Alcatel·Lucent
Enterprise

Release Notes - Rev. A

OmniSwitch 2260, 2360

Release 5.1R2

These release notes accompany AOS Release 5.1R2. These release notes provide important information on individual software features and hardware modules. Since much of the information in these release notes is not included in the hardware and software user manuals, it is important that you read all sections of this document before installing new hardware or loading new software.

Contents

Related Documentation

These release notes should be used in conjunction with OmniSwitch AOS Release 5 User Guides. The following are the titles of the user guides that apply to this release.

- OmniSwitch 2260/2360 Hardware User Guide
- OmniSwitch 2260/2360 AOS Release 5.1R2 CLI Reference Guide
- OmniSwitch 2260/2360 AOS Release 5.1R2 WebView Guide

System Requirements

Memory Requirements

The following are the standard shipped memory configurations. Configuration files and the compressed software image, including web management software images, are stored in the flash memory.

Platform	SDRAM	Flash
OS2260 OS2360	512 MB 1 GB	512 MB 512 MB

UBoot and FPGA Requirements

The software versions listed below are the MINIMUM required, except where otherwise noted. Switches running the minimum versions, as listed below, do not require any UBoot or FPGA upgrades. Use the '**show hardware-info**' command to determine the current versions.

Switches not running the minimum version required should upgrade to the latest UBoot or FPGA that is available with this release available from Service & Support.

OmniSwitch 2x60 – AOS Release 5.1.43.R02 (GA)

Hardware	Minimum UBoot	Current UBoot	Minimum FPGA
OS2260 OS2360	5.1.8.R01 5.1.8.R01	5.1.1.R02 5.1.1.R02	0.5 0.6
Note: Uboot 5.1.1.R02 is optional to address UBIFS error issues.			

Prerequisites

The OmniSwitch 2260/2360 products do not contain a real-time clock.

- It is recommended to use NTP to ensure time synchronization.
- When the switch is reset, the switch will boot up from an approximation of the last known good time.
- When the switch is powered off it cannot detect the time left in the powered off state. When it boots up it will have the same time as when the switch was last powered off.

New Supported Hardware

There is no new hardware in this release.

New Supported Transceivers

New Transceivers (5.1.R2)	OS2260	OS2360
SFP-10G-T 10-Gigabit copper transceiver (SFP+). Supports category 6a/7 cabling copper cabling up to 30m.	Supported (X-models)	Supported
SFP-1G-T Fixed speed 1000Base-T Gigabit Ethernet Transceiver (SFP). Supports category 5, 5E, and 6 copper cabling up to 100m. SFP works only at 1000 Mbit/s speed and full-duplex mode	Supported	Supported
Previously Supported Transceivers (5.1R1)	OS2260	OS2360
SFP-GIG-T - 1000BaseT Gigabit Ethernet Transceiver (SFP MSA). SFP works at 1000 Mb/s speed and full duplex mode.	Supported	Supported
SFP-GIG-SX - 1000Base SX Gigabit Ethernet optical transceiver (SFP MSA).	Supported	Supported
SFP-GIG-LX - 1000Base LX Gigabit Ethernet optical transceiver (SFP MSA).	Supported	Supported
SFP-GIG-LH40 - 1000Base LH Gigabit Ethernet optical transceiver (SFP MSA). Typical reach of 40 km on 9/125 µm SMF.	Supported	Supported
SFP-GIG-LH70 - 1000Base LH Gigabit Ethernet optical transceiver (SFP MSA). Typical reach of 70 km on 9/125 µm SMF.	Supported	Supported
SFP-10G-SR - 10 Gigabit optical transceiver (SFP+). Supports multimode fiber over 850 nm wavelength (nominal) with an LC connector. Typical reach of 300 m.	Supported (X-models)	Supported
SFP-10G-ER - 10 Gigabit optical transceiver (SFP+). Supports single mode fiber over 1550 nm wavelength (nominal) with an LC connector. Typical reach of 40 km.	Supported (X-models)	Supported
OS2x60-CBL-60CM - 1/10G direct attached uplink copper cable (60 cm, SFP+).	Supported	Supported
OS2x60-CBL-1M - 1/10G direct attached uplink copper cable (1 m, SFP+).	Supported	Supported
OS2x60-CBL-3M - 1/10G direct attached uplink copper cable (3 m, SFP+)	Supported	Supported
Note: SFP-GIG-T is not supported on SFP+ ports.		

