

AsterNOS for Campus

Release Note

Version V5.2R014

Contents

1. Preface.....	3
Target Audience	3
2. Modification of Records	3
3. Description.....	3
4. Dependent Components.....	4
5. Update Records.....	5
5.1 New Feature & Enhance	5
5.2 Major Bug Fix.....	5
5.3 Document Changes.....	5
5.3.1 User Guide	5
6. List of Features	5

1. Preface

The purpose of this document is to provide important information about the released software version, including but not limited to the following information: running platform, important components, main features, key updates.

Target Audience

This manual is primarily intended for following engineers.

- Software Developers
- Software Testers
- Customer Site Implementers

2. Modification of Records

Date	Versions	Modify Remarks
2025-9-24	V1.0	AsterNOS version-V5.2R014 released

3. Description

AsterNOS is a SONiC-based network operating system. The release version is **AsterNOS-V5.2R014**, the specific information are as following:

- AsterNOS-V5.2R014.bin
 - Md5sum: d7ccbb528cf7f8154bb1a91545b9c212
 - Supported models: All device models of CX102S, CX104S, CX204Y, CX206Y, CX202P, CX206P series
- AsterNOS-V5.2R014-x86.bin
 - Md5sum: 2a1ad02c5c84befe6c8409045fe5f014
 - Supported models: CX308P, CX532P series
- Supporting user manual

[Overview | AsterNOS Documentation](#)

4. Dependent Components

Components	Versions
Linux kernel	5.10.34
SAI	1.6.3
FRR	8.2.2
Ildpd	1.0.5
libteam	1.29
snmpd	5.7.3
redis	5.0.3
isc-dhcp	4.3.5
radvd	2.17
mstp	0.0.9
parpd	1.0.0
ndppd	1.0.0
docker-engine	18.09.5

5. Update Records

5.1 New Feature & Enhance

- Support PIMv4
- Support EVPN Multihoming
- Support VXLAN Multicast Mode with (S,G) per VNI
- Support VXLAN Cross-connect
- Support RADIUS
- Support POE PD Alive Check
- Support Link-flapping
- Support PTP in MACsec

5.2 Major Bug Fix

- None

5.3 Document Changes

5.3.1 User Guide

- Added configuration instructions for new features

6. List of Features

Features	Level 1	Level 2	CX102S CX104S Series	CX204Y CX206Y Series	CX202P CX206P Series	CX308P CX532P Series
Interface and Port	Interface Speed	10M	√	√		
		100M	√	√		
		1G	√	√	√	
		2.5G	√	√	√	√
		10G	√	√	√	√
		25G		√	√	√



		40G			√	√
		100G			√	√
	100G Interface Breakout	4x1G			√	√
		4x10G			√	√
		4x25G			√	√
	Interface MTU	Physical Interface MTU	√	√	√	√
		Virtual Interface MTU	√	√	√	√
		MAX Jumbo Frame Size (Default 9k)	√	√	√	√
	Interface Startup Delay		√	√	√	√
	Link Flapping		√	√	√	√
	Interface Statistics	Packets/Bytes;Speed; Error/Drop Packets	√	√	√	√
	Buffer	Buffer Management per Interface	√	√	√	√
		Buffer Management per System	√	√	√	√
	Optical Module	Reading Information (Power Meter, Vendor, Model)	√	√	√	√
	PoE	LLDP Negotiates PoE Delivery Parameters	√	√		
		Delayed Power Supply	√	√		
		PD Alive Check	√	√		
		POE Supply Status Diagnosis	√	√		
	Loopback	Multiple Loopback	√	√	√	√
		Loopback as Syslog Source	√	√	√	√
		Loopback as FTP Source	√	√	√	√
		Loopback as TFTP/FTP Source	√	√	√	√
		Loopback as NTP Source	√	√	√	√

	Storm Suppression	Broadcast Suppression	√	√	√	√
		Unknown Unicast/Multicast Suppression	√	√	√	√
		Known Multicast Suppression	√	√	√	√
L2 Switching	MAC	Static Configuration	√	√	√	√
		Dynamic Learning	√	√	√	√
		MAC Aging	√	√	√	√
		MAC Address Move	√	√	√	√
		MAC Flapping Detection	√	√	√	√
		MAC Limit	√	√	√	√
	VLAN	VLAN Trunk Mode	√	√	√	√
		VLAN Access Mode	√	√	√	√
		Strategy for BUM Packets	√	√	√	√
	Batch VLAN	Batch VLAN Creation	√	√	√	√
	QinQ	Basic QinQ	√	√	√	√
		Flexible QinQ	√	√	√	√
	Link Aggregation	Static Link Aggregation	√	√	√	√
		LACP Mode	√	√	√	√
	Port Isolation Group	Layer 2 Port Isolation	√	√	√	√
	MSTP	Set BPDU Packet Interval	√	√	√	√
		Set Interface State Delay Switching Time	√	√	√	√
		Set Maximum Aging Time of BPDU	√	√	√	√
		Set Instance Priority	√	√	√	√
		Set Interface Priority	√	√	√	√
		Ignore STP Results based on	√	√	√	√

