.

The right choice for you and your customers

Work with one of the UK's largest, fastest and most reliable Ethernet networks

We aren't just reselling Openreach cabling access

Circuit cabling may be the same for different providers who use Openreach for delivery. But the platforms and networks that cabling connects to, and the service, support and performance offered will always vary.

Our Ethernet portfolio connects you to our 21C Ethernet platform – custom built for high-performance, high-availability business traffic.

Why should you work with us?

We're empowering the channel

We're investing in growing our portfolio to give you high bandwidth and value-add connectivity solutions so you can deliver the goods.

We deliver quickly

Our installation lead times are consistently fast. In fact, we delivered 95% of Ethernet orders over the last 12 months within 34 working days, with half being delivered in just 22 working days*. That means you can see revenue sooner and offer better service thanks to quicker installation times.

We're trusted

We already manage around 200,000 Ethernet circuits and handle over 27Tbps of peak core traffic on our network. We also support government and critical national infrastructure (CNI), so you can trust us to handle your traffic and connectivity.

Working with us is easy

Engaging with us is simple, thanks to our latest online pricing and ordering tools, and APIs. We offer APIs for quoting, order placement and order tracking, making it simpler to work with us and helping you streamline your business. Our online portal makes it easy to self-service orders, flex bandwidth, report faults and more, including diagnostic capabilities.

* Stats for 12 month period up to end of May 2024



Why choose our network and Ethernet solutions?

Unrivalled reach

We invest £3.7bn in our network each year, and we're expanding our coverage to make sure you're always getting the best pricing and availability. Our core network is the largest in the UK, with Ethernet stretching from the Isles of Scilly to the Shetlands.

[Track our current and planned future coverage >](#)

Excellent performance

We back up our promises. Here's how we performed over the last 12 months*:

99.9995%

network availability, beating our 99.999% target

96%

of reported faults were fixed well within our five-hour SLA

Certified secure

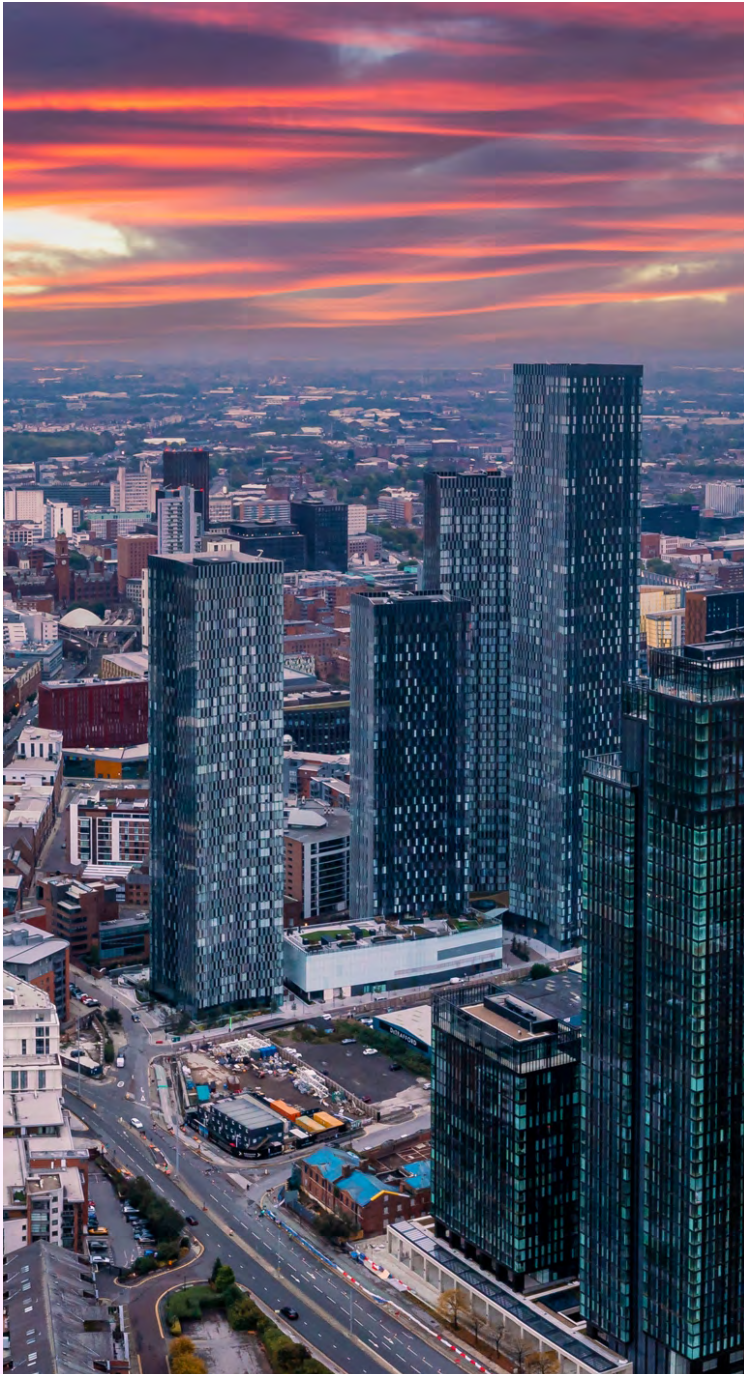
Our security is superb, with 40,000 devices monitoring the health of our network. And because we have ISO27001 certification, you know your data is in safe hands.

