

S5850 Series Switches FSOS Software Release Notes

Model: S5850-24T16S ; S5850-24T16B

Contents

| | |
|--------------------------------------------|-----------|
| 1. Introduction | 1 |
| 2. Version Information | 2 |
| 2.1 Basic Information | 2 |
| 2.2 Release History | 2 |
| 2.3 Hardware Supported | 4 |
| 2.4 Version Compatibility | 5 |
| 2.5 Upgrade Precaution | 5 |
| 3. New Features Specification | 6 |
| 3.1 FSOS-v7.4.3.r3 | 6 |
| 3.2 FSOS-v7.4.1 | 6 |
| 3.3 FSOS-v7.3.3.r | 6 |
| 3.4 FSOS-V7.2.5.r1 | 6 |
| 3.5 FSOS-V7.2.5 | 7 |
| 3.6 FSOS-V7.2.4.r2 | 7 |
| 3.7 FSOS-V7.2.4 | 7 |
| 3.8 FSOS-V7.2.3.r1 | 8 |
| 3.9 FSOS-V7.2.3 | 8 |
| 3.10 FSOS-V7.2.2 | 8 |
| 3.11 FSOS-V7.2.1 | 9 |
| 3.12 FSOS-V7.1.3.r1 | 9 |
| 3.13 FSOS-V7.1.3 | 9 |
| 4. CLI Changes Specification | 10 |
| 4.1 FSOS-V7.4.3.r3 | 10 |
| 4.2 FSOS-V7.4.1 | 10 |
| 4.3 FSOS-V7.3.3 | 10 |
| 4.4 FSOS-V7.3.2 | 11 |
| 4.5 FSOS-V7.2.5.r2 | 11 |
| 4.6 FSOS-V7.2.5.r1 | 11 |
| 4.7 FSOS-V7.2.5 | 11 |
| 4.8 FSOS-V7.2.4.r2 | 11 |
| 4.9 FSOS-V7.2.4 | 11 |
| 4.10 FSOS-V7.2.3.r1 | 11 |
| 4.11 FSOS-V7.2.3 | 12 |
| 4.12 FSOS-V7.2.2 | 12 |
| 4.13 FSOS-V7.2.1 | 12 |
| 4.14 FSOS-V7.1.3.r1 | 13 |
| 4.15 FSOS-V7.1.3 | 13 |
| 5. WEB Changes Specification | 14 |
| 5.1 FSOS-V7.4.3.r3 | 14 |
| 5.2 FSOS-V7.4.1 | 14 |

| | |
|---------------------------------------------|-----------|
| 5.3 FSOS-V7.3.3 | 14 |
| 5.4 FSOS-V7.2.5.r1 | 14 |
| 5.5 FSOS-V7.2.5 | 14 |
| 5.6 FSOS-V7.2.4.r2 | 14 |
| 5.7 FSOS-V7.2.4 | 17 |
| 5.8 FSOS-V7.2.3.r1 | 17 |
| 5.9 FSOS-V7.2.3 | 17 |
| 5.10 FSOS-V7.2.2 | 17 |
| 5.11 FSOS-V7.2. 1 | 17 |
| 5.12 FSOS-V7. 1.3.r1 | 17 |
| 5.13 FSOS-V7. 1.3 | 17 |
| 6. New Behaviors Specification | 18 |
| 6.1 FSOS-V7.4.3.r3 | 18 |
| 6.2 FSOS-V7.4.1 | 18 |
| 6.3 FSOS-V7.3.3 | 18 |
| 6.4 FSOS-V7.3.2 | 18 |
| 6.5 FSOS-V7.2.5.r2 | 18 |
| 6.6 FSOS-V7.2.5.r1 | 19 |
| 6.7 FSOS-V7.2.5 | 19 |
| 6.8 FSOS-V7.2.4.r2 | 19 |
| 6.9 FSOS-V7.2.4 | 19 |
| 6.10 FSOS-V7.2.3.r1 | 20 |
| 6.11 FSOS-V7.2.3 | 20 |
| 6.12 FSOS-V7.2.2 | 20 |
| 6.13 FSOS-V7.2. 1 | 21 |
| 6.14 FSOS-V7. 1.3.r1 | 21 |
| 6.15 FSOS-V7. 1.3 | 22 |
| 7. Fixed Problem | 23 |
| 7.1 FSOS-V7.4.3.r3 | 23 |
| 7.2 FSOS-V7.4.1 | 23 |
| 7.3 FSOS-V7.3.3 | 23 |
| 7.4 FSOS-V7.2.5.r1 | 24 |
| 7.5 FSOS-V7.2.5.r2 | 24 |
| 7.6 FSOS-V7.2.5.r1 | 24 |
| 7.7 FSOS-V7.2.5 | 25 |
| 7.8 FSOS-V7.2.4.r2 | 25 |
| 7.9 FSOS-V7.2.4 | 25 |
| 7.10 FSOS-V7.2.3.r1 | 26 |
| 7.11 FSOS-V7.2.3 | 26 |
| 7.12 FSOS-V7.2.2 | 27 |
| 7.13 FSOS-V7.2. 1 | 27 |
| 7.14 FSOS-V7. 1.3.r1 | 27 |

| | |
|---------------------------------------------------|-----------|
| 7.15FSOS-V7.1.3 | 28 |
| 8. Version Restrictions and Cautions | 29 |
| 9. Operating System Upgrade | 30 |

1. Introduction

This document describes the release information about S5850-Series-Switch-FSOS-V7.4.3.r3.r, such as new features, command line changes, behavior changes, fixed problems, etc.;

Remind you, before loading S5850-Series-Switch-FSOS-V7.4.3.r3.r firmware, please backup configuration file to avoid potentials risks.

2. Version Information

2.1 Basic Information

| | |
|----------------------------|-------------------------------------------------|
| Current Release | S5850-Series-Switch-FSOS-V7.4.3.r3.r.bin |
| Applicable Customer | General |
| Category | Official release |
| MD5 | C32172CF14849A8C438E256AE814C272 |

2.2 Release History

| Current Release | Baseline Release | Release Date | Category | Changes Based on Baseline Version |
|-----------------|------------------|--------------|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| FSOS-v7.4.3.r3 | FSOS-v7.4.1 | 2022/7/20 | Official Release | rpc-api optimizeBug fixes for higher stability |
| FSOS-v7.4.1 | FSOS-v7.3.3.r | 2021-11-29 | Official Release | Support show used state of interface buffer Optimize ECMP functionality Optimize MLAG functionality Bug fixes for higher stability |
| FSOS-v7.3.3.r | FSOS-v7.3.2 | 2021-05-31 | Official Release | Support VRF for OSPFv3 Support IPv6 address with 127 bit mask Support VRF for PBR Support to send syslog to server with TCP connection Support to set SNMP community with special character Support Dot1x access account and keep alive Support to distribute a MPLS label for default-route (FEC 0.0.0.0/0) Bug fixes for higher stability |
| FSOS-v7.2.5.r1 | FSOS-v7.2.5 | 2020-10-19 | Official Release | Bug fixesfor higher stability |
| FSOS-v7.2.5 | FSOS-v7.2.4.r2 | 2020-09-08 | Official Release | Support to configure route aggregation in bgp ipv4 vrf address family Support new SNMP OIDs RPC-API optimized Support trap for BFD status change Support to prevent DHCP flooding attacking Support transmit multicast packets via VxLAN tunnels Support URPF loose mode Support VLAN Storm Control Aggregation ports support weighted load-balance Support aggregation port member with different speed |
| FSOS-V7.2.4.r2 | FSOS-V7.2.4 | 2020-07-24 | Official Release | N/A |

