

AsterNOS Feature List - Router Version

Level 1	Level 2	Level 3	Platform		Support
			ET2500	VM	Version
Interface	Port Speed	1G/100M/10M	✓	✗	V1.0
		2.5G	✓	✗	V1.0
	Port configuration	10G	✓	✗	V1.0
		(no shutdown)	✓	✓	V1.0
		(shut down)	✓	✓	V1.0
		(start delay)	✓	✓	V2.0
	PoE Interface	power enable/disable, support high-inrush/force	✓	✗	V2.0
		power delay	✓	✗	V2.0
		power support 30w/60w/15w/30w-at	✓	✗	V2.0
		power priority(low/high/critical)	✓	✗	V2.0
		Legacy Detect	✓	✗	V2.0
		POE power supply time control	✓	✗	V2.0
		support negotiate POE power supply parameters by LLDP	✓	✗	V2.0
		show POE real-time power supply	✓	✗	V2.0
		4-port PoE++(60W) and 8-port PoE+(30W) @150W PoE budget	✓	✗	V2.0
		Interface Statistics	hardware interface statistics including packets/octets/error packets/drop packets/speed	✓	✓
	Module information acquisition	present/absent status	✓	✗	V2.0
		vendor information	✓	✗	V2.0
	Interface Bandwidth Utilization Alert	Optical Power Information	✓	✗	V2.0
		RX Alarm Threshold	✓	✓	V3.0
TX Alarm Threshold		✓	✓	V3.0	
Port batch configuration	Both Alarm Threshold	✓	✓	V3.0	
	batch configure hardware interface	✓	✗	V3.0	
Loopback Interface	batch configure LAG	✓	✗	V3.0	
LAN Interface	64 loopback interface	✓	✓	V1.0	
WAN Interface	4x2.5G/1G + 8x1000M/100M/10M RJ45	✓	✗	V1.0	
Wi-Fi Interface	4x10G SFP+	✓	✗	V2.0	
Layer 2 Forwarding	MAC	Optional WiFi module (2.4/5GHz)	✓	✗	V3.0
		static MAC	✓	✓	V1.0
		MAC learning	✓	✓	V1.0
		MAC migration	✓	✓	V1.0
		MAC flush	✓	✓	V1.0
		MAC learning enable/disable	✓	✓	V3.0
		Black Hole MAC	✓	✓	V1.0
		MAC Flapping	✓	✓	V3.0
		MAC Limit	✓	✓	V3.0
		MAC show	✓	✓	V1.0
	VLAN	VLAN create/delete	✓	✓	V1.0
		VLAN member	✓	✓	V1.0
		BUM forward configuration flood/drop	✓	✓	V1.0
		batch configure VLAN	✓	✓	V1.0
	QinQ	show vlan and vlan member	✓	✓	V1.0
		802.1aq VLAN tag	✓	✓	V1.0
	LAG	configure TPID	✓	✓	V3.0
		create/delete LAG	✓	✓	V1.0
	STP/MSTP	LAG Mode support static or dynamic(LACP)	✓	✓	V1.0
		LAG Member	✓	✓	V1.0
enable/disable		✓	✓	V2.0	
MSTP instance create, support priority setting		✓	✓	V2.0	
interface status transfer time		✓	✓	V2.0	
BPDU send interval		✓	✓	V2.0	
LLDP	max BPDU aging time	✓	✓	V2.0	
	set STP area name	✓	✓	V2.0	
	security, support BPDU Filter/Guard	✓	✓	V2.0	
	show mstp tree	✓	✓	V2.0	
Port isolation	disable/enable	✓	✓	V1.0	
	LLDP neighbor information	✓	✓	V1.0	
Static routing	MgmtIP configuration	✓	✓	V1.0	
	PortId Subtype	✓	✓	V1.0	
	mode support L2 isolation	✓	✓	V2.0	
	interface support hardware interface/LAG	✓	✓	V2.0	
	reachable	✓	✓	V1.0	
	un-reachable	✓	✓	V1.0	
	blackhole	✓	✓	V1.0	
	Layer 3 physical port isolation	✓	✓	V1.0	
	VLAN IF isolation	✓	✓	V1.0	
