Activate the IT Transformation with Unified Access

Speakers:
Mike Spanbauer, Service Director, Current Analysis
Chandan Mehndiratta, Senior Manager, Cisco

April 3, 2013
Welcome

<table>
<thead>
<tr>
<th>#</th>
<th>Session</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Activate the IT Transformation</td>
<td>April 3, 2013</td>
</tr>
<tr>
<td>2</td>
<td>One Network Part 1: Deploying Unified Access</td>
<td>April 17, 2013</td>
</tr>
<tr>
<td>3</td>
<td>One Network Part 2: Simplifying the Network Infrastructure</td>
<td>May 1, 2013</td>
</tr>
<tr>
<td>4</td>
<td>One Policy: Centralized Policy, Control and Enforcement</td>
<td>May 15, 2013</td>
</tr>
<tr>
<td>5</td>
<td>One Management: Converged User Access Management</td>
<td>June 5, 2013</td>
</tr>
</tbody>
</table>

Join the Community: [www.cisco.com/go/talkandlearn](http://www.cisco.com/go/talkandlearn)
A Bit of WLAN Perspective

4/3/2013

Presented by:

Mike Spanbauer
Service Director: Business Technology & Software
Enterprise Mobility Market

- Smartphone Explosion followed by Tablet Eruption
- Huge Surge in Data Usage Across All User Segments
- Infrastructure Built for Wired
- BYOD and IT Consumerization
- Android Popularity/Insecurity
- Smartphone Device/OS Fragmentation
- Do it Yourself Orientation Slowly Changing
- Application Data Sources No Longer DC Based
802.11a/b/g/n/ac & the Controllers that Manage

Radios & Bandwidth

- 11a/b/g were always slower than the wired infrastructure
- Arrival of 11n did force some architecture “re-think”
- Controllers originally were “home-run” then shared, now hybrid
- Local (AP to Switch direct) traffic as well as inter AP traffic has soared
- First gen 11ac runs ~950Mb, second gen nearly 7Gb
- Where are the controller(s)
- How many APs/clients, how fast?
- Local or cloud based branch control
Where does the average enterprise stand on BYOD?

BYOD policies still MIA for many enterprises

- Enterprises struggle to get their arms around policy creation

Survey Conducted in October, 2012
There is still (some) time

What to Consider

- Device roadmap and radio support (11ac is coming, but there is time)
- Wired architecture
- Controller model
- Security - both device and user
- Management
- Branch & Remote Office Strategy
  - Application resilience

- The all wireless enterprise is nearly upon us - Will You Be Prepared?
Industry Transformations

Device Explosion

90 Million
Tablets after holiday season in USA

2.5 devices
per person

By 2015, Smartphones and Tablets exceed PC by 2x

Changing Network Traffic

Average mobile user to generate about 1GB/month vs. 63MB today

Mobile data will grow x26

About 67% will be video

IT Transformations

BYOD, Mobility, Cloud

IT projects moving to LoBs
Smarter Business Processes
Lower TCO
### Challenges: Perception Gap Between IT and End User

<table>
<thead>
<tr>
<th>Question</th>
<th>USER</th>
<th>IT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is Network Performance a Bottleneck?</td>
<td>46%</td>
<td>39%</td>
</tr>
<tr>
<td>LACK OF SCALE AND PERFORMANCE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Is Your Primary Device Wireless?</td>
<td>44%</td>
<td>30%</td>
</tr>
<tr>
<td>SILO’ED WIRED-WIRELESS NETWORK</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Is Mobile Device Used &gt; 75% of Time for Personal Use?</td>
<td>54%</td>
<td>35%</td>
</tr>
<tr>
<td>LACK OF VISIBILITY AND CONTROL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Is On-boarding Complex?</td>
<td>65%</td>
<td>67%</td>
</tr>
<tr>
<td>INCONSISTENT POLICY</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Key Findings from Cisco Global Work Your Way Survey, Jan 2013

Only 11% of Users Access Business Applications from the Corporate Office 100% of the Time
The Need for IT Evolution

Secure Wired, Wireless, VPN

Manage Complexity and Scale

Deliver a Consistent High-quality Experience
ONE Network
- Converged wired and wireless
- Consistent Network Wide Intelligence and Operations
- Integrated into Cisco Open Networking Environment (ONE)

ONE Management
- Single platform for wired/wireless
- Lifecycle management, assurance, compliance
- 360 degree user experience

ONE Policy
- Central policy platform for wired/wireless/VPN
- 3rd party MDM integration

The Intelligent Platform for a Connected World
Before Unified Access

IT Focus
- LAN
- Wireless
- Security

Policy Enforcement
- Wired Policies
- Wireless Policies
- Guest / VPN Policies

Management and Troubleshooting
- LAN Mgmt.
- Wireless Mgmt.
- Application Mgmt.
- Identity Mgmt.