| Current Release | Baseline Release | Release Date | Category | Changes Based on Baseline Version |
|-----------------|------------------|--------------|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| FSOS--V7.2.4 | FSOS--V7.2.3 | 2020-05-27 | Official release | <ul style="list-style-type: none"> Support overlay and port-security on same interface Support DHCPv6 snooping option 37 Support carrier down hold time PBR resource adjusted Support vlan translation feature to edit the VLAN tags of APP/PING packets which are sent by the device QOS optimized Support use selective QinQ ports as the down-link of overlay IPFIX is controlled in ms (Metro service) license instead of ma (Metro advanced) license SNMP Trap optimized Smart link optimized CFM optimized RIP/RIPng optimized OSPF resource adjusted SNMP ACL use white list |
| FSOS--V7.2.3 | FSOS--V7.2.2 | 2020-03-13 | Official release | <ul style="list-style-type: none"> Support to configure DHCP option82 per-port Upgrade the version of G.8032 Support to specify the path when copy files via FTP/TFTP Support to specify the source port of the switch when copy files via FTP/TFTP Support UP MEP on Basic QinQ and VLAN Translation interfaces Support to display the usage of DHCP address pool Support 2 new SNMP OIDs: dot1qTpFdbPort and dot1qTpFdbStatus The display of lldp optimized Support to use aggregation ports as the destination port of rspan Support to check the validation of time-range Change the behavior when port-isolate co-work with aggregation ports SNMP get port statistics result includes 20B inter frame gap by default Support license control for VXLAN/PFC/ECN The parameter "-t"(packet timeout value) of the command "ping" is in seconds Support to match TCP packet in control-plane policy(CoPP) Change the Macsec ACL key commands to hidden commands Bug fixes for higher stability |
| FSOS--V7.2.2 | FSOS-V7.2.1 | 2019-12-13 | Official release | <ul style="list-style-type: none"> Support option 252 for DHCP Server Support Port Cross Connect Support AAA for web UI users Support NTP via out-band port Support BFD co-work with PBR Support to enable/disable overlay split horizon per-VNI Support DHCP Relay co-work with Vxlan Support to specify the Errdisable ports for MAC-Flap function Support dynamic LACP mode Add notification when VRF changes for the interface |

| Current Release | Baseline Release | Release Date | Category | Changes Based on Baseline Version |
|-----------------|------------------|--------------|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| FSOS-V7.2.1 | FSOS-V7.1.3.r1 | 2019-08-24 | Official release | Support to specify the VRF and source IP for SNMP Support new network types for OSPFv3 Support to configure IPv6 ACL on Line VTY Support vrrp uniform-mac mode Support SCP IPv6 Ping optimized Support IPv6 black hole route Support IS-IS v4 & v6 Support EVPN type 2/3/5 Support MPLS |
| FSOS-V7.1.3.r1 | FSOS-V7.1.3 | 2019-04-22 | Official release | Solve the SNMP issue |
| FSOS-V7.1.3 | FSOS-V7.1.2 | 2019-02-02 | Official release | Support BFD for VRRP/IS-IS/OSPFv2/BGP Support EFD (elephant flow detect) Support HwMonitor (Latency Monitor & Buffer Monitor) Support WebUI Support OVSDB Support PFC Deadlock detect System resource management optimized CoPP ACL optimized |

2.3 Hardware Supported

NOTE: Before upgrade, please double-check the firmware is compatible with Hardware.

| Series | Name |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------|
| Hardware model (F means 1G optical port, T means 1G/ 10G electrical port, S means 10G optical port, B means 25G optical port, Q means 40G optical port, C means 100G optical port) | S5850-24T16S S5850-24T16B |
| BOOTROM version | Switch pre-installed version (To display version by CLI 'show version') |
| EPLD version | Switch pre-installed version (To display version by CLI 'show version') |
| Note | N/A |

NOTE:

The following example checks the firmware version, hardware model, BootRom and EPLD version. Some earlier switch's BootRom, EPLD version may be different, but will not impact upgrade.

```
Switch# show version
```

```
FSOS Software, S5850, Version 7.4.3.r3
```

```
Copyright (C) 2009-2022 FS.COM Inc. All Rights Reserved.
```

```
The current running image is flash:/boot/S5850-Series-Switch-FSOS-V7.4.3.r3.r.bin
```

```
Switch uptime is 0 days, 0 hours, 8 minutes HardwareType is 24T16B
```

```
Hardware Version is 1.0 SDRAM size 2048M
```

```
Flash size 4096M EPLD Version is 1.1
```

```
BootRom Version is A.1.6
```

```
System serial number is CG1910281069N0016
```


2.4 Version Compatibility

| Current Version | Historical Version | Compatibility |
|-----------------|-----------------------|---------------|
| v7.4.3.r3 | All previous versions | Yes |
| v7.4.1 | All previous versions | Yes |

2.5 Upgrade Precaution

UBOOT & EPLD do NOT need to upgrade if there is no special illustration.

Please double check MD5 value is identical with the value provided by FS, to prevent file damaged issue.

Please carefully check the firmware version is compatible with hardware model.

Please backup configuration file before upgrade.

Please keep previous firmware until all procedures finished, if need to rollback.

3. New Features Specification

New features added to baseline version

3.1 FSOS-v7.4.3.r3

N/A

3.2 FSOS-v7.4.1

| New features | Specification |
|---------------------------------------------|---------------------------------------------------|
| Support show used state of interface buffer | Show the buffer usage of all queues for interface |

3.3 FSOS-v7.3.3.r

| New features | Specification |
|-------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| Support VRF for OSPFv3 | Support OSPFv3 in different VRF instance |
| Support IPv6 address with 127 bit mask | Support IPv6 address with at most 127 bit mask |
| Support VRF for PBR | Support PBR in different VRF instance |
| Support to send syslog to server with TCP connection | Support to use command to set TCP or UDP connection; support to specify TCP/UDP port. The default configuration is UDP with port 514 |
| Support to set SNMP community with special character | Support digit/up case character/low case character/special character such as ~!@#%&*()_+`- = ,./;[]<:} |
| Support Dot1x access account and keep alive | N/A |
| Support to distribute a MPLS label for default-route (FEC 0.0.0.0/0) | N/A |

3.4 FSOS-V7.2.5.r1

N/A

3.5 FSOS-V7.2.5

| New features | Specification |
|-----------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Support to configure route aggregation in bgp ipv4 vrf address family | N/A |
| Support new SNMP OIDs | Power related: devCurrentPower(OID: 1.3.6.1.4.1.27975.37.1.2.1.9) devRatedPower(OID: 1.3.6.1.4.1.27975.37.1.2.1.8) Physical interface related: interfacePhyType(OID: 1.3.6.1.4.1.27975.42.1.1.28) All OIDs above are read-only |
| RPC-API optimized | Improve the speed when using RPC-API to apply the configurations |
| Support trap for BFD status change | N/A |
| Support to prevent DHCP flooding attacking | N/A |
| Support transmit multicast packets via VxLAN tunnels | N/A |
| Support URPF loose mode | N/A |
| Support VLAN Storm Control | N/A |
| Aggregation ports support weighted load-balance | According to the weight of each member port, the aggregation port data traffic realizes load balancing based on flow. It only supports configuring the weight of member ports in the static load balancing (SLB) and non self-healing mode. And the total weight sum cannot exceed the maximum number of member ports supported by the aggregation port. |