	Layer 3 aggregate port isolation	✓	✓	V1.0	
VRF	Neighbor isolation	✓	✓	V1.0	
	LPM routing isolation	✓	✓	V1.0	
	forward inter-vrf	✓	✓	V1.0	
	PBR configuration	✓	✓	V3.0	
	IBGP / EBGP	✓	✓	V1.0	
	BGP Neighbor configuration	✓	✓	V1.0	
	Peer Group	✓	✓	V1.0	
	BGP Listen	✓	✓	V1.0	
	Distance setting	✓	✓	V1.0	
	routing redistribute	✓	✓	V1.0	
BGP / MP-BGP	BGP best-path select	✓	✓	V1.0	
	BGP Route Reflector	✓	✓	V1.0	
	Graceful restart	✓	✓	V1.0	
	linkage BGP with BFD	✓	✓	V2.0	
	BGP routing policy	✓	✓	V1.0	
	UCMP	✓	✓	V1.0	
	OSPF Router ID	✓	✓	V1.0	
	OSPF enable/disable	✓	✓	V1.0	
	configuration of AS	✓	✓	V1.0	
	Global Network Parameter Settings	✓	✓	V1.0	
OSPF v2/v3	Network Parameter Setting based on L3	✓	✓	V1.0	
	routing redistribute	✓	✓	V1.0	
	security certification	✓	✓	V1.0	
	compatible with RFC1583	✓	✓	V1.0	
	OSPF routing policy	✓	✓	V1.0	
	Graceful restart	✓	✓	V1.0	
Routing policy	OSPFV2 multi instance	✓	✓	V1.0	
	linkage OSPF with BFD	✓	✓	V1.0	
ECMP/UCMP	Route Map	✓	✓	V1.0	
	IPv4/IPv6 Prefix List	✓	✓	V1.0	
L3 interface	member type support hardware interface/LAG/VLAN IF	✓	✓	V1.0	
	flexible HASH	✓	✓	V2.0	
	create/delete I3 interface	✓	✓	V1.0	
	IPv4/v6 address	✓	✓	V1.0	
L3 interface	alloc IPv4/IPv6 address by DHCP client	✓	✓	V1.0	
	configure MAC address	✓	✓	V1.0	
	configure MTU	✓	✓	V1.0	

IP Service	ARP/NDP	L3 sub interface	✓	✓	V3.0
		static ARP/NDP configuration	✓	✓	V1.0
		dynamic ARP/NDP	✓	✓	V1.0
		Dynamic ARP/NDP Migration	✓	✓	V1.0
		dynamic ARP/NDP aging interval	✓	✓	V1.0
		ARP/NDP detection	✓	✓	V1.0
	*ARP/ND to host	ARP packet action(trap/copy)	✓	✓	V3.0
		ARP Proxy based on VLANIF, statistics	✓	✓	V3.0
	DHCPv4 Server	enable/disable for VRF or Metric	✓	✓	V3.0
		policy convert based on VLAN or netmask	✓	✓	V3.0
		bind address pool to VLAN IF or phy port	✓	✓	V1.0
		Configure the address lease period	✓	✓	V1.0
		information carried by server	✓	✓	V1.0
		allocate address policy	✓	✓	V1.0
	*DHCPv4 Relay	show address pool policy	✓	✓	V1.0
		DNS Server configuration	✓	✓	V1.0
		DHCP Failover	✓	✓	V1.0
		DHCP Server address	✓	✓	V1.0
		uplink port	✓	✓	V1.0
		downlink port	✓	✓	V1.0
	DHCPv6 Server	Agent IP	✓	✓	V1.0
		Option82	✓	✓	V1.0
	*DHCPv6 Relay	bind address pool to VLAN IF or phy port	✓	✓	V1.0
		Configure the address lease period	✓	✓	V1.0
		DNS server	✓	✓	V1.0
		DHCP Server address	✓	✓	V1.0
		uplink port	✓	✓	V1.0
		downlink port	✓	✓	V1.0
	DNS	Agent IP	✓	✓	V1.0
		DNS Proxy, DNS spoofing	✓	✓	V3.0
		DNS cache name resolver	✓	✓	V3.0
	NAT	1:1 NAT	✓	✓	V1.0
Port forwards redirect a port on an external NAT pool address to a port on a local host		✓	✓	V1.0	
twice NAT(changes both the source and destination address of inbound connection packets)		✓	✓	V3.0	
