



RELEASE NOTES

AOS version R13.2.0
February 12, 2018

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Contents

<i>Introduction</i>	4
<i>Supported Platforms</i>	4
<i>System Notes</i>	6
<i>Features and Enhancements</i>	6
<i>Fixes</i>	7
<i>Errata</i>	8
<i>Upgrade Instructions</i>	13

Introduction

AOS version R13.2.0 is a major system release that adds new features and 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 8](#).

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 R13.2.0. 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 (support@adtran.com or 888-423-8726) for assistance.

Platform	Standard Feature Pack	Enhanced Feature Pack	SBC Feature Pack	Minimum Boot ROM
NetVanta 644		√		A5.01.B1
NetVanta 1234/1234P/1238/1238P (2nd and 3rd Gen.)	√			XB.01.02
NetVanta 1235P	√			R10.4.0.B1
NetVanta 1335		√		15.01.00
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 1550	√			BVS1.0
NetVanta 1638/1638P	√			18.02.01.SC
NetVanta 3140	√	√	√	R11.5.0
NetVanta 3200/3205 (3rd Gen.)	√	√		17.02.01.00
NetVanta 3305 (2nd Gen.)	√	√		04.02.00
NetVanta 3430	√	√		13.03.SB
NetVanta 3430 (2nd Gen.)	√	√	√	17.05.01.00
NetVanta 3448	√	√	√	13.03.SB
NetVanta 3450	√	√		17.06.01.00

Platform	Standard Feature Pack	Enhanced Feature Pack	SBC Feature Pack	Minimum Boot ROM
NetVanta 3458	√	√		17.06.01.00
NetVanta 4305 (2nd Gen.)	√	√		08.01.00
NetVanta 4430	√	√	√	17.04.01.00
NetVanta 4660		√	√	R10.10.0.B5
NetVanta 5305	√	√		11.03.00
NetVanta 5660		√	√	R11.4.1.B2
NetVanta 6240		√	√	A5.01.00
NetVanta 6250		√	√	R10.9.0
NetVanta 6310/6330		√	√	A3.01.B2
NetVanta 6355		√	√	14.06.00
NetVanta 6360		√	√	R11.2.0
NetVanta 6410			√	R11.3.0
Total Access 900 Series (2nd Gen.)		√		14.04.00
Total Access 900e Series (2nd Gen.)		√	√	14.05.00.SA
Total Access 900e Series (3rd Gen.)		√	√	R10.9.0

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 R13.2.0 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 R13.2.0 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](https://supportforums.adtran.com) available at <https://supportforums.adtran.com>.

- It is recommended that your browser's cache be cleared before viewing the GUI after an upgrade.
- MGCP is not supported on the NetVanta 6360.
- As of R11.8.0, a valid SBC call capacity license is required for SIP B2BUA functionality on the following products:

NetVanta 6250

NetVanta 6360

Total Access 900e (third generation)

Features and Enhancements

This section highlights the major features, commands, and behavioral changes for all products running AOS version R13.2.0.

- Added the ability to display thresholds for, and send SNMP traps for, the following SFP diagnostic parameters: Tx power, Rx power, Supply voltage, Bias current, and Laser temperature
- Added the ability to query VDSL status and performance monitoring statistics via SNMP on the NetVanta 4660, 5660, and 6360.
- Added the ability to configure a hostname or FQDN as a SNMP trap target.

This section highlights the major Carrier related features, commands, and behavioral changes for products running AOS version R13.2.0.

- Added the ability to query interface, queue, dynamic counter, and MEF performance statistics via SNMP on the NetVanta 4660, 5660, and 6360. Additionally, user login and logout SNMP traps were added.

This section highlights the major Voice related features, commands, and behavioral changes for products running AOS version R13.2.0.

- Added the ability for the SIP proxy to reuse existing client SIP connections when devices being the SIP proxy are running SIP over TCP.

Fixes

This section highlights major bug fixes for all products running AOS version R13.2.0.

- If a RADIUS or TACACS+ server was configured in a named VRF, DNS queries for that server were sent via the default VRF. If the configured server was not resolvable via the default VRF, the RADIUS or TACACS+ connection would fail due to lack of DNS resolution.
- When Apply was clicked on an interface's page under Spanning Tree Port Information on the Data->Spanning Tree page in the GUI, a 503 Server Error was returned on the NetVanta 3448 and 3458.
- If **ip pim sparse-mode** was configured on an interface that did not have an IPv4 address configured, an error with no text was returned.
- In rare cases, a reboot occurred when AAA accounting was enabled.
- If a value greater than 2147483647 was entered for the **dampening-interval** on a track, it was improperly stored in the configuration as 2147483647.
- A reboot occurred if a fragment chain was sent to a local service running on the unit (e.g. SIP, GRE, etc.).
- On the NetVanta 4660, 5660, and 6360, LLDP messages were not received.
- In some cases, issuing the **show dot11 access-point detail** command resulted in a reboot.
- The CLI would hang for several seconds after the prompt was returned when the **ssh key regenerate** command was issued.
- A reboot occurred when email logging was used with certain SMTP servers that supported STARTTLS.
- The output of **show ssh-server mypubkey** displayed an incorrect value for the RSA public key.