3.6 FSOS-V7.2.4.r2

N/A

3.7 FSOS-V7.2.4

| New features | Specification |
|---------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Support overlay and port-security on same interface | N/A |
| Support DHCPv6 snooping option 37 | N/A |
| Support carrier down hold time | Support to configure carrier down hold time in a range of 0-500 ms If the interface statues changes to down, then recovered before the hold time, system should ignore this issue in order to prevent network flap |
| Support vlan translation feature to edit the VLAN tags of APP/PING packets which are sent by the device | N/A |
| QOS optimized | Support VLAN storm control Support to display the resource of VLAN storm control |
| Support use selective QinQ ports as the down-link of overlay | N/A |

3.8 FSOS-V7.2.3.r1

N/A

3.9 FSOS-V7.2.3

| New features | Specification |
|-------------------------------------------------------------------------------|--------------------------------------------------------------|
| Support to configure DHCP option82 per-port | N/A |
| Support to specify the path when copy files via FTP/TFTP | N/A |
| Support to specify the source port of the switch when copy files via FTP/TFTP | N/A |
| Support UP MEP on Basic QinQ and VLAN Translation interfaces | Support UP MEP on Basic QinQ and VLAN Translation interfaces |
| Support vlan group and port group for ACL | Support vlan group and port group for ACL |
| Support to display the usage of DHCP address pool | N/A |
| Support 2 new SNMP OIDs: dot1qTpFdbPort and dot1qTpFdbStatus | N/A |
| Support to use aggregation ports as the destination port of rspan | N/A |
| Support to match TCP packet in control-plane policy(CoPP) | N/A |

3.10 FSOS-V7.2.2

| New features | Specification |
|---------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|
| Support option 252 for DHCP Server | N/A |
| Support Port Cross Connect | N/A |
| Support AAA for web UI users | N/A |
| Support NTP via out-band port | Support to NTP connect to the server and synchronous the time via out-band port |
| Support BFD co-work with PBR | Support to use BFD to check the connectivity of PBR |
| Support to enable/disable overlay split horizon per-VNI | Support to enable/disable overlay split horizon per-VNI according to the different network topology |
| Support DHCP Relay co-work with Vxlan | Support DHCP Relay functions send DHCP packets into the Vxlan tunnel for encapsulation and transmission |
| Support to specify the Errdisable ports for MAC-Flap function | Support to specify the Errdisable ports and non-Errdisable ports, for MAC-Flap function |
| Support dynamic LACP mode | Support to use the ports as separated L2 ports before LACP negotiated successfully |

3.11 FSOS-V7.2.1

| New features | Specification |
|---------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Support to specify the VRF and source IP for SNMP | Support to specify the VRF and source IP for SNMP packets |
| Support new network types for OSPFv3 | Support Broadcast/ NMBA/ P2P /P2MP |
| Support to configure IPv6 ACL on Line VTY | Support to configure IPv6 ACL on Line VTY to enhance the security of user login |
| Support vrrp uniform-mac mode | Support up to 255 groups |
| Support SCP | Support to copy files via SCP |
| IPv6 Ping optimized | Support to specify the source IP address, packet count, packet interval, packet size, timeout, hop limit, etc. Support to specify the QoS options in the packet Support to ping host name |
| Support IPv6 black hole route | N/A |
| Support IS-IS v4 & v6 | N/A |
| Support EVPN type 2/3/5 | Only support when using "ma" license |
| Support MPLS | Only support when using "ma" license and "ipran" profile |

3.12 FSOS-V7.1.3.r1

N/A

3.13 FSOS-V7.1.3

| New features | Specification |
|---------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Support BFD for VRRP/IS-IS/OSPFv2/BGP | Support BFD co-work with route protocols (VRRP/IS-IS/OSPFv2/BGP). |
| Support EFD | Support EFD (elephant flow detect). |
| Support HwMonitor (Latency Monitor & Buffer Monitor) | N/A |
| Support WebUI | N/A |
| Support OVSDB | N/A |
| Support PFC Deadlock detection | N/A |
| System resource management optimized | Use the command "show stm prefer" to display the system specification. Use the command "show resource" to display the current usage of system resource. |
| CoPP ACL optimized | Support to match part of the key words in CPU packets. |

4. CLI Changes Specification

New CLI changes based on the baseline version

4.1 FSOS-V7.4.3.r3

N/A

4.2 FSOS-V7.4.1

N/A

4.3 FSOS-V7.3.3

| Original Format | New Format | Remark |
|----------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------|
| router ipv6 ospf [PROCESS-ID] | router ipv6 ospf [PROCESS-ID [vrf VPN-NAME]] | Support VRF for OSPFv3 |
| | show ipv6 vrf ospf | Support VRF for OSPFv3, add a new command to show statuses |
| logging server address (mgmt-if) (IPV4_ADDR IPV6_ADDR) (source-interface IFNAME source-ip SRC_IP_ADDR) | logging server address (mgmt-if) (IPV4_ADDR IPV6_ADDR) (dest-port DEST_PORT) (transport (tcp udp)) (source-interface IFNAME source-ip SRC_IP_ADDR) | Support to send syslog to server with TCP connection |
| | dot1x handshake no dot1x handshake dot1x timeout handshake-period SECONDS no dot1x timeout handshake-period dot1x accounting-mode radius no dot1x accounting-mode dot1x accounting start-fail (offline online) no dot1x accounting start-fail dot1x accounting realtime INTERVAL no dot1x accounting realtime dot1x accounting interim-fail (max-times TIMES) (offline online) no dot1x accounting interim-fail | Support Dot1x access account and keep alive |
| | label distribution default-route no label distribution default-route | Support to distribute a MPLS label for default-route (FEC 0.0.0.0/0) |

4.4 FSOS-V7.3.2

| Original Format | New Format | Remark |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| | Distribute-list prefix *PREFIX-LIST-NAME* (in out) | Support prefix-list for OSPF distribute-list |
| | Min-lsa-interval INTERVAL | Support to set min LS Interval for OSPF |
| bfd IP_ADDR { increase PRIORITY } (source-interface IFNAME source-ip SRC_IP_ADDR) | | BFD co-work with VRRP method optimized Do not support to set BFD peer IP the increment priority after BFD session down in VRRP instance |
| Carrier down-hold-time interval <0-500> | Carrier down-hold-time interval <0-3600000> | The valid value of carrier down hold time is 0 – 3600000 millisecond |

4.5 FSOS-V7.2.5.r2

N/A

4.6 FSOS-V7.2.5.r1

N/A

4.7 FSOS-V7.2.5

| Original Format | New Format | Remark |
|-------------------------------|------------------------------|-----------------------------------------------------|
| | distribute-weight WEIGHT | Aggregation ports support weighted load- balance |
| mac-address-table ageing-time | mac-address-table aging-time | Modify the command line style |

4.8 FSOS-V7.2.4.r2

N/A

4.9 FSOS-V7.2.4

| Original Format | New Format | Remark |
|-------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------|
| ethernet cfm domain *DOMAIN_NAME* level *LEVEL* | ethernet cfm domain *DOMAIN_NAME* level *LEVEL* (format (no-md-name string *STRING* dns *DNS_NAME* mac-address *MAC_ADDRESS*)) | The format MUST be specified when configure the CFM domain in Y1731 mode |