VRF awareness		✓	✓	V3.0	
NAT hairpinning		✓	✓	V3.0	
TCP MSS clamping		✓	✓	V3.0	
dynamic or static mapping		✓	✓	V1.0	
support phy port/VLAN IF/LAG/Loopback		✓	✓	V1.0	
SNAT/DNAT/DNAT POOL		✓	✓	V1.0	
enable/disable IGMP Snooping		✓	✓	V3.0	
IGMP Snooping	static IGMP Snooping	✓	✓	V3.0	
	dynamic IGMP Snooping	✓	✓	V3.0	
	support IGMP protocol version(v1/v2/v3)	✓	✓	V3.0	
	entry limit based on IGMP member port	✓	✓	V3.0	
	IGMP Snooping multicast query	✓	✓	V3.0	
	IGMP Snooping Porxy	✓	✓	V3.0	
MLD Snooping	enable/disable MLD Snooping	✓	✓	V3.0	
	static MLD Snooping	✓	✓	V3.0	
	dynamic MLD Snooping	✓	✓	V3.0	
	support MLD protocol version(v1/v2)	✓	✓	V3.0	
	entry limit based on member port	✓	✓	V3.0	
	MLD Snooping multicast query	✓	✓	V3.0	
GRE	MLD Snooping Porxy	✓	✓	V3.0	
	Create L3/L2 tunnel	✓	✓	V3.0	
	support all combinations of IPv4 and IPv6	✓	✓	V3.0	
	statistics of tunnel packets encap/decap	✓	✓	V3.0	
	VTEP address support IPv4 or IPv6	✓	✓	V2.0	
	static VXLAN configuration	✓	✓	V2.0	
VXLAN	static tunnel forwarding table	✓	✓	V2.0	
	dynamic VXLAN tunnel configuration and forwarding table(Type 2/3/5 EVPN)	✓	✓	V2.0	
	VXLAN gateway	✓	✓	V2.0	
	encap format(v4 over v4, v6 over v4)	✓	✓	V2.0	
	statistics of tunnel packets encap/decap	✓	✓	V2.0	
	L2TPv3	✓	✓	V3.0	
Security	BUM packet policy based on Interface	unknown unicast drop/flood	✓	✓	V1.0
		unknown multicast drop/flood	✓	✓	V1.0
	Storm Suppression based on interface	broadcast	✓	✓	V1.0
		unknown unicast/multicast support kpps/kBps policy	✓	✓	V3.0
		broadcast support kpps/kBps policy	✓	✓	V3.0
	system user access control policy	known multicast support kpps/kBps policy	✓	✓	V3.0
		service including SSH/TELNET/SNMP	✓	✓	V3.0
	DHCP v4/v6 Snooping	match source IP or dest IP	✓	✓	V3.0
		enable/disable	✓	✓	V3.0
		Trust interface	✓	✓	V3.0
		SNP learning	✓	✓	V3.0
		SNP sync	✓	✓	V3.0
		SNP aging	✓	✓	V3.0
	ND Snooping	support SNP learning when work as DHCP Server	✓	✓	V3.0
		support SNP learning when work as DHCP Relay	✓	✓	V3.0
		enable/disable	✓	✓	V3.0
	ND policy	SNP learning	✓	✓	V3.0
		SNP sync	✓	✓	V3.0
		SNP aging	✓	✓	V3.0
	DAI (Dynamic ARP Inspection)	SMAC consistency check for ND messages	✓	✓	V3.0
RA Guard		✓	✓	V3.0	
SAVI		✓	✓	V3.0	
IPSG v4/v6	check packet type	✓	✓	V3.0	
	check SMAC+SenderIP in VLAN	✓	✓	V3.0	
	add trust port	✓	✓	V3.0	
ACL	add static IP+MAC+VLAN match rule	✓	✓	V3.0	
	drop packet statistics	✓	✓	V3.0	
	check packet type	✓	✓	V3.0	
	check SMAC+SenderIP in VLAN	✓	✓	V3.0	
	add trust port	✓	✓	V3.0	
	add static IP+MAC+VLAN match rule	✓	✓	V3.0	
ACL	drop packet statistics	✓	✓	V3.0	
	inbound and outbound ACL	✓	✓	V1.0	
	support MACIP or L3 or L3v6 or L4	✓	✓	V1.0	
