

AsterNOS Feature List -Data Center Version

Features	Level 1	Level 2	Level 3	Latest	Next	Plan	In Future		
				R0407P03	R0408	R0409			
				Mar, 2025	Mar, 2025	Jun, 2025			
Interfaces	Ethernet Port	1G		✓	✓	✓			
		10G		✓	✓	✓			
		25G		✓	✓	✓			
		40G		✓	✓	✓			
		100G		✓	✓	✓			
		200G		✓	✓	✓			
		400G		✓	✓	✓			
		800G		✓	✓	✓			
		Breakout Mode	4x10G		✓	✓	✓		
			4x25G		✓	✓	✓		
			4x100G		✓	✓	✓		
			2x100G		✓	✓	✓		
			2x200G		✓	✓	✓		
			4x200G		✓	✓	✓		
		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		✓	✓	✓		
		Statistics	Dynamic Port Breakout		✓	✓	✓		
			CRC check		✓	✓	✓		
			Ipmode		✓	✓	✓		
		MTU	Packets & Bytes		✓	✓	✓		
			Error & Drop packets		✓	✓	✓		
			Speed & Utilization ratio		✓	✓	✓		
		Jumbo Frame	v4/v6 Packets		✓	✓	✓		
			Ethernet port		✓	✓	✓		
			Port-Channel		✓	✓	✓		
	Optical module	Reading info	SVI		✓	✓	✓		
			Sub-interface		✓	✓	✓		
			Default 9k		✓	✓	✓		
	L2 Switching	MAC	Static MAC configuration		✓	✓	✓		
			Dynamic learning	Create & Delete & Show		✓	✓	✓	
				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		✓	✓	✓			
		Static		✓	✓	✓			
Port-Channel		Port-Channel Mode	LACP		✓	✓	✓		
			System Priority		✓	✓	✓		
			Port Priority		✓	✓	✓		
		LACP Parameter	LACP key		✓	✓	✓		
			LACP port-id		✓	✓	✓		
			System Id		✓	✓	✓		
			Minimum links		✓	✓	✓		
			Fast rate		✓	✓	✓		
			LACP fallback		✓	✓	✓		
		Load balance mode	Graceful down		✓	✓	✓		
			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		✓	✓	✓			
		TX&RX (default)		✓	✓	✓			
LLDP		Working mode	Rx only		✓	✓	✓		
	Tx only			✓	✓	✓			
	Chassis ID			✓	✓	✓			
	LLDP Neighbour Information	Port ID		✓	✓	✓			
		TTL		✓	✓	✓			
		Port Description (optional)		✓	✓	✓			
		System name (optional)		✓	✓	✓			
		System Capability (optional)		✓	✓	✓			
		Management Address (optional)		✓	✓	✓			
		STP mode		✗	✗	✗	✓		
STP Parameter	MSTP		✓	✓	✓				
	Instance priority		✓	✓	✓				
	Interface priority		✓	✓	✓				
	Interface cost		✓	✓	✓				
	forward delay		✓	✓	✓				
	max aging-time		✓	✓	✓				
Edge-port	hello interval		✓	✓	✓				
	Auto Edge-port		✓	✓	✓				
	Static Edge-port		✓	✓	✓				
BPDU protection	BPDU filter		✓	✓	✓				
	BPDU guard		✓	✓	✓				
IP Address	TC protection		✗	✗	✗	✓			
	Root protection		✗	✗	✗	✓			
	Loop protection		✗	✗	✗	✓			
	IPv4 address		✓	✓	✓				
	IPv6 address		✓	✓	✓				
Secondary IP			✓	✓	✓				
			✓	✓	✓				

L3 Switching

L3 Switching	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	✓	✓	✓	
	ECMP	Nexthop action	Load balance	✓	✓	✓	
		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	MDS	✓	✓	✓	
		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 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 tracet	✗	✗	✗	✓	
	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		✓	✓	✓		
DCI	Multi-homing	L2 overlay ECMP DF election Split horizon filtering	✓	✓	✓		
	VLAN hand-off		✓	✓	✓		
GRE tunnel	Segment VXLAN		✗	✗	✗		
	Multi-Site		✗	✗	✗	✓	
	NVGRE		✗	✗	✗	✓	
	Encap type	v4 over v4	✓	✓	✓		
		v6 over v4	✓	✓	✓		
v4 over v6		✗	✗	✗	✓		
v6 over v6	✗	✗	✗	✓			
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	✓	✓	✓		
	Matching with ACL		✓	✓	✓		
Rewrite	Mark action	Remark TC	✓	✓	✓		

