

Vorboss response to Ofcom's Telecoms Access Review

Summary

London's telecoms infrastructure is at a critical juncture. In the leased line market, the impact of deregulation on the Central London Area (CLA) is becoming clearer. Openreach can leverage deregulation and use its ongoing incumbency advantage to the detriment of competition, innovation and further investment in the market – restricting the ability of entrants to scale and grow market share.

Yet, leased lines in London and other metro centres – captured largely by Ofcom's Central London Area (CLA) and High Network Reach (HNR) Area – are part of the foundations which support the success of businesses in these areas. Those businesses – from SMEs to large enterprises – benefit from competition in leased lines. This competition should not just be price based, it must drive providers to differentiate based on factors such as higher bandwidth, quality and resilience. This in turn will enable these businesses to take advantage of new technologies – driving productivity and growth in the UK economy.

It is critical that Ofcom's approach does not harm the investment case for the build and expansion of leased lines, which support the UK's most ambitious and growing businesses. Our concern is that any further loosening of regulation risks having that precise impact. Before Ofcom considers its next steps for HNR Areas (and more widely), it must carefully review the case of the CLA and the impact of deregulation on competition. It is critical that regulation is not removed until competitors are sufficiently well established and able to constrain BT's pricing behaviour.

In London – specifically the CLA – Openreach has pricing freedom at the wholesale level, alongside charging regulated prices for physical infrastructure access (PIA). We remain concerned of the risk of conflict in this situation – which makes it critical that Ofcom is ready and willing to quickly act where needed. Enhanced regulatory oversight is crucial for the future development and success of the PIA remedy – ensuring that Openreach does not abuse its dominant position, to the detriment of competitors and customers.

London's businesses play a key role in driving UK growth and productivity. Fixed telecoms infrastructure, specifically leased lines, have a significant role in supporting their success – with the internet essential to almost all businesses, particularly as technology evolves, and any loss of service being hugely detrimental. To date, the regulatory certainty provided by Ofcom, alongside its focus on investment and competition has been successful but it must now recognise the importance of nurturing this competition and allowing it to become established. Removing regulation too soon alongside inadequate oversight of the incumbent risks undermining the growth and benefits of network competition – ultimately harming the growth of UK Plc.

About Vorboss

Vorboss is a London focused, vertically integrated, leased line only network operator – primarily serving businesses in Central London (TFL Zones 1 and 2). Most of our network footprint is within the Ofcom defined Central London Area (CLA) and High Network Reach (HNR) Area. We provide connectivity direct to business customers, as well as through wholesale channel partners and Managed Service Providers (MSPs).

This provides us with a unique perspective on the impact that deregulation has had in the CLA and the competitive dynamics across the London market. We are a provider that has successfully used PIA, employing our own engineers, to build a modern leased line network. Innovative in our approach, we provide 10Gbps direct internet access as a minimum as well as off-the-shelf 25Gbps and 100Gbps options to our customers.

Our expertise as a leased line network operator and ISP serving London-based businesses informs our response to Ofcom's proposals in the Telecoms Access Review (TAR).

London businesses of all sizes demand high bandwidth leased lines

Vorboss serves London based businesses of all sizes – contrary to Ofcom's suggestion that 'leased lines only' providers primarily serve large businesses.¹ We see many smaller businesses choosing leased lines, as they place increasing value on the benefits of direct internet access. This is particularly true for businesses within certain sectors, where number of employees is not the factor that determines their need for a leased line.

We agree with Ofcom's assessment of the key features of leased lines valued by businesses which include bandwidth, continuity of service and reliability, and security and resilience. London's SMEs recognise the value of leased lines as they rely on connectivity to operate, meaning outages are costly, and the security and reliability of the connection is critical.² Over the past ten years, the importance of connectivity to businesses has fundamentally changed – today, if the internet goes down, employees are unable to work and the business is unable to operate, but as little as ten years ago while connectivity was important, it was not business critical.³ This change has not been widely acknowledged, but Vorboss recognises the importance to businesses of resilient connections and fast

¹ TAR Consultation, Volume 2, para 2.87.

² Business broadband is unable to match leased lines on these important metrics.