	filter fields includes smac/sip/dip/sport/dport/protocol	✓	✓	V1.0	
	packet action include permit/deny	✓	✓	V1.0	
	acl hit statistics include packets and octects	✓	✓	V1.0	
	bind with phy port/LAG/VLAN IF	✓	✓	V1.0	
	bind with tunnel router interface	✓	✓	V1.0	
stateless inbound and outbound ACLs	✓	✓	V1.0		

		statefull inbound and outbound ACLS, session state maintained per-interface	✓	✓	V3.0
	Ipsec VPN	Route Based VPN	✓	✓	V3.0
		Policy Based VPN, actions include bypass/discard/protect	✓	✓	V3.0
		hardware accelerated AES(CBC,GCM,CTR,XTS), 3DES, ChaCha20/Poly1305	✓	✓	V3.0
		ChaCha20 for symmetric encryption, authenticated with Poly1305, using RFC7539's AEAD construction	✓	✓	V2.0
	Wireguard security VPN	Curve25519 for ECDH	✓	✓	V2.0
		BLAKE2s for hashing and keyed hashing, described in RFC7693	✓	✓	V2.0
		SipHash24 for hashtable keys	✓	✓	V2.0
		HKDF for key derivation, as described in RFC5869	✓	✓	V2.0
High Availability	MC-LAG	MC-LAG Domain create/delete, add/delete member	✓	✓	V2.0
		MC-LAG sync MAC/ARP/NDP table entry	✓	✓	V2.0
		Peer Link support hardware interface/VLAN IF, backup link	✓	✓	V2.0
		DAD link configure detection-delay/recovery-delay	✓	✓	V2.0
		heartbeat interval	✓	✓	V2.0
		member port mode support passive/active or dual-activity	✓	✓	V2.0
	VRRP	VRRP backup group, support hardware interface/VLAN IF	✓	✓	V2.0
		support VRRPv3(RFC 5798), signaling/advertisements and election of a master; replies to ARP/NS requests	✓	✓	V2.0
		configure advertise packets interval/priority	✓	✓	V2.0
		Master auto send free ARP	✓	✓	V2.0
	BFD	Master auto send ND	✓	✓	V2.0
		open/close BFD session	✓	✓	V2.0
		BFD control packet send time interval	✓	✓	V2.0
		BFD control packet receive time interval	✓	✓	V2.0
		set BFD check counter	✓	✓	V2.0
		passive mode	✓	✓	V2.0
	Monitor Link	show BFD session information	✓	✓	V2.0
		linkage with other protocols(BGP/OSPF)	✓	✓	V2.0
		create/delete Monitor link	✓	✓	V2.0
		support hardware interface/LAG	✓	✓	V2.0
	SLA	configure uplink port delay only when downlink port up	✓	✓	V2.0
		SLA send ICMP echo packet, configure interval/timeout/dst_ip	✓	✓	V3.0
	SLACC	show SLA summary	✓	✓	V3.0
		enable/disable RA advertise	✓	✓	V3.0
		dns-server	✓	✓	V3.0
	Routing Track	route information advertise	✓	✓	V3.0
		autonomous configure	✓	✓	V3.0
		Track IPv4 routing	✓	✓	V3.0
		Track IPv6 routing	✓	✓	V3.0
	Hash	bind SLA	✓	✓	V3.0
		show track summary	✓	✓	V3.0
		Hash for ECMP or LAG	✓	✓	V2.0
configure hash seed		✓	✓	V2.0	
QoS	Priority mapping	hash key support src-dst-ip/src-dst-mac	✓	✓	V2.0
		dot1p to tc	✓	✓	V3.0
		dscp to tc	✓	✓	V3.0
	Queue schedule	tc to queue	✓	✓	V3.0
		strict	✓	✓	V3.0
	Flow classify	DWRR	✓	✓	V3.0
		based on port	✓	✓	V3.0
