RELEASE NOTES

Switch Products
AOS version R11.4.5
September 11, 2015

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Introduction

AOS version R11.4.5 is a maintenance release that addresses customer issues that were uncovered in previous code releases.

This release is generally available code. Results obtained during internal testing have been evaluated and the code has been determined to be ready for general availability. Caveats discovered during testing but not addressed in this build are listed in *Errata on page 9*.

A list of new or updated documents for this release appears in *Documentation Updates on page 11*.

Configuration guides, white papers, data sheets, and other documentation can be found on ADTRAN's Support Forum, https://supportforums.adtran.com. The contents of these release notes will focus on the platforms listed below.

Supported Platforms

The following platforms are supported in AOS version R11.4.5. To confirm the Boot ROM version of the ADTRAN unit, Telnet or console to the unit and issue the show version command. In the command output, the Boot ROM version will be listed as Boot ROM version XX.XX.XX. If you require a Boot ROM upgrade, please contact ADTRAN Technical Support (http://adtran.com/submitcase or 888-423-8726) for assistance.

Platform	Minimum Boot ROM
NetVanta 1234/1234P (2nd and 3rd Gen.)	XB.01.02
NetVanta 1235P	R10.4.0.B1
NetVanta 1238/1238P (2nd Gen. only)	XB.01.02
NetVanta 1531/1531P	R11.1.0
NetVanta 1534	17.06.03.00
NetVanta 1534 (2nd Gen.)	17.08.01.00
NetVanta 1534P (2nd Gen.)	17.09.01.00
NetVanta 1535P	17.08.01.00
NetVanta 1544/1544F	17.06.04.00
NetVanta 1544 (2nd Gen.)	17.08.01.00
NetVanta 1544P (2nd Gen.)	17.09.01.00
NetVanta 1638/1638P	18.02.01.SC

System Notes

- Beginning with AOS version 17.09.01, the syntax of certain commands was modified from previous AOS versions by either removing or adding the ip keyword. In general, when the ip keyword appears in a command, it signifies that the command is only applicable to IPv4 functionality. As more features introduce IPv6 support, the ipv6 keyword is added to signify the command is only applicable to IPv6 functionality. The ip keyword has been removed from several commands to signify that the command has both IPv4 and IPv6 functionality.

  Due to this syntax change, downgrading a unit configured in AOS version R11.4.5 to a previous AOS version, could cause service disruption because the new syntax might not be recognized by the previous version. Upgrading a unit from an older AOS version to AOS version R11.4.5 will cause no service disruption because both the old and the new syntaxes are accepted. For more information on specific commands, refer to the *AOS Command Reference Guide* available at https://supportforums.adtran.com.
- It is recommended that your browser's cache be cleared before viewing the GUI after an upgrade.

Features and Enhancements

This section highlights the major features, commands, and behavioral changes in all products running AOS version R11.4.0.

- Added the ability to set route tags in routing protocols and route maps.
- Added OSPF distribute lists to filter prefixes redistributed out of OSPF and to prevent routes learned by OSPF from being used in the route table or redistributed into other routing protocols.

This section highlights the major Switch specific features, commands, and behavioral changes in products running AOS version R11.4.0.

- Added a ProServices section to the GUI that allows ProCare and ProCloud customers to easily connect to ADTRAN's ProServices systems.
- Added the ability for AOS switches to initiate a secure SSH tunnel to a Linux server that can be used to allow remote access from the Linux server to the switches. This SSH tunnel must be initiated from the switch.

Fixes

This section highlights major bug fixes for all products running AOS version R11.4.5.

- In rare cases, a reboot could have occurred when using TACACS+.

This section highlights major bug fixes for all products running AOS version R11.4.4.

- In some cases, when issuing the **show dot11 access-point detail** command, a reboot occurred.
- When using SSH and logging in as a user with a configured privilege level, the terminal length would set to 0.
- Due to changes made in R10.9.3, AOS was only able to process 3 unicast ARP requests per second.
- After configuring the privilege level of exec commands, those commands would not be set to the proper privilege level unless the configuration was saved and the unit rebooted or any **no privilege** command was issued.
- In rare cases, a reboot occurred when performing a traceroute.

- Some sectors on flash may have been written excessively, causing premature wear and potentially preventing the unit from booting. This issue has been addressed and a refresh mechanism has been added to address any issues with premature wear.
- If an LLDP neighbor was configured with multiple management *addresses* (i.e., IPv4 and IPv6), issuing the command **show lldp neighbor detail** caused the unit to lock up.

