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# Orange Business Services - Global WAN Services

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## PRODUCT ASSESSMENT REPORT - WAN SERVICES

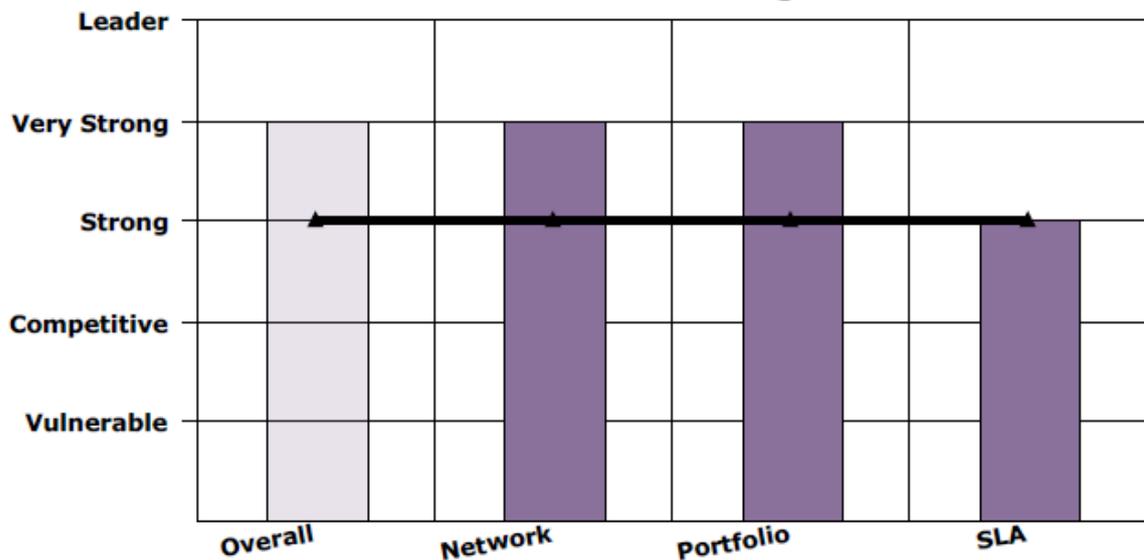
### REPORT SUMMARY

Orange Business Services is very strong in the global WAN segment. The provider offers compelling SD-WAN, backed by expertise and relations with 180 local ISPs in over 120 countries.

### SUMMARY



Product Ratings



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Orange Business Services - Global WAN Services

Product Class Average

## WHAT'S NEW

- Orange made good progress with the Siemens' global SD-WAN transformation, with more than one hundred sites deployed around the world by the end of 2018, and the completion of the management platform.
- Orange has successfully closed a deal with a new reference customer in China.
- Orange has been able to close deals with clients for migrating hybrid VPN services and moving to SD-WAN.
- Orange is developing its service performance SLAs, for example guaranteeing round trip delay on the links supporting connectivity to the Orange gateway and MPLS network as well as a guarantee SLA to major cloud provider locations.
- Orange is working on an application level SLAs, which will still center upon the traditional metrics for a network performance SLA- but specifically for groups of applications, for example with Orange committing to a premium SLA Round Trip Delay for the links supporting SAP versus other less latency-sensitive app.
- Orange reports positive take-up of its Multi Service Integration (MSI) offering.
- Orange is refining an Internet performance SLA in response to demand. The objective here will be better performance of the Internet provider and the app.

