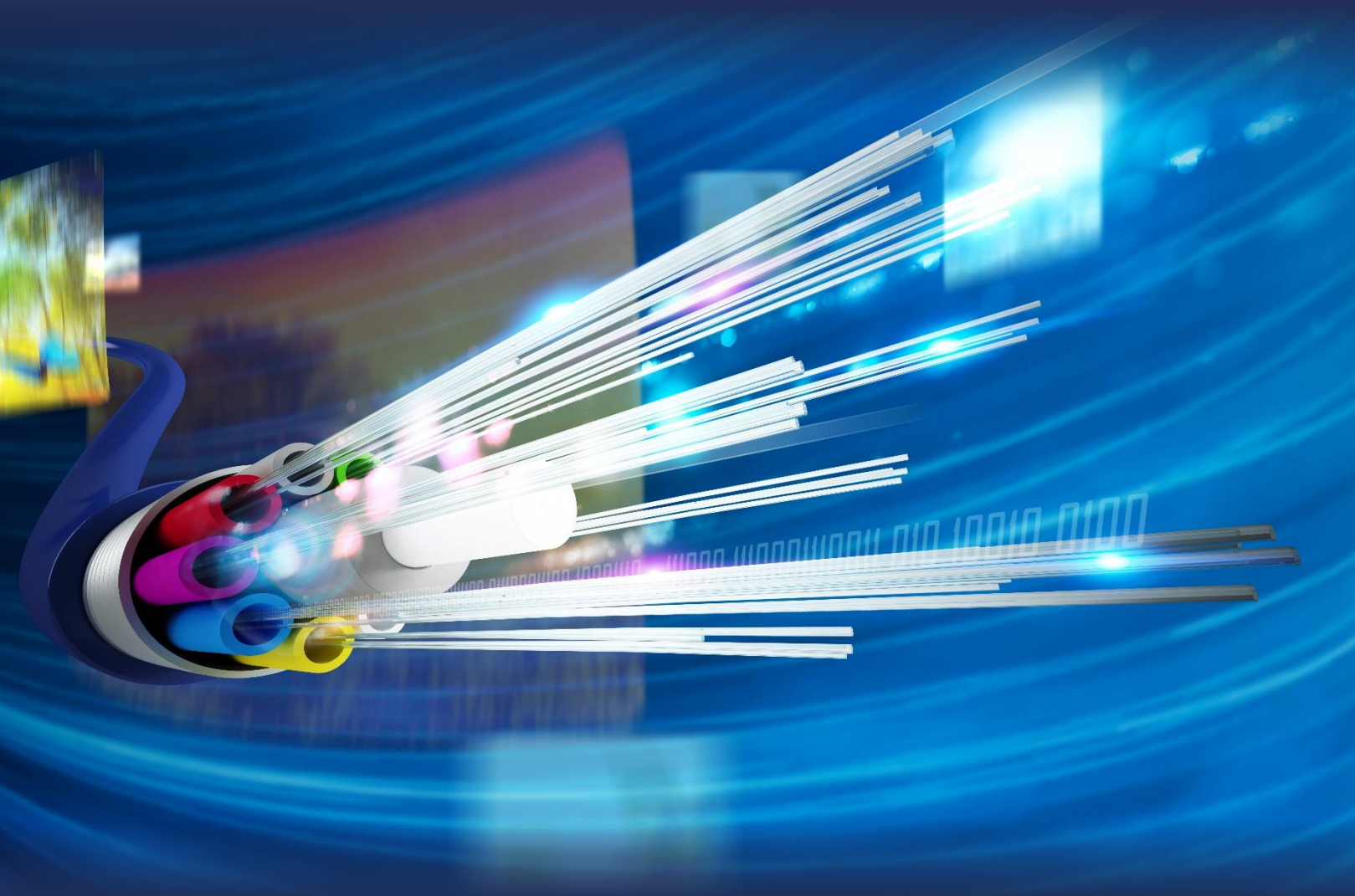




mother  
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CONNECTIVITY

VOICE & DATA CIRCUITS

# BETTER SERVICE

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**Mother Technologies is a certified telecommunications provider, a registered ISP and a provider of voice and data circuits across the UK. Our focus is on account management, attention to detail and a managed service wrap that takes the pain out of provisioning, migrating and managing the voice and data connections your business depends upon.**

## Account Management & Value

We've had many customers over the years who've moved over from the biggest and best known network providers to Mother. Why?

Not only does Mother provide extremely competitive pricing for its network solutions, we give you a level of service with the attention to detail that the network giants just aren't capable of delivering. We deliver dedicated account management, remote and onsite network support with guaranteed service levels to make sure your business gets the right solutions backed with comprehensive and friendly support.



