S5850 and S8050 Series Switches

Release Note

Contents

1. Introduction

This document describes the release information about FSOS-v6.2.29.r2, such as new features, command line changes, behavior changes, fixed problems, etc.;

Remind you, before loading FSOS-v6.2.29.r2 firmware, please backup configuration file to avoid potentials risks.

2. Version Information

2.1 Basic Information

Current Release	FSOS-S5850-v6.2.29.r2.r.bin/FSOS-S8050-v6.2.29.r2.r.bin
Applicable Product	S5850/S8050 series switch
Applicable Customer	General
Category	Official release

2.2 Release History

Table 2-1 Version historical information

Current Release	Baseline Release	Release Date	Category	Important Changes based on Baseline Version
FSOS-V6.2.29.r2	FSOS-V6.2.28	2019-04-23	Official release	• Support chip level ARP guard function • Support HTTPS for RPC-API • Support IPV6 source guard • Gratuitous ARP optimized • VXLAN optimized • Support IPV6 telnet server on management port • Support “show this” • Support to set the speed of the fan by command

FSOS-V6.2.28	FSOS-V6.2.27	2018-11-30	Official release	• Link aggregation optimized • MLAG optimized • Support IPv4 black hole routings • OSPF optimized • IPV6 optimized • System log for power alarm optimized • System fault message optimized • DHCP relay optimized • Support black hole ARP • Support Debian system • Support port bridge • BGP optimized • ICMPv6 packet process optimized
FSOS-V6.2.27	FSOS-V6.2.26	2018-08-09	Official release	• Summer time optimized • MLAG optimized • Increase the count of ipv4 routes for L3 profile • WEB service optimized • Loopback-detection optimized • Enlarge the valid range of the ipv4 address's mask length • Enlarge the valid range BGP AS number. (2 Byte → 4 Byte) • Adjust the parameters for the hash algorithm of linkagg and ecmp load balance • RPC-API optimized • Support to configure FAN speed via command line • Interface rate statistics function optimized • QinQ function optimized • Increase the priority of the management packets
				• Support EFD • Support Latency Monitor, Buffer

FSOS-V6.2.26	FSOS-V6.2.25	2018-05-09	Official release	Monitor • Support to save OVSDB configuration • Support to specify account type • Vxlan function extended • RPC-API performance optimized and function extended • CPU Traffic Limit optimized • LAG function extended • VRF function extended • BFD optimized • ACL optimized • Remove License control
FSOS-V6.2.25	FSOS-V6.2.24	2018-01-31	Official release	• Sflow upgraded to Version 5.0 • Sflow sampling range extended to 32-1048576 • VARP optimized • Support PFC • Support ICMP debug • VXLAN optimized • Support CFM • Support EFM • WebUI optimized • Support DHCP relay on virtual IP • Support IPV6 • Support G8032 • Support BFD
FSOS-V6.2.24	FSOS-V6.2.23	2017-09-31	Official release	• Support ARP learning via Overlay Tunnel • Support Overlay centralized Gateway • Support OSPF multi network models • Support OSPF neighbor establishing based on GRE Tunnel Interface • Support to record MAC flapping in syslog • Telnet/SSH support to configure Client source IP

				• Support to configure errdisable via WebUI • IP SLA optimized • Syslog optimized • Sflow optimized
FSOS-V6.2.23	FSOS-V6.2.22	2017-08-11	Official release	• Support 'reset factory config' • Support to display packets received/sent by CPU • Support OSFP secondary IP address • Support SERDES loopback (internal/external) • Support to display management port detail • Support LLDP Configuration MIB node • PBR function optimized • PRC-API function optimized • VLAN statistics function optimized
FSOS-V6.2.22	FSOS-V6.2.21	2017-03-31	Official release	• Support Overlay-horizon split switch • BGP optimized, IBGP support VRF • Support Telnet\SSH inside VRF • Support L3-GRE • Some behavior changes
FSOS-V6.2.21	FSOS-V6.2.20	2017-01-03	Official release	• Support Ping parameters • Support MLAG orphan port • Support IP_SLA linkage with static routing • Support BGP 4 octet AS number • Support Packet length ACL • Support CPU capture • Support Vlan counter
FSOS-V6.2.20	FSOS-V6.2.14	2016-09-12	Official release	• Support to modify Telnet\SSH port number • WEB-UI optimized • Memory management optimized • RPC-API optimized

				• platform ports optimized
FSOS-V6.2.14	FSOS-V6.2.11	2016-07-20	Official release	Platform ports optimized
FSOS-V6.2.11	FSOS-V6.2.9	2016-06-29	Official release	• Smart-link optimized • Hardware FDB learning optimized • AAA optimized
FSOS-V6.2.9	FSOS-V6.2.1	2016-06-04	Official release	• Support WEBUI • Support some application to specify source IP、source port • Support Telnet\SSH ACL • Unidirectional link optimized • Platform ports optimized • ERPS optimized • Smart-link performance optimized

2.3 Hardware Supported

Notice

Before upgrade, please double-check the version is compatible with Hardware.

