



Cisco ASR 1000 Series Aggregation Services Routers

Securing the Next-Generation WAN Edge

At-A-Glance

What Is a Cisco Aggregation Services Router?

Today's WAN must support unprecedented traffic growth: new communication and collaboration tools, voice, video, mobility, Web 2.0 technologies, and advanced business applications. At the enterprise network edge, demands are changing dramatically, taxing the capabilities of traditional router architectures.

The Cisco® ASR1000 Series Aggregation Services Router is purpose-built to flexibly adapt to new WAN aggregation and Internet edge requirements over time using the same platform. The Cisco ASR 1000 Series redefines WAN services by delivering unmatched system performance, high availability, and integrated services, while reducing operational complexity.

Powered by the Cisco QuantumFlow Processor, the industry's first scalable and programmable application-aware network processor, Cisco aggregation services routers feature embedded Cisco IOS® Software security services that can be instantly turned on and run at multigigabit speeds without compromising network performance or availability.

How Can These New Routers Help Secure My Network?

Cisco ASR 1000 Series routers combine WAN and MAN services aggregation with network security features to provide:

- Highly scalable site-to-site and remote-access VPN aggregation with advanced quality of service (QoS) and IP Multicast integration
- Advanced perimeter security, application visibility, and high-speed logging
- Detection of and response to distributed-denial-of-service (DDoS) attacks on corporate servers and other resources

- High degree of resiliency provided by control plane
- separation and protection to help ensure nonstop WAN availability
- Future-proof architecture with the ability to add throughput or services while retaining the platform and components
- Operational excellence; multiservice aggregation in a single platform, simplifying operations and reducing training costs

New Integrated Systems Architecture

The Cisco ASR 1000 Series is the industry's first highly scalable WAN and Internet edge router platform that delivers embedded hardware acceleration for Cisco IOS Software services such as VPN, firewall, network-based application recognition (NBAR), Flexible Packet Matching (FPM), NetFlow, QoS, IP Multicast, access control lists (ACLs), Unicast Reverse Path Forwarding (uRPF), and Policy-Based Routing (PBR) without the need for separate service blades.

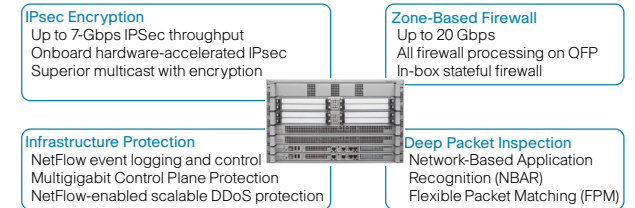
Cisco QuantumFlow Processor

- Massive parallel processing (40 multithreaded cores)
- Multigigabit embedded network services
- Highly programmable, fast feature velocity

Modular and Resilient Architecture

- Cisco ASR 1002, 1004, and 1006 models offer processor options
- Modular and redundant software and hardware options
- Wide variety of Ethernet and WAN interface options
- Cisco In-Service Software Upgrade (ISSU) support

Figure 1: Built-In Multigigabit Security Services



Cisco ASR 1000 Series Positioning

The Cisco ASR 1000 Series provides scalable, secure multiservice aggregation at the headquarters, and provides high-end branch and managed CPE services in remote offices.

Figure 2: Cisco Enterprise Routing Portfolio



Cisco ASR 1000 Series Security Solutions

Multigigabit Integrated VPN Headend

- Consolidate WAN and VPN headend services to simplify and reduce cost; no service blade or additional hardware required
- High performance and scalable platform GET VPN, DMVPN, EasyVPN, and IPsec VPN solutions
- Hardware encryption, QoS and IP multicast
- DDoS Detection, Mitigation, and Infrastructure Protection Multigigabit Cisco IOS Zone-based Firewall Services



Integrated threat control to prevent and defend against attacks

- All firewall processing done in Cisco QuantumFlow Processor
- In-box stateful firewall failover for nonstop services
- No service blade or additional hardware required

NetFlow Event Logging for NAT and Firewall

- Security event correlation and reduction for multi-gigabit traffic
- Enable compliance auditing and identify rogue devices, misconfigured hosts, unauthorized applications, and other policy violations
- NetFlow v9 export directly from Cisco QuantumFlow

Processor without routing impact

- Highly scalable, up to 40,000 events per second Best in Class DDoS Detection, Mitigation, and Infrastructure Protection
- Instrumentation and telemetry export for rapid detection, classification, and traceback of DDoS traffic across the network
- Hardware-based Control Plane Policing and ACLs for router and network edge protection
- Unicast Reverse Path Forwarding (uRPF) and source-based Remotely-Triggered Blackhole (S/RTBH) services for rapid DDoS attack mitigation

Why Cisco?

Cisco offers innovative products and solutions together with a wide range of services programs to accelerate customer success. These are delivered through a combination of people, processes, tools, and partners, resulting in high levels of customer satisfaction.

For More Information

For more information, please visit <http://www.cisco.com/go/asr1000>.