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## Unified Communications

With its IT and telecom divisions, Mother has network, telecom and IT support engineers all working under the same roof. They collaborate on every VoIP solution to make sure everything is configured correctly for crystal clear reliable voice combined with fast transit to satisfy your data needs. Moreover, Mother becomes your one point of contact for all of your voice and data support needs which eliminates all of the difficulties associated with multiple providers.



# VOICE CIRCUITS

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Mother is a Communications Provider authorised and regulated by OfCom to deliver voice circuits and issue telephone numbers to businesses throughout the UK. We have an extensive portfolio of voice services that we'll tailor to satisfy your exact requirements. Don't worry about the complexities. We provide a completely managed personal service that none of the major carriers can offer and consultancy with Mother is free. We'll meet with you to gain a complete understanding of your requirements and then provide recommendations with a full plain-English breakdown of the What and Whys.



## **Analogue** Public Switched Telephone Network (PSTN) Line

The high demand for analogue lines continues today to satisfy all of our broadband requirements. Their use as traditional voice connections for business and residential customers is in decline.

Uses: Broadband, Superfast broadband & Alarm Lines



## **ISDN2e** Basic Rate ISDN (BRI)

Digital ISDN2e lines are used for connecting small to medium sized business telephone systems to the national telecommunications network. Each ISDN2e circuit provides two lines (or channels as they are more commonly referred).

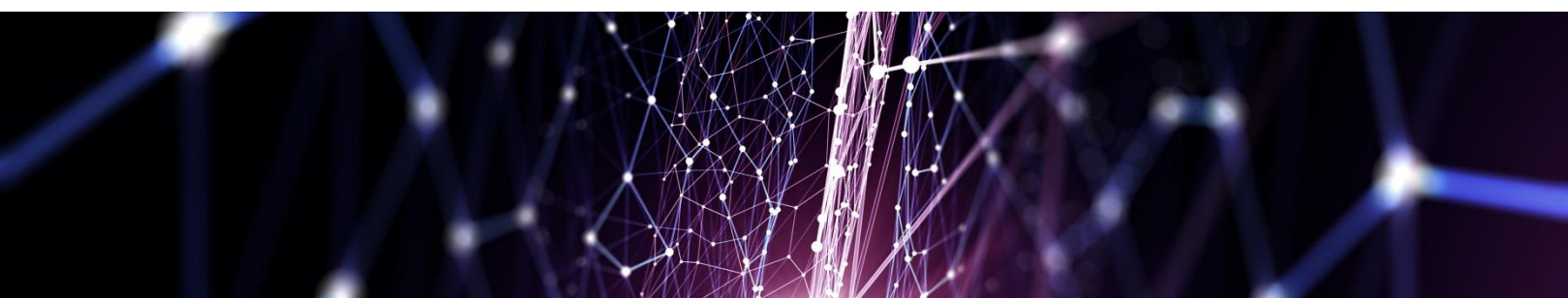
Uses: Business telephone lines & failover for modern day SIP Trunks



## **ISDN30e** Primary Rate ISDN (PRI)

An ISDN30 circuit is the big brother of ISDN2. Starting at 8 lines, ISDN30 can be extended to 30 lines per circuit.

Uses: Business telephone lines & failover for modern day SIP Trunks



# VOICE CIRCUITS

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**With the advances in SIP trunks and the flexibility that IP connections offer, ISDN lines are End of Life. Orders or amendments to existing ISDN services will not be accepted after 2020 and ISDN will be completely phased out by 2025.**



## SIP Trunking (VoIP)

SIP Trunks are the future of voice communications. SIP is a VoIP service offering more flexibility and features than any other legacy voice circuit.

SIP is location independent so numbers can easily be delivered to locations throughout the world irrespective of their geographical area code. SIP is generally less expensive than legacy ISDN and boasts the most competitive call tariffs on the market.

Uses: Modern Day Business Phone Systems (on-premise & hosted)



## Virtual Numbers

Virtual numbers are extremely powerful. They let you advertise a number which can be routed to single or multiple destinations of your choice. For example, you could rent a virtual number and 'point' it to multiple mobile numbers ringing each sequentially or in tandem when inbound calls are received. You can order virtual numbers with local or foreign area codes or as a non-geographic (e.g. 0845) number.

Uses: Automatic inbound failover & regional presence in foreign territories.





