



ADTRAN Operating System

R13.12.0 Release Notes

Release Notes

6AOSRNR13120-40A

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To the Holder of this Document

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Table of Contents

1. Introduction	4
2. Supported Platforms	4
3. Features and Enhancements	5
General Features in R13.12.0	5
Voice Features in R13.12.0	5
4. Fixes	6
General Bug Fixes in R13.12.0	6
Voice Specific Bug Fixes in R13.12.0	6
5. Errata	7
General Errata	7
Carrier Ethernet Specific Errata	8
Voice Specific Errata	8
Switch Specific Errata	10
6. System Notes	10
7. Upgrade Instructions	11
8. Warranty and Contact Information	11

1. Introduction

AOS version R13.12.0 is a major system release that introduces 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 7.

Configuration guides, white papers, data sheets, and other documentation can be found on ADTRAN's Support Community, <https://supportcommunity.adtran.com>. The contents of these release notes will focus on the platforms listed in “[Supported Platforms](#)” on page 4. Additional information specific to AOS, and the products supported in this release, is outlined in “[System Notes](#)” on page 10.

2. Supported Platforms

[Table 1](#) lists the platforms that are supported in AOS version R13.12.0. 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 (email support@adtran.com or call (888) 423-8726) for assistance.

Table 1. Supported Platforms

Platform	Standard Feature Pack	Enhanced Feature Pack	SBC Feature Pack	Minimum Boot ROM
NetVanta 1531/1531P	✓			R11.1.0
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 3148	✓	✓	✓	R11.3.0.B3
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
NetVanta 3458	✓	✓		17.06.01.00
NetVanta 4148	✓	✓	✓	R11.3.0.B3
NetVanta 4305 (2nd Gen.)	✓	✓		08.01.00

Table 1. Supported Platforms (Continued)

Platform	Standard Feature Pack	Enhanced Feature Pack	SBC Feature Pack	Minimum Boot ROM
NetVanta 4430	✓	✓	✓	17.04.01.00
NetVanta 4660		✓	✓	R10.10.0.B5
NetVanta 5660		✓	✓	R11.4.1.B2
NetVanta 6250		✓	✓	R10.9.0
NetVanta 6310/6330		✓	✓	A3.01.B2
NetVanta 6360		✓	✓	R11.2.0
Total Access 900 Series (2nd Gen.)		✓		14.04.00
Total Access 900e Series (2nd Gen.)		✓	✓	14.05.00.SA
Total Access 900 Series (3rd Gen.)		✓		R13.7.0.B1
Total Access 900e Series (3rd Gen.)		✓	✓	R10.9.0

3. Features and Enhancements

General Features in R13.12.0

This section highlights the major features, commands, and behavioral changes for all products running AOS version R13.12.0.

- Upgraded OpenSSL to 1.1.1i.
- Increased the maximum number of tracks from 1,000 to 1,020.
- Introduced support for GRE over IPsec on the NetVanta 3148 and 4148.
- Added the ability to disable key exchange algorithms, MAC algorithms, and ciphers on the SSH server. Additionally, the diffie-hellman-group1-sha1 key exchange algorithm, hmac-sha1 MAC algorithm, and 3des-cbc cipher are now disabled by default.

Voice Features in R13.12.0

This section highlights the major voice related features, commands, and behavioral changes for all products running AOS version R13.12.0.

- Added support for RTCP multiplexing on SIP to SIP calls through the B2BUA.

4. Fixes

General Bug Fixes in R13.12.0

This section highlights major bug fixes for all products running AOS version R13.12.0.

- Fixed an issue in which navigating to the QoS maps page in the GUI of a NetVanta 3148 or 4148 would cause the GUI to become unresponsive until the unit was rebooted.
- Fixed an issue in which IRT_DEFAULT was set to 600 seconds instead of 86400 seconds as specified in RFC 8415 section 7.6.
- Fixed an issue on the NetVanta 3148 and 4148 in which throughput between routed interfaces and switch ports was poor.
- Added the sysObjID for the NetVanta 4148 without PoE (P/N 17004148F1) to the adtrantc MIB.

Voice Specific Bug Fixes in R13.12.0

This section highlights voice specific bug fixes in AOS version R13.12.0.

- Fixed an issue in which SIP requests would be sent to the wrong server if deregistration from the previously selected server failed after a successful server rollover when using validated SIP registration.
- Fixed an issue in which a reboot would occur if local ringback generation was triggered and the received INVITE did not contain a SDP offer.
- Fixed an issue in which a local 3-way conference was not established properly if a remote SIP UA replied to a reINVITE initiating a conference with a SDP answer containing hold SDP.
- Fixed an issue in which SDP generation failed when using SIP over TCP with **no sip udp** configured.
- Fixed an issue in which RFC 3680 subscriptions may have been initiated to a server with which the device was not registered.
- Fixed an issue in which received SIP UPDATE requests were improperly rejected on early dialogs.
- Fixed an issue in which a SIP registration state track would enter the failed state if deregistration from the previously selected server failed after a successful server rollover when using validated SIP registration.
- Fixed an issue in which SIP server monitor failed to generate properly formatted SIP messages when the selected server had an IPv6 address.
- Fixed an issue in which a reboot may have occurred in rare cases if HMR was configured.
- Fixed an issue in which a SIP dialog was not formed upon a successful RFC 3680 subscription.
- Fixed an issue in which multiple Authorization or Proxy-Authorization headers may have been included in SIP requests. This issue was introduced in R13.9.0.
- Fixed an issue in which FXS ports would ring indefinitely if a MGCP SignalRequest for L/r6 or L/r7 was received.
- Fixed an issue in which configuring an empty voice codec-list resulted in no codecs being displayed in subsequent codec-lists.

