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service-orchestration

# Enterprise service orchestration

## WAN optimization use case

November 2020

# The need for enterprise service orchestration

The global enterprise market is worth billions of dollars, and most communications service providers aspire to take better advantage of this potential additional revenue[1].

For many, this revenue comprises basic fixed and mobile connectivity, but some are offering advanced enterprise services such as Software-Defined Wide Area Network (SD-WAN) and Wide Area Network (WAN) optimization, and even services beyond communications, such as enterprise security.

One of the challenges for service providers is positioning with hyperscalers, such as Google Cloud, AWS and Azure, and ICT vendors such as Microsoft, Citrix and Google. For service providers to flourish, they need to adopt the models and approaches of these well-established competitors by improving agility and service offerings with a much lower operational cost base.

Network virtualization creates a flexible environment to enable this. The ability to dynamically manage and automate services - enterprise service orchestration - is the key to delivery.

**What is WAN optimization?**

WAN optimization uses a series of techniques including data prioritization, data caching, data compression and data de-duplication to reduce latency and improve application performance in the branch office and remote/mobile connections, and can sometimes include network performance monitoring.

For enterprises that rely heavily on cloud services, WAN optimization is a key service to ensure business critical systems and applications perform, using WAN accelerators to help expedite communications between the server and receiving device. They use data compression so that more information can be sent; data scaling, which uses shorthand pointers for fast transmission; and predictive processes that can learn the receiver's intentions and desired actions.

There are three distinct phases in the lifecycle: design, deploy and operate. The design phase drives the acceleration of new service introduction, the deployment phase enables new products and services to be ordered and deployed efficiently, and the operate phase employs closed-loop service assurance and AI analytics to manage network and service performance.

**Understanding the business problem**

As a result of changes driven in part by the adoption of "always-on" cloud-based services, enterprises demand reliability in both service delivery and connectivity.

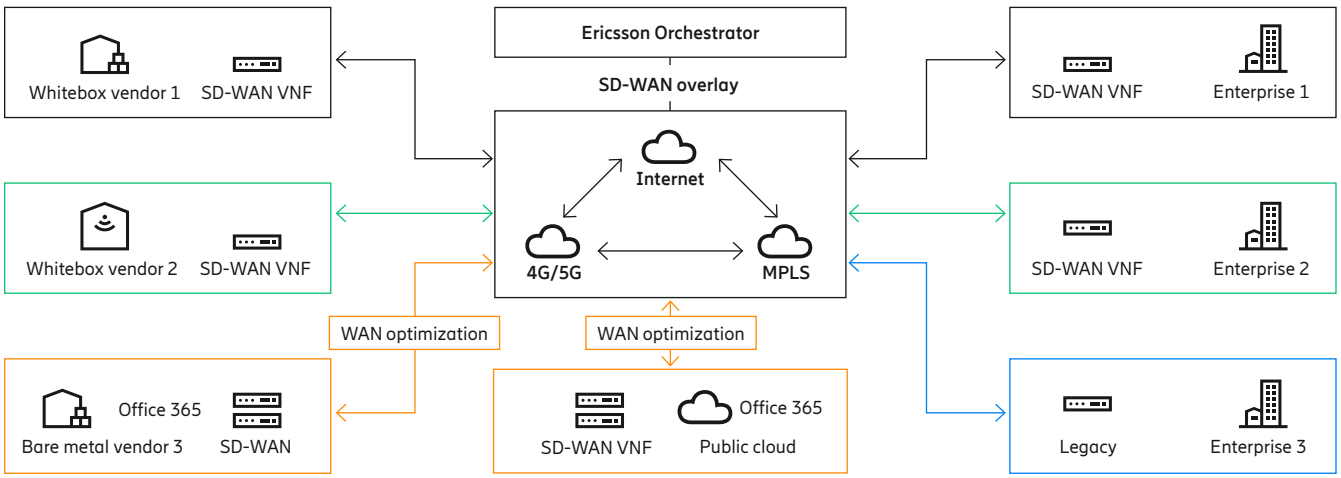
Many enterprises prefer the security, control and cost savings gained from using these services, as software updates being managed in the cloud mean that major software updates and patches are no longer a logistical challenge for internal IT organizations.

However, the flip side is that poor performance can degrade the service to the point where it is unusable. Network performance issues can drastically impact productivity, even for applications like Microsoft Office 365, which doesn't typically require low latency or high bandwidth.

When time and bandwidth are critical, enterprises need solutions that can optimize the WAN performance and more importantly manage the business' hierarchy of needs.

The COVID-19 pandemic has driven many enterprises to distribute their organizations with vast numbers of new home-based workers, and want to be able to extend the optimization capabilities deployed in their offices out to the home environment to maximize employee productivity.

**Figure 1. Enterprise WAN optimization**




[1]the SD-WAN/NFV market is growing at 36percent CAGR, with a projected value of USD 7.3 billion by 2024.

