RELEASE NOTES

AOS Converged Access
AOS version R12.2.0.SA
November 21, 2016

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Introduction

AOS version R12.2.0.SA 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*.

A list of new or updated documents for this release appears in *Documentation Updates on page 13*.

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 R12.2.0.SA. 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 3120		√		14.04.00
NetVanta 3130		√		14.04.00
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

Platform	Standard Feature Pack	Enhanced Feature Pack	SBC Feature Pack	Minimum Boot ROM
NetVanta 3430 (2nd Gen.)	√	√	√	17.05.01.00
NetVanta 3448	√	√	√	13.03.SB
NetVanta 3450	√	√		17.06.01.00
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 R12.2.0.SA 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 R12.2.0.SA 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.

Features and Enhancements

This section highlights the major features, commands, and behavioral changes for all Converged Access products running AOS version R12.2.0.SA.

- Added support in the license manager for SIP proxy survivability and VQM licenses.
- Added an SSH client to the AOS command line.
- Added RSA support to the SSH server in AOS.

This section highlights Voice specific features, commands, or behavioral changes in AOS version R12.2.0.SA.

- Added the ability to configure a VRRPv2 or VRRPv3 virtual IP address as the media gateway address on Ethernet and Gigabit Ethernet interfaces.

Fixes

This section highlights major bug fixes for all products running AOS version R12.2.0.SA.

- In rare cases when connecting to a SMTP server that supported STARTTLS, increased CPU utilization was seen until the unit was rebooted.
- To address CVE-2016-1409, received ICMPv6 ND packets will no longer be forwarded.
- When using the **copy console flash startup-config** command, a reboot occurred if Auto-Link attempted to perform a check-in before Ctrl+D was pressed.
- When using the firewall with policy-based routing (PBR) and WAN failover, changes to the next hop specified in a route map were not applied properly after the primary connection failed unless **ip firewall fast-allow-failover** was configured.
- The licensing page in the GUI did not display the same information displayed in the CLI.
- On the NetVanta 4660, 5660, 6250, 6360, and Total Access 900e (third generation), the unit incorrectly displayed 100 percent CPU utilization after a long uptime.

- If the **shutdown** and then **no shutdown** commands were issued on a PPPoE interface, two PADT packets were transmitted instead of just one. The same issue also occurred if the **clear pppoe** *<interface>* command was issued.

- If the startup-config file was not present when copying a file from an HTTP/HTTPS server to startup-config, the transfer failed.

- When **debug ipv6 dhcp client** was enabled, no output was displayed.

- If multiple RADIUS or TACACS+ servers were defined in the configuration, applying changes in the **Passwords** > **Service Authentication** section of the GUI resulted in the removal of all but one of the defined RADIUS or TACACS+ servers.

- The GUI accepted spaces in the text fields for RADIUS and TACACS+ server hosts, which allowed an invalid configuration to be applied.

- In rare cases, a reboot occurred on the NetVanta 6410.

- When reporting the SFP Tx Bias Current via the SNMP entPhySensorValue, the value was rounded to the nearest integer even though entPhySensorPrecision indicated that two decimal points of precision were being provided.

- On the NetVanta 4660, 5660, and 6360, if **speed 1000 nonegotiate** was configured on gig 0/1 and a fiber SFP was in use on that port, the ifSpeed and ifHighSpeed OIDs listed a bandwidth value of 0. The **show interface** output also displayed a bandwidth of 0.

- Brute force protection on the console port did not function properly if AAA was enabled.

- If **auto-config firmware definition-file** pointed to a binary file instead of a text file, a reboot occurred when auto-config was enabled.

- SFP information was not reported properly for SFPs that support 100Base-FX.

- On some 1 Gbps DWDM SFPs, the DWDM MSA data was interpreted as MSA data, resulting in the minimum temperature, maximum temperature, and maximum supply current being reported incorrectly.

- NTP was upgraded to 4.2.8p6 to correct security vulnerabilities.

This section highlights Carrier Ethernet specific bug fixes in AOS version R12.2.0.SA.

