FortiSwitch Release Notes

Version 6.4.9

FORTINET DOCUMENT LIBRARY

http://docs.fortinet.com

FORTINET VIDEO GUIDE

http://video.fortinet.com

FORTINET BLOG

https://blog.fortinet.com

CUSTOMER SERVICE & SUPPORT

https://support.fortinet.com

http://cookbook.fortinet.com/how-to-work-with-fortinet-support/

FORTIGATE COOKBOOK

http://cookbook.fortinet.com

FORTINET TRAINING SERVICES

http://www.fortinet.com/training

FORTIGUARD CENTER

http://www.fortiguard.com

FORTICAST

http://forticast.fortinet.com

END USER LICENSE AGREEMENT

http://www.fortinet.com/doc/legal/EULA.pdf

FORTINET PRIVACY POLICY

https://www.fortinet.com/corporate/about-us/privacy.html

FEEDBACK

Email: techdocs@fortinet.com

FortiSwitch Release Notes

September 24, 2021

11-649-742564-20210924

TABLE OF CONTENTS

Change log

Date	Change Description
September 24, 2021	Initial release for FortiSwitchOS 6.4.9

Introduction

This document provides the following information for FortiSwitchOS 6.4.9 build 0488.

See the Fortinet Document Library for FortiSwitch documentation.

Supported models

FortiSwitchOS 6.4.9 supports the following models:

FortiSwitch 1xx	FS-108E, FS-108E-POE, FS-108E-FPOE, FS-108F, FS-108F-POE, FS-108F-FPOE, FS-124E, FS-124E-POE, FS-124E-FPOE, FS-124F, FS-124F-POE, FS-124F-FPOE, FS-148E, FS-148E-POE, FS-148F, FS-148F-POE, FS-148F-FPOE
FortiSwitch 2xx	FS-224D-FPOE, FS-224E, FS-224E-POE, FS-248D, FS-248E-POE, FS-248E-FPOE
FortiSwitch 4xx	FS-424D, FS-424D-FPOE, FS-424D-POE, FS-424E, FS-424E-POE, FS-424E-FPOE, FS-424E-Fiber, FS-M426E-FPOE, FS-448D, FS-448D-FPOE, FS-448D-POE, FS-448E, FS-448E-POE, FS-448E-FPOE
FortiSwitch 5xx	FS-524D-FPOE, FS-524D, FS-548D, FS-548D-FPOE
FortiSwitch 1xxx	FS-1024D, FS-1048D, FS-1048E
FortiSwitch 3xxx	FS-3032D, FS-3032E
FortiSwitch Rugged	FSR-112D-POE, FSR-124D

What's new in FortiSwitchOS 6.4.9

FortiSwitchOS 6.4.9 is a patch release only. No new features or enhancements have been implemented in this release.

Special notices

Supported features for FortiSwitchOS 6.4.9

The following table lists the FortiSwitch features in Release 6.4.9 that are supported on each series of FortiSwitch models. All features are available in Release 6.4.9, unless otherwise stated.

Feature	GUI sup-ported	112D-POE	FSR-124D	1xxE 1xxF	4xxE	200 Series 400 Series	500 Series	1024D 1048D 1048E	3032D 3032E
Management and Configuration									
CPLD software upgrade support for OS	—	—	—	—	—	—	—	1024D 1048D	—
Firmware image rotation (dual-firmware image support)	—	✓	✓	148E 148E-POE	✓	✓	✓	✓	✓
HTTP REST APIs for configuration and monitoring	—	✓	✓	✓	✓	✓	✓	✓	✓
Support for switch SNMP OID	✓	✓	✓	✓	✓	✓	✓	✓	✓
IP conflict detection and notification	✓	✓	✓	✓	✓	✓	✓	✓	✓
FortiSwitch Cloud configuration	✓	✓	✓	✓	✓	✓	✓	✓	✓
Auto topology	—	✓	✓	✓	✓	✓	✓	✓	✓
Security and Visibility									
802.1x port mode	✓	✓	✓	✓	✓	✓	✓	✓	✓
802.1x MAC-based security mode	✓	✓	✓	✓	✓	✓	✓	✓	✓

