RELEASE NOTES

vWLAN & BSAP 3.2.0

June 1, 2018

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Introduction

The 3.2.0 code releases for vWLAN and BSAP are major system releases that add features and address issues that were uncovered in previous code releases.

These releases are 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 6*.

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 Models

The following models are supported in vWLAN 3.2.0.

- vWLAN Rackmount Appliance (1700900F1/1700900F2)
- vWLAN Virtual Appliance for VMware ESX/ESXi 4.X, 5.X, and 6.X
- vWLAN Desktop Appliance (1700918F1)

The following models are supported in BSAP 3.2.0.

The BSAP 18XX series is not supported on version 3.2.0. If you are still using BSAP 18XX series devices, you must stay on version 3.1.0 or lower.

- BSAP 1920/1925
- BSAP 1930/1935
- BSAP 1940
- BSAP 2020
- BSAP 2030/2035/2135
- BSAP 3040/3045

Some older AP models may not support all features in a release or past releases. For information on what your AP model supports, please consult the AP feature matrix.

Required BSAP Firmware

Due to BSAP and vWLAN firmware versions being mutually exclusive, the associated version of BSAP firmware for vWLAN 3.2.0 is version 3.2.0.

Wireless Regulatory Compliance

Based on United States FCC and European DFS and ETSI regulations, ADTRAN validates the country in

which the APs are being operated. This prevents the ADTRAN equipment from accidentally being used in an improper configuration.

When customers request AP licenses, they must specify the country where the AP will be deployed and operated. Note that a single vWLAN can control and manage APs in different countries and regulatory domains – and the channel and power settings are regulated by the country where the individual AP is deployed and operated.

Before the license is installed, the AP is in the platform and not associated to any domain, so the AP's radios are disabled by default. When the licenses are uploaded, the country code is then applied to licensed BSAPs. Allowed channels and power levels are determined by the country and the platform, and once the AP is placed into a domain, it will scan the channels to discover neighboring APs and choose a valid channel.

Features

This section highlights major features in vWLAN 3.2.0.

- Remote Site Survivability for PSK and open SSIDs
    - If the connection between the AP and both the primary and secondary vWLAN is severed, new pre-shared key and open SSID clients will be able to connect. Previous to this release existing connected clients would stay connected but new clients would not be able to connect.
- Dynamic Multicast Optimization
    - DMO automatically switches between sending multicast traffic over-the-air as unicast (converting to unicast) to sending natively as multicast based on a configurable threshold to ensure the most efficient use of airtime.
- Multicast Rate Optimization
    - In cases where DMO determines that it is more efficient to send traffic over-the-air as multicast, traffic is sent at the lowest data rate amongst connected clients instead of lowest 802.11 basic data rate. This works in conjunction with DynamicSteering to ensure traffic is sent at the highest data rates possible as to not drive down the performance of the WLAN.
- Added additional vendor specific attributes to Radius accounting (ADTRAN-AP-NAME, ADTRAN-AP-IP, ADTRAN-AP-Template, ADTRAN-SSID, ADTRAN-ROLE)
- Added support for 5 GHz channel 165 (20 Mhz) in regulatory domains where applicable
- Added additional information to logout/idle out logs (Device Type, OS, Hostname, Manufacturer, AP Name, AP MAC, AP IP, Radio)
- Added support for KVM hypervisor

Fixes

This section highlights major bug fixes in vWLAN 3.2.0.

- BSAP 3045 max TX power values were incorrect in vWLAN.
- BlueSocket APs would reboot continuously once configured with 251 or more roles.
- On the Status > APs page, clicking the number in the total clients column would not take you to a page showing the correct number of clients associated to that AP.
- Some upgrades would fail due to a migration issue with Unregistered Roles.