Table 2-2 Hardware supported

Series	Name
Hardware model （F means 1G optical port, S means 10G optical port, Q means 40G optical port, C means 100G optical port）	• S5850-48S6Q • S5850-48S2Q4C • S5850-32S2Q • S8050-20Q4C • S5850-48T4Q
BOOTROM version	Switch pre-installed version(version can be displayed by CLI' show version')
EPLD version	Switch pre-installed version (version can be displayed by CLI' ' show version')
Remark	N/A

NOTE

Example to check firmware version, hardware model, BootRom and EPLD version. Some earlier switch's BootRom, EPLD version may be different, but will not impact upgrade.

S5850# show version
FSOS Software, S5850, Version 6.2.28
Copyright © 2004-2019 FS Networks Inc. All rights reserved.
The current running image is flash:/boot/FSOS-S5850-v6.2.28.r.bin ----Current Firmware version

SH-BL-01 uptime is 7 days, 12 hours, 8 minute
Hardware Type is 48S6Q --Hardware model
Hardware Version is 2.0
SDRAM size 1024M
Flash size 2048M
EPLD Version is 2.2 --EPLD version
BootRom Version is 8.1.1 --BootRom version
System serial number is E163GD16A00A

2.4 Version Compatibility

Table 2-3 Upgrade compatibility table

Current Version	Historical Version	Compatibility
v6.2.29.r2	All previous versions	YES

2.5 Upgrade Precaution

- Not unless special notice, UBOOT and EPLD version do not need to upgrade.
- Please double check MD5 value is identical with the value provided by FS, to prevent file damaged during transmission.
- 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

3.1 FSOS-V6.2.29.r2

New Features	Specification
Support chip level ARP guard function	Support to filter the ARP packets to cpu, and limit the rate of the ARP packet after the filter, in order to prevent the ARP packets attack the CPU
RPC-API optimized	Support HTTPS for RPC-API
Support IPV6 source guard	Support IPV6 address/MAC/PORT/VLAN binding
Gratuitous ARP optimized	Support to send gratuitous ARP from layer 3 interfaces by specified interval

VXLAN optimized	Support to set the udp-dest-port of VXLAN
Support IPV6 telnet server on management port	Support to enable IPV6 telnet server on management port
Support "show this" function	Support to show configuration in each configure-mode with the command "show this"
Support to set the speed of the fan by command	/

3.2 FSOS-V6.2.28

New Features	Specification
Link aggregation optimized	Support 4 modes for Link aggregation port's maximum member: 16/32/64/128
MLAG optimized	Support MLAG to synchronize Overlay FDB
Support IPv4 black hole routings	-
OSPF optimized	Support NSSA area
IPV6 optimized	Support IPV6 for VRF Support IPV6 address family for BGP ICMPv6 packet process optimized
System log for power alarm optimized	Support detailed information for power alarm.
System fault message optimized	Support separated information for BGP/OSPF modules.
DHCP relay optimized	Support DHCP relay cycle function. When more than one DHCP server is configured, system should relay the packet to different server in order to achieve load-balance.
Support black hole ARP	/
Support debian system	/
Support port bridge	Use port bridge function to forward the packets which from and to a same interface
BGP optimized	Support IPV6 address family for BGP Change the default condition to announce the route BGP command line optimized

3.3 FSOS-V6.2.27

New Features	Specification
Summer time optimized	Support to switch the summer time with the rules such as “month/ week-number/ weekday”. For example: Begin to use summer time at last SUNDAY of March, and finish using summer time at first MONDAY of October.
MLAG optimized	Optimize the “reload-delay” function of MLAG: In the previous version, System blocks all interfaces after the MLAG device rebooting, and it should wait for a certain time (5 minutes by default) before turn on these interfaces. Now it supports to recover the interface automatically. When the system detected that MLAG neighbor is established, the states of the interfaces can be recovered immediately.
Support OVSDB virtual port	Support OVSDB virtual port for global tunnel configurations
Increase the count of ipv4 routes for L3 profile	Support 32K ipv4 routes for L3 profile. In the previous version there are 8K ipv4 routes.
WEB service optimized	Support to specified ip source address for WEB service.
Loopback-detection optimized	Support the block action: after loopback is detected, system should block the interface Support auto recovery: a timer can be configured; the blocked interfaces will be turned on after the timer is expired. Support a delay timer: After loopback is detected, system will wait for some time before it takes action, in order to prevent flapping. If the delay timer is not configured, system should take action immediately when loopback is detected.
Support to display ARP information of the management interface	N/A
Enlarge the valid range of the ipv4 address’s mask length	Support to configure 31 bits mask length for IPv4 address
Enlarge the valid range BGP AS number.	2 Byte AS number → 4 Byte AS number
Adjust the parameters for the hash algorithm of linkagg and ecmp load balance	Support to use source interface as hash key for linkagg load balance Change the default hash key: Previous version: macsa、macda、ipsa、ipda→ Current version: IP quintuple group (ipsa, ipda, ip src port, ip dst port, ip protocol)
RPC-API optimized	In the Previous versions, the commands which need to confirm “yes or no” are not supported by RPC-API. This feature is optimized as below: Confirm “yes” by default for the commands via RPC-API Confirm “no” by default when system asks if need to write configurations before reboot

