Enterprise Routing Portfolio

Delivering an Uncompromised Experience Across the Branch, WAN, Data Center and Cloud





Application Acceleration/WAN

Cisco Application Centric Infrastructure







Cisco ASR 1000 Series

	Cisco	Integrated	Services	Routers	(ISR)
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	819	860VAE	880	890	4321	4331	4351	4431	4451-X
Form Factor	Desktop & Ruggedized (M2M)	Small Desktop	Desktop	Desktop	1 RU Desktop	1 RU	2 RU	1 RU	2 RU
Integrated WAN Ports	1 GE; 1 Serial	1 GE; 1 VADSL	1 FE; 1 VADSL; 1 G.SHDSL	1 GE (1 SFP); 1 VADSL; 1 G.SHDSL	1 GE/SFP; 1 GE	1 GE/SFP; 1 GE; 1 SFP	2 PoE GE/SFP; 1 GE/SFP	2 PoE GE/SFP; 2 GE/SFP	2 PoE GE/SFP; 2 GE/SFP
Performance	15 Mbps	8 Mbps	15 Mbps	25 Mbps	50 Mbps Upgradable to 100 Mbps	100 Mbps Upgradable to 300 Mbps	200 Mbps Upgradable to 400 Mbps	500 Mbps Upgradeable to 1 Gbps	1 Gbps Upgradable to 2Gbps
Management Port	N/A	N/A	N/A	N/A	1 GE (Integrated Out of Band)	1 GE (Integrated Out of Band)	1 GE (Integrated Out of Band)	1 GE (Integrated Out of Band)	1 GE (Integrated Out of Band)
Network Interface Modules (NIM)	0	0	0	0	2	2	3	3	3
Enhanced Services Module (SM-X) Integrated Services Card (ISC) Slots	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A 1 (PVDM 4)	1 Single Wide 1 (PVDM 4)	2 Single or 1 Double Wide 1 (PVDM 4)	N/A 1 (PVDM 4)	2 Single or 1 Double Wide 1 (PVDM 4)
USB Ports Type A	0	1	1	1 or 2	1	1	2	2	2
Default/Max Flash	512 MB-1 GB (fixed)	56-/128 MB (fixed)	128 MB/256 MB (fixed)	256 MB (fixed)	4 GB/8 GB	4 GB/16 GB	4 GB/16 GB	8 GB/32 GB	8 GB/32 GB
Default/Max DRAM	512 MB/1 GB	256-512 MB/256-512 MB	256-512 MB/512-1024 MB	256-512 MB/ 512-1024 MB	4 GB/8 GB	4 GB/16 GB	4 GB/16 GB	4 GB/16 GB	4 GB/16 GB
Power Supply Type	External: AC, DC	External AC	External AC, PoE	External AC, PoE	Internal: AC, PoE	Internal: AC, PoE	Internal: AC, PoE Optional DC	Internal: AC, PoE Optional DC	Internal: AC, PoE Optional DC
Redundant Power Supply	N/A	N/A	N/A	N/A	No	No	No	Yes, Internal RPS	Yes, Internal RPS
Module Online Insertion and Removal (OIR)	N/A	N/A	N/A	N/A	Yes	Yes	Yes	Yes	Yes
Server Virtualization Platform (UCS E-Series)	N/A	N/A	N/A	N/A	N/A	2 core single-wide 4 core single-wide	2 core single-wide 4 core single-wide 6 core double-wide 8 core double-wide	N/A	2 core single-wide 4 core single-wide 4 core double-wide 6 core double-wide 8 core double-wide
Advanced Security									
Zone-based Firewall and NAT Services	VRF aware FW and NAT	VRF aware FW and NAT	VRF aware FW and NAT	VRF aware FW and NAT	VRF aware FW and NAT	VRF aware FW and NAT	VRF aware FW and NAT	VRF aware FW and NAT	VRF aware FW and NAT
Hardware VPN Acceleration (DES, 3DES, AES)	Yes	Yes	Yes	Yes	No	No	No	No	No
IPSEC VPN Services	FlexVPN, Easy VPN Remote, Enhanced Easy VPN Remote, Dynamic Multipoint VPN (DMVPN), Group Encrypted Transport VPN (GET VPN) (May require Advanced IP Services license)	FlexVPN, Easy VPN Remote, Enhanced Easy VPN Remote	FlexVPN, Easy VPN Remote, Enhanced Easy VPN Remote, Dynamic Multipoint VPN (DMVPN), Group Encrypted Transport VPN (GET VPN) (May require Advanced IP Services license)	FlexVPN, Easy VPN Remote server, Enhanced Easy VPN, Dynamic Multipoint VPN (DMVPN), Group Encrypted Transport VPN (GET VPN), V3PN, MPLS VPN	FlexVPN, Easy VPN Remote server, Enhanced Easy VPN, Dynamic Multipoint VPN (DMVPN), Group Encrypted Transport VPN (GET VPN), V3PN, MPLS VPN	FlexVPN, Easy VPN Remote server, Enhanced Easy VPN, Dynamic Multipoint VPN (DMVPN), Group Encrypted Transport VPN (GET VPN), V3PN, MPLS VPN	FlexVPN, Easy VPN Remote server, Enhanced Easy VPN, Dynamic Multipoint VPN (DMVPN), Group Encrypted Transport VPN (GET VPN), V3PN, MPLS VPN	FlexVPN, Easy VPN Remote server, Enhanced Easy VPN, Dynamic Multipoint VPN (DMVPN), Group Encrypted Transport VPN (GET VPN), V3PN, MPLS VPN	FlexVPN, Easy VPN Remote server, Enhanced Easy VPN, Dynar Multipoint VPN (DMVPN), Group Encrypted Transport VPN (GET VPI V3PN, MPLS VPN
SSL VPN Intrusion Prevention	Yes Yes	N/A N/A	Yes Yes *Requires Advanced IP Services license	Yes Yes *Requires Advanced IP Services license	No Yes	No Yes	No Yes	No Yes	No Yes
Network Foundation Protection	ACL, FPM, Control Plan Protection, Control Plane Policing (CoPP), QoS, Role-based CLI Access, Source- based RTBH, uRPF, SSHv2	ACL, QoS (limited support) Role-based CLI Access, Source-based RTBH, uRPF, SSHv2	ACL, FPM, Control Plan Protection, Control Plane Policing (CoPP), QoS, Role-based CLI Access, Source-based RTBH, uRPF, SSHv2 *Some features require Advanced IP Services license	ACL, FPM, Control Plan Protection, Control Plane Policing (CoPP), QoS, Role-based CLI Access, Source-based RTBH, uRPF, SSHv2	ACL, FPM, Control Plan Protection, Control Plane Policing (CoPP), QoS, Role-based CLI Access, Source- based RTBH, uRPF, SSHv2	ACL, FPM, Control Plan Protection, Control Plane Policing (CoPP), QoS, Role-based CLI Access, Source- based RTBH, uRPF, SSHv2	ACL, FPM, Control Plan Protection, Control Plane Policing (CoPP), QoS, Role-based CLI Access, Source- based RTBH, uRPF, SSHv2	ACL, FPM, Control Plan Protection, Control Plane Policing (CoPP), QoS, Role-based CLI Access, Source- based RTBH, uRPF, SSHv2	ACL, FPM, Control Plan Protection, Control Plane Policing (CoPP), QoS Role-based CLI Access, Source- based RTBH, uRPF, SSHv2
Cisco Cloud Web Security		Yes (Requires Addition	nal Subscription License)		Yes*	Yes*	Yes*	Yes*	Yes*
Identity Based Networking	802.1X, MAB, WebAuth, RADIUS CoA	MAB, WebAuth, RADIUS CoA	802.1X, MAB, WebAuth, RADIUS CoA	802.1X, MAB, WebAuth, RADIUS CoA	No	No	No	No	No
Cisco TrustSec		(SXP), SGT over GETVPN, Port/L3 Interfa	ce/IP/Subnet-to-SGT mapping, SGT expo		Security Group Tag Exchange Protocol (L SXP), SGT over GETVPN, SGT over IPSEC,	SGT over DMVPN, SGT-based ZBFW, Por	t/L3 Interface/IP/Subnet-to-SGT mapping,	SGT export in Flexible NetFlow
Unified Communication	Enabled via Unified Communications	License for Universal IOS Image. CCMI	E/SRST support through separate featur	e licenses		,			·
Local Conferencing	N/A	N/A	N/A	N/A	Yes	Yes	Yes	Yes	Yes
Digital Signal Processor Support	N/A	N/A	N/A	N/A	PVDM4	PVDM4	PVDM4	PVDM4	PVDM4
Cisco Unified Survivable Remote Site Telephony Support	N/A	N/A	Up to 5 on V models	N/A	Up to 50	Up to 100	Up to 750	Up to 1200	Up to 2000
Cisco Unified Communications	N/A	N/A	Up to 5 on V models	N/A	Up to 50	Up to 100	Up to 250	Up to 350	Up to 450