4.10 FSOS-V7.2.3.r1

N/A

4.11 FSOS-V7.2.3

| Original Format | New Format | Remark |
|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------|
| | (SEQUENCE_NUM) deny permit exception tcp (untag-vlan { vlan VLAN_ID cos COS }) (time-range NAME) | |
| | (SEQUENCE_NUM) deny permit exception tcp (untag-vlan { vlan VLAN_ID cos COS }) (ipv4) (tcp) (IP_ADDR IP_MASK any host IP_ADDR) (any) (src-port (eq L4_PORT)) (dst-port (eq L4_PORT)) (time-range NAME) | Support to match TCP packet in control-plane policy(CoPP) |
| | (SEQUENCE_NUM) deny permit exception tcp (untag-vlan { vlan VLAN_ID cos COS }) (ipv6) (tcp) (any) (any) (src-port (eq L4_PORT)) (dst-port (eq L4_PORT)) (time-range NAME) | |

4.12 FSOS-V7.2.2

| Original Format | New Format | Remark |
|-----------------|----------------|----------------------------------------------------------|
| - | show route-mac | Use this command to display the route-mac of the system. |

4.13 FSOS-V7.2.1

| Original Format | New Format | Remark |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|
| show radius-server (interface IFPHYSICAL) | show dot1x radius-server status (interface IFPHYSICAL) | This command only shows the dot1x related information, therefore it is changed to the new format. |
| - | bgp neighbor NEIGHBORID update-source | Add new command to set the source IP of BGP neighbor |
| efd flow-traffic-class | - | EFD feature changed, command "efd flow-traffic-class" is not supported. |
| (<1- 131071>) (deny permit) exception (any) (untag-vlan { vlan < 1-4094> cos <0-7> }) (time-range NAME) | (<1- 131071>) (deny permit) exception (any) (time-range NAME) | The parameter of "control-plane access-list exception any" adjusted |
| (<1- 131071>) (deny permit) exception (igmp) (untag-vlan { vlan <1-4094> cos <0-7> }) (mld) (any) (any) (igmp-type <0-255>) (time-range NAME) | (<1- 131071>) (deny permit) exception (igmp) (untag-vlan { vlan <1-4094> cos <0-7> }) (mld) (any) (any) (mld-query mld-report mld-done mldv2-report) (time-range NAME) | The parameter of "control-plane access-list exception igmp" adjusted |

| Original Format | New Format | Remark |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <pre>show policy-map statistics interface (IFPHYSICAL IFAGG IFVLAN) ace (class-based ace-based) (class NAME) show policy-map type qos statistics interface (IFPHYSICAL IFAGG IFVLAN) ace (class-based ace-based) (class NAME) show policy-map statistics (interface vlan port-group vlan-group less) ace (class-based ace-based) (class NAME) show policy-map type qos statistics (interface vlan port-group vlan-group) ace (class-based ace-based) (class NAME)</pre> | <pre>show policy-map statistics interface (IFPHYSICAL IFAGG IFVLAN) (input output) ace (class-based ace-based) (class NAME) show policy-map type qos statistics interface (IFPHYSICAL IFAGG IFVLAN) input ace (class-based ace-based) (class NAME) show policy-map statistics (interface vlan port-group vlan-group less) (input output) ace (class-based ace-based) (class NAME) show policy-map type qos statistics (interface vlan port-group vlan-group) (input) ace (class-based ace-based) (class NAME)</pre> | Update the ACL/QoS stats show and clear commands |
| <pre>service-policy input NAME (VLAN interface mode)</pre> | <pre>service-policy input NAME (VLAN configuration mode)</pre> | <p>VLAN ACL command moved from VLAN interface mode to VLAN configuration mode.</p> <p>The original command is not kept.</p> <p>If your system has the related configuration, please contact our technical supporter to help the configuration transition.</p> |

4.14 FSOS-V7. 1.3.r1

N/A

4.15 FSOS-V7. 1.3

| Original Format | New Format | Remark |
|---------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|--------------------|
| <pre>fec force {baser rs none}</pre> | <pre>fec {baser rs none}</pre> | Port FEC optimized |
| <pre>exception igmp mld any any igmp-type <0-255></pre> | <pre>exception igmp mld any any {mld-query mld-report mld-done mldv2-report time-range }</pre> | CoPP ACL optimized |

5. WEB Changes Specification

5.1 FSOS-V7.4.3.r3

N/A

5.2 FSOS-V7.4.1

N/A

5.3 FSOS-V7.3.3

N/A

5.4 FSOS-V7.2.5.r1

N/A

5.5 FSOS-V7.2.5

N/A

5.6 FSOS-V7.2.4.r2

1) Framework Optimization

- a. The web network management divided four categories: Monitor, Configuration, Maintenance, Network.
- b. Monitor

The Web monitor page appears after login, as shown in figure 1.

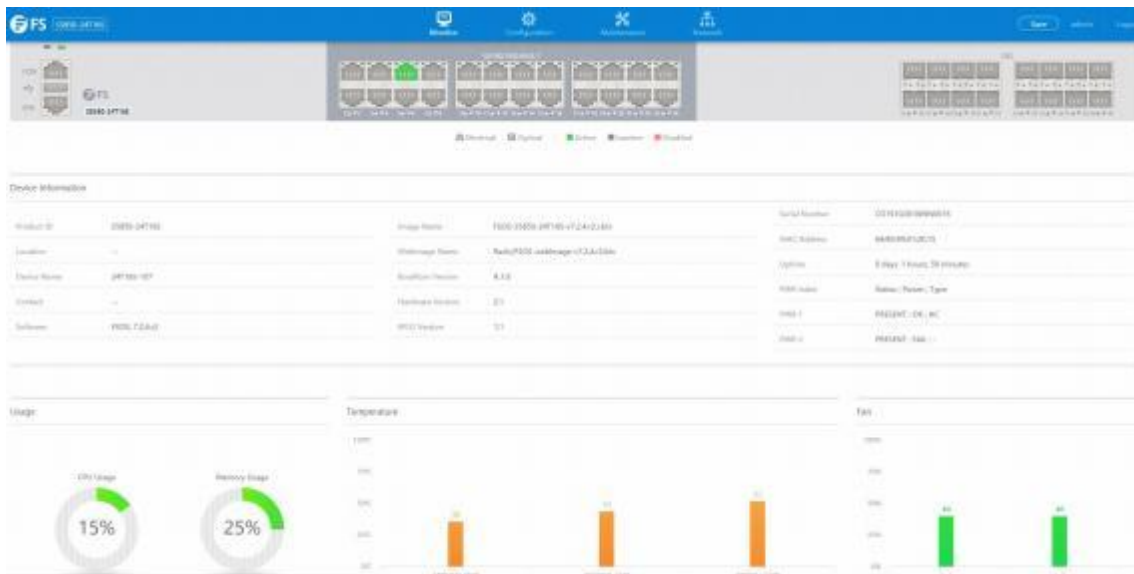


Figure 1 Web monitor page

The whole monitor page consists of the top control bar, the configuration display area and the bottom area.

- c. Configuration

If you click "Configuration" in the top control bar, as shown in figure 2.

