Enterprise Routing Portfolio for Borderless Networks
Delivering Service Consistency Across Branch and WAN Infrastructure

Cisco Integrated Services Routers Generation 2
Transforming the Next-Generation Branch-Office Experience
—Any Service, Any Branch, Anywhere

On-Demand Services · Video Ready · Operational Excellence

Cisco ASR 1000 Series Aggregation Services Routers
Transforming the Enterprise WAN Edge

On-Demand Services · Service Resiliency · Operational Excellence

Cisco Integrated Services Routers Generation 2

Feature	860	880	890	1921	1941/1941W	2901	2911	2921	2951	3925	3945	3925 E	3945E
Form Factor	Desktop	Desktop	Desktop	Desktop (1 RU)	Desktop (2 RU)	1 RU	2 RU	2 RU	2 RU	3 RU	3 RU	3 RU	3 RU
Integrated WAN Ports	10/100 Mbps FE	10/100 Mbps FE	1 GE, 1 FE	2 GE	2 GE	2 GE	3 GE	3 GE (1 SFP)	3 GE (1 SFP)	3 GE (2 SFP)	3 GE (2 SFP)	4 GE (2 SFP)	4 GE (2 SFP)
Recommend WAN Access Speed (with services)	8 Mbps	12 Mbps	15 Mbps	15 Mbps	25 Mbps	25 Mbps	35 Mbps	50 Mbps	75 Mbps	100 Mbps	150 Mbps	250 Mbps	350 Mbps
Modular Services Performance Engine (Field Upgradable Motherboard)	No	No	No	No	No	No	No	No	No	Yes -SPE100	Yes -SPE150	Yes -SPE200	Yes SPE-250
Interface Slots (EHWIC)	0	0	0	2	2	4	4	4	4	4	4	3	3
Service Module Support	N/A	N/A	N/A	N/A	N/A	N/A	1 Single	1 Single or 1 Double	2 Single or 1 Double	(2 Single) or (1 Single + 1 Double)	(Up to 4 Single) or (Up to 2 Single + 1 Double)	(2 Single) or (1 Single + 1 Double)	(Up to 4 Single) or (Up to 2 Single + 1 Double)
ISM Slots	0	0	0	0	1**	1	1	1	1	1	1	0	0
PVDM Slots	0	1 (SRST models only)	0	0	0	2	2	2	3	3	4	4	3	3
USB Ports Type A	0	1 (USB1.1)	2	1	2	2	2	2	2	2	2	2	2
Default/Max Flash	128 MB/128 MB	128 MB/128 MB or 256 MB/256 MB (SRST models only)	256 MB/256 MB	256 MB/256 MB	256 MB/8GB	256 MB/8GB	256 MB/8GB	256 MB/8GB	256 MB/8GB	256 MB/8GB	256 MB/8GB	256 MB/8GB	256 MB/8GB
Default/Max DRAM	256 MB/256 MB	256 MB/768 MB or 512 MB/768 MB (SRST models only)	512 MB/768 MB	512 MB/512 MB	512 MB/2.5 GB	512 MB/2.5 GB	512 MB/2.5 GB	512 MB/2.5 GB	512 MB/4 GB***	1 GB/4 GB***	1 GB/4 GB***	1 GB/2 GB***	1 GB/2 GB***
Redundant Power Supply	N/A	N/A	N/A	N/A	N/A	N/A	Yes, External RPS	Yes, External RPS	Yes, External RPS	Yes, Internal RPS	Yes, Internal RPS	Yes, Internal RPS	Yes, Internal RPS
Module Online Insertion and Removal (OIR)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Yes, SM OIR	Yes, SM OIR	Yes, SM OIR	Yes, SM OIR

Advanced Security
Enabled via Security License for Universal IOS Image. IPS, SSL, VPN and Content Filtering needs additional subscription licenses

