Virtual Network Services

The new rules of the digital age_

As a result of the continual evolution of the digital age, businesses need to adapt to offer their customers a new digital experience, better suited to the digital economy and society. The ICT industry has focused its efforts on providing a more efficient, dynamic and scalable infrastructure to face the new challenges.

> "By 2020, at least 30% of international enterprise WAN service contracts will incorporate NFV-based services, up from less than 1% in 2016."*
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> ** Source: Gartner, Network Function Virtualization Will Enable Greater Managed WAN Agility and Flexibility July 2016*

Using virtualization techniques, Network Functions Virtualization (NFV) offers a new way to deploy and manage networking services, improving capacity, flexibility, security and cost-effectiveness. This means that complex services can be provided more easily, more efficiently and with fewer human errors.

Key Benefits_

> **Easy and cost-effective management of your network devices** – with NFV you can manage your network functionalities through simple, automated management tools, avoiding any physical access to equipment and minimizing associated costs.

> **Reduced time to provision** – automated virtual network services help you to deploy your applications faster, reducing time to market and increasing your revenues.

> **Policy-based access** – NFV enables the implementation of granular access policies in line with compliance requirements.

> **Stepping stone for building a fully automated Cloud environment** – physical and virtual workloads can be provisioned in conjunction with your Cloud services in seconds, allowing you to build a fully automated private or hybrid Cloud environment.

> **Analytics and easier troubleshooting** – access to the largest analytics engine to monitor your network and services, supplying both historical and real-time data.

> **Hosted worldwide** – hubs are located globally, close to your installations, to offer the best end-user experience.

> **Support** – 24/7 Global Helpdesk operating to ITIL standards.

> **Pay-as-you-go model** – an offer always adapted to your business needs.

> **Independent of premises device** – a single service oriented to your business, not to the device being used.

> **Simple set up and management** – select and contract your new services through a marketplace; switch on/off your acquired functions on demand.

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Our Services_

vSecurity [Clean Pipes] – access an advanced security infrastructure within our network, offering a Next-Generation Firewall. This provides advanced protection functions beyond traditional features, including Intrusion Prevention System, Advanced Threat Protection, Application Control or URL Filtering.

vRemote Access – provide secure remote access to your employees, partners and suppliers from the Internet to your company's MPLS corporate network. Authentication, integrity and confidentiality are guaranteed to provide a secure extension of the corporate network on a public and uncontrolled network such as the Internet.
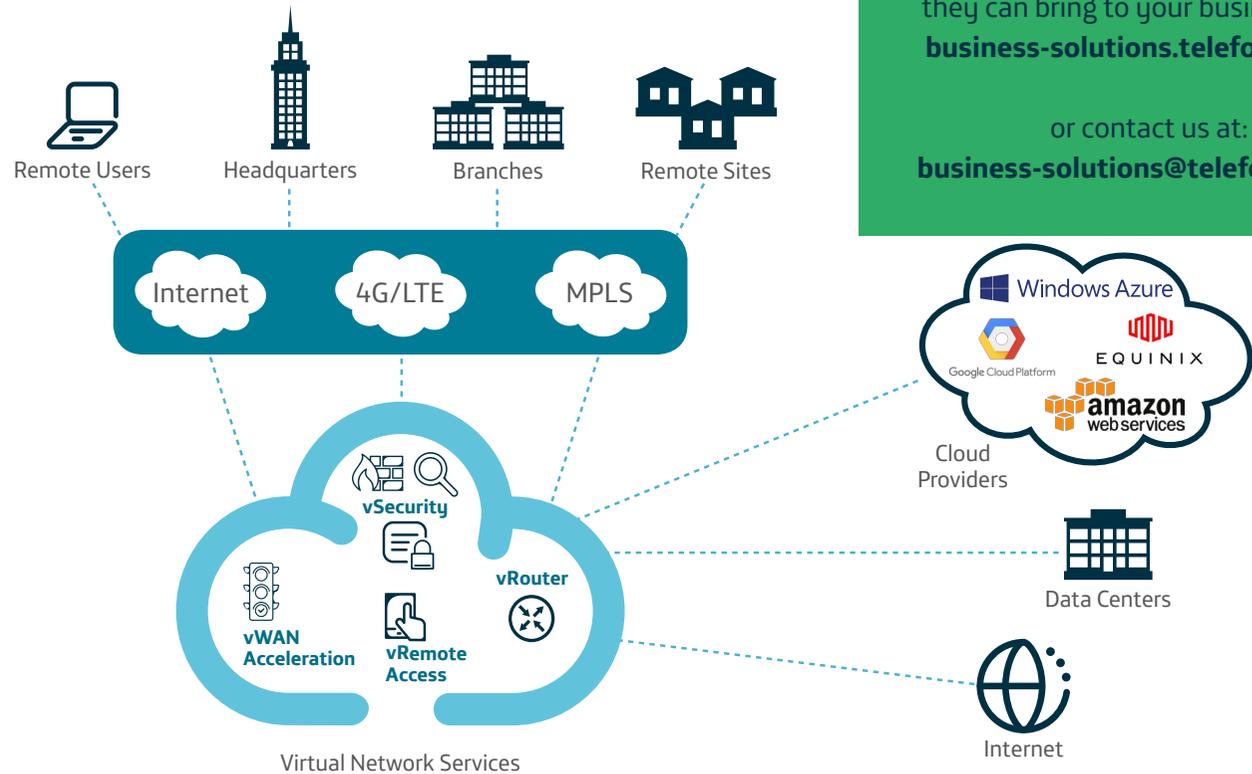
vRouter – includes routing, service differentiation, NAT, QoS, policies and ACLs functionalities, among others. The virtualization of key network infrastructures functions allows us to offer you a better, more flexible, dynamic and efficient network service.

vWAN Acceleration – improve your connectivity through the optimization of common protocols such as TCP, MAPI, SMB, HTTP and by using techniques such as compression, deduplication and web caching among others, all managed by our new virtualized WAN accelerator.

The Virtualization of Network Services_

Remote Users · Headquarters · Branches · Remote Sites

Internet · 4G/LTE · MPLS

vSecurity · vRouter · vWAN Acceleration · vRemote Access

Virtual Network Services

Cloud Providers · Data Centers · Internet

Today it is commonplace to use specific hardware for network functions such as Firewall, SSL Gateways and WAN accelerator. This implies that a physical installation, configuration and maintenance per function and per site is required.

Appliances based on software processing can be easily replaced, virtualizing them over generic x86 hardware. By establishing this virtualized environment, functions can be created whenever you need them, managed in a common web environment and deleted when no longer required, avoiding the need for any specialized hardware.

Telefonica has been working with NFV technology since its emergence at the end of the last decade, investing in research and working with the industry and other providers to make Network Virtualization a reality. We have already developed the first virtual network functions for our customers, so they can fully benefit from these new technologies. Virtual Firewall, Remote Access, Router and WAN Acceleration are part of our new portfolio, and we continue to add more services that can be easily inserted into enterprises' WAN.

For example, you could purchase network functions from a catalogue of available applications in a flexible pay-as-you-go model. Imagine being able to buy connectivity for remote access teleworkers in real-time as well as providing them with connectivity within minutes, traffic acceleration and specific public Cloud services whenever they are requested.