New Supported Software Features

The following software features are being introduced in this release, subject to the feature exceptions and problem reports described later in these release notes.

5.1R2 Feature Summary

Feature	Platform
ERP	OS2260/OS2360
IPv6 Support – SNMP, RMON, Swlog, DNS, DHCP Snooping/ISF, IP Multicast Switching and Routing, AAA	OS2260/OS2360
Loopback Detection	OS2260/OS2360
MVRP	OS2260/OS2360
Port Mapping	OS2260/OS2360
PPoE & FPoE Enabled by Default	OS2260/OS2360
SNMP OID 803	OS2260/OS2360
UDLD	OS2260/OS2360
Virtual Chassis of 4	OS2360
Webview 2.0 – Quick “write memory flash-synchro” Option	OS2260/OS2360
10G License (China Only)	OS2260/OS2360
PoE Enabled by Default	OS2260/OS2360
Secure AP Mode	
DHCP OXO Prioritization	OS2260/OS2360

ERP

Ethernet Ring Protection (ERP) switching is a self-configuring algorithm that maintains a loop-free topology while providing data path redundancy and network scalability. ERP provides fast recovery times for Ethernet ring topologies by utilizing traditional Ethernet MAC and bridge functions. This implementation of ERP is based on ITU-T G.8032 and uses the ring Automatic Protection Switching (APS) protocol to coordinate the prevention of network loops within a bridged Ethernet ring. Loop prevention is achieved by allowing the traffic to flow on all but one of the links within the protected Ethernet ring. This link is blocked and is referred to as the Ring Protection Link (RPL). When a ring failure condition occurs, the RPL is unblocked to allow the flow of traffic to continue through the ring.

IPv6 Support

The following protocols are supported with IPv6:
SNMP, RMON, Swlog, DNS, DHCP Snooping/ISF, IP Multicast Switching and Routing, AAA

Loopback Detection

Loopback Detection (LBD) automatically detects and prevents L2 forwarding loops on a port. LBD operates in addition to STP which detects forwarding loops. When a loopback is detected, the port is disabled and goes into a shutdown state. A trap is sent and the event is logged.

MVRP

Multiple VLAN Registration Protocol (MVRP) provides a mechanism for dynamic maintenance of the contents of dynamic VLAN registration Entries for each VLAN, and for propagating the information they contain to other bridges. This information allows MVRP-aware devices to dynamically establish and update their knowledge of the set of VLANs that currently have active members, and through which ports those members can be reached. The main purpose of MVRP is to allow switches to automatically discover some of the VLAN information that would otherwise have to be manually configured.

Port Mapping

Port Mapping is a security feature that controls communication between peer users. Each session is comprised of a session ID, a set of user ports, and/or a set of network ports. The user ports within a session cannot communicate with each other and can only communicate through network ports. In a port mapping session with user port set A and network port set B, the ports in set A can only communicate with the ports in set B.

PPoE & FPoE Enabled by Default

Perpetual and Fast PoE are enabled by default.

SNMP OID 803

The OS2x60 now uses 803 as the OID of of the base mib instead of 801.

UDLD

UniDirectional Link Detection (UDLD) is a protocol for detecting and disabling unidirectional Ethernet fiber or copper links caused by mis-wiring of fiber strands, interface malfunctions, media converter faults, and so on. The UDLD protocol operates at Layer 2 in conjunction with the IEEE 802.3 - Layer 1 fault detection mechanisms.

