



Ethernet Routing Switch 8800/8600

Readme

Software Release 7.2.23.0



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Software Release 7.2.23.0

Release Date: 29-Apr-2016

Purpose: Software maintenance release to address customer reported issues.

Important Notices

Supported Hardware for Release 7.2.23.0

Refer to the ERS 8800 Release Notes for a complete list of supported hardware - **Release Notes — Software Release 7.2.10.0 Avaya Ethernet Routing Switch 8800/8600** available at <https://support.avaya.com>

Upgrade Notes

This section describes the Ethernet Routing Switch 8800 Software Release 7.2.23.0 software files.

Before you upgrade, it is recommended to verify the MD5 signature for each new file to be used.

For upgrade procedures, see **Upgrades — Software Release 7.2.10.0 Avaya Ethernet Routing Switch 8800/8600** available at <https://support.avaya.com>

Important Upgrade Note for systems using LLDP configuration:

Due to a software issue present in releases between 7.2.10.0 and 7.2.21.0, the system saves the “LLDP” related configuration for 10Gig ports to the config file in an incorrect way as listed below. The parts shown in red are incorrect and should have been saved between “interface GigabitEthernet <port-num>” and “exit” lines of the corresponding 10Gig port on which “LLDP” configuration has been applied. Loss of configuration can result upon system boot up when booting from a config file with this error in it. Booting the system with config file which contains below error would take all the line cards offline and no configuration would be loaded on the chassis.

```
interface GigabitEthernet <port-num>
default-vlan-id <vlan-id>
exit
no lldp tx-tlv local-mgmt-addr
```

If any LLDP related configuration fields exist in a currently saved config file and it is not saved between “interface GiagabitEthernet <port-num>” and “exit” lines of the corresponding 10Gig port, then these “interface GiagabitEthernet <port-num>” and “exit” lines must manually be added for all the 10G ports which has LLDP configurations in the saved config by getting the file from the ERS 8x00 to a workstation, editing the file (using Notepad) and then downloading the corrected configuration file back onto the ERS 8x00 device. It is strongly recommended that a backup copy of the clean config file be saved off on the flash to use in case of emergency. Note that any time a “save config” operation is performed, the incorrect fields will get saved again and will need correcting.

This problem is not present in this release. However, if upgrading a system from a release between 7.2.10.0 and 7.2.21.0 to 7.2.23.0, care needs to be taken to ensure the upgrade is performed using a config file that is free from these errors. Please refer JIRA “ERS8800-271” for more details.

Important Upgrade Note for systems using NLB configuration:

Due to a software issue present in releases older than 7.1.5.4 or 7.2.1.1 / 7.2.10.x, the system saves the “ip arp static-mcast” related configuration to the config file in an incorrect way as listed below. The parts shown in red are incorrect and should not have been saved. Loss of configuration can result upon system boot up when booting from a config file with this error in it.



The reason is that the config-loading operation, that happens upon system boot up, stops prematurely and configuration data that falls beyond the portion below does not get applied.

```
router vrf <vrf name>
ip arp static-mcast <ip add> <mcast Mac addr> vid <vlan id> <ports>
exit
exit
exit
exit
exit
exit
exit
exit
exit
```

If these extra fields exist in a currently saved config file, these “exit” lines must be manually removed from the saved config by getting the file from the ERS 8x00 to a workstation, editing the file (using Notepad) and then downloading the corrected configuration file back onto the ERS 8x00 device. It is strongly recommended that a backup copy of the clean config file be saved off on the flash to use in case of emergency. Note that any time a “save config” operation is performed, the incorrect fields will get saved again and will need correcting.

This problem is not present in this release. However, if upgrading a system from a release older than 7.1.5.4 or 7.2.1.1/7.2.10.x directly to 7.2.23.0, care needs to be taken to ensure the upgrade is performed using a config file that is free from these errors.

[Important Upgrade Note for systems with 8895 CPUs and Dual Input Power Supplies \(8005DI 1170W/1492W 120/240V Dual AC-input Power Supply\) if upgrading from releases older than 7.1.5.2 or 7.2.1.1:](#)

Background:

- An I2C bus hung state can result in systems with 8895 CPUs and 8005 Dual Input (DI) Power supplies running pre-7.1.5.2 or pre-7.2.1.1 release. The system will continue to function properly even with the I2C bus in a hung state. However when system is rebooted, the reboot will fail due to “Chassis SEEPROM read error” and device will remain in a software hung state and potentially become inaccessible.
- This issue is fixed in release 7.1.5.2 and higher software release versions and in 7.2.1.1 and higher software release versions.
- While normal operation is not impacted by the I2C bus being in a hung state, switch initialization (reboot) *IS* impacted and additional steps need to be taken as part of the upgrade to ensure the switch recovers properly. Failing to follow the additional steps (see ‘special procedure’) below will result in a failed upgrade and the device will remain in a software hung state upon reboot and potentially become inaccessible.

