

Carphone Warehouse

“AboveNet offer a robust and secure fibre infrastructure in London which ensures capacity is available as and when we require it. We are also confident that our network can be easily and cost-effectively upgraded to satisfy growing customer demand.”

BATS Europe

“Delivering a low-cost, low latency platform is at the heart of our offering and AboveNet’s private fibre optic service is helping make that happen by supplying resilient connectivity between our office and datacentre.”

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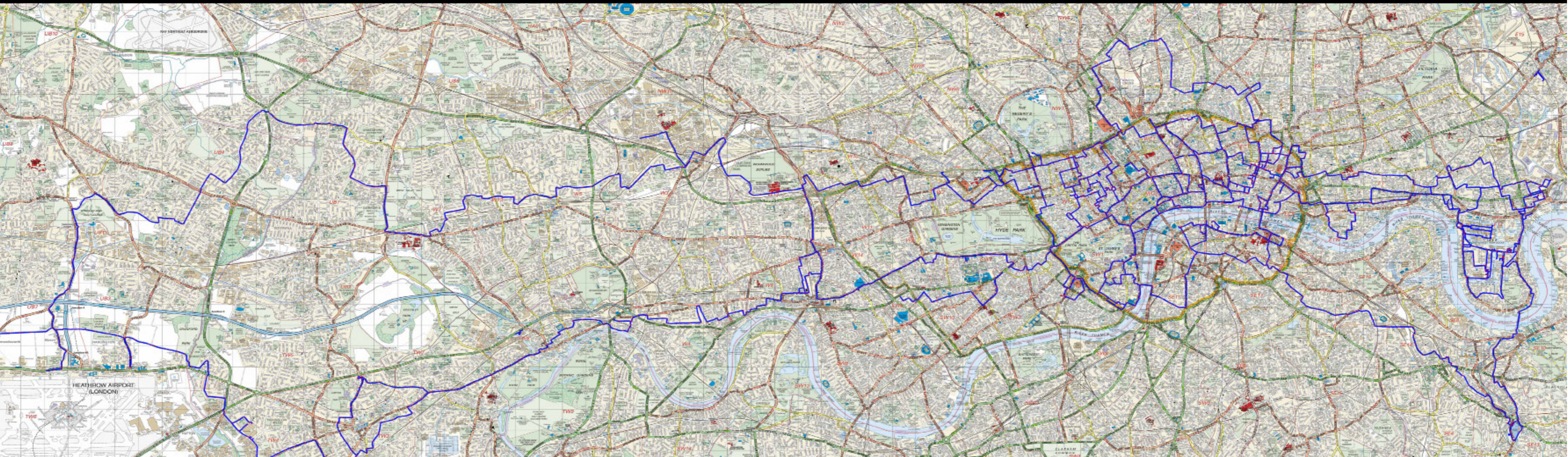
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AboveNet™

Dark Fibre

High Bandwidth Connectivity Solutions for Business and Carriers



AboveNet

Absolute Performance, Control and Security

AboveNet is the leading provider of high bandwidth connectivity solutions. As the last major metropolitan network deployed in London, AboveNet operates the most advanced and secure network today. Utilising the highest grade of fibre optic cabling and leading construction techniques, it provides connectivity solutions to meet both current and future networking needs. AboveNet continues to invest in the future of its network and remains at the forefront of networking development within the carrier and enterprise markets.

The AboveNet network currently boasts over 2.2 million miles of fibre optic infrastructure delivering key network and IP services in and among top US metro markets and globally. AboveNet's London metropolitan fibre network extends from the Docklands, through the City and West End, and out to Heathrow, linking all the major business districts.

AboveNet prides itself on owning the most secure, extensive and fibre-rich metropolitan network in London. Unlike legacy voice and data networks, the AboveNet network was designed from conception as a purpose built infrastructure with the ability to lease huge volumes of dedicated fibre to numerous customers. This is one of AboveNet's main differentiators.

Unlike other networks which are built in sewers and over railways, AboveNet's ducts are used solely for fibre services, with only AboveNet employees allowed access. This means AboveNet does not suffer the types of restricted access other operators encounter. AboveNet's 100 per cent owned and operated, purpose-built network enables customers to benefit from the most flexible and secure service available today.

AboveNet's security measures extend to its industry leading network construction specifications. The underlying duct infrastructure network was built to ensure damage, vandalism or fibre cuts are kept to an absolute minimum. AboveNet has been extremely successful in

providing the highest specifications when deploying their network and therefore has never suffered a fibre cut to the London backbone since its inception in 2001.

AboveNet's security measures are combined with an exhaustive network reach to offer customers a diverse range of possibilities when implementing a dedicated fibre solution. The AboveNet network extends into every major London data centre, diversely, with connectivity to all the major carrier, neutral co-location facilities and an extensive set of commercial buildings. Furthermore, AboveNet's willingness to invest in connecting new buildings means its network continues to grow at a rapid rate.

