

Concerns Regarding the Proposed Redefinition of "Leased Line Equivalents"

5th August 2025

We wish to express serious concerns regarding Ofcom's proposed redefinition of "Leased Line Equivalents" (LLEs) to include ethernet over symmetric Passive Optical Networks (PONs), such as XGS-PON. While we appreciate Ofcom's broader objectives of ensuring fair competition and encouraging investment, we strongly believe that this reclassification is misguided, confusing, and ultimately detrimental to both end customers and the business connectivity market.

Fundamental Differences Between Technologies

The core issue lies in the fundamental and material differences between point-to-point leased lines and ethernet over symmetric PONs. These technologies are not substitutes from a technical, operational, or investment perspective. Including both in the same product market undermines these distinctions:

- **Network Topology and Investment:** Point-to-point leased lines are far more resource-intensive, requiring up to 100x more fibre per customer. The network architecture and build economics are entirely distinct from PON-based strategies, which share infrastructure across multiple users. Providers typically pursue one strategy or the other, not both.
- **Bandwidth Capabilities:** Leased lines can already support symmetrical services at 10Gbps, 100Gbps and beyond. In contrast, XGS-PON is fundamentally limited in both capacity and scalability. Current PON solutions do not support higher bandwidths, nor is there evidence of widespread provider plans to upgrade to future versions with such capabilities. This directly contradicts the increasing bandwidth demands of modern businesses.
- **Contention and Performance:** Unlike leased lines, PONs inherently introduce contention, which limits performance and reliability. Businesses requiring uncontended, high-performance connections cannot rely on PON-based

services, which often fail to deliver even the advertised headline bandwidths in practice.

- **Scalability and Upgrade Paths:** Leased lines offer granular, customer-specific upgrades with minimal disruption. In PONs, any significant bandwidth upgrade necessitates area-wide infrastructure changes, reducing flexibility and responsiveness.
- **Resilience and Redundancy:** Business customers increasingly demand route diversity and power resilience. These requirements are practically impossible to meet using ethernet over symmetric PONs due to fixed routing and cabinet-based active equipment susceptible to environmental and physical risks.
- **Customisation and Control:** Leased lines allow bespoke route planning and deployment, enabling customers to tailor connectivity for operational or compliance needs. PON networks cannot accommodate such flexibility.
- **Security Considerations:** Leased lines provide a physically and logically isolated connection, offering higher levels of security. Ethernet over PON, by its nature, is shared and thus inherently less secure.
- **Service Agreements and Reliability:** Leased line SLAs reflect the premium nature of the service: guaranteed uptime, rapid repair times, and consistent performance. These are critical to business operations and are not truly replicable by PON services, even if nominal service terms are offered.

Market Implications, Customer Confusion, and Investment Risk

Reclassifying PON-based services as LLEs risks undermining the integrity of the leased line market. Ofcom's proposal could:

- Dilute the meaning of what businesses understand to be a "leased line," opening the door to misleading marketing from providers that may imply parity where none exists.
- Disincentivise infrastructure investment in true leased line services by artificially inflating the perceived level of competition.
- Encourage short-term commercial behaviour at the expense of long-term infrastructure development, particularly in dense urban centres like Central London where power, space, and reliability are at a premium.

Most worryingly, this redefinition threatens the sustainability of long-term network investment across the UK. Point-to-point leased line networks are underpinned by

significant capital investment in high-count fibre infrastructure—often involving the deployment of 864-fibre or even higher capacity cables. These deployments are exponentially more expensive and complex than PON alternatives. Yet they represent the foundation upon which the UK's future digital economy can be built.

By suggesting that ethernet over PON has some form of "equivalence" with these high-quality, bespoke connections, Ofcom risks signalling to the market that the return on investment in genuine leased line infrastructure will be eroded or devalued. This perception could cause investors to redirect capital towards cheaper, lower-capability networks, deprioritising the very infrastructure that is required to support innovation, productivity, and resilience in the UK economy.

For UK plc to thrive, it is critical that Ofcom preserves the incentive for long-term infrastructure builders to deploy high-capacity, future-proof fibre networks. Any policy that undermines this will have damaging repercussions not just for the industry, but for the competitiveness of British businesses and the country's overall digital ambition.

Recommendation

We urge Ofcom to reconsider its approach and maintain a clear and distinct definition of leased line services that excludes ethernet over symmetric PONs. These technologies do not offer equivalent performance, resilience, or value to business customers, and should not be treated as functionally interchangeable.

A more rigorous, evidence-based review of product characteristics, performance parameters, customer expectations, and technology evolution is required before concluding that these services exist in the same economic market.

We would welcome the opportunity to contribute further data and technical insight to support a more robust evaluation.