Virtual Chassis of 4

A Virtual Chassis is a group of switches managed through a single management IP address that operates as a single bridge and router. It provides both node level and link level redundancy for layer 2 and layer 3 services and protocols acting as a single device.

PoE Enabled by Default

Power Over Ethernet is enabled by default.

Secure AP Mode

Previously the untagged AP MAC was identified using LLDP, the authentication of an AP was not mandatory to treat a port as an AP port. With this enhancement the port will be treated as an AP port only if the AP is 802.1x authenticated.

Unsupported Software Features

Commands for these features may exist on the switch but are currently not supported. Support in an upcoming release is planned.

5.1R2 Unsupported Feature Summary

Feature	Platform
Sflow	OS2260/OS2360

Open Problem Reports and Feature Exceptions

The problems listed here include problems known at the time of the product's release.

System / General / Display

CR	Description	Workaround
CRVA-367	SFP-10G-T transceiver has a single sided link (link down switch side and link up peer end side) when peer end is 1G, not auto-negotiating to peer end speed.	Manually configure the SFP-1G-T to 1G speed.
CRVA-564	A fake link-up will be observed when inserting the SFP-GIG-T transceiver without a cable.	There is no known workaround at this time.
CRVA-568	Controlled directed broadcast are not supported.	There is no known workaround at this time.
CRVA-574	When any user MAC is learned as Filtering on an UNP port, if traffic for the same MAC is received on another port then the MAC on the second port gets learned without being trapped to software.	To avoid learning of a Filtering MAC on another UNP port, disable the default VLAN configured on the UNP port.
CRVA-638	When any client MAC is learned on a LPS enabled port, if the same MAC is received on a non-LPS port on another chassis in a VC, the MAC gets learned as expected, but the previous MAC entry on the LPS port is not deleted until the next aging cycle occurs.	There is no known workaround at this time.
CRVA-788	In WebView under the page 'security/access-guardian/profile/configuration', new profile entries can be added but not displayed.	Use the 'show unp profile' CLI.

Technical Support

Alcatel-Lucent technical support is committed to resolving our customer's technical issues in a timely manner. Customers with inquiries should contact us at:

Region	Phone Number
North America	800-995-2696
Latin America	877-919-9526
European Union	+800 00200100 (Toll Free) or +1(650)385-2193
Asia Pacific	+65 6240 8484

Email: ebg_global_supportcenter@al-enterprise.com

Internet: Customers with service agreements may open cases 24 hours a day via the support web page at: myportal.al-enterprise.com. Upon opening a case, customers will receive a case number and may review, update, or escalate support cases on-line. Please specify the severity level of the issue per the definitions below. For fastest resolution, please have hardware configuration, module types and version by slot, software version, and configuration file available for each switch.

Severity 1 - Production network is down resulting in critical impact on business—no workaround available.

Severity 2 - Segment or Ring is down or intermittent loss of connectivity across network.

Severity 3 - Network performance is slow or impaired—no loss of connectivity or data.

Severity 4 - Information or assistance on product feature, functionality, configuration, or installation.

Third Party Licenses and Notices

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Appendix A - Specifications

Login Specifications		
	OS2260	OS2360
Login Methods	Telnet, SSH, HTTP, SNMP	
Number of concurrent Telnet sessions	6	
Number of concurrent SSH sessions	8	
Number of concurrent HTTP (WebView) sessions	4	
CMM Specifications		
	OS2260	OS2360
Compact Flash Memory	512MB	512MB
RAM Memory	512MB	1GB
Maximum Length of File Names (in Characters)	255	
Maximum Length of Directory Names (in Characters)	255	
Maximum Length of System Name (in Characters)	32	
User Database Specifications		
	OS2260	OS2360
Maximum number of alphanumeric characters in a username	63	
Maximum number of alphanumeric characters in a user password	30	
Maximum number of local user accounts	50	
NTP Specifications		
	OS2260	OS2360
Maximum number of NTP servers per client	12	
Maximum number of associations	512	
Source Learning Specifications		
	OS2260	OS2360
Maximum number of learned MAC addresses	16K	32K
VLAN Specifications		
	OS2260	OS2360
Maximum VLANs per Switch	64	1024
Spanning Tree Specifications		