## PRODUCT OVERVIEW

### Product Name

Flexible SD-WAN, Easy Go Network, Business VPN, uCPE, IoT Managed Global Connectivity, Network Boost, Enterprise Application Management Riverbed, Business VPN Internet and Business VPN Galerie

### Description

Flexible SD-WAN represents Orange's portfolio of Multi-Cloud, Multi-Applications and Multi-Access WAN services designed to digitally transform its customers' connectivity solutions with a central focus on high performance for apps running in the cloud. Orange Business Services offers a number of sub-products within its connectivity range including Business VPN, which is its flagship fully managed global IP VPN- MPLS service. It also offers a hybrid VPN service that combines private IP with public Internet for connectivity. Business VPN Galerie is its cloud-ready IP VPN service whereby SaaS and IaaS partners are already integrated onto the network. Its Layer 2 Ethernet VPN offering 'IEL' can be provisioned to support multipoint-to-multipoint, hub-and-spoke and point-to-point Ethernet services. Easy Go Network is an overlay SD-WAN solution. A new IoT offering supports 2G/3G/4G-LTE cellular connectivity for IoT devices on a global hybrid connectivity solution.

### Components

- Flexible SD-WAN
- Business VPN
- IoT Managed Global Connectivity
- Enterprise Application Management Riverbed
- uCPE
- Business VPN Galerie
- International Ethernet Link (IEL)
- Business VPN Internet
- Easy Go Network

**Key Customers**

- Siemens
- Halliburton
- Hertz
- Lloyd's Register
- Merck
- PMI
- International Red Cross
- AngloGold Ashanti

**Key Rivals**

- BT
- Telefonica
- Verizon
- AT&T
- Tata Communications
- Telstra
- Vodafone

**ESSENTIAL ANALYSIS****Strengths**

- **Agile and Flexible:** Orange Business Services has fully embraced open software-centric network transformation. It has consulting teams available to help customers transform their legacy connectivity to proven SD-WAN solutions. Flexible SD-WAN has been built using best of breed partners and technologies, leveraging Orange's strong experience and knowledge of market dynamics and vendors.
- **Expansion of SD-WAN Gateways Underway:** Orange is investing in and expanding its global SD-WAN gateways. Progress here will allow it to offer more sophistication for SLAs that guarantee apps running on the Internet and services delivered from the platforms of the major cloud companies, such as AWS and Google.
- **Applications-Aware Networking:** Orange offers application-aware networking as a part of the Orange hybrid VPN service, which includes virtualized cloud acceleration with Riverbed, dynamic app routing with Cisco and application visibility with InfoVista.

**Limitations**

- **Smaller, Nimble Rivals:** Smaller, regional providers with global ambitions (e.g., GTT, Masergy, Sprint, and PCCW Global) can be more flexible and customer-centric to regional MNCs.
- **Broader Competitive Landscape:** Orange faces SD-WAN competition from a wider variety of rivals than its traditional network operator competitors, including for example SIs, software developers, and SD-WAN platform providers. In a software-defined world, network ownership is not necessarily a key buying criteria.
- **Large Regional Incumbents:** Major global providers with headquarters outside of Europe (e.g., NTT Communications, AT&T and Verizon) are tough to beat in their home regions. These players are also able to offer strong connectivity solutions and SDN/NFV messages in Western Europe through their combinations of wholly-owned infrastructure and third parties, and progress with SD-WAN technologies.

- **Management Portal:** ServiceNow integration lets large enterprises manage their global WAN services together with their IT services, integrated together on a single SaaS platform.
- **International Access and Local Support:** Global subsidiaries provide local operational support and access to domestic networks. Orange has also set up partnerships for domestic capillarity in the U.S., China, Germany, Africa, and Latin America.

## CURRENT PERSPECTIVE

### Very Strong

Orange Business Services presents a clear and focused SD-WAN strategy, which builds upon a solid tradition of supporting global clients with secure global WAN connectivity with value added service. Orange provides a feature-rich hybrid VPN offering backed by a major Internet backbone and gateways worldwide. The operator has extensive global operations, which is used to offer excellent levels of customer service and support. Its Flexible SD-WAN offer is supported by a global fabric of SD-WAN gateways that continues to expand. Its SD-WAN gateways ensure that connected sites can communicate with existing MPLS locations with optimized cloud performance. Orange's zero-touch uCPE is supported by a service orchestration portal. Orange's Easy Go Network SD-WAN overlay leverages NFV within Orange's PoPs. Orange has launched Enterprise Application Management Riverbed in partnership with Riverbed, to give better predictability on network performance over generic network technologies. Its Service Management Suite integrates operational information from Orange directly into the ServiceNow SaaS ITSM/process automation platform. ServiceNow has more than 3,000 enterprise customers globally and is growing rapidly. It gives IT administrators a single point of management across IT and network.