A wide range of access products

We offer dedicated fibre, FTTP, Generic Ethernet Access (GEA), radio, Data Centre Access, Exchange Connect and more – giving you great flexibility, and options for different requirements and locations.

A resilient backhaul network

We use double and triple resilience in our core, with intelligent routing that supports an always-on platform for critical business traffic.



Our solutions and access options

This brochure is split into three key sections:

The first details our various networking solutions so you can work out which is right for your needs, to create your network.

The second explains some of our key capabilities and explains why you should partner with us.

The final section offers greater detail about our wide range of access options, which make up those solutions.

Creating networks: our portfolio solutions

Layer 2 Ethernet solutions

Etherflow Connected (E-Line)	9
Etherflow Dynamic (E-LAN)	10

Layer 3 Ethernet solutions

Direct Internet Access (DIA)	12
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Key capabilities and why us?

High bandwidth solutions	14
Resilience and diversity	16
A simpler digital service experience	17
Managed Install	18
iNcare maintenance support	18

Our Ethernet Access options

Etherway Fibre (EAD)	20
Ethernet over FTTP (Fibre to the Premises)	21
Ethernet over SoGEA (Single order Generic Ethernet Access)	22
Data Centre Connect	23
Etherway Exchange Connect	24
Etherway Radio	25

Creating networks: our portfolio solutions

Connecting you to our network,
so you can build services for
your customers

Creating networks: our portfolio solutions

Layer 2 Ethernet solutions

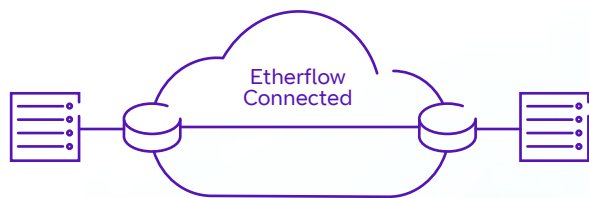
Etherflow Connected (E-Line)

Point-to-point layer 2 connectivity

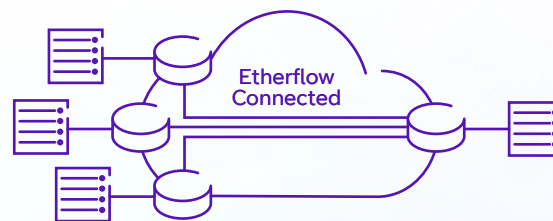
Etherflow Connected (also known as E-Line) provides a point-to-point connectivity option across our network, supporting simple routing or more complex hub-and-spoke or mesh networks. For larger and more complex networks, an alternative any-to-any option is available called 'Etherflow Dynamic (E-LAN)'.

For single point-to-point configurations, port-based connections can be created using the E-Line service. This is ideal for direct site connections into your network, for instance.

For more complex hub-and-spoke networks or where you wish to create a mesh configuration with multiple sites, VLAN and port mappings can be used to route the traffic to the appropriate place. There is no MAC-address learning or other intelligence that would help with traffic forwarding decisions, so VLAN segmentation would allow you to define routing for your E-Line network.



E-Line - Point-to-point



E-Line - Hub-and-spoke





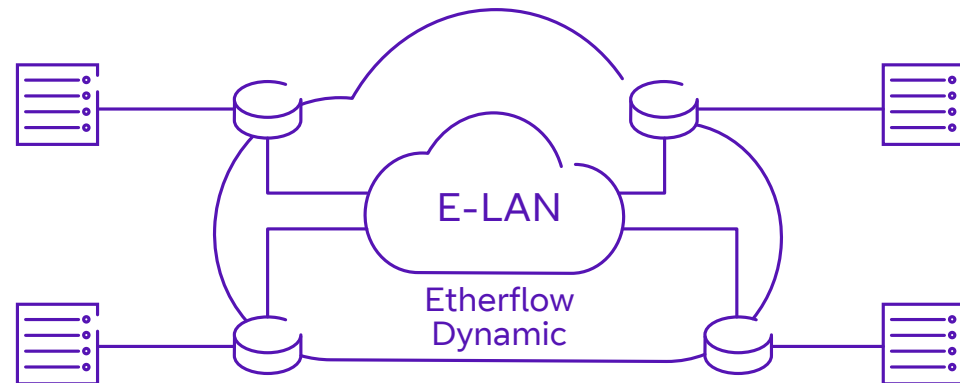
Layer 2 Ethernet solutions

Etherflow Dynamic (E-LAN)

Any-to-any layer 2 connectivity

Etherflow Dynamic (also known as E-LAN) provides a full any-to-any connectivity capability. This solution uses Virtual Private LAN Service (VPLS) technology, allowing our network node to act like a layer 2 multi-port switch, learning source MAC addresses and directing traffic to the appropriate destination.

Etherflow Dynamic (E-LAN) removes the need to fully mesh or create defined point-to-point routes between all the sites in a network like you would when using Etherflow Connected (E-Line). This makes it much simpler to interconnect a large number of sites, and offers improved scalability of customer routers, such as for multi-site IP WAN connectivity.



