

# Cisco Unified Access: The Intelligent Platform for a Connected World



## Value of Cisco Unified Access

Cisco Unified Access provides IT with the platform it needs to adapt to rapidly changing business, technologies, and user expectations with unified policy, management, and network devices for a single network infrastructure with common policy and management across wired and wireless networks and VPNs.

Cisco Unified Access™ is an intelligent network platform that enables new connected experiences and new operational efficiency. It is the business foundation for bring your own device (BYOD) and the Internet of Everything (IoE), designed to intelligently connect people, processes, data, and things.

The Cisco Unified Access solution delivers an integrated and simplified intelligent network platform that enables IT to spend less time running the network and more time focusing on innovations that can differentiate and transform the business. This is achieved by bringing wireless control and wired switching into a single infrastructure devices as well as centralizing the visibility and deployment of wired and wireless devices in a single view with a centralized policy that spans the entire network.

## Problems That Cisco Unified Access Helps Solve

Businesses must meet growing demands for bandwidth and network performance, mitigate the security risks of having company data on mobile devices, and maintain control over and visibility into the growing number of mobile users and devices accessing their networks. Organizations are challenged with:

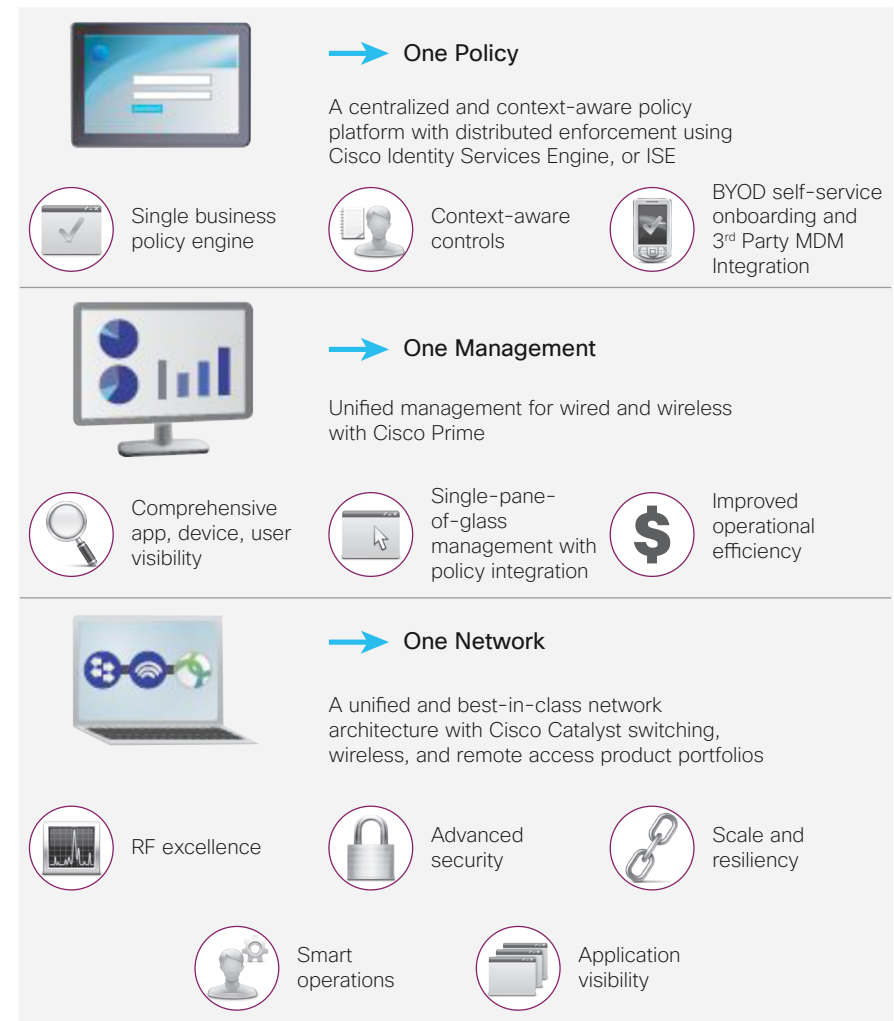
- Inconsistency of disparate networks, policies, user experiences, and solutions, making it difficult to roll out new applications consistently across the entire organization
- Planning for the growth of clients and networks while maintaining security, meeting security compliance objectives, and supporting BYOD and increased mobile devices and traffic