# DATA CIRCUITS

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**Mother Technologies has an extensive Layer-2 network that connects you to our datacentres and London Telehouse Exchange for Internet breakout. Our network is built on resilient backhaul connections provided by Scottish & Southern Energy (SSE), TalkTalk Business (TTB), Vodafone and Openreach for the local access connection onto our network.**



## Internet Circuits

Mother provides end-to-end fibre, fibre-to-the-cabinet (FTTC) and a complete portfolio of copper circuits ranging from broadband to EFM. Circuits can be purchased as wires-only or fully managed services where we provide and support all of the routing equipment. Our independence and channel partner agreements allow us to select the most suitable carrier for your local access connection which means you'll always get the best price available from Mother. Your local access connection is then fed into our network where you can access our hosted datacentre services or route to London where we peer with two Internet transit providers for fast resilient Internet access.



## Point 2 Point Circuits

Many businesses need to bridge their local area network between two buildings. Whether these buildings are line-of-sight or in different parts of the country, we can use local access connections to connect your business directly via the local Exchange or by routing the A-End and B-End connections over our network to form a fast point-to-point link.



## Multipoint (MPLS)

Our Layer-2 network is ideal for businesses wanting to connect multiple branch offices. We'll provide the most appropriate local access connection for each individual branch, route them all to our datacentre and then 'tie' them all together. Your organisation will then have a completely private wide area network with centralised break-out to the internet via single firewall hosted in our datacentre.



## Datacentre Access

All of Mother's Ethernet circuits route via our datacentre providing private access to the IT & telecom services we host and public access to the internet on the same circuit. This allows us to provide guarantees for the delivery of hosted services since access is not influenced by the Internet. Every circuit is built this way by design.



# DATA CIRCUITS

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**Don't lose control. Data circuits are valuable business tools that will become saturated with non-business activity if they are not managed correctly.**



## Managed Services

Circuits from Mother can be delivered as a wires-only service where you provide all of the terminating equipment or Mother can provide everything and manage the service on your behalf. We will provide and configure the equipment to satisfy your requirements. There is no capital cost to consider. The equipment, its configuration (at installation and during the period of service) are rolled into the monthly service charge for the duration of the agreement. Managed circuits are far more commonplace than wires-only arrangements.



## Policing

Today, data circuits play host to a huge convoy of traffic. Internet, email, off-site backups, cloud applications, internal site-to-site data (in MPLS scenarios), voice and video traffic all now feature. Without appropriate policing, your circuit will become congested and business critical applications will suffer. Voice traffic, for example, is very sensitive. It must have a clear uncongested path to ensure voice quality. Without policing, non-critical traffic can overwhelm your circuit and upset the flow of sensitive voice packets resulting in broken and poor quality voice.

Mother can apply Quality of Service policies to prioritise sensitive and business critical application traffic to ensure the required bandwidth is always available for your most important applications.



## Filtering

Content Filtering is another key ingredient for blocking unwanted traffic and tracking usage. Almost all of Mother's routing equipment is Cisco and we enable Cisco's FirePOWER for customers who want advanced protection, content filtering and user tracking. We can do this company-wide, departmentally or granularly down to individual users. You will receive monthly reports which will allow you to see who's doing what and when they're doing it. We then apply policies that deny access to non-business related activity keeping your teams productive and your circuit free from unwanted traffic.



## Monitoring

Mother add proactive monitoring to your circuit. Proactive monitoring will tell us if your circuit is down, not performing correctly or saturated with traffic. This saves you having to report a problem to us. Instead, we'll call you to let you know we've identified an issue.



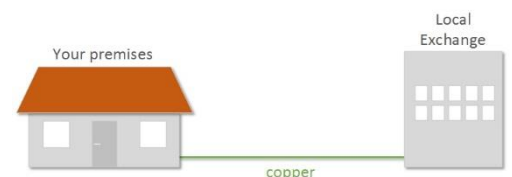
# DATA CIRCUITS

**Many Internet Service Providers mislead consumers with high bandwidth headlines and cheap monthly rental figures. They advertise what you want to see and hide what you don't. One of the most abused terminologies today is 'fibre'. We explain the fabric of circuits.**

## Copper

A copper pair is the legacy method of connecting your premises to the local Exchange and onto a carrier network. Broadband and Superfast broadband are typical examples.

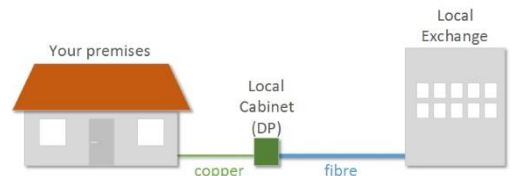
Copper is cheap but unlike fibre it is subject to noise and interference which degrades its performance over distance. That's why most people don't get the headline speeds advertised by their supplier. A supplier providing a 24Mb broadband circuit will be providing the headline 24Mb at the Exchange but it will degrade to something significantly less by the time it reaches your premises.



