AsterNOS Feature List - Data Center Version

Features	Level 1	Level 2	Level 3	Latest R0408P00 Apr, 2025	Next R0408P01 Jun, 2025	Plan R0409 Jul, 2025
Interfaces	Ethernet Port	1G		✓	✓	✓
		10G		✓	✓	✓
		25G		✓	✓	✓
		40G		✓	✓	✓
		100G		✓	✓	✓
		200G		✓	✓	✓
		400G		✓	✓	✓
		800G		✓	✓	✓
		Breakout Mode	4x25G[10G]	✓	✓	✓
			2x100G[50G]	✓	✓	✓
			4x100G[50G]	✓	✓	✓
			2x200G[100G]	✓	✓	✓
			4x200G[100G]	✓	✓	✓
			2x400G[200G]	✓	✓	✓
	Logical Interfaces	Ethernet port based L3 Interface		✓	✓	✓
		Port-Channel based L3 Interface		✓	✓	✓
		SVI		✓	✓	✓
		Sub-interface	Ethernet port based L2 sub-interface	✗	✗	✗
			Ethernet port based L3 sub-interface	✓	✓	✓
			Port-Channel based L2 sub-interface	✗	✗	✗
			Port-Channel based L3 sub-interface	✓	✓	✓
		Loopback		✓	✓	✓
		Null0		✗	✗	✓
	Interface management	Port management	Startup & Shutdown	✓	✓	✓
			Port description	✓	✓	✓
			Startup delay	✓	✓	✓
			Linkup delay	✓	✓	✓
			FEC	✓	✓	✓
			Auto-negotiation	✓	✓	✓
			Dynamic Port Breakout	✓	✓	✓
			CRC check	✓	✓	✓
			Ipmode	✓	✓	✓
		Statistics	Packets & Bytes	✓	✓	✓
			Error & Drop packets	✓	✓	✓
			Speed & Utilization ratio	✓	✓	✓
			v4/v6 Packets	✓	✓	✓
		MTU	Ethernet port	✓	✓	✓
			Port-Channel	✓	✓	✓
			SVI	✓	✓	✓
			Sub-interface	✓	✓	✓
		Jumbo Frame	Default 9k	✓	✓	✓
	Optical module	CMIS Diagnostic		✓	✓	✓
		Presence		✓	✓	✓
		Reading info	Vendor & Model info	✓	✓	✓
			RX/TX power	✓	✓	✓
			Temperature	✓	✓	✓
L2 Switching	MAC	Static MAC configuration	Create & Delete & Show	✓	✓	✓
		Dynamic learning	Learning control	✓	✓	✓
			MAC aging	✓	✓	✓
			MAC Learning limit	✓	✓	✓
		MAC address move		✓	✓	✓
		MAC Flapping detection		✓	✓	✓
		MAC scan		✗	✗	✗
		MAC blackhole		✓	✓	✓
		MAC flushing		✓	✓	✓
		MAC filtering by source		✓	✓	✓
	VLAN	VLAN management	Create & Delete & Show	✓	✓	✓
			VLAN Description	✓	✓	✓
			VLAN range	✓	✓	✓
			VLAN range on switch-port	✓	✓	✓
		VLAN member mode	Access	✓	✓	✓
			Trunk	✓	✓	✓
		VLAN member type	Ethernet port	✓	✓	✓
			Port-Channel	✓	✓	✓
		BUM forwarding control	Broadcast	✓	✓	✓
			Unknow unicast	✓	✓	✓
			Unknow multicast	✓	✓	✓
	Port-Channel	Port-Channel Mode	Static	✓	✓	✓
			LACP	✓	✓	✓
		LACP Parameter	System Priority	✓	✓	✓
			Port Priority	✓	✓	✓
			LACP key	✓	✓	✓
			LACP port-id	✓	✓	✓
			System Id	✓	✓	✓
			Minimum links	✓	✓	✓
			Fast rate	✓	✓	✓
			LACP fallback	✓	✓	✓
			Graceful down	✓	✓	✓
		Load balance mode	Static hash	✓	✓	✓
			Eligible Load Balance	✓	✓	✓
		Load balance hash key	src-dst-ip	✓	✓	✓
			src-dst-mac	✓	✓	✓
			src-dst-ip-port	✓	✓	✓
			src-dst-mac-ip	✓	✓	✓
			src-dst-mac-ip-port	✓	✓	✓
			src-dst-ip-port-vlan-inport	✓	✓	✓
