Cisco Borderless Networks 4
What’s New in Mobility and Management
New Cisco Wireless Announcements

- Extending Management and Control

**Management**
- Cisco Prime Network Control System

**Services**
- OfficeExtend
- Clientlink
- VideoStream
- CleanAir
- PCI, wIPS
- ISE

**Controllers**
- 2500 Series
- Controller on ISR G2
- Wireless Service Module 2
- 5500 Series
- Flex 7500 Series

**Access Points**
- 600 Series OfficeExtend
- Indoor APs
- Outdoor APs
Flex Connect Solution
Cisco Flex 7500 Series Cloud Controller

Key Product Capabilities

- Supports up to 500 Branch offices with up to 50 access points per branch
- Configure, manage and troubleshoot up to 2,000 access points and 20,000 clients from the data center
- WAN tolerance & survivability features specifically designed for multisite wireless deployments
- Rich RF features supported Clean Air, Clientlink
- Secure guest access, rogue detection for Payment Card Industry Data Security Standard (PCI DSS) compliance
- Pay as you grow model starting at 300 access point support

Customer Value Proposition

- Highly scalable for supporting many enterprise branches on a single controller
- Operational efficiency due to consolidation of operations to the datacenter
- Designed specifically for wireless branches with local survivability features

Sales Value Proposition

- Economies of scale opens up opportunity in retail, financial services, hospitality, insurance
- Lower OpEx for customers having large number of branches

Partner Value Proposition

- Highly scalable & flexible platform for offering WLAN managed services

New

Highly scalable centralized controller for lean branch deployments
FlexConnect Solution

Data Center

File Server

ACS 5.2

Flex 7500 Cluster

Call Manager

Branch Office

Internet
http://www.cisco.com

VPN
WAN

AP-1

Local Server

AP-2

RTP

Control Channel

Internet Traffic

DataCenter Data Traffic

Branch Data Traffic

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Cisco Flex 7500 – Client Authentication Flexibility

Central Authentication – WLC Authenticator

- All the client authentication requests travels through Central Controller
- If Controller is not reachable, then no clients can authenticate
Cisco Flex 7500 – Client Authentication Flexibility

Central Authentication – AP Authenticator

- All the client authentication requests travels straight from AP to ACS Server.
- If Controller is not reachable, clients can still continue to authenticate and access network services.
Cisco Flex 7500 – Client Authentication Flexibility

Local Branch Authentication – AP Authenticator

- All the client authentication requests travels straight from AP to Local Branch ACS Server.
- If WAN link is down, clients can still continue to authenticate and access network services.
All the client authenticated directly by the AP.
If WAN link & Local Backup Radius Server is down clients can still continue to authenticate and access network services.
Cisco 600 OfficeExtend Access Point
802.11n Teleworker AP
NEW! Cisco 600 OfficeExtend Access Point

The Industry's only Dual Band AP purposely designed for the teleworker

- 802.11n AP with dual concurrent 2.4GHz and 5GHz radios for teleworker home
- 4 local Ethernet ports
  - 1 Corporate-bound port, 3 for local Ethernet devices
    - Up to 4 clients behind the corporate port
- Corporate SSID and user-configurable Personal SSID
- Traffic segmenting supported (corporate vs. personal traffic)
- Local DHCP and NAT support
- Control and data plane encryption
A Seamless and Secure Corporate Experience… At HOME

Extends Borderless Network services from the core to the home

Industry Standard CAPWAP Encryption using DTLS
No Impact to controllers | Line rate support for broadband connections

Segments and Supports Home Network Activities

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OfficeExtend Architecture

Enterprise

Wireless VLANs

OEAP WLAN Controller

DMZ

Voice

Corporate Firewall

Internet Services

ISP Modem w/ Integrated Router

Traffic Segmentation

Internet

Home Office

Personal Home Wireless Network

Personal SSID: myhome

Cisco OEAP-600

Corporate SSID: alpha-voice

Employee 802.11 handset

Wired Corporate Cisco 7960 IP Phone

Employee Laptop

Home Office Corporate Network

Corporate SSID: alpha

Family PC

iPod Touch

Printer

Home Office
Cisco Teleworker Solution Lineup

Key Incremental Benefits with OEAP600
- Seamless wireless experience
- Always-on IP phone
- Simultaneously supports multiple wired/wireless devices
- No client-specific SW req’d

Key Incremental Benefits with CVO
- Higher performance
- Comprehensive QoS guaranteed voice/video/Telepresence over broadband
- Prioritize employee traffic over family
- Multiple wired devices
- 3G/4G WAN options
- Firewall/IPS

AnyConnect → “Baseline”
Wireless IPS
Cisco Adaptive Wireless IPS with “Enhanced Local Mode (ELM)

AwIPS scanning into data serving access points - This functionality is available as a free SW download for existing wIPS Monitor Mode customers.

