Cisco Unified Access

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We Are Entering the Age of the Internet of Everything
The Network Is the Platform to Connect the Previously Unconnected

99% of “things” are unconnected

Devices
Device Growth: 2.5 / person*
BYOD

Changing Traffic Patterns
Traffic Growth: 4x
Transition to Cloud*

Mobility
Wi-Fi: 50% of traffic
Video over Mobile Devices*

The Network Has to Change

Converged
Consistent
Scalable
Efficient

*Cisco VNI Study 2012
Shifting the Integration Point from User to the Network

User Centric Integration

- On-boarding complexity
- Inconsistent experience across devices, apps
- User-level policy

Network Centric Integration

- One Access: Wired, Wireless, or VPN
- One Experience: Device-agnostic
- Application aware/specific: Business, Recreational

Sources All Data
Handles All Devices
Shapes All Streams
Routes All Requests
Controls All Flows
Touches All Users
Sees All Traffic
Controls All Flows
Sees All Traffic

Network Centric Integration

NETWORK
Cisco’s Architectural Approach
Focus Moves to Key System Pillars Addressing Customer Pain Points

Unified Access

SecureX

Cloud Intelligent Networks

Connected Industries

Key IT Initiatives

BYOD
Desktop Virtualization
Pervasive Video
Remote Expert
Cloud Computing
IT/OT Convergence

Network & End-Point Services
Technology Innovation

EnergyWise
Energy Management

TrustSec
Policy Enforcement

App Velocity
App Performance

Medianet
Multimedia Optimization

SecureAppliance
and Firewall

Wireless
Routing
Switching
Application Networking/ Optimization
Cisco Unified Access

Connecting People

Connecting Clouds

Connecting Things

One Policy. One Management. One Network.
Accelerating Business Innovation and Growth

ONE Network
- Converged wired and wireless
- Consistent Network Wide Intelligence and Operations
- Integrated into Cisco Open Network Environment (ONE)

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

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

The Intelligent Platform for a Connected World
The Impact of Unified Access Across Enterprises

Enabling New Connected Experiences

**FINANCIAL:** Low-latency trading via highly scalable network

**HEALTHCARE:** Better patient care with tablet-based medical data

**EDUCATION:** Variety of learning options for online and onsite student experience

**RETAIL:** Location-based personalized promotions

**MANUFACTURING:** Efficient operations with converged IT and real-time plant data

**GOVERNMENT:** Real-time information access across different agencies
One Policy
One Policy – Cisco Identity Services Engine (ISE)

Simplified Policy Management

Context-Aware
Comprehensive secure access based on Who, What, When, Where, How

Central Policy Platform
Consistent policy for LAN, WLAN, and VPN

MDM Integration
Compliance assessment and network access control of mobile endpoints
Cisco Identity Services Engine: Context-aware Policy

Identity Context

- WHO (Identity)
- WHAT (Access Patterns)
- WHERE (Location)
- WHEN (Timing)
- HOW (Device)

Security Policy Attributes

- Wired
- Wireless
- VPN

VM client, IP device, guest, employee, remote user

Replaces AAA & RADIUS, NAC, guest management & device identity servers
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<td>Simplified Onboarding via My Device page</td>
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Cisco Identity Services Engine (ISE)
Common Policy Control for Wired, Wireless, and Mobile

- COMPREHENSIVE SECURE ACCESS
- MORE PRODUCTIVE WORKERS
- LOWER OPERATIONS COSTS
One Network
One Network

Simplified Network Operation

**Converged LAN and WLAN Infrastructure**
One common LAN and WLAN fabric optimized for flexibility and performance

**Network-Wide Visibility and Intelligence**
One common operating system optimized for flexibility and visibility

**Cisco OnePK Integration**
One common set of APs and SDKs in readiness for Software Defined Networking
One Network in Action – Common Fabric and OS

**Common Fabric for LAN and WLAN**
- Unified Access Data Plane ASIC (UADP)
- Programmable
- SDN-Ready

**Common Cisco IOS for LAN and WLAN**

Operational Consistency

(Same Well-known Commands)

- Show
- Clear
- Save
- Set
- Ping
- Run
- Config
- Debug
- AP
- Wireless Mobility Controller
- Copy
- dot11
- Antenna
- Rename
- Wireless Management Interface

*Cisco VNI Study 2012*
Converged Wired-Wireless Access

WIRELESS

- 802.11n
- CleanAir
- VideoStream
- 802.11ac Ready

480G W/Stacking
Up to 40G Integrated WLAN Controller

WIRED

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

One Physical Infrastructure, Unified Access Data Plane (UADP) ASIC

One Operating System — IOS-XE

Open APIs — OnePk

*1 year Roadmap
Enhanced User Experience with Differentiated Bandwidth Allocation