Support to set the fan speed via command line	Support the configure the fan speed in 3 conditions of temperature: low, high, critical
Interface statistics optimized	Interface statistics function support to included or exclude IPG (inter packet gap): -- Include IPG by default. -- Support a command line for user to choose include or exclude IPG

3.4 FSOS-V6.2.26

New Features	Specification
Support EFD	Support Elephant Flow Detection function
Support Latency Monitor, Buffer Monitor	N/A
Support to save OVSDB configuration	Support to save configuration automatically or manually
Support to specify account type	Support to specify account service type as telnet, rpc-api, ssh, web
Vxlan function extended	--Support to transparent L2 protocol packets via Vxlan tunnel --Vxlan + Vlan mapping function optimized --Support to specify Vxlan header's DSCP
RPC-API function extended	--Separate RPC-API account and Telnet/SSH account --Support RPC-API under VRF --Performance highly optimized
CPU Traffic Limit optimized	The path to CPU optimized
LAG function extended	Support new LAG mode: 32 member mode
VRF function extended	Support to copy files under VRF
BFD optimized	N/A
ACL optimized	Support to display all ACL statistics by one command
Policy-map type qos support ACL statistics	N/A
Reboot mechanism optimized	Support countdown timer

3.5 FSOS-V6.2.25

New Features	Specification
VARP optimized	Virtual IP could be in different network segment compared with primary IP
Support PCF	N/A
Support ICMP debug	N/A

VXLAN optimized	Support VXLAN + VLAN mapping scenario
Support EFM	Support link failure detect, fix, auto discovery, remote loopback
Support CFM	Support hardware CCM detect, MAC Ping, MAC Trace
WebUI optimized	Support to configure web timeout, and clear web users
Support IPV6	N/A
Support G8032	N/A
Support BFD	N/A

3.6 FSOS-V6.2.24

New Features	Specification
Support ARP learning via Overlay Tunnel	N/A
Support Overlay centralized Gateway	N/A
Support OSPF multi network models	Support broadcast, non-broadcast, P2P, P2MP models
Support to record MAC flapping in syslog	Syslog will make a record, when MAC flapping detected
Telnet/SSH support to configure Client source IP	N/A
Support to configure errdisable via WebUI	Add new web page to configure errdisable parameters
IP SLA optimized	Support to configure more parameters
Syslog optimized	By using 'logging sync' command, system will save immediately the log in buffer to syslog file
Sflow optimized	Support Sflow version 5

3.7 FSOS-V6.2.23

New Features	Specification
BGP support to synchronize ARP(EVPN function)	DEMO version
Reset factory config	Support CLI and WEBUI to rest factory config
SERDES loopback	Support internal/external loopback
CPU receive/send packets NUM and rate statistic	Show cpu traffic-statistics receive/transmit
Display management port detail	Show management interface
OSPF support secondary IP address	OSPF support to assert secondary IP

BGP MD5 authentication and encryption	BGP neighbor establishing support MD5 authentication/encryption
LLDP Configuration MIB node	Support LLDP standard SNMP node
Tunble optical module	Support to configure wave length
Multi-link function optimized	N/A

3.8 FSOS-V6.2.22

New Features	Specification
Overlay multi uplink	Overlay support to specify multi source IP address, and multi uplink scenario
BGP optimized	BGP upgraded to version v7.10
Overlay horizon-split switch	Support Overlay horizon split disable/enable
Telnet\SSH inside VRF	Address inside VRF can be managed by Telnet/SSH
L3-GRE	Support GRE L3 tunnel

3.9 FSOS-V6.2.21

New Features	Specification
MLAG orphan port	MLAG support orphan port scenario
BGP 4 octet AS number	Support AS number with 4 octet, compatible with new BGP version
IP_SLA linkage with static routing	Support track static address
Packets capture（CPU Mirror）	Support packets capture on local switch, and saved as pcap format
Vlan counter	Support Vlan counter
Packet length ACL	Support ACL matching by packet length
Ping parameter	Support to specify src-mac, packet length, number, interval, set DF, etc;