<table>
<thead>
<tr>
<th>Attacks Detected</th>
<th>ELM</th>
<th>Monitor Mode</th>
<th>ELM</th>
<th>Monitor Mode</th>
</tr>
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<tbody>
<tr>
<td>Denial of Service</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
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<tr>
<td>Association Flood</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
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<tr>
<td>Association Table Overflow</td>
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<tr>
<td>Authentication Flood</td>
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<td>Y</td>
<td>Y</td>
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<td>EAPOL-Start attack</td>
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<td>Y</td>
<td>Y</td>
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<td>PS-Poll flood</td>
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<td>Y</td>
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<tr>
<td>Probe request flood</td>
<td>N</td>
<td>Y</td>
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<tr>
<td>Unauthorized association</td>
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<td>Denial of Service Against Network</td>
<td>N</td>
<td>Y</td>
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<tr>
<td>CTS flood</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
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<td>Queensland University of Technology Flood</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
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<tr>
<td>BE flooding</td>
<td>N</td>
<td>N</td>
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<table>
<thead>
<tr>
<th>Attack Category</th>
<th>ELM</th>
<th>Monitor Mode</th>
<th>ELM</th>
<th>Monitor Mode</th>
</tr>
</thead>
<tbody>
<tr>
<td>Client Servicing</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
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<td>Rogue Detection and Containment</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
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<td>MSE Needed</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
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<td>WCS needed</td>
<td>No</td>
<td>No</td>
<td>Yes (Plus)</td>
<td>Yes (Plus)</td>
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<td>Attack Encyclopedia in Alerts</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
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<td>Forensics</td>
<td>No</td>
<td>No</td>
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<td>Yes</td>
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<tr>
<td>Anomaly Detection</td>
<td>No</td>
<td>No</td>
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<td>Yes</td>
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<td>Event Correlation</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
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<tr>
<td>HREAP Support</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>

Without ELM

- Data Serving
- Monitor Mode

With ELM

- Data Serving
- Single Data and WiIPS AP

Alarm Number

- 95: CTS_FLOOD
- 112: ELM Alarms On-channel NO Off-channel YES
- 115: VIRTUAL_CARRIER
- 157: QUEENLAND
- 102: RTS_FLOOD
- 113: FAKE_DHCP_SERVER
Unified Wired and Wireless Policy
Cisco ISE Device Profiling and Policy Steps

**Phase 1**
Device Authentication

- EAP

**Phase 2**
Device Identification

- ISE

**Phase 3**
Device Policy

- WLC
  - **QoS**
    - Silver
  - **ACL**
    - Allow-All
  - **VLAN**
    - Employee

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- Limited Access

- Allowed Device?

- Allowed Access
Cisco ISE : Wireless Use Case
Cisco Solution Advantages

- Only Cisco can provide unified wired and wireless policy (ISE) and management (NCS).

Centralized Monitoring of Wired and Wireless Networking, Users and Endpoints

Central Point of Policy for Wired and Wireless Users and Endpoints
BN4 Mobility Portfolio
Cisco 802.11n AP Portfolio

<table>
<thead>
<tr>
<th>Business Ready</th>
<th>Rich Media</th>
<th>Mission Critical</th>
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<tbody>
<tr>
<td>Carpeted</td>
<td>1260</td>
<td>3500e</td>
</tr>
<tr>
<td>Wired+Wireless</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Teleworker</td>
<td>600</td>
<td>1040</td>
</tr>
<tr>
<td></td>
<td>1140</td>
<td>3500i</td>
</tr>
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</table>

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Controller Portfolio
Comprehensive solution for all segments

NEW

Campus and Full Service Branch

NEW

2500 WLCM2

NEW

5500 WiSM2

NEW

Lean Branch

NEW

7500

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Cisco Prime
At the end of the session, the participants should be able to:

• Understand the new features available with these new Cisco Prime products:
  • Cisco Prime LAN Management Solution (LMS) 4.1
  • Cisco Prime Network Analysis Module (NAM) 5.1
  • Cisco Prime Collaboration Manager (CM) 1.0
• Explain the detailed benefits and value of Cisco Prime Network Control System (NCS) 1.0
Cisco Prime
LAN Management Solution (LMS) 4.1

Cisco Prime LMS 4.1

- Work Center enhancements for Medianet, EnergyWise and TrustSec
  Enhanced application performance and energy savings
- New Cisco Smart Business Architecture (SBA) templates
  Integrated Cisco validated designs and best practices
- Smart Interactions
  Automated self-help tools speed the resolution of network problems and TAC trouble tickets

An evolution of CiscoWorks LMS 4.0
Borderless Networks Services
New Enhancements in Cisco Prime LMS 4.1

• Medianet Work Center
  • Readiness assessment for Medianet 2.2
  • IPSLA video operations
  • Template support for performance monitoring, QoS, PfR, RSVP and video trans-coding
  • Added Medianet endpoint dashboard