The AboveNet Difference

The AboveNet London Network offers unmatched resiliency and diversity

- Dense fibre deployment allows for diverse routing options across the AboveNet network
- Bespoke design enables solutions to be customised to customers' individual needs

AboveNet Deploys the Highest Quality Fibre

- AboveNet deployed Lucent Allwave G.652 enhanced single mode fibre when constructing the network and continues to use the most advanced fibre available
- AboveNet's fibre eliminates the water peak giving more than 50% more spectrum/wavelengths than conventional single mode fibre, ensuring AboveNet remains ahead of technological demands
- Capable of supporting the latest in WDM technology and multiple 40Gbps wavelengths, with the ability to support 100Gbps in the future

Purpose built fibre Network

- AboveNet purpose built the London fibre network to support increasing requests for high bandwidth, resilient and secure data transfer

Network Facts

- London fibre network – Completed in 2001 at a cost of £38 million
- AboveNet's London network covers over 250km of duct infrastructure and has the capacity to deliver 13,824 individual optical fibres within the London metro
- With an extensive fibre footprint AboveNet has the ability to carry more data than any other London network
- The London network continues to grow at a rapid rate with AboveNet regularly investing in extending the network to reach new buildings
- The AboveNet network was designed to deliver high quality, dark fibre and wavelength based solutions

Construction Techniques to Ensure Network Security

AboveNet recognises the challenges faced when constructing and extending the London network. Where the threat of terrorism, vandalism and accidental damage from utilities are a real possibility. AboveNet realised the vital requirement for increased security for its customers' connectivity solutions. With this in mind, AboveNet undertook strict provisions during the London network construction to ensure its future scalability, quality and security.

Complete Access Control to AboveNet Network Infrastructure

AboveNet owns and controls access to an impressive 1500 chambers across its network. This provides a unique advantage. Other network operators that don't own or control access to their ducts, tunnels and sewers are subject to access restrictions, resulting in costly delays in the event of a network fault. The time taken to gain the appropriate approvals for access is ultimately time that AboveNet understands its customers simply can't afford. That's why by owning and managing its entire network infrastructure and utilising in-house construction management and splicing teams, AboveNet is the most responsive and most reliable network operator in the London Metro.



Fig 1: AboveNet chambers secured with anti-terrorist lockable lids

Duct Depths

AboveNet has installed its fibre optic cable within its sub-ducts at the deepest point on the network to ensure the greatest security and protection. Duct trenches are constructed predominantly in the carriageway rather than the often congested pavements. Ducts are encased in concrete and there is a wide use of sub-ducts to further protect existing cables and better manage the potential capacity of the network.

AboveNet takes every precaution to ensure customers do not suffer an

outage and adhere to a strict criteria when installing ducts. This includes the use of standard duct depths to ensure our network is the furthest from ground level and less susceptible to accidental damage.

These are key factors for AboveNet not experiencing a single fibre cut to its backbone since completed back in 2001.

Dedicated Fibre

Fibre leased from AboveNet is for the customers' exclusive use. As the only user of the fibre, customers can rest assured that no other traffic is passed over the network and private data can't be accessed. AboveNet deployed the last metropolitan network in London and because of this has used the latest construction techniques enabling greater security across its network.

Chamber Design

Reinforcing its high security measures, AboveNet's chambers are constructed and secured by each having two lockable lids. The outer lids are anti-terrorist lockable manhole covers. Once the anti-terrorist lockable covers are removed AboveNet has secondary lockable security covers for all chambers, which ensure no optical fibre is left exposed.