The three pillars of Cisco Unified Access (Figure 1) are

- **One Policy:** Centralized solution for consistent, network-wide security policy distribution and enforcement
- **One Management:** Single solution for comprehensive lifecycle management and visibility

- **One Network:** Wired and wireless networks converged into a single unified infrastructure

Figure 1. Three Pillars of Cisco Unified Access





## One Policy

Cisco® One Policy is delivered by the [Cisco Identity Services Engine \(ISE\)](#), which simplifies the design and implementation of policy and security with one policy across the entire wired and wireless network and VPN infrastructure. The latest version of Cisco ISE allows:

- Consistent enforcement of context-aware policies and control that includes user, device, location, time, and application information
- Compliance and improved user experience with self-service on-boarding, guest handling, and location-based services
- Third-party mobile device management (MDM) integration with industry-leading ecosystem partners
- Device profiler feed service to provide dynamic new device information updates
- International language support and greater scalability, for up to 250,000 endpoint devices

## One Management

Cisco One Management is delivered by [Cisco Prime™ Infrastructure](#), which provides comprehensive unified access lifecycle management, end-user connectivity, and application performance visibility to enable IT departments to deliver services that meet today's business demands. Cisco Prime Infrastructure allows:

- A 360-degree experience that improves end user experience and service assurance with devices, applications, and user views
- Enhanced automated workflows and integrated best practices for easy deployment and management of Cisco advanced technologies and services
- Converged wired and wireless lifecycle management to reduce operation overhead and increase productivity
- Representational State Transfer (REST)-based APIs for improved operations, capacity planning, and business intelligence

Cisco One Management is further enhanced with the [Cisco Mobility Services Engine \(MSE\)](#), which provides advanced spectrum analysis, and Cisco Adaptive Wireless Intrusion Prevention System (wIPS) to detect, track, and trace rogue devices, interferers, Wi-Fi clients, and RFID tags as well as to identify over-the-air threats, with location and mitigation capabilities. Advanced location services in the Cisco Mobile

Concierge, part of the [Cisco Connected Mobile Experiences](#) Solution, enables wireless LAN monetization and location analytics.

## One Network

Cisco One Network converges wired and wireless networks into one physical infrastructure with greater intelligence and performance by integrating wireless controller functionality into the access switch. For larger deployments the Unified Access Data Plane ASIC can be used within the switching environment and controller located within the data center to deliver consistent functionality and capabilities. Open interfaces enable software-defined networking. Cisco One Network delivers:

- One physical infrastructure that increases business agility and scalability for greater operation efficiency by merging wireless control and switching into a single infrastructure device
- One common set of network capabilities and context-aware intelligence for policy, visibility, and analytics and detailed quality-of-service (QoS) control across the entire wired and wireless infrastructure, providing simplicity and a consistent user experience
- A programmable data plane powered by the Cisco Unified Access Data Plane (UADP) application-specific integrated circuit (ASIC) and support for software-defined networking (SDN) integrated with Cisco Open Network Environment (ONE) Enterprise Networks Architecture to enable business agility

Cisco One Network includes the following core products:

### Unified Access Switching Portfolio

- [Cisco Catalyst® 3850 Series](#), the leading unified access switch:
  - Best-in-class and feature-rich stackable platform with 480 Gbps. with stacking for Gigabit Ethernet desktop and 802.11ac wireless
  - Converged wired and wireless access by extending wired features, resiliency, granular QoS, and scalability to wireless
  - Distributed intelligent services across wired and wireless for security, policy, application visibility and control
  - Support for up to 40 Gbps wireless throughput, 50 access points, and 2000 wireless clients
  - Foundation for Cisco ONE enabled by the UADP ASIC with programmability and investment protection