E-LAN - Any to Any (VPLS)

Creating networks: our portfolio solutions

Layer 3 Ethernet solutions

Direct Internet Access (DIA)

Leased line internet connectivity

Direct Internet Access (DIA) puts you in the driver's seat, so you can control the reach and flexibility you give to your customers, whether you have your own network or not.

With DIA, your customers will be connected directly to our internet platform using a variety of access options from our Wholesale Ethernet portfolio. That means a fast and reliable dedicated service with low latency for data, voice, video and cloud applications – taking you way beyond broadband.

Provide leased line internet access without needing to use or build your own network, freeing up capacity and offering simple end-to-end internet connectivity.

Delivered using Etherway fibre access up to 10Gbps, or using Ethernet over FTTP access, where available, for speeds up to 1Gbps. An 'Etherflow Internet' Ethernet Virtual Circuit (EVC) connects the service to our internet platform.

Our network features Direct Private Peering to all the leading cloud app service providers. That means cloud app traffic never needs to pass over the public internet, ensuring low latency and high performance.

Key capabilities and why us

High bandwidth solutions

Connectivity has never been more important. With the UK's phone network going digital and organisations increasingly moving business-critical services to the cloud, the need for fast, reliable connectivity is growing rapidly. Customers are demanding more bandwidth, and service providers are seeing the demand on their core networks. That's where we can help.

We're continually expanding our high bandwidth footprint for services above 1Gbps across the UK, to help you to help you successfully embrace the opportunity, delivering the solutions and services your customers need, as cost effectively as possible.

Reasons to partner with us for high bandwidth Ethernet solutions:

1. Capacity, coverage and choice.

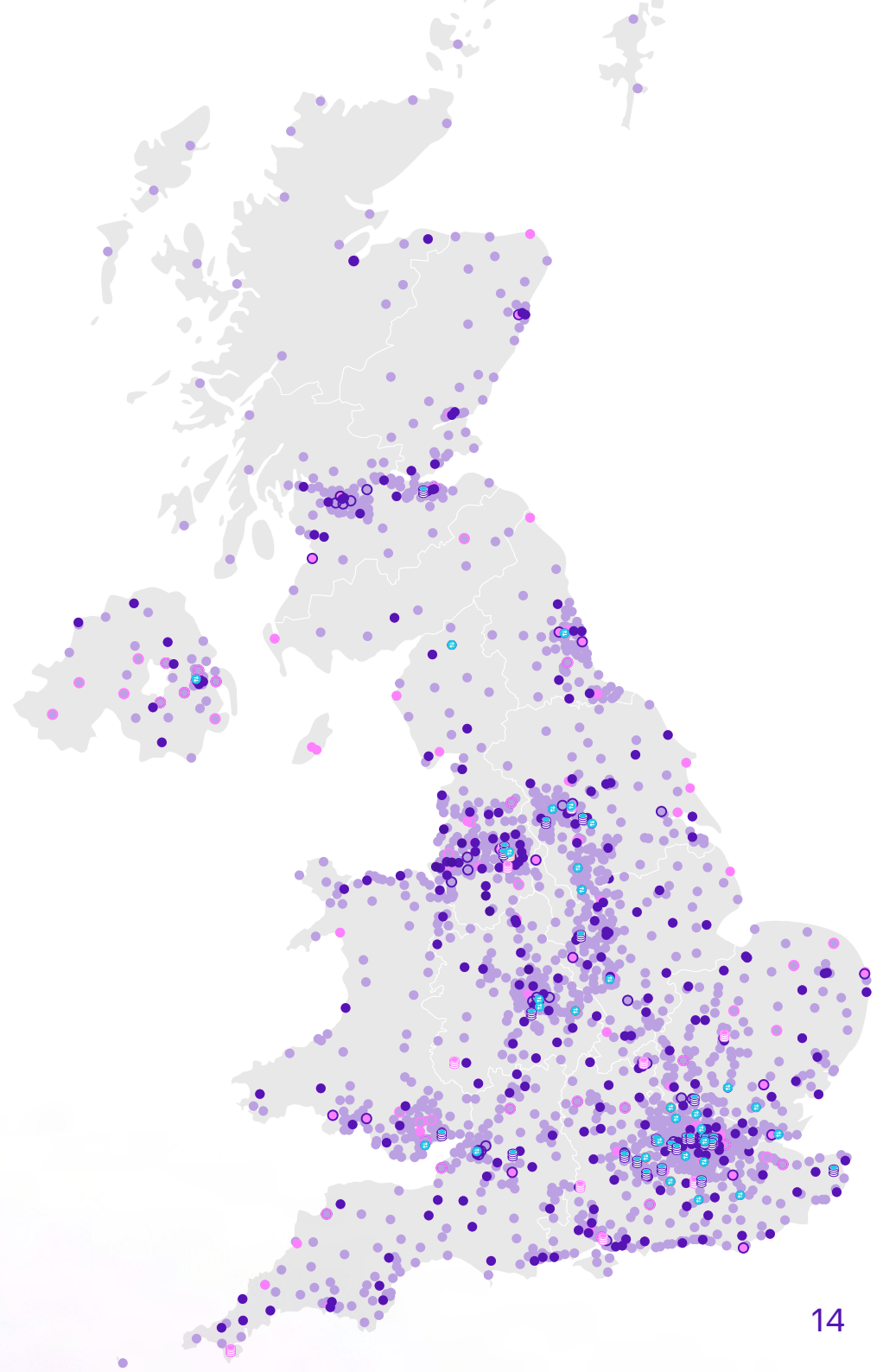
We've invested millions in a choice of high bandwidth offerings that support varying customer requirements. We can offer a variety of access options right up to 100Gbps. These include:

Etherway Fibre (EAD) up to 10Gbps

Etherway Fibre (OSA) up to 10Gbps

Data Centre Connect up to 100Gbps

Etherway Exchange Connect up to 100Gbps



High bandwidth solutions

2. Faster delivery.

Our 'pre-build programme' means we've invested and built our high bandwidth footprint across the UK, ahead of taking orders and pre-empting customer demand. This helps set us apart when it comes to faster delivery of high bandwidth connectivity. So you can deliver high bandwidth services to your customers faster, improve customer satisfaction and reduce time to revenue.

3. Flexible bandwidth.

Our flexible bandwidth capability lets you respond to the challenges of delivering high bandwidths. It means your customers can turn their bandwidth up or down, as and when they require within the capacity of their circuit. Meaning you can provide highly competitive and cost-effective solutions, billed on a pay-as-you-go basis, leading to greater flexibility, lower and tighter cost control.

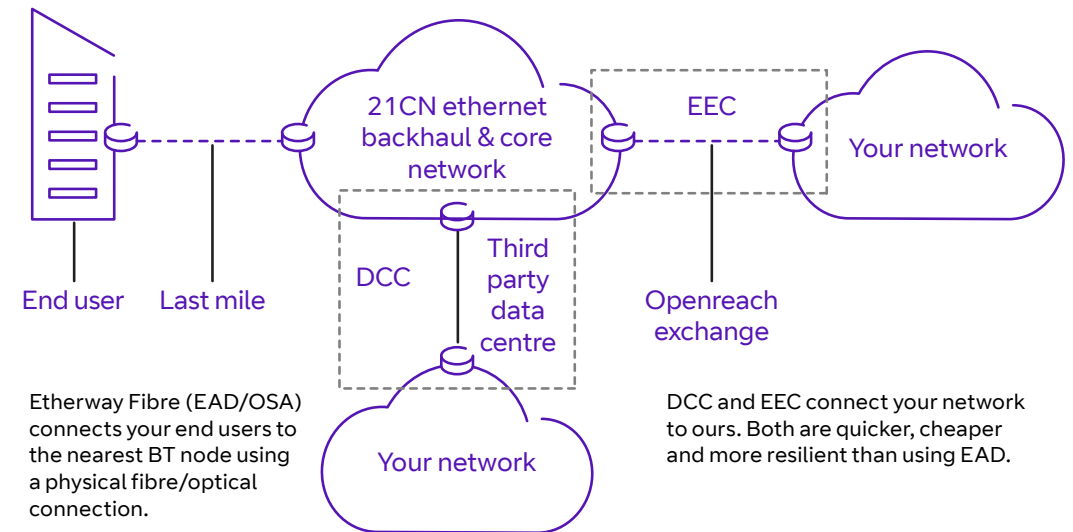
4. 100Gbps NNIs (network to network interfaces).

We're continually expanding our 100Gbps footprint to datacentres and exchanges cross the UK. This capability provides connectivity to customers who have a presence in the same datacentre or exchange building as one of our Ethernet nodes. That means customers can aggregate Ethernet traffic onto a single 100Gbps port rather than multiple 10Gbps ports.

Our 10Gbps capacity is pre-built to over 330 access nodes in the UK, and growing.

Our 100Gbps access is available from a growing number of third-party datacentres and BT exchanges.

You can track our current and planned future coverage using our [Interactive coverage maps >](#)



Example of our high bandwidth Ethernet in use

Resilience and diversity

Data is essential to business. Nobody wants to lose service due to an unforeseen incident. That's why our UK-wide reach means we can offer a number of options to add diversity and resilience into your network. This can create truly resilient routing and services, including a range of fully resilient end-to-end "R02" diversity options.

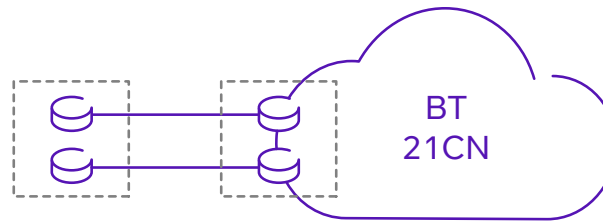
Hybrid and dual diverse connections

It's possible to create hybrid connections with different solutions running over a single Etherway access – for example a layer 2 point-to-point E-Line service and a layer 3 DIA service over the same physical circuit. It's also possible to create dual-diverse configurations using the diversity and resilience options explained here but split between different solutions.

A range of diverse local and network routing options

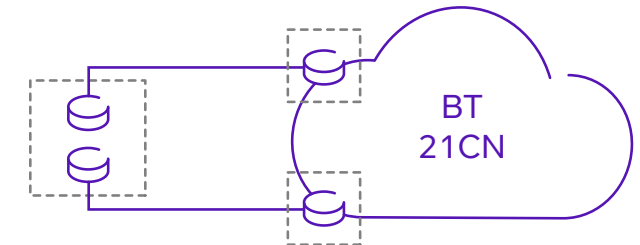
To meet your needs for different sites, we have several options available with different tiers of seperacy and diversity between two access circuits. In each instance, both circuits can be used at the same time.