3.10 FSOS-V6.2.20

New Features	Specification
Telnet\SSH can modify port number	N/A

3.11 FSOS-V6.2.14

N/A

3.12 FSOS-V6.2.11

N/A

3.13 FSOS-V6.2.9

New Features	Specification
WEBUI	Switch WEB management
FEC	Used on 100G port to correct CRC packet
Tacacs/Radius Server shared-key encryption	N/A
100G port auto-negotiation with 40G port	100G ports support auto-negotiation with 40G ports
NTP\Logging server\DNS\AAA specify source IP port	N/A
Telnet\SSH ACL	Support to configure ACL rules to control Telnet/SSH user login

4. CLI Changes Specification

New CLI changes based on the baseline version

4.1 FSOS-V6.2.29.r2

N/A

4.2 FSOS-V6.2.28

Original Format	New Format	Remark
port-channel group-mode (32|56)	port-channel group-mode (32|56|8|16)	Add to modes for port channel group: 128 members * 7 groups. 64 members * 15 groups. The follow modes are supported in previous versions and still supported now: 32 members * 31 groups. 16 members * 55 groups.
show clock	show clock (utc|)	Add the optional parameter "utc" to display the UTC time.
/	sync-overlay	Add new command in MLAG configuration mode to synchronize Overlay FDB.
/	ip route A.B.C.D/M null0	Support to use interface null0 to configure static black hole route.
/	area (A.B.C.D|<0-4294967295>)	Support NSSA area in OSPF configuration

	nssa no area (A.B.C.D|<0-4294967295>) nssa	mode.
/	Neighbor X:X::X:X	Add new command in BGP configuration to support IPV6 address.
/	tunnel mode (erspan (ecmp-dst-gre |))	Support a new tunnel mode: erspan.
/	cpu-traffic-limit reason icmpv6 (rate <0-1000000> | class <0-3>)	Add new command to support rate and class configuration of ICMPv6 packets.
/	show diagnostic-information bgp/ospf	Add new command to display the diagnostic information of bgp/ospf.
/	dhcp relay address cycle no dhcp relay address cycle	Add new command to enable or disable DHCP relay cycle function.
/	arp fake global enable arp fake enable arp fake timeout TIME	Add new commands for black hole ARP. Black hole ARP is disabled by default.
/	switchport port-bridge enable no switchport port-bridge enable	Add new command to enable or port bridge function. Port bridge is disabled by default.
/	ffe c0 C0 c1 C1 c2 C2 c3 C3 channel （1-4）	Add new command to configure FFE parameter.

4.3 FSOS-V6.2.27

Original Format	New Format	Remark
N/A	reload-delay auto	New command in MLAG configuration mode. Support to detect MLAG neighbor states automatically after system reboot, support to turn on the interfaces immediately after MLAG neighbor is established.
N/A	ovsdb virtual-port NAME	New command for Creating ovsdb virtual port
N/A	http server source address/port	New command in global configuration mode. Support to specify the source address and port of WEB service.
N/A	loopback-detect action block	Support to block the interface if network loop is detected.
N/A	loopback-detect recovery-time	Support to configure the recovery timer after the network loop finished.

N/A	loopback-detect delay-time	Support to configure the delay timer before loopback detection function take action
N/A	show management arp	New command in EXEC mode. Support the display the ARP information of management interface
N/A	port-channel load-balance hash-field-select src-interface	New command in global configuration mode. Support to use source- interface as hash key for linkagg load balance.
N/A	fan BOTTOM_SPEED_RATE LOW_SPEED_RATE HIGH_SPEED_RATE FULL_SPEED_RATE	Support to set the fan speed.
N/A	flow-statistics include-interframe enable/disable	New command in interface configuration mode. Support to decide whether the statistics function include or exclude IPG(inter packet gap)

4.4 FSOS-V6.2.26

Original Format	New Format	Remark
N/A	N/A	All Latency Monitor and Buffer Monitor commands are updated, please refer to CLI manual
N/A	remote-vtep <1-65535> encapsulation-dscp-strategy <custom-assign VALUE | dscp-copy | priority-map>;	New command to specify Vxlan header's DSCP
N/A	Statistics enable	New command under '*Policy-map type qos*'
N/A	show policy-map type qos statistics clear qos policy-map type qos statistics	New command to display '*policy-map type qos* 'ACL statistics
N/A	username admin service-type <all | none | rpc-api | ssh | telnet | web>	New command to specify account type
N/A	show mac-address flapping-configuration	Command removed. New command to display: *show errdisable*

		FDB-loop
N/A	port-channel group-mode <32 | 56>	New command to switch LAG mode
N/A	< | no> ARP as-layer-3 enable	New command to process ARP packets as normal IP packets