Access Infrastructure
- Access Switch
- Wireless Controller
- Access Point
- BYOD Growth

End-User Devices
- Wired Devices
- Laptops
- Mobile Phones
- Tablets
- BYOD Growth
With Cisco Unified Access

IT Focus
One Policy
One Management
One Network
Next-Gen IT

Simple
Secure
Lower TCO

Wired Policies
Wireless Policies
Guest / VPN Policies

Application Mgmt.
Identity Mgmt.
LAN Mgmt.
Wireless Mgmt.

End-User

Next-Gen IT

Simple
Secure
Lower TCO

New Connected Experiences
Increased Productivity

End-User

Next-Gen IT
Cisco Enterprise and Cloud-Managed Networking Portfolio

Cisco Networking Portfolio

Cisco Enterprise Portfolio

Prime
ISE

3rd Party MDM Integration
WLAN Controllers
Catalyst 2K/3K/4K/6K
Catalyst 3850 with integrated controller
Aironet Access Points
ASA - Firewall
ISR - Routing

Cisco Cloud Managed

Cloud Management & Policy
Systems Manager
Cloud Controller
MS Switch
MR AP's
MX Series Security Appliances

Unmatched Deployment Flexibility
Ease of Use
One Policy – Identity Services Engine
Industry’s First Context-Based Wired+Wireless+WAN Policy/Guest Management

BEFORE
Separate policy and guest management

AFTER
Unified context-based policy management for employees and guests across the network

- Account for every device and block unwanted devices
- AAA + Profiling, Provisioning, and Posturing = Secure BYOD

Improved Control

Wired | Wireless | WAN


Simple | Unified | Automated

Cisco ISE—Provides Unparalleled Control
<table>
<thead>
<tr>
<th>User</th>
<th>Device (What)</th>
<th>Access (Which)</th>
<th>Location (Where)</th>
<th>Time (When)</th>
<th>Policy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Guest</td>
<td>Personal Device</td>
<td>Wireless</td>
<td>Conference Rooms</td>
<td>M–S 8 am–6 pm</td>
<td>Captive Portal DMZ Guest Tunnel</td>
</tr>
<tr>
<td>Contractor</td>
<td>Contractor Device</td>
<td>Wired</td>
<td>Contractor cubicles</td>
<td>Anytime</td>
<td>Contractor VLAN</td>
</tr>
<tr>
<td></td>
<td>Personal Device</td>
<td>Wireless</td>
<td>No HR or Finance spaces</td>
<td>M – S 8 am -6 pm</td>
<td>Contractor ACL</td>
</tr>
<tr>
<td>Employee</td>
<td>Corporate Device</td>
<td>Wired</td>
<td>Anywhere</td>
<td>Anywhere</td>
<td>Employee VLAN</td>
</tr>
<tr>
<td></td>
<td>Personal Device</td>
<td>Wireless</td>
<td>Anywhere</td>
<td>Anywhere</td>
<td>Employee ACL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>VPN</td>
<td>Anywhere</td>
<td>Anywhere</td>
<td></td>
</tr>
</tbody>
</table>

**IF** $\text{Identity}$ AND $\text{Device}$ AND $\text{Access}$ AND $\text{Location}$ AND $\text{Time}$ **THEN** $\text{Policy}$
One Policy Enhancements

Cisco Identity Services Engine 1.2*

3rd Party MDM Integration
Industry’s first real-time device feed service via cloud
Automatic Policy Compliance Check

*Availability in 2nd Quarter of CY2013
One Management – Prime Infrastructure
Single Pane of Glass View and Management of WLAN – LAN - WAN

BEFORE
Separated management

WLAN
LAN
WAN

Siloed Inefficient Operational Model
Repetitive Manual correlation of data
Error Prone Consumes time and resources

AFTER
Comprehensive user and Unified Access network
Visibility & advanced troubleshooting

WLAN
LAN
WAN
+ Identity

Simple Improves IT efficiency
Unified Single view of all user access data
Advanced Troubleshooting Less time and resources consumed