Manager Express Support Cisco Unity Express (NM, SM or ISM)	N/A	N/A	N/A	N/A	Use Cisco Unity Connection on	Use Cisco Unity Connection on	Use Cisco Unity Connection on	Use Cisco Unity Connection on	Use Cisco Unity Connection on
Cisco Unified Border Element (CUBE)	N/A	N/A	N/A	N/A	UCSE 100	UCSE 400	UCSE 1000	UCSE 3000	UCSE 6000
(SIP/H.323 Sessions) nano Cisco Unified Border Element	N/A	N/A	25	50	N/A	N/A	N/A	N/A	N/A
(nanoCUBE) (Sessions)	N/A	N/A	N/A		Up to 240	Up to 360		Up to 720	Up to 1200
Digital Voice and Video (T1/E1 channels) Analog/BRI Voice	N/A	N/A	FXS 4, FXO 1, BRI 1 on V models	N/A N/A	Up to 8 ports (FXS, FXO, E/M, BRi)	Up to 12 ports (FXS, FXO, E/M, BRi)	Up to 720 Up to 20 ports (FXS, FXO, E/M, BRi)	Up to 12 ports (FXS, FXO, E/M, BRi)	Up to 20 ports (FXS, FXO, E/M, BRi
Routing and Multicast			,						
IPv4 Routing Protocols	RIP v1/v2, EIGRP, OSPF, BGP, PBR	RIP v1/v2, BGP	RIP v1/v2, EIGRP, OSPF, BGP, PBR, PfR *Requires Advanced IP Services license	RIP v1/v2, EIGRP, OSPF, BGP, PBR, PfR	RIP v1/v2, EIGRP, OSPF, BGP, PBR, PfR	RIP v1/v2, EIGRP, OSPF, BGP, PBR, PfR	RIP v1/v2, EIGRP, OSPF, BGP, PBR, PfR	RIP v1/v2, EIGRP, OSPF, BGP, PBR, PfR	RIP v1/v2, EIGRP, OSPF, BGP, PBF PfR
		N/A	PIM-SM, mroute (static route), and MLD *Requires Advanced IP	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
Multicast Routing Protocols	PIM-SM, mroute (static route), and MLD					EIGRP, RIP, OSPFv3, IS-IS, BGP	EIGRP. RIP. OSPFv3. IS-IS. BGP		
Multicast Routing Protocols IPv6 Routing Protocols	, , , , , , , , , , , , , , , , , , , ,	N/A	Services license EIGRP, RIP, OSPFv3, IS-IS, BGP and PBR *Requires Advanced	EIGRP, RIP, OSPFv3, IS-IS, BGP and PBR	EIGRP, RIP, OSPFv3, IS-IS, BGP and PBR	and PBR	and PBR	EIGRP, RIP, OSPFv3, IS-IS, BGP and PBR	EIGRP, RIP, OSPFv3, IS-IS, BGP and PBR
IPv6 Routing Protocols	MLD EIGRP, RIP, OSPFv3, IS-IS, BGP and	N/A	EIGRP, RIP, OSPFv3, IS-IS, BGP and						
IPv6 Routing Protocols Wireless LAN	MLD EIGRP, RIP, OSPFv3, IS-IS, BGP and PBR		EIGRP, RIP, OSPFv3, IS-IS, BGP and PBR *Requires Advanced IP Services license	PBR	and PBR	and PBR	and PBR	and PBR	and PBR
IPv6 Routing Protocols Wireless LAN Integrated 802.11 b/g/n Access Point	MLD EIGRP, RIP, OSPFv3, IS-IS, BGP and PBR N/A	Yes	EIGRP, RIP, OSPFv3, IS-IS, BGP and PBR *Requires Advanced IP Services license		and PBR	and PBR	and PBR	and PBR	and PBR
IPv6 Routing Protocols Wireless LAN	MLD EIGRP, RIP, OSPFv3, IS-IS, BGP and PBR		EIGRP, RIP, OSPFv3, IS-IS, BGP and PBR *Requires Advanced IP Services license	PBR	and PBR	and PBR	and PBR	and PBR	and PBR
IPv6 Routing Protocols Wireless LAN Integrated 802.11 b/g/n Access Point Integrated 802.11 a/b/g/n Access Point Unified and Autonomous Mode RP-TNC Connectors for Field-replaceable	MLD EIGRP, RIP, OSPFv3, IS-IS, BGP and PBR N/A Yes	Yes N/A	EIGRP, RIP, OSPFv3, IS-IS, BGP and PBR *Requires Advanced IP Services license Yes Yes	PBR N/A	and PBR N/A N/A	and PBR N/A N/A	and PBR N/A N/A	and PBR N/A N/A	and PBR N/A N/A
IPv6 Routing Protocols Wireless LAN Integrated 802.11 b/g/n Access Point Integrated 802.11 a/b/g/n Access Point Unified and Autonomous Mode RP-TNC Connectors for Field-replaceable Optional High-gain Antennas	MLD EIGRP, RIP, OSPFv3, IS-IS, BGP and PBR N/A Yes Both Yes	Yes N/A Autonomous No (integrated antennas)	EIGRP, RIP, OSPFv3, IS-IS, BGP and PBR *Requires Advanced IP Services license Yes Yes Both No (integrated antennas)	PBR N/A Both No (integrated antennas)	N/A N/A N/A N/A	N/A N/A N/A N/A N/A	nd PBR N/A N/A N/A N/A	N/A N/A N/A N/A	N/A N/A N/A N/A
IPv6 Routing Protocols Wireless LAN Integrated 802.11 b/g/n Access Point Integrated 802.11 a/b/g/n Access Point Unified and Autonomous Mode RP-TNC Connectors for Field-replaceable Optional High-gain Antennas Diversity (Dual Antennas)	MLD EIGRP, RIP, OSPFv3, IS-IS, BGP and PBR N/A Yes Both Yes	Yes N/A Autonomous No (integrated antennas) Yes	EIGRP, RIP, OSPFv3, IS-IS, BGP and PBR *Requires Advanced IP Services license Yes Yes Both No (integrated antennas)	PBR N/A Both No (integrated antennas) Yes	and PBR N/A N/A N/A N/A N/A N/A	and PBR N/A N/A N/A N/A N/A	n/A N/A N/A N/A N/A N/A	n/A N/A N/A N/A N/A N/A	N/A N/A N/A N/A N/A
IPv6 Routing Protocols Wireless LAN Integrated 802.11 b/g/n Access Point Integrated 802.11 a/b/g/n Access Point Unified and Autonomous Mode RP-TNC Connectors for Field-replaceable Optional High-gain Antennas Diversity (Dual Antennas) Wireless LAN Controller Module	MLD EIGRP, RIP, OSPFv3, IS-IS, BGP and PBR N/A Yes Both Yes	Yes N/A Autonomous No (integrated antennas)	EIGRP, RIP, OSPFv3, IS-IS, BGP and PBR *Requires Advanced IP Services license Yes Yes Both No (integrated antennas)	PBR N/A Both No (integrated antennas)	N/A N/A N/A N/A	N/A N/A N/A N/A N/A	nd PBR N/A N/A N/A N/A	N/A N/A N/A N/A	N/A N/A N/A N/A
IPv6 Routing Protocols Wireless LAN Integrated 802.11 b/g/n Access Point Integrated 802.11 a/b/g/n Access Point Unified and Autonomous Mode RP-TNC Connectors for Field-replaceable Optional High-gain Antennas Diversity (Dual Antennas) Wireless LAN Controller Module Wireless WAN	MLD EIGRP, RIP, OSPFv3, IS-IS, BGP and PBR N/A Yes Both Yes Yes N/A	Yes N/A Autonomous No (integrated antennas) Yes N/A	EIGRP, RIP, OSPFv3, IS-IS, BGP and PBR *Requires Advanced IP Services license Yes Yes Both No (integrated antennas) Yes N/A	PBR N/A Both No (integrated antennas) Yes N/A	and PBR N/A N/A N/A N/A N/A N/A Available on UCS E-Series	and PBR N/A N/A N/A N/A N/A N/A Available on UCS E-Series	and PBR N/A N/A N/A N/A N/A N/A Available on UCS E-Series	n/A N/A N/A N/A N/A N/A N/A Available on UCS E-Series	N/A N/A N/A N/A N/A N/A Available on UCS E-Series
IPv6 Routing Protocols Wireless LAN Integrated 802.11 b/g/n Access Point Integrated 802.11 a/b/g/n Access Point Unified and Autonomous Mode RP-TNC Connectors for Field-replaceable Optional High-gain Antennas Diversity (Dual Antennas) Wireless LAN Controller Module Wireless WAN 3G /4G Cellular	MLD EIGRP, RIP, OSPFv3, IS-IS, BGP and PBR N/A Yes Both Yes N/A Yes	Yes N/A Autonomous No (integrated antennas) Yes N/A	EIGRP, RIP, OSPFv3, IS-IS, BGP and PBR *Requires Advanced IP Services license Yes Yes Both No (integrated antennas) Yes N/A Yes (3G)	PBR N/A Both No (integrated antennas) Yes N/A	and PBR N/A N/A N/A N/A N/A N/A Available on UCS E-Series	and PBR N/A N/A N/A N/A N/A N/A Available on UCS E-Series Yes*	and PBR N/A N/A N/A N/A N/A N/A Available on UCS E-Series Yes*	and PBR N/A N/A N/A N/A N/A N/A Available on UCS E-Series	n/A N/A N/A N/A N/A N/A N/A Vailable on UCS E-Series