Feature	GUI supported	112D-POE	FSR-124D	1xxE 1xxF	4xxE	200 Series 400 Series	500 Series	1024D 1048D 1048E	3032D 3032E
User-based (802.1x) VLAN assignment	✓	✓	✓	✓	✓	✓	✓	✓	✓
802.1x enhancements, including MAB	✓	✓	✓	✓	✓	✓	✓	✓	✓
MAB reauthentication disabled	—	✓	✓	✓	✓	✓	✓	✓	✓
open-auth mode	✓	✓	✓	✓	✓	✓	✓	✓	✓
Support of the RADIUS accounting server	Partial	✓	✓	✓	✓	✓	✓	✓	✓
Support of RADIUS CoA and disconnect messages	—	✓	✓	✓	✓	✓	✓	✓	✓
EAP Pass-Through	✓	✓	✓	✓	✓	✓	✓	✓	✓
Network device detection	—	—	✓	—	✓	✓	✓	✓	✓
IP-MAC binding (IPv4)	✓	—	—	—	—	—	✓	✓	✓
sFlow (IPv4)	✓	✓	✓	—	✓	✓	✓	✓	✓
Flow export (IPv4)	✓	—	✓	—	✓	✓	✓	✓	✓
ACL (IPv4)	✓	—	✓	✓	✓	✓	✓	✓	✓
Multistage ACL (IPv4)	✓	—	—	—	—	—	✓	✓	✓
Multiple ingress ACLs (IPv4)	✓	—	✓	—	✓	✓	✓	✓	✓
Schedule for ACLs (IPv4)	—	—	✓	✓	✓	✓	✓	✓	✓

Feature	GUI supported	112D-POE	FSR-124D	1xxE 1xxF	4xxE	200 Series 400 Series	500 Series	1024D 1048D 1048E	3032D 3032E
DHCP snooping	✓	✓	✓	✓	✓	✓	✓	✓	✓
DHCPv6 snooping	✓	—	—	—	✓	✓	✓	✓	✓
Allowed DHCP server list	✓	✓	✓	✓	✓	✓	✓	✓	✓
IP source guard (IPv4)	✓	—	✓	—	✓	✓	—	—	—
IP source-guard violation log	—	—	✓	—	✓	✓	—	—	—
Dynamic ARP inspection (IPv4)	✓	—	✓	✓	✓	✓	✓	✓	✓
ARP timeout value	—	✓	✓	✓	✓	✓	✓	✓	✓
Access VLANs (See Note 8.)	—	✓	✓	✓	✓	✓	✓	✓	✓
RMON group 1	—	✓	✓	✓	✓	✓	✓	✓	✓
Reliable syslog	—	✓	✓	✓	✓	✓	✓	✓	✓
Packet capture	✓	—	✓	—	✓	✓	✓	✓	✓
MACsec (See Note 7.)	—	—	—	—	—	—	✓	—	—
Layer 2									
Link aggregation group size (maximum number of ports) (See Note 2.)	✓	8	8	8	8	8	24/48	24/48	24 64
LAG min-max-bundle	—	✓	✓	✓	✓	✓	✓	✓	✓
IPv6 RA guard	—	—	—	—	✓	✓	✓	✓	✓
IGMP snooping	✓	✓	✓	✓	✓	✓	✓	✓	✓

Feature	GUI supported	112D-POE	FSR-124D	1xxE 1xxF	4xxE	200 Series 400 Series	500 Series	1024D 1048D 1048E	3032D 3032E
IGMP proxy	✓	✓	✓	✓	✓	✓	✓	✓	✓
IGMP querier	—	✓	✓	✓	✓	✓	✓	✓	✓
MLD snooping	—	—	—	—	—	—	✓	✓	✓
MLD proxy	—	—	—	—	—	—	✓	✓	✓
MLD querier	—	—	—	—	—	—	✓	✓	✓
LLDP transmit	—	✓	✓	✓	✓	✓	✓	✓	✓
LLDP-MED	—	✓	✓	✓	✓	✓	✓	✓	✓
LLDP-MED: ELIN support	✓	✓	✓	✓	✓	✓	✓	✓	✓
Per-port max for learned MACs	—	—	✓	✓	✓	✓	✓	—	—
MAC learning limit (See Note 4.)	—	—	✓	✓	✓	✓	✓	—	—
Learning limit violation log (See Note 4.)	—	—	✓	✓	✓	✓	✓	—	—
set mac-violation-timer	—	✓	✓	✓	✓	✓	✓	✓	✓
Sticky MAC	✓	✓	✓	✓	✓	✓	✓	✓	✓
Total MAC entries	—	✓	✓	✓	✓	✓	✓	✓	✓
MSTP instances	—	0-15	0-15	0-15	0-15	0-15	0-32	0-32	0-32
STP root guard	—	✓	✓	✓	✓	✓	✓	✓	✓
STP BPDU guard	✓	✓	✓	✓	✓	✓	✓	✓	✓
Rapid PVST interoperation	—	✓	✓	✓	✓	✓	✓	✓	✓