Cisco Prime Infrastructure – Provides Unparalleled Visibility
One Management with Cisco Prime Infrastructure

Operational Productivity

- Converged Wired+Wireless
- Comprehensive Lifecycle Management
- Simplified Technology Deployment
- Day One Support

End-User Productivity

- Application Performance
- User & Site Visibility
- Real-time Troubleshooting
- Detailed Traffic Analysis

Cisco Prime Infrastructure

Lifecycle

Assurance

Best Practices

Prime 360 Experience

Prime User Experience

Integrated Platform

cisco.com

Operational Excellence
One Management Enhancements

Cisco Prime Infrastructure 2.0

Prime 360 View

- Simplified troubleshooting and remediation improves service and end user experience
- Brings together multiple sources of information for effective problem isolation for device, application and users

- New workflows, platform and technology support
- Simplify configuration and management of the new 3850 converged access switch and 5760 wireless controller
  - Out-of-the-box templates and best practices for quick error-free deployment
  - New workflows for mobility architecture support
Converged Wired-Wireless Access

Cisco Catalyst 3850 Switch

**WIRELESS**
- 802.11n
- CleanAir
- VideoStream
- 802.11ac Ready

**WIRED**
- Stackpower
- Trustsec*
- AVC/Medianet*
- Granular QoS
- Smart Operations
- EnergyWise*

#1 WLAN Market Share
Source: Dell Oro
- 802.11n
- CleanAir
- VideoStream
- 802.11ac Ready

#1 LAN Switching Market Share
Source: Dell Oro
- Stackpower
- Trustsec*
- AVC/Medianet*
- Granular QoS
- Smart Operations
- EnergyWise*

One Physical Infrastructure, Unified Access Data Plane ASIC
One Operating System—IOS-XE
Open APIs—OnePk

*1 year Roadmap
High Performance IOS-Based Wireless Controller

Cisco 5760 Wireless LAN Controller

Powered by Unified Access Data Plane (UADP) ASIC

- **High Performance**: 60Gb throughput, 1000APs, 12k clients
- **Rich Feature Set**: Application Visibility and Control*, TrustSec*, Granular QoS
- **Maximum Resiliency**: Centralized or Converged

IOS Excellence—Now on Wireless

*1 year Roadmap
Scalable and Programmable ASIC

Unified Access Data Plane (UADP) ASIC

$100M+ R&D Investment

High Scale – 1.4B Transistors

First Access ASIC for Wired and Wireless Traffic Processing

Future integration with Cisco ONE (Open Network Environment)

Programmable: Fast Feature Rollout with Investment Protection
Common Functionality for Wired & Wireless

- **Advanced Security**: Layer 2/3 security, TrustSec capable for scalable, secure infrastructure
- **Application Visibility and Control**: Application-Aware Networking to Enable Collaboration, Video, and Other Apps
- **Resiliency**: Maximized Network Availability with Virtual Switching and Stateful Switch Over
- **Smart Operations**: Reduce Operating Expenses and Improve Network Application and Service Delivery

**Common OS Consistency**: IOS 15.0
Converged Access Deployment Mode

**Branch**
- Up to 50 Access Points
- Integrated Controller Options

**Small Campus**
- Up to 250 Access Points

**Large Campus**
- Greater Than 250 Access Points
- External Mobility Controller Needed

**Integrated Controller Options**
- **NEW:** Catalyst 3850
- Prime
- ISE
- DMZ
- Access Point
- Employee
- Guest

**NEW:** Catalyst 3850

**Upgraded: 5508 or WISM2 or NEW: 5760

**DMZ**
- Capwap Tunnel
- Standard Ethernet, No Tunnels
- Guest Tunnel from Switch to DMZ Controller
Network Wide Intelligence and Operations

Common OS Across Access, Distribution, and Backbone–IOS

Network-Wide Intelligence

- Visibility
- Policy
- Resiliency
- Operations

Operational Simplicity, Faster Service Rollout and Troubleshooting
Summary: Cisco Unified Access Enterprise Solution

Making IT More Responsive to the Business
Less Time on IT Operations, More Time on IT Business Innovation

• **One Policy:** World-class unified policy definition and enforcement across wired, wireless and VPN

• **One Management:** Single solution for comprehensive lifecycle management and user, network and application visibility

• **One Network:** Integrated Industry-leading networking and mobility capabilities for a single network infrastructure
Thank You