AT&T and Verizon are highly threatening when it comes to competing for Orange's U.S.-based clients and for MNCs that require comprehensive domestic service in North America. Finally, several pan-Asian and global providers are making headway in the global MNC segment and with developing SD-WAN, including Tata Communications, NTT Communications, and Telstra, for example. BT is claiming to be the first service provider to offer a Riverbed-as-a-Service proposal for the 'SteelCentral Visibility' solution.

## COMPETITIVE RECOMMENDATIONS

### Provider

- **Flexible SD-WAN and uCPE:** Orange can highlight that its uCPE service is available over the carrier's global footprint and encourage clients to evaluate the various VNFs that are available. Flexible SD-WAN services run over MPLS, Internet access and satellite.
- **Investment Benefits for Clients:** Orange Business Services can list its network upgrade program, adding reach and capacity in Asia, Africa and France, as concrete evidence that it is improving its WAN capabilities and can offer regional differentiation over competitors. The company can highlight its progress extending connectivity to carrier hotels to cloud services being on-net in 125 major data centers worldwide.
- **SDN Investment:** Orange Business Services can point to the investments at the group level made by Orange in SDN as a good reason to trust the carrier for supporting customers' move to future SDN platforms. EUR 100 million is being invested over the next five years in SDN.

## Competitors

- **Asian Rivals:** Singtel, Tata Communications, NTT Communications and Telstra can each challenge Orange Business Services for Asia-based and-headquartered enterprise WAN services. These operators have solid SD-WAN programs and can also offer global connectivity leveraging investments and network partners.
- **T-Systems' ngena:** ngena can point to its partners for delivering a global support operation for SD-WAN. Orange Business Services is classically powerful in truly global customer service and support, but new alliance models can promise to do better.
- **Disruptors:** Early SD-WAN movers can continue to portray that massive MPLS network ownership is more of a liability than a strength in today's WAN market, due to the high costs of managing and maintaining these assets. Instead, customers can choose software-defined and cloud-based services from asset-light players including Aryaka and VeloCloud-VMware.

## Buyers

- **North America Coverage Through Multiple Local Partners:** Orange Business Services can offer robust domestic network connectivity in the U.S. based on its partnerships with multiple suppliers- AT&T, CenturyLink/Level3, Verizon, Zayo, Crown Castle Fiber/Lighttower, GTT/Global Capacity. Based on these relationships, Orange can extend competitive pricing and broad choice in speeds for supporting local connectivity at the national level.
- **ServiceNow Portal Sophistication:** Large enterprises should consider using Orange's Service Management Suite to integrate and control their system portal and dashboard sprawl. Using the ServiceNow platform, the offering can reduce complexity while integrating with existing internal IT service management systems.
- **VPN and Collaboration:** Clients should explore Orange Business Services' connectivity plus collaboration proposals, because in addition to proven global VPN credentials, the operators can deliver solid integrated Microsoft-centric Office365 services and Cisco HCS.

## Metrics

### NETWORK

<b>Rating:</b>	Very Strong
<b>Global Reach:</b>	Orange can offer fully managed IP/MPLS network service in 220+ countries. Orange supports WAN connectivity to 325,000 customer sites
<b>Platform :</b>	Core routing composed of Cisco GSR 12000 series with redundancy built in. PE routers are a mix of Cisco ESR 10000 series and Cisco 76xx series with redundancy built in.  Ethernet: Alcatel-Lucent  Orange's SDN architecture is currently being deployed. The Orange SDN engine is composed of several elements: SDN OSS, network controller, VIM and X86 servers.