- Internal user passwords were improperly able to be printed by a user.
- API calls to access_point_statuses may have taken excessive time to resolve.
- vWLAN may have run out of memory due to excessive job processing.
- When APs were on the High Availability node, guest web logins did not work.
- Newly added APs were not showing up on the AP Status and AP license page in some cases on heavily loaded servers.
- In some cases Status->Logs would stop compiling data.
- After NOL expired for a channel, vWLAN AP-config-page and AP-Status page showed different channel numbers.
- If either Radio had the DynRF Profile set to Disabled, a background scan would fail to run on the AP that belonged to the AP template.
- The vWLAN API did not allow an administrator to update Dynamic RF profiles once created.
- The Domain Backup List was not in Alphabetical Order.
- Clicking to download AP Logs when taking a Show Tech caused the show tech to fail in some cases.
- Clicking to gather AP logs when taking a Show Tech would fail if a firewall was between the APs and vWLAN.
- On rare occasions an AP could get stuck in channel scanning if preconfigured.
- When moving an AP from any AP template back to the default template, a domain task would be incorrectly generated to create a scheduled background scan.
- Bulk Import only allowed a 1000 line csv to be uploaded at at time.
- Bulk Import did not validate the file type provided by the user.
- BSAP 2135 tx power on 5GHz radio was incorrectly limited to 13dBm.
- The maximum data rate for multicast when using the Multicast Rate Optimization feature is 12 Mbps.
- BSAP 3040s were rebooting due to Wireless Network Management transmissions (802.11v). This functionality has been removed to work around the reboots. A full fix with 802.11v re-enabled will be released at a later time.
- The BSAP 3040 would periodically reboot due to a kernel paging error.
- Only 255 locations can be supported on a single AP. Adding a 256th will cause the AP to cyclically reboot until it is removed.
- Country information field for channels that are allowed in Russia (52+4 and 132+4) were missing in the Beacon.
- The BSAP 3040 did not request option 43 in the DHCP option 55 section of the DHCP discovery packet, causing discovery to fail in some cases.

Errata

The following is a list of errata that still exist in vWLAN 3.2.0.

- Walled Garden will not function properly in some cases due to being unable to strip the tag from the user traffic. **Workaround:** Use the NAC unregistered role method for Captive Portal
- With walled garden, redirecting to an external web page may not show all images.

- DNS is not being allowed through if the DNS server is in the same subnet as the custom unregistered role subnet used to configure Walled Garden.
- When an on-demand background scan is completed, a completion message will not be displayed for the BSAP 304X
- A location group can be created and assigned without any locations added to it. If a vWLAN is configured in this manner, vWLAN's user manager may crash.
- **Workaround:** Add locations to the group.
- Monthly Scheduled reports may be sent out blank in some cases.
- DynamicRF is not reducing TX power to minimum setting after background scan in cases where it should. **Workaround:** Use Continuous DynamicRF mode with client-aware AP/Sensor mode to adjust power properly.
- Client Status Page may contain inaccurate information on heavily loaded servers. The indexing will catch up over time.
- While creating a new SSID using WPA2 security, the UI does not show the option to choose an accounting server. Workaround: Edit the SSID after it is created.
- If you restrict all available channels save 1 and then run a background scan, the APs may choose a restricted channel.
- Non-root users can not properly acknowledge alarms.
- Non-root users can not properly acknowledge WIDS alerts.
- If a secondary server is converted to a standalone, APs will show down in the UI.
- The SNMP Trap OID and TRAPOID number values are the same for everything.
- An AP cannot be managed from the unregistered role.
- Continuous re-indexing of the vWLAN UI is causing system instability in large scale deployments.
- The radio will turn off if the AP doesnt have any available channels for the next 30 minutes. After 30 minutes the AP should come back to radio mode with an available channel.
- The BSAP 3040 will not properly function in 80+80 MHz mode in non-DFS certified and configured deployments.
- The Max EIRP for Canada does not scale up to ISED allowed total limits.
- Uploading a license for an AP that already exists but is currently licensed with another country code will fail. **Workaround:** Delete the AP license before uploading another.
- After clearing adjacent APs, BSAP 18XXs will not scan adjacencies again until they have been rebooted.
- Creating Mesh links between APs of different types or series causes sluggish connection speeds. This type of linking is not recommended or supported.
- When a role schedule is initiated to remove a role, currently authenticated clients in vWLAN may still show as authenticated in the vWLAN UI even though they will be denied access.
- DynamicRF will suggest Channel 0 if all channels available to a particular AP model are excluded in the AP template.
- Specifying a MAC address that is all uppercase while taking an AP Traffic capture causes the capture to fail to start.
- By default, outdoor APs are set to Indoor in the AP details page. **Workaround:** Navigate to **Status** > **APs** and select the particular AP to change this setting back to Outdoor.