IPv6 Routing Protocols Wireless LAN Integrated 802.11 b/g/n Access Point Integrated 802.11 a/b/g/n Access Point Unified and Autonomous Mode RP-TNC Connectors for Field-replaceable Optional High-gain Antennas Diversity (Dual Antennas) Wireless LAN Controller Module Wireless WAN	MLD EIGRP, RIP, OSPFv3, IS-IS, BGP and PBR N/A Yes Both Yes Yes N/A	Yes N/A Autonomous No (integrated antennas) Yes N/A	EIGRP, RIP, OSPFv3, IS-IS, BGP and PBR *Requires Advanced IP Services license Yes Yes Both No (integrated antennas) Yes N/A	PBR N/A Both No (integrated antennas) Yes N/A	and PBR N/A N/A N/A N/A N/A N/A Available on UCS E-Series	and PBR N/A N/A N/A N/A N/A N/A Available on UCS E-Series	and PBR N/A N/A N/A N/A N/A N/A Available on UCS E-Series	n/A N/A N/A N/A N/A N/A N/A Available on UCS E-Series	N/A N/A N/A N/A N/A N/A Available on UCS E-Series
IPv6 Routing Protocols Wireless LAN Integrated 802.11 b/g/n Access Point Integrated 802.11 a/b/g/n Access Point Unified and Autonomous Mode RP-TNC Connectors for Field-replaceable Optional High-gain Antennas Diversity (Dual Antennas) Wireless LAN Controller Module Wireless WAN 3G /4G Cellular TNC Connectors for Field-replaceable	MLD EIGRP, RIP, OSPFv3, IS-IS, BGP and PBR N/A Yes Both Yes N/A Yes	Yes N/A Autonomous No (integrated antennas) Yes N/A N/A N/A N/A	EIGRP, RIP, OSPFv3, IS-IS, BGP and PBR *Requires Advanced IP Services license Yes Yes Both No (integrated antennas) Yes N/A Yes (3G) Yes	PBR N/A Both No (integrated antennas) Yes N/A N/A N/A N/A	and PBR N/A N/A N/A N/A N/A Available on UCS E-Series Yes* N/A N/A	and PBR N/A N/A N/A N/A N/A Available on UCS E-Series Yes* N/A N/A	and PBR N/A N/A N/A N/A N/A Available on UCS E-Series Yes* N/A N/A	n/A N/A N/A N/A N/A N/A Available on UCS E-Series Yes* N/A N/A	n/A N/A N/A N/A N/A N/A Available on UCS E-Series Yes* N/A N/A
IPv6 Routing Protocols Wireless LAN Integrated 802.11 b/g/n Access Point Integrated 802.11 a/b/g/n Access Point Unified and Autonomous Mode RP-TNC Connectors for Field-replaceable Optional High-gain Antennas Diversity (Dual Antennas) Wireless LAN Controller Module Wireless WAN 3G /4G Cellular TNC Connectors for Field-replaceable Optional High-gain Antennas	MLD EIGRP, RIP, OSPFv3, IS-IS, BGP and PBR N/A Yes Both Yes N/A Yes Yes N/A	Yes N/A Autonomous No (integrated antennas) Yes N/A N/A	EIGRP, RIP, OSPFv3, IS-IS, BGP and PBR *Requires Advanced IP Services license Yes Yes Both No (integrated antennas) Yes N/A Yes (3G) Yes	PBR N/A Both No (integrated antennas) Yes N/A N/A	and PBR N/A N/A N/A N/A N/A Available on UCS E-Series Yes* N/A	and PBR N/A N/A N/A N/A N/A Available on UCS E-Series Yes* N/A	and PBR N/A N/A N/A N/A N/A Available on UCS E-Series Yes* N/A	n/A N/A N/A N/A N/A N/A N/A Available on UCS E-Series Yes* N/A	and PBR N/A N/A N/A N/A N/A Available on UCS E-Series Yes* N/A
IPv6 Routing Protocols Wireless LAN Integrated 802.11 b/g/n Access Point Integrated 802.11 a/b/g/n Access Point Unified and Autonomous Mode RP-TNC Connectors for Field-replaceable Optional High-gain Antennas Diversity (Dual Antennas) Wireless LAN Controller Module Wireless WAN 3G /4G Cellular TNC Connectors for Field-replaceable Optional High-gain Antennas Diversity (Dual Antennas)	MLD EIGRP, RIP, OSPFv3, IS-IS, BGP and PBR N/A Yes Both Yes N/A Yes Yes Ves Yes Yes	Yes N/A Autonomous No (integrated antennas) Yes N/A N/A N/A N/A	EIGRP, RIP, OSPFv3, IS-IS, BGP and PBR *Requires Advanced IP Services license Yes Yes Both No (integrated antennas) Yes N/A Yes (3G) Yes	PBR N/A Both No (integrated antennas) Yes N/A N/A N/A N/A	and PBR N/A N/A N/A N/A N/A Available on UCS E-Series Yes* N/A N/A	and PBR N/A N/A N/A N/A N/A Available on UCS E-Series Yes* N/A N/A	and PBR N/A N/A N/A N/A N/A Available on UCS E-Series Yes* N/A N/A	n/A N/A N/A N/A N/A N/A Available on UCS E-Series Yes* N/A N/A	n/A N/A N/A N/A N/A N/A Available on UCS E-Series Yes* N/A N/A
IPv6 Routing Protocols Wireless LAN Integrated 802.11 b/g/n Access Point Integrated 802.11 a/b/g/n Access Point Unified and Autonomous Mode RP-TNC Connectors for Field-replaceable Optional High-gain Antennas Diversity (Dual Antennas) Wireless LAN Controller Module Wireless WAN 3G /4G Cellular TNC Connectors for Field-replaceable Optional High-gain Antennas Diversity (Dual Antennas) Outdoor Antennas Integrated Switching Maximum Switched Ethernet Ports Maximum Switched Ethernet LAN Ports	MLD EIGRP, RIP, OSPFv3, IS-IS, BGP and PBR N/A Yes Both Yes N/A Yes Yes Ves Yes Yes	Yes N/A Autonomous No (integrated antennas) Yes N/A N/A N/A N/A	EIGRP, RIP, OSPFv3, IS-IS, BGP and PBR *Requires Advanced IP Services license Yes Yes Both No (integrated antennas) Yes N/A Yes (3G) Yes	PBR N/A Both No (integrated antennas) Yes N/A N/A N/A N/A	and PBR N/A N/A N/A N/A N/A Available on UCS E-Series Yes* N/A N/A	and PBR N/A N/A N/A N/A N/A Available on UCS E-Series Yes* N/A N/A	and PBR N/A N/A N/A N/A N/A Available on UCS E-Series Yes* N/A N/A	n/A N/A N/A N/A N/A N/A Available on UCS E-Series Yes* N/A N/A	N/A N/A N/A N/A N/A N/A Available on UCS E-Series Yes* N/A N/A
IPv6 Routing Protocols Wireless LAN Integrated 802.11 b/g/n Access Point Integrated 802.11 a/b/g/n Access Point Unified and Autonomous Mode RP-TNC Connectors for Field-replaceable Optional High-gain Antennas Diversity (Dual Antennas) Wireless LAN Controller Module Wireless WAN 3G /4G Cellular TNC Connectors for Field-replaceable Optional High-gain Antennas Diversity (Dual Antennas) Outdoor Antennas Integrated Switching Maximum Switched Ethernet Ports	MLD EIGRP, RIP, OSPFv3, IS-IS, BGP and PBR N/A Yes Both Yes Yes N/A Yes Yes Yes Yes Yes Yes	Yes N/A Autonomous No (integrated antennas) Yes N/A N/A N/A N/A N/A	EIGRP, RIP, OSPFv3, IS-IS, BGP and PBR *Requires Advanced IP Services license Yes Yes Both No (integrated antennas) Yes N/A Yes (3G) Yes	PBR N/A Both No (integrated antennas) Yes N/A N/A N/A N/A N/A	and PBR N/A N/A N/A N/A N/A Available on UCS E-Series Yes* N/A N/A N/A N/A N/A	and PBR N/A N/A N/A N/A N/A Available on UCS E-Series Yes* N/A N/A N/A N/A	and PBR N/A N/A N/A N/A N/A Available on UCS E-Series Yes* N/A N/A N/A N/A N/A	and PBR N/A N/A N/A N/A N/A Available on UCS E-Series Yes* N/A N/A N/A N/A	N/A N/A N/A N/A N/A N/A Available on UCS E-Series Yes* N/A N/A N/A A48