		Hash configuration	Hash key	✓	✓	✓
			Hash seed	✓	✓	✓
		Working mode	TX&RX (default)	✓	✓	✓
			Rx only	✓	✓	✓
			Tx only	✓	✓	✓

Category	Feature	Sub-feature	Detail	Col1	Col2	Col3
	LLDP	LLDP Neighbour Information	Chassis ID	✓	✓	✓
			Port ID	✓	✓	✓
			TTL	✓	✓	✓
			Port Description (optional)	✓	✓	✓
			System name (optional)	✓	✓	✓
			System Capability (optional)	✓	✓	✓
			Management Address (optional)	✓	✓	✓
	STP	STP mode	STP	✗	✗	✗
			MSTP	✓	✓	✓
		STP Parameter	Instance priority	✓	✓	✓
			Interface priority	✓	✓	✓
			Interface cost	✓	✓	✓
			forward delay	✓	✓	✓
			max aging-time	✓	✓	✓
			hello interval	✓	✓	✓
		Edge-port	Auto Edge-port	✓	✓	✓
			Static Edge-port	✓	✓	✓
		BPDU protection	BPDU filter	✓	✓	✓
			BPDU guard	✓	✓	✓
		TC protection		✗	✗	✗
		Root protection		✗	✗	✗
		Loop protection		✗	✗	✗
L3 Switching	IP Address	IPv4 address		✓	✓	✓
		IPv6 address		✓	✓	✓
		Secondary IP		✓	✓	✓
	ARP	Static ARP		✓	✓	✓
		Dynamic ARP		✓	✓	✓
		ARP aging and update		✓	✓	✓
		Gratuitous ARP		✓	✓	✓
		ARP proxy		✓	✓	✓
		ARP moving		✓	✓	✓
		ARP-to-host-routing	IPv4 routing	✓	✓	✓
			filter by IP-Prefix/SVI	✓	✓	✓
	NDP	ND		✓	✓	✓
		SLAAC	Router Advertisement (M/O/A/L Flag)	✓	✓	✓
		NDP proxy		✓	✓	✓
		ND-to-host-routing	IPv6 routing	✓	✓	✓
			filter by IP-Prefix/VLAN interface	✓	✓	✓
	Basic routing	IPv4 static routing		✓	✓	✓
		IPv6 static routing		✓	✓	✓
		Default routing		✓	✓	✓
		IPv4 routing with IPv6 nexthops		✓	✓	✓
		Loopback Packet Control		✓	✓	✓
	PBR	IPv4 Policy Based Routing		✓	✓	✓
		IPv6 Policy Based Routing		✓	✓	✓
		Bind Port Type	Ethernet port	✓	✓	✓
			Port-Channel	✓	✓	✓
		Nexthop action	Load balance	✓	✓	✓
	ECMP	Group member type	Ethernet port based L3 interface	✓	✓	✓
			Port-Channel based L3 interface	✓	✓	✓
			SVI	✓	✓	✓
		Load balance hash key	src-dst-ip	✓	✓	✓
			src-dst-ip-port	✓	✓	✓
			src-dst-ip-port-vlan-inport	✓	✓	✓
		Hash configuration	Hash key	✓	✓	✓
			Hash seed	✓	✓	✓
		Load balance mode	Static Hash	✓	✓	✓
			Resilient hash	✗	✗	✓
			Eligible Load Balance	✓	✓	✓
	BGP	IBGP		✓	✓	✓
		EBGP		✓	✓	✓
		Peer Group		✓	✓	✓
		Peer Type	IPv4 peer	✓	✓	✓
			IPv6 peer	✓	✓	✓
			Unnumbered BGP	✓	✓	✓
		Route Reflection		✓	✓	✓
		AS-Path replace		✓	✓	✓
		Route redistribution		✓	✓	✓
		Graceful restart		✓	✓	✓
		MP-BGP		✓	✓	✓
	OSPF	OSPF Version	OSPFv2	✓	✓	✓
			OSPFv3	✓	✓	✓
		Network type	Broadcast	✓	✓	✓
			Non-Broadcast	✓	✓	✓
			P2P	✓	✓	✓
			P2MP	✓	✓	✓
		Instance	Single & Multiple	✓	✓	✓
		Area	Stub	✓	✓	✓
			NSSA	✓	✓	✓
		Authentication	MD5	✓	✓	✓
		Route redistribution		✓	✓	✓
		Graceful restart		✓	✓	✓
	IS-IS			✓	✓	✓