## Fibre To The Cabinet

The latest development in connecting homes and businesses to the carrier networks is a circuit comprising a combination of copper and fibre. It is known as Fibre-To-The-Cabinet (FTTC). Fibre is extended from your Exchange to local distribution points (DPs) and copper is then used to connect your premise to the nearest DP. This reduces the overall copper length which reduces losses to provide you with a better service.

FTTC is an excellent offering if you are close to your DP. Very high speeds are now available to homes and businesses throughout the UK. FTTC should not be confused with true end-to-end fibre. The fabric is only partial fibre. Examples include Mother's Extreme FTTC, Sky Fibre, BT Infinity & Virgin Media Superfibre.



## Fibre

The cost of true end-to-end fibre has reduced significantly in recent years and is invariably the most common fabric for business connections today. Its capacity is almost limitless and there is no performance degradation over distance. Fibre is as good as it gets!





# DATA CIRCUITS

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## Ethernet Options

The circuits below are Ethernet circuits provided by Mother. All Ethernet circuits have synchronous uncontended (1:1) speeds and business grade SLAs. By design, all of our Ethernet circuits route via our datacentres providing direct private access to our hosted services and public internet access through a single circuit. The speed of Ethernet circuits is guaranteed, making them ideal for combined voice and data applications.

### Fibre

Fibre presents the highest grade of business connectivity available. Circuit speeds range from 10Mbps to 10Gbps. Fibre circuits are the fastest most reliable circuits money can buy and high demand has seen rental figures drop significantly in recent years.

### EoFTTC

Using multi-fabric FTTC technology, EoFTTC (Ethernet over FTTC) delivers synchronous circuit speeds of up to 20Mbps.

Variants:

NetFTTC

EoFTTC Lite (speeds up to 3Mbps)

### Ethernet First Mile (EFM)

EFM is a high speed circuit solution that uses multiple copper pairs creating Ethernet circuits with speeds up to 20Mbps.

Variants:

EFM2: 2 pair circuit offering speeds up to 10Mbps

EFM4: 4 pair circuit offering speeds up to 20Mbps

EFM2 Lite: 2 pair circuit offering speeds up to 3Mbps

EFM4 Lite: 4 pair circuit offering speeds up to 3Mbps

## Broadband Options

The circuits below are broadband and superfast broadband services provided by Mother. The circuits are business grade but, like all broadband circuits, they are contended. A contended service means the bandwidth is shared with other subscribers. Guarantees cannot be provided and speeds will fluctuate. Download speeds are high but the upload speeds are much less.

### Extreme FTTC

Extreme FTTC is our Fibre-To-The-Cabinet service offering Internet download speeds of up to 80Mbps and upload speeds up to 20Mbps.

Variants:

Extreme FTTC 40/10 Unlimited

Extreme FTTC 80/20 Unlimited

### ADSL2+

ADSL2+ is a well-established broadband internet service offering download speeds of up to 24Mbps. It offers more bandwidth than standard ADSL over short distances. Due to limited upload speeds and high user contention, ADSL2+ is best suited to small satellite offices & home workers.

### ADSL

ADSL is the original broadband service offering download speeds of up to 8Mbps and upload speeds of up to 800Kbps. Standard ADSL is a low cost option that struggles to meet the high demands of even single individuals. However, many businesses have offices in remote locations where higher-grade alternatives are not available. In such cases standard ADSL is the only option. Standard ADSL will out perform ADSL2+ over long distances.





# COMBINED VOICE & DATA

**Cancel your legacy ISDN circuits. Invest in an Ethernet circuit that will carry all your voice, data and internet traffic and give you private access to the datacentre.**

## Ethernet Circuits

Capitalising on your Ethernet circuit investment becomes clear when you combine your IT and telephony requirements.

Irrespective of the fabric (i.e. copper or fibre), our Ethernet circuits provide an unrivalled connection to the internet.

Our circuits route through our datacentre providing exclusive access to hosted services without any congestion or influence from the internet. Datacentre access is entirely private which provides guarantees that are unobtainable with traditional internet circuits.

## Datacentre Services

Huge investment has gone into our hosted platform and our services satisfy the requirements of the most demanding organisations; feature rich with the scale, flexibility and a price point that is driving the market and changing the technology landscape.