Monitoring:

- The device can be monitored periodically using the “show sys info” (ACL: show sys-info) command. Note: Only run this command on the Primary CPU.
- If the Fan temperature reading shows “0”, it is indicative of a hung I2C.
- The system will continue to function properly without issue even with the I2C bus in a hung state and will only pose issues upon reboot & upgrades. See the ‘special procedure’ in the ‘Upgrade Instructions’ section below on how to deal with such a situation.

Upgrade Steps:

- Ensure someone is physically present near the device, in case a power cycle is needed to recover the system.
- Download the 7.2.23.0 software release onto the device and get all the pre-sets done as you would in a normal upgrade. However DO NOT issue the reset or reboot command. - Run the “show sys info” command. If the Fan temperature reading shows “0”, it is indicative of a hung I2C. If this is the case, you need to follow special procedure below:



1. Once all pre-work is complete, power the chassis off
 2. Remove **ALL** power supplies from chassis by turning off all switches on all power supplies and unplugging the power cable from the outlet. Hold them out for a minimum of **30** seconds. This allows the capacitors in the supply to discharge and ensure the supply has gone completely cold electrically. This step ensures the I2C bus will start clean on power-up.
 3. Reinsert all the necessary power supplies into the chassis securely.
 4. Power on the chassis
 - a) Make sure you have at least one PC with working console access to CPU (start with CPU in slot 5 if only one console terminal available).
 - b) (For chassis with dual CPUs): Pull out CPU in slot 6
 - c) Power up the chassis power supplies (all) and monitor console output
 - d) Hit <RETURN> repeatedly and stop the booting process at monitor mode
 - e) At monitor mode, run command: ' boot /flash/p80b<new_sw_load>.img'
 - Chassis will reboot again and this time do not hit any ENTER but just watch on console as CPU powers-up normally
 - If chassis has only one CPU, then go to step 5. If chassis has two CPUs then go to next step, f.
 - f) Connect console and terminal to console port on CPU-6
 - g) Insert spare CPU in slot-6
 - h) Repeat steps d – e on CPU-6 console.
 5. The chassis should boot successfully with the 7.2.23.0 software that it was preconfigured to load.
- If fan temperature readings were normal, you do not need to do the above procedure. You can simply complete the upgrade using the normally outlined upgrade procedures.
 - The chassis should boot successfully with the 7.2.23.0 or higher software that it was preconfigured to load.
 - If for any reason the chassis is hung during software initialization during this upgrade boot, you can recover it using the above noted special procedure.

Important Operational Notes

- Do not use TFTP to transfer large files to/from the device. There is a possibility of causing stack overflow and potential system reset. FTP should be used instead.
- **Out of band management network addressing scheme should be kept completely disjoint from in-band network addressing, ensuring that no overlap results.** Any overlap between the management network and in-band network can result in network loops and severely affect network performance. A configuration with overlap between management and user address schemes is not supported.
- The “verbose mode” feature of CLI/ACLI is to be used to generate a verbose mode configuration for the sole purpose of viewing default configuration options. Sourcing or loading of such a “verbose” config file is not supported. Only a non-verbose configuration should be used for device operation.
- Configuration of non-IST inter-switch links running parallel to an inter-switch IST is not a valid configuration and can result in network loops. This kind of configuration should never be done.
- It is important to make sure that a system upgrade does not result in a condition where the system boots with mismatched boot-monitor image (“b” or “be” image) and run-time image (“a”, “ae” or “m” image). This can result in incorrect system behaviour. Please follow correct procedure to boot with the boot-monitor image
- Special care must be taken when upgrading dual-CP systems running in hot-standby HA mode. **The two CPs need to be booted in a specific order within a very specific time gap between them. Booting outside of these guidelines can result in upgrade failure.** Further, upgrade of IO cards will not take place if this procedure is not followed correctly resulting in software release mismatch between CP and IO cards resulting in malfunction of the system.
- Show commands such as “show sys info” that access system level information or SNMP gets/walks that access system MIB should never be run from/against the Backup CPU.