	Routing Policy	Prefix Lists	IPv4 Prefix List	✓	✓	✓
			IPv6 Prefix List	✓	✓	✓
			Route Map Using Prefix List	✓	✓	✓
		Route Map	Match	✓	✓	✓
			Set	✓	✓	✓
	VRF	Loopback interface assignment		✓	✓	✓
		Inter-VRF route leaking		✓	✓	✓
		Management VRF		✓	✓	✓
		ping/ssh to VRF		✓	✓	✓
	DHCP	DHCPv4 server		✓	✓	✓
		DHCPv6 server		✓	✓	✓
		DHCPv4 relay		✓	✓	✓
		DHCPv6 relay		✓	✓	✓

Category	Feature	Sub-feature	Detail	Col1	Col2	Col3
		DHCP relay over VXLAN		✓	✓	✓
Virtualization and tunnel	VXLAN	VTEP	v4 over v4	✓	✓	✓
			v6 over v4	✓	✓	✓
			v4 over v6	✗	✗	✗
			v6 over v6	✗	✗	✗
			Encap	✓	✓	✓
			Decap	✓	✓	✓
			Multi-VTEP	✓	✓	✓
		VXLAN mapping	VLAN-VNI (1:1)	✓	✓	✓
			VRF-VNI	✓	✓	✓
		L2 forwarding	Known Unicast	✓	✓	✓
			BUM	✓	✓	✓
		ARP/ND suppression		✓	✓	✓
		VXLAN maintenance	UDP port configuration	✓	✓	✓
			VXLAN ping	✗	✗	✗
			VXLAN tracert	✗	✗	✗
	BGP-EVPN	Route type	Ethernet auto-Discovery	✓	✓	✓
			MAC/IP advertisement	✓	✓	✓
			Inclusive multicast ethernet	✓	✓	✓
			Ethernet segment route	✓	✓	✓
			IP prefix advertisement	✓	✓	✓
		Tunnel auto establish/tear down		✓	✓	✓
		Anycast gateway		✓	✓	✓
		L3 Gateway type	Distributed gateway	✓	✓	✓
			Centralized gateway	✓	✓	✓
		Symmetry IRB		✓	✓	✓
		Routing dynamic population		✓	✓	✓
		VM migration		✓	✓	✓
		Inter-VRF Local Route Leaking		✓	✓	✓
		Multi-homing	L2 overlay ECMP	✓	✓	✓
			DF election	✓	✓	✓
			Split horizon filtering	✓	✓	✓
	DCI	VLAN hand-off		✓	✓	✓
		Segement VXLAN		✗	✗	✗
		Multi-Site		✗	✗	✗
	GRE tunnel	NVGRE		✗	✗	✗
		Encap type	v4 over v4	✗	✗	✗
			v6 over v4	✗	✗	✗
			v4 over v6	✗	✗	✗
			v6 over v6	✗	✗	✗
QoS and DCB	Classification & Scheduling	Classification	Dot1q	✓	✓	✓
			DSCP	✓	✓	✓
		Queue scheduling	Strict priority	✓	✓	✓
			DWRR	✓	✓	✓
		Traffic shaping	Port based	✓	✓	✓
			Queue based	✓	✓	✓
		Bandwidth limiting	Ingress	✓	✓	✓
		WRED		✓	✓	✓
		Queue statistics	Packets & Bytes, Speed	✓	✓	✓
	Rewrite	Matching with ACL		✓	✓	✓
		Mark action	Remark TC	✓	✓	✓
			Remark DSCP	✓	✓	✓
	DCB	ECN		✓	✓	✓
		PFC		✓	✓	✓
		PFC Watchdog		✓	✓	✓
		DCBX		✓	✓	✓
	RoCE	RoCEv2		✓	✓	✓
		Load balance	Packet Spray	✓	✓	✓
			Adaptive Load Balancing	✓	✓	✓
		Easy RoCE	One-Step configuration	✓	✓	✓
			Param Auto-Generation	✓	✓	✓
			Config sync between multiple devices	✓	✓	✓
Multicast	Multicast Route	IPv4 static multicast routing		✓	✓	✓
		IPv6 static multicast routing		✗	✗	✗
		multicast route counter		✓	✓	✓
		multicast route type	(S,G)	✓	✓	✓
			(*,G)	✓	✓	✓
	MLD			✗	✗	✗
	IGMP	IGMP version	v1	✗	✓	✓
			v2	✗	✓	✓
			v3	✗	✓	✓
		IGMP querier	host query interval	✗	✓	✓
			max query response time	✗	✓	✓
			last member query count	✗	✓	✓