This section highlights the Carrier specific bug fixes in products running AOS version R13.2.0.

- If a non-default **ce-vlan-id tpid** was configured, traffic would not egress any layer 3 subinterfaces that had an outbound QoS policy applied.

This section highlights Voice specific bug fixes in AOS version R13.2.0.

- A specially crafted SIP request was able to bypass the validation that ensures the request was from an authorized source before it was processed.
- If a CANCEL was received on a valid SIP dialog when using the SIP proxy, in some cases a 200 OK response was not sent.
- When using MGCP, caller ID information from the previous call was sent to the phone if the current call did not contain a SignalRequest for L/ci in the MGCP signaling.
- If an inbound MGCP call was initiated with a CRCX immediately followed by another MGCP request containing a SignalRequest for L/ci, one-way audio occurred after the call connected.
- The SIP trunk monitor did not consider the resolved IP address and port when updating the status of server entries.
- DNS client debug was enhanced to make it clear when a DNS request was being answered from the DNS cache.
- If the SIP proxy monitor was enabled in **stateful-transparent** mode and the route to the configured SIP proxy server was removed (e.g. the egress interface went down), the SIP proxy failed to spoof 200 OK responses to REGISTER requests.
- If a **sip proxy failover group match-value** command was configured while the SIP proxy was disabled, the unit rebooted.

- A reboot occurred if an HMR intercept policy was shutdown, had changes made to it, and then was re-enabled.
- If two different FQDNs were used for SIP TLS with persistent connections and the FQDNs both resolved to the same IP address, the persistent connection was continuously torn down and re-established.
- When using the proxy monitor with the SIP proxy in transparent mode, if all servers failed to reply to a REGISTER the proxy did not spoof a 200 OK response, preventing the phone from entering survivability.
- When using the SIP proxy, BYE requests destined for the network were sent to the primary configured server instead of the server with which the call was in-dialog.
- In scenarios involving an E&M wink trunk in which the unit didn't receive a valid wink, the **debug interface t1 0/x rbs** output stated **Valid Wink Received**.
- On a PRI to SIP hairpin call, if the inbound SIP call immediately transitioned from ALERTING with inband audio to CONNECT, no audio was present.
- If **trust-domain** was configured on a SIP voice trunk and a P-Asserted-Identity header was received in an inbound INVITE, the inbound call would be matched to the first trunk that matched the host in the P-Asserted-Identity header even if there was a better match on a different header (e.g., Via) in which the port and transport also matched.

This section highlights Switch specific bug fixes in AOS version R13.2.0.

- On the NetVanta 1531 and 1550, if IGMP snooping was enabled on any VLAN, IGMP reports would be forwarded back out the source interface on VLANs that did not have IGMP snooping enabled.

Errata

The following is a list of errata that still exist in all products running AOS version R13.2.0.

- If a hostname or FQDN is configured as a SNMP trap target, DNS queries will be re-attempted on an exponential backoff if both A and AAAA DNS records do not exist for the configured hostname.
- A user login SNMP trap is generated when a user attempts to login but the attempt fails due to a AAA authorization failure.
- Router advertisements for delegated prefixes assigned to a interface do not use the valid lifetime specified in the received IA_PD Prefix option. **Workaround:** Configure **ipv6 nd prefix named-prefix <prefix name> <prefix sub-bits>** for each delegated prefix assigned to the interface.
- Making any changes in the GUI for an Ethernet interface configured for DHCP causes the DHCP client to perform a DHCP release/renew on that interface when the changes are applied.
- A few legacy cellular interface commands were incorrectly removed when USB LTE support was added. The removed commands include:
 - **snmp trap cellular**
 - **snmp trap link-status**
 - **snmp trap threshold-ecio**
 - **snmp trap threshold-rssi**
- When using the Novatel USB 551L modem with a NetVanta 3140, a small number of lost frames will occur with packets smaller than 512 bytes. The loss occurs in the modem and not the NetVanta 3140.