- For 8812 ports utilizing LRM transceivers, link establishment may require an additional 15-20 seconds due to the synchronization/training time required for hardware linear mode equalization. The delays will be proportional to the number of LRM transceivers populating the lane.
- SMLT / IST ports enter a special “hold-down” state transition immediately after reboot, as the system comes up and until it reaches full operational state. As such any dynamic configuration changes or movement of SMLT/IST ports should not be done until system is completely up and all ports have reached their normal run-time states.
- Diagnostic features such as PCAP, Port Mirroring and DDM should be used cautiously as incorrect usage or over-usage of these features can adversely affect the device operations.
- The dos-chkdsk should only be run in a maintenance window.
- Ensure PCMCIA and flash have sufficient space available on them. Having large number of files on these or not having enough available space can cause system to malfunction.
- Live removal of PCMCIA / Compact flash is not supported and it can result in system reset. The “dos-stop /pcmcia” or “pcmcia-stop” command should be used to stop the device before it can be removed. Additionally before issuing the command, all user-driven and system-driven read/write activity to the device must be disabled by the user. Logging to PCMCIA, CLI Logging, SNMP Logging must be disabled and any manual or automated commands that would result in a write to PCMCIA should be blocked before running the “dos-stop /pcmcia” or the “pcmcia-stop” command.
- Special character sequences in passwords can cause system to reset. While configuring commands under "snmp-v3" like group-name, group-access, community-name, usm name and md5/priv passwords, it is advised NOT to use "%" symbol for names or passwords.[wi01137738]
- Duplication of RSMLT IP in a network should be avoided. High CPU and buffer utilization is observed on IST peers when an external duplicate IP address is injected into a RSMLT network. [wi01169842]
- While enabling the SLPP SOP congestion feature on IST peers, it is recommended to configure the SOP congestion port-down interval in accordance with the SLPP packet-threshold interval configured on the IST peers. This will prevent both the SMLT links being taken down simultaneously due to sop-congestion [wi01177797]
- A default user level 15 in TACACS is not supported since it is associated with legacy modules. The default user level should be set to 6 [wi01189027]

File Names for This Release

Module or file Type	Description	File name	Size in bytes
Tar file of all software	Deliverables (includes images that also contain encryption software)	pr86_72230.tar.gz	69695627
Boot monitor image for 8692 SF/CPU	8692 CPU and switch fabric firmware	p80b72230.img	1201088
Boot monitor image for 8895 SF/CPU	8895 CPU and switch fabric firmware	p80be72230.img	1270958
Run-time image for 8692 SF/CPU	Run-time image for 8692 SF/CPU	p80a72230.img	17125888
Run-time image for 8895 SF/CPU	Run-time image for 8895 SF/CPU	p80ae72230.img	16052441



Run-time image for R modules	Run-time image for R modules	p80j72230.dld	1924332
Run-time image for RS modules	Run-time image for RS modules	p80k72230.dld	1993616
Run-time image for Enterprise Enhanced SF/CPU Daughter Card (SuperMezz)	Image for the SuperMezz Card	p80m72230.img	17200540
3DES for 8692 SF/CPU	Encryption module for privacy protocol with Secure Shell (SSH)	p80c72230.des	56124
3DES for 8895 SF/CPU	Encryption module for privacy protocol with Secure Shell (SSH)	p80ce72230.des	51972
AES for 8692 SF/CPU	Encryption module for privacy protocol with Secure Shell (SSH)	p80c72230.aes (this image includes the 3DES image)	27644
AES for 8895 SF/CPU	Encryption module for privacy protocol with Secure Shell (SSH)	p80ce72230.aes (this image includes the 3DES image)	25316
MIB	MIB files	p80a72230.mib	5707905
MIB (zip file)	Zip file containing MIBs	p80a72230.mib.zip	900157
MD5 checksum File	md5 checksums of all Release 7.2.23.0 software files	p80a72230.md5	1249
FOQ for R modules	Feedback output queuing FPGA firmware	foq267.xsvf	5320469
BMC for R modules	BAP memory controller FPGA firmware	bmc776.xsvf	2640266
DPC for R modules	Dual port Controller FPGA firmware	dpc194.xsvf	2642001
PIM8630GBR	Programmable I/O module FPGA firmware; for the 8630GBR only	PI_769.xsvf	2284578
Firmware for RS modules	Contains FOQ, BMC, DPC, mirroring, and loopback images	rs_dpm_fpga.bin	4538368
PIM images for RS modules	PIM FPGA firmware required for 8612XLRS module only	pim8612XLRS.bin	60183
	PIM FPGA firmware required for 8812XL module only	pim8812XL.bin	60792
	PIM FPGA firmware required for 8634XGRS module only	pim8634XGRS.bin	78173