			last member query interval	✗	✓	✓
			static group member	✗	✓	✓
		IGMP snooping	querier	✓	✓	✓
			host-proxy	✓	✓	✓
			prompt-leave	✓	✓	✓
			static group member	✓	✓	✓
	PIM	PIM version	v4	✗	✓	✓
			V6	✗	✗	✗
		PIM Dense Mode		✗	✗	✗
		PIM Sparse Mode	Any-Source Multicast	✗	✓	✓
			Source-Specific Multicast	✗	✓	✓
			Rendezvous Point	✗	✓	✓
			DR	✗	✓	✓
		PIM BFD		✗	✓	✓
	MSDP			✗	✗	✗
	CoPP	Bandwidth limit for CPU port		✓	✓	✓
		CoPP Configuration	Packet type	✓	✓	✓
			Meter	✓	✓	✓
	Storm Suppression	Suppression type	Broadcast	✓	✓	✓
			Unknow unicast	✓	✓	✓
			Unknow multicast	✓	✓	✓
		Control mode	Value-based	✓	✓	✓

Category	Feature	Sub-feature	Detail	Col1	Col2	Col3
Security		Control mode	Percent-based	✗	✗	✗
	ACL	Match field	L3 IPv4	✓	✓	✓
			L3 IPv6	✓	✓	✓
			User-defined	✓	✓	✓
		ACL action	permit	✓	✓	✓
			deny	✓	✓	✓
			counter	✓	✓	✓
		ACL type	Ingress	✓	✓	✓
			Egress	✓	✓	✓
		Time-ranged ACL		✓	✓	✓
		Control-Plane ACL		✓	✓	✓
	AAA	TACACS+	Authentication	✓	✓	✓
			Authorization	✓	✓	✓
			Accounting	✓	✓	✓
		Radius	Authentication	✓	✓	✓
			Authorization	✗	✗	✗
			Accounting	✗	✗	✗
	DHCP Snooping			✗	✗	✗
	ND Snooping			✗	✗	✗
	ND Protection	SMAC consistence check		✗	✗	✗
		RA Guard		✗	✗	✗
		ND speed limit		✗	✗	✗
	Port Isolation	Working mode	L2	✓	✓	✓
		Interface type	Ethernet port	✓	✓	✓
			Port-Channel	✗	✗	✗
	NAT	Mode	Static	✗	✗	✓
			Dynamic	✗	✗	✓
		Type	NAT	✗	✗	✓
			NAPT	✗	✗	✓
Service Operation and Reliability	Software Architecture	Apps in container		✓	✓	✓
		Configuration database		✓	✓	✓
		Warm restart	BGP	✓	✓	✓
	MC-LAG	Ethernet-based MC-LAG		✓	✓	✓
		MC-LAG peer gateway		✓	✓	✓
		Consistent check		✓	✓	✓
		Secondary ICCP Session		✓	✓	✓
		L3 Forwarding		✓	✓	✓
		Unique IP		✓	✓	✓
		Routing protocol	OSPF over MC-LAG	✓	✓	✓
			BGP over MC-LAG	✓	✓	✓
		MC-LAG with EVPN		✓	✓	✓
		Loopback detection		✓	✓	✓
	BFD	BFD Mode	Asynchronous	✓	✓	✓
			Passive mode	✓	✓	✓
			Echo mode	✓	✓	✓
		BFD for routing protocol	Static routing	✓	✓	✓
			BGP	✓	✓	✓
			OSPFv2	✓	✓	✓
			OSPFv3	✓	✓	✓
			IS-IS	✓	✓	✓
			VRRP	✓	✓	✓
		IP Unnumbered		✗	✗	✗
		BFD acceleration		✓	✓	✓
	SLA	Echo mode		✓	✓	✓
		User defined		✓	✓	✓
		TRACK with static route		✓	✓	✓
	Monitoring Link	Monitoring group	Uplink port	✓	✓	✓
			Downlink port	✓	✓	✓
		Monitoring configuration	Recovery time	✓	✓	✓
			Downlink recovery interval	✗	✗	✓
	VRRP	VRRPv2		✓	✓	✓
		VRRPv3		✓	✓	✓
Visibility and Monitoring	SNMP	SNMP v2		✓	✓	✓
		SNMP v3		✓	✓	✓
		SNMP Trap		✓	✓	✓
	Network Quality Analysis	Port Mirroring	SPAN	✓	✓	✓
			ERSPAN	✓	✓	✓
		sFlow		✓	✓	✓
		gRPC		✓	✓	✓
		In-Network-Telemetry	Buffer drop capture	✓	✓	✓