WAN optimization boosts productivity with greater control over application prioritization.

**Ericsson's solution**

Ericsson's solution for WAN optimization is to deploy Ericsson Orchestrator including the Service Orchestration, Cloud Manager, Service Configuration Management and Evolved VNF Manager components to orchestrate third-party WAN optimization solutions.

These WAN optimization solutions are typically deployed as virtual network functions (VNFs) which can be deployed at customer premises (uCPE), secure access service edge (vCPE) or on public cloud to provide a performance optimized SD-WAN overlay.

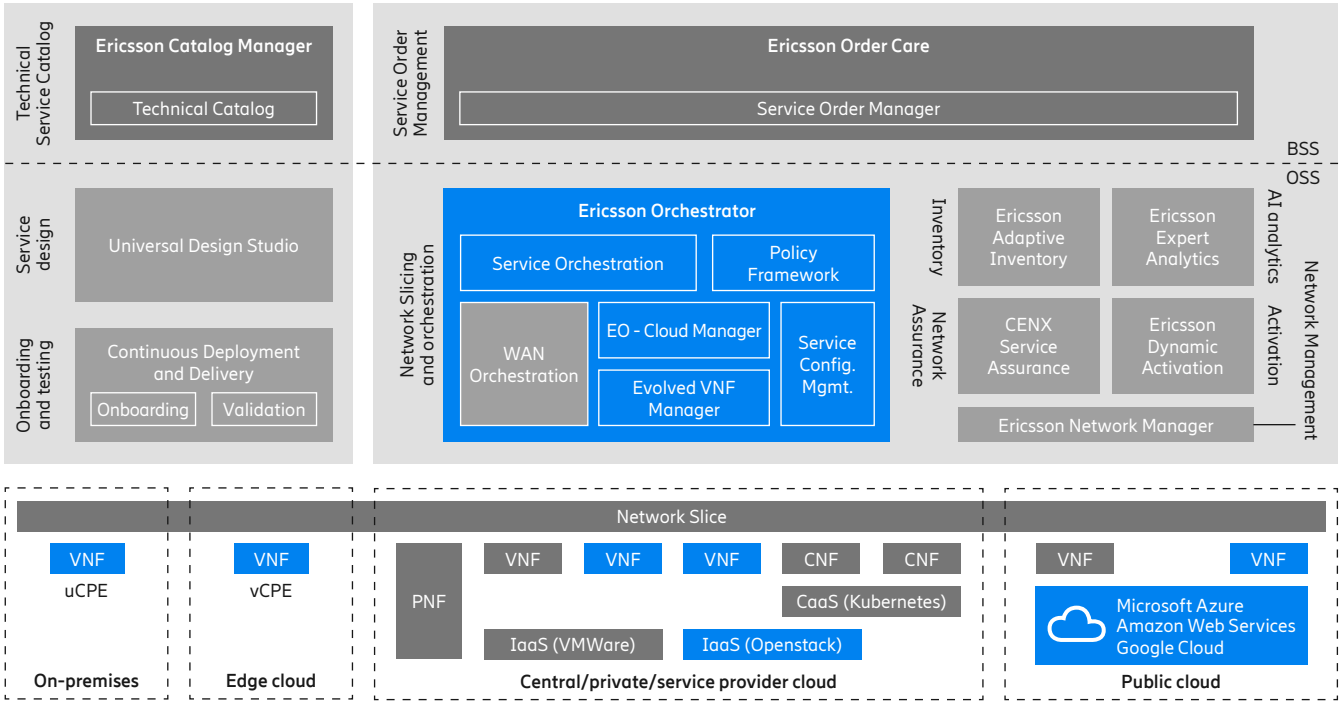
In addition, Ericsson have pre-integrated the Ericsson Orchestrator with Riverbed, a leading WAN optimization vendor. This pre-integration accelerates the implementation of WAN optimization with this vendor.

**The impact of WAN optimization**

WAN optimization can have a dramatic effect on business productivity. It has the ability to throttle, limit or block lower priority services and ensure that the most mission- or business-critial applications have priority. This means that small branch offices, and increasingly home offices, can operate productively even over lower bandwidth connections.

WAN optimization ensures enterprise businesses maximize productivity and prioritize the most important services.

**Figure 2. Ericsson Dynamic Orchestration – Portfolio – SD-WAN Orchestration highlighted**



Ericsson enables communications service providers to capture the full value of connectivity. The company's portfolio spans Networks, Digital Services, Managed Services, and Emerging Business and is designed to help our customers go digital, increase efficiency and find new revenue streams. Ericsson's investments in innovation have delivered the benefits of telephony and mobile broadband to billions of people around the world. The Ericsson stock is listed on Nasdaq Stockholm and on Nasdaq New York.

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