The Time Is Now for Service Provider SD-WAN

John Malzahn, Senior Manager, SP Marketing, Cisco
Ray Mota, PhD, CEO & Principal Analyst, ACG Research
Kurt Rosenthal, Senior Product Manager, Managed Services Software, Cisco

Cisco Knowledge Network - Service Provider Webinar Series
Sept 18, 2019
Today’s Presenters

**John Malzahn**
Senior Manager, Service Provider Solutions Marketing
Cisco

**Ray Mota, PhD**
CEO & Principal Analyst
ACG Research

**Kurt Rosenthal**
Senior Product Manager, Managed Services Software
Cisco
The Time is Now
For Service Provider SD-WAN

Ray Mota PhD
rmota@acgcc.com
@rmota
SD-WAN Now

SD-WAN Executive View
Quick Definition of SD-WAN
Market Clarification
SP Opportunity
Use Cases
Why Now

The Time Is Now for Service Provider SD-WAN

In the market for enterprise network services, key technologies are growing at such a rate that you could reasonably spend the next two years learning about them and still be behind the curve. Given the technology in the marketplace today, it will be on an annual basis. As a result, firms will need to make the choice to keep their networks up-to-date in order to remain competitive. If you're not making the choice to keep your network up-to-date, you will be losing out.

Service providers have always played a supporting role in the SD-WAN market, but now they are moving to the forefront. The biggest reasons for one provider over another are cost and ease of use. These factors will continue to be crucial.

In the SD-WAN market, you can have a choice between a platform or a service provider model. If you go with a platform, you can use any combination of providers you want. But if you choose a service provider, you will need to consider the benefits and drawbacks of each option.
Executive view – What initiated SD-WAN

- Not Happy with service
- Not Happy with margins

Enterprises

Service Providers
Enterprise Demand for SD-WAN

- Applications Moving to Multi-Cloud
  - Improve security, virtualize branches, corporate compliance

- Simplification & Centralize Control
  - Adds, Moves and Changes cost are too high, Control and visibility

- Agility
  - Need ZTP – want to reduce 8 to 10 weeks to establish connection

- Cost
  - Want to reduce cost of operating the WAN
What is SD-WAN

- Agnostic of Transport Network
- Support Multi-Vendor VNF’s
- Complete Control and Automation
- Applications Visibility, Intelligent Routing with dynamic path selection

VNF’s (Value Added Services)

- MPLS
- Video/Voice
- Broadband
- Email, browsing
- 4G
- YouTube, Facebook

SD-WAN
SD-WAN – Platform of Innovation

Maximize OpEx with SD-WAN Service Chaining
SD-WAN and VNF Revenue Projections

Simplifying the WAN is a global demand

**SD-WAN Revenue Projections**

**Vendors SD-WAN Revenue Breakdown ($ millions)**

- Service Provider CAGR 58.7%
- DIY CAGR 26%
- Total Vendor CAGR 40%

<table>
<thead>
<tr>
<th>Year</th>
<th>2017</th>
<th>2018</th>
<th>2019 (F)</th>
<th>2020 (F)</th>
<th>2021 (F)</th>
<th>2022 (F)</th>
<th>2023 (F)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenue</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Enterprise (DIY) SD-WAN</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Service Provider SD-WAN</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Top Use Cases across all Verticals
Hybrid WAN

- Enterprises often use second MPLS link as backup (Fig 1) from another provider. However this is in stand by mode and activated only upon failure. This is expensive for enterprises.
- Low cost internet (broadband or LTE) can be used, instead, to replace expensive MPLS backup links, enabled by SD-WAN.
- Second internet link can be used in active-active mode with load balancing thus utilizing the full benefit of available bandwidth.
- Enterprises with single MPLS link (Fig 2) can now have internet as a backup instead of buying a second expensive MPLS link.
Applications Visibility and Intelligent Routing

- Application-based visualization, real-time learning of application status (packet loss, jitter, latency, etc.) across the entire network.
- Intelligently move active path to another path once the quality indicators below certain threshold.
- Application based policy routing for example routing YouTube, Facebook, email on internet path versus critical data like video/VoIP on MPLS path.
- Customer has ability to associate specific applications to specific SLA levels.
- More premium services for customers that can be offered that includes customer dashboards, KPI reporting etc.
Internet Breakout to Cloud

- Applications have moved to cloud based SAAS applications (Salesforce, Box, Office 365 etc.)
- Cloud hosted applications are still backhauled through headquarters using MPLS link.
- Expensive MPLS links, therefore are congested and also lead to increase in latency.
- Using SD-WAN, inexpensive internet links can be used to shunt the traffic through internet therefore saving expensive MPLS bandwidth
There is often a need for fast provisioning of branch office or a new retail shop.
Waiting for the service provider to provide physical WAN connection can sometimes take months.
Owing to LTE availability everywhere, remote branches can be connected overnight using SD-WAN.
Once MPLS or any other WAN link is available, connectivity can be shifted to it with LTE moved as backup seamlessly.
Operationalize Managed Services

Architecture

Orchestration

SDN Controller

Operationalize Managed Services Architecture

Operationalize Managed Services Architecture
Understand your customers requirements

Profit Margin Differential for On-Premises vs. Multi-Tenant Cloud SD-WAN

- SD-WAN Premise: 32%
- VNF Premise: 51%
- SD-WAN Cloud: 57%
- VNF Cloud: 63%
Understand your micro-level economics
Cash Flow for two SMB Scenarios