- In a frequently changing RF environment, if new RF changes have been detected since the last status was displayed, DynamicRF suggestions shown on the **Status** > **APs** menu may not be the exact settings pushed to the AP upon an accept.
- Uploading a license for an AP that already exists but is currently licensed with another country code will fail. **Workaround:** Delete the AP license before uploading another.
- In an extremely crowded RF environment (APs with over 100 adjacencies), the DynamicRF channel algorithm may not choose the channel with the least interference.
- In rare cases, a DynamicRF change suggestion may fail to display a message on the **Status** > **APs** menu but it will be applied when accepting DynamicRF suggestions.
- The current channel being scanned by DynamicRF is not shown in the AP Status Page.
- After channel scanning, the AP adjacency produced by the channel scanning AP will show as all zeros.
- Adjacent APs running in 80 MHz mode are shown in vWLAN's Adjacent AP menu as 40 Mhz.
- The Signal and TX Rate fields for clients connected to BSAP 18XXs do not display correct information. These statistics are not supported on the BSAP 18XX Series.
- Unless the maximum and minimum transmit power are set to the same value inside a DynamicRF profile, those specific power settings will never be automatically chosen for radios.
- The **Select All** button only selects the first 100 table entries in the UI.
- Over time dashboard widgets cease to display the latest data point available.
- When configuring custom language login forms, vWLAN displays invalid characters for certain languages. Instead of the valid character, the browser displays ?.
- If invalid entries are made when configuring the LDAP server, the Administrator may not receive a valid error message.
- The Timeout Weight setting should be a required field in the LDAP Server configuration and will automatically default to **1** if left blank on initial set up.
- The administrator feature of **Downloading Widgets** as **JPEG** does not function.
- Uploading the same AP firmware file twice results in the inability to choose a different firmware file. **Workaround:** Navigate away from the page and back again.
- In some cases, vWLAN's self-signed certificate is regenerated when the system reboots and the certificate must be re-saved. **Workaround:** Upload a custom certificate verified by a CA.
- The client count display on the UI is inaccurate and out of sync in a large system with multiple clients roaming. The client count at the top of the UI page on the Domain status page and the client count at the bottom of the UI page do not match - even after multiple refresh cycles.
- Packet captures taken from the vWLAN UI often miss packets. In a lab environment during captive portal authentication with RadiusWebServer, a test sent 50 packets but the PCAP observed only 48. **Workaround:** Administrators are advised to take multiple Packet captures when attempting to diagnose an issue.
- When attempting to execute an traffic capture from the vWLAN UI on an AP that is in a down state, the capture will not begin, but the UI will not return an error.
- After upgrading, some pages may not load correctly due to browsers' cached sorting options. **Workaround:** Clear the browser cookies and cache.

- When using the Drop User function, Apple MacBooks running OS X will retain a previously held IP address unless the timeout threshold is reached. This can cause web redirection to the captive portal to fail if the client attempts to connect to a different SSID. **Workaround:** Disable the wireless interface on the MacBook prior to dropping the user.
- Some customized login forms do not allow full customization of the page. The page renders the same without regard to the **Enable Complete Customization** selection.
- When using a Google Chromebook on a captive portal, the user will never be automatically redirected to their final destination. Manually refreshing the page or going to another page will function as expected.
- The intended behavior of HSTS is fundamentally incompatible with vWLAN's HTTPS redirection of clients to the login form. For example, Google, Facebook, and Yahoo all use HSTS and will not redirect to the login form in browsers that support HSTS. If an attempt is made to redirect to an HTTPS site that does not use HSTS (https://www.adtran.com works for this), a certificate warning is returned that cannot be ignored or bypassed. See http://caniuse.com/#feat=stricttransportsecurity to determine which browsers support HSTS.
- The platform NTP server setting does not return errors when invalid values were entered for
- its host name.
- High Availability is not replicating HotSpot Login Forms correctly.
- In case of 1X Authentication Failed, vWLAN GUI will display Unregistered Role even though Different Role was configured.
- Some pages in the UI do not fully function under IE9. **Workaround:** Use a different browser, upgrade to a newer version of IE, or use the API.
- After executing any restart from the vWLAN GUI, the page must be refreshed manually.
- If an administrator attempts to delete an Email Configuration that was used to schedule a Dashboard job by a different user/administrator, the deletion will fail. It will give the name of the Dashboard that has the job scheduled, but the administrator might not have access to that dashboard to clear the job. The creator of the Scheduled Job must remove the job before the Email Configuration is deleted.
- If an AP is manually edited and a non-native location is selected for the Location, the AP may not discover locations correctly.
- Using the captive portal in the Catalan, German, Swedish, and Portuguese languages may display special characters instead of certain letters.
- APs configured for Mesh mode do not allow an AP traffic capture.
- The API may become unresponsive if used from multiple sources simultaneously. It will become responsive again after a few minutes.
- When upgrading a large database (with many historical records and/or domains), the system can take up to an hour to come up after the upgrade. **Workaround:** Implement HA or a high Control Channel timeout.
- While under heavy load, the GUI may report incorrect status information or it may sort the information improperly. The system will recover after a few minutes.
- The ability to preview a login form does not function properly when using the Opera browser.
- For fast-roaming, adjacent APs must detect each other and add each other as neighbors. If APs are brought in at different times, it is possible for neighbor detection to fail and roaming to take longer.
- In rare cases, the BSAP 3040 may reboot due to an Offload Processor Assert error.