IPv6 Routing Protocols Wireless LAN Integrated 802.11 b/g/n Access Point Integrated 802.11 a/b/g/n Access Point Unified and Autonomous Mode RP-TNC Connectors for Field-replaceable Optional High-gain Antennas Diversity (Dual Antennas) Wireless LAN Controller Module Wireless WAN 3G /4G Cellular TNC Connectors for Field-replaceable Optional High-gain Antennas Diversity (Dual Antennas) Outdoor Antennas Integrated Switching Maximum Switched Ethernet Ports Maximum Switched Ethernet LAN Ports with POE	MLD EIGRP, RIP, OSPFv3, IS-IS, BGP and PBR N/A Yes Both Yes Yes N/A Yes Yes Yes 4 0	Yes N/A Autonomous No (integrated antennas) Yes N/A N/A N/A N/A N/A 1 1	EIGRP, RIP, OSPFv3, IS-IS, BGP and PBR *Requires Advanced IP Services license Yes Yes Both No (integrated antennas) Yes N/A Yes (3G) Yes Yes Yes 4 2	PBR N/A Both No (integrated antennas) Yes N/A N/A N/A N/A N/A N/A 8 4	and PBR N/A N/A N/A N/A N/A Available on UCS E-Series Yes* N/A N/A N/A N/A N/A	and PBR N/A N/A N/A N/A N/A Available on UCS E-Series Yes* N/A N/A N/A 24 24	and PBR N/A N/A N/A N/A N/A Available on UCS E-Series Yes* N/A N/A N/A A/A N/A N/A N/A	and PBR N/A N/A N/A N/A N/A Available on UCS E-Series Yes* N/A N/A N/A N/A N/A N/A N/A Solution of the power supply Redundancy) 500W	n/A N/A N/A N/A N/A N/A Available on UCS E-Series Yes* N/A N/A N/A N/A All N/A N/A N/A
Wireless LAN Integrated 802.11 b/g/n Access Point Integrated 802.11 a/b/g/n Access Point Unified and Autonomous Mode RP-TNC Connectors for Field-replaceable Optional High-gain Antennas Diversity (Dual Antennas) Wireless LAN Controller Module Wireless WAN 3G /4G Cellular TNC Connectors for Field-replaceable Optional High-gain Antennas Diversity (Dual Antennas) Outdoor Antennas Integrated Switching Maximum Switched Ethernet Ports Maximum Switched Ethernet LAN Ports with POE PoE Support (Wattage) Without PoE Boost	MLD EIGRP, RIP, OSPFv3, IS-IS, BGP and PBR N/A Yes Both Yes Yes N/A Yes Yes N/A Yes Yes N/A N/A N/A	Yes N/A Autonomous No (integrated antennas) Yes N/A N/A N/A N/A N/A 15 1 15.4W N/A	EIGRP, RIP, OSPFv3, IS-IS, BGP and PBR *Requires Advanced IP Services license Yes Yes Both No (integrated antennas) Yes N/A Yes (3G) Yes Yes 4 2 31W N/A	PBR N/A Both No (integrated antennas) Yes N/A N/A N/A N/A N/A N/A N/A N/	and PBR N/A N/A N/A N/A N/A Available on UCS E-Series Yes* N/A N/A N/A N/A N/A 120W 260W	and PBR N/A N/A N/A N/A N/A Available on UCS E-Series Yes* N/A N/A N/A 24 24 250W 530W	and PBR N/A N/A N/A N/A N/A Available on UCS E-Series Yes* N/A N/A N/A N/A Soow 990W	n/A N/A N/A N/A N/A N/A Available on UCS E-Series Yes* N/A N/A N/A N/A N/A N/A Solution of the proper supply Redundancy) Solution of the proper supply Redundancy)	N/A N/A N/A N/A N/A N/A N/A Available on UCS E-Series Yes* N/A N/A N/A N/A Solution N/A N/A N/A N/A N/A Solution N/A N/A N/A Power Supply Redundancy)
IPv6 Routing Protocols Wireless LAN Integrated 802.11 b/g/n Access Point Integrated 802.11 a/b/g/n Access Point Unified and Autonomous Mode RP-TNC Connectors for Field-replaceable Optional High-gain Antennas Diversity (Dual Antennas) Wireless LAN Controller Module Wireless WAN 3G /4G Cellular TNC Connectors for Field-replaceable Optional High-gain Antennas Diversity (Dual Antennas) Outdoor Antennas Integrated Switching Maximum Switched Ethernet Ports Maximum Switched Ethernet LAN Ports with POE PoE Support (Wattage) Without PoE Boost PoE Support (Wattage) With PoE Boost EtherSwitch Service Module Type (Width)	MLD EIGRP, RIP, OSPFv3, IS-IS, BGP and PBR N/A Yes Both Yes Yes N/A Yes Yes Yes Yes Yes Yes Yes Ye	Yes N/A Autonomous No (integrated antennas) Yes N/A N/A N/A N/A 15 1 15.4W	EIGRP, RIP, OSPFv3, IS-IS, BGP and PBR *Requires Advanced IP Services license Yes Yes Both No (integrated antennas) Yes N/A Yes (3G) Yes Yes Yes 31W	PBR N/A Both No (integrated antennas) Yes N/A N/A N/A N/A N/A 8 4 62W	and PBR N/A N/A N/A N/A N/A Available on UCS E-Series Yes* N/A N/A N/A N/A N/A N/A 120W	and PBR N/A N/A N/A N/A N/A Available on UCS E-Series Yes* N/A N/A N/A 24 24 250W	and PBR N/A N/A N/A N/A N/A Available on UCS E-Series Yes* N/A N/A N/A A/A N/A N/A N/A N/	and PBR N/A N/A N/A N/A N/A Available on UCS E-Series Yes* N/A N/A N/A N/A N/A N/A N/A Solution of the power supply Redundancy) 500W	n/A N/A N/A N/A N/A N/A Available on UCS E-Series Yes* N/A N/A N/A N/A Alage 48 48 500W (With Optional Power Supplemental Power Sup
IPv6 Routing Protocols Wireless LAN Integrated 802.11 b/g/n Access Point Integrated 802.11 a/b/g/n Access Point Unified and Autonomous Mode RP-TNC Connectors for Field-replaceable Optional High-gain Antennas Diversity (Dual Antennas) Wireless LAN Controller Module Wireless WAN 3G /4G Cellular TNC Connectors for Field-replaceable Optional High-gain Antennas Diversity (Dual Antennas) Outdoor Antennas Integrated Switching Maximum Switched Ethernet Ports Maximum Switched Ethernet LAN Ports with POE PoE Support (Wattage) Without PoE Boost PoE Support (Wattage) With PoE Boost EtherSwitch Service Module Type (Width) Application Services	MLD EIGRP, RIP, OSPFv3, IS-IS, BGP and PBR N/A Yes Both Yes Yes N/A Yes Yes N/A Yes Yes N/A N/A N/A	Yes N/A Autonomous No (integrated antennas) Yes N/A N/A N/A N/A N/A 15 1 15.4W N/A	EIGRP, RIP, OSPFv3, IS-IS, BGP and PBR *Requires Advanced IP Services license Yes Yes Both No (integrated antennas) Yes N/A Yes (3G) Yes Yes 4 2 31W N/A	PBR N/A Both No (integrated antennas) Yes N/A N/A N/A N/A N/A N/A N/A N/	and PBR N/A N/A N/A N/A N/A Available on UCS E-Series Yes* N/A N/A N/A N/A N/A 120W 260W	and PBR N/A N/A N/A N/A N/A Available on UCS E-Series Yes* N/A N/A N/A 24 24 250W 530W	and PBR N/A N/A N/A N/A N/A Available on UCS E-Series Yes* N/A N/A N/A N/A Soow 990W	n/A N/A N/A N/A N/A N/A Available on UCS E-Series Yes* N/A N/A N/A N/A N/A N/A Solution of the proper supply Redundancy) Solution of the proper supply Redundancy)	N/A N/A N/A N/A N/A N/A N/A Available on UCS E-Series Yes* N/A N/A N/A N/A Solution of the property of the pr