This section highlights major bug fixes for all products running AOS version R11.4.3.

- When running AOS R11.4.2 in certain configurations with multiple VAPs, NetVanta 150s could not be controlled.
- In certain cases, NetVanta 150s could not be controlled by devices running AOS R11.4.2.
- During a SNMP denial of service attack, an out of memory reboot may have occurred.
- Application of a MAC ACL to an access point did not persist through reboot.
- When connecting to a unit with SSH, if a long login banner was configured the **--MORE--** prompt was presented.
- When accessing the GUI using HTTPS, cookies were sent without the **secure** attribute set.
- Rebooting a NetVanta 160 after editing an associated MAC access list caused the AP to transmit SSID **Wireless11**.
- The VLAN ID for an access point could not be changed using the GUI.

This section highlights major bug fixes for all products running AOS version R11.4.2.

- Wi-Fi multimedia (WMM), configured with the command **qos-mode wmm**, is not supported on NetVanta 150 Access Points and the configuration commands have been removed.
- Resolved a potential lockup when under a SSH denial of service attack with AAA configured.
- If an ECDSA or ED25519 key (both of which are unsupported) were presented to the SSH server, a **Bad string length** error was returned instead of proceeding with the remaining authentication options.
- Unsupported SSH authentication methods (e.g., null) were improperly treated as authentication failures instead of unsupported methods.
- The WEP configuration options were removed for the NetVanta 160 Access Points.
- New temporary DH key pairs were not generated for each TLS connection when using DHE ciphers with the HTTPS server, SMTP client, Auto-Link client, Auto Config client, HTTPS packet capture export, and the **copy https** command.
- An AOS configuration file larger than 256 KB could not be backed up to n-Command MSP.
- To address the SSL 3.0 POODLE vulnerability, SSL 3.0 was disabled by default for the HTTPS server, SMTP client, Auto-Link client, Auto Config client, HTTPS packet capture export, and the **copy https** command. To enable SSL 3.0 support, an **allow-sslv3** parameter was added to all of these clients and servers, with the exception of Auto-Link.

  Additionally, SSL 2.0 was disabled in all of the previously mentioned clients. It was already disabled by default for the HTTPS server.
- Copying a file larger than 16 MB from flash memory of an AOS device via HTTP/HTTPS (including using Auto-Link) caused the AOS device to reboot.
- SNMP communities containing the @ character were not accepted on products with switchports.

- In rare cases, the unit would get into a state where the flash file system could not be accessed properly until the unit was rebooted.
- The formatting of LLDP debug made it very difficult to read.
- If the IPv4 or IPv6 address in a DNS PTR request matched an IP address assigned to an interface on the device, the DNS proxy responded with a malformed PTR response.
- The **show interface dot11ap** <*number*> command may have shown an incorrect radio channel for a NetVanta 160.
- The GUI of an AOS device acting as a wireless access controller could not display the software currently running on a connected access point.
- An AOS device would print an event message in the CLI reporting a successful NetVanta 160 software upgrade, even if the upgrade had failed.

This section highlights major bug fixes for all products running AOS version R.4.0.

- When using the privilege levels feature, some engineering level commands were also made accessible.
- On the NetVanta 1531, 4660, 6250, 6360, and Total Access 900e (third generation), flash to flash file copies initiated via the console port would take longer than the same copy initiated via Telnet or SSH.
- Attempting to configure the privilege level for all commands in a command set containing commands without a **no** version resulted in an error.
- The **verify-file** command provided different output when run via the console port than when run via Telnet or SSH.
- If **aaa authentication enable default enable** was configured and no enable password was configured, if you issued the **disable** command followed by the **enable** command you were prompted for the enable password even though no password was configured.
- The **tacacs-server timeout** command had no effect until the TCP session to the TACACS+ server had been established.
- If the firmware filename received by auto-config matched the currently applied firmware filename, the auto-config process would restart every 60 seconds.
- When using Auto-Link to connect to n-Command MSP, a slow memory leak occurred.
- If a firmware transfer from n-Command MSP failed, the partial firmware file was not deleted from the file system.

This section highlights the Switch specific bug fixes in products running AOS version R11.4.5.

- If a large amount of multicast traffic was received on a NetVanta 1638, it may not have been able to control a NetVanta 160 AP successfully.