		based on queue	✓	✓	V3.0
		based on interface	✓	✓	V3.0
	Show qos status	shaping	✓	✓	V3.0
based on IACL and binding CAR		✓	✓	V3.0	
Reporting and Monitoring	SPAN / RSPAN/ ERSPAN	CAR (Committed Access Rate)	✓	✓	V3.0
		show interface qos statistics	✓	✓	V3.0
	SNMP	mirror phy interface or VLAN IF	✓	✓	V2.0
		mirror destination is phy interface	✓	✓	V2.0
		direction support rx/tx/both	✓	✓	V1.0
		Set alarm thresholds based on interfaces	✓	✓	V1.0
		global enable/disable	✓	✓	V1.0
		support snmp v1/v2/v3	✓	✓	V1.0
	NetFlow/IPFIX	support community name	✓	✓	V1.0
		support configure source IP	✓	✓	V1.0
Prometheus Exporter	Trap bind with VRF	✓	✓	V1.0	
	create/delete snmp v3 user	✓	✓	V1.0	
Device Management	User/privilege management	enable/disable on hardware interface	✓	✓	V2.0
		sample both input and output	✓	✓	V2.0
		recording of L2, L3, and L4 information	✓	✓	V2.0
	Login method	HTTP static server url handler that scrapes stats and exports them in Prometheus format	✓	✓	V2.0
		local User Authentication	✓	✓	V1.0
		RADIUS User Authentication	✓	✓	V1.0
		TACACS+ User Authentication	✓	✓	V1.0
	Management	out-of-band serial console	✓	✓	V1.0
		SSH	✓	✓	V1.0
	Troubleshooting information	in-band management	✓	✓	V1.0
		out-of-band management	✗	✗	V1.0
	ZTP (Zero Touch Provisioning)	mgmt IP address	✗	✓	V1.0
mgmt gateway		✗	✓	V1.0	
System time management	mgmt VRF	✗	✓	V1.0	
	sonic bash show techsupport	✓	✓	V1.0	
Configuration management	FTP/TFTP	✓	✓	V3.0	
	upgrade firmware	✓	✓	V3.0	
Device status summary	upload log	✓	✓	V3.0	
	show ZTP status	✓	✓	V3.0	
Critical Resource Monitoring (CRM)	Configure host name	✓	✓	V1.0	
	timezone	✓	✓	V1.0	
Exception alarm	date	✓	✓	V1.0	
	show date and timezone	✓	✓	V1.0	
FTP/TFTP	show/save/reset/reload config	✓	✓	V1.0	
	CLI	✓	✓	V1.0	
Device status summary	WEB GUI	✗	✗	V1.0	
	RestfulAPI	✗	✗	V1.0	
Critical Resource Monitoring (CRM)	work as client or server	✓	✓	V1.0	
	bind to interface	✓	✓	V1.0	
Exception alarm	system version	✓	✓	V2.0	
	device serial number	✓	✓	V2.0	
Device status summary	hwsku	✓	✓	V2.0	
	memory usage	✓	✓	V2.0	
Critical Resource Monitoring (CRM)	cpu usage	✓	✓	V2.0	
	platform information(fan/power/temp)	✓	✓	V2.0	
Exception alarm	real time usage query	✓	✓	V3.0	
	history usage query	✓	✓	V3.0	
Device status summary	threshold configure	✓	✓	V3.0	
	power supply absent	✗	✗	V1.0	
Critical Resource Monitoring (CRM)	fan absent	✗	✗	V1.0	

NTP	configure NTP Server with IP address or URL	✓	✓	V1.0
	support multi NTP server	✓	✓	V1.0
	enable/disable/show NTP status	✓	✓	V1.0
Log management	local log level, storage size/date	✓	✓	V1.0
	upload log to remote server	✓	✓	V1.0
Diagnostic tools	Ping	✓	✓	V1.0
	Traceroute	✓	✓	V1.0