ADSP 9.5.0-11 Release Notes

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1. New Features in ADSP 9.5.0-11

The ADSP 9.5.0-11 release introduces the following key features and functionalities:

- Support for the Extreme Wireless AP 39xx series APs
- Support for the WiNG APs 7612, 7632, 7662
- UI Performance improvements for large deployments
- Support for the NX 9600 AirDefense Appliance
- Support for radio-share WIPS on AP 8432
- New Signatures for KRACK
- VMware EXSi 6.5 support
- NX-9500 enhancements for troubleshooting

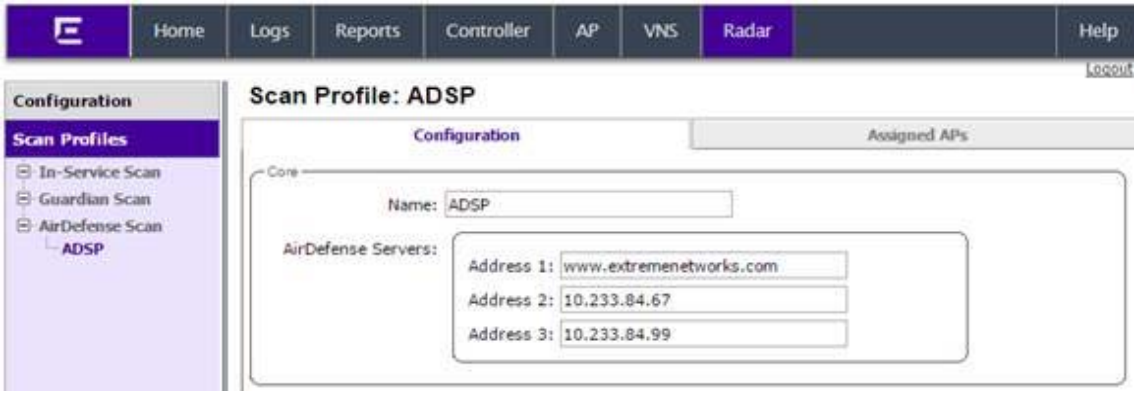
Support for the Extreme Wireless AP 39xx series APs

The ADSP 9.5 release adds support for Extreme Wireless 39xx series access points. Supported models are AP 3915, 3916, 3917, 3935, 3965, 3912 together with EW firmware 10.41.02. This provides a replacement for the previous Extreme WAS solution. This release supports dedicated WIPS sensor functionality. This includes support for LIveview and Advanced Forensics as well. Support for Radio-share WIPS was added in EW firmware 10.41.0.

This feature requires the following licenses:

- AP License on the Extreme Wireless Controller or Virtual Controller.
- ADSP platform license for the Primary ADSP server or ADSP Virtual Appliance (SP-SWSV-P-1). Not required for the secondary server/ virtual appliance.
- AD-SNFL-P-1 – WIPS license – 1 per dedicated sensor.
- AD-FESN-P-1 – Advanced Forensics License – 1 per dedicated sensor.
- AD-FLRS-P-1 – WIPS license – 1 per radio-share sensor.
- AD-FERS-P-1 – Advanced Forensics License – 1 per radio-share sensor.

The ADSP server addresses are first configured from the Extreme Wireless Controller (see screenshot below for details). Likewise, sensor (AP) firmware upgrades are also performed from the Extreme Wireless Controller. The remaining sensor configuration and security policies are performed via the ADSP server.



Radio-share mode support:

In the radio-share mode of operation, the access point doubles up as a sensor while simultaneously serving data. Control/ Management/ Data frames received from other APs/ clients operating on the same channel are sent to the AirDefense server to detect threats and look for rogues (AP does not send its own receive/ transmit frames). Since the access point stays on-channel there is no significant impact to data throughput performance. Both WIPS and Advanced Forensics AirDefense features are supported in this release. Here are some additional details:

- AP should be set up in promiscuous mode (in-line mode is not supported)
- Off Channel Scanning (OCS) is not supported in this release. This will be considered in a future release.
- Liveview is not supported in this release - use the remote packet capture available in the EW controller.
- AP rate limits packets send to the AD server to 5,000 packets per second – to limit impact on user data throughput.