	860	880	890	1921	1941/1941W	2901	2911	2921	2951	3925	3945	3925 E	3945E
Stateful Firewall	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Onboard Hardware VPN Acceleration (DES, 3DES, AES)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
VPN Services	Easy VPN Remote, Enhanced Easy VPN Remote	Easy VPN Remote, Enhanced Easy VPN Remote, Dynamic Multipoint VPN (DMVPN), Group Encrypted Transport VPN (GET VPN) *Requires Advanced IP license	Easy VPN Remote, Enhanced Easy VPN Remote, Dynamic Multipoint VPN (DMVPN), Group Encrypted Transport VPN (GET VPN) *Requires Advanced IP license	Easy VPN Remote server, Enhanced Easy VPN, Dynamic Multipoint VPN (DMVPN), Group Encrypted Transport VPN (GET VPN), V3PN, MPLS VPN	Easy VPN Remote server, Enhanced Easy VPN, Dynamic Multipoint VPN (DMVPN), Group Encrypted Transport VPN (GET VPN), V3PN, MPLS VPN	Easy VPN Remote/server, Enhanced Easy VPN, Dynamic Multipoint VPN (DMVPN), Group Encrypted Transport VPN (GET VPN), V3PN, MPLS VPN	Easy VPN Remote/server, Enhanced Easy VPN, Dynamic Multipoint VPN (DMVPN), Group Encrypted Transport VPN (GET VPN), V3PN, MPLS VPN	Easy VPN Remote/server, Enhanced Easy VPN, Dynamic Multipoint VPN (DMVPN), Group Encrypted Transport VPN (GET VPN), V3PN, MPLS VPN	Easy VPN Remote/server, Enhanced Easy VPN, Dynamic Multipoint VPN (DMVPN), Group Encrypted Transport VPN (GET VPN), V3PN, MPLS VPN	Easy VPN Remote/server, Enhanced Easy VPN, Dynamic Multipoint VPN (DMVPN), Group Encrypted Transport VPN (GET VPN), V3PN, MPLS VPN	Easy VPN Remote/server, Enhanced Easy VPN, Dynamic Multipoint VPN (DMVPN), Group Encrypted Transport VPN (GET VPN), V3PN, MPLS VPN	Easy VPN Remote/server, Enhanced Easy VPN, Dynamic Multipoint VPN (DMVPN), Group Encrypted Transport VPN (GET VPN), V3PN, MPLS VPN	Easy VPN Remote/server, Enhanced Easy VPN, Dynamic Multipoint VPN (DMVPN), Group Encrypted Transport VPN (GET VPN), V3PN, MPLS VPN
SSL VPN	N/A	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Intrusion Prevention and FPM	N/A	Yes *Requires Advanced IP license	Yes *Requires Advanced IP license	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Content Filtering	N/A	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Network Foundation Protection	ACL, QoS (limited support) Role-based CLI Access, Source-based RTBH, uRPF	ACL, Control Plane Policing (CoPP), QoS, Role-based CLI Access, Source-based RTBH, uRPF, SSHv2 *Some features require Advanced IP license	ACL, Control Plane Policing (CoPP), QoS, Role-based CLI Access, Source-based RTBH, uRPF, SSHv2 *Some features require Advanced IP license	ACL, Control Plane Policing (CoPP), QoS, Role-based CLI Access, Source-based RTBH, uRPF, SSHv2	ACL, Control Plane Policing (CoPP), QoS, Role-based CLI Access, Source-based RTBH, uRPF, SSHv2	ACL, Control Plane Policing (CoPP), QoS, Role-based CLI Access, Source-based RTBH, uRPF, SSHv2	ACL, Control Plane Policing (CoPP), QoS, Role-based CLI Access, Source-based RTBH, uRPF, SSHv2	ACL, Control Plane Policing (CoPP), QoS, Role-based CLI Access, Source-based RTBH, uRPF, SSHv2	ACL, Control Plane Policing (CoPP), QoS, Role-based CLI Access, Source-based RTBH, uRPF, SSHv2	ACL, Control Plane Policing (CoPP), QoS, Role-based CLI Access, Source-based RTBH, uRPF, SSHv2	ACL, Control Plane Policing (CoPP), QoS, Role-based CLI Access, Source-based RTBH, uRPF, SSHv2	ACL, Control Plane Policing (CoPP), QoS, Role-based CLI Access, Source-based RTBH, uRPF, SSHv2	ACL, Control Plane Policing (CoPP), QoS, Role-based CLI Access, Source-based RTBH, uRPF, SSHv2
ISR Web Security	N/A	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Unified Communication
Enabled via Unified Communications License for Universal IOS Image. CCME/SRST support through separate feature licenses