Wireless LAN Integrated 802.11 b/g/n Access Point Integrated 802.11 a/b/g/n Access Point Unified and Autonomous Mode RP-TNC Connectors for Field-replaceable Optional High-gain Antennas Diversity (Dual Antennas) Wireless LAN Controller Module Wireless WAN 3G /4G Cellular TNC Connectors for Field-replaceable Optional High-gain Antennas Diversity (Dual Antennas) Outdoor Antennas Integrated Switching Maximum Switched Ethernet Ports Maximum Switched Ethernet LAN Ports with POE PoE Support (Wattage) Without PoE Boost PoE Support (Wattage) With PoE Boost EtherSwitch Service Module Type (Width) Application Services Intelligent Path Control	MLD EIGRP, RIP, OSPFv3, IS-IS, BGP and PBR N/A Yes Both Yes Yes N/A Yes Yes Ves N/A Yes PfR	Yes N/A Autonomous No (integrated antennas) Yes N/A N/A N/A N/A N/A 15 1 15.4W N/A N/A	EIGRP, RIP, OSPFv3, IS-IS, BGP and PBR *Requires Advanced IP Services license Yes Yes Both No (integrated antennas) Yes N/A Yes (3G) Yes Yes Yes Yes Yes Yes Yes Yes	PBR N/A Both No (integrated antennas) Yes N/A N/A N/A N/A N/A N/A N/A PfR	and PBR N/A N/A N/A N/A N/A Available on UCS E-Series Yes* N/A N/A N/A N/A N/A N/A N/A PfR	and PBR N/A N/A N/A N/A N/A Available on UCS E-Series Yes* N/A N/A N/A 24 24 250W 530W 1 Single	and PBR N/A N/A N/A N/A N/A Available on UCS E-Series Yes* N/A N/A N/A All N/A PARITH TO THE T	n/A N/A N/A N/A N/A N/A Available on UCS E-Series Yes* N/A N/A N/A N/A N/A N/A N/A PfR	N/A N/A N/A N/A N/A N/A N/A Available on UCS E-Series Yes* N/A N/A N/A N/A 48 48 48 500W (With Optional Power Sup Redundancy) 950W (No Power Supply Redundancy) 2 Single or 1 Double PfR
Wireless LAN Integrated 802.11 b/g/n Access Point Integrated 802.11 a/b/g/n Access Point Unified and Autonomous Mode RP-TNC Connectors for Field-replaceable Optional High-gain Antennas Diversity (Dual Antennas) Wireless LAN Controller Module Wireless WAN 3G /4G Cellular TNC Connectors for Field-replaceable Optional High-gain Antennas Diversity (Dual Antennas) Outdoor Antennas Diversity (Dual Antennas) Outdoor Antennas Integrated Switching Maximum Switched Ethernet Ports Maximum Switched Ethernet LAN Ports with POE PoE Support (Wattage) Without PoE Boost PoE Support (Wattage) With PoE Boost EtherSwitch Service Module Type (Width) Application Services Intelligent Path Control	MLD EIGRP, RIP, OSPFv3, IS-IS, BGP and PBR N/A Yes Both Yes Yes N/A Yes Yes Yes Yes Yes Yes Yes Ye	Yes N/A Autonomous No (integrated antennas) Yes N/A N/A N/A N/A N/A 15.4W N/A N/A N/A N/A N/A N/A N/A N/	EIGRP, RIP, OSPFv3, IS-IS, BGP and PBR *Requires Advanced IP Services license Yes Yes Both No (integrated antennas) Yes N/A Yes (3G) Yes Yes Yes Yes Yes Yes Yes Yes	PBR N/A Both No (integrated antennas) Yes N/A N/A N/A N/A N/A 8 4 62W N/A N/A PfR QoS, HQoS	and PBR N/A N/A N/A N/A N/A Available on UCS E-Series Yes* N/A N/A N/A N/A N/A N/A PfR QoS, HQoS	and PBR N/A N/A N/A N/A N/A Available on UCS E-Series Yes* N/A N/A N/A N/A 1 Single PfR QoS, HQoS	and PBR N/A N/A N/A N/A N/A Available on UCS E-Series Yes* N/A N/A N/A N/A PRODUCT OF THE CONTROLL	and PBR N/A N/A N/A N/A N/A Available on UCS E-Series Yes* N/A N/A N/A N/A N/A N/A N/A PfR QoS, HQoS	N/A N/A N/A N/A N/A N/A N/A Available on UCS E-Series Yes* N/A N/A N/A N/A Solution of the property of the p
IPv6 Routing Protocols Wireless LAN Integrated 802.11 b/g/n Access Point Integrated 802.11 a/b/g/n Access Point Unified and Autonomous Mode RP-TNC Connectors for Field-replaceable Optional High-gain Antennas Diversity (Dual Antennas) Wireless LAN Controller Module Wireless WAN 3G /4G Cellular TNC Connectors for Field-replaceable Optional High-gain Antennas Diversity (Dual Antennas) Outdoor Antennas Integrated Switching Maximum Switched Ethernet Ports Maximum Switched Ethernet LAN Ports with POE PoE Support (Wattage) Without PoE Boost PoE Support (Wattage) With PoE Boost EtherSwitch Service Module Type (Width) Application Services Intelligent Path Control Network Contention Control	MLD EIGRP, RIP, OSPFv3, IS-IS, BGP and PBR N/A Yes Both Yes Yes N/A Yes Yes Ves N/A Yes PfR	Yes N/A Autonomous No (integrated antennas) Yes N/A N/A N/A N/A N/A 15 1 15.4W N/A N/A N/A N/A N/A N/A N/A N/	EIGRP, RIP, OSPFv3, IS-IS, BGP and PBR *Requires Advanced IP Services license Yes Yes Both No (integrated antennas) Yes N/A Yes (3G) Yes Yes Yes Yes Yes Yes Yes Ye	PBR N/A Both No (integrated antennas) Yes N/A N/A N/A N/A N/A N/A N/A PfR QoS, HQoS NBAR v2 WAAS Express	and PBR N/A N/A N/A N/A N/A Available on UCS E-Series Yes* N/A N/A N/A N/A N/A N/A N/A PfR	and PBR N/A N/A N/A N/A N/A Available on UCS E-Series Yes* N/A N/A N/A N/A PARITHER STATES STATES N/A 1 Single PfR QoS, HQoS NBAR V2 ISR-WAAS, vWAAS on UCS E-	and PBR N/A N/A N/A N/A N/A Available on UCS E-Series Yes* N/A N/A N/A N/A PROBLEM STATE OF THE S	n/A N/A N/A N/A N/A N/A Available on UCS E-Series Yes* N/A N/A N/A N/A N/A N/A N/A PfR	N/A N/A N/A N/A N/A N/A N/A N/A Available on UCS E-Series Yes* N/A N/A N/A N/A N/A N/A Solution of the proper supply Redundancy) 950W (No Power Supply Redundancy) 2 Single or 1 Double PfR QoS, HQoS NBAR V2 ISR-WAAS, vWAAS on UCS E-
IPv6 Routing Protocols Wireless LAN Integrated 802.11 b/g/n Access Point Integrated 802.11 a/b/g/n Access Point Unified and Autonomous Mode RP-TNC Connectors for Field-replaceable Optional High-gain Antennas Diversity (Dual Antennas) Wireless LAN Controller Module Wireless WAN 3G /4G Cellular TNC Connectors for Field-replaceable Optional High-gain Antennas Diversity (Dual Antennas) Outdoor Antennas Integrated Switching Maximum Switched Ethernet Ports Maximum Switched Ethernet LAN Ports with POE PoE Support (Wattage) Without PoE Boost	MLD EIGRP, RIP, OSPFv3, IS-IS, BGP and PBR N/A Yes Both Yes Yes N/A Yes Yes Yes Yes Yes Yes Yes Ye	Yes N/A Autonomous No (integrated antennas) Yes N/A N/A N/A N/A N/A 15.4W N/A N/A N/A N/A N/A N/A N/A N/	EIGRP, RIP, OSPFv3, IS-IS, BGP and PBR *Requires Advanced IP Services license Yes Yes Both No (integrated antennas) Yes N/A Yes (3G) Yes Yes Yes Yes Yes Yes OR NO (ARCHART ADVANCED IN THE PROPERTY ADVANCED	PBR N/A Both No (integrated antennas) Yes N/A N/A N/A N/A N/A N/A N/A PfR QoS, HQoS NBAR v2	and PBR N/A N/A N/A N/A N/A Available on UCS E-Series Yes* N/A N/A N/A N/A N/A N/A PfR QoS, HQoS NBAR V2	and PBR N/A N/A N/A N/A N/A Available on UCS E-Series Yes* N/A N/A N/A N/A PARITHER STATES STATES N/A 1 Single PfR QoS, HQoS NBAR V2	and PBR N/A N/A N/A N/A N/A Available on UCS E-Series Yes* N/A N/A N/A N/A PROBLEM STATE OF THE S	N/A N/A N/A N/A N/A N/A N/A Available on UCS E-Series Yes* N/A N/A N/A N/A N/A N/A PfR QoS, HQoS NBAR V2	N/A N/A N/A N/A N/A N/A N/A Available on UCS E-Series Yes* N/A N/A N/A N/A N/A N/A Solution of the property of the propert