Support for the WiNG APs 7612, 7632, 7662

ADSP 9.5 adds support for the above WING access points as *dedicated sensors* with the WING 5.9.1.2 release. Features supported are WIPS, Advanced Forensics and Liveview. There was a known issue with Air-Termination in WiNG 5.9.1.2, that has been fixed in WiNG 5.9.2. Support for radio-share WIPS will follow in future release.

UI Performance improvements for large deployments

ADSP supports 500,000 clients on NX 9500. As the number of clients crosses this capacity limit and starts to approach 1,000,000 clients, the UI (in particular the network tab on the UI) slows down considerably. ADSP 9.5 makes internal architectural improvements to speed up the UI for this use case. Note that the supported maximum capacity of 500K is not being increased in this release. That will be taken up in a future release. For new deployments we still recommend that the system be sized so that each ADSP server does not exceed the specified maximum capacity.

Also, default “device age-out” for keeping non-associated clients in memory has been changed to 6 hours. Note that associated clients are always kept in memory – this change only affects non-associated clients. The “device age-out” is applicable to all unsanctioned devices i.e. BSS, Clients, Unknown, Ad-hoc, Bluetooth devices. Aged out devices are moved to forensics (not deleted).

The time value can be increased from new 6-hour default if the customer so desires.

Support for the NX 9600 AirDefense Appliance

ADSP 9.5 adds support for NX-9600 AirDefense server appliance (NX-9600-100AD-WR) – the replacement for the NX-9500-100AD-WR. The NX-9600 is a powerful server solution and has the following key hardware specifications:

- Dual Intel Xeon 6-core, 15MB cache, 40GB RAM
- More storage 4TB for forensics - compared with 1TB on NX-9500. Raid 10.
- Dual hot-swap power supply
- 2 x 1GbE ports, 2U rack-mountable

- Replacement 2TB hard-drive and power supply accessories available.

Support for radio-share WIPS on AP 8432
ADSP 9.5 adds support for radio-share WIPS on AP 8432. In prior releases, radio 1 was supported as dedicated sensor. The new feature also includes Liveview and Advanced Forensics support.

VMware EXSi 6.5 support
ADSP 9.5 adds support for VMware EXSI 6.5 hypervisior. This includes support for VMTools 6.5 as well. In previous releases ADSP was supported with EXSi 5.5 and 6.0 hypervisors (and the corresponding VMTools).

New Signatures for KRACK
ADSP 9.5 adds the following new signatures for the KRACK attack

- MAC Spoof Activity Observed
- Key Reinstallation Attack Detected

NX-9500 enhancements for troubleshooting
ADSP 9.5 includes minor enhancements to display the serial number and power supply status of each power supply for NX 9500 Air Defense servers via CLI commands.

2. Version Compatibility

The 9.5.0-11 SM version is upgradable from 9.4.0-11. Direct upgrade from any other version is not supported.

For existing customers who would like to upgrade to 9.5.0-11, ADSP is an entitled Product and requires a support contract to be in place.

WiNG Version Compatibility

ADSP 9.5.0-11 SM has been tested for compatibility against

- WiNG 5.9.1.2 (for WiNG APs 7612, 7632, 7662)
- WiNG 5.9.1.0 for all other WiNG APs.
- WING 5.8.6.8 - for KRACK signature addition to 5.8.6
- WiNG 5.9.2.0 (see Section 4 - Important Notes)

Please see the section titled “DFS Tables, Sensor and Radio Share” in the corresponding WiNG release notes for a detailed matrix of sensor features supported for each access point in that WiNG release.

Extreme Wireless Version Compatibility

ADSP 9.5.0-11 SM has been tested for compatibility against

- Extreme Wireless 10.41.02 (dedicated sensor support for AP 39xx)
- Extreme Wireless 10.41.07 (radio-share sensor support for AP 39xx)

Unified Mode Migration Backup Restore

Unified Mode is EOL and no longer supported - 9.1.3-10 was the last ADSP release supporting Unified mode. We recommend that existing unified mode customers looking for fixes/ support migrate to standalone mode.