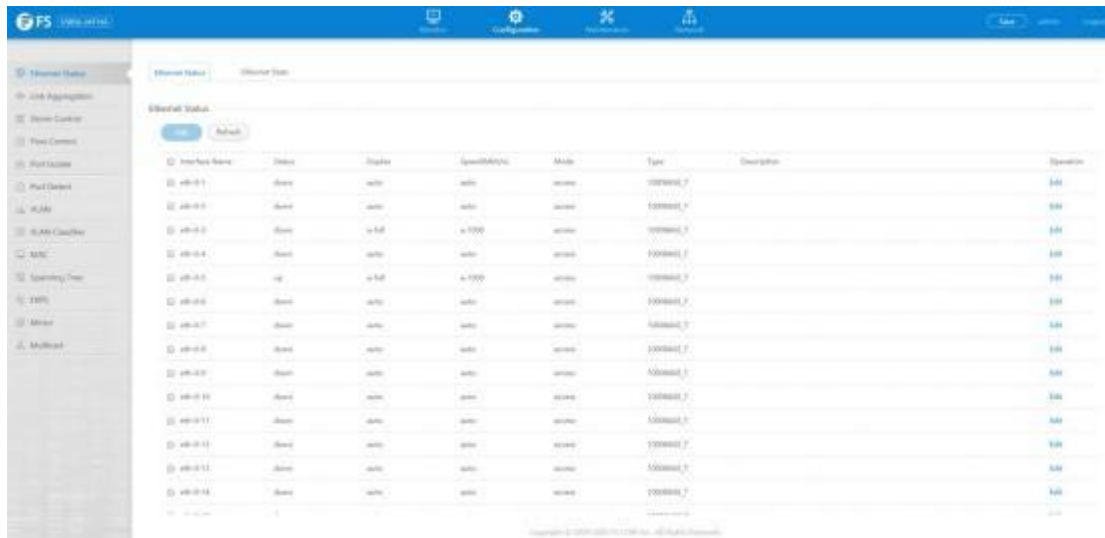


Figure 2 Web configuration page

The whole configuration page consists of the top control bar, the navigation bar, the configuration area and the bottom area.

d. Maintenance

If you click "Maintenance" in the top control bar, as shown in figure 3.

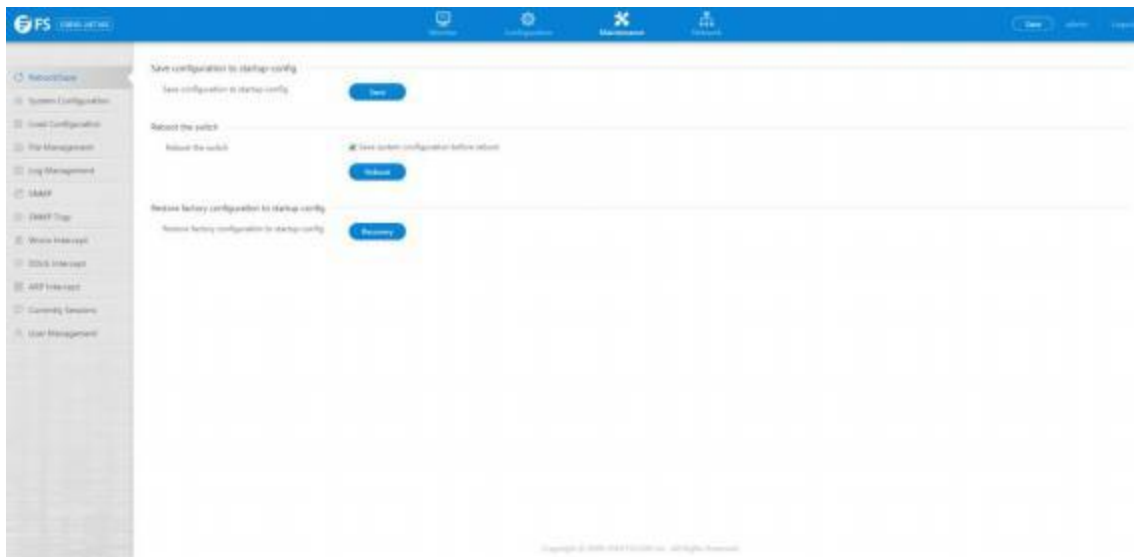


Figure 3 Web maintenance page

The whole maintenance page consists of the top control bar, the navigation bar, the configuration area and the bottom area.

e. Network

If you click "Network" in the top control bar, as shown in figure 4.

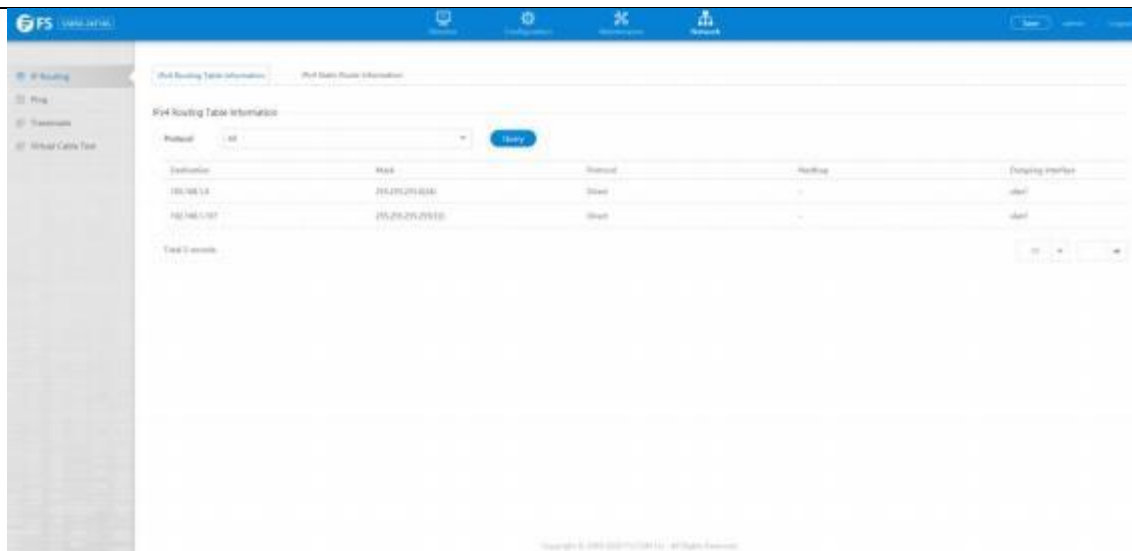


Figure 4 Web network page

The whole network page consists of the top control bar, the navigation bar, the configuration area and the bottom area.

2) Component Optimization

a. Buttons are divided into primary and secondary styles, the primary button is blue, and the secondary button is filled with light gray, as shown in figure 5.



Figure 5 Web button display

b. Buttons are divided into primary and secondary styles, the primary button is blue, and the secondary button is filled with light gray, as shown in figure 6.



Figure 6 Page turning components display

c. Optimization of marquee, options, pop-up window and Hover effect, as shown in figure 7.