³ Research commissioned by Vorboss in 2024 found that the UK economy lost £17.6bn in that year due to fixed business connectivity outages. Report available [here](#).

repair times and as a result offers its customers generous service level agreements (SLAs), including automatic compensation after four minutes of outage.

Ofcom recognises that there is likely to be a continuing trend towards higher speeds over the review period. We agree with this assessment and are surprised by Ofcom's expectation that most leased line circuits will still be at 1Gbps and below by the end of the review period.⁴ We would be interested to understand if this varies by region and what factors that may be driving ongoing take-up of lower-bandwidth services. In London, and likely other metro centres, our expectation is that many businesses will need to move to services providing bandwidth of 10Gbps, driven by increasing use of technology and data-hungry applications (including AI) – hence Vorboss does not connect customers at bandwidths below 10Gbps.⁵

In most cases, ethernet over symmetric PONs (XGS-PON) is not a substitute for point-to-point leased lines

Vorboss welcomes Ofcom's approach which proposes to maintain separate markets for Wholesale Local Access (WLA) and Leased Line Access (LLA). Ofcom rightly recognises the distinct nature of business connectivity and the material differences between these markets.

We disagree that ethernet over symmetric PON should be included in the LLA product market. Point-to-point leased lines and ethernet over symmetric PONs differ significantly and it is not an effective competitive constraint. As such, they should not be included in the LLA market.

From a build perspective, leased lines are significantly more expensive, requiring 50-100 times more fibre in the ground. As well as a different network topology, the investment case is fundamentally different to ethernet over symmetric PON solutions – evidenced by the fact that providers tend to opt for a PON or leased line strategy, not both.

Ofcom rightly acknowledges that ethernet over symmetric PONs 'do not replicate every feature of a point-to-point leased line' and it remains a minority technology.⁶ Given our experience of building and running a leased line network, we consider that the following factors are the key characteristics which are valued by businesses and differentiate direct internet access from ethernet over symmetric PONs:

- **Bandwidth:** leased lines can offer customers ten times higher bandwidth than an XGS-PON solution. Currently, ethernet over symmetric PON solutions are unable to offer higher bandwidth services (e.g. 100Gbps) – these are already available to businesses purchasing leased line

⁴ TAR Consultation, Volume 2, para 2.113.

⁵ There are also many London based businesses specialising in industries that require bandwidth exceeding 10Gbps to operate successfully e.g. post-production companies.

⁶ TAR Consultation, Volume 2, para 5.28

services. As noted earlier in our submission, we expect businesses will increasingly need these higher bandwidth services – and as such, current XGS-PON solutions are not a substitute for leased lines at all bandwidths. Ofcom fails to recognise the importance of higher bandwidth services to business customers as part of its assessment, nor does it present compelling evidence to suggest that providers have plans to upgrade their PON technology to offer higher symmetric bandwidths and uncontended capacity.

- **Contention:** leased lines are not shared at any point, as each customer has a dedicated connection. As Ofcom notes, the uncontended capacity which can be offered on symmetric PON is ‘limited by the type of PON technology installed and will be below the headline bandwidth of that PON technology’. It is not possible to deliver a 10Gbps uncontended connection over XGS-PON, which risks constraining demand for higher-bandwidth services. Services only offering uncontended capacity at 1Gbps should not be considered a substitute for leased lines, particularly given ambitions for business growth and productivity improvements.
- **Future upgrades:** the point-to-point nature of leased lines mean that providers are able to upgrade bandwidth on a per circuit basis. This means that individual customers can very quickly receive a new service over the same fibre. In PON based networks, the whole segment/area must be upgraded in order to deliver higher bandwidth services, thereby creating a co-dependency between customers within a given area.
- **Diversity for redundancy purposes:** it is common for customers to request route diversity, and we expect that this will be a minimum requirement within the next five years. However, this is effectively impossible to achieve over an ethernet over symmetric PON connection.
- **Custom route planning:** our customers often ask for the physical fibre routing to be modified, and we can provide this at no additional cost due to the design of a leased line network. XGS-PON network routes are pre-determined and are unable to offer this flexibility to customers.
- **Power resilience:** leased lines require powered equipment at the customer premise and the data centre – there is no need for street cabinets. The NTE at the customer premise has dual power supplies, a feature not present on PON equipment. This provides a level of power resilience for the customer, helping ensure service continuity in the event of a power outage, which is critical for businesses. Ethernet over symmetric PON also comes with additional resilience risks due to active equipment being present in street cabinets – in Central London, these cabinets are at risk of vandalism, road traffic damage, overheating in warm weather, etc. – for many customers, this risk to their service is simply unnecessary.
- **Service Level Agreements (SLAs):** We do not believe that PON based solutions such as XGS-PON are able to offer the same level of service agreement as a point-to-point leased line. This factor is not adequately considered in Ofcom’s assessment – it presents no evidence of the quality of service parameters which it considers are ‘comparable’ to leased lines.⁷ Yet, SLAs are