			High delay capture	✓	✓	✓
			Mirror-on-Drop	✗	✗	✗
	AsterNOS exporter	Visibility template	Grafana dashboard	✓	✓	✓
		System info	Software version	✓	✓	✓
			Hardware info	✓	✓	✓
			NTP	✓	✓	✓
		Device monitoring	CPU	✓	✓	✓
			Memory	✓	✓	✓
			Fan	✓	✓	✓
			PSU	✓	✓	✓
			Temperature	✓	✓	✓
			FIB resource	✓	✓	✓
		Interface	Link status	✓	✓	✓
			Statistics	✓	✓	✓
			Tranceivers	✓	✓	✓
		BGP		✓	✓	✓
		MC-LAG		✓	✓	✓
		EVPN VXLAN		✓	✓	✓
		RoCE	Queue	✓	✓	✓
			Buffer	✓	✓	✓
			PFC	✓	✓	✓
			ECN	✓	✓	✓
			High latency flow tracking	✓	✓	✓
			Buffer drop flow tracking	✓	✓	✓
		Alarm & Alert	Support prometheus	✓	✓	✓
		VRF assignment		✓	✓	✓

Category	Subcategory	Feature	Sub-feature			
AIDC Intelligent Routing	Static routing	Path assignment		✓	✓	✓
		Failure recovery		✓	✓	✓
		Configuration templates		✓	✓	✓
	Dynamic routing	Path Quality Measurement		✗	✗	✓
		Path Quality Advertisement		✗	✗	✓
		Dynamic path selection		✗	✗	✓
		ECMP for multi-tenant		✗	✗	✓
		Adaptive Multipath Load Balancing		✗	✗	✓
	E2E integration	NIC configuration		✗	✗	✓
		Credit-token flow control		✗	✗	✗
		Visualization of path quality		✗	✗	✗
		Management agent		✗	✗	✗
	Dashboard support	Device info via uCentral		✗	✗	✓
		Networking topology via uCentral		✗	✗	✓
		Deployment agent		✗	✗	✗
Management	Device Management	User interface	Console	✓	✓	✓
			SSH	✓	✓	✓
			Telnet	✓	✓	✓
			Cisco-like CLI	✓	✓	✓
			RESTful API	✓	✓	✓
			Netconf	✗	✗	✓
		NOS Maintenance	ONIE	✓	✓	✓
			Dual-OS	✓	✓	✓
			OS Upgrade & Downgrade	✓	✓	✓
			Reboot cause	✓	✓	✓
		License	License Management	✓	✓	✓
			Expiration limit	✓	✓	✓
		Device Information	PSU	✓	✓	✓
			FAN	✓	✓	✓
			Thermal	✓	✓	✓
	System Management	Login & MOTD	Out-band	✓	✓	✓
			In-band	✓	✓	✓
			MGMT VRF	✓	✓	✓
			Hostname	✓	✓	✓
		User management	Password Security	✓	✓	✓
			limit of logged-in users	✓	✓	✓
			Access permission per account	✓	✓	✓
		Feature Management	DHCP	✓	✓	✓
			NAT	✗	✗	✗
			SNMP	✓	✓	✓
			Telemetry	✓	✓	✓
			LLDP	✓	✓	✓
		System configuration	Configuration persistence	✓	✓	✓
			Configuration reset	✓	✓	✓
		System time		✓	✓	✓
		Syslog	Syslog	✓	✓	✓
			Remote syslog	✓	✓	✓
			Syslog level	✓	✓	✓
		Critical Resource Monitoring	polling interval	✓	✓	✓
			thresholds	✓	✓	✓
			Monitoring resources	✓	✓	✓
		NTP	NTPv4	✓	✓	✓
			NTPv6	✓	✓	✓
			Loopback as NTP source	✓	✓	✓
			SNTP	✗	✗	✗
		PTP		✗	✗	✗
		DNS	Client	✗	✗	✗
			Relay	✗	✗	✗
	DevOps	ZTP		✓	✓	✓
		Ansible		✓	✓	✓
		FTP	FTP client	✓	✓	✓
			FTP server	✓	✓	✓
		TFTP	TFTP client	✓	✓	✓
			TFTP server	✓	✓	✓
		SCP	SCP client	✓	✓	✓
			SCP server	✓	✓	✓
		Toolkit	Ping	✓	✓	✓
			Traceroute	✓	✓	✓