4.5 FSOS-V6.2.25

Original Format	New Format	Remark
cpu-traffic-statistics time	cpu-traffic-statistics time	CLI moved to config mode
Pause buffer-size	N/A	CLI removed
sflow flow-sampling rate<1-8192>	sflow flow-sampling rate<32-1048576>	Sampling rate extended

4.6 FSOS-V6.2.24

Original Format	New Format	Remark
Vlan xxx remote-vtep x keep-vlan-tag	Remote-vtep x ip address x.x.x.x type vxlan keep-vlan-tag	N/A

4.7 FSOS-V6.2.23

N/A

4.8 FSOS-V6.2.22

Original Format	New Format	Remark
show monitor cpu packet buffer	show monitor cpu packet-buffer	N/A
clear monitor cpu packet buffer	clear monitor cpu packet all	N/A
show monitor capture strategy	show monitor cpu capture strategy	N/A
monitor capture strategy	monitor cpu capture strategy	N/A

4.9 FSOS-V6.2.21

Original Format	New Format	Remark
type echo protocol ipIcmp-Echo *	type icmp-echo *	N/A

4.10 FSOS-V6.2.20

N/A

4.11 FSOS-V6.2.14

N/A

4.12 FSOS-V6.2.11

N/A

4.13 FSOS-V6.2.9

N/A

5. New Behaviors Specification

New behaviors based on the baseline version.

5.1 FSOS-V6.2.29.r2

Item	Earlier Behavior	New Behavior
Source address range of NDP NS/NA packets changed	Only support link-local address for IPV6 NDP NS/NA packets	Also support global unicast address
The default value of NDP stale->delay timer changed	The default value of NDP stale->delay timer is 20s	The default value of NDP stale->delay timer is 1200s

5.2 FSOS-V6.2.28

Item	Earlier Behavior	New Behavior
ecmp dlb and self-healing behavior change	No limitation for ecmp dlb and self-healing.	Do NOT support ecmp dlb and self-healing use agg ports as their members
slow protocol behavior change	Use ether type to identify the slow protocol packets.	Use mac da（destination address）to identify the slow protocol packets
Change the default condition to announce the route	There is NO check is processed before announce the route.	Before announce the route, system should check the prefix of the route and the local address. If the prefix matches any of the local address, the route can be announced.
RSPAN destination port behavior change	No limitation for RSPAN destination port.	Can NOT use agg member port as RSPAN destination port.
ICMPv6 packet process optimized	No special process for ICMPv6 packets.	Use a separate queue to send ICMPv6 packets to CPU. Support to configure the rate and class for

		ICMPv6 packet.

5.3 FSOS-V6.2.27

Item	Earlier Behavior	New Behavior
Qinq optimized	Strip one tag for the packets going out the qinq port	Strip one tag or two tags or edit the inner tag according to the configuration
Increase the default DSCP for management packet	DSCP for Telnet: 0 DSCP for SSH: 4	DSCP for Telnet & SSH : 48
Support "vlan dot1q tag native" on the trunk port only	There's no limitation. But this command is not recommend to use on access ports	This command can only used on the trunk ports.
Use IP quintuple group as default hash key for linkagg and ecmp	Default hash key: macsa、macda、ipsa、ipda	Default hash key: IP quintuple group (ipsa, ipda, ip src port, ip dst port, ip protocol)
Increase the count of ipv4 routes for L3 profile	Support 8K ipv4 routes for L3 profile.	Support 32K ipv4 routes for L3 profile.

5.4 FSOS-V6.2.26

Item	Earlier Behavior	New Behavior
L3 MTU range	<68-9000>	<68-9216>
Port description	Don't support special character	support special character
Syslog level for ARP aging	Level 4	Level 6
FDB-LOOP default action	Set port to Errdisable status	Record to syslog

5.5 FSOS-V6.2.25

Item	Earlier Behavior	New Behavior
VXLAN and VLAN Translation	Do not support to configure on same interface	Support to configure on same interface
Hostname name rules	Need to start with letters and stop with number or letters	Without limitation

5.6 FSOS-V6.2.24

Item	Earlier Behavior	New Behavior
BGP AS number	Do not support xx.yy format	Support xx.yy format

Multi destination mirror group	Do not support mirror by source vlan	Support mirror by source vlan
Show diagnostic-information	Without 'show memory-threshold, show hal message buffer'	Include 'show memory-threshold, show hal message buffer'
Show running-config, show startup-config	Privilege 2 CLI	Privilege 4 CLI

5.7 FSOS-V6.2.23

Item	Earlier Behavior	New Behavior
VLAN statistic	N/A	Support statistic by bytes
IS-IS	Packets drop by default	Packets transmit by default
RPC-API	100 CLI per command	1024 CLI per command
Configuration file backup	N/A	System will copy the configuration file to flash: /boot folder, when uers save (Write) the file.
Show diagnostic-information	N/A	It will display the .core file in sys-diag folder
ACL statistic	Count the packets dropped by policer rules	Users can decide to count the dropped packets or not(refer to CLI doc for details)
Flow policer	Support 768 policer rules by default	Users can switch to 3840 policer rules(refer to CLI doc for details)