⁷ TAR Consultation, Volume 2, para 5.22

critical to business customers who rely on high-quality SLAs to ensure consistent, reliable connections and fast repair.

- **Service uptime and reliability:** businesses need reliable connectivity as outages come with significant business risk. Ultimately, ethernet over symmetric PON solutions are a shared connection and are unable to offer the same reliability as a leased line, despite some of the capacity being 'ring-fenced'.
- **Security:** leased lines offer far greater security than an ethernet over PON solution, as they are a dedicated line for the customer and by their nature are not shared. Ofcom does note that XGS-PON-type services may not offer the same degree of security but seems to suggest that this will only be important for some leased line customers.⁸ We disagree with this assessment as security is an increasingly important consideration for businesses.

While Ofcom recognises some of the key leased line service features that customers value, these cannot truly be offered on a comparable basis by solutions such as XGS-PON.

Ofcom's proposal to include ethernet over PON in the same product market as point-to-point leased lines risks undermining the benefits of leased lines as well as the business case for further investment in direct internet access. There is also the potential for this proposal to result in customer confusion, with providers using Ofcom's market definition to support the development of confusing marketing strategies aimed at increasing take-up of ethernet over symmetric PON solutions by businesses.

Before including ethernet over symmetric PONs in the same product market as point-to-point leased lines, Ofcom should consider whether these connections can truly replicate the product characteristics outlined above. We do not currently believe that ethernet over symmetric PONs can adequately deliver on these product features in a way that would make them a substitute for point-to-point leased lines. Ofcom should undertake more rigorous and detailed research and analysis, before concluding that the LLA market definition should be extended to include ethernet over symmetric PONs.

Deregulation is harming competition and innovation in the CLA

It is disappointing that following Ofcom's no SMP finding in the CLA, it has not undertaken a detailed analysis of how well the market is functioning post-deregulation as part of this review. A well-functioning, competitive market, should result in competition which is not solely based on price, but also non-price factors upon which competitors can differentiate themselves, such as network quality and performance, and service availability.

Since deregulation, Openreach's approach to competing with alternative leased line networks has been purely based on price. In our view, this is not the result of competition working well, rather the fact that the increase and scale of network competition changes the incentives on Openreach. As network competitors scale, Openreach will seek to protect its market share and weaken the investment case for

⁸ TAR Consultation, Volume 2, para 5.28

its competitors. This means that Openreach faces incentives to reduce its wholesale pricing to a point below which a reasonably efficient operator could compete and recover their cost of capital.

Openreach has reduced the connection charge on 1Gbps EADs, from £1,123 in April 2020 to £0 since 1 February 2025. Openreach has recently also begun discounting the connection charge on 10Gbps EADs – reducing it by almost 50% since 1 April 2024.⁹ However, 1Gbps EADs remain significantly cheaper. Customers who take advantage of these special offers then face early termination charges if they leave within three years.

This discounting directly impacts the ability of competitors to grow and scale in the CLA. The deep discounting also makes it challenging to compete on non-price factors, which is detrimental to innovation in the London market. While Openreach has decreased its EAD pricing over the last review period, there has been no new Openreach product in that time. Additionally, it has not sought to meaningfully improve its SLAs or quality of connections, instead choosing to only compete on price – discounting to win, and retain, customers. We also question the extent to which discounted 1Gbps EADs (and resulting price differential between 1Gbps and 10Gbps EADs) are impacting the appetite of businesses to adopt higher bandwidth leased lines – which will harm productivity and growth.