- Fixed an issue in which SIP resources were leaked during nonce processing during authentication. Over time, this leak would result in the unit being unable to send SIP REGISTER requests. This issue was introduced in AOS R13.9.0
- Fixed an issue in which SIP server TLS certificate validation failed if the CA certificate for validating external servers was not the first listed CA certificate in the CA profile.
- Fixed an issue in which SIP SUBSCRIBE requests sent in response to an authentication challenge may not have included the authorization header.

5. Errata

General Errata

The following is a list of errata that exists in all products running AOS version R13.12.0.

- If an IPv6 Router Advertisement has not been received, AOS continues to send IPv6 Router Solicitations after MAX_RTR_SOLICITATIONS, which violates RFC 4861 section 6.3.7.
- On the NetVanta 4660, 5660, and 6360, the 30 second NNI output frame rates on subinterfaces do not match the parent interfaces when frames are dropped by a configured shaper.
- On the NetVanta 4660, 5660, and 6360, the 30 second UNI input and NNI output octet rates on subinterfaces do not match the parent interfaces.
- IPv6 Neighbor and Router Solicitations are sent 40 seconds after an interface comes up, even if an IPv6 Router Advertisement has been received. This violates RFC 4861.
- On the NetVanta 3148 and 4148, the output of the **show power inline** command lists 12 gigabit-switchports instead of 8.
- A reboot may occur when running line rate traffic on the NetVanta 3148 and 4148 through an interface that has an access-policy assigned that contains discard entries.
- On the Total Access 900 Third Generation, a remote payload loopback initiated from the DSX interface (t1 0/2) does not function properly.
- On the Total Access 900 Third Generation, the Network (t1 0/1) and DSX (t1 0/2) interfaces transmit B8ZS coded signals when configured for AMI coding.
- The sequence number in the TCP RST generated by the firewall when clearing a policy-session entry does not comply with RFC 793. This issue occurs when clearing a policy-session entry manually via the CLI and during failover if **ip firewall fast-nat-failover** and/or **ip firewall fast-allow-failover** are configured.
- 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.
- 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.
- 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.

Carrier Ethernet Specific Errata

The following is a list of Carrier Ethernet specific errata that exist in products running AOS version R13.12.0.

- The Invalid CE VLAN ID counter does not function on the GigabitEthernet 0/1 interface on the NetVanta 4660, 5660, and 6360 because GigabitEthernet 0/1 is not intended for use as a UNI interface for Layer 2 services on these platforms.
- The **efm-group** interface type option is missing from the **tunnel source** command on Tunnel interfaces.

Voice Specific Errata

The following is a list of voice specific errata that exist in products running AOS version R13.12.0.

- When using SRTP with mandatory SIP TLS, unattended transfers may fail with an error that states: **Cannot establish call over unsecure transport**.
- When using SIP TLS in client-server mode with the firewall enabled, if the firewall removes the policy session for an idle established inbound SIP TLS connection, the SIP TLS session won't get cleared by the SIP stack. Over time, this can result in all 24 available SIP TLS connections being consumed, preventing the unit from initiating or accepting new SIP TLS connections until it is rebooted.
- When using RTCP multiplexing on only one side of a SIP to SIP call, the remote host listed for the RTCP session in the output of **show rtp media sessions** may be listed incorrectly.

- 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.
- The **clear sip tls session** command does not function.
- 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 does not 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 sixty 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.
- Receiving a 183 after a 183 on hairpin calls when using media anchoring could 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.
- 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.
- 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.

Switch Specific Errata

The following is a list of switch specific errata that exist in products running AOS version R13.12.0

- PoE+ devices that require negotiation via LLDP MDI TLV will not be powered by NetVanta 1638 switches configured in ActivChassis mode.
- Shutting down a switchport with a connected SFP Interconnect cable on a NetVanta 1544F may not properly shutdown the interface.
- 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.
- 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 1638 units 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.

6. 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 R13.12.0 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 R13.12.0 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](#) available online at <https://supportcommunity.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)

7. 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://supportcommunity.adtran.com>.

8. Warranty and Contact Information

Warranty information can be found online by visiting www.adtran.com/warranty.

To contact ADTRAN, choose one of the following methods:

Department	Contact Information	
Customer Care	From within the U.S.:	(888) 4ADTRAN ((888)-423-8726)+
	From outside the U.S.:	+1 (256) 963-8716
Technical Support	Support Community	supportcommunity.adtran.com
	Product Support:	www.adtran.com/support
Training	Email:	training@adtran.com
	ADTRAN University:	www.adtran.com/training
Sales	For pricing and availability:	1 (800) 827-0807