Feature	GUI supported	112D-POE	FSR-124D	1xxE 1xxF	4xxE	200 Series 400 Series	500 Series	1024D 1048D 1048E	3032D 3032E
'forced-untagged' or 'force-tagged' setting on switch interfaces	—	✓	✓	✓	✓	✓	✓	✓	✓
Private VLANs	✓	—	✓	—	✓	✓	✓	✓	✓
Multi-stage load balancing	—	—	—	—	—	—	—	✓	✓
Priority-based flow control	—	—	—	—	—	—	✓	✓	✓
Ingress pause metering	—	—	—	—	✓	✓	✓	✓	3032D
Storm control	✓	✓	✓	✓	✓	✓	✓	✓	✓
Per-port storm control	✓	✓	✓	✓	✓	✓	✓	✓	✓
Global burst-size control	—	✓	✓	✓	✓	✓	✓	✓	✓
MAC/IP/protocol-based VLAN assignment	✓	✓	✓	✓	✓	✓	✓	✓	✓
Virtual wire	✓	—	✓	—	✓	✓	✓	✓	✓
Loop guard	✓	✓	✓	✓	✓	✓	✓	✓	✓
Percentage rate control	✓	—	✓	—	✓	✓	✓	✓	✓
VLAN stacking (QinQ)	—	—	✓	—	✓	✓	✓	✓	✓
VLAN mapping	—	—	✓	—	✓	✓	✓	✓	✓
SPAN	✓	✓	✓	✓	✓	✓	✓	✓	✓
RSPAN and ERSPAN (IPv4)	✓	RSPAN	✓	—	✓	✓	✓	✓	✓

Feature	GUI supported	112D-POE	FSR-124D	1xxE 1xxF	4xxE	200 Series 400 Series	500 Series	1024D 1048D 1048E	3032D 3032E
Flow control	—	✓	✓	✓	✓	✓	✓	✓	✓
Layer 3									
Link monitor (IPv4)	✓	✓	✓	✓	✓	✓	✓	✓	✓
Static routing (IPv4/IPv6)	✓	—	✓	✓	✓	✓	✓	✓	✓
Hardware routing offload (IPv4/IPv6)	✓	—	✓	—	✓	✓	✓	✓	✓
Software routing only (IPv4/IPv6)	✓	✓	—	✓	—	—	—	—	—
OSPF (IPv4/IPv6) (See Note 3.)	✓	—	—	—	✓	✓	✓	✓	✓
OSPF database overflow protection (IPv4)	—	—	—	—	✓	✓	✓	✓	✓
OSPF graceful restart (helper mode only) (IPv4)	—	—	—	—	✓	✓	✓	✓	✓
RIP (IPv4/IPv6) (See Note 3.)	✓	—	—	—	✓	✓	✓	✓	✓
VRRP (IPv4/IPv6) (See Note 3.)	✓	—	—	—	✓	✓	✓	✓	✓
BGP (IPv4/IPv6) (See Note 3.)	—	—	—	—	—	—	✓	✓	✓
IS-IS (IPv4/IPv6) (See Note 3.)	—	—	—	—	✓	✓	✓	✓	✓
PIM (IPv4) (See Note 3.)	—	—	—	—	—	—	✓	✓	✓
Hardware-based ECMP (IPv4)	—	—	—	—	—	—	✓	✓	✓
VRF (IPv4/IPv6)	—	—	—	—	—	—	—	✓	✓

Feature	GUI supported	112D-POE	FSR-124D	1xxE 1xxF	4xxE	200 Series 400 Series	500 Series	1024D 1048D 1048E	3032D 3032E
Static BFD (IPv4/IPv6)	✓	✓	✓	✓	✓	✓	✓	✓	✓
BFD for BGPv6	—	—	—	—	—	—	✓	✓	✓
BFD for RIPng	—	—	—	—	✓	✓	✓	✓	✓
uRPF	—	—	—	—	—	—	✓	✓	✓
DHCP relay (IPv4)	✓	—	✓	✓	✓	✓	✓	✓	✓
DHCP server (IPv4)	✓	—	—	—	✓	4xx only	✓	✓	✓
High Availability									
MCLAG (multichassis link aggregation)	Partial	—	—	—	✓	✓	✓	✓	✓
STP supported in MCLAGs	—	—	—	—	✓	✓	✓	✓	✓
IGMP snooping support in MCLAG	✓	—	—	—	✓	✓	✓	✓	✓
Quality of Service									
802.1p support, including priority queuing trunk and WRED	✓	—	✓	✓	✓	✓	✓	✓	✓
QoS queue counters	—	—	✓	—	✓	✓	✓	✓	✓
QoS marking (IPv4/IPv6)	—	—	✓	—	✓	✓	✓	✓	✓
Summary of configured queue mappings	✓	—	✓	✓	✓	✓	✓	✓	✓
Egress priority tagging (IPv4/IPv6)	—	—	✓	—	✓	✓	✓	✓	✓