<b>Backbone:</b>	<p>Global core backbone relies on high-speed dedicated 10 Gbps Ethernet circuits in the core and access.</p> <p>In development is a 100G core with n x 10G access.</p> <p>Backbone: 2.5 Gbps to 10 Gbps.</p> <p>Additional backbone presence in 125 data centers worldwide.</p>
<b>Access Types &amp; Speeds:</b>	<p>Business VPN: 64 kbps up to 10 Gbps.</p> <p>IEL standard point-to-point: up to 1 Gbps. For VPLS-enabled IEL: up to 1 Gbps.</p>
<b>Hybrid and Internet VPN Gateways:</b>	19 Internet gateways located in 16 cities globally.
<b>Notes:</b>	---

## PORTFOLIO

<b>Rating:</b>	Very Strong
<b>Performance Monitoring and Management:</b>	<p>'My Service Space' gives a monthly SLA view. End-to-end network performance per CoS measured with five-minute granularity. Orange is working with ServiceNow for Service Management Suite. Enterprises using ServiceNow for IT/infrastructure management receive integrated Orange information as part of their IT service management (ITSM) environment, including performance and SLA information. The integrated platform is available worldwide.</p> <p>Orange offers performance monitoring and management advisory services. Historical performance data is kept for two months for five-minute polls and hourly averages and for one year for daily averages.</p>
<b>Customer Portal Capabilities:</b>	<p>Reports are available online in near-real time on My Service Space, and the metrics can be rolled up to provide data per hour, day, week, month and year.</p> <p>Customers can initiate additional reporting online via the portal on any path or router, with up to 30-second granularity and for up to a one-hour period.</p>
<b>Applications Performance Management and WAN Optimization:</b>	<p>Network Boost (Ipanema) and Enterprise Applications Management (Riverbed, Blue Coat, Juniper).</p> <p>Application Visibility (Ipanema) with application flow analysis is available on all Business VPN</p>

**Dynamic Bandwidth:** For IP VPN dynamic bandwidth, the carrier offers usage-based billing (UBB) case by case.

Dynamic bandwidth is not available with IEL.

Fast modification (for single or multiple sites) can be managed via a self-care portal.

New services will be activated in minutes instead of days or weeks. A try-before-you-buy option is available. New billing modes are also available (pay per use).

**Virtual Network Functions:** Available now--

vRouters: Cisco ISRv and Juniper vSRX

Firewall: Palo Alto, Fortinet

WAN Optimization: Riverbed and Ipanema

uCPE supports multiple VNFs.

**Security:** Business VPN Internet features built-in security, including security features such as firewall in the cloud to securely extend the customer hybrid experience to Internet traffic.

Business VPN Internet meets the customer's security policy worldwide. Managed firewall is available as an option.

Supports IPsec and 3DES, DES, EES encryption. PKI is available on a case by case basis.

Ethernet: Layer 3 IP security techniques apply.

Cloud-based Web Content Protection (WCP) leveraging Zscaler.

**COS:** MPLS IP VPN-- Five CoS tiers: real-time voice, real-time video, Data D1 (business-critical), Data D2 (general), Data D3 (best effort); and three 'out-of-profile' CoS tiers: D1 OOP, D2 OOP, D3 OOP.

Out-of-profile CoS options allow the operator to treat specifically the traffic that exceeds the contract of one class, in order to give preference to in-contract traffic.

CoS tiers are segmented into the different IP VPN service types: Silver, Gold, Platinum, Flexible, Lite.

Ethernet: Up to 4 CoS tiers; and up to 14 different CoS profiles.

Orange is developing a sixth CoS tier for its Business VPN portfolio, used to transport Internet traffic.