	860	880	890	1921	1941/1941W	2901	2911	2921	2951	3925	3945	3925 E	3945E
Local Conferencing	N/A	Yes	N/A	N/A	N/A	Yes, use PVDM3 or PVDM2	Yes, use PVDM3 or PVDM2	Yes, use PVDM3 or PVDM2	Yes, use PVDM3 or PVDM2	Yes, use PVDM3 or PVDM2	Yes, use PVDM3 or PVDM2	Yes, use PVDM3 or PVDM2	Yes, use PVDM3 or PVDM2
Digital Signal Processor Support	N/A	Yes, on SRST models	N/A	N/A	N/A	PVDM3 and PVDM2	PVDM3 and PVDM2	PVDM3 and PVDM2	PVDM3 and PVDM2	PVDM3 and PVDM2	PVDM3 and PVDM2	PVDM3 and PVDM2	PVDM3 and PVDM2
Cisco Unified Survivable Remote Site Telephony Support	N/A	Up to 4 on SRST models	N/A	N/A	N/A	Up to 35	Up to 50	Up to 100	Up to 250	Up to 730	Up to 1200	Up to 1350	Up to 1500
Cisco Unified Communications Manager Express Support	N/A	N/A	N/A	N/A	N/A	Up to 35	Up to 50	Up to 100	Up to 150	Up to 250	Up to 350	Up to 400	Up to 450
Cisco Unified Messaging Gateway (NME, NME-EC, SM or ISM)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1000 SRSV, VPIM or E-SRST nodes (with SRE-900)	1000 SRSV, VPIM or E-SRST nodes (with SRE-900)	1000 SRSV, VPIM or E-SRST nodes (with SRE-900)	1000 SRSV, VPIM or E-SRST nodes (with SRE-900)	1000 SRSV, VPIM or E-SRST nodes (with SRE-900)
Cisco Unity Express (NM, SM or ISM)	N/A	N/A	N/A	N/A	N/A	10 ports; 100 mailboxes (with SRE-300)	10 ports; 100 mailboxes (with SRE-300)	10 ports; 100 mailboxes (with SRE-300)	32 ports; 500 mailboxes (with SRE-700)	32 ports; 500 mailboxes (with SRE-700)	32 ports; 500 mailboxes (with SRE-700)	32 ports; 500 mailboxes (with SRE-700)	32 ports; 500 mailboxes (with SRE-700)
Cisco Unified Survivable Remote Site Voicemail (NME, NME-EC, SM or ISM)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	64 ports; 1510 mailboxes (with SRE-900)	64 ports; 1510 mailboxes (with SRE-900)	64 ports; 1510 mailboxes (with SRE-900)	64 ports; 1510 mailboxes (with SRE-900)	64 ports; 1510 mailboxes (with SRE-900)
Cisco Unified Border Element (SIP/H.323 Sessions)	N/A	Up to 4	N/A	N/A	N/A	100	200	400	600	800	950	2100	2500
Cisco Unified SIP Proxy	N/A	N/A	N/A	N/A	N/A	10 CPS (with SRE-700 and SRE-900)	10 CPS (with SRE-700 and SRE-900)	100 CPS (with SRE-700 and SRE-900)	100 CPS (with SRE-700 and SRE-900)	200 CPS (with SRE-900)	100 CPS (with SRE-700 and SRE-900)	200 CPS (with SRE-900)	
Digital Voice and Video (T1/E1 channels)	N/A	N/A	N/A	N/A	N/A	Up to 100	Up to 100	Up to 240	Up to 400	Up to 720	Up to 900	Up to 600	Up to 840
Analog/BRI Voice	N/A	FXS 4, FXO 1, BRI 1 on SRST models	N/A	N/A	N/A	FXS 16, FXO 16, BRI 8	FXS 40, FXO 28, BRI 16	FXS 40, FXO 28, BRI 16	FXS 64, FXO 40, BRI 24	FXS 64, FXO 40, BRI 24	FXS 112, FXO 64, BR 40	FXS 60, FXO 36, BR 22	FXS 108, FXO 60, BR 38