	OS2260	OS2360
Maximum VLAN Spanning Tree instances	100	100
Maximum VLAN Spanning Tree instances (MSTI)	4	8
Static / Dynamic Link Aggregation Specifications		
	OS2260	OS2360
Maximum number of link aggregation groups	8	16
Maximum number of ports per link aggregate group	4	8
IPv4 Specifications		
	OS2260	OS2360
Maximum ARP entries	1K	
Maximum router interfaces per system	8	24
Maximum router interfaces per VLAN	8	8
Maximum Static Routes	2	32
UNP Specifications		
	OS2260	OS2360
Number of 802.1x or UNP users per chassis	128	
Learned Port Security		
	OS2260	OS2360
Minimum number of learned MAC addresses allowed per LPS port	1	
Maximum number of learned MAC addresses allowed per LPS port	1000	
Maximum number of filtered MAC addresses allowed per LPS port	100	
Maximum number of configurable MAC address ranges per LPS port	1	
Port Mirroring / Monitoring		
	OS2260	OS2360
Mirroring Sessions Supported	3	
Monitoring Sessions Supported	1	

Appendix B - Upgrade Instructions

These instructions document how to upgrade the AOS images on an OmniSwitch. The steps should be performed in order:

1. **Download the Upgrade Files** - Go to the Service and Support website and download and unzip the upgrade files for the appropriate model and release. The archives contain the following:
   - OS2260 – Aros.img
   - OS2360 – Taos.img

2. **FTP the Upgrade Files to the Switch** - FTP the image files to the *Running* directory of the switch you are upgrading. The image files and directory will differ depending on your switch and configuration.

3. **Upgrade the Image File** - Follow the steps below to upgrade the image files by reloading the switch from the Running directory.

   ```
   OS2260-> reload from working no rollback-timeout
   Confirm Activate (Y/N) : y
   This operation will verify and copy images before reloading.
   It may take several minutes to complete....
   ```

4. **Verify the Software Upgrade** - Log in to the switch to confirm it is running on the new software. This can be determined from the **show microcode** command.

   ```
   OS2260-> show microcode
   /flash/working
   Package           Release                 Size       Description
   -----------------+----------------------+----------+-----------------------------------
   Aros.img           5.1.43.R02             62807088  Alcatel-Lucent OS

   OS2260-> show running-directory
   CONFIGURATION STATUS
   Running CMM              : MASTER-PRIMARY,
   CMM Mode                 : VIRTUAL-CHASSIS MONO CMM,
   Current CMM Slot         : CHASSIS-1 A,
   Running configuration    : WORKING,
   Certify/Restore Status   : CERTIFY NEEDED
   SYNCHRONIZATION STATUS
   Running Configuration    : NOT SYNCHRONIZED
   ```

Note: If there are any issues after upgrading the switch can be rolled back to the previous certified version by issuing the **reload from certified no rollback-timeout** command.

5. **Certify the Software Upgrade** - After verifying the software and that the network is stable, use the following commands to certify the new software by copying the Running directory to the Certified directory.
   OS2260-> copy running certified flash-synchro

Optional Uboot Upgrade

Note: AOS must be upgraded prior to performing a Uboot upgrade.

1. Download and extract the upgrade archive from the Service & Support website. In addition to the AOS images, the archive may also contain a Uboot file, for example.

- u-boot.5.1R02.1.tar.gz

2. FTP (Binary) the file to the **/flash** directory on the primary CMM.

3. If desired, a Uboot upgrade can then be performed, for example:

```
-> update uboot cmm all file /flash/u-boot.5.1R02.1.tar.gz
Starting CMM ALL UBOOT Upgrade
```

```
Please wait...
CMM 1/1
u-boot-ppc_2040.bin: OK
U-boot successfully updated
Successfully updated
```

4. Once complete, a reboot is required.