This section highlights the Switch specific bug fixes in products running AOS version R11.4.4.

- Using VRRP and IGMP snooping on the same VLAN caused a memory leak that eventually caused the switch to reboot.
- In rare cases, an ActivChassis line card got in a state where its configuration was not completely in sync with the rest of the ActivChassis, which caused devices connected to that line card to experience excess latency.
- In some cases, NetVanta 160s using NetVanta 1238Ps as access controllers did not receive their full configuration when booted.

This section highlights the Switch specific bug fixes in products running AOS version R11.4.3.

- SNMP traps sent from a NetVanta 1531 were sent to the wrong destination port.
- The command **test snmp trap** sometimes caused a reboot on a NetVanta 1531. This command was not intended for use on the NetVanta 1531 and has been removed.
- Traffic flowing over port-channels in an ActivChassis sometimes experienced excess latency and packet loss.
- In rare cases, the NetVanta 1638 rebooted due to a fan controller driver issue.
- In rare cases, an ActivChassis line card VLAN became out of sync causing loss of connectivity on that network.
- A NetVanta 1534 acting as a controller for more than 15 NetVanta APs eventually rebooted due to a memory leak.
- In rare circumstances, if a line card was disconnected from an ActivChassis and then reconnected, it would not receive its configuration from the ActivChassis master.

This section highlights the Switch specific bug fixes in products running AOS version R11.4.2.

- VRRP did not function properly on VLAN interfaces configured for IGMP snooping.
- When an ActivChassis master or backup reset separately from ActivChassis line cards, traffic destined for MAC addresses not currently in the MAC table of the ActivChassis were not properly broadcast from the 10 gigabit uplink interfaces on the line cards.
- When a device connecting through a NetVanta switch across a port channel moved to another location and began transmitting across a different port channel, the MAC address table entry for that device did not update properly.
- Files with names greater than 32 characters in length were accepted and written to flash memory on NetVanta switch products but the files were not read correctly.
- The ActivChassis feature could only be disabled from the CLI.
- Booting a NetVanta 1534 (second generation) or a NetVanta 1535P that was acting as an access controller for more than 20 directly connected NetVanta 160 Access Points caused some of the access points to pull incomplete configuration data from the NetVanta switch.

This section highlights the Switch specific bug fixes in products running AOS version R11.4.1.

- An ActivChassis could have failed to update L3 switching tables if the backup switch failed.

This section highlights the Switch specific bug fixes in products running AOS version R11.4.0.

- In certain versions of AOS, accessing the System Summary page in a NetVanta 1638 caused a 503 Service Unavailable response.
- The VoIP wizard did not function correctly when using Internet Explorer 9 or earlier.
- Regularly polling the NetVanta 1544 for bridge MIB info via SNMP caused a memory leak and eventually caused the switch to reboot.
- The command **show eps** was available in switches that did not support EPS.

Errata

The following is a list of errata that still exist in all products running AOS version R11.4.5.

- In rare cases, configuring some AOS devices to email exception reports will cause the device to reboot when it attempts to email the report to a SMTP server that supports STARTTLS.
- Assigning the IP address 192.168.190.1 to a NetVanta 160 from an AOS controller prevents it from pulling a full configuration from the AOS controller.
- Quotation marks around an SNMP view name that contains spaces are not preserved in in the running and startup configurations.
- Copying a file larger than 16 MB from flash memory of an AOS device via HTTP/HTTPS (including using Auto-Link) will fail.
- In some command sets, the **exit** command is not visible even though it still functions properly.
- Configuring a NetVanta 160's channel setting to **least-congested** may not properly adjust to the least congested channel available.
- The command **boot config flash** <*filename*> does not function properly on many AOS platforms.
- A host name entry in an ACL may fail to resolve to the correct IP address even though the router's host table reflects the correct IP address. Workaround: Use IP addresses instead of a host name when creating an ACL.
- Event messages indicating a firmware upgrade was attempted may appear in the AOS event log for NetVanta 160 APs that are not being upgraded.
- Having more than two entries in a Network Monitor ICMP probe test list will display **Tracked by: Nothing** in the **show probe** command output. This is merely a display error; the probes still function correctly.
- Accessing the GUI via HTTPS may be slow.
- The **vap-reference** command will not replicate VLAN IDs for an AP unless 802.1q encapsulation has been manually enabled on the AP expecting to receive the replicated configuration.
- A large enough drift in the system clock can cause an error when the NTP server attempts to synchronize.
- EAP Identity Responses from a wireless client that do not contain an Identity field can result in the NetVanta 150 creating a malformed RADIUS packet.
- NetVanta 150s may not properly handle immediate Access-Accept responses to Access-Request messages.
- The name of a deleted IPv4 ACL cannot be used to name a new IPv6 ACL.
- The pass phrase for the Wireless Wizard does not persist across reboots.