Routing and Multicast

	860	880	890	1921	1941/1941W	2901	2911	2921	2951	3925	3945	3925 E	3945E
IPv4 Routing Protocols	RIP v1/v2	RIP v1/v2, EIGRP, OSPF, BGP, PBR *Some features require Advanced IP license	RIP v1/v2, EIGRP, OSPF, BGP, PBR *Some features require Advanced IP license	RIP v1/v2, EIGRP, OSPF, BGP, PBR, PIR	RIP v1/v2, EIGRP, OSPF, BGP, PBR, PIR	RIP v1/v2, EIGRP, OSPF, BGP, PBR, PIR	RIP v1/v2, EIGRP, OSPF, BGP, PBR, PIR	RIP v1/v2, EIGRP, OSPF, BGP, PBR, PIR	RIP v1/v2, EIGRP, OSPF, BGP, PBR, PIR	RIP v1/v2, EIGRP, OSPF, BGP, PBR, PIR	RIP v1/v2, EIGRP, OSPF, BGP, PBR, PIR	RIP v1/v2, EIGRP, OSPF, BGP, PBR, PIR	RIP v1/v2, EIGRP, OSPF, BGP, PBR, PIR
Multicast Routing Protocols	N/A	PIM-SM, mroute (static route), and MLD *Requires Advanced IP license	PIM-SM, mroute (static route), and MLD *Requires Advanced IP license	PIM-SM, mroute (static route), and MLD	PIM-SM, mroute (static route), and MLD	PIM-SM, mroute (static route), and MLD	PIM-SM, mroute (static route), and MLD	PIM-SM, mroute (static route), and MLD	PIM-SM, mroute (static route), and MLD	PIM-SM, mroute (static route), and MLD	PIM-SM, mroute (static route), and MLD	PIM-SM, mroute (static route), and MLD	PIM-SM, mroute (static route), and MLD
IPv6 Routing Protocols	N/A	EIGRP, RIP, OSPFv3, IS-IS, BGP and PBR *Requires Advanced IP license	EIGRP, RIP, OSPFv3, IS-IS, BGP and PBR *Requires Advanced IP license	EIGRP, RIP, OSPFv3, IS-IS, BGP and PBR	EIGRP, RIP, OSPFv3, IS-IS, BGP and PBR	EIGRP, RIP, OSPFv3, IS-IS, BGP and PBR	EIGRP, RIP, OSPFv3, IS-IS, BGP and PBR	EIGRP, RIP, OSPFv3, IS-IS, BGP and PBR	EIGRP, RIP, OSPFv3, IS-IS, BGP and PBR	EIGRP, RIP, OSPFv3, IS-IS, BGP and PBR	EIGRP, RIP, OSPFv3, IS-IS, BGP and PBR	EIGRP, RIP, OSPFv3, IS-IS, BGP and PBR	EIGRP, RIP, OSPFv3, IS-IS, BGP and PBR

Wireless LAN

	860	880	890	1921	1941/1941W	2901	2911	2921	2951	3925	3945	3925 E	3945E
Integrated 802.11 b/g/n Access Point	Yes	Yes	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Integrated 802.11 a/b/g/n Access Point	N/A	N/A	Yes	N/A	Yes (1941W only)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Unified and Autonomous Mode	Autonomous	Both	Both	N/A	Both (1941W only)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
RP-TNC Connectors for Field-replaceable Optional High-gain Antennas	N/A	Yes (select models only)	Yes	N/A	Yes (1941W only)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Diversity (Dual Antennas)	Yes	Yes	Yes	N/A	Yes (1941W only)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Wireless LAN Controller Module	N/A	N/A	N/A	N/A	Yes. Up to 10 802.11 a/b/g/n AP controllers (1941 only)	Yes. Up to 10 802.11 a/b/g/n AP controllers	Up to 50 802.11 a/b/g/n AP controllers	Up to 50 802.11 a/b/g/n AP controllers	Up to 50 802.11 a/b/g/n AP controllers	Up to 50 802.11 a/b/g/n AP controllers	Up to 50 802.11 a/b/g/n AP controllers	Up to 50 802.11 a/b/g/n AP controllers	Up to 50 802.11 a/b/g/n AP controllers

Wireless WAN

	860	880	890	1921	1941/1941W	2901	2911	2921	2951	3925	3945	3925 E	3945E
3G Cellular	N/A	Yes	Yes	EHWIC	EHWIC	EHWIC	EHWIC	EHWIC	EHWIC	EHWIC	EHWIC	EHWIC	EHWIC
RP-TNC Connectors for Field-replaceable Optional High-gain Antennas	N/A	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Diversity (Dual Antennas)	N/A	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Outdoor Antennas	N/A	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Integrated Switching