To upgrade a Unified mode installation from 9.1.2/ 9.1.2a6, use the following procedure

- Upload the 9.1.3-10.tar unified mode firmware file to "/usr/local/tmp" – you can use a tool like WINSCP for this.
- Use "virtual-machine console adsp" on the NX-9500
- use WIPSadmin -> Software -> Servmod command to install the upgrade

Standalone Direct Backup Restore 8.x and above

Direct Backup Restore is supported from 8.x and above.

Standalone Direct Backup Restore 7.x

A 7.3.4 backup can only be restored to an 8.x system. If this is done with the intention of going to a 9.x system, the 8.x system should be checked to assure the restore is correct prior to moving on.

When restoring from a 7.x version, Group Folders from 7.x will become Building Folders in ADSP, and Location Folders from 7.x will become Floor Folders in ADSP. Also, not all 7.x floor plan formats are supported in ADSP, and unsupported floor plans will not be restored.

Any 7.x system prior to 7.3.4 should be upgraded to 7.3.4 prior to taking a backup to be restored into ADSP.

Hardware Appliances

- Model NX-95x0
- Model SV-3652
- Model SV-1252

Note: ADSP 9.0.x and later do not support legacy appliances without 64-bit OS support. Customers that have a 32-bit server cannot upgrade beyond 8.1.3

Note: ADSP 9.1.x and later do not support legacy appliances without 2GB of RAM or greater. Customers that have a 1GB server cannot upgrade beyond 9.0.3.

Virtual Platforms

- Xen - Hypervisor 4.1.2 and higher
- VMWare - vSphere 5.5, 6.0, 65(ESXi)

Supported Access Points

- AP 6521
- AP 7161
- AP 6532
- AP 6522, AP 6562

- AP 7522, AP 7532, AP 7562
- AP 8122, AP 8132, AP 8163
- AP 8232 (with 3rd radio sensor module only)
- AP 8533
- AP 8432
- AP 7602
- AP 7622
- APs 7612, 7632, 7662
- TW 511

For feature support by WiNG release, please refer to the section titled “DFS Tables, Sensor and Radio Share” in the WiNG release notes.

For details on the supported APs/switches, refer to “ADSP Infrastructure Management Supported Devices” on the Support Central.

Supported Browsers
Note that, Flash Player 10.1 or later is required.

- Firefox 32 and higher
- Internet Explorer 9 and higher
- Chrome 37 and higher

Supported OS

- Windows 7
- Windows 10 Enterprise
- Linux
- Mac (Thin Client Applications Only)

3. Installation

Please follow the steps below to upgrade an ADSP system that is currently running ADSP 9.4.0-11 firmware. Direct upgrade from any other version is not supported.

- Copy the file AD-service-SM2-9.5.0-11.tar to the /usr/local/tmp folder on the ADSP server using the smxmgr account. You can use any tool like scp, ssh secure file transfer client, putty etc. for this.
- Login to ADSP as smxmgr. From the menu select Software and then Servmod and enter the location of the patch file /usr/local/tmp/
- The menu now shows available files. Enter the number corresponding to AD-upgrade-9.5.0-11 and press enter. ADSP will now install 9.5.0-11.

For full instructions on how to upload the ADSP image onto an NX and install it successfully please see the Users Guide.