- [Cisco Catalyst® 3650 Series](#) foundation switch for unified access:
  - Unified access foundation platform with 160 Gbps with optional stacking for Gigabit Ethernet desktop and 802.11ac wireless
  - Converged wired and wireless access by extending wired features and resiliency to wireless
  - Intelligent services distributed across wired and wireless for security, policy, application visibility and control, and more
  - Support for up to 20 Gbps wireless throughput, 25 access points, and 1000 wireless clients
  - Support for Cisco ONE enabled by the UADP ASIC with programmability and investment protection
- [Cisco Catalyst® 4500 Series](#) modular access switch with Supervisor 8-E:
  - Exceptional scalability and performance with up to 928 Gbps system bandwidth and nonblocking 48 Gbps per slot to meet current and future network demands
  - Converged wired and wireless access with built-in wireless controller with support for up to 250 access points and 4000 clients in a multiswitch, controllerless deployment
  - Up to 384 Gigabit Ethernet copper ports, 200 Gigabit Ethernet fiber ports, or 104 10 Gigabit Ethernet ports in non-virtual switching system (VSS) mode
  - Simple management with networkwide application visibility and control, and consistent QoS and security, on both wired and wireless networks
  - Comprehensive resiliency with redundant components, nonstop forwarding with stateful switchover (NSF/SSO) extended to wireless traffic, Cisco In-Service Software Upgrade (ISSU), and VSS
  - Power efficiency with 116 Universal Power over Ethernet (UPOE) (60W), 240 PoE+ (30W), and 384 PoE (15W) with a 9000W power supply
  - Industry-leading investment protection with more than 10 years of backward compatibility for line cards
  - Foundation for Cisco ONE enabled by the UADP ASIC with programmability and investment protection

#### Unified Access Wireless Portfolio

- [Cisco 5760 Wireless LAN Controller](#):
  - 802.11ac wireless support for up to 160 Gbps, 1000 access points, and 12,000 wireless clients
  - Scalability with seamless roaming across 72,000 access points
  - High resiliency with N+1 clustering, link aggregation groups, and redundant power supplies
  - Cisco IOS® Software with features such as Flexible NetFlow, advanced QoS, and downloadable access control lists (ACLs)
  - Foundation for Cisco ONE enabled by the UADP ASIC with programmability and investment protection
- [Cisco Wireless Services Module 2 \(WiSM2\)](#) for Cisco Catalyst 6500 Series:
  - Support for up to 1000 access points and up to 15,000 clients per controller
  - Cisco IOS Software with features such as Flexible NetFlow, advanced QoS, and downloadable ACLs
- [Cisco Wireless Indoor Access Point Portfolio](#)
  - 802.11ac with 4x4 multiple-input, multiple-output (MIMO) technology with three spatial streams, which sustains rates of up to 1.3 Gbps over a greater range for more capacity and reliability than competing access points
  - Modular design that supports the Cisco Aironet® [Wireless Security and Spectrum Intelligence](#), [802.11ac](#), or [Cisco 3G Small Cell](#) module
  - Cisco [ClientLink 2.0](#) and 3.0 technology to improve performance and capacity on mixed-client networks, helping ensure that all 802.11ac, 802.11n, and 802.11a/g devices operate at the best possible data rates
  - Cisco [CleanAir®](#) technology, providing proactive, high-speed spectrum intelligence to combat performance problems due to RF interference
- Cisco Wireless Outdoor Access Points
  - Designed to extend high-performance connectivity to the outdoors while providing best-in-class, mission-critical, connectivity



- Can be deployed in a variety of demanding environments, including:
  - Hazardous industrial environments such as oil and gas refineries, chemical plants, mining pits, and factories
  - Stadiums and arenas where large crowds are gathered
  - Cities or municipalities
  - Outdoor malls and college campuses
  - Any outdoor location that requires wireless connectivity

## Cisco BYOD Smart Solution

The Cisco BYOD Smart Solution provides a comprehensive approach to effectively designing, managing, and controlling access to a BYOD network. By consolidating professional and technical services, products, and design guides, the Cisco BYOD Smart Solution helps deliver a more comprehensive, predictable, and successful deployment.

## Complete Lifecycle Services

Cisco also offers complete lifecycle professional and technical services, including architecture strategy workshops, assessment, design, and optimization for efficient deployment of Cisco Unified Access architecture.

## Benefits of Cisco Unified Access

Cisco Unified Access helps customers achieve:

- Accelerated business innovations and growth: Quickly scale to meet new BYOD, IoT, and mobility demands with simplified network management so that IT can focus on business innovation and create new experiences.
- Greater business efficiency: Simplified and converged infrastructure, policy, and management provide greater consistency of network services and the user experience.

## For More Information

Please visit [www.cisco.com/go/unifiedaccess](http://www.cisco.com/go/unifiedaccess).