- Assigning the IP address 192.168.190.1 to a NetVanta 160 AP from an AOS controller prevents the AP from pulling a full configuration from the controller.
- On the NetVanta 6410, HTTP file transfers to the unit's flash memory can be up to 10 times slower than TFTP.
- If a track is configured to monitor the line protocol of an interface configured for 802.1q, the track will never go into a passing state even the interface is up. This issue does not affect the NetVanta 4660, 5660, or 6360. **Workaround:** Track the line protocol of the subinterface.
- In some command sets, the **exit** command is not visible even though it still functions properly.
- On the NetVanta 5305, VPN performance for 64 and 256 byte packets decreased moderately compared to R11.2.0.
- Speed and duplex settings are displayed with on MEF Ethernet interfaces in **show running-config verbose** command output, even though those options are not valid and cannot be configured for that type of interface.
- In the VQM RTP Monitoring menu, the refresh button refreshes the displayed graphic, but it also duplicates information in the lower part of the menu. In addition, when the cursor hovers over a data point, multiple instances of the same data display.
- In the VQM RTP Monitoring menu, the Source IPs and Interfaces menus have invisible data points that appear and display data when the cursor hovers over them. The invisible data point information duplicates a visible data point and can usually be found hidden above the visible data point.
- On the NetVanta 3430, the setup wizard in the GUI can freeze with a **Please Wait** message.
- The output of **show qos map interface <interface>** shows **ce-vlan-id** instead of **vlan-id** and **ce-vlan-pri** instead of **cos** on products other than the NetVanta 4660.
- On the NetVanta 6240, SNMP traps for warm start and cold start are reversed.
- On a NetVanta 4430, information for an inserted SFP does not display correctly.
- Ethernet interfaces in third generation Total Access 900e units are not visible in the Data > IP Interfaces GUI menu. These interfaces are visible and can be configured from the System > Physical Interfaces menu instead.
- The Total Access 900e (third generation) and NetVanta 6250 send a cold start SNMP trap on reload instead of a warm start trap.
- On very rare occasions, port T1 3/3 on an Octal T1 NIM can stop negotiating LCP when it is part of an MLPPP bundle. Rebooting the device will restore the interface.
- On the NetVanta 6310 or 6330, if a SHDSL circuit with a detected bad splice retrains to a different line rate, the distance of the bad splice will display incorrectly.
- On the NetVanta 6310 or 6330, if the top level ATM interface on a SHDSL ATM NIM2 module is disabled and re-enabled, the ATM circuit will no longer be able to pass traffic. The ADTRAN unit must be rebooted to correct the problem.
- When using a T1/E1 EFM NIM2 in the NetVanta 6310 or 6330, the EFM counters do not increment as traffic passes through the device.
- Removing a USB modem from the USB NIM while active could cause the AOS device to reboot. Shutting down the demand interface being used by the modem prior to removing the modem will prevent this reboot.
- 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.
- VQM may show a loopback interface in the GUI when a loopback interface is not configured.
- The **called-number** command on a demand interface does not function properly.
- When using XAUTH with a VPN client, an AOS device requests CHAP authentication from the client but does not send a CHAP challenge payload. This can cause issues with VPN clients that expect to receive this payload.
- If a USB modem is physically disconnected from a USB WWAN NIM while active NIM is active, the demand interface being used by the modem will not automatically shut down. The demand interface should be disabled before removing the modem to prevent this issue.
- On the NetVanta 6310/6330, with FFE enabled, passing traffic from the Ethernet 0/1 interface out an Ethernet NIM2 can cause the Ethernet 0/1 interface to fail. The interface is recovered with a reboot. Disabling FFE on the Ethernet 0/1 interface prevents the issue.
- 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.
- Updating PRL values on a Sprint NetVanta 3G NIM may not function properly.
- A NetVanta 5305 can stop passing traffic for brief intervals when negotiating frequent VPN tunnels using Diffie Hellman Group 5.
- 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.
- When a switchport on a NetVanta 3458 is configured for **port-security**, it does not receive BPDUs. If multiple connections between the NetVanta 3458 and another switch are made, a switching loop could occur because both ports will automatically enter a forwarding state even though the Spanning Tree protocol should cause one port to enter a blocking state.
- The output of the command **show ethernet cfm mep local** may display an incorrect maintenance association for a MEP ID if multiple maintenance associations are configured on the unit.
- The NetVanta 6240 should send warm_start SNMP traps when the unit is told to reboot by software. It should only send cold_start traps when the power is cycled. Instead, it is sending cold_start traps, even when reloaded by software.

The following is a list of Carrier Ethernet specific errata that exist in products running AOS version R13.2.0.

- The **efm-group** interface type option is missing from the **tunnel source** command on tunnel interfaces.

The following is a list of Voice specific errata that exist in products running AOS version R13.2.0.

- If a * is contained in the called or calling party number IEs of an ISDN setup message, the call will be improperly rejected.
- If a voice trunk is removed while calls are active, a reboot may occur.

