Cisco Application Experience: Deliver an Optimal Application Experience from Anywhere

The Cisco® Application Experience (AX) delivers data center and cloud applications with high performance and security to users anywhere. It provides granular application visibility, control, and optimization, helping customers enhance end-user productivity, lower WAN bandwidth costs, and simplify IT. AX is available in the Cisco Integrated Services Routers (ISR-AX) and Cisco ASR 1000 Series Aggregated Services Routers (ASR 1000-AX).

Business Challenges

Meeting application performance expectations has become more complex with the transition to virtualization, cloud, and bring-your-own-device (BYOD) environments. Traditional challenges with network congestion and latency are amplified. For example, as more web-based applications are deployed or run over shared infrastructure, visibility for capacity planning and troubleshooting becomes obscured. In addition, bandwidth-demanding applications such as virtual desktops and latency-sensitive applications such as video can have poor performance with a centralized deployment model.

Cisco AX delivers application-centric networking by integrating essential application-aware services and infrastructure tools into the router, enabling you to overcome these challenges (refer to Figure 1).

Figure 1. Addressing the Application Performance Challenge

| Complexity of Overlay Appliances	Cisco Approach: One Network with Unified Services	
Overlay Approach	Routing Redefined	
	Cisco ISR-AX Unified Services for Branch Office	Cisco ASR 1000-AX for WAN Aggregation, Internet Edge, Data Center, and Campus
Operational Nightmare	Routing | Security | Visibility | Control | Optimization	
Network IT Complexity • Integration Challenges • Difficult to Scale and Manage • Expensive	Simplified Application Delivery • Single-Box Solution • Simplified IT Operations • Up to 30-Percent Less Than Standalone Options	

Routing Redefined

Cisco ISR-AX and ASR 1000-AX Routers offer a single-box solution that extends the role of the router to an application-delivery platform (refer to Figure 2). AX routers include application services that enable business applications to run faster, reduce bandwidth costs and latency by more than 50 percent, and simplify IT with probe-less visibility networkwide, lowering the barriers for deploying and consuming applications across cloud and BYOD environments.

For the branch office, you can also add optional services onto this foundation, the Cisco ISR-AX, including Cisco Unified Communications Solutions, Cisco Wireless LAN Controllers (WLCs), Cisco Unified Computing System™ (Cisco UCS®) E-Series servers, and additional storage. Cisco ISR-AX is the new application-centric platform, key to your branch-office IT infrastructure.

The Cisco ASR 1000-AX offers an application services platform optimized for secure WAN aggregation at Internet edge, data center, and campus environments. It offers pay-as-you-grow performance and enhanced data protection for regulatory compliance.

Note: Cisco Application Visibility and Control (AVC) and the Cisco AppNav WAN optimization solution are hosted on the Cisco ASR 1000; AppNav transparently manages all instances of Cisco Wide Area Application Services (WAAS).
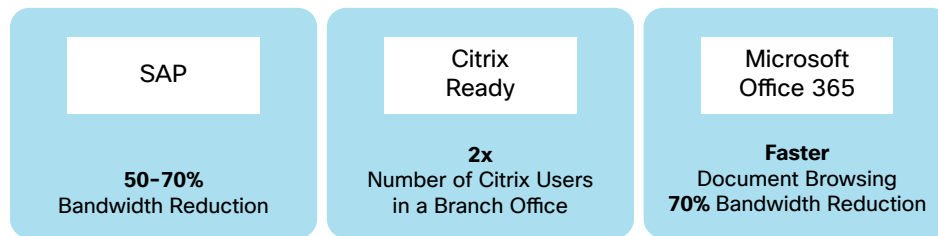
Figure 2. Evolution of the Router
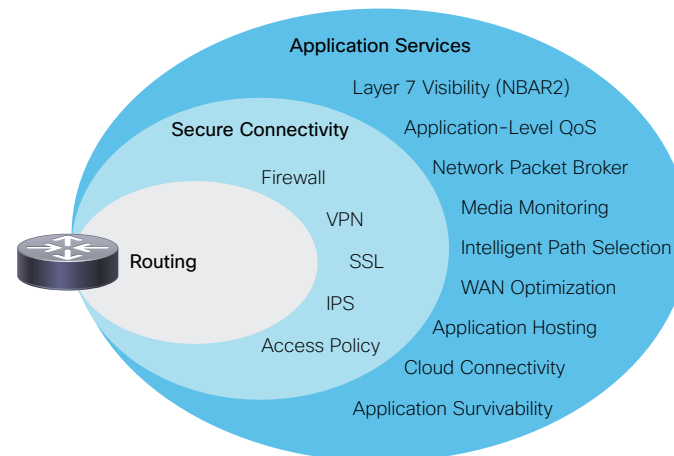
Benefits of Cisco AX

Consistent, High-Quality User Experience from Anywhere

Cisco AX helps you identify and classify more than 1000 applications, monitor their response time, and control and optimize them to enhance user experience and productivity (Figure 3). Your business applications will run better.

Figure 3. Enhanced Application Performance

SAP	Citrix Ready	Microsoft Office 365
50-70% Bandwidth Reduction	**2x** Number of Citrix Users in a Branch Office	**Faster** Document Browsing **70%** Bandwidth Reduction

Probe-Less Network Wide Visibility

Cisco AX provides full application visibility across your network without any probes, lowering equipment costs and giving IT fewer devices to manage. With the ability to predict application response time, monitor performance, and troubleshoot problems quickly, IT can spend less time on operations and concentrate on innovative and strategic planning.

Any-to-Any Security

Cisco AX provides industry-leading security with the broadest options for VPN connectivity, including FlexVPN, which scales branch-office, mobile, and remote user connectivity with simplified configuration. The solution also protects the business from external threats with Cisco IOS® Firewall, intrusion prevention system (IPS), and Cisco Cloud Web Security.

Cost-Effective Solution Priced for Wide-Scale Adoption

To meet the growing demand to simplify application delivery, Cisco AX is priced for wide-scale adoption. You can now integrate application routing services with 30-percent lower total cost of ownership (TCO) than other vendors' standalone solutions. Not only does the AX allow for lower initial capital investment, it also provides a lower maintenance cost and ease of management.

The Cisco ISR-AX includes:

- Cisco 4451-X, 3900, 2900, and 1900 ISRs
- Security
  - Firewall, IP Security (IPsec), and Secure Sockets Layer VPN (SSL VPN)
- WAN optimization: Cisco WAAS
- Cisco AVC
- Cisco Services-Ready Engine (SRE) or maximum RAM (Cisco SSD Carrier Card Network Interface Module [NIM-SSD] optional for Cisco 4451-X)

The Cisco ASR 1000-AX includes:

- Cisco ASR 1001 (5G) and ASR 1002-X (5G, 10G, 20G, and 36G)
- Cisco AVC
- WAN Optimization
  - Cisco AppNav managing and optimizing WAAS resources
  - Cisco Virtual WAAS (vWAAS) License (optional)
- Security (optional)
  - Firewall, IPsec and multiple secure Cisco VPN protocols

Imagine the Possibilities

The Cisco ISR-AX and ASR 1000-AX improve application performance for users located anywhere, on any device securely to maximize employee productivity. Enterprises can now roll out applications with confidence that the network can support the needed performance and scalability.

For more information, please visit http://www.cisco.com/go/ax.

Additional details about the Cisco ISR and ASR 100 are available at http://www.cisco.com/go/isr and http://www.cisco.com/go/asr1000, respectively.