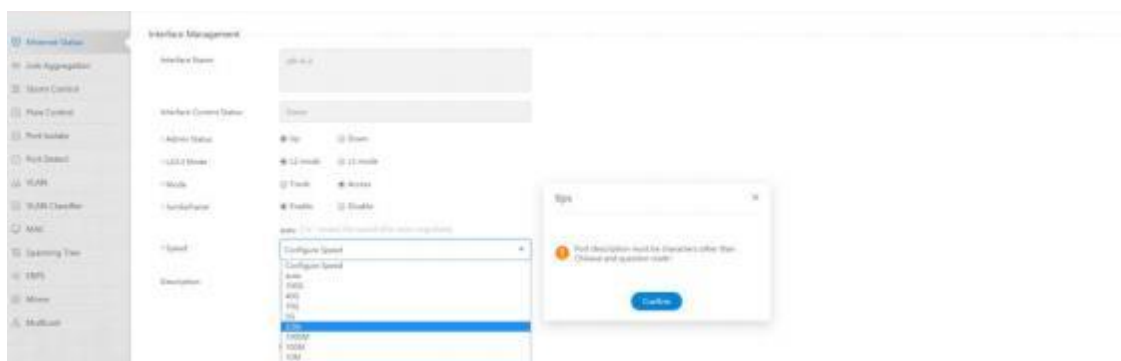


Figure 7 Pop-up and marquee display

5.7 FSOS-V7.2.4

N/A

5.8 FSOS-V7.2.3.r1

N/A

5.9 FSOS-V7.2.3

N/A

5.10 FSOS-V7.2.2

N/A

5.11 FSOS-V7.2.1

N/A

5.12 FSOS-V7.1.3.r1

N/A

5.13 FSOS-V7.1.3

N/A

6. New Behaviors Specification

New behaviors based on the baseline version

6.1 FSOS-V7.4.3.r3

| Item | Earlier Behavior | New Behavior |
|------------------|---------------------------------------------------|-----------------------------------------------------------|
| rpc-api optimize | System log records the "show" command via rpc-api | System log does not record the "show" command via rpc-api |

6.2 FSOS-V7.4.1

| Item | Earlier Behavior | New Behavior |
|-----------------------------|-------------------------------------------------------|------------------------------------------------------------------------------------------|
| Optimize ECMP functionality | No separate control for ECMP-related function | ECMP-related function add separate license control |
| Optimize MLAG functionality | The default value of keepalive-interval is 60 seconds | The default value of keepalive-interval change to 1 second. Optimize flush fdb mechanism |

6.3 FSOS-V7.3.3

N/A

6.4 FSOS-V7.3.2

| Item | Earlier Behavior | New Behavior |
|------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|
| ARP packets to CPU actions on VXLAN tunnel optimized | All ARP packets should be sent to CPU on VXLAN tunnel | Whether the ARP packets should be sent to CPU depend on the VLAN interface configuration |
| Update openssl version for web https | Web https use old openssl which has security issue | Update openssl version to 1. 1. 1h |
| System profile optimized | Please reference to the product specification document | Please reference to the product specification document |
| Do NOT support aggregate-policer on egress direction | System support aggregate-policer on egress direction | System do NOT support aggregate-policer on egress direction |
| Default action of macsec before successfully negotiate optimized | Plaintext is permitted before successfully negotiate by default | Plaintext is denied before successfully negotiate by default The default action is configurable |
| BFD co-work with VRRP method optimized | Support to set BFD peer IP in VRRP instance and set the increment priority after BFD session down | Support to set BFD in TRACK, and VRRP can co-work with TRACK |

6.5 FSOS-V7.2.5.r2

N/A

6.6 FSOS-V7.2.5.r1

N/A

6.7 FSOS-V7.2.5

| Item | Earlier Behavior | New Behavior |
|------------------------------------------------------|----------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| Support aggregation port member with different speed | Speed of the member port must be same before join a aggregation port | Speed of the member port can be different before join a aggregation port. The speed of the aggregation port is the summary of each member port. |

6.8 FSOS-V7.2.4.r2

N/A

6.9 FSOS-V7.2.4

| Item | Earlier Behavior | New Behavior |
|------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|
| PBR resource adjusted | Support 256 entries | Support 256 entries for default and layer3 profile Support 128 entries for IPv6 and IPRAN profile |
| IPFIX is controlled in ms (Metro service) license instead of ma (Metro advanced) license | IPFIX is controlled in ma (Metro advanced) license | IPFIX is controlled in ms (Metro service) license |
| SNMP Trap optimized | SNMP v2 timeout is in a range of 1-1800s, retry time is in a range of 0-100; SNMP v3 timeout is in a range of 0-65535s, retry time is in a range of 0-255 | SNMP v2/v3 timeout is in a range of 1-1800s, retry time is in a range of 0-100 |
| Smart link optimized | Static FDB can be configured on smart link interfaces but cannot work | System support a validation check to forbidden configure static FDB on smart link interfaces |
| CFM optimized | CFM domain name can be configured without format MAID can be duplicated | CFM domain name must be configured with format System support validation check that MAID must be globally unique |
| RIP/RIPng optimized | Increase metric when receive the message of route | Increase metric when send the message of route |
| OSPF resource adjusted | The maximum count of static neighbor and summary address is limited by the system memory. | The maximum static neighbor is 256 The maximum summary address is 2000 |
| SNMP ACL use white list | SNMP ACL use black list | SNMP ACL use white list |

6.10 FSOS-V7.2.3.r1

| Problem Description | Occurred Condition |
|---------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| Unicast packets loop in MLAG topology | The unicast FDBs have not synchronized between 2 MLAG devices, the unicast packets are not blocked on the peer link, which will lead the loop circuit |

6.11 FSOS-V7.2.3

| Item | Earlier Behavior | New Behavior |
|-------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|
| Support license control for VXLAN/PFC/ECN | VXLAN/PFC/ECN is not controlled by any license | MS or higher privilege license is required for VXLAN/PFC/ECN |
| Support to check the validation of time-range | System does not check the validation of time-range | Support to check the validation of time-range, the end time must late than the begin time |
| Upgrade the version of G.8032 | Support G.8032-201003 | Support G.8032-201708 |
| The display of lldp optimized | The command "show lldp neighbor" does not show the local information | The command "show lldp neighbor" shows the local information and the neighbor count |
| Change the behavior when port-isolate co-work with aggregation ports | System does not deal with this condition | A physical port with port-isolate enabled is not allowed to join an aggregation port |
| SNMP get port statistics result includes 20B inter frame gap by default | SNMP get port statistics result does not include 20B inter frame gap by default | SNMP get port statistics result includes 20B inter frame gap by default |
| The parameter "-t" (packet timeout value) of the command "ping" is in seconds | The parameter "-t" (packet timeout value) of the command "ping" is in milliseconds | The parameter "-t" (packet timeout value) of the command "ping" is in seconds |
| Change the Macsec ACL key commands to hidden commands | Macsec ACL key commands are normal commands | Macsec ACL key commands are hidden commands |

6.12 FSOS-V7.2.2

| Item | Earlier Behavior | New Behavior |
|-----------------------------------------------------|--------------------------------------------------------------------|-------------------------------------------------------------------------------|
| Configuration check for PBR changed | PBR bind empty route-map is allowed | PBR bind empty route-map is NOT allowed |
| Configuration check for overlay gateway mac changed | vlan interface should be configured be for set overlay gateway mac | System do not check vlan interface configuration when set overlay gateway mac |

| Item | Earlier Behavior | New Behavior |
|-----------------------------------------------------|-------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| Default configuration for 40G/100G duplex changed | 40G/ 100G duplex is "auto" by default | 40G/ 100G duplex is "full" by default. If the 40G/ 100G is connected with copper, user should change the configuration after upgrade to 7.2.3 |
| Overlay tunnel resource adapt in default profile | Support 4088 overlay tunnels in default profile | Support 8192 overlay tunnels in default profile |
| Configuration check for bfd interval changed | No check for configuring bfd interval | Do NOT support to change bfd interval on same interface too often, the second configuration should wait at least 3 seconds |
| Add notification when VRF changes for the interface | There is no notification when VRF changes for the interface | System should notify users "the IP address will be deleted" when VRF changes for the interface |