	860	880	890	1921	1941/1941W	2901	2911	2921	2951	3925	3945	3925 E	3945E
Maximum Ethernet Ports	4	8	8	8	12	16	40	40	66	90	114	86	110
Maximum Ethernet LAN Ports with POE	0	2	4	9	12	16	40	64	64	88	112	88	112
PoE Support (Wattage) No PoE Boost	N/A	N/A	Yes, 80W	Yes, 80W	Yes, 130W	Yes, 200W	Yes, 280W	Yes, 370W	Yes, 520W	Yes, 520W	Yes, 520W	Yes, 520W	
PoE Support (Wattage) with PoE Boost	N/A	N/A	No	No	No	Yes, 750W	Yes, 750W	Yes, 750W	Yes, 1040	Yes, 1040	Yes, 1040	Yes, 1040	
EtherSwitch Service Module type (Width)	N/A	N/A	N/A	N/A	N/A	1 Single	1 Single or 1 Double	2 Single or 1 Double	(2 Single) or (1 Single + 1 Double)	(Up to 4 Single) or (Up to 2 Single + 1 Double)	(2 Single) or (1 Single + 1 Double)	(Up to 4 Single) or (Up to 2 Single + 1 Double)	

Application/WAN Optimization

	860	880	890	1921	1941/1941W	2901	2911	2921	2951	3925	3945	3925 E	3945E
Route Optimization	N/A	N/A	N/A	PIR	PIR	PIR	PIR	PIR	PIR	PIR	PIR	PIR	PIR
Network Contention Control	N/A	N/A	N/A	QoS, HQoS	QoS, HQoS	QoS, HQoS	QoS, HQoS	QoS, HQoS	QoS, HQoS	QoS, HQoS	QoS, HQoS	QoS, HQoS	QoS, HQoS
Application Visibility	N/A	N/A	N/A	NBAR	NBAR	NBAR	NBAR	NBAR	NBAR	NBAR	NBAR	NBAR	NBAR
Application/WAN Optimization	N/A	N/A	WAAS Express	WAAS Express	WAAS Express	WAAS Express	WAAS Express, WAAS on SRE	WAAS Express, WAAS on SRE	WAAS Express, WAAS on SRE	WAAS Express, WAAS on SRE	WAAS Express, WAAS on SRE	WAAS on SRE	WAAS on SRE

Application Services

	860	880	890	1921	1941/1941W	2901	2911	2921	2951	3925	3945	3925 E	3945E
On-demand Application and Services Platform	N/A	N/A	N/A	N/A	SRE Module	SRE Module	SRE Module	SRE Module	SRE Module	SRE Module	SRE Module	SRE Module	SRE Module
Server Virtualization Platform	N/A	N/A	N/A	N/A	N/A	UCS Express	UCS Express	UCS Express	UCS Express	UCS Express	UCS Express	UCS Express	UCS Express
Network Monitoring and Analysis	N/A	N/A	N/A	N/A	N/A	NAM Module	NAM Module	NAM Module	NAM Module	NAM Module	NAM Module	NAM Module	NAM Module

Third-party Applications

	860	880	890	1921	1941/1941W	2901	2911	2921	2951	3925	3945	3925 E	3945E
IP Address Management	N/A	N/A	N/A	N/A	N/A	Infoblox, BlueCat	Infoblox, BlueCat	Infoblox, BlueCat	Infoblox, BlueCat	Infoblox, BlueCat	Infoblox, BlueCat	Infoblox, BlueCat	
Network Performance Analysis	N/A	N/A	N/A	N/A	N/A	NetScout	NetScout	NetScout	NetScout	NetScout	NetScout	NetScout	
Voice Policy	N/A	N/A	N/A	N/A	N/A	SecureLogix	SecureLogix	SecureLogix	SecureLogix	SecureLogix	SecureLogix	SecureLogix	
Fax over IP	N/A	N/A	N/A	N/A	N/A	Sagemcom, OpenText	Sagemcom, OpenText	Sagemcom, OpenText	Sagemcom, OpenText	Sagemcom, OpenText	Sagemcom, OpenText	Sagemcom, OpenText	
Security and Compliance	N/A	N/A	N/A	N/A	N/A	LogLogic	LogLogic	LogLogic	LogLogic	LogLogic	LogLogic	LogLogic	
Localized Device Management	N/A	N/A	N/A	N/A	N/A	Uplogix	Uplogix	Uplogix	Uplogix	Uplogix	Uplogix	Uplogix	
Paging over IP	N/A	N/A	N/A	N/A	N/A	Singlewire	Singlewire	Singlewire	Singlewire	Singlewire	Singlewire	Singlewire	