4. Important Notes

1. The following Device Management functions are not supported with WiNG 5.9.2.0 due to the Wing 5.9.2 OpenSSH (v7.6 p2) upgrade. Workaround is to use WiNG 5.9.1.x (or a prior release).
   - Manual Data poll and Auto data poll/ collection. Note that polling the WLAN controller via SNMP to obtain information on adopted access points/ connected clients works and is available.
   - Device Readiness Test (as SSH CLI command fails)
   - Command run and log
   - AP/ sensor firmware upgrade/ downgrade from ADSP
   - Configuration Compliance check (Audit) and enable auto-correction
   - Configuration push
2. Fast Termination with WING 5.9.2: Fast Termination was introduced for South Korea in release 9.4 together with special WiNG release 5.8.6.10. That functionality has been merged into WING 5.9.2 and is now available as GA together with ADSP 9.5 for AP 7522, AP 7532, AP 8432 sensors.
3. Upgrade from ADSP 9.0.3 to 9.1 (and higher) is not seamless. ADSP architecture was significantly revised in 9.1 to improve scalability requiring changes to config. Some manual changes may be required to the config to upgrade successfully.
4. ADSP 9.5 toolkit will need to be re-installed. Toolkits installed in prior versions should not be reused with 9.5.
5. With ADSP 9.4.0 SSLv3 (and TLS 1.0, TLS 1.1) communication for sensor to server communication can be turned off completely. For all other communication (e.g. UI/ Toolkit etc.) SSLv3 was disabled in previous releases. By default SSLv3 communication is left enabled in ADSP 9.4 to permit communication with legacy sensors. To disable the SSLv3 communication entirely please follow the steps below. Also, note that WiNG 5.8.3 or higher firmware must be used on sensors when SSLv3 is turned off as only those releases support TLS v1.2
   - Login to ADSP with smxmgr credentials
   - Select the “Config option” (type C)
   - At the end of the menu options, it will show “(SSLv3) Enable/Disable SSLv3 for Sensor-Server Communication”
   - Type “**SSLv3”**
   - The system will display current status of SSLv3 in the system. If it is currently disabled, it will allow the user to enable it.
   - Type E to enable/ D to disable
   - Type Q to quit
   - System will now warn that ADSP services will need to restart.
   - Type Yes to continue.
   - Once you exit of the WIPSadmin login, the ADSP service will be restarted
6. With ADSP 9.2.0 the sensor to ADSP server communication has been switched to use 2048-bit key length and TLS 1.2. By default, ADSP will use 2048 key length certificate. In order to fall back to 1024-bit key length (not recommended), please follow the following steps.

   - Login to ADSP as root (contact support for assistance)
   - Touch file /usr/local/smx/.k/key1024

- Restart ADSP services.

Upon restarting ADSP will now fall back to 1024 bit certificate for sensor-server communication.

To switch back to 2048 bit certificates:

- Login to ADSP as root (contact support for assistance)
- Delete /usr/local/smx/.k/key1024 file
- Restart ADSP services.

7. Anomalous Behavior Detection thresholds are lost when the system reboots or when services are restarted. Also, Live and Threshold values are shown in the alarm details page while the alarm is in the active state; when the alarm becomes inactive, these values are changed to “unknown”.
8. If NIC Bonding is being used, please follow the procedures described in the 9.1.2 release notes in the “Hotfix for Ethernet NIC Bonding Issue” section prior to upgrading.
9. Backup the 9.0.3 config and forensics files prior to upgrade
10. After the firmware has been upgraded to 9.2.0, a config restore MUST be performed using the 9.0.3 backup config file. In several cases, this will help restore config items that might be lost during the upgrade.
11. Branding related changes make in ADSP 9.1.3 -
    - Branding has been changed from Motorola to ADSP.
    - The new default values for 9.1.3, where changed from prior releases, are defined in the “ISO / VM New 9.1.3 install” – the second column in the table below
    - When the administrator replaced a default parameter value with a new value prior to the upgrade to 9.1.3, that value is preserved on the upgrade to 9.1.3. When the parameter was left at its default value, it is replaced with the new 9.1.3 default. This is defined in more detail in the remaining columns (under Upgrade)
    - When a config backup from a prior release is restored on 9.1.3, the certificates and passwords that are in that config backup will be restored. If this backup file contains motorola, this will NOT be automatically replaced with ADSP during the backup restore.
    - MAC OUI changes – Client devices that were previously identified as Motorola devices based on their vendor prefix will now be identified as Zebra devices
    - Uploaded WiNG firmware images will be matched against Zebra device types
    - Planned devices under LiveRF will be placed under Zebra.
    - Device Action Manager rules with filter 'DeviceManufacturer' value “Zebra Technologies Inc.” will need to be manually updated to “Extreme Networks” for these rules to work correctly. Due to the multitude of combinations of expressions in which these may appear, it is not possible to automatically update these correctly in the internal database.