5.8 FSOS-V6.2.22

Item	Earlier Behavior	New Behavior
Vlan name description	Character limit is 16	Character limit is up to 31
Syslog recording condition	Do not record CLI operations in privileged mode	Record CLI operations in all modes
EFD function released	License required to use EFD function	Open to all users
HTTP/HTTPS independent switch	Only one switch for HTTP/HTTPS	Two independents switches for HTTP and HTTPS

5.9 FSOS-V6.2.21

Item	Earlier Behavior	New Behavior
Reboot-info optimized	Display less information	Display more detailed information
Extend more port type to support RF\LF	Only 10G port support RF/LF	10G\40G\100G ports support RF/LF
Optimized policer cbs\ebs\pbs mechanism	Need to adjust cbs\ebs\pbs value manually	Automatic resizing

5.10 FSOS-V6.2.20

Item	Earlier Behavior	New Behavior
Ports description character limit	Character limit is 20	Character limit is up to 240
RPC-API optimized	N/A	N/A
WEB-UI optimized	N/A	N/A
Memory management optimized	N/A	N/A
Platform ports optimized	N/A	N/A

5.11 FSOS-V6.2.14

Item	Earlier Behavior	New Behavior
Platform ports optimized	N/A	N/A

5.12 FSOS-V6.2.11

Item	Earlier Behavior	New Behavior
Platform ports optimized	N/A	N/A
Hardware learning optimized	N/A	N/A
AAA optimized	N/A	N/A

5.13 FSOS-V6.2.9

Item	Earlier Behavior	New Behavior
Enhance ports up\down event log level	Ports up\down log level is 6	Ports up/down level is 4
Enhance syslog recording range	Only recorded level 0-4 log	Record level 0-6 log
ERPS optimized	N/A	Support RRPP

Unidirectional link optimized	N/A	N/A
Platform ports optimized	N/A	N/A
Smart-link performance optimized	N/A	N/A
LLDP default behavior changed	LLDP disabled on ports by default	LLDP enabled on ports by default
NTP Server Hostname character limit	Hostname only accepts number, letter, - _ .	Hostname supports more special character

6. Fixed Problems

Fixed problems based on baseline version.

6.1 FSOS-V6.2.29.r2

Problem Description	Occurred Condition
Process is abnormal MLAG packets	MLAG packets are not sent to the CPU by pre-defined path, MLAG peers may break in extreme case
PVLAN function works abnormal in special cases	User configure PVLAN on layer3 interface will lead this issue.
Memory leak in certain condition	Use SNMP to process certain nodes repeatedly over a long period of time
PIM-DM and VRRP cannot work together, and may lead system crash in extreme case	PIM-DM and VRRP work together may lead system crash in extreme case
"Show bfd" command works abnormal	Use illegal parameter will lead this command work abnormal, and may lead system crash.

6.2 FSOS-V6.2.28

Problem Description	Occurred Condition
The SNNO (sysUpTimeInstance， OID 1.3.6.1.2.1.1.3.0) rolls over.	System up for a long time and the value of "up time" rolls over.
System deals the lacp packets with actor-key 0 as invalid packets.	System receive the lacp packets with actor-key 0.
The show result of RPC API might affect each other.	Use RPC-API with multi-process.
OVSDB lead system crash in extreme case	If the vlan-vni mapping in configure file and OVSDB don't coincide with each other, system may crash with a minimum probability.

6.3 FSOS-V6.2.27

Problem Description	Occurred Condition
Error log printed in BFD module	System receive the packets with its own ip address and udp port 11121.

NTP packets are wrongly truncated	In VXLAN topology, and "keep vlan tag" is configured
Notification includes wrong spelling appeared on the terminal	N/A

6.4 FSOS-V6.2.26

Problem Description	Occurred Condition
"show ip bgp community" may cause BGP abnormal	N/A
BGP message includes 32 RT info may cause BGP abnormal	N/A
BGP route revoked may cause memory leak	In some special condition
Radius don't work on out-band management	N/A
Some tagged Vxlan packets may be dropped after decapsulation	In some special condition
PIM module crash	In some special condition
Link flapping on 40G port	Some hardware type occur link flapping when the ports are used as LAG
'*ACL egress stats exclude-drop output*' don't work	N/A