Certifications

	860	880	890	1921	1941/1941W	2901	2911	2921	2951	3925	3945	3925 E	3945E
USGv6 Profile 1.0	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

* Higher densities achieved through Enhanced EtherSwitch SMs   ** ISM slot is not available for use on 1941W   ***2 GB available for IOS, use above 2GB for WAAS Express

Cisco ISR G2 Routers

Cisco 800 Series 860, 880, 890 · **Cisco 1900 Series** 1921, 1941, 1941-W · **Cisco 2900 Series** 2901, 2911, 2921, 2951 · **Cisco 3900 Series** 3925, 3925E, 3945, 3945E

For more information on the Cisco ISR G2 routers, please visit: www.cisco.com/go/isrg2.

Cisco ASR 1000 Series Aggregation Services Routers

Feature	1001	1002	1004	1006	1013
Form Factor	1 RU	2 RU	4 RU	6 RU	13 RU
Chassis	Scalable to 5 Gbps	Scalable to 10 Gbps	Scalable to 40 Gbps	Scalable to 40 Gbps	Scalable to 40+ Gbps Designed for 360 Gbps
Integrated WAN Ports	4 GE ports	4 GE ports			
Embedded Services Processor (ESP)	Integrated 2.5-Gbps ESP Upgradable via a software activated license to 5 Gbps	ASR1000-ESP5 (single) or ASR1000-ESP10-N (single); 5 Gbps or 10 Gbps	ASR1000-ESP10 (single) or ASR1000-ESP10-N (single): Scalable to 10 Gbps or ASR1000-ESP20 (single or dual): Scalable to 20 Gbps or ASR1000-ESP40 (single or dual): Scalable to 40 Gbps (as of IOS XE 3.2S)	ASR1000-ESP 10 (single or dual) or ASR1000-ESP10-N (single or dual): Scalable to 10 Gbps or ASR1000-ESP20 (single or dual): Scalable to 20 Gbps or ASR1000-ESP40 (single or dual); Scalable to 40 Gbps	ASR1000-ESP40 (single or dual); Scalable to 40 Gbps
Route Processor (RP)	Integrated Route Processor with 4 GB memory	Integrated Route Processor 1 with 4 GB memory	ASR1000-RP1 (single) 4 GB memory ASR1000-RP2 (single) 8 GB or 16 GB memory	ASR1000-RP1 (single or dual) 4 GB memory ASR1000-RP2 (single or dual) 8 GB or 16 GB memory	ASR1000-RP2 (single or dual) 8 GB or 16 GB memory
SPA Interface Processor (SIP) Card Slots	Integrated	Integrated	2	3	6
Shared Port Adapter (SPA) Slots	1	3	8	12	24
Interface Support	FE, GE, 10GE, OC3 (POS/ATM), OC12 (POS/ATM), OC48 (POS), OC-192 (POS), channelized (non-channelized) T3/OSO, T1/E1, Serial	FE, GE, 10GE, OC3 (POS/ATM), OC12 (POS/ATM), OC48 (POS), OC-192 (POS), channelized (non-channelized) T3/OSO, T1/E1, Serial	FE, GE, 10GE, OC3 (POS/ATM), OC12 (POS/ATM), OC48 (POS), OC-192 (POS), channelized STM-1/OC3, (channelized+non-channelized) T3/OS0, T1/E1, Serial	FE, GE, 10GE, OC3 (POS/ATM), OC12 (POS/ATM), OC48 (POS), OC-192 (POS), channelized STM-1/OC3, (channelized+non-channelized) T3/OS0, T1/E1, Serial	FE, GE, 10GE, OC3 (POS/ATM), OC12 (POS/ATM), OC48 (POS), OC-192 (POS), channelized STM-1/OC3, (channelized+non-channelized) T3/OS0, T1/E1, Serial
Forwarding Rate	Up to 4 or 7.5 Mpps Up to 2.5 or 5 Gbps depending on whether default performance of 2.5 Gbps is utilized or upgraded via license to 5 Gbps	Up to 7.5 or 15 Mpps Up to 5 or 10 Gbps	Up to 15 or 23 Mpps Up to 10 or 20 or 40 Gbps-depending on ESP	Up to 15 or 23 Mpps Up to 10 or 20 or 40 Gbps-depending on ESP	Up to 23 Mpps Up to 40 Gbps
Minimum Cisco IOS XE Release	IOS XE 2.1.0	IOS XE 2.1.0	IOS XE 3.2.0S: ASR1001, ASR1001-4XT3, ASR1001-2XOC3POS; IOS XE 3.3.0S: ASR1001-8CHT1E1, ASR1001-4X1GE, ASR1001-HDD	IOS XE 2.1.0	IOS XE 3.1.0S
System DRAM Memory	4 GB (default); 8 GB (max.) - for integrated Route Processor	4 GB (default); 4 GB (max.) - for Integrated Route Processor 1	4 GB (default); 4 GB (max.) - for ASR1000-RP1 8 GB (default); 16 GB (max.) - for ASR1000-RP2	4 GB (default); 4 GB (max.) - for ASR1000-RP1 8 GB (default); 16 GB (max.) - for ASR1000-RP2	8 GB (default); 16 GB (max.) - for ASR1000-RP2
Redundant Power Supply	Yes, Dual AC or DC by default	Yes, Dual AC or DC by default	Yes, Dual AC or DC by default	Yes, Dual AC or DC by default	Yes, Dual AC or DC by default