Parameter	**ISO / VM New 9.1.3 install**	**Upgrade**	
		From 9.1.2/ 9.1.2a6	**To 9.1.3**
Server (self signed) certificate	CN=ADSP (default)	CN=Motorola (default)	CN=ADSP (default)
		Own - non-default	Own (unchanged)
admin password	admin123 (default)	motorola (default)	admin123 (default)
		Own - non-default	Own (unchanged)
CLI Configuration Name	Zebra (default)	Motorola (default)	Zebra (default)
		Own - non-default	Own (unchanged)
Device Firmware - Device	Zebra (default)	Motorola (default)	Zebra (default)

Type		Own - non-default	Own (unchanged)
Communication Settings - Template Name	Zebra (default)	Motorola (default)	Zebra (default)
		Own - non-default	Own (unchanged)
Default communication profile – snmpv3 password	admin123 (default)	motorola (default)	admin123 (default)
		Own - non-default	Own (unchanged)

12. Deleted.
13. Auto classification, Location Tracking and Device Management scheduled events in 9.0.3 appear to be missing in 9.1 and higher releases – they are really not missing -
    - Auto classification events are merged in Device Action Manager rules
    - The 4 Device Management Poll events have been renamed to 2 Status Poll events and 2 Data Poll events. These 4 events are scheduled by ADSP.
    - Location Tracking Engine Poll has been removed. This is ADSP scheduled event.
14. Upgrades and config pushes for WiNG controllers should be done using WiNG mechanisms. This functionality is not supported by ADSP.
15. Alarm action manager profiles – exception option has been removed from GUI in 9.1.2 and added to the advanced filter.
16. ADSP VM – Note that the minimum virtual disk size must be 50GB for the VM solution.
17. By default, notification emails are sent once every 5 minutes. E.g. To increase this to one day emails - change the repetition periods as follows:
    In file /usr/local/smx/notification/lib/notification.properties,
    email.repetitionPeriod = 86400 // In seconds; Default = 300 seconds
    syslog.repetitionPeriod = 86400 // In seconds; Default = 300 seconds
    Restart ADSP after the file is modified for the changes to take effect.

5. SPR/Issues Fixed

The following SPRs/ CQs have been fixed in this release.

SPR/ CQ	Description
SPR-3374	Secondary appliance sends an email for a scheduled report
SPR-3336	Devices added manually get deleted immediately under conditions.
SPR-3373	Linux Toolkit should be launched as "./adsp DownloadedPath/adeapp.adx". No error was generated when it was incorrectly launched as "./adsp". As a fix, the error generation has now been added.
SPR 3372	Core crash caused by not deleting the security profile from postgres database.
SPR 3401	Switch MAC table lookup not working in ADSP

6. Vulnerabilities Fixed

Vulnerabilities Fixed in ADSP 9.5

ADSP 9.5 includes upgrades to several internal packages to provide vulnerability fixes (including kernel, nss, bind, ca-certificates, glibc, jasper, openldap, rpcbind and sudo)

Vulnerabilities Fixed in ADSP 9.4

ADSP 9.4 includes upgrades to several packages (including bindlibs, bindutils, kernel, openssh, openssl) and fixes the vulnerabilities below.

- CVE-2017-6074
- CVE-2017-3136
- CVE-2017-3137
- CVE-2015-8325
- CVE-2016-7545

Vulnerabilities Fixed in ADSP 9.3

ADSP 9.3 includes upgrades to several packages (including kernel, openssh, openssl, nss, ntp, glibc, perl etc.) and additionally fixes the vulnerability below.