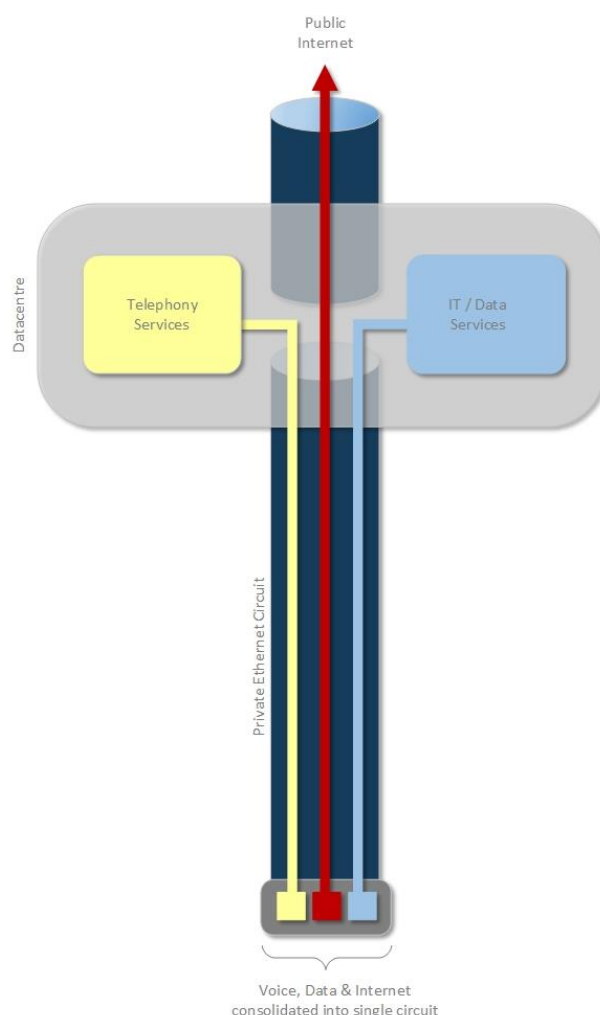
## Hosted IT Services

- ☐ Off-Site Backup
- ☐ Spin-up DR
- ☐ Virtual Servers
- ☐ Virtual Desktops
- ☐ Virtual Apps
- ☐ Anytime, Anywhere Access

## Hosted Telephony Services

- ☐ SIP Trunks
- ☐ Hosted Phone Systems
- ☐ Call Recording
- ☐ Call Monitoring
- ☐ Call Reporting
- ☐ Real-time Wallboards

- ☐ Inbound Services
- ☐ Virtual Numbers
- ☐ Follow Me Services
- ☐ Mobile Twinning
- ☐ Zero Rated Call Tariff (Free local, national and mobile calls)



# COMBINED VOICE & DATA

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**Mother is an expert VoIP provider. We install SIP trunks every day. SIP Trunks route your voice traffic over your data circuit allowing you to benefit from excellent call tariffs and eliminate the cost of legacy ISDN lines.**

## What is SIP Trunking?

Session Initiation Protocol (SIP) is a standardised protocol for transmitting both voice and multi-media data over IP networks rather than the Public Switched Telephone Network (PSTN). IP networks include the public internet, private Wide Area Networks (WAN) and Local Area Networks (LAN), which can be both cable and Wi-Fi based.

## What are the benefits?

SIP Trunking allows voice and data services to be combined into the same circuit. This provides cost savings in the shape of reduced line rental charges and call costs.

The number of voice channels you have on any SIP trunk is far more scalable than ISDN.

Because SIP trunks are IP-based, they can be delivered over an IP connection anywhere in the world without any proprietary equipment. This also gives businesses the ability to present geographical numbers in different territories to support the illusion of local presence.

Main numbers and individual DDI numbers are much cheaper because they are simpler and far less costly to deliver. Call charges are also significantly cheaper. Mother has a zero rated call tariff which offers businesses free calls to local, national & mobile numbers.

Any SIP Trunk provided by Mother Technologies includes fraud management to help you avoid the

charges that can arise from system hacking or misuse. It gives you the ability to set caps on your lines, so if cost thresholds are exceeded you receive warnings or blocks until the threat has been investigated and resolved.

## What are the technical requirements?

SIP Trunks can be connected to any telephone system. Most modern systems have a built-in capability for SIP. Older systems require a converter.

Depending on the number of voice channels and peak number of concurrent calls your organisation requires, a robust internet connection is the only prerequisite for SIP. For guaranteed voice quality, this circuit should be an Ethernet circuit with Quality of Service policies configured on your firewall to ensure voice traffic has priority over any other traffic.





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