The following is a list of Switch specific errata that exist in products running AOS version R11.4.5.

- The idle process on a NetVanta 1638, visible using the command **show processes cpu**, is named **procnto-600-** which causes confusion.
- The active CPU process load percentages on a NetVanta 1531, visible using the command **show processes cpu,** do not properly add up to 100 percent.
- In an ActivChassis configuration using port channels that were distributed among individual line cards, an ActivChassis would sometimes discard traffic if it was attempting to send more than 1 Gbps across the port channel.

- When rebooting a NetVanta 1531, a software watchdog error will display immediately prior to the reboot, indicating the watchdog application has crashed. This does not cause a functional problem.
- A switchport cannot be disabled by clearing the Enabled check box in the GUI.
- Hardware access lists cannot be used to block traffic destined for the management interface of a NetVanta 1638.
- Traffic destined for devices that match static ARP entries in a Layer 3 switch will experience extra latency if a static MAC entry is not present for the same device.
- When attempting to configure a voice VLAN on a switchport already configured as a port mirror destination, the error message provided did not clearly indicate why the voice VLAN command was not accepted.
- ICMP responses from a VLAN interface on the NetVanta 1531 may be periodically latent. ICMP routed or switched through the unit is not affected.
- When running R11.1.0 boot ROM on a NetVanta 1531 and attempting to apply a backup firmware image from bootstrap, the switch will print out benign errors indicating packets are being dropped due to congestion.
- Creating a hardware ACL with the same name as a previously created and deleted IP ACL will result in the creation of an IP ACL with an implicit permit.
- Removing port channels from the configuration while an ActivChassis is under a heavy load could cause the ActivChassis to reboot.
- An ActivChassis stack is not able to pass 10 Gb of 64-byte frames over a single 10 Gb fiber link in an SFP+ XIM.
- A standard MAC ACL can be created with the same name as an existing extended MAC ACL.
- If a line card has the same VCID as another line card it cannot be added to the ActivChassis stack, and output from **show ac detail** command does not adequately point out the reason for this failure.
- On NetVanta 1638s in ActivChassis mode, spanning tree will reconverge at non-rapid spanning tree rates (about 30 seconds) if there are spanning tree topology changes in the network.
- The NetVanta 1638 cannot boot from a firmware image stored on a connected USB drive.
- If an ActivChassis line card has NetVanta APs physically attached, and the line card is removed and added back to the ActivChassis stack, the NetVanta APs will not properly indicate the AC that controls them. Bouncing the switchport on the line card or rebooting the ActivChassis master will resolve this issue.
- Legacy switch stacking cannot be configured if VLAN 2386 is created prior to enabling stacking.
- When a switchport on a NetVanta 1535P is running forced speed 100 Mbps in standard mode (not ActivReach mode), jumbo frames with size greater than 9000 bytes are dropped.
- The chassis fans in NetVanta 1544F switches oscillate at a higher frequency than expected during a period when the switch is not being heavily utilized.
- NetVanta 1500 and 1600 Series switches may not properly prioritize traffic across port channels.
- Certain OIDs in the Bridge-MIB may not return a value on AOS switches.
- L3 switch statistics incorrectly report forwarded frames when subjected to a traffic stream consisting of invalid IPv4 header checksum values. The frames are properly dropped by the switch, but the statistics counter erroneously reports frames being forwarded.
- Port mirroring on a NetVanta 1544 switch might not mirror traffic in both directions.

- The L3 Switch Header Error and Discard counters on the NetVanta 1544P (second generation) do not increment.

Upgrade Instructions

Upgrading ADTRAN products to the latest version of AOS firmware is explained in detail in the configuration guide *Upgrading Firmware in AOS*, available at https://supportforums.adtran.com.

Documentation Updates

The following documents were updated or newly released for AOS version R11.4.5 or later specifically for the AOS products. These documents can be found on ADTRAN's Support Forum available at https://supportforums.adtran.com. You can select the hyperlink below to be immediately redirected to the document.

- *AOS Command Reference Guide*