Feature	GUI supported	112D-POE	FSR-124D	1xxE 1xxF	4xxE	200 Series 400 Series	500 Series	1024D 1048D 1048E	3032D 3032E
ECN (IPv4/IPv6)	—	—	—	—	✓	—	✓	✓	✓
Real-time egress queue rates	—	—	—	—	—	✓	✓	✓	✓
Miscellaneous									
PoE-pre-standard detection (See Note 1.)	—	✓	✓	FS-1xxE POE	✓	✓	✓	—	—
PoE modes support: first come, first served or priority based (PoE models)	—	✓	✓	FS-1xxE POE	✓	✓	✓	—	—
Control of temperature alerts	—	✓	✓	—	✓	✓	✓	✓	✓
Split port (See Note 6.)	Partial	—	—	—	—	—	✓	1048E	✓
TDR (time-domain reflectometer)/cable diagnostics support	✓	—	✓	✓	✓	✓	✓	—	—
Auto module max speed detection and notification	✓	—	—	—	—	—	✓	✓	—
Monitor system temperature (threshold configuration and SNMP trap support)	—	✓	✓	FS-124E-POE FS-124E-FPOE FS-148E FS-148E-POE	✓	✓	✓	✓	✓

Feature	GUI supported	112D-POE	FSR-124D	1xxE 1xxF	4xxE	200 Series 400 Series	500 Series	1024D 1048D 1048E	3032D 3032E
Cut-through switching	—	—	—	—	—	—	—	✓	✓
Add CLI to show the details of port statistics	—	✓	✓	✓	✓	✓	✓	✓	✓
Configuration of the QSFP low-power mode	—	—	—	—	—	—	✓	1048D 1048E	✓
Energy-efficient Ethernet	✓	✓	✓	✓	✓	✓	✓	—	—
PHY Forward Error Correction (See Note 5.)	—	—	—	—	—	—	—	1048E	3032E
PTP transparent clock (IPv4/IPv6) (See Note 9.)	—	—	—	—	✓	✓	✓	1048E	✓

Notes

1. PoE features are applicable only to the model numbers with a POE or FPOE suffix.
2. The 24-port LAG is applicable to FS-524D, FS-524-FPOE, FS-1024D, and FS-3032D models. The 48-port LAG is applicable to FS-548D, FS-548-FPOE, and FS-1048D models.
3. To use the dynamic layer-3 protocols, you must have an advanced features license.
4. The per-VLAN MAC learning limit and per-trunk MAC learning limit are not supported on the FS-448D, FS-448D-POE, FS-448D-FPOE, FS-248E-POE, FS-248E-FPOE, FS-248D series.
5. Supported only in 100G mode (clause 91).
6. On the FS-3032E, you can split one port at the full base speed, split one port into four sub-ports of 25 Gbps each (100G QSFP only), or split one port into four sub-ports of 10 Gbps each (40G or 100G QSFP).
7. Supported on FS-5xxD 10G ports.
8. The maximum number of access VLANs on the FS-1xxE models is 16; the maximum number of access VLANs on the FS-148F models is 32.
9. PTP is not supported on the FS-248E, FS-248E-POE, FS-248E-FPOE, FS-448D, FS-448D-POE, and FS-448D-FPOE models.

Connecting multiple FSR-112D-POE switches

The FSR-112D-POE switch does not support interconnectivity to other FSR-112D-POE switches using the PoE ports. Fortinet recommends using the SFP ports to interconnect switches.

Upgrade information

FortiSwitchOS 6.4.9 supports upgrading from FortiSwitchOS 3.5.0 and later.

For FortiSwitch units managed by FortiGate units, refer to the *FortiSwitch Devices Managed by FortiOS Release Notes* for upgrade information. See https://docs.fortinet.com/product/fortiswitch/6.4.

Product integration and support

FortiSwitchOS 6.4.9 support

The following table lists FortiSwitchOS 6.4.9 product integration and support information.

