Driving Operational Efficiency and Reduced Time-To-Revenue with Software-Defined Access Management

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The Enterprise Networking Landscape is Evolving

- Apps continue to move to the cloud
- Mobile/IoT devices are proliferating
- Internet edge is moving to the branch
- Complexities are continuing to rise
- Push to reduce WAN and operating costs
- Prioritized apps require optimization
Cisco’s Intent Based Networking

Addressing These Challenges

Managed Experience
Traffic prioritization and segmentation, regardless of transport / connection type, providing valuable telemetry

Policies at Scale
Scale complexity with software vs. labor; Policy based automation

Distributed Security
Distribute security which was once only at the MPLS cloud edge; use the network as a sensor for anomalous activities

Short Term Complexity Is Required for Long-Term Scale – Providing Opportunity for Our SP Partners
Managed Access Market Opportunity for SPs

$41B opportunity by 2020 growing at 5% CAGR

Share of Opportunity by RTM

SOURCE: AMI–Partners ICT Market Opportunity Model, March 2018
Market Moving in Favor of SPs

25% of US Enterprises currently use MSP Managed LAN/WLAN offerings

Net new are looking to subscribe to managed services by 2019

40%

Enterprises will choose existing WAN MSP to offer Managed WLAN/LAN

75%

*Sources: IDC & Gartner
Intent Based Networking – Now is the Time!

- 3100+ Cat 9K Customers
- 70+ SD-Access Deployments
- 1000 Branch Sites per month
- 400+ SD-WAN Deployments

Platform for Digital Business

Industry’s Only End-to-End IBN Strategy

Delivering Greater Value through Software

Data based on Cisco Q2FY18 results
SP WAN Services Strategies Being Employed

**Current MPLS Services**
- Keep MPLS and ISRs in place
- Not able to fully addressing the enterprise challenges

**Extend MPLS with SD-WAN**
- Added end-point flexibility with physical/virtual options
- Leverage MPLS and other transport types with added SD-WAN overlay

**Use SD-WAN to Enable New Revenue Streams**
- Offer new, value added services such as managed security
- Deliver from the branch, SP data center, or even public cloud

**Today**
- High Effort
- Low Value

**Add SD-WAN**
- Decrease Level of Effort
- Increase Value

**New Branch & Cloud Services**
- Least Level of Effort
- Most Value
SP Managed LAN Strategies Being Employed

**Basic Remote Health Management**
- Up/down monitoring
- Basic reactive config changes: VLANs, SSIDs

**Software Defined Access**
- Automated workflows to design and provision the network
- No reliance on IP as identity or VLANs for segmentation
- Intelligent insight into network issues and troubleshooting

**Use Software Defined Access to Enable New Services**
- Group based access control and policy segmentation
- Service Assurance and per-service statistics for client, application, and network health

**Today**
- High Effort
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**Add SD-Access**
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- Increase Value

**New Branch & Cloud Services**
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What is Intent Based Networking?
Intent Based Networking Overview

Digital Business

Network

Translation
Capture business intent, translate to policies, and check integrity

Activation
Orchestrate policies & configure systems

Assurance
Continuous verification, insights & visibility, and corrective actions

Powered By Intent. Informed by Context.
Network Requirements for the Digital Organization

- **Insights & Actions**: Drive Business Innovations
- **Automation & Assurance**: Speed, Simplicity and Visibility
- **Security & Compliance**: Real-time & Dynamic Threat Defense

Cisco Digital Network Architecture (DNA)
Software-Defined Access

- **Identity-based policy & segmentation**: Decoupled security policy definition from VLAN and IP Address
- **Automated network fabric**: Single fabric for wired & wireless with workflow-based automation
- **Insights & telemetry**: Analytics and insights into user and application behavior

DNA Center: Automation, Segmentation, Assurance

- User mobility: Policy stays with user
- IoT network
- Employee network

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Cisco Software-Defined Access Architecture

OSS / BSS
VMS
DNA Center
Campus Fabric
DNA Ready Hardware
Identity Services Engine

Principles
- Open
- Programmable
- API Driven

Automation
Security
Assurance
Software-Defined Access

Solution Components

DNA Center: Simple Workflows

Identity Services Engine

DNA Center

Automation Assurance

Routers

Switches

Wireless AP

WLC
VIRTUAL NETWORKS
Segmentation of Employees, Guests & Vendors

A Logical Collection of Nodes, Users, or Devices
Secure Segmentation Use-cases
Granular Segmentation independent of IP or VLAN

Granular Segmentation independent of IP or VLAN

Context Employees
John
Mike
Context Vendors

Segmentation

Group based Segmentation

Group Perm
Group Temp
Group Projector
Group Printers

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Seamless Wired and Wireless access
A single network fabric

Before SDA
• Repeated policy work for wired-wireless
• Roaming issues across L3 domains
• Chase down IP addresses for troubleshooting

After SDA
• Consistent management across wired-wireless
• Optimal traffic flows with seamless roaming
• Seamless roaming in Fabric and non-Fabric domains
Adopt IoT at scale
End-to-end Segmentation

Before SDA
- Complex segmentation of IoT and user traffic
- Chase down IP addresses for troubleshooting
- Expensive high-voltage Deployments

After SDA
- Intuitive identity-based segmentation with device profiling
- Built-in visibility and granular policy control
- Optimized for low-voltage building deployments