Cisco Aggregation Services Routers (ASR) 1000 Series

Transforming the Enterprise Network Edd

	1001-X	1002-X	1004	1006	1013	
Form Factor	1 RU	2 RU	4 RU	6 RU	13 RU	
Chassis	Scalable to 20 Gbps	Scalable to 36 Gbps	Scalable to 40 Gbps	Scalable to 100 Gbps	Scalable to 100 Gbps Designed for 360 Gbps	
Integrated WAN Ports	6 GE ports 2x10GE	6 GE ports				
Embedded Services Processor (ESP)	Integrated 2.5-Gbps ESP Upgradable via a software activated license to 20 Gbps	Integrated ESP Upgradable via a software activated license from 5 Gbps to 10, 20, or 36 Gbps	ASR1000-ESP10 (single) ASR1000-ESP10-N (single): Scalable to 10 Gbps ASR1000-ESP20 (single): Scalable to 20 Gbps ASR1000-ESP40 (single or dual): Scalable to 40 Gbps	ASR1000-ESP 10 (single or dual) ASR1000-ESP10-N (single or dual): Scalable to 10 Gbps ASR1000-ESP20 (single or dual): Scalable to 20 Gbps or ASR1000-ESP40 (single or dual): Scalable to 40 Gbps ASR1000-ESP100 (single or dual): Scalable to 100 Gbps	ASR1000-ESP40 (single or dual): Scalable to 40 Gbps ASR1000-ESP100 (single or dual): Scalable to 100 Gbps ASR1000-ESP200 (single or dual): Scalable to 200 Gbps	
Route Processor (RP)	Integrated Route Processor with 8 GB memory, field up- gradable to 16 GB memory	Integrated Route Processor with 4 GB memory, field upgradable to 8 GB or 16 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 dua 8 GB or 16 GB memory	
SPA Interface Processor (SIP) Card Slots	Integrated	Integrated	2	3	6	
Shared Port Adapter (SPA) Slots Network Interface Module (NIM)	1	3	8	12	24	
Interface Support	FE, GE, 10GE, OC3 (POS/ATM),	OC12 (POS/ATM), OC48 (POS), OC-192 (POS), channelized STM-1/OC3, (channelized+non-channelized) T3/DS0, T1/E1, Serial				
Forwarding Rate	Up to 17 Mpps Up to 20 Gbps Depending on which performance upgrade license is utilized	Up to 30 Mpps Up to 36 Gbps Depending on which performance upgrade license is utilized	Up to 15 or 23 Mpps Up to 10 or 20 or 40 Gbps-depending on ESP	Up to 15 or 23 or 59 Mpps Up to 10 or 20 or 40 or 100 Gbps-depending on ESP	Up to 23 or 59 Mpps Up to 40 or 100 Gbps	
Minimum Cisco IOS XE Release	IOS XE 3.12	IOS XE 3.7.1S	IOS XE 2.1.0	IOS XE 2.1.0	IOS XE 3.1.0S	
System DRAM Memory	8 GB (default); 16 GB (max.) - for integrated Route Processor	4 GB (default); 8 GB or 16 GB (max.) – for integrated Route Processor	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				
Zone-based Firewall and NAT services	Up to 20 Gbps VRF aware FW and VRF aware NAT	Up to 36 Gbps VRF aware FW and VRF aware NAT	Up to 10Gbps (ESP10), 20 Gbps (ESP20), 40Gbps (ESP40) VRF aware FW and VRF aware NAT	Up to 10Gbps (ESP10) 20Gbps (ESP20), 40Gbps (ESP40), 120Gbps (ESP100) VRF aware FW and VRF aware NAT	UP TO 40GBPS (ESP40), 120Gbps (ESP100), 200Gbps (ESP200) VRF aware FW and VRF aware NAT	
Total Firewall Session	2M	2M	1M (ESP10) 2M (ESP20 and ESP40)	1M (ESP10) 2M (ESP20 and ESP40) 6M (ESP100)	2M (ESP40) 6M (ESP100 AND ESP200)	
Onboard Hardware	VPN, Easy VPN, Enhanced Easy VPN, Dynamic Multipoint VPN (DMVPN), 2547 over DMVPN, Group Encrypted Transport VPN (GET VPN), IPv6 IPsec SVTI ** FlexVPN is recommended over EasyVPN/DMVPN Yes, up to 8 Gbps	IPsec, GRE + IPsec, VTI, FlexVPN, Easy VPN, Enhanced Easy VPN, Dynamic Multipoint VPN (DMVPN), 2547 over DMVPN, Group Encrypted Transport VPN (GET VPN), IPv6 IPsec SVTI *** FlexVPN is recommended over EasyVPN/DMVPN				
VPN Encryption (DES, 3DES, AES)	*(Suite-B supported in control and data planes)	Yes, up to 4 Gbps (IMIX or 1400B) *(Suite-B supported in control and data plane)	Yes, up to 11 Gbps *(Suite-B supported in control plane)	Yes, up to 29 Gbps *(Suite-B supported in control plane with ESP10/20/40) **(Suite-B supported in both control and data plane with ESP100)	Yes, up to 29 Gbps *(Suite-B supported in control plane with ESP40) **(Suite-B supported in both column trol and data plane with ESP100	
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, FPM, Control Plane Protection (CPPr), Control Plane Policing (CoPP), QoS, Rolebased CLI Access, Sourcebased RTBH, uRPF, SSHv2	tection (CPPr), Control Plane Policing (CoPP), QoS, Role- based CLI Access, Source- Source-based RTBH, uRPF, SSHv2				
Cisco TrustSec	Security Group Tag Exchange Protocol (SXP), SGT-o-GET- VPN, SGT-o-IPSEC, SGT-o- DMVPN, SGT-based ZBFW Security Group Tag Exchange Protocol (SXP), SGT-o-GETVPN, SGT-o-IPSEC, SGT-o-DMVPN, SGT-based ZBFW					
Unified Communication: Enabled insta						
Cisco Unified Border Element (Enterprise Edition) — SIP Trunking		5000	16000+	16000+	N/A	
Cisco Unified Border Element (Enterprise Edition) – SIP Trunking (Managed) Cisco Unified Border Element (SP Edition) – SIP Trunking (SP hosted)	5000 5000	5000	16000+	16000+	N/A	
Cisco Unified Border Element (Enterprise Edition) – SIP Trunking (Managed) Cisco Unified Border Element (SP Edition) – SIP Trunking (SP hosted)	5000 5000 Yes					
Cisco Unified Border Element (Enterprise Edition) – SIP Trunking (Managed) Cisco Unified Border Element (SP Edition) – SIP Trunking (SP hosted) cRTP WebEx Node	5000 5000	5000 Yes	16000+ Yes	16000+ Yes	N/A Yes	
Cisco Unified Border Element (Enterprise Edition) – SIP Trunking (Managed) Cisco Unified Border Element (SP Edition) – SIP Trunking (SP hosted) CRTP WebEx Node B2B TelePresence Enablement	5000 5000 Yes No	5000 Yes Yes	16000+ Yes Yes	16000+ Yes Yes	N/A Yes Yes	