Etherway Diverse



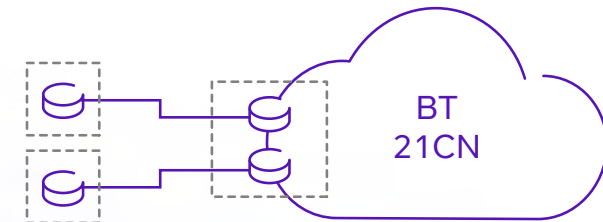
- Two discrete circuits but back to a single node in our network.
- Seperacy between the two accesses is provided between the customer site and node.

Etherway Diverse Plus



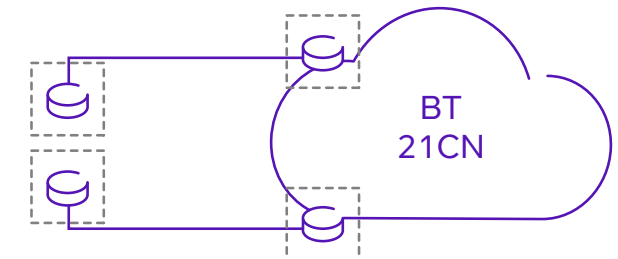
- Two discrete access circuits, which go to two separate nodes in our network.
- Seperacy between the two accesses is provided between the customer site and the two different nodes.
- Diverse Plus includes core network node seperacy and diversity as well.

Etherway Diverse – Split site



- Two discrete access circuits but back to a single node in our network. Diversity between the two accesses is provided between the two different customer sites but route back to the single node.

Etherway Diverse Plus – Split site



- Two discrete access circuits, which go to two separate nodes in our network.
- Diversity between the two accesses is provided between the two different customer sites and also to the two different nodes.
- Diverse Plus includes core network node seperacy and diversity as well.

A simpler digital service experience

**API
First**

**A broader pricing
capability**

**Digital
self serve**

We know time is money. That's why we're evolving our Ethernet portfolio to make it quicker and easier to partner with us for Ethernet. Here's how.

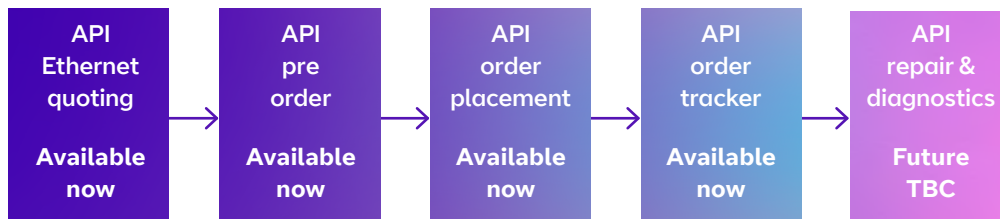
1. Ethernet APIs

Visit the Ethernet section of our [developer portal](#) to find out more about our Ethernet APIs.

**End to end APIs for every step of
the Wholesale Ethernet journey**



Making Wholesale Ethernet more efficient,
profitable/scalable with BT Wholesale
Improving the customer experience



2. Online pricing tool

Not only do we have APIs for quoting, but our digital quoting capabilities also include our online pricing tool. This can perform single and bulk quotes, as well as availability checking, indicative delivery lead time and excess construction charge information, as well as fibre route maps and more.

3. Ordering portal

As well as an API for ordering, our online Business Zone portal offer an easy, self-service digital experience that covers all major product capabilities and order journeys.

4. Bandwidth flexibility

Our “Bandwidth on Demand” capability in Business Zone means you can self-serve in near real-time to flex your customers bandwidth up or down in line with their changing needs.

5. Digital diagnosis

Report faults online for all products within our Ethernet portfolio. As well as a fault logging, there are self-serve diagnostic tools available to help you resolve issues quickly and efficiently for your customers.

Let us do the work for you

To make life easier for you and free up time and resources so you can focus on your business, we have a range of managed services. Proven, reliable and supporting you to use the latest technologies, our experts and services are here for you.

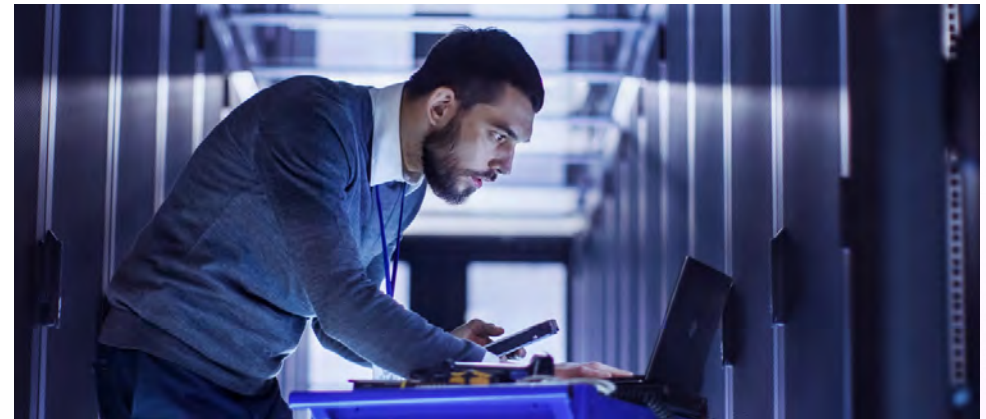


The easy way to install Ethernet circuits

If you don't have the time and people to install Ethernet circuits, then why not let us do it for you? Our Managed Install service is part of the Wholesale Ethernet order journey – get your access and install all at the same time.