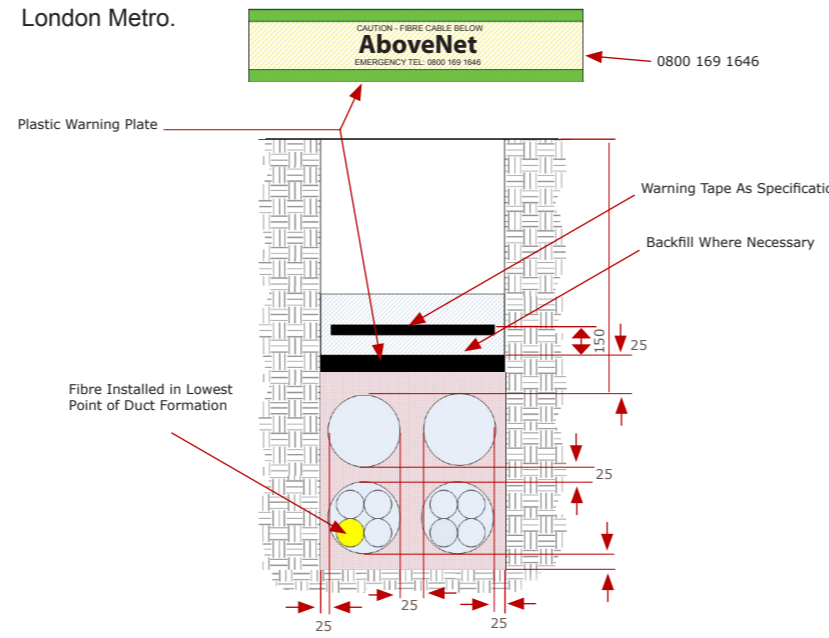


Fig 2: Typical Setting Out of Ducts

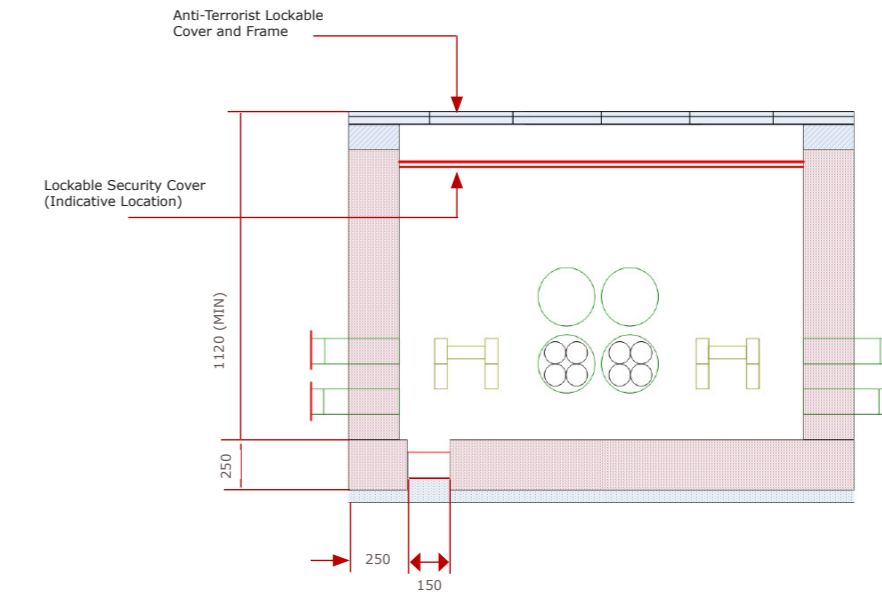


Fig 3: Typical Cross Section of Concrete Carriageway Chamber

Design of AboveNet Ducts

AboveNet provides warning tape and a hardened plastic warning plate (anti-pecker board), for added security, beneath the surface. AboveNet are always informed well in advance of any planned construction work via utilities before any construction is due to begin. In the unlikely event that the duct is interfered with, anti-pecker boards are used so that construction tools simply bounce off the material, providing additional security to the customer's network. The boards have clearly marked warning signs and give information on who should be contacted in the event of an emergency.

The AboveNet Service

Account Management

AboveNet is committed to providing the highest level of service at all times. This is achieved with AboveNet customers receiving a dedicated account manager to liaise with during the sales process. With AboveNet's network design function utilising GIS mapping tools populated with the most up-to-date network information, customers can receive quotes within extremely short time

scales. AboveNet's quotes ensure you receive all vital information instantly. This includes detailed mapping information showing route diversity, optical loss budgets, route distances and latency which in turn ensures customers are equipped with all the information needed to make an informed decision.

Project Management

AboveNet customers are in safe hands with the expertise and industry experience of its PRINCE2 qualified project management team. Each customer order is allocated to a named project manager who maintains the responsibility to deliver the service and liaise with the customer.

As AboveNet understands each customer has varying needs, AboveNet's project management team will work in much the same way as its solutions team; to devise a bespoke installation plan to fit with the customer's specific requirements. This means the reporting procedure, milestone reports and their frequency are all stipulated by the customer – ensuring that the information for the stages of most value to the customer, are available when required.

Customer Support

Once installed the customer has access to the AboveNet Network Management

Centre via phone or email with all calls being tracked by the central ticketing system.

The AboveNet NMC is a central point of contact for customer support coordinating with local teams of engineers and operates 24 hours a day, all year round. With AboveNet's own in house splicing and local engineering team on call 24x7, AboveNet customers realise prompt and efficient support in the unlikely event of a network problem.

Service Management

AboveNet goes one step further with its ability to offer its customers service management. This function allows for service review meetings at the customer's preferred frequency to ensure AboveNet is meeting with all requirements. These meetings facilitate communication between AboveNet and its customers for delivery, maintenance and support enhancing the whole customer experience

AboveNet's Service Portfolio

AboveNet leverages its fibre optic infrastructure and combines this with our Tier-1 IP Transit network to offer a range of managed solutions to both the enterprise and carrier market.

Ranging from Internet connectivity, LAN/SAN services, through to the latest scalable WDM based private network solutions, AboveNet's service portfolio fully supports all of today's demanding business requirements.