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
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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
Executive view – What initiated SD-WAN

Not Happy with service

Not Happy with margins

Enterprises

Service Providers
## Enterprise Demand for SD-WAN

<table>
<thead>
<tr>
<th>Demand</th>
<th>Need</th>
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<tbody>
<tr>
<td>Applications Moving to Multi-Cloud</td>
<td>Improve security, virtualize branches, corporate compliance</td>
</tr>
<tr>
<td>Simplification &amp; Centralize Control</td>
<td>Adds, Moves and Changes cost are too high, Control and visibility</td>
</tr>
<tr>
<td>Agility</td>
<td>Need ZTP – want to reduce 8 to 10 weeks to establish connection</td>
</tr>
<tr>
<td>Cost</td>
<td>Want to reduce cost of operating the WAN</td>
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</tbody>
</table>
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
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.
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.

Performance Measurement – Delay, Delay Variation, Loss, BW
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.
Fast Connectivity of Remote Office

• 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
SD-WAN and Hybrid Cloud

Enterprise Data Center A

Enterprise Data Center B

Public Cloud

IaaS

PaaS

SaaS

VNF

CPE

NID

ACG RESEARCH
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

Net Present Value

<table>
<thead>
<tr>
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<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
### SP Global Total Addressable: (TAM)

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

- **Estimated 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: 2%

#### 2023 Penetration
- SD-WAN & VNF: 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%

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
Profit/Rev

Service Providers – ARPU

$45
Fixed Data
Fixed Voice
Mobile Voice
Mobile Data

Automation Required for OpEx Impact

CAPEX/REVENUE RATIO

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

Capitalize on the SD-WAN Opportunity

**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 compliance 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

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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

50%-65% Margin in Year 2

8 Weeks Time to Market with MSXaaS

12-18 Months Time to Market with Internally Developed Solution

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MSX Simplifies Service Creation & Delivery

Faster Time to Market
Multiple Deployment Options
Reduced Development Costs
Differentiated Services

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?