- We set everything up so you can start billing sooner.
- Improve customer satisfaction due to increased productivity and efficiency.
- One dedicated team to manage your end-to-end order.

[Find out more about Managed Install >](#)



Protect yourself with BT iNcare maintenance

Now more than ever, your customers are coming to you for top-class connectivity solutions – and we can help you deliver that. But what about cover for equipment? In the event anything fails, you don't want your customer to suffer from any downtime. So why not offer full maintenance and more with BT iNcare?

- A complete package that meets the needs of you and your customer.
- From hardware replacements to 24/7 engineer access.
- Pick and mix SLAs so you can choose what best suits your service.

[See how you can benefit from BT iNcare >](#)

Our Ethernet access options

Our Ethernet access options

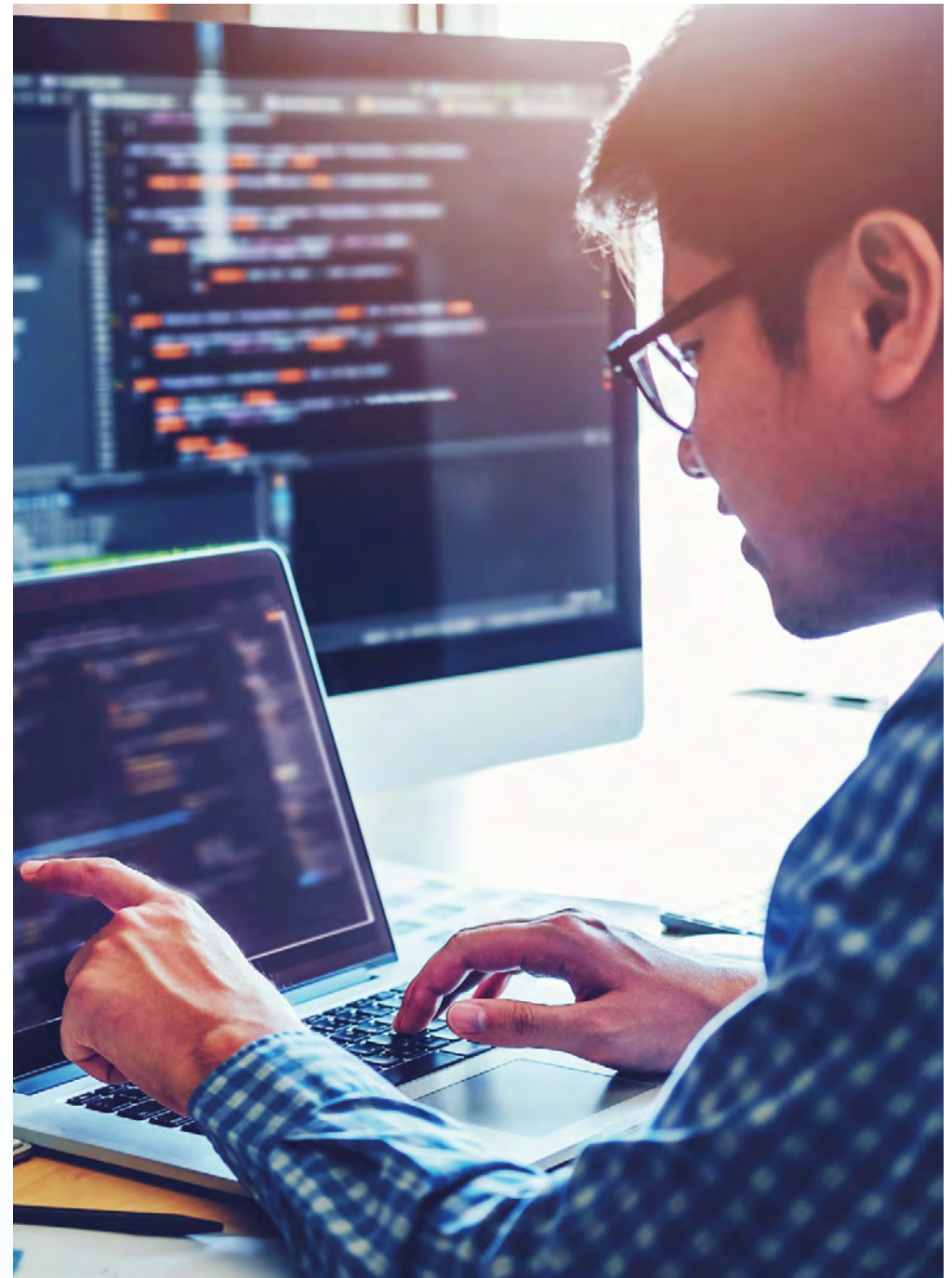
Etherway Fibre (EAD)

Etherway Fibre using EAD (Ethernet Access Direct) offers point-to-point data connectivity between sites. It can be used to build and extend customer networks, develop new infrastructure, and meet low- and high-capacity backhaul requirements.