- Per AP
- Per Radio
  - 2.4GHz
  - 5GHz
- Per SSID
  - SSID 1—Guest
  - SSID 2—Employee
- Per User
  - CEO/CxO
  - HR
  - IT
  - Engineering
  - Finance
- Per Application*
  - YouTube
  - Facebook
  - Salesforce
  - Oracle
  - Netflix

*Roadmap
Converged Wired + Wireless Access Differentiation

- **Single platform** for wired and wireless
  - Common IOS, same administration point, one release

- **Network wide visibility** for faster troubleshooting
  - Wired and wireless traffic visible at every hop

- **Consistent security and quality of service control**
  - Hierarchical bandwidth management and distributed policy enforcement

- **Maximum resiliency** with fast stateful recovery
  - Layered network high availability design with stateful switchover

- **Scale** with distributed wired and wireless data plane
  - 480G stack bandwidth; 40G wireless/switch; efficient multicast
One Management
Operational Productivity
LAN and WLAN lifecycle management and assurance

End-User Productivity
360 degree view improves user experience, speeds problem remediation

Operational Excellence
Integrated best practices assure consistency and speeds device rollouts

One Management – Cisco Prime Infrastructure (PI)
Simplified Network Management
Benefits of One Management

- Unified LAN and WLAN Management: Simplified IT operation with a single view
- Comprehensive Lifecycle Management: Simplify Design, Deploy, Operate, Admin, and Reporting functions
- End-to-end Application and Service Assurance: Quickly Isolate and Remediate Application Performance Issues
- Prime 360 Experience: Simplify the Diagnosis and Remediation of Network Issues
- Easy Deployment of Cisco Advanced Technologies: Quickly Deploy functionality using Cisco Best Practices
Cisco Prime Infrastructure
Integrated wired/wireless lifecycle and assurance management

Integrated Platform

- Comprehensive Lifecycle mgmt – simplify end-to-end network operations
- Deep application visibility and performance Assurance
- Rich compliance auditing and reporting
- One install – Single-pane-of-glass solution

Benefits

- Consolidation and extensibility – reduces OpEx and maximizes ROI
- Accelerates application and service rollout, reduces downtime
- Consistent end-user quality of experience
- Maximizes the network investment
End-to-end Life Cycle Management

- Centralized Discovery, Inventory and Configuration Management
- Customizable out-of-the-box Cisco best practices and validated design configuration templates
- Unified Access Management and Client Tracking
- Fault and performance monitoring
- Infrastructure lifecycle reports - EoX, Contract, PSIRT
- 3rd party device support – discover and monitor RFC 1213 compatible 3rd party devices

- Reduces OpEx and maximizes ROI through consolidation
- Lifecycle management support for wired and wireless
- Unified access management** and client tracking
Assurance: Application Visibility and End User Experience

- Provides end-to-end visibility for service-aware networking and assurance by applications, services and end-users
- Normalizes, correlates and aggregates network instrumentation for consistent end-to-end visibility and faster troubleshooting
- Flexible NetFlow, AVC, NBAR, PA, Medianet
- Multi-NAM management
- Complete network and traffic instrumentation and analysis

- Consistent end-user Quality of Experience
- Real time Voice/Video troubleshooting
- Correlates and normalizes multiple data sources
Best Practices: Help Meet IT and Regulatory Best Practices

- Customizable out-of-the-box Cisco best practices and validated design configuration templates
- Regulatory compliance readiness module for PCI, HIPAA, SOX, DISA, ISO27002, etc.,
- Reporting: Automates compliance violations remediation

- Integrated Cisco best practices simplify management
- Reduces time required to prepare for regulatory audits
- Lower operational expenses
Network Wide Intelligence and Operations

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<th>Branch</th>
<th>Large Campus</th>
<th>Small Campus</th>
<th>Common OS Across Access, Distribution, and Backbone–IOS</th>
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<td>Operational Simplicity, Faster Service Rollout and Troubleshooting</td>
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Before Unified Access

Net Mgmt. Personnel
- 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

End-User Devices
- Wired Devices
- Laptops
- Mobile Phones
- Tablets
- BYOD Growth
Unified Access Benefits: Simplifying IT Operations

- **Simplified BYOD**
- **Lower TCO**
- **Innovative Connected Services**
- **High Quality Experience**
- **Increased Productivity**
Summary
Cisco Unified Access

One Policy
Simplified and unified policy definition and enforcement across LAN and WLAN

One Management
Simplified and unified network and lifecycle management across LAN and WLAN

One Network
Simplified and unified operating system and fabric for LAN and WLAN

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