SD-WAN

SD-WAN & Advanced Security
**Focus on value added VNF**

<table>
<thead>
<tr>
<th></th>
<th>2018</th>
<th>2022</th>
<th>2020 Margin</th>
<th>Additional Revenue</th>
</tr>
</thead>
<tbody>
<tr>
<td>SD-WAN</td>
<td>$8 M</td>
<td>$47 M</td>
<td>34%</td>
<td></td>
</tr>
<tr>
<td>SD-WAN w/Security</td>
<td>$12 M</td>
<td>$71 M</td>
<td>42%</td>
<td>$61 M</td>
</tr>
</tbody>
</table>

+ 8% Increase in Profit Margin
Why Now?
A Race to own the customer platform

VNF – Value Added Services

SD-WAN – Platform of Innovation

Moving from Multi-Provider MPLS to Hybrid WAN
<table>
<thead>
<tr>
<th>Region</th>
<th>Max TAM ($B)</th>
<th>Estimated TAM ($B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>North America</td>
<td>36.0</td>
<td>9.0</td>
</tr>
<tr>
<td>Europe</td>
<td>26.5</td>
<td>6.6</td>
</tr>
<tr>
<td>Middle East</td>
<td>5.6</td>
<td>1.4</td>
</tr>
<tr>
<td>Asia Pacific</td>
<td>35.8</td>
<td>9.0</td>
</tr>
<tr>
<td>Latin America</td>
<td>6.9</td>
<td>1.7</td>
</tr>
<tr>
<td><strong>Total WW</strong></td>
<td><strong>110.8</strong></td>
<td><strong>27.7</strong></td>
</tr>
</tbody>
</table>

- Max TAM is calculated using ACG Segment Data, SP Service Revenue Data, & BAE Simulation
- This is the maximum possible TAM

- Estimated TAM is assumes SD-WAN & VNS penetrates 25% of Max TAM - MPLS penetrations
- This is based on current MPLS penetrations

**2018 Penetration**

- SD-WAN & VNF

**2023 Penetration**

- 32%
SD-WAN Customer Acquisition Cost

CAC

LTV = 4X

SD-WAN Delayed 12 Months

CAC +38%

LTV = 2X

Enterprise Adoption Challenges Success Factors
VNF Margin Impact

- 2015: 31%
- 2016: 37%
- 2017: 39%
- 2018: 41%

Colors:
- VNF Service
- VNF Service (+12 Months)
OpEx – Biggest Issue to Resolve

Don’t just focus on CPE price

Service Providers – Cost and Profit Ratio

OpEx/Rev

Service Providers – ARPU

$45

Fixed Data

Fixed Voice

Mobile Voice

Mobile Data

2009 2018

2009 2018

CAPEX/REVENUE RATIO

Automation Required for OpEx Impact


18.1% 16.9% 16.9% 17.2% 17.7% 18.1% 18.80% 17.2% 16.5% 16.6%

16.6%
**Summary**

**Gain Higher Margins**
Implement proper management, orchestration and provisioning that works with multiple vendors VNF.

**Maximize your TAM**
Create a detail GTM, market & opportunity analysis with customer segments and determine if you want to expand upstream or downstream.

**Differentiate your service offering**
Operationalize SD-WAN service within your footprint while Implementing value added services with VNF's application on top of SD-WAN platform and create Service Chains.

**Security always**
Evaluate SD-WAN vendors security offerings and determine if it meets your customer compliancy requirements.

**Customer mindset**
Understand the propensity to buy and willingness to pay.
Cisco’s SD WAN with MSX Solution
Cisco Managed Services Accelerator (MSX)

Cisco MSX is a ...
- Cloud-native
- Multi-tenant
- Multi-service
- Multi-vendor

... software platform for the quick and easy development, deployment, and management of enterprise managed services.
MSX Reduces SP Complexity and Costs

Lower cost to integrate ... lower cost to operate

One-time OSS / BSS Integration

Increased service velocity and differentiation

MSX Platform

IOT | SDA | Branch NFV | SD-WAN | SPN | SP DC NFV | Cloud | Meraki | Umbrella | Collab

Identity Mgmt | Device Mgmt | Data Platform | Billing | Catalog System | Message Handler | UI Frontend | Service Lookup

UI / API
MSX Accelerates Your Time to Revenue
(Charts based on actual forecasted numbers from major N American telco)

- Managed Service Revenue
- MSXaaS Solution Cost
- Internal Service Solution Costs
- 8 **Weeks** Time to Market with MSXaaS
- 12-18 **Months** Time to Market with Internally Developed Solution

*50%-65% Margin in Year 2*
MSX Simplifies Service Creation & Delivery

One Platform; Many Services
MSX is a full-stack solution that integrates into a BSS/OSS once and enables multiple service offers.
What You Can Do Now

Explore more about SD-WAN and MSX here:

- [www.cisco.com/go/sdwan](http://www.cisco.com/go/sdwan)
- [www.cisco.com/go/msx](http://www.cisco.com/go/msx)

Join others in the DevNet community


- Check out a demonstration
- [www.cisco.com/go/sdwan demos](http://www.cisco.com/go/sdwan demos)
Download Our SD WAN White Paper

- ACG Research white paper “The Time Is Now for Service Provider SD-WAN”
- Available at www.cisco.com/go/msx
Questions?