It's available on our layer 2 and layer 3 Ethernet solutions with circuit sizes up to 10Gbps, and it's the most commonly used access option in our portfolio.

It's a single fibre connection that can provide secure links between a combination of customer sites, communication provider networks and sites, and BT exchanges. It's the ideal solution for connectivity to the nearest of our nodes.

EAD is IEEE (Ethernet specification) compliant.





Our Ethernet access options

Part of our Superfast GEA portfolio Ethernet over FTTP

Our Ethernet access portfolio is always evolving, and to ensure its reach is closer to you and your customers, we have Ethernet over FTTP access – a full fibre connection from the premises to the nearest node.

- Access speeds up to 1Gbps download, no matter how far your customers are from the exchange. That means low latency and no degradation over distance.
- Connection to the same Ethernet platform and network to offer high availability and performance, just like on Etherway fibre. Separate to our broadband platform.
- Quicker and simpler installation means customers can get up and running sooner – in some cases, within as little as five days.
- Wide range of asymmetric and symmetric bandwidth options to meet the varying demands of customers.
- A great way to future-proof your portfolio for an all-IP world.

[Learn more about Ethernet over FTTP >](#)

We already reach over 12.5m premises and plan to grow this to 25m by the end of 2026. This includes around 1.5m business and public sector locations

Our Ethernet access options

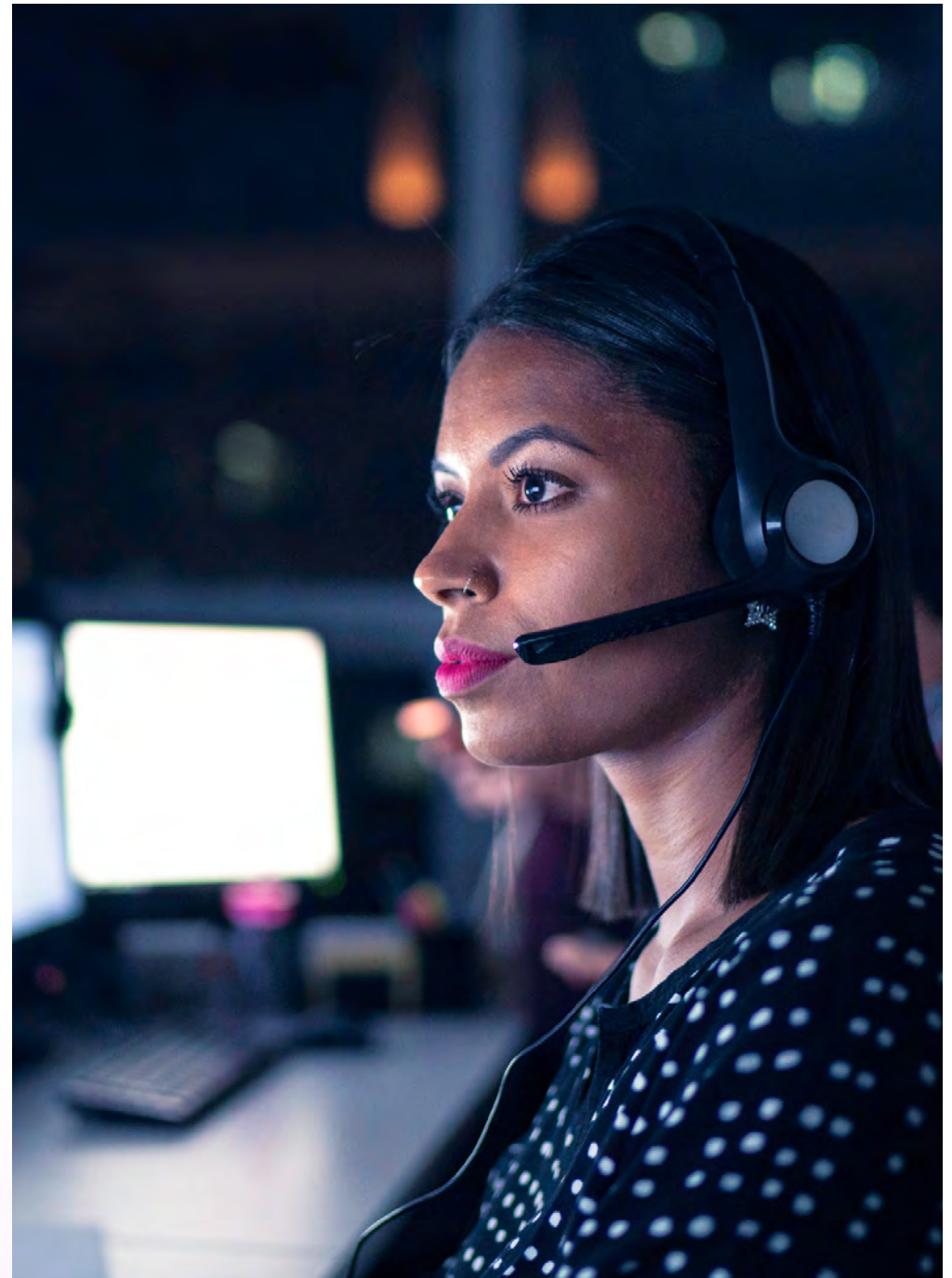
Part of our Superfast GEA portfolio Ethernet over SoGEA

The PSTN line is on the way out, but you can get ahead of the game with the replacement for Fibre to the Cabinet (FTTC) access, called SoGEA. This stands for 'Single order Generic Ethernet Access', and all it takes is a single order and you can get your customers up and running quicker, which means you can bill sooner too.