6.13 FSOS-V7.2.1

| Item | Earlier Behavior | New Behavior |
|--------------------------------------------------------------------------|--------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|
| show stm prefer command changed | "show stm prefer" shows the table size and usage. | "show stm prefer" shows the table size "show resource" shows the usage. |
| Stm profile changed | Support following profiles: default/ipv6/layer3/layer2/l2vpn | Support following profiles: default/ipv6/layer3/ipran |
| File name length extended | Support the file name up to 48 characters. | Support the file name up to 64 characters |
| Static route feature changed | The route is active when nexthop IP is in the destination network. | The route is inactive when nexthop IP is in the destination network. |
| PBR optimized | There is no check when configuring PBR | Support auto check for PBR configuration, in order to prevent configuration fault. |
| Part of CoPP parameter optimized | N/A | Part of parameters in CoPP exception igmp/ipda/any command changed. Please reference to CLI changes specification chapter. |
| EFD feature changed | Support to set the traffic-class of elephant flow. | Do not support to set the traffic-class of elephant flow. |
| Apply VLAN ACL in VLAN configuration mode instead of VLAN interface mode | Apply VLAN ACL in VLAN interface mode. | Apply VLAN ACL in VLAN configuration mode |
| Port-security optimized | Port-security is not supported on aggregation ports | Port-security is supported on aggregation ports |

6.14 FSOS-V7.1.3.r1

N/A

6.15 FSOS-V7.1.3

| Item | Earlier Behavior | New Behavior |
|--------------------------------------|-----------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|
| System resource management optimized | Use the command "show stm prefer" to display the system specification and the current usage of system resource. | Use the command "show stm prefer" to display the system specification. Use the command "show resource" to display the current usage of system resource. |

7. Fixed Problem

Fixed problems based on baseline version

7.1 FSOS-V7.4.3.r3

| Problem Description | Occurred Condition |
|------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| The port LED Indicator abnormal on some device | When the last port is UP, all LED Indicators of the last 12 ports are on. When the last port is DOWN, all LED Indicators of ports are off. |

7.2 FSOS-V7.4.1

| Problem Description | Occurred Condition |
|------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| Known unicast forwarding exception when horizontal splitting is enabled on vin in special case | Some checking errors will cause a unicast forwarding exception when horizontal splitting is enabled on vin |
| After configure loopback-detect packet-interval ,it is not visible in the content of show running, but is actually in effect | The write function of this command conflicts with another global write function which caused it is not visible in the content of show running |

7.3 FSOS-V7.3.3

| Problem Description | Occurred Condition |
|----------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Removing a mirror session may lead system crash in special case | The mirror session has an mirror destination group which is not exist |
| Configuring EVPN RD failed in special case | If there is a remote RD same as the RD to configure, system prompt a message that "this set value must be unique" |
| OSPF module record some unnecessary logs in special case | There are more than one VRF in the system. When OSPF receive a packet not belong to the own VRF, it records a log. |
| The interface status is UP when there is no interface module plugged in | The interface belongs to a static channel group. Use the command "shutdown" and "no shutdown" to change the interface statue rapidly and repeatedly, the status may shows "UP" in some case |
| System cannot parse BGP packet in some case which may lead BGP neighbor disconnect | The BGP packet carries an community attribute "0000:ffff" |
| The SNMP node 1.3.6.1.2.1.31.1.1.1.10 (ifHCOutOctets) can not get the correct value on mirror destination interfaces | N/A |
| The memory usage is high after hardware monitor enabled | N/A |
| ARP learning and updating may lead system crash in special case | Lots of ARP entries learn and update repeatedly on non-tunnel interface and tunnel interface may lead system crash |
| SNMP walk failed to get part of the OIDs in some case | System busy or use SNMP walk/get continuously may lead walk failed |

7.4 FSOS-V7.2.5.r1

| Problem Description | Occurred Condition |
|-------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OSPF may lose some routes in special case | OSPF co-work with BFD, the network statue flaps lead the BFD statue changed repeatedly, may lead OSPF route lost with a low probability |
| SNMPv3 trap msgID exceed the maximum of the protocol | System works for a long time may lead SNMPv3 trap msgID exceed the maximum of the protocol: 2147483647 |
| Use SNMP walk to read FDB entries' counter may lead system crash | There are more than 512 dynamic FDB entries on the system |
| When password-encryption is enabled ,set a SNMPv3 password which is long enough may lead system crash | When the password length after encryption exceed 64 characters may lead system crash |
| VXLAN packet is dropped incorrectly in special | There are 2 VXLAN tunnels which disabled split-horizon and they have same physical output port, the known unicast packets can not forward through these 2 tunnels. |
| Tacacs+/Radius set the source IP and port, the source IP configuration does not work | N/A |

7.5 FSOS-V7.2.5.r2

| Problem Description | Occurred Condition |
|----------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| Use SNMP walk to get the interface statistic may get wrong result in some case | N/A |
| ARP learning may get wrong MAC address in special case | System receives continuous vast ARP packets and learns lots of ARP tables, the MAC address may be wrong in some ARP entries with a small probability. |
| Creating and destroying the aggregation interface repeatedly may lead system crash in special case | Use a script to creating and destroying the aggregation interface repeatedly, system may crash with a small probability. |

7.6 FSOS-V7.2.5.r1

| Problem Description | Occurred Condition |
|------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SNMP may lead memory leak in some case | Device runs for a long time and it reports CRC TRAP constantly |
| States of LACP interface error in some case | The steps to reproduce this bug is as following: 1, Set a member port as the destination port of a mirror session 2, Set the state of the member port as "error disable" 3, Move the member port from one LACP to another |
| Smart config does not work | N/A |
| After the MLAG device reboot, the Peer links are shut down | N/A |

7.7 FSOS-V7.2.5

| Problem Description | Occurred Condition |
|------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------|
| System process ARP packets abnormal in some case | "cpu protect arp" is enabled and the packets are from VxLAN networks |
| The IPv6 address of FD00::/8 and FC00::/8 cannot reply the PING request | N/A |
| The options of port speed are not same when configuring via WEB and command line, 25G cannot configure when using WEB. | N/A |

7.8 FSOS-V7.2.4.r2

| Problem Description | Occurred Condition |
|--------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DHCP client cannot get the previous IP address from the server after timeout in some case. | Change the time of the client to let the DHCP client in timeout condition immediately, then the client will get a new IP address which is different from the previous address. |
| The CFM session cannot UP in overlay environment in some case. | Devices are connected by VXLAN tunnel, the down link port is a vlan translation with an up mep on it, the statues of up mep is always down. |
| SNMP cannot get information of interface module of the split interfaces | N/A |
| SSH server cannot work and CPU usage is very high in some case | The client is using the zlib@openssh compress algorithm |
| Some device has very low probability to match a wrong route to forward the packets. | Device module is S5850-24T16B |

7.9 FSOS-V7.2.4

| Problem Description | Occurred Condition |
|--------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| Part of the private OID abnormal after use "update oem" command to update private mib OIDs | N/A |
| PBR configurations on the interfaces lost in some case. | Add a new route-map sequence and bind the Access control list and nexthop, the previous configuration of "ip policy route-map" may lost |
| The ECN field of udp packets cannot be marked | N/A |
| When the mlag peers are not established, the initial system ID is wrong, which lead the system send illegal LACP packets | N/A |
| There is a spelling mistake in the result of "show ip arp" command | N/A |

| Problem Description | Occurred Condition |
|-----------------------------------------------------------------------------------------------------------------------------|---------------------------------------|
| The packets loop on the mlag peer-link and mlag interfaces in some case | The packets are known unicast packets |
| The system cannot deal with the packets sent to CPU with VLAN tag 0 | N/A |
| System failed to match tcp reasons in CoPP System cannot configure to match tcp destination port in CoPP | N/A |
| Plug in and out the cable of interface eth-0- 15 on some device may lead the interface status of interface eth-0-29 changes | N/A |