The impact of Openreach discounting in the CLA is particularly evident when we are selling to channel partners and MSPs. These are significant purchasers of leased line circuits in London and are extremely price sensitive, placing little value on non-price factors – as MSP buying decisions are essentially based on algorithmic, least cost routing, resulting in high price sensitivity. Without matching, or preferably undercutting, Openreach's prices in the CLA, we are unable to win these customers without significant discounting – despite our high bandwidth, high quality leased line network, as well as other unique selling points. Recently, we were challenged that our annual price per circuit was £30 more than Openreach, this would result in us being unable to win an order of around 30 sites. As such, we are left with little option but to match or undercut Openreach prices to win MSP customers – directly impacting on our ability to scale and deliver a return on investment.

Removing SMP in the CLA was decided based on the presence of competing networks. Despite Openreach retaining majority market share that had seen no substantial decline, Ofcom did not consider the strength of competing networks and their ability to constrain BT's behaviour. In our view, Ofcom deregulated before competition was sufficiently well established in the CLA. This has led to Openreach leveraging deregulation to behave in a way that undermines both competition and further innovation in the market, as it seeks to maintain market share – ultimately to the detriment of business customers. Ofcom's finding of no SMP in the CLA has benefitted BT – if BT chooses, it can price in a way which would otherwise be considered predatory with minimal risk, as competitors face an incredibly high bar to bring a successful competition challenge (as a result of deregulation).

⁹ Openreach price list available [here](#).

It is critical that this is not repeated as Ofcom looks to deregulate other geographic markets in the future.

Ofcom should take a cautious approach to the HNR Area

In the Wholesale Local Access (WLA) market, Ofcom looks at factors which determine the actual or potential competitive strength of different networks. It considers whether altnets have the required scale and market position (including take-up) to provide material constraint on BT's behaviour.¹⁰ Ofcom also notes that it would need to find that the 'observed level of competition is sufficiently well-established that it would be sustainable in the longer term and in the absence of any WLA regulation'.¹¹ It goes on to state that 'an altnet may still be vulnerable to potential strategic behaviour from BT to undermine competition in the absence of any WLA regulation'.¹² Ofcom recognises that absent regulation, increasing take-up is likely to be challenging due to BT's incumbency advantages.

It is unclear why Ofcom's approach in the WLA market differs significantly from that which it takes in the LLA market, where it remains focused on the presence of competing networks to assess competition.

Despite BT's incumbency advantages in the leased line market, as well as barriers to entry and expansion, Ofcom concludes that all leased line only providers are material and sustainable competitors to BT and can act as a meaningful alternative to the incumbent.

We disagree with Ofcom's assessment, which fails to set out any detailed analysis or evidence as to why this is the case. In our experience, the barriers to entry and expansion in the LLA market are significant and take time and investment to overcome. Ofcom's assessment that 'generally' LL-only providers can overcome 'at least some' of these barriers, does not consider the relative importance of these barriers, how long it may take to address them, or BT's incumbency advantage. Despite this, Ofcom recognises that BT has an advantage for retaining and winning LLA connections, a barrier that Ofcom expects to persist.¹³

Ofcom's approach to assessing competition in the LLA market is overly simplistic and should not be used to justify expansion of the HNR Area. Our experience in the CLA underlines the importance of an analysis which goes beyond presence of competing networks.

Ofcom should take a more cautious approach to its assessment of the HNR. A competition assessment which more closely mirrors the approach it is proposing to take in the WLA market would help to ensure that competitors are of a sufficient scale to be a material constraint on BT's behaviour – supporting

¹⁰ TAR Consultation, Volume 2, para 4.64

¹¹ TAR Consultation, Volume 2, para 4.96

¹² TAR Consultation, Volume 2, paragraph 4.98

¹³ TAR Consultation, Volume 2, para 5.191

effective and sustainable competition to emerge. Ofcom could consider factors such as scale, how long the operator has been providing service for (particularly given the importance of trust and brand awareness in the provision of leased lines meaning that newer operators are likely less of a competitive constraint on Openreach), and whether the provider has existing infrastructure to the customer (even with network presence, providers can incur increased costs when competing to connect a customer compared with Openreach).¹⁴