6.5 FSOS-V6.2.25

Problem Description	Occurred Condition
When LAG member changed, load balance may work abnormally in special condition.	LAG member changes
MLD module work abnormally, switch cannot learn MLD report.	N/A
Delete LAG interface may impact hsrvd module.	ARP loop occurs
NTP synchronization failed	In some special condition
PBR entry cannot take effect based on seq-number	NA
VXLAN cannot learn ARP by tunnel	If VNI number greater than 16bits
Packets may miss one bit after pcap convert	If packet size is multiple of 16bits

Radius abnormal	N/A
IP_SLA timeout	In some special condition

6.6 FSOS-V6.2.24

Problem Description	Occurred Condition
Syslog sever IP unreachable will cause CPU usage high	Incorrect syslog sever IP
Do not support 'Openssh' tool	N/A
MLAG cannot isolate igmp query parckets	N/A
SNMP ACL do not support extend ACL	N/A

6.7 FSOS-V6.2.23

Problem Description	Occurred Condition
Management port up or down events will record in syslog file with better method	N/A
LLDP module crash in some special condition	Vlan nane in packets is not on standard format
Some BHM mechanism optimized	N/A
PBR do not function after reboot system	N/A

6.8 FSOS-V6.2.22

Problem Description	Occurred Condition
Rate display is inaccurate on aggregation ports	N/A
Unreasonable check on static routing track configuration	If next hop is in the target segment, static routing track cannot be configured correctly
Serial port lock VTY session	Small probability occurred
Sflow sampling frequency is inaccurate	N/A
RPC-API cause memory leak	Frequently execute RPC-API operation
Telnet process causes CPU high usage	Small probability occurred
DCHP process Crash	When dhcp client communicating with dhcp sever, vlan interface will be deleted

	in some particular conditions
100Gport auto-negotiation time is slow to a 40G port	N/A

6.9 FSOS-V6.2.21

Problem Description	Occurred Condition
SNMP ifAlias node get interruption	One port has no description in a continuous ports
FDB is not flushed when MLAG ports are in errdisable	MLAG ports are in errdisable
FDB Loop cause Peer-link ports error disable	FDB duplicated occurred frequently on MLAG ports
When MLAG failed, FDB do not synchronize to Peer-link	MLAG failed in some special conditions

6.10 FSOS-V6.2.20

Problem Description	Occurred Condition
Cloud Agent enable cause memory leak	N/A
SNMP IfAlias node getting range error	Get public node IfAlias when port description is oversize
MLAG+Overlay scenario，ARP will overwrite 32 bits DVR routing	MLAG+Overlay scenario, when switches use the same ip address on each side of overlay tunnel
LLDP causes switches reboot automatically in some particular conditions	Cooperation with other vendors, and DCBX enable
MLAG Peer-link could learn FDB in some special conditions	When packet's mac da match the configured gateway mac, mac address learning disable on peer link will not take effect
Mass TCP attacks cause switches reboot	Switches suffered mass TCP attacks from public network

6.11 FSOS-V6.2.14

Problem Description	Occurred Condition
Port ethertype modification causes ERPS abnormal	Modify ethertype on ERPS ports
ERPS switching performance cannot be within 50ms on aggregation ports	Using aggregation ports as ERPS interface

Switches do not forward packets in some particular conditions	Small probability occurred
Switches create imish.core file if suffering mass login attacks	Mass login attacks

6.12 FSOS-V 6.2.11

Problem Description	Occurred Condition
40G\100Gports Pathcost is incorrect in OSPF	N/A
Vlan cannot learn FDB if overlay enable	N/A
Ping function cannot work in some particular conditions	Specify VRF

6.13 FSOS-V 6.2.9

Problem Description	Occurred Condition
Interface tunnel operation causes switch reboot	Create, then delete interface tunnel
Multi-users AAA authentication cannot work	Multi-users AAA authentication
Specified TCP port attack causes switch reboot	TCP attack on specified port 8100

7. 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, 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.

8. Operating System Upgrade

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

FS# copy mgmt-if ftp://admin:admin@10.10.25.33/FSOS-S8050-v6.2.29.r2.r.bin flash:/boot

Upload the firmware provided by FS to TFTP\FTP\U, and then copy it to the switch flash:/boot from TFTP\FTP\U.

Step 2 Set the target firmware as next boot firmware.

For example, set *FSOS-s8050-v6.2.29.r2.r.bin* as the target version to upgrade.

FS# boot system flash:/boot/FSOS-S8050-v6.2.29.r2.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/FSOS-S8050-v6.2.29.r2.r.bin as the next boot image? [confirm]y/n

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: S8050-6.2.28

The current running image is: flash:/boot/FSOS-S8050-v6.2.8

The next time boot image version is: v6.2.29.r2

The next running image is: flash:/boot/FSOS-s8050-v6.2.29.r2.r.bin

Step 4 Restart the switch.

Step 5 Check if the switch has been successfully upgraded.