			Remark DSCP						
	DCB	ECN		✓	✓	✓			
		PFC		✓	✓	✓			
		PFC Watchdog		✓	✓	✓			
		DCBX		✓	✓	✓			
		RoCEv2		✓	✓	✓			
	RoCE	Load balance	Packet Spray		✗	✓	✓		
			Adaptive Load Balancing		✗	✓	✓		
			One-Step configuration		✓	✓	✓		
		Easy RoCE	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		✗	✓	✓		
			querier		✗	✓	✓		
			host-proxy		✗	✓	✓		
	IGMP snooping	prompt-leave		✗	✓	✓			
		static group member		✗	✓	✓			
		PIM version		✗	✓	✓			
		v4		✗	✓	✓			
	PIM	PIM Dense Mode	v6		✗	✗	✗		
			Any-Source Multicast		✗	✓	✓		
		PIM Sparse Mode	Source-Specific Multicast		✗	✓	✓		
			Rendezvous Point		✗	✓	✓		
		PIM BFD	DR		✗	✓	✓		
MSDP			✗	✓	✓				
Security	CoPP	Bandwidth limit for CPU port		✗	✗	✗			
		CoPP Configuration	Packet type		✓	✓	✓		
	Storm Suppression	Suppression type	Meter		✓	✓	✓		
			Broadcast		✓	✓	✓		
		Control mode	Unknown unicast		✓	✓	✓		
			Unknown multicast		✓	✓	✓		
	ACL	Match field	Value-based		✓	✓	✓		
			Percent-based		✗	✗	✗	✓	
		ACL action	L3 IPv4		✓	✓	✓		
			L3 IPv6		✓	✓	✓		
			User-defined		✓	✓	✓		
			permit		✓	✓	✓		
	ACL type	deny		✓	✓	✓			
		counter		✓	✓	✓			
		Ingress		✓	✓	✓			
		Egress		✓	✓	✓			
	AAA	TACACS+	Time-ranged ACL		✓	✓	✓		
			Control-Plane ACL		✓	✓	✓		
			Authentication		✓	✓	✓		
		Radius	Authorization		✓	✓	✓		
			Accounting		✓	✓	✓		
	DHCP Snooping			✗	✗	✗	✓		
	ND Snooping			✗	✗	✗	✓		
	ND Protection	SMAC consistence check	Authentication		✓	✓	✓		
			Authorization		✓	✓	✓		
RA Guard		Accounting		✓	✓	✓			
		Authentication		✓	✓	✓			
		Authorization		✗	✗	✗			
Port Isolation	Working mode	Accounting		✗	✗	✗			
		IP Unnumbered		✗	✗	✗			
	Interface type	BFD acceleration		✓	✓	✓			
		Echo mode		✓	✓	✓			
NAT	Mode	Static		✗	✗	✗			
		Dynamic		✗	✗	✗			
	Type	NAT		✗	✗	✗			
Service Operation and Reliability	Software Architecture	NAPT		✗	✓	✓			
		Apps in container		✓	✓	✓			
		Configuration database		✓	✓	✓			
	MC-LAG	Warm restart	BGP		✓	✓	✓		
			Ethernet-based MC-LAG		✓	✓	✓		
		Consistent check	MC-LAG peer gateway		✓	✓	✓		
			Secondary ICCP Session		✓	✓	✓		
			L3 Forwarding		✓	✓	✓		
		BFD	BFD Mode	Unique IP		✓	✓	✓	
				Routing protocol		✓	✓	✓	
			BFD for routing protocol	OSPF over MC-LAG		✓	✓	✓	
				BGP over MC-LAG		✓	✓	✓	
				MC-LAG with EVPN		✓	✓	✓	
	SLA	Loopback detection	Asynchronous		✓	✓	✓		
			Passive mode		✓	✓	✓		
		IP Unnumbered	Echo mode		✓	✓	✓		
			BFD acceleration		✓	✓	✓		
	Monitoring Link	Monitoring group	Static routing		✓	✓	✓		
			BGP		✓	✓	✓		
		Monitoring configuration	OSPFv2		✓	✓	✓		
	VRRP	VRRPv2	OSPFv3		✓	✓	✓		
			VRRPv3		✓	✓	✓		
	SNMP	SNMP v2	IS-IS		✓	✓	✓		
			SNMP v3		✓	✓	✓		
			SNMP Trap		✓	✓	✓		
Network Quality Analysis		Port Mirroring	VRRP		✗	✗	✗	✓	
			SPAN		✓	✓	✓		
	System info	ERSPAN		✓	✓	✓			
sFlow			✓	✓	✓				
	gRPC	Buffer drop capture		✓	✓	✓			
		High delay capture		✓	✓	✓			
	In-Network-Telemetry	Mirror-on-Drop		✗	✗	✗	✓		
		Visibility template	Grafana dashboard		✓	✓	✓		
		Software version		✓	✓	✓			
	Hardware info	NTP		✓	✓	✓			
		CPU		✓	✓	✓			