- 01:80:C2:00:00:2E and 01:80:C2:00:00:2F were not included in the list of Layer 2 control protocol destination MAC addresses matched by **match l2cp** on an EVC map.

- If a Y.1731 MEP was configured after the EVC monitored by that MEP was configured, E-LMI on the associated UNI port would report an EVC status of ACTIVE when the MEP was in a loss of continuity (LOC) state.

- When network sync switched from the primary to the secondary timing source, the generated SSM-QL momentarily changed to QL-EEC1.

This section highlights the Voice specific bug fixes in products running AOS version R12.2.0.SA.

- If **early-cut-through** was enabled on an ISDN trunk (the default configuration), modem-passthrough did not detect any tones when inband call progress tones were provided and it took more than a few seconds to answer the call.

- When **sip proxy transparent ip-spoofing** was configured, the host portion of the Contact URI in the 200 OK response to REGISTER requests was incorrectly modified to the SIP server's IP address when the 200 OK was proxied towards the phone.

- If the SIP proxy was in use with multiple configured servers and a call was established with a secondary server, any reINVITEs on that call were improperly sent to the primary configured server.

- Outbound call matching in the SIP proxy did not function properly when **match outbound source from** was configured on a user template.

- On a call between two SIP trunks, transcoding could not be forced by CODEC lists if the received SDP offer on the inbound call and the received SDP answer on the outbound call shared a common CODEC.

- When using the SIP proxy in transparent mode, there was a very short window of time in which a proxied INVITE sent in response to an authentication challenge was not routed to the original Layer 3 destination.

- If two SIP trunks were defined that used the same FQDN but different port numbers, inbound calls did not match the correct trunk if only an A record existed for the FQDN.

- On the NetVanta 6250, 6360, and Total Access 900e (third generation), if caller ID was received on an FXO port and the continuous mark signal was less than 150 ms, caller ID was not detected properly.

- If an offered media stream from SDP was rejected, memory was leaked. This resulted in a reboot over time.

- If an FXS user placed a call that routed out a SIP trunk, then hairpinned back from the SIP trunk and out a PRI on the same unit, and was then disconnected by the FXS user, one way audio was experienced on that DSP channel until the FXS port went off hook again. This issue only affected the NetVanta 6250, 6360, and Total Access 900e (third generation).

This section highlights Switch specific bug fixes in AOS version R12.2.0.SA.

- In NetVanta 1638 ActivChassis applications that have heavy IGMP loads, a reboot may have occurred.

- When using ActivChassis on a NetVanta 1638, false positive input errors may have been counted on the ports configured for ActivChassis.

- When using the Fluke LinkRunner AT 2000 Cable/Ethernet tester, PoE tests often failed.

- In rare cases, a reboot occurred on the NetVanta 1638.

- If a switchport had a voice VLAN configured, attempting to access the VoIP Report in the GUI resulted in a 503 Server Error response.

Errata

The following is a list of errata that still exist in all products running AOS version R12.2.0.SA.

- The DHCP pool time zone offset value does not display properly when a negative, partial hour offset is entered.

- When using VRRPv2 or VRRPv3, the router requires the primary virtual IP address configured on both units to match, which violates RFCs 3768 and 5798.

- 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.

- Accessing the GUI via HTTPS may be slow.

- 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 loca**l 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 R12.2.0.SA.

- 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 R12.2.0.SA.

- When running R11.10.5 or R12.2.0, if inband call progress tones are presented on a SIP-to-SIP or a SIP-to-ISDN call, an unexpected 180 Ringing response without SDP is sent by the unit. This prevents the inband call progress tones from being heard.

- 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.

- TLS negotiation will fail when using ECDSA ciphers for SIP TLS.

- 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 R12.2.0.SA.

- On the NetVanta 1550, the **speed 1000 nonegotiate** command did not function properly on the xgig interfaces.

- 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.

Documentation Updates

The following documents were updated or newly released for AOS version R12.2.0.SA or later. 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*