<b>CPE Options Managed and Sourcing:</b>	<p>Orange Business Services' managed Business VPN portfolio uses a subset of Cisco's ISR G2 and ASR series.</p> <p>CPE-related services, including shipping, import, dispatch, installation and maintenance, are bundled as part of Orange Business Services' Business VPN offer.</p> <p>Orange Business Services' CPE sourcing countries have the same global footprint as its global Business VPN service.</p>
<b>Resiliency Options:</b>	<p>MPLS IP VPN: Backup via ISDN (NAS backup); backup via DSL (Always-On) with offload for non-critical traffic; dual connection (Dual) with load balancing option; last-mile diversity (case-by-case upon site survey study).</p> <p>Backup of critical traffic with low-bandwidth requirements through mobile GPRS/UMTS technology (Air Backup) is available in 17 countries worldwide.</p> <p>Ethernet: Four configuration choices for availability- standard (i.e., one CPE, one access link), dual fiber (i.e., one CPE, two accesses to one PoP), dual fiber and PoP diversity (i.e., one CPE, two accesses to two PoPs) and full diversity of network resources (i.e., two CPE, two accesses to two PoPs).</p>
<b>Pricing:</b>	<p>MPLS IP VPN: Monthly recurring standard and usage-based on request.</p> <p>Ethernet: Bandwidth per route for end-to-end connection. Non-recurring charge and monthly recurring charge.</p>
<b>Notes:</b>	---

## SLA

<b>Rating:</b>	Strong
<b>Network Latency:</b>	<p>MPLS IP VPN: Variable according to client location.</p> <p>Ethernet: Circuit dependent.</p>
<b>Proactive or Reactive:</b>	<p>MPLS IP VPN: SLA is reported proactively. Based on provided reports, customer can claim for credit if applicable.</p> <p>Proactive monitoring also optimizes troubleshooting performance.</p> <p>Ethernet: SLA is reported proactively.</p>
<b>Packet Loss:</b>	<p>MPLS IP VPN: CE-to-CE PLR (packet loss ratio) varies from 0.05% to 0.3% in Western Europe, North America and most countries in Asia (e.g., China and India). Up to 0.5% packet loss for inter-continent traffic in other parts of the world.</p> <p>Ethernet: Packet-loss ratio-- Raw Bit Error Rate <math>10e[-3]</math>; <math>10e[-4]</math> depending on CoS.</p> <p>Can be customized.</p>
<b>Jitter:</b>	CE-to-CE jitter SLA is 10 ms worldwide.

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<b>Network Latency:</b>	MPLS IP VPN: Variable according to client location. Ethernet: Circuit dependent.
<b>Proactive or Reactive:</b>	MPLS IP VPN: SLA is reported proactively. Based on provided reports, customer can claim for credit if applicable. Proactive monitoring also optimizes troubleshooting performance. Ethernet: SLA is reported proactively.
<b>Packet Loss:</b>	MPLS IP VPN: CE-to-CE PLR (packet loss ratio) varies from 0.05% to 0.3% in Western Europe, North America and most countries in Asia (e.g., China and India). Up to 0.5% packet loss for inter-continent traffic in other parts of the world. Ethernet: Packet-loss ratio-- Raw Bit Error Rate $10e[-3]$ ; $10e[-4]$ depending on CoS. Can be customized.
<b>Jitter:</b>	CE-to-CE jitter SLA is 10 ms worldwide.
<b>Availability (POP-to-POP and CPE-to-CPE):</b>	MPLS IP VPN: SLA is reported proactively. Based on provided reports, customer can claim for credit if applicable. Proactive monitoring also optimizes troubleshooting performance. Ethernet: SLA is reported proactively.
<b>Mean Time To Repair:</b>	Guaranteed time-to-repair is 5 hours in 16 European countries over leased lines or Ethernet, and in 13 European countries for SDSL. Ethernet: 5 hours in major on-net cities across 20 countries
<b>Provisioning Guarantee:</b>	MPLS IP VPN: Varies according to country. Ethernet: Varies according to partners
<b>Notes:</b>	---