Web browser	• Mozilla Firefox version 52 • Google Chrome version 56 Other web browsers may function correctly, but are not supported by Fortinet.
FortiOS (FortiLink Support)	FortiLink is supported on all FortiSwitch models when running FortiOS 5.4.0 and later and FortiSwitchOS 3.2.1 and later.

Resolved issues

The following issues have been fixed in FortiSwitchOS 6.4.9. For inquiries about a particular bug, please contact Customer Service & Support.

Bug ID	Description
488900	Background tasks on some switches require too much overhead.
722738	The `diagnose sys pcb temp` and `diagnose sys soc temp` commands report the wrong values for the FS-224E.
724558	The SSD card of an FS-1048E switch caused a network outage.
726364	When an FS-108E switch is in FortiLink mode, VLANs are not being synchronized.
727741	Ping results in a managed switch topology are not correct.
730505	The switch host name displays only 16 characters.
732228	The DHCP server on a standalone switch has a character limitation of 3 when creating the description of reserved addresses in the scope.
733819	When a managed switch is rebooted, nonsense characters appear in the syslog message.
735913	When two FS-1024D switches in an MCLAG topology are connected to an FS-448DN switch, the STP of the FS-448DN uplink flaps.
741354	When a FortiGate device manages two switches in a two-tier MCLAG, there is a crash (signal 11 received) in one of the switches.
743749	When a third-party hub is disconnected and then re-connected, the MAC authentication bypass (MAB) sometimes stops working.

Known issues

The following known issues have been identified with FortiSwitchOS 6.4.9. For inquiries about a particular bug or to report a bug, please contact Fortinet Customer Service & Support.

Bug ID	Description
382518, 417024, 417073, 417099, 438441	DHCP snooping and dynamic ARP inspection (DAI) do not work with private VLANs (PVLANs).
414972	IGMP snooping might not work correctly when used with 802.1x Dynamic VLAN functionality.
480605	When DHCP snooping is enabled on the FSR-112D-POE, the switched virtual interface (SVI) cannot get the IP address from the DHCP server. **Workarounds:** —Use a static IP address in the SVI when DHCP snooping is enabled on that VLAN. —Temporarily disable dhcp-snooping on vlan, issue the `execute interface dhcpclient-renew <interface>` command to renew the IP address. After the SVI gets the IP address from the DHCP server, you can enable DHCP snooping.
510943	The time-domain reflectometer (TDR) function (cable diagnostics feature) reports unexpected values. **Workaround:** When using the cable diagnostics feature on a port (with the `diagnose switch physical-ports cable-diag <physical port name>` CLI command), ensure that the physical link on its neighbor port is down. You can disable the neighbor ports or physically remove the cables.
520954	When a “FortiLink mode over a layer-3 network” topology has been configured, the FortiGate GUI does not always display the complete network.
542031	For the 5xx switches, the `diagnose switch physical-ports led-flash` command flashes only the SFP port LEDs, instead of all the port LEDs.
548783	Some models support setting the mirror destination to “internal.” This is intended only for debugging purposes and might prevent critical protocols from operating on ports being used as mirror sources.
572052	Backup files from FortiSwitchOS 3.x that have 16-character-long passwords fail when restored on FortiSwitchOS 6.x. In FortiSwitchOS 6.x, file backups fail with passwords longer than 15 characters. **Workaround:** Use passwords with a maximum of 15 characters for FortiSwitchOS 3.x and 6.x.

Bug ID	Description
585550	When packet sampling is enabled on an interface, packets that should be dropped by uRPF will be forwarded.
606044	The value for cable length is wrong when running cable diagnostics on the FS-108E, FS-124E, FS-108E-POE, FS-108E-FPOE, FS-124E-POE, FS-124E-FPOE, FS-148E, and FS-148E-POE models.
609375	The FortiSwitchOS supports four priority levels (critical, high, medium, and low); however, The SNMP Power Ethernet MIB only supports three levels. To support the MIB, a power priority of medium is returned as low for the PoE MIB.
610149	The results are inaccurate for open and short cables when running cable diagnostics on the FS-108E, FS-124E, FS-108E-POE, FS-108E-FPOE, FS-124E-POE, FS-124E-FPOE, FS-148E, and FS-148E-POE models.
673433	Some 7-meter DAC cables cause traffic loss for the FS- 448E model.
682442	Do not use FCLF8521P2BTL and FCLF8522P2BTL modules. They are not supported and can cause issues on the FortiSwitch unit. To find supported modules, refer to the FortiSwitch-Compatible Transceivers matrix.