Visibility and Monitoring	AsterNOS exporter	Device monitoring	Memory	✓	✓	✓	
			Fan	✓	✓	✓	
			PSU	✓	✓	✓	
			Temperature	✓	✓	✓	
			FIB resource	✓	✓	✓	
		Interface	Link status	✓	✓	✓	
			Statistics	✓	✓	✓	
			Tranceivers	✓	✓	✓	
			BGP	✓	✓	✓	
			MC-LAG	✓	✓	✓	
		RoCE	EVPN VXLAN	✓	✓	✓	
			Queue	✓	✓	✓	
			Buffer	✓	✓	✓	
			PFC	✓	✓	✓	
			ECN	✓	✓	✓	
Alarm & Alert	High latency flow tracking	✓	✓	✓			
	Buffer drop flow tracking	✓	✓	✓			
	Support prometheus	✓	✓	✓			
AIDC Intelligent Routing	Static routing	VRF assignment	✓	✓	✓		
		Path assignment	✓	✓	✓		
		Failure recovery	✓	✓	✓		
	Dynamic routing	Configuration templates	✓	✓	✓		
		Path Quality Measurement	✗	✗	✓		
		Path Quality Advertisement	✗	✗	✓		
		Dynamic path selection	✗	✗	✓		
		ECMP for multi-tenant	✗	✗	✓		
	E2E integration	Adaptive Multipath Load Balancing	✗	✗	✓		
		NIC configuration	✗	✗	✓		
		Credit-token flow control	✗	✗	✗	✓	
	Dashboard support	Visualization of path quality	✗	✗	✗	✓	
		Management agent	✗	✗	✗	✓	
		Device info via uCentral	✗	✗	✓		
		Networking topology via uCentral	✗	✗	✓		
Management	Device Management	User interface	Deployment agent	✗	✗	✗	✓
			Console	✓	✓	✓	
			SSH	✓	✓	✓	
		NOS Maintenance	Telnet	✓	✓	✓	
			Cisco-like CLI	✓	✓	✓	
	License	RESTful API	✓	✓	✓		
		Netconf	✗	✗	✓		
		ONIE	✓	✓	✓		
	Device Information	Dual-OS	✓	✓	✓		
		OS Upgrade & Downgrade	✓	✓	✓		
		Reboot cause	✓	✓	✓		
		License Management	✓	✓	✓		
		Expiration limit	✓	✓	✓		
	System Management	Login & MOTD	PSU	✓	✓	✓	
			FAN	✓	✓	✓	
Thermal			✓	✓	✓		
User management		Out-band	✓	✓	✓		
		In-band	✓	✓	✓		
		MGMT VRF	✓	✓	✓		
Feature Management		Hostname	✓	✓	✓		
		Password Security	✓	✓	✓		
		limit of logged-in users	✓	✓	✓		
		Access permission per account	✓	✓	✓		
System configuration	DHCP	✓	✓	✓			
	NAT	✗	✗	✗	✓		
	SNMP	✓	✓	✓			
	Telemetry	✓	✓	✓			
	LLDP	✓	✓	✓			
	Configuration persistence	✓	✓	✓			
	Configuration reset	✓	✓	✓			
Syslog	System time	✓	✓	✓			
	Syslog	✓	✓	✓			
	Remote syslog	✗	✓	✓			
Critical Resource Monitoring	Syslog level	✓	✓	✓			
	polling interval	✓	✓	✓			
	thresholds	✓	✓	✓			
	Monitoring resources	✓	✓	✓			
NTP	NTPv4	✓	✓	✓			
	NTPv6	✓	✓	✓			
	Loopback as NTP source	✓	✓	✓			
PTP	SNTP	✗	✗	✗	✓		
	Client	✗	✗	✗	✓		
DNS	Relay	✗	✗	✗	✓		
	ZTP	✓	✓	✓			
DevOps	Ansible	✓	✓	✓			
	FTP	✓	✓	✓			
	FTP client	✓	✓	✓			
	FTP server	✓	✓	✓			
	TFTP	✓	✓	✓			
	TFTP client	✓	✓	✓			
	TFTP server	✓	✓	✓			
SCP	SCP client	✓	✓	✓			
Toolkit	SCP server	✓	✓	✓			
	Ping	✓	✓	✓			
		Traceroute	✓	✓	✓		