

Benefits of Migrating to Cisco ASR 1001-X and 1002-X Application Services Routers

The new Cisco® ASR 1001-X and 1002-X Routers provide many more capabilities and at higher scale and performance. Customers are encouraged to migrate from the older ASR1001 and ASR1002 to the next-generation ASR1001-X and ASR1002-X.

Intent-based networking capability	Feature	First-generation ASR 1001 and 1002	Next-generation ASR 1001-X	Next-generation ASR 1002-X	Benefits
Comprehensive security solutions	Highly scalable and flexible VPN solutions	Up to 1.8 Gbps (ASR 1001) and up to 3.5 Gbps (ASR 1002)	Up to 8 Gbps	Up to 4 Gbps	Higher number of secure connections with diverse VPN solutions (DMVPN, GETVPN, FlexVPN and SSL VPN)
	Suite B encryption support	No	Yes	Yes	Supports robust, more efficient next-generation encryption that offers strong ciphers and key entropy
	AES-256 WAN MACsec	No	Yes	No	Overlay encrypted secure channels over provider Ethernet circuits in point-to-point or point-to-multipoint solutions
	Encrypted Traffic Analytics	No	Yes	Yes	Able to detect security threats in encrypted traffic at line rate

Intent-based networking capability	Feature	First-generation ASR 1001 and 1002	Next-generation ASR 1001-X	Next-generation ASR 1002-X	Benefits
	Software-Defined Access	No	Yes	Yes	Border router for SD-Access; extends segmentation through the WAN
	Trustworthy systems	No	Yes	Yes	Security foundation provides integrity verification, trust, and security built into the hardware
	Patchability and Software Maintenance Upgrades (SMUs)	No	Yes	Yes	Patch critical bug fixes and PSIRTs on the same Cisco IOS® XE Software release (no recertification of new software release)
High-performance cloud connectivity	Scalable throughput	Up to 5 Gbps (ASR 1001) and 10 Gbps (ASR 1002)	Up to 20 Gbps	Up to 36 Gbps	Up to 4 times the performance in the same form factor available on demand
	Higher control plane memory	Up to 1 million IPv4 routes	Up to 3.5 million IPv4 routes	Up to 3.5 million IPv4 routes	Up to 3.5 times more routes for multiple ISP peering
	1 Gigabit Ethernet (GE) and 10GE ports	4x 1GE built in No built-in 10GE Shared Port Adapters (SPAs) for 1GE and 10GE	6x 1GE and 2x 10GE built in 1 SPA	6x1GE built-in 3 SPAs	Built-in 10GE ports provide an easier 1GE to 10GE transition. Up to 3x 10GE ports in 1 rack unit (ASR1001-X)
	Hybrid cloud connectivity	No	Yes	Yes	Use proven designs with the ASR 1000 Series on premises in your data center and the CSR 1000v in the cloud to extend into public and private clouds

Intent-based networking capability	Feature	First-generation ASR 1001 and 1002	Next-generation ASR 1001-X	Next-generation ASR 1002-X	Benefits
	Azure ExpressRoute certified	No	Yes	No	Fast, private connections to Microsoft Azure. ASR1001-X is jointly validated by Cisco and Microsoft for 50M, 100M, 200M, 500M, and 1G ExpressRoute circuits
Simplified orchestration and management	Able to support SD-WAN networking	No	Yes	Yes	Application visibility and optimization, lower WAN OpEx and TCO
	Cisco DNA Center™ orchestration and management	No	Yes	Yes	Single pane of glass for provisioning, managing, and securing the network
	Programmability	No	Yes	Yes	Zero-touch provisioning guest shell, telemetry, programmatic interfaces (e.g., NETCONF and RESTCONF) to simplify network management
Flexible consumption models	Subscription-based software licensing options	No	Yes	Yes	Flexible consumption models, software portability, pay as you grow
	On-demand services and features	Yes	Yes	Yes	Next-generation platforms offer instant-on services and features with on-demand licensing at higher performance than older platforms

The Cisco ASR 1001 and 1002 Routers have reached end of sale effective April 2016, with the final milestone dates for software maintenance and software security/vulnerability support of August 1, 2018, and August 1, 2019 respectively.

References

EOS notice for ASR 1001/1002: <https://www.cisco.com/c/en/us/products/collateral/routers/asr-1000-series-aggregation-services-routers/eos-eol-notice-c51-734572.html>

EOS notice for Cisco IOS XE R3.16: <https://www.cisco.com/c/en/us/products/collateral/routers/asr-1000-series-aggregation-services-routers/eos-eol-notice-c51-738519.html>