		VLAN				
		BPDU Filter	√	√	√	√
		BPDU Guard	√	√	√	√
	Loopback Detection	Strict Mode	√	√	√	√
		Loose Mode	√	√	√	√
		Loopback Action: Warning or Shutdown Interface	√	√	√	√
	Hash	Load Balance Hash Key (src-dst-ip,src-dst-mac,src-dst-ip-port,src-dst-mac-ip,src-dst-mac-ip-port)	√	√	√	√
	LLDP		√	√	√	√
L3 Switching	ARP/NDP	Static ARP/NDP	√	√	√	√
		Dynamic ARP/NDP	√	√	√	√
		ARP/NDP Aging and Update	√	√	√	√
		ARP/NDP Proxy	√	√	√	√
		ARP/NDP to Host Route	√	√	√	√
	Basic Route	Static Route	√	√	√	√
		ECMP	√	√	√	√
	BGP	IBGP	√	√	√	√
		EBGP	√	√	√	√
		MP-BGP	√	√	√	√
		Peer Group	√	√	√	√
		Route Redistribution	√	√	√	√
		Route Aggregation	√	√	√	√
		Route Reflector	√	√	√	√
		AS Dot Notation	√	√	√	√
		Graceful Restart	√	√	√	√

	OSPF v2	Instance: Single or Multiple	√	√	√	√
		Stub Area	√	√	√	√
		NSSA	√	√	√	√
		Route Redistribution	√	√	√	√
		MD5 Authentication	√	√	√	√
	OSPF v3	Instance: Single	√	√	√	√
		Stub Area	√	√	√	√
		NSSA	√	√	√	√
		Route Redistribution	√	√	√	√
	Route policy	Route Map	√	√	√	√
		IP Prefix List	√	√	√	√
	Policy Route	ECMP	√	√	√	√
		Master-Backup	√	√	√	√
	DHCPv4 Relay	Multiple DHCP Server	√	√	√	√
		Agent IP	√	√	√	√
		Option 82	√	√	√	√
	DHCPv6 Relay	Multiple DHCP Server	√	√	√	√
		Agent IP	√	√	√	√
	DHCPv4 Server	Fixed Allocation by MAC+IP	√	√	√	√
		Dynamic Allocation by Address	√	√	√	√
		Pool				
		Setting Renewal Period	√	√	√	√
	DHCPv6 Server	DHCP Failover	√	√	√	√
		Dynamic Allocation by Address	√	√	√	√
		Pool				
		Setting Renewal Period	√	√	√	√
	DHCPv4 Client	-	√	√	√	√
	IPv6 Router	Set M/0/A/L Flag	√	√	√	√

	Advertisement	Set Prefix	√	√	√	√
		Set Route Information	√	√	√	√
		Set DNS	√	√	√	√
		Set MTU	√	√	√	√
	MAC trigger	-	√	√	√	√
	VRF	Max VRF Instance	√	√	√	√
		ARP/Route Isolation	√	√	√	√
		Bind L3 Port to VRF	√	√	√	√
Multicast	IGMP Snooping	v1/v2/v3	√	√	√	√
		Static Table Entry	√	√	√	√
		Dynamic Table Entry	√	√	√	√
		IGMP Snooping Querier	√	√	√	√
		IGMP Snooping Proxy	√	√	√	√
	MLD Snooping	v1/v2	√	√	√	√
		Static Table Entry	√	√	√	√
		Dynamic Table Entry	√	√	√	√
		IGMP Snooping Querier	√	√	√	√
		IGMP Snooping Proxy	√	√	√	√
	Multicast VLAN	-	√	√	√	√
	PIMv4	PIM-SM	√	√	√	√
Security	ACL	L3	√	√	√	√
		IACL/EACL	√	√	√	√
		ACL for Management	√	√	√	√
	TACACS+	Authentication & Authorization	√	√	√	√
	RADIUS	Authentication & Authorization	√	√	√	√
	DHCPv4/DHCPv6	Snooping Entry Learning	√	√	√	√
	Snooping	Snooping Entry Aging	√	√	√	√