- CVE-2016-2107

Vulnerabilities Fixed in ADSP 9.2

ADSP 9.2 includes upgrades to several packages (including openssh, openssl, Java and Tomcat) – fixing the vulnerabilities below:

- NTP Vulnerability CVE-2015-7871
- OpenSSL vulnerabilities - CVE-2015-3194, CVE-2015-3195, CVE-2015-3196, CVE-2015-3197
- OpenSSH vulnerability - CVE-2016-3115 (X11 forwarding)

Vulnerabilities Fixed in ADSP 9.1.3-10b6

- glibc: getaddrinfo stack-based buffer overflow CVE-2015-7547

Vulnerabilities Fixed in ADSP 9.1.3-10a8

- OpenSSL vulnerability – LOGJAM - CVE-2015-4000

Vulnerabilities Fixed in ADSP 9.1.3-10

- GHOST CVE-2015-0235
- Unzip Multiple Heap Buffer Overflows Vulnerabilities - Zero Day CVE-2014-8139, CVE-2014-8140, CVE-2014-8141
- OpenSSL vulnerabilities security advisory dated - 11 Jun 2015 (see http://openssl.org/news/secadv_20150611.txt), CVE-2014-8176, CVE-2015-1789, CVE-2015-1790, CVE-2015-1791, CVE-2015-1792, CVE-2015-3216
- OpenSSH vulnerabilities - CVE-2014-2532, CVE-2014-2653

Vulnerabilities Fixed in ADSP 9.1.2-17a6

- NTP vulnerabilities 2014-9293, 2014-9294, 2014-9295, 2014-9296
- Bash shellshock CVE-2014-6271, CVE-2014-7169, CVE-2014-7186, CVE-2014-7187, CVE-2014-6277 and CVE 2014-6278

- Poodle SSLv3 CVE 2014-3566

7. Known Issues and Recommendations

General note for EW 39XX series access points:

- Support for Extreme Wireless Access Points has been added beginning with the ADSP 9.5 release. Therefore, any upgrade issues from prior releases documented in the "Upgrade Related" section are not applicable.
- As features supported for EW 39xx access points are WIPS, Advanced Forensics and Liveview, known issues in the Network Assurance, Proximity and Bluetooth sections below are not applicable to these access points.
- As EW 39xx access points are only supported as dedicated sensors in this release, all issues related to radio-share are not applicable.
- Any WING sensor specific issues documented below are not applicable to Extreme Wireless access points.

Issues specific to EW access points

- The following alarms do not trigger on EW AP 39XX –Fake AP flood attack, Rogue AP on switch, Rogue Client on Switch. AirSnarf (3912, 3915)

Upgrade related

- In 9.1.x Device/Alarm action manager, None(Any) filter and None(All) filters were reversed compared to 9.0.3. This is now fixed in 9.2.
    - If upgrading from 9.0.3 – this conversion happens automatically when restoring the 9.0.3 config
    - If upgrading from 9.1.x - Any rules that were deliberately reversed by the administrator after upgrading from 9.0.3 to workaround such configs need to be reversed manually on upgrading to 9.2 (after restoring the config)
- Alarm action Manager: In ADSP 9.1 and higher releases a maximum of 25 filters are supported in the filter list as well as in the expression filter list.
- Alarm Action Manager rule descriptions may not be preserved on upgrade to 9.1 and higher releases.
- Alarm Action Manager: In some cases, on upgrade from 9.0.3 to 9.2 you may see special characters in expression filers (e.g.' %' or ')') in the advanced filter expression editor. These characters are needed for internal operation. They do not impact end user functionality and can be ignored from an administrator perspective.
- Device and Alarm Action Managers: On upgrading from 9.0.3 to 9.2, an AAM profile that was left disabled at the global scope appears to be enabled. However, with 9.1 and higher releases, there is a separate "Enable Profile" checkbox to really enable the profile.

Platform

- The following alarms do not trigger on AP 7612/ 7632/ 7662 - Airsnarf.
- The following alarms do not trigger on AP 7662 - Honeypot, Multipot, Hotspotter and Hunter-Killer.
- ADSP Toolkit is only supported on Windows. It is not supported on Linux.