Advanced Security: Enabled instantly via Flexible Packet Inspection (FPI), IPsec and Firewall Licenses

	1001	1002	1004	1006	1013
Zone-based Firewall and NAT services	Yes, up to 5 Gbps. VRF aware FW and VRF aware NAT	Yes, up to 10 Gbps. VRF aware FW and VRF aware NAT	Yes, up to 40 Gbps. VRF aware FW and VRF aware NAT	Yes, up to 40 Gbps. VRF aware FW and VRF aware NAT	Yes, up to 40 Gbps. VRF aware FW and VRF aware NAT
VPN services	IPsec, GRE + IPsec, VTI, Easy VPN, Enhanced Easy VPN, Dynamic Multipoint VPN (DMVPN), 2547 over DMVPN, Group Encrypted Transport VPN (GET VPN), IPv6 IPsec SVTI	IPsec, GRE + IPsec, VTI, Easy VPN, Enhanced Easy VPN, Dynamic Multipoint VPN (DMVPN), 2547 over DMVPN, Group Encrypted Transport VPN (GET VPN), IPv6 IPsec SVTI	IPsec, GRE + IPsec, VTI, Easy VPN, Enhanced Easy VPN, Dynamic Multipoint VPN (DMVPN), 2547 over DMVPN, Group Encrypted Transport VPN (GET VPN), IPv6 IPsec SVTI	IPsec, GRE + IPsec, VTI, Easy VPN, Enhanced Easy VPN, Dynamic Multipoint VPN (DMVPN), 2547 over DMVPN, Group Encrypted Transport VPN (GET VPN), IPv6 IPsec SVTI	IPsec, GRE + IPsec, VTI, Easy VPN, Enhanced Easy VPN, Dynamic Multipoint VPN (DMVPN), 2547 over DMVPN, Group Encrypted Transport VPN (GET VPN), IPv6 IPsec SVTI
Onboard Hardware VPN Encryption (DES, 3DES, AES)	Yes, up to 1.8 Gbps	Yes, up to 4 Gbps	Yes, up to 11 Gbps	Yes, up to 11 Gbps	Yes, up to 11 Gbps
Maximum IPsec Tunnels	4000	4000	4000	4000	4000
Netflow Event Logging– For Firewall and NAT services	Yes	Yes	Yes	Yes	Yes
Network Foundation Protection	ACL, Control Plane Policing (CoPP), QoS, Role-based CLI Access, Source-based RTBH, uRPF, SSHv2	ACL, Control Plane Policing (CoPP), QoS, Role-based CLI Access, Source-based RTBH, uRPF, SSHv2	ACL, Control Plane Policing (CoPP), QoS, Role-based CLI Access, Source-based RTBH, uRPF, SSHv2	ACL, Control Plane Policing (CoPP), QoS, Role-based CLI Access, Source-based RTBH, uRPF, SSHv2	ACL, Control Plane Policing (CoPP), QoS, Role-based CLI Access, Source-based RTBH, uRPF, SSHv2