FS# show version

FSOS Software, S8050, Version 6.2.29.r2

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The current running image is flash:/boot/FSOS-s8050-v6.2.29.r2.r.bin

FS uptime is 0 days, 0 hours, 12 minutes

Hardware Type is 20Q4C

Hardware Version is 1.0

SDRAM size 1024M

Flash size 2048M

EPLD Version is 2.2

BootRom Version is 8.1.1

System serial number is E130GD151004

9. FS Authentication Interface Module

To ensure device compatibility, and make it work at its optimum performance , we recommend that you use these FS authenticated interface module.

Table 9-1 FS Authenticated Interface Module

Brand	Type	Center Wavelength	Interface Type	Support Cable	Transmission Distance	PN No.
Allray	1G optical module	1310nm	LC	LR	10km	ATR-S0201D
		850nm	LC	SR	500m	ATR-S0200D
Gigalight	1G optical module	850nm	LC	SR	550m	SFP-8524-S5CD
		1310nm	LC	LR	20km	GP-3124-L2CD
	40G/4*10G AOC	850nm	/	SR	100m	GQP-MDO400-005C
	10/100/1000 Photoelectric Module	/	RJ45	/	/	GE-GB-P1RC
ATOP	10G optical module	850nm	LC	SR	300m	APSP85B33CDL03
Innolight	10G optical module	850nm	LC	SR	300m	TR-PX85S-N00
		1310nm	LC	LR	10km	TR-PX13L-NBK
	40G optical module	850nm	MPO	SR	100m	TR-QQ85S-N00
	100G optical module	1310nm	LC	LR	10km	TR-FC13L-N00
		850nm	MPO	SR	100m	TR-FC85S-N00
	10G AOC	850nm	/	SR	100m	TF-PX003-N00
		850nm	/	SR	100m	TF-PX010-N00
	40G AOC	850nm	/	SR	100m	TF-QQ003-N00
		850nm	/	SR	100m	TF-QQ010-N00
Finisar	10G optical module	850nm	LC	SR	300m	FTLX8571D3BCL
	40G optical module	850nm	MPO	SR	150m	FTL410QE3C
	100G optical module	1310nm	LC	LR	10km	FTLC1151RDPL
		850nm	MPO	SR	100m	FTLC9551REMP
FS	10G optical module	850nm	LC	SR	300m	SPF+-85192-SRC
		1310nm	LC	LR	10km	SFP+-31192-LRC
FS	40G optical module	850nm	MPO	SR	100m	CQS-MP0400-SR4C
		1310nm	LC	LR	2km	GQM-SP0400-IR4C
		1330nm	LC	LR	10km	GQS-SPO400-LR4CP
Avago	100G optical module	850nm	MPO	SR	100m	AFBR-89CDDZ
10Gtek	10G DAC	/	/	/	3m	SFP-H10G-CU3M

	40G DAC	/	/	/	1m	QSFP-H40G-CU1M
		/	/	/	3m	QSFP-H40G-CU3M
	40G/4*10G DAC	/	/	/	3m	QSFP-H40G-CU3M
LEONI	10G DAC	/	/	/	3m	L45593-C100-D30
	40G DAC	/	/	/	0.5m	L45593-D117-D5
		/	/	/	1m	L45593-D117-D10
		/	/	/	3m	L45593-D117-D30
	40G/4*10G DAC	/	/	/	0.5m	L45593-D177-D5
		/	/	/	1m	L45593-D177-D10
Amphenol	100G AOC	850nm	/	SR	100m	FOQQD33P00010
		850nm	/	SR	100m	FOQQD33P00020

If you use interface modules that are not certified by FS, you may have the following problems:

· Some unauthenticated interface modules do not conform to the MSA protocol, causing a port to be inserted into the optical module and its adjacent port cannot be inserted into the optical module. The golden finger of some unauthenticated interface modules is not reasonable, resulting a short circuit in the interface.

· Some unauthenticated optical modules are not properly designed in the data bus, which can lead to the abnormal data of the device bus, and even the data on the data bus cannot be read again.

· Some unauthenticated optical modules are not reasonable in temperature monitoring, leading to incorrect temperature alarm information on the system. Or the operating temperature range of the interface module does not meet the requirements, and the low power of the high temperature times even leads to business interruption.

· Some unauthenticated optical modules are not reasonable in register setting, so the data bus cannot read the parameters and diagnostic information correctly.

· Some unauthenticated optical modules are not designed to satisfy EMC, not only meet the electromagnetic interference, but also influence the surrounding equipment.

10. Related Documentation

10.1 Document List

· FS S5850 Series Switch Command instruction《S5850 Series Switches CLI Reference Guide》

· FS S8050 Series Switch Command instruction《S8050 Series Switches CLI Reference Guide》

10.2 Obtening Method

· Login FS official website to download the latest information.

http://www.FS.com

10.3 Technical Support

· Technical support E-mail: tech@fs.com