It is right that Ofcom continues to find that BT has SMP in the provision of LLA circuits in the HNR area. Before further deregulation of this market (and other markets), Ofcom should be clear on the principles it will follow to determine deregulation. As part of this, it must review what has happened post deregulation in the CLA, and whether the outcomes have been as Ofcom hoped. Ofcom should consider factors such as the extent to which competition has been maintained and matured, as well as whether there has been a notable decline in BT market share. This will be valuable evidence to inform Ofcom's future approach to regulation.

Ofcom should also carefully consider the barriers facing leased line operators and the extent to which they have been able to overcome them. It is critical that if Ofcom decides to deregulate the HNR Area that competitors can constrain the incumbent's behaviour and are not left exposed to the risk of BT seeking to undermine competition in the market.

Ofcom has failed to recognise the risk of geographic discounting in the HNR Area

Openreach already takes advantage of the opportunity to discount the connection charge in the HNR Area. Since April 2020, the install price for 1Gbps EADs has fallen by over a third. It also discounts the connection charge for 10Gbps EADs, in the same way as in the CLA.

In the TAR, Ofcom clearly sets out its concerns that Openreach could use geographic discounts to undermine leased line only operators' ability to strengthen their position as competitors to Openreach. Yet Ofcom only considers this to be a feasible risk in LLA Area 2, despite what has happened in the CLA.

The CLA demonstrates the risk of the incumbent using discounts and leveraging its dominance to limit the success of, and deter investment in, competitors. We are therefore disappointed that Ofcom's proposed geographic discrimination prohibition does not extend to HNR Areas. While we recognise that there is greater network competition in the HNR, it still needs to develop and become established. Geographic discounting risks undermining this – and will instead support Openreach in retaining a significant proportion of its market share over the review period. Ofcom should consider requiring Openreach to justify why any special offer will not result in anti-competitive effects.

¹⁴ We note that the presence of third parties supplying duct access for some buildings in London (eg. OFNL), creates a further challenge to growing market share.

The PIA remedy

Vorboss welcomes Ofcom's finding that BT continues to hold SMP (excl. Hull) in the physical infrastructure market. We support Ofcom's proposals which require Openreach to continue providing unrestricted PIA.

As Ofcom begins to look towards future deregulation, it must be acknowledged that BT's SMP in physical infrastructure will be enduring. Ofcom should begin to consider its view on its future approach to PIA and the wider role it plays in this market. Especially considering Ofcom's remarks that PIA remains its 'primary remedy for promoting network competition and investment in WLA and LLA networks'.¹⁵

Regulated PIA, alongside deregulated wholesale inputs is not the optimal arrangement for competitors to BT. As such, we urge Ofcom to consider the appropriateness of BT continuing to be responsible for regulated duct and pole access in a broader deregulatory environment.

If Ofcom were to begin this exercise from scratch, it would be unlikely to conclude that the current approach is the most favourable. Instead, we believe the best approach would be establishing a separate independent company to own and run the duct and pole business. In the long term, BT will use a similar amount of duct space to other CPs, and should not have ownership of the duct and pole network alongside its other downstream operations.

The PIA non-price remedies must support fair competition and innovation

Regulatory oversight

Vorboss agrees that the Openreach Monitoring Unit (OMU) plays a 'crucial role' in PIA compliance but is disappointed that the consultation sets out no plans for this role to be enhanced.¹⁶ More must be done to ensure that the OMU is as effective as possible, and that it truly supports the success of the PIA remedy.

It is critical that Ofcom and the OMU take more proactive role in monitoring and policing of the PIA remedy. Where it sees an issue or concern, it should be ready and willing to take rapid action. Enhanced regulatory oversight is important for future development, and success, of the remedy – helping to ensure that Openreach does not take advantage of its dominant position.