Unified Communication: Enabled instantly via CUBE License

	1001	1002	1004	1006	1013
Cisco Unified Border Element (Enterprise Edition) – SIP Trunking (Managed)	5000	1700	16000+	16000+	N/A
Cisco Unified Border Element (SP Edition) – SIP Trunking (SP hosted)	5000	1700	16000+	16000+	N/A
cRTP	Yes	Yes	Yes	Yes	Yes
WebEx Node	No	Yes	Yes	Yes	Yes
B2B TelePresence Enablement	Yes	Yes	Yes	Yes	Yes

Routing and Multicast

	1001	1002	1004	1006	1013
IPv4 Routing Protocols	RIP v1/v2, EIGRP, OSPF, BGP, PBR	RIP v1/v2, EIGRP, OSPF, BGP, PBR	RIP v1/v2, EIGRP, OSPF, BGP, PBR	RIP v1/v2, EIGRP, OSPF, BGP, PBR	RIP v1/v2, EIGRP, OSPF, BGP, PBR
Multicast Routing Protocols	PIM-SM, mroute (static route), and MLD	PIM-SM, mroute (static route), and MLD	PIM-SM, mroute (static route), and MLD	PIM-SM, mroute (static route), and MLD	PIM-SM, mroute (static route), and MLD
IPv6 Routing Protocols	EIGRP, RIP, OSPFv3, IS-IS, BGP and PBR	EIGRP, RIP, OSPFv3, IS-IS, BGP and PBR	EIGRP, RIP, OSPFv3, IS-IS, BGP and PBR	EIGRP, RIP, OSPFv3, IS-IS, BGP and PBR	EIGRP, RIP, OSPFv3, IS-IS, BGP and PBR
Netflow v5/v9	Yes	Yes	Yes	Yes	Yes

High Availability

	1001	1002	1004	1006	1013
In Service Software Upgrade (ISSU)	No	No	No	Yes	Yes
Software Redundancy (dual IOS on same Route Processor)	Yes	Yes	Yes	N/A (HW redundancy)	N/A (HW redundancy)
NSF/SSO	Yes	Yes	Yes	Yes	Yes

Quality of Service

	1001	1002	1004	1006	1013
Hierarchical Quality-of-Service	3-level hierarchical QoS (e.g. on GRE tunnels), 256 Class-maps per policy, 4000 unique policy maps, support for 128,000 queues, allows all queues to have a minimum, maximum, and excess bandwidth with priority propagation	3-level hierarchical QoS (e.g. on GRE tunnels), 256 Class-maps per policy, 4000 unique policy maps, support for 128,000 queues, allows all queues to have a minimum, maximum, and excess bandwidth with priority propagation	3-level hierarchical QoS (e.g. on GRE tunnels), 256 Class-maps per policy, 4000 unique policy maps, support for 128,000 queues, allows all queues to have a minimum, maximum, and excess bandwidth with priority propagation	3-level hierarchical QoS (e.g. on GRE tunnels), 256 Class-maps per policy, 4000 unique policy maps, support for 128,000 queues, allows all queues to have a minimum, maximum, and excess bandwidth with priority propagation	3-level hierarchical QoS (e.g. on GRE tunnels), 256 Class-maps per policy, 4000 unique policy maps, support for 128,000 queues, allows all queues to have a minimum, maximum, and excess bandwidth with priority propagation

Application Services

	1001	1002	1004	1006	1013
Application Acceleration/ WAN Optimization	Yes, WCCPv2 to redirect traffic to WAAS Appliance, VRF-aware WCCP	Yes, WCCPv2 to redirect traffic to WAAS Appliance, VRF-aware WCCP	Yes, WCCPv2 to redirect traffic to WAAS Appliance, VRF-aware WCCP	Yes, WCCPv2 to redirect traffic to WAAS Appliance, VRF-aware WCCP	Yes, WCCPv2 to redirect traffic to WAAS Appliance, VRF-aware WCCP
Application Visibility and Control (AVC)	Yes, 900+ protocols	Yes, 900+ protocols	Yes, 900+ protocols	Yes, 900+ protocols	Yes, 900+ protocols
Flexible Packet Matching (FPM)	Yes	Yes	Yes	Yes	Yes

For more information on the Cisco ASR 1000 Series routers, please visit: www.cisco.com/go/asr1000.

Cisco ASR 1000 Series Routers

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