Purpose Built Switches for Digital Building
Automatic Provisioning and Policy
Automatic Security and Segmentation
SD-Access Under The Hood

- Identity and Security Policy
- Fabric Overlay
- Fabric Border
- Control-Plane
- Fabric Underlay
- Fabric Edge
- OSS/BSS
- Applications
- Network Controller
- REST API

Standards-Based Technologies | Technology Convergence | End-end Architecture
SD-Access
A single fabric for your digital ready network

Switching
- Catalyst 9400
- Catalyst 9500
- Catalyst 4500E
- Catalyst 6K
- Nexus 7700
- Catalyst 3850 and 3650

Routing
- ASR-1000-X
- ASR-1000-HX
- ISR 4430
- ISR 4450
- ISR 4351
- ENCS 5400**
- CSRv

Wireless
- AIR-CT5520
- AIR-CT8540
- AIR-CT3504
- Wave 2 APs (1800, 2800, 3800)
- Wave 1 APs* (1700, 2700, 3700)

Extension
- Catalyst Digital Building
- Catalyst 3560-CX
- IE Switches** (2K/3K/4K/5K)

*with Caveats
**Future
SD Access and DNA-C – Multiple Deployment Options

Today: On Premise via DNA Center Appliance
- DNA-Center Orchestration
- Rest-APIs
- Fully programmable

2HCY18: DNA-C integration with VMS
- VMS + DNAC
- Service Lifecycle Management
- Multi-Tenancy
- OSS/BSS Integration

Roadmap: DNA-C integration with NSO
- NSO + DNAC
- Cross Domain Orchestration
- Management
- Multi-Vendor
- OSS/BSS Integration
IBN Enables New Differentiated Services for SPs

**Integrated security**
- Embedded Segmentation
- Encrypted Traffic Analytics
- Embedded Firewall

**Mobility ready**
- Customer Experience
- Operational Insights
- Apple iOS Analytics

**IoT ready**
- Secure Connectivity
- Converged Infrastructure
- Unified Service Management

**Cloud ready**
- Cloud-Agnostic Architecture
- Accelerating SaaS Performance
- Consistent Policy from Edge to Cloud
Use Cases
Policy-Based Segmentation for Access

Demonstration
AmorePacific Future Proofs its Business with Cisco SD-Access

Challenges
• Create future-proof networking infrastructure for the new headquarters
• Build smart workplace environment for optimized communication and collaboration
• Secure a flexible and high-capacity infrastructure

Solutions
• Cisco DNA Center – SD-Access Controller
• Cisco Catalyst 9500, 3850, 3650
• Cisco ISR 4351 and Nexus 7710
• Cisco Access Points 3800 and Wireless LAN Controller 5520

Results
• Simplified network configuration, and automated operations through centralized network monitoring dashboard.
• Enhanced stability through a software-based technology, allowing flexible network segmentation on SD-Access Fabric.
• Built a flexible, future-proof infrastructure that can support any future business requirements.

“Our trust in Cisco’s ability to be a step ahead of the curve by providing a solution that deals with changing trends such as IBN was fundamental”

Jinwoo Kim, Director of IT, AmorePacific

Seoul, South Korea
SD-Access Extension for IOT and Distributed Campus

Demonstration
Children’s Hospital Los Angeles Secures Connected Devices with Cisco SD-Access

Challenges
• Connect and configure 100,000 connected devices in the next 5 years
• Profile and ensure devices are secure
• Enable security profiles and provide a single pane of glass

Solutions
• Cisco DNA Center – SD-Access Controller
• Cisco Catalyst 9500, 3850, 3650
• Cisco Access Points 3800 and Wireless LAN Controller 5520

Results
• Fully equipped with IBN-based intuitive network of the future for wired and wireless.
• Automated policy and single-pane of glass with centralized DNA-Center

“It is clear that SD-Access is the future; it is the only way we can keep up with the explosion of connected devices”

Marty Miller, Technology Specialist, CHLA
Shift IT Time to Business Focus

Benefits of Cisco Intent Based Networking

- Network Provisioning Time Savings: 67%
- Improve Issue Resolution: 80%
- Reduced Security Breach Impact: 48%
- Reduced Operating Expense: 61%

** Capex Reduction based on converging IOT Networks
SP SD Access Adoption Journey

**Now**
- Refresh and automate existing business
- Certify and Insert SD-Access-ready Infrastructure WLAN & LAN

**Medium-Term**
- Qualification with existing SP systems leveraging ISE/NSO/VMS/Prime with single-tenant DNA Center
- Integrate with existing SP Management for LAN/WLAN
- Turn-up basic automation, policy and monitoring

**Future**
- Multi-tenant Cloud-based Managed Services across LAN and WAN with integration of SD-WAN and SD-Access
- Get to Full SD-Access
SD-Access Demonstration

Demonstration
Act Today!
Free DNA Center Appliance Offer
Brownfield Offer for Existing Cisco Infrastructure

BUY $300,000 (Promotional FY2018 Offer)

$500,000 in USD List Price

Eligible DNA Advantage or C1 Advantage Subscriptions*

GET A FREE DNA Center Appliance**

$77,160 Value!! (USD list price)

* Catalyst 3K/4K/6K, Aironet Wireless, Enterprise Routing
** Limit one per customer

Available Globally. Expires end of FY18
Questions? Contact dna-offers-pm@cisco.com

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