

Enhanced Internet:
your gateway to seamless
international connectivity

Whitepaper

Index

1

Introduction

2

Enhanced Internet
Solution

3

Real-World
Success Case

4

Ready
for Sale

5

Why Telefónica
Global Solutions

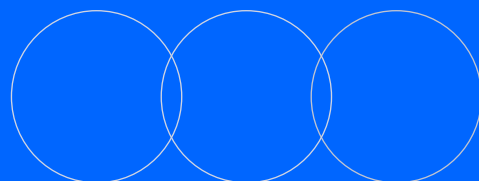


1 Introduction

In response to the increasing adoption of cloud technologies and the transformation of enterprise IT, large companies are facing new challenges related to connectivity, cost control, security, and application performance.

This whitepaper introduces **Enhanced Internet**, a network solution that offers the advantages of internet pricing combined with the guarantees of a private network for large enterprise clients.

Large enterprises are rapidly migrating their IT infrastructure to the cloud, with approximately **80%** of them adopting multi-cloud strategies. This transition involves shifting from traditional private network (MPLS) connectivity to the public internet for accessing cloud-based applications. However, this shift brings about several challenges, including cost control, security, network adaptability, and application performance.



Cost Control: As enterprises move to the cloud, they encounter changes in their cost structures. The cost stack is transformed, and managing expenses becomes critical. Cloud service providers often have complex and dynamic pricing models with multiple variables. Keeping track of costs, optimizing resource usage, and understanding billing statements can be daunting. While the cloud offers scalability benefits, enterprises need to carefully manage resource scaling to avoid unexpected costs. Over-provisioning or under-provisioning resources can lead to higher expenses. Transferring data in and out of the cloud, especially between regions or providers, can result in significant data transfer costs. Enterprises must optimize data transfer patterns to reduce expenses.

Security: Protecting business assets from cyberattacks is a paramount concern in the age of cloud-based operations. Migrating from MPLS (Multiprotocol Label Switching) to the internet for connectivity in large enterprises poses several security challenges. MPLS is a private network technology with inherent security features such as data encryption, traffic segmentation & visibility, and DDoS protection, whereas the internet is a public and inherently less secure medium.

Application Performance: Achieving predictability and guarantees in application performance is challenging on the best-effort public internet, which can lead to packet loss and higher latencies.

The internet is a shared and less predictable network compared to MPLS, which can result in increased latency and network congestion. This can negatively impact the performance of latency-sensitive applications, such as voice and video conferencing. Internet can experience packet loss due to network congestion, routing issues, or other factors. High packet loss can disrupt application performance, particularly for real-time applications.



In an era where cloud adoption is accelerating, *Enhanced Internet* represents a paradigm shift in enterprise networking, empowering large enterprises with the cost efficiencies of the internet and the reliability of private networks.

2 *Enhanced Internet Solution*

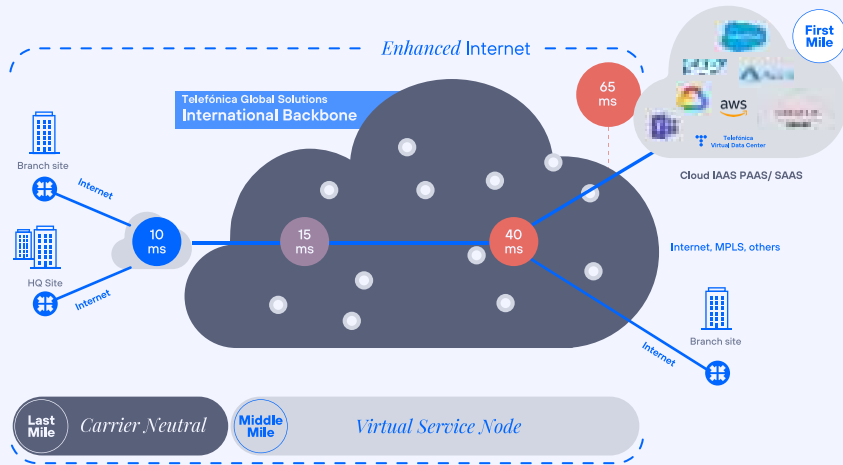
Enhanced Internet is a smart network solution designed to tackle common business challenges.

It combines the affordability of regular internet with the reliability and security of a private network.

This solution helps manage data traffic from offices that use regular internet or dedicated connections. We guide this data through our global network and connect it directly to major cloud services and other company locations. It also gives you special access to **Telefónica Global Solutions** services, making it a great choice.



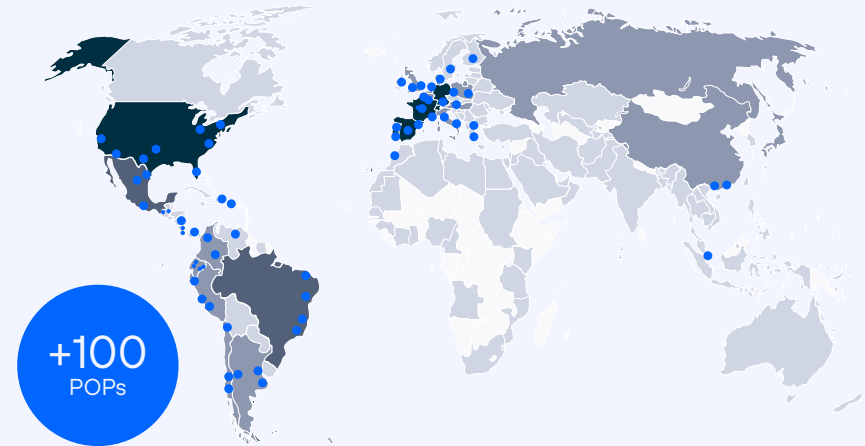
Enhanced Internet Solution



One big benefit is that it's more secure and dependable than using the public internet, which can be unpredictable. Our customers can create their private network sections.

