SD-WAN Market

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Connect Cisco SD-WAN

In this presentation, we will cover the following:

• About BT

• SDWAN

• Customer learning
About BT

A leading provider of communications solutions

Combining products and services with industry-specific solutions and consulting expertise

Serving customers in 180 countries

Operating globally, delivering locally

Focused on 800 Multinationals

One of the biggest telecoms R&D investors

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Combining products and services with industry-specific solutions and consulting expertise

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One of the biggest telecoms R&D investors
We have development centres across the globe with more than 8 scientists and technologists and more than 13,000 patents and applications.

BT has been a longstanding partner of De Beers. It’s one of the only global vendors with the reach to support the business in the many regions in which we operate.”

- James Ross, Head of Information Management, Canada and the United States, De Beers Group of Companies

We are recognised as a leader in Gartner's Magic Quadrant for Network Service Providers, Global, 2017.

We’re able to deliver network services to more than 198 countries and territories using over 5,200 PoPs. Our 4 Global service hubs provide local support in 25 languages.
SDWAN
**What is a SD-WAN?**

<table>
<thead>
<tr>
<th>SDN</th>
<th>SD-WAN</th>
<th>SD-WAN benefits</th>
</tr>
</thead>
</table>
| **Software Defined Networks**  
A network administrator, or a computer, can centrally control which way traffic flows, rather than an individual network appliance. | **Software Defined WAN**  
A network which uses SDN on a national or global scale to determine the most effective route for traffic to take. | • Improved network performance  
• Support demand for extra bandwidth  
• Greater control over the network  
• Network impairment, makes intelligent decisions  
• Simpler management  
• Quick and easy set-up of sites  
• Choice of different network connections. |
SDWAN market

SD-WAN is taking center stage in enterprises’ network strategy: “By 2020, 80% of enterprises will have implemented SD-WAN at some sites underpinned by secure and virtualized edge architectures” – IDC, Oct’18

SD-WAN adoption has been growing rapidly over the last two years, and that has driven a number of companies to create competing SD-WAN solutions – Gartner 2018

SD-WAN has increased reliability in enterprise connectivity and improvements in network agility, security, business continuity and productivity of various enterprise applications – Gartner 2018

Despite optimism around SD-WAN market, the mainstream adoption of SD-WAN and allied services is yet to take off.

• SD-WAN not always results in WAN expenses reduction
• Security is a perennial concern with all new technologies

Primary enterprise SD-WAN concerns

Source: Ovum Enterprise Network Services Survey, 2017 (N=89)
SDWAN on the Gartner Hype Cycle

Gartner Hype Cycles provide a graphic representation of the maturity and adoption of technologies and applications, and how they are potentially relevant to solving real business problems and exploiting new opportunities.

<table>
<thead>
<tr>
<th>Technology</th>
<th>Benefit Rating²</th>
<th>Market Penetration (% of target audience)</th>
<th>Maturity²</th>
<th>Years to mainstream adoption</th>
</tr>
</thead>
<tbody>
<tr>
<td>Managed SD-WAN Services</td>
<td>Moderate</td>
<td>5% to 20%</td>
<td>Adolescent</td>
<td>2 to 5 years</td>
</tr>
<tr>
<td>SD-WAN Products</td>
<td>High</td>
<td>5% to 20%</td>
<td>Early mainstream</td>
<td>Less than 2 years</td>
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- SD-WAN products market will continue to show rapid growth and forecast vendor revenue growth at over 50% CAGR for the next three years

Source: Gartner - Hype Cycle for Enterprise Networking and Communications, 2018 - July 2018
Connect Cisco SDWAN
meeting the needs of our customers’ digital business requirements now and in the future

Connect Cisco SDWAN:
• A centrally managed, Cloud hosted and software defined network overlay solution.
• Available with a range of BT or 3rd party Internet and Network services.
• Based on Cisco vEdge and cEdge hardware and licences
• A fully BT managed service from installation to configuration through to monitoring of service
• Full customer visibility on service management
• Integrated “best of breed” reporting capability
• Available in 65+ countries globally

BT Service Wrap:
• A market leading SDWAN solution delivered by a global service provider experienced in large scale deployment and application management
• BT has set up and manages the entire logistic of CPE distribution and maintenance on behalf of the customer
• Specialist team for configuring and maintaining the SDWAN service in life
• Wide range of underlay network and Security services available to ensure the right level of performance and Security is achieved for each application and each site.

Future developments:
• Virtual SDWAN instances in the Cloud and on Cisco ENCS

First to market with a cisco SD-WAN solution to meet demand at volume
Our service is designed to maximise the benefits to your business

Cloud Connect
Underlay networks (MPLS and Internet)

Application Aware Routing
Encryption
Reporting
vManage Orchestration

Independent testing
Insight and analytics
Orchestration
Centre of Excellence service
Global logistics and managed deployment
Lifecycle Management

Security
Professional Services

Cisco SD-WAN

Our Connect Cisco SD-WAN managed service

Dynamic Network Services
Customer learning
What we see in the market

• Almost all customer RFPs have requirements that are either best solved using SD WAN or request specifically about for a SD WAN proposal.

• Most customers asking for SD WAN look for hybrid network implementations with traditional MPLS connectivity and Internet and only have internet only for some of their smallest sites.

• None of our customers want a full over the top service with only internet connectivity everywhere but some come close.

• The migration path is key and most customers under estimate the transformation.

• API interfaces and co-management options are key features.

• Some customers decide to renew on traditional WAN services for now.
Steps for a successful evolution

- Network transformation projects do NOT start with technology but with the definition of business objectives
- Understanding the existing infrastructure and application location is key to achieve those business objectives
- Evaluation of the available internal resources will help customer define the appropriate management model
- Only at this stage can technology choices be made

1. Business case long term objectives
2. Audit of current infrastructure
3. Define Business outcomes
4. Define Management model
5. Identify technical outcomes of projects
6. Select technical Solutions for evaluation
Our lessons learned from global SD-WAN implementations

• Not all SD-WAN’s are created equal.
• Don’t believe the hype – watch for trade offs between cheap, fast and good.
• Pilots and trials help deliver the business benefit.
• An SD-WAN is only as strong as its underlay network.
• Architecting a global hybrid network requires a detailed plan.
• Consider what you really know about the applications on your network.
• Defining the service around supply and support is critical in a global deployment.
• SD-WAN overlay can provide a holistic service across different network providers.
• Additional benefits can be gained from using a single provider for underlay network.