Issues such as bureaucracy and the protracted nature of Openreach's engagement with industry (e.g. in relation to the unauthorised use regime) is detrimental to the industry. Had Ofcom taken a more active and visible role in monitoring Openreach, the development of the PIA remedy would likely have

¹⁵ TAR Consultation, Volume 3, para 5.2

¹⁶ TAR Consultation, Volume 3, para 4.75

been timelier and more effective. We are concerned that currently, where issues arise, Ofcom is not fully aware of them or is not taking adequate steps to address the negative impacts on Openreach's competitors.

Ofcom and the OMU must look at Openreach's behaviour more holistically and judge it based on the impact it has on competitors. Relatedly, the OMU should be more alert to the competitive impact of small transgressions by Openreach which, when taken collectively and over an extended period, risk leaving competitors at a significant disadvantage to the incumbent. For example, Vorboss has experienced numerous small inconsistencies in Openreach's approach to the Equivalence of Inputs and No Undue Discrimination requirements, which when viewed together, have been detrimental to our ability to compete against the incumbent.

Ofcom must provide more timely, robust and consistent regulatory engagement to ensure faster, more effective use of PIA, ensuring that Openreach is playing its part in developing a competitive telecoms market. To achieve this, Ofcom could play a more visible role in industry meetings and discussion, as well as provide greater clarity about what and how it is monitoring Openreach's PIA performance.

Statement of Requirements (SOR) Process

We agree that there must be a process in place by which Openreach addresses requests for new forms of network access. However, the current SOR process is not fit for purpose and is not delivering the right outcomes for PIA customers.

Currently, the process is slow and inefficient – despite Ofcom requiring that Openreach must publish guidelines in relation to new forms of network access, 'which must provide for Openreach to respond to these requests in a reasonable amount of time, have clear and transparent criteria to assess requests and to set out clear reasons for rejecting requests'.¹⁷

In our own network build, there are several examples where had the SOR process been more efficient we would have submitted a number of requests. Yet, the time it takes to get from the beginning of the SOR process through to Openreach agreement and implementation or development meant that it was irreconcilable with our investment strategy – a large proportion of our network build was finished in less time than the average SOR takes to complete.

Ultimately the SOR process needs to be faster to be commercially relevant. Ofcom should review the speed of the SOR process, for example looking at every SOR that has been raised over the last review period and the time it has taken for it to be closed or delivered. A recent request from a CP did not follow the SOR process and in our view, this resulted in the CP achieving much faster resolution to their request for a new form of network access than had they submitted an SOR and followed the specified process – this clearly undermines the current approach. It also demonstrates the fact that Openreach, working alongside Ofcom and the OTA, can reach decisions and agreement substantially faster when required.

¹⁷ TAR Consultation, Volume 3, para 4.37

Our own experience with the process also suggests a lack of transparency in the way that Openreach assesses requests and its justification for rejecting requests.

Ofcom should have greater oversight and collect relevant data to hold Openreach to account, ensuring that requests for network access are being dealt with fairly and reasonably, and are supporting competition to develop.

Requirements for Equivalence of Inputs (EOI) and no undue discrimination (NUD)

Openreach is not fulfilling its NUD obligations in a way that is as close to equivalence as possible. It would benefit competition if Openreach were required to consume the same products as they provide to rivals. This would also address the lack of Openreach compliance with costly engineering requirements such as joint support kits. There are also other processes such as CANDIDs and whereabouts reporting where it is unclear how Openreach manages its own internal performance.

In the absence of EOI, it is critical that Ofcom takes a stronger stance in implementing the NUD obligation. This will help to ensure that there is a level playing field for competitors. Processes required by industry, but that Openreach manages internally for itself (e.g. whereabouts) should be properly monitored and interrogated by Ofcom to ensure compliance. Ofcom should work more closely with industry to understand where the key issues lie in relation to areas of non-equivalence and act to remedy these.

Wayleaves

We believe that insufficient information is currently provided by Openreach in relation to wayleave data. This means that we are unable to fully realise the benefits of the wider wayleave sharing rights. As a minimum there should be a searchable database which CPs can easily review and analyse. This would remove the manual, slow and inefficient process currently in place and prevent Openreach refusing requests to provide copies of wayleaves. Ofcom should clarify Openreach's regulatory obligation to provide more detailed information to providers about BT wayleaves. This could be made available as part of the PIA Database Access, already captured under the PIA legal instrument.