With such a quick setup, you can seamlessly move your customers over to next-generation solutions and make use of new technologies as everyone looks towards their digital transformation plans.

- More than 30% cheaper than our older GEA Ethernet over FTTC access as you don't need to pay for the PSTN line.
- Future-proof and all-IP ready, great for locations where Ethernet over FTTP is not yet available.
- Same great GEA service, but more flexibility and single order that saves time, money and effort.
- Connected to the same Ethernet platform and network to offer high availability and performance, just like on Etherway fibre. Separate to our broadband platform.

[Learn more about SoGEA >](#)



Network-to-network interfaces (NNIs)

Our Data Centre Connect and Etherway Exchange Connect products are typically used to create Ethernet NNIs.

These access options allow you to connect multiple circuits back to your network as cost effectively and efficiently as possible to aggregate and manage your entire estate all in one place.

Did you know?

We can now offer 100Gbps NNIs, meaning customers can aggregate Ethernet traffic onto a single 100Gbps port rather than multiple 10Gbps ports, thereby generating greater returns when providing high bandwidth solutions.

[Check out the maps >](#)

Data Centre Connect

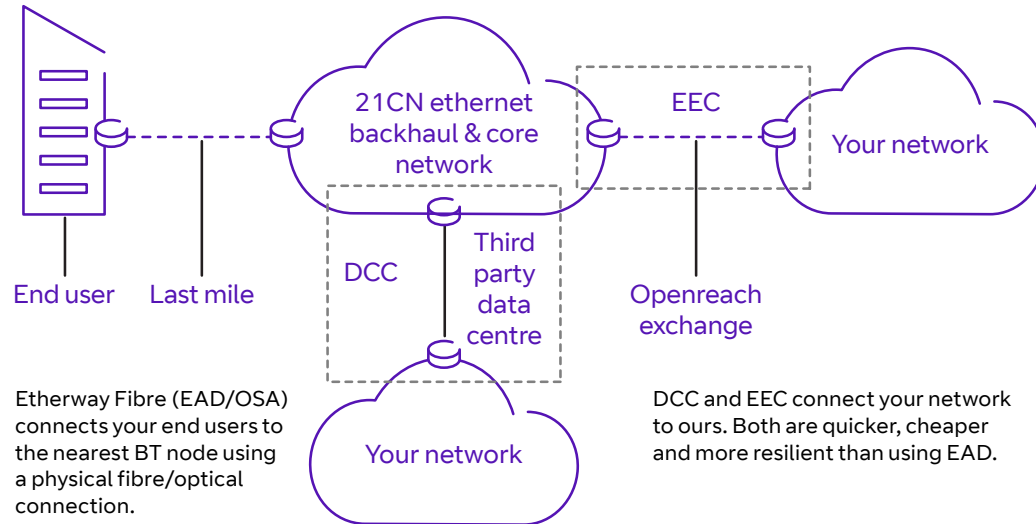
- Fibre connectivity within the datacentre.
- Connect your network to ours within a growing number of third-party UK datacentres. This is our recommended, most resilient method of connecting our network to yours.
- Provides a fibre hand-off via a patch panel from a BT switch located in a range of third-party UK datacentres.
- 1Gbps, 10Gbps and 100Gbps port options available.
- Delivery lead time of three working days (subject to availability).



Network-to-network interfaces (NNIs)

Etherway Exchange Connect

- Fibre connectivity within the exchange.
- Provides in-building connectivity to the customer's handover point. For customers who have a presence in the same exchange building as an enabled BT Ethernet node.
- A lower cost, shorter lead-time alternative to Etherway Fibre options.
- 1Gbps, 10Gbps & 100Gbps port access over single mode fibre.
- Delivery lead time of 30 to 33 working days depending on access speed (subject to availability).



Example of our high bandwidth Ethernet in use



Our other Ethernet access options

Etherway Radio

Wireless, microwave point-to-point technology that connects your customer's site and the nearest BT Ethernet node. It's a great alternative access option for our point-to-point Ethernet Connected (E-Line) service when fibre delivery is impractical, where excess construction charges (ECCs) are too high for fibre, or you want a wireless backup connection to a main circuit.

- Available with symmetrical speeds of 10Mbps or 100Mbps.
- Now available from all our Ethernet access nodes, from over 1,900 exchanges.
- Supporting distances of up to 25km including over-the-water delivery (line-of-sight required).



The next step? It's an easy one.

Already take Ethernet from us?

If you want to expand your portfolio or just know more, then speak with your account manager.

Want to take Ethernet from us?

Drop us a line and let's get you set up.

Call us on **0800 671 045**

Email **clientreception@bt.com**

Visit **btwholesale.com/ethernet**



Offices Worldwide

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