		Snooping Entry Synchronization	✓	✓	✓	✓
		Snooping Trust Interface	✓	✓	✓	✓
	ND Snooping	Snooping Entry Learning	✓	✓	✓	✓
		Snooping Entry Aging	✓	✓	✓	✓
		Snooping Entry Synchronization	✓	✓	✓	✓
	ND protection	SMAC Conformance Check	✓	✓	✓	
		RA Guard	✓	✓	✓	
		SAVI	✓	✓	✓	
	DAI (Dynamic ARP Inspection)	Activate based-on VLAN	✓	✓	✓	
		Setting Trusted Interface	✓	✓	✓	
	IPSGv4/IPSGv6 (IP Source Guard)	Activate based-on VLAN	✓	✓	✓	
		Setting Trusted Interface	✓	✓	✓	
	802.1x	Restrict VLAN	✓	✓	✓	
		Guest VLAN	✓	✓	✓	
		MAC Address-based 802.1x Authentication	✓	✓	✓	
		802.1x Authentication based on Ethernet Port	✓	✓	✓	
		Dynamic Authorization	✓	✓	✓	
		Escape Mode	✓	✓	✓	
	Portal Authentication	Guest VLAN	✓	✓	✓	
		MAC Address-based 802.1x Authentication	✓	✓	✓	
		Dynamic Authorization	✓	✓	✓	
		Escape Mode	✓	✓	✓	
	MACSec	GCM-AES-128 / 256	Only support on ASICs that integrated with MACSec chip			
		GCM-AES-XPB-128 / 256				
		Replay Protection				

	COPP	Setting the rate of packets forwarded to CPU	√	√	√	√
		Setting actions for packets forwarded to CPU	√	√	√	√
QoS	Interface-based Priority Mapping	Dot1p to TC	√	√	√	√
		DSCP to TC	√	√	√	√
		TC to Queue	√	√	√	√
	Traffic Policing	Filter	√	√	√	√
		Remark/Drop/Forward	√	√	√	√
	Traffic Shaping	Port based	√	√	√	√
		Queue based	√	√	√	√
	Queue Scheduling	PQ	√	√	√	√
		DWRR	√	√	√	√
		PQ+DWRR	√	√	√	√
Reliability	Track	Track for Static Route	√	√	√	√
	Monitor Link	-	√	√	√	√
	BFD	BFD for OSPF	√	√	√	√
		BFD for BGP	√	√	√	√
		BFD for Static Route	√	√	√	√
	MC-LAG	MAC Table Synchronization	√	√	√	√
		ARP/ND Table Synchronization	√	√	√	√
		Peer Link	√	√	√	√
		DAD Detection	√	√	√	√
	VRRPv2/v3	Setting Priority	√	√	√	√
		Setting Advertisement Message Interval	√	√	√	√
		Enabling Preemptive Mode	√	√	√	√
		Periodic sending of free ARP	√	√	√	√

	MAC-Scan	Scanning based-on IP Address Ranges	√	√	√	√
		Scanning based on DHCP Snooping Entry	√	√	√	√
		Scanning based on Static Snooping Entry	√	√	√	√
	System Robust	Docker automatic Recovery	√	√	√	√
		Memory Detection for Key Processes	√	√	√	√
Network Management & Monitor	Management	SSH	√	√	√	√
		Telnet	√	√	√	√
		Console	√	√	√	√
	SNMP	v1/v2/v3	√	√	√	√
	Syslog	Rsyslog	√	√	√	√
	Local User Management	-	√	√	√	√
	System Information	-	√	√	√	√
	NTP	-	√	√	√	√
	PTP	1588v2	√	√	√	√
		Smpte-2059-2	√	√	√	√
		Aes67	√	√	√	√
	SyncE		√	√	√	√
	sFlow	Setting the Sampling Rate		√	√	√
		Setting the Sampling Direction		√	√	√
	Mirror	SPAN	√	√	√	√
		RSPAN	√	√	√	√
		ERSPAN	√	√	√	√
	ZTP	System Upgrade	√	√	√	√

		Load the Configuration	✓	✓	✓	✓
	Cluster	Manage Devices in a Clustered Manner	✓	✓	✓	✓
Virtualization	VXLAN	v4-v4 / v4-v6	✓	✓	✓	✓
		VTEP Encap/Decap	✓	✓	✓	✓
		L2 Forwarding	✓	✓	✓	✓
		VXLAN Mapping (VLAN-VNI(1:1), VRF-VNI)	✓	✓	✓	✓
		L3 Gateway (Distributed Gateway, Centralized Gateway)	✓	✓	✓	✓
		MP-BGP EVPN (Type 1/2/3/4/5)	✓	✓	✓	✓
		EVPN Multihoming	✓	✓	✓	✓
		Cross-connect	✓	✓	✓	✓
		Multicast Mode with (S,G) per VNI	✓	✓	✓	✓
		ARP suppression	✓	✓	✓	✓
		Tunnel Auto Establish/Tear Down	✓	✓	✓	✓
	GRE	GRE Tunnel Establish		✓	✓	✓
		v4-v4 / v6-v6 / v4-v6 / v6-v4		✓	✓	✓