• EnergyWise Work Center
  • Auto learning of EnergyWise domains
  • Support for EnergyWise SDK compatible endpoints like PC’s and smart IP phones
  • Expose EnergyWise domain information through database view to other apps like Orchestrator

• TrustSec/Identity Work Center
  • Mac-sec configuration support on access ports
  • Configuration template for SGA
Cisco Smart Business Architecture
A Blueprint for Business Success

High-Performance Network
• Pre-tested modular network architecture with integrated network-level Smart Services

Prescriptive Solutions
• Cisco tested and validated solutions tailored to your business size and requirements now and in the future

Modular Design
• Component-based design delivers future flexibility and ensures new projects build on your existing investment

SBA Designs
• Scalable solutions from 100 to 10,000 endpoints
• Investment protection and migration strategies for growing businesses

Tested and Validated Solutions Work Together
Comprehensive Architectural Solution
Modular, Systematic Approach
Expert Partner Installation and Configuration
Speed Problem Resolution
Utilizing Cisco Smart Interactions

USE CASE: Help desk operator sees a problem with a core switch and uses Cisco smart interactions to help quickly isolate and solve the problem

1. Fault notification on core switch
2. Operator engages support community
3. If no answer…Validates issue and opens TAC case
4. TAC engineer validates problem
5. If needed….RMA issued to resolve problem

Seamless access to Cisco support communities
Significantly reduces time required to resolve problems
Cisco Prime
Network Analysis Module (NAM) 5.1

• NAM-3 10 Gig blade for Catalyst 6500 (SW v. 5.0)
  10X performance and extended storage
• Introduction on ISR G2 /SRE
• Integration with Performance Agent on ISR G2
• Integrated reporting with WAAS CM
• State-of-art dashboards and workflows

An evolution of Cisco NAM 5.0
Cisco Prime
Collaboration Manager (CM) 1.0

- End-to-end visibility and isolation of video-related issues for Cisco TelePresence sessions, endpoints, and the network
- Detailed analysis of the media path with critical fault and performance statistics
- Comprehensive inventory, health, and status
- Reports for usage and problem history
Automated Video and Voice
Introducing: Medianet Enhancements, MXE, and Management

Quality of Experience

Planning | Auto Configuration | Visibility and Monitoring | Rapid Problem Resolution | Optimization

Any to Any Video Adaptation

Automation and rapid problem resolution in the network to deliver application quality of experience, particularly video.
Automated Video and Voice
What’s New?

Endpoints / Users

Medianet Services

- Media Monitoring:
  - Performance monitor
  - Mediatrace
  - IPSLA VO

- Auto Configuration:
  - Auto smart ports

- Flow Metadata

Media Services Interface

Media Services Proxy

Network Elements

Network Management

- Cisco Prime: Collaboration Manager 1.0
- LAN Management Solution 4.1
- Network Analysis Module 5.1

Medianet Readiness Assessment Service

Cisco Developer Network Tools
Medianet Media Monitoring Features

Key Product Capabilities
- Advanced video troubleshooting and monitoring
- Pre-deployment assessment
- Supported on:
  - Cisco ISR G2 routers; Catalyst 3K/6K switches;
- Available as a Feature License (ISR) or Base IOS (Catalyst)

Customer Value Proposition
Takes the guesswork out of deploying video
Enhanced visibility of network performance with extensive video services running
Assured quality user experience

Sales Value Proposition
Key Cisco Borderless Networks Infrastructure differentiator
Valuable addition to video endpoint sales
Provides reason for upgrade and migration

Improved visibility to assess and troubleshoot video impact on the network
How is Cisco Prime NCS Different in the Market?

- Enables a shift from network element to user and endpoint management
- Complete visibility into endpoint connectivity – regardless of device, network or location
- Converged wired, wireless and policy user access information in a single view
- Helps IT better leverage resources to resolve end-user access problems faster
- Built on proven Wireless Control System technology for comprehensive wireless lifecycle management
- Central view of Cisco leading wireless innovations: CleanAir, Adaptive WIPs, Context Aware and Identity Service Engine
I can't get access to the financial data I need. I guess both the wireless and wired networks must be down!

Sorry Amy, as a contractor, you are not authorized to access financial data.

The Tech Searches on Her Name and Immediately Can See Full Diagnostics
Key Takeaways

The Key Takeaways of this presentation were:

- Cisco Prime LMS 4.1 is an evolution of CiscoWorks LMS 4.0 offering several new features and enhancements
- Cisco Prime NAM 5.1 is an evolution of Cisco NAM 5.0 now offering new form factors
- Cisco Prime Collaboration Manager (CM) 1.0 is a new product for managing and troubleshooting video collaboration including TelePresence
- Cisco Prime NCS delivers converged user and access management for wired and wireless networks with comprehensive WLAN lifecycle management
Thank you.