Cisco Unified Border Element (Enterprise Edition) — SIP Trunking (Managed) Cisco Unified Border Element (SP Edition) — SIP Trunking (SP hosted) CRTP WebEx Node B2B TelePresence Enablement Routing and Multicast	5000 5000 Yes No	5000 Yes Yes Yes	16000+ Yes Yes Yes RIP v1/v2, EIGRP, OSPF, BGP, PBR	16000+ Yes Yes Yes	N/A Yes Yes	
Cisco Unified Border Element (Enterprise Edition) — SIP Trunking (Managed) Cisco Unified Border Element (SP Edition) — SIP Trunking (SP hosted) cRTP WebEx Node B2B TelePresence Enablement Routing and Multicast IPv4 Routing Protocols Multicast Routing Protocols	5000 5000 Yes No	5000 Yes Yes Yes	16000+ Yes Yes Yes Yes RIP v1/v2, EIGRP, OSPF, BGP, PBR	16000+ Yes Yes Yes	N/A Yes Yes	
Cisco Unified Border Element (Enterprise Edition) — SIP Trunking (Managed) Cisco Unified Border Element (SP Edition) — SIP Trunking (SP hosted) cRTP WebEx Node B2B TelePresence Enablement Routing and Multicast IPv4 Routing Protocols Multicast Routing Protocols IPv6 Routing Protocols	5000 5000 Yes No	5000 Yes Yes Yes	16000+ Yes Yes Yes RIP v1/v2, EIGRP, OSPF, BGP, PBR	16000+ Yes Yes Yes	N/A Yes Yes	
Cisco Unified Border Element (Enterprise Edition) — SIP Trunking (Managed) Cisco Unified Border Element (SP Edition) — SIP Trunking (SP hosted) cRTP WebEx Node B2B TelePresence Enablement Routing and Multicast IPv4 Routing Protocols Multicast Routing Protocols IPv6 Routing Protocols Netflow v5/v9	antly via CUBE License 5000 5000 Yes No Yes	5000 Yes Yes Yes P El	Yes Yes Yes RIP v1/v2, EIGRP, OSPF, BGP, PBR PIM-SM, mroute (static route), and M RGRP, RIP, OSPFv3, IS-IS, BGP and F	16000+ Yes Yes Yes LD PBR	N/A Yes Yes Yes	
Cisco Unified Border Element (Enterprise Edition) — SIP Trunking (Managed) Cisco Unified Border Element (SP Edition) — SIP Trunking (SP hosted) cRTP WebEx Node B2B TelePresence Enablement Routing and Multicast IPv4 Routing Protocols Multicast Routing Protocols IPv6 Routing Protocols Netflow v5/v9 High Availability In Service Software	antly via CUBE License 5000 5000 Yes No Yes	5000 Yes Yes Yes P El	Yes Yes Yes RIP v1/v2, EIGRP, OSPF, BGP, PBR PIM-SM, mroute (static route), and M RGRP, RIP, OSPFv3, IS-IS, BGP and F	16000+ Yes Yes Yes LD PBR	N/A Yes Yes Yes	
Cisco Unified Border Element (Enterprise Edition) – SIP Trunking (Managed) Cisco Unified Border Element (SP Edition) – SIP Trunking (SP hosted) cRTP WebEx Node B2B TelePresence Enablement Routing and Multicast IPv4 Routing Protocols Multicast Routing Protocols Netflow v5/v9 High Availability In Service Software Upgrade (ISSU) Software Redundancy (dual IOS	antly via CUBE License 5000 For some state of the state	5000 Yes Yes Yes Yes Yes	Yes Yes Yes Yes RIP v1/v2, EIGRP, OSPF, BGP, PBR PIM-SM, mroute (static route), and M IGRP, RIP, OSPFv3, IS-IS, BGP and F Yes	16000+ Yes Yes Yes Yes Yes Yes Yes	N/A Yes Yes Yes Yes	
Cisco Unified Border Element (Enterprise Edition) – SIP Trunking (Managed) Cisco Unified Border Element (SP Edition) – SIP Trunking (SP hosted) cRTP WebEx Node B2B TelePresence Enablement Routing and Multicast IPv4 Routing Protocols Multicast Routing Protocols IPv6 Routing Protocols Netflow v5/v9 High Availability In Service Software Upgrade (ISSU) Software Redundancy (dual IOS on same Route Processor)	antly via CUBE License 5000 5000 Yes No Yes No Yes	5000 Yes Yes Yes Yes P El Yes	16000+ Yes Yes Yes RIP v1/v2, EIGRP, OSPF, BGP, PBR PIM-SM, mroute (static route), and M IGRP, RIP, OSPFv3, IS-IS, BGP and F Yes No	16000+ Yes Yes Yes Yes Yes Yes Yes Ye	N/A Yes Yes Yes Yes Yes	
Cisco Unified Border Element (Enterprise Edition) – SIP Trunking (Managed) Cisco Unified Border Element (SP Edition) – SIP Trunking (SP hosted) cRTP WebEx Node B2B TelePresence Enablement Routing and Multicast IPv4 Routing Protocols Multicast Routing Protocols Netflow v5/v9 High Availability In Service Software Upgrade (ISSU) Software Redundancy (dual IOS on same Route Processor) NSF/SSO	antly via CUBE License 5000 Yes No Yes Yes No Yes	5000 Yes Yes Yes Yes P El Yes No Yes	16000+ Yes Yes Yes RIP v1/v2, EIGRP, OSPF, BGP, PBR PIM-SM, mroute (static route), and M IGRP, RIP, OSPFv3, IS-IS, BGP and F Yes No Yes	16000+ Yes Yes Yes Yes Yes ILD PBR Yes Yes N/A (HW redundancy)	N/A Yes Yes Yes Yes Yes N/A (HW redundancy)	
Unified Communication: Enabled insta Cisco Unified Border Element (Enterprise Edition) — SIP Trunking (Managed) Cisco Unified Border Element (SP Edition) — SIP Trunking (SP hosted) CRTP WebEx Node B2B TelePresence Enablement Routing and Multicast IPv4 Routing Protocols Multicast Routing Protocols IPv6 Routing Protocols Netflow v5/v9 High Availability In Service Software Upgrade (ISSU) Software Redundancy (dual IOS on same Route Processor) NSF/SSO Quality of Service Hierarchical Quality-of-Service	antly via CUBE License 5000 Yes No Yes Yes	P FI Yes Yes Yes Yes Yes Alevel hierarchical QoS (e.g. on per policy, 4000 unique policy more)	Yes Yes Yes Yes RIP v1/v2, EIGRP, OSPF, BGP, PBR PIM-SM, mroute (static route), and M IGRP, RIP, OSPFv3, IS-IS, BGP and F Yes No Yes Yes	16000+ Yes Yes Yes Yes Yes ILD PBR Yes Yes N/A (HW redundancy)	N/A Yes Yes Yes Yes Yes N/A (HW redundancy)	