- The BSAP 3045 may not broadcast SSIDs even though BSSIDs are listed in AP details page.
- In some cases, the BSAP 2030 will reboot due to an Offload Processor Assert error.
- Upon upgrade, BSAP 1800s will reboot cyclically and fail to broadcast SSIDs. BSAP 1800s are supporting only in releases 3.1.0 and prior.
- If an AP radio is set to a channel width that requires more channels than are currently unrestricted, according to the channel-restrictions set by the administrator, the AP may operate on restricted channels.
- Changing the channel width when a windows client is connected will result in a one time AP reboot.
- The 2.4 GHz radio may only have 124 client associations, whereas the 5.0 GHz radio operates normally.
- Only 52 clients can associate to a BSAP 1800, despite vWLAN indicating a 64 client limit.
- BSAP 1800s may run low on memory causing sporadic client and AP activity or even a lose connection with vWLAN requiring a manual hard reset before operation can resume.
- Wireless packet captures may not function properly on the 5 GHz radio of a BSAP 1800 Series.
- The UI will allow configuration of greater than 1024 schedules. Configuring greater than 1024 schedules can result in AP reboots.
- BSAPs support up to 1024 Schedule Rules. If the APs reboot after adding schedules, you need to reduce the number of schedules.
- When starting a wireless packet capture, take care to allow the capture to begin before taking an action on it. If the capture must be stopped, wait at least 30 seconds to let the capture fully start. If a domain task pop-up is seen after a capture, it means the AP never fully recovered after the capture. Apply configuration to or reboot the AP to recover it.
- If greater than 86 users are associated to an AP and a failover occurs, they will not appear immediately in the UI of the secondary vWLAN.
- The Sony Xperia Tablet Z running Android version 4.2.2 may fail to authenticate using 802.1x due to an issue with the device itself.
- Utilizing SNMP on vWLAN can cause the server's memory to be heavily utilized.

Release Specific Upgrade Instructions

Starting with version 3.1.0, vWLAN image files now include BSAP firmware within the image. Once the image has been uploaded and the server has been upgraded, a domain task will appear for the administrator with the text "New AP firmware is available, select domain, AP template, apply and activate". Clicking this admin task allows you to apply the firmware to all templates in all domains.

vWLAN can only be upgraded to 3.2.0 if it is currently on version 2.6.2 or greater. vWLANs on versions 2.2.1 to 2.6.1 must first upgrade to version 2.6.2 and then upgrade to version 3.2.0. AP firmware does not have to be upgraded to 2.6.2 and can instead be upgraded directly to 3.2.0 with the second upgrade.

If you attempt to upgrade from a version prior to 2.6.2 to 3.2.0, the upgrade will error out and the following message will appear in the upgrade alerts and platform alerts:

*** MUST BE RUNNING 2.6.2 TO UPGRADE TO THIS IMAGE! *** (Please upgrade to 2.6.2 prior to loading this image.)

To upgrade your vWLAN Virtual Appliance Please see the vWLAN upgrade guide located at https://supportforums.adtran.com/docs/DOC-7691.

vWLAN 3.2.0 requires using Bluesocket Access Point (BSAP) firmware version 3.2.0. BSAP 3.2.0 is not backward compatible with previous vWLAN code versions.

vWLAN systems running 2.3X or earlier are not able to be upgraded. Instead, a new system should be deployed with 3.2.0 and configuration parameters from the 2.3.X system should be manually ported to the 3.2.0 system. Attempting to upgrade a 2.3.X system could cause some vWLAN configuration parameters to be lost.