- Enabling the SIP stack on a device allocates numerous resources. If this resource allocation fails, the device will reboot. Multiple sockets must be available and local SIP ports, typically UDP and TCP 5060, must be available as well, otherwise the resource allocation will fail and the device will reboot.
- When using the SIP proxy with media anchoring, VQM reports incorrect information for LocalURI, RemoteURI, and LocalCaller if a reINVITE that modifies the SDP is received from the called party during a call.
- Issuing the command **clear voice call active** with active MGCP calls may result in a reboot.
- If **sip tls** is configured while **sip** is disabled, **no sip tls** must be issued before **sip** can be enabled, otherwise the following error will be displayed: %Error: Failed to modify SIP Access-class with new VRF.
- If a CA profile is removed while SIP TLS calls using that profile are active, BYE messages will not be sent for any of the active calls.
- The ERL tool is not functional on the NetVanta 6360.
- On the NetVanta 6360, if the onboard FXO port is configured to receive digits, a 500 ms delay is required after answering before receiving the first DTMF digit.
- Receiving an initial INVITE with both audio and T.38 SDP will result in the call being placed on hold.
- In AOS R10.4.0 and higher, modem-passthrough will fail to send a reINVITE to G.711 if the endpoint is configured with a codec-list that doesn't contain G.711.
- The command **ip mgcp qos dscp <value>** will not take effect until either **ip mgcp** is disabled and then re-enabled or the AOS device is reset.
- When the SIP server monitor clears the primary SIP server from a delayed state due to a failure of the secondary SIP server, there will be a 60-second delay until a SIP registration is attempted to the primary SIP server. This delay will not occur if the SIP server monitor is clearing the secondary SIP server from a delayed state due to a failure of the primary SIP server.
- On the Total Access 900e (third generation) and NetVanta 6250, SIP must be enabled in the running configuration whenever MGCP is used for voice.
- If an ADTRAN unit is configured with single call appearance mode, forwarded calls on a PRI trunk will fail.
- When using media anchoring, receiving a 183 Session Progress after a previous 183 on hairpinned calls can result in no early media if the SDP in the second 183 differs from the first.
- Echo cancellation is not enabled on three-way calls when using the local conferencing feature.
- On NetVanta 644 and NetVanta 6240 Series units, V.21 messages will sound overly amplified when listening to the TX output of a T.38 DSP capture. This is a flaw of the capture utility and does not represent how the audio actually sounds.
- DSP captures on the NetVanta 6240 and 644 platforms consume large amounts of memory while in progress. The unit could become unstable if a DSP capture is active for an unusually long period of time.
- With the ADTRAN unit set for **voice flashhook mode transparent**, the conference originator must wait for the third-party to answer before executing the flashhook to initiate the conference.
- On the NetVanta 6240 Series, over an extended period of use, T.38 calls can cause DSP channels to cease producing a dial tone and have poor voice quality. Rebooting the unit will correct the problem.

- NetVanta 6240 only: While running 29 or more simultaneous calls using E&M Immediate, Wink, or Feature Group D, it is possible to get in a state where DTMF tone detection will not function on any outbound (DSX to SIP) call using DSP 0/1.15 or higher. While in this failed state, all calls will continue to function in either call direction on DSP 0/2, as well as all calls on DSP0/1 in the inbound direction. With a load of 28 or fewer calls, all calls will function reliably in both directions on both DSPs. No consistent work around has been identified at this time. A unit reboot will typically solve the problem.
- The NetVanta 6240 Series IP business gateways can reboot if 60 simultaneous calls are placed through the DSP.
- The Total Access 900e Series (second generation) cannot properly handle more than 40 simultaneous E&M RBS calls. More than 40 simultaneously active calls could result in no dial tone or no audio on the last 8 channels.
- On the NetVanta 6310/6330 Series, if a SIP trunk is trying to register a large number of users and the registration fails, activating **debug sip trunk-registration** will cause the Telnet and console connection to become unresponsive. A reboot clears the condition.

The following is a list of Switch specific errata that exist in products running AOS version R13.2.0.

- In some cases, the 1200485G1 1000BASE-T SFP does not properly establish a link when installed in a NetVanta 1550 switch.
- On a NetVanta 1544F, a switchport interface with a connected SFP interconnect cable cannot be shut down properly.
- The idle process on a NetVanta 1638, visible with the command **show processes cpu**, is named **procnto-600-**, rather than **Idle**, like other AOS platforms.
- Certain NetVanta PoE switches require the command **power inline 2-point** be configured on applicable switchports in order to power Polycom VVX phones with three attached color expansion modules.
- In an ActivChassis configuration utilizing port channels that are distributed among individual line cards, if more than 1 Gbps is sent across the port channel the ActivChassis will sometimes discard some traffic.
- 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.
- 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.
- 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.
- 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.

- Certain OIDs in the Bridge-MIB may not return a value on AOS switches.
- Port mirroring on a NetVanta 123x (second and third generation) 1534, and 1544 cannot send transmit mirrored frames without a VLAN tag.

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>.