This means you can control how data flows between your sites and use our dedicated network resources to fit your specific needs.

Whether you need to connect sites or reach cloud services, thanks to our extensive coverage of **+100 Point of Presences (POPs)** in all geographies, **+50 direct interconnections with the Clouds**, and our global network of **+250 partners** that also enables us to provide the last mile anywhere in the world.



In short, Enhanced Internet simplifies networking by offering a mix of cost-effectiveness and reliability. It's like getting the best of both worlds.

Enhanced Internet Solution

SLAs and Performance Metrics

Our service is meticulously designed with the primary goal of ensuring a top-tier Quality of Experience (QoE) for enterprise applications, akin to the performance levels associated with MPLS (Multiprotocol Label Switching). It plays a pivotal role in optimizing critical performance metrics that directly impact the seamless operation of your business applications, such as packet loss, throughput and jitter.

When it comes to **packet loss**, our service shines with impressive improvements of **up to 90% reduction**, depending on the specific data path. Packet loss usually requires that certain parts of the information are retransmitted. Eliminating this means your data travels much faster from source to destination, resulting in faster response times and smoother real-time communications.

What is more, by eliminating the need to resend information, our service dramatically improves **throughput**, boosting it to impressive levels. With Enhanced Internet, you can expect a throughput improvement **of more than 20%**, ensuring that a significant amount of your available bandwidth is used effectively.

In addition, **jitter**, which can be a persistent concern when relying solely on standard Internet connections, is

virtually eliminated with our service. Our enhanced solution ensures a **jitter of less than 5ms**, far better than the 30ms recommended by VoIP providers. This remarkable reduction guarantees a highly stable and jitter-free network experience, essential for applications that require uninterrupted data streams.

In summary, our service is engineered to enhance the performance of your business network to meet and exceed the standards set by MPLS, while delivering tangible benefits in terms of reduced packet loss, optimised throughput and minimal jitter.



3 Real-World *Success Case*

In a recent success story, we harnessed the power of Enhanced Internet to significantly boost the performance of one of our strategic customers based in Asia. Initially, this customer faced challenges as their internet provider routed their data traffic through a congested Pacific internet route.

This routing led to persistent issues, including packet loss and unacceptably high latency.

Recognizing the critical need for a solution, we seamlessly integrated Enhanced Internet into their network infrastructure. Through this implementation, we strategically rerouted their data traffic onto our high-performance network, bypassing the Pacific route altogether. Instead, we established a dedicated, secure channel that transmitted their data directly to Europe via our private network.



Real-World Success Case

The results were nothing short of remarkable. By eliminating the previous bottlenecks and inefficiencies in their data transmission, we completely eradicated packet loss, transforming their user experience.

This success story underscores the transformative potential of Enhanced Internet. By optimizing data routing and leveraging our robust network infrastructure, we not only resolved existing issues but also significantly improved overall performance.



4 Ready for *Sale*

We are excited to announce that our Enhanced Internet service is now available for purchase.

This cutting-edge solution is designed to elevate your enterprise's online experience to new heights. With Enhanced Internet, you can expect faster speeds, enhanced security features, and seamless connectivity.

To gain a deeper understanding of how this solution can bring value to your business, we encourage you to reach out to your dedicated Account Management team. They are well equipped to provide you with comprehensive information, tailor-made recommendations, and a personalized demonstration of the benefits of Enhanced Internet for your specific needs.



5

Why Telefónica Global Solutions

Our global network infrastructure is the foundation of our commitment to delivering high-quality connectivity to Telefónica clients worldwide, and it's just the beginning of what sets us apart.

Seamless Global Connectivity: Our extensive network infrastructure spans the globe, boasting over 100 Points of Presence (POPs) across diverse geographies. With more than 50 direct interconnections to leading Clouds and a TIER-1 internet backbone, we ensure that your data enjoys swift and reliable routes to its destination. Lower latency submarine cables further enhance the performance of your connections, making delays a thing of the past.



Cutting-Edge Technology: Innovation is at the heart of what we do. Our state-of-the-art network leverages automatic rerouting, powered by our SDN-PCE (Software-Defined Networking - Path Computation Element) controller, for both IPv4 and IPv6 tunnels. This means that even in the face of unexpected challenges, such as network congestion or failures, our network can dynamically adapt without human intervention. Rapid convergence and rerouting of traffic occur seamlessly, ensuring uninterrupted connectivity. Our network features segment routing, intricately connected to our SDN-PCE controller, allows for the creation of disjoint paths, ultralow latency routes, and rapid convergence through a technology known as TI-LFA (Topology Independent Loop-Free Alternate). With these advanced routing capabilities, you can count on the most efficient and reliable data transmission paths available.

Smart Operations: We believe in making network management as effortless as possible. Our network possesses self-healing capabilities, which means that tasks like ticketing and configuration adjustments are automated. This ensures that potential issues are addressed promptly, minimizing disruptions and streamlining operations.

Other capabilities: Beyond our network excellence, we offer a wide range of complementary services to suit your evolving needs. Our flexible commercial models cover invoicing capabilities in 28 countries, ensuring smooth transactions.

Our 24x7 multi-language support model means that assistance is always within reach. Moreover, we function as a one-stop shop, making it possible for you to access additional services like managed security, SD-WAN/SASE and other.

Conclusion

Enhanced Internet represents a paradigm shift in enterprise networking, empowering large enterprises with the cost efficiencies of the internet and the reliability of private networks. In an era where cloud adoption is accelerating, this solution provides the essential guarantees required for seamless, secure, and high-performance connectivity. It is a compelling choice for large enterprises looking to navigate the challenges of the digital age while optimizing their network investments.