Yes, WCCPv2 to redirect traffic to WAAS Appliance, VRF-aware WCCP

Application Policy Infrastructure Controller (APIC) with Enterprise Module

Yes, 900+ protocols

Yes, 900+ protocols

Yes, 900+ protocols

Cisco Cloud Services Router (CSR)1000V

Extending the Enterprise WAN to the Cloud

Virtualization and System Requirements	IPBase	SEC	АррХ	AX	
Server Requirements	Intel or AMD CF Gigabit Etherne		quency of at leas	t 2.0 GHz,	
Hypervisor Requirements	VMware ESXi 5.0 and 5.1, Red Hat Enterprise Virtualization (RHEV) 3.1, Red Hat Enterprise Linux (RHEL) 6.3, Citrix XenServer 6.1, Microsoft Hyper-V (Windows Server 2012 R2), Amazon Web Services AMI, Verizon eCloud				
Supported Hypervisor Features	Multiple Instances: Cloning, Templates, Snapshots; Interfaces: NIC Teaming; High Availability: vMotion, XenMotion, KVM Live Migration, VMware Fault Tolerance, VMware Distributed Resource Scheduler				
Virtual Machine Requirements	to 16 GB (base	d on throughput I	roughput license) icense); Minimum aximum allowable	Disk Space: 8	
Cisco Application Centric Infrastructure Support	Application Per Enterprise Mod		ucture Controller ((APIC) with	
Basic Networking		.,			
BGP, OSPFv3, EIGRP, RIPv2, IS-IS, IPv6, VRF-Lite, NTP	Yes	Yes	Yes	Yes	
High-Availability					
HSRP, VRRP, GLBP	Yes	Yes	Yes	Yes	
Addressing					
802.1Q VLAN, EVC, NAT, DHCP, DNS, VXLAN	Yes	Yes	Yes	Yes	
Basic Security					
ACL, AAA, RADIUS, TACACS+	Yes	Yes	Yes	Yes	
Management	l	l	l	l	
IOS-XE CLI, SSH, Flexible NetFlow, SNMP, Embedded Event Manager, RESTful APIs	Yes	Yes	Yes	Yes	
Multicast					
IGMP, PIM, QoS	Yes	Yes	Yes	Yes	
Advanced Security					
Zone-based Firewall, IPSec VPN, EasyVPN, DMVPN, FlexVPN	No	Yes	Yes	Yes	
Advanced Networking					
L2TPv3, BFD, MPLS, VRF	No	No	Yes	Yes	
Application Experience					
WCCPv2, AppNav (traffic redirection to Cisco WAAS), NBAR2, Application Visibility & Control, IP SLA	No	No	Yes	Yes	
Hybrid Cloud Connectivity					
LISP, OTV, VPLS, EoMPLS	No	No	Yes	Yes	
Throughput					
10 Mbps	Yes	Yes	Yes	Yes	
50 Mbps	Yes	Yes	Yes	Yes	
100 Mbps	Yes	Yes	Yes	Yes	
250 Mbps	Yes	Yes	Yes	Yes	
500 Mbps	Yes	Yes	Yes	Yes	
1 Gbps	Yes	Yes	Yes	Yes	
2.5 Gbps	Yes	Yes	Yes	Yes	
5 Gbps	Yes	No	No	No	
System Requirements					
10 Mbps	1 vCPU, 2.5 GB RAM	1 vCPU, 2.5 GB RAM	1 vCPU, 2.5 GB RAM	1 vCPU, 2.5 GB RAM	
50 Mbps	1 vCPU, 2.5 GB RAM	1 vCPU, 2.5 GB RAM	1 vCPU, 2.5 GB RAM	1 vCPU, 2.5 GB RAM	
100 Mbps	1 vCPU, 2.5 GB RAM	1 vCPU, 2.5 GB RAM	1 vCPU, 2.5 GB RAM	1 vCPU, 2.5 GB RAM	
250 Mbps	1 vCPU, 2.5 GB RAM	1 vCPU, 2.5 GB RAM	1 vCPU, 2.5 GB RAM	1 vCPU, 2.5 GB RAM	
500 Mbps	1 vCPU, 2.5 GB RAM	1 vCPU, 2.5 GB RAM	1 vCPU, 2.5 GB RAM	1 vCPU, 2.5 GB RAM	
1 Gbps	1 vCPU, 2.5 GB RAM	1 vCPU, 2.5 GB RAM	1 vCPU, 2.5 GB RAM	1 vCPU, 2.5 GB RAM	
2.5 Gbps	2 vCPU, 2.5 GB RAM	2 vCPU, 2.5 GB RAM	2 vCPU, 2.5 GB RAM	2 vCPU, 2.5 GB RAM	

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Cisco ISR Routers: www.cisco.com/go/isr

Cisco ASR 1000 Series Routers: www.cisco.com/go/asr1000

Cisco CSR 1000V: www.cisco.com/go/cloudrouter