	PIM FPGA firmware required for 8648GBRS module only	pim8648GBRS.bin	79891
	PIM FPGA firmware required for 8648GTRS module only	pim8648GTRS.bin	54441
MPLS trace file	Trace file for MPLS. This is auto generated and appears on the PCMCIA after upgrade.	nbpdtrc.lo0	variable
EDM help files	Help files for EDM GUI	ers8000v7210_HELP_EDM_gzip.zip	3995737
EDM plug-in for COM	EDM plug-in for COM	ers8000v7.2.23.0.zip	5363976
Copyright	File containing copyright information	ERS8k.7.2.23.0_Copyright.pdf	266541

Version of Previous Release

Software Version **7.2.22.0**



Compatibility

This software release is managed with Enterprise Device Manager (EDM).

Note: Updated EDM Help files and a new EDM plug-in version (v7.2.23.0) for COM are included with this release. Those must also be updated as part of upgrading to release 7.2.23.0.

Changes in This Release

New Feature in This Release

A new CLI/ACLI/Trap/Mib functionality has been implemented for monitoring the SPB multicast stream limit per lane.

- ✓ CLI:
show sys mcast-stream-count [slot <slot no>]
config spbm stream-limit-trap <enable/disable>
- ✓ ACLI:
Under exec: multicast stream-count [slot <slot no>]
Under global config: spbm stream-limit-trap enable
- ✓ Trap:
rcnMulticastLaneLimitReachedTrap – To notify the user when the SPB multicast stream count exceeds 1000 per lane.
- ✓ Mib:
rcMcastStreamCountTable – To retrieve the SPB multicast stream count per lane.

Old Features Removed From This Release

None

Problems Resolved in This Release

- Fixed display issue on EDM to display the stats and information of 10 Gig interfaces [ERS8800-258]
- Enhanced ACL filter functionality to handle ECN enabled TCP ACK packets [ERS8800-268]
- SSH vulnerability due to “EXPORT ciphers” (CVE 2015-0204) has been fixed [ERS8800-272]
- Continuous SSH login and logout through scripts/scan results in no access to the switch [ERS8800-274]
- A warning message will be logged to reboot the system when all the File Descriptors are exhausted [ERS8800-275]
- Improved the log message to print the correct IP address during ARP Processing [ERS8800-280]
- Hardware IP records does not get cleaned up when VLAN is moved from global to non-global VRF [ERS8800-281]
- ISIS external routes, learnt via SPB fabric, caused corruption of IP routing table and ISIS LSDB table since ERS8800 could not decode TLVs(L3 VSN TLV : 184 and IP Short Cut TLV : 135). [ERS8800-283, ERS8800-288]
- Displaying ACL filter information with high number of ports lead to memory corruption and system reboot [ERS8800-284]

Commands to display ACL filter information on CLI/ACLI

CLI Mode - show filter acl info

ACLI Mode - show filter acl



- Logging mechanism has been improved to provide more debug information for "SOP congestion" events [ERS8800-294]
- When VLAN with VLAN ID greater than 4000 is created with EDM, ports get dropped from the existing VLANs and get added to the newly created VLAN [ERS8800-297]
- Enhancement on ISIS LSP Purge List to prevent ISIS TLV overflow condition [ERS8800-298]
- Additional debug information has been added when I/O module resets with message "SW ERROR R-Module Slot <Slot Number> is unable to Process Async messages and will be restarted" [ERS8800-301]
- Addition and deletion of VRF routes on L3VSN caused memory depletion [ERS8800-313, ERS8800-317]

Known Limitations

Mirroring Limitation:

Received and Transmitted packets on a source port cannot be mirrored to two different destination ports. This is a limitation present in all other previous software releases.

The above functionality can be achieved (work around) by using mirror and filter functionality together.

- ✓ Configure mirroring for Tx traffic of port
- ✓ Configure "ACL filter with mirror-destination" for Rx traffic of port (with "ethernet dst-mac ne 00:00:00:00:00:00" so that all incoming packets pass through filter)

Please refer to the Known Limitations section of the Release Notes for Ethernet Routing Switch 8600 Software Releases 7.2.10.0, 7.2.10.11, 7.2.11.0, 7.2.12.0, 7.2.12.1, 7.2.12.2, 7.2.13.0, 7.2.14.0, 7.2.14.1, 7.2.15.0, 7.2.15.2, 7.2.16.0, 7.2.17.0, 7.2.18.0, 7.2.19.0, 7.2.20.0, 7.2.21.0, 7.2.22.0

All the known limitations mentioned in previous release notes apply to this release as well.

Documentation Corrections

None

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