7.10 FSOS-V7.2.3.r1

N/A

7.11 FSOS-V7.2.3

| Problem Description | Occurred Condition |
|---------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Basic ACL in LINE VTY mode failed to limit the users login via SSH | Apply basic ACL in LINE VTY mode and login the device via SSH |
| Overlay tunnel resource is not correct | The result of command "show resource overlay" is not correct |
| VxLAN use VRRP virtual MAC as inner MAC, the packets is failed to route after decapsulation | The down link port is VRRP uniform mode, the up link is VxLAN. After VxLAN header decapsulated, the inner MAC destination is the VRRP uniform mac, the packet cannot be routed on the VRRP master. |
| IP BFD co-work with IP OSPF abnormal when the interface has multiple IP address | Configure multiple IP address on the interface, then enable and disable IP BFD co-work with IP OSPF repeatedly |
| UDP packets might be discard randomly when forwarding at layer 2 | The source and destination port of the UDP packets are random variation, and the packets are forwarding at layer 2 |
| The prompt information is not correct when the file name is too long | The prompt information recommended that the maximum length of file name is 47 in the command "copy" . The actual maximum length should be 63 |
| Configure ip access-list entries overload may lead system abnormal | System supports 2048 ip accesss-list entries at most, configure to many entries may lead system abnormal |
| Input ifindex of IPFIX is not correct in some case | Enable " interface input" in IPFIX recorder, the cache packet records both input and output information with the input ifindex |
| Some types of tacacs server always fail in first SSH login | Use "tacacs plus" server and login via SSH always failed first time |
| ECN cannot mark UDP packets | N/A |

7.12 FSOS-V7.2.2

| Problem Description | Occurred Condition |
|-----------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PIM-DM may lead memory leak in some case | Enable pim-dm on the interface and send different flows to that interface and enable/disable pim-dm repeatedly at the same time. |
| System crashed when using SNMP GET for certain OID | Use SNMP to get a MSTP instance which is not existed. |
| EVPN cannot deal with the routes with same RD which are sent by different neighbors | In EVPN dual-uplink topology, if system receives 2 EVPN routes with same RD from different neighbors, system should select one route and delete another. If the neighbor who sent the selected route is disconnected, the selected route is deleted, but the un-selected route cannot be recovered in this case. |
| EVPN asymmetric topology may lead system crash in some case | Static DVR and dynamic EVPN route conflicts in EVPN asymmetric topology |
| EVPN up-link ports cannot match ACL with Vxlan inner header. | N/A |
| System calculate the MPLS packet length include the MPLS label and does not conform the standard of MTU, may lead some packets discard. | N/A |
| BFD cannot co-work with HUAWEI new product | BFD cannot co-work with HUAWEI CE6860 |

7.13 FSOS-V7.2.1

| Problem Description | Occurred Condition |
|------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|
| The SNMP get returns error value when get the following OIDs: ifHCOutOctets, ifHCInOctets, ifDescr, ifOperStatus | N/A |
| System do not reply when send RPC-API via inband ports in some cases. | There are other traffics passing through the inband port, the TCP connection for RPC-API might fail to establish random occurrence. |
| SSH works abnormal over a long period of time | SSH works abnormal after login and logout via SSH repeatedly more than 700, 0000(approximate number) times. |

7.14 FSOS-V7. 1.3.r1

| Problem Description | Occurred Condition |
|----------------------|-----------------------------------------------|
| SNMP get no response | 1. Use bulkget (get multi nodes at same time) |

7.15 FSOS-V7.1.3

| Problem Description | Occurred Condition |
|----------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| System process crashed | 1. Receive DHCPv6-request packets on a interface which DHCP Snooping is enabled. 2. Delete an aggregation interface which has an IPv6 address. |
| Packet lost after MACSec session is established | Random recurrence. |
| TCP traffic cannot reach the line speed | QoS Policer bucket depth too small will lead this problem. |
| Interface cannot linkup automatically by default configuration | The interface cannot linkup when insert 10G DAC in 25G port. In this case user should use command line to disable auto-negotiation before interface linkup. |

8. Version Restrictions and Cautions

- All features that asserted to support are in product Spec manual, for some features or CLI already exist in switches but not declared in Spec manual, we consider them as testing features, so its functions are not guaranteed. Please do not use these kinds of features in production network.
- After enable hardware FDB learning, the ARP entries are not related to the FDB entries. Delete a FDB entry will not trigger the ARP cleanup.
- After enable hardware FDB learning, errdisable reason fdb-loop will not take effect.
- If you do not require high speed FDB learning, we suggest choosing software FDB learning by default, no need to active hardware learning.
- When mirror destination port is down, the port statistic will still grow, but that do not impact function
- Overlay will remove double vlan tag by default, after packets arrived on remote Vtep end, it will add only one vlan tag. We can also enable keep vlan tag function to keep vlan. After packets arrived on remote Vtep end, it is possible to change outer vlan based on VNI correspondence.
- Before you operate an upgrade from V7. 1.X to V7.2.X, if your device has VLAN ACL configurations or your device is using a non default stm profile, please contact our technical supporter.
- Port-security can not work together with MLAG.

9. Operating System Upgrade

Step 1 Copy the image (.bin) to switch flash:/boot

```
FS# copy mgmt-if ftp://admin:admin@10.10.25.33/S5850-Series-Switch-FSOS-V7.4.3.r3.r.bin
```

```
flash:/boot
```

NOTE: Firstly, upload the firmware provided by FS to TFTP\FTP\USB key, and then copy it to switch flash:/boot from TFTP\FTP\USB key.

Step 2 Set the target firmware as next boot firmware.

For example, set S5850-Series-Switch-FSOS-V7.4.3.r3.r.bin

as the target version to upgrade.

```
FS# boot system flash:/boot/S5850-Series-Switch-FSOS-V7.4.3.r3.r.bin
```

Then the switch will ask to confirm the setting. You can enter 'y' to continue, or enter 'n' to cancel it.
Are you sure to use flash:/boot/S5850-Series-Switch-FSOS-V7.4.3.r3.r.bin

as the next boot image? [confirm]

Step 3 Verify the next boot version.

Use show boot command to verify if the next boot version is correct

```
FS# show boot
```

```
The current boot image version is: V7.4.1
```

```
The current running image is: flash:/boot/S5850-24T16B-Switch-FSOS-V7.4.1.R1.bin
```

```
The next time boot image version is: v7.4.3.r3
```

```
The next running image is: flash:/boot/S5850-Series-Switch-FSOS-V7.4.3.r3.r.bin
```

Step 4 Restart the switch.

Step 5 Check if the switch has been successfully upgraded.

```
FS# show version
```

```
FSOS Software, S5850, Version 7.4.3.r3
```

```
Copyright (C) 2009-2022 FS.COM Inc. All Rights Reserved.
```

```
The current running image is flash:/boot/S5850-Series-Switch-FSOS-V7.4.3.r3.r.bin
```

```
FS uptime is 0 days, 0 hours, 12 minutes
```

```
Hardware Type is 24T16B
```

```
Hardware Version is 1.0
```

```
SDRAM size 1024M
```

```
Flash size 2048M
```

```
EPLD Version is 1.1
```

```
BootRom Version is A. 1.6
```

```
System serial number is CG1910281069N0016
```



 <https://www.fs.com>



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