- "DeviceVendorprefix,AssociatedVendorPrefix and DeviceManufacturer should be used with the full name when used with =,!=,IN and NOT IN operators"". It is recommended that operators LIKE/ ILKE be used for DeviceVendorprefix,AssociatedVendorPrefix and DeviceManufacturer filters.
- WSP-8561 : CMC Server Unreachable message in tooltip - After adding the CMC appliance to Master ADSP, it says "Server Unreachable" even though the server is reachable. After some time the "Server Unreachable" message disappears and "login failed" appears. Ignore the unreachable message - go ahead and share the certificate and restart the appliance to get the CMC working.
- NOT IN operator is not supported in ADSP Alarm Action Manager.
- CQ 208843 –Live view and Termination do not work on channel 153 with 8232 3rd radio sensor module with WiNG 5.7.1. Works fine with AP 8132 with sensor module, problem is specific to AP 8232. Workaround: Works fine with WING 5.7 – use that instead.
- ADSP does not generate the alarm "Frequency hopping interference detected" when using AP 7532 as a sensor.
- WIPS-OCS: LiveView does not display frames on channel 1 configured in OCS channel list.
- WIPS: Wipsd (on the AP) crashes when radio is changed from radio share to dedicated sensor.
- WIPS – Rogue AP Detection – In select cases like enterprise class rogue AP that is set up as a router (not an AP) and the BSSID of the wireless interface is completely unrelated to the MAC address of the wired interface, ADSP uses a data pattern matching technique to classify the device as a rogue. For the sensor to see the wired side data from the AP, the port on the L2 switch should be configured as a SPAN port. If this is not done, the rogue AP will be marked as an unsanctioned device but ADSP will not be able to classify it as a rogue.
- Forensics does not show the all of the data when the date range is long (15 days or longer). Workaround is to run multiple reports each of duration less than 15 days.
- Scheduled Configuration or Forensic Backup using TFTP protocol is not supported. Please use FTP or SFTP.
- "Wireless devices overload observed" alarm is only generated on NX 9500 in Standalone ADSP (not supported on other appliances nor in Unified mode)
- Action Rules on demand discrepancy in Job Status, rules are not applied –Recommendation is - Admin needs to apply the Action Manager rule before running "Action Manager Rules on Demand" option. Action Manager Rule runs every minute by default.
- Job list in job status does not age out after 7 days
- Backup and Restore does not work when the profile name has a space at the end. Edit the profile to remove the extra "space" character.
- When Korean language is selected, the following do not work correctly
    - Cannot delete some SNMP Community settings when others are in use.
    - Unable to display "device name" correctly when number of characters exceeds 10.
- Port suppression fails on an RFS6000
- Backslash in LDAP authenticated user name causes loss of all user permissions on restart of services.
- The CMC slave authentication mechanism has been changed significantly in ADSP 9.1.0. It is recommended that the user review the on-line help for CMC for a description of how to configure slave servers.
- After adding a Slave Server on a CMC Master Server, the user is not able to view configuration or other pages on the Slave Server from the Master Server because of a

permission error. The workaround is to click the Reset button, log out of master server, and restart browser.

- 'Copy settings to all appliances' action in CMC results in GUI application error with numeric value as prefix in profile name.
- Data collection on WiNG 5.2.x devices was changed to occur over SNMP vs HTTPs. Data collection and configuration management requires the communication profile settings for SNMP timeout interval and retry to be set to 9999 milliseconds and 3 retrys to avoid excessive timeouts which might disrupt connection resulting in incomplete data collection and device showing as offline when it is not actually offline to the network.
- Data collection set to a short interval may result in devices going offline; it is recommended to set the time between data collections to an interval longer than the time a complete data collection takes.
- SFTP is not supported with the internal relay server, it is only supported with an external relay server.
- WSP-8562 : ADM 6.3.2.5 does not connect to ADSP 9.2 - ADM is old platform and still uses older version of TLS protocol to connect to ADSP server. Starting with release 9.2.0, ADSP has switched to TLSv1.2. To get the older ADM working with the new ADSP, please reach out to support. They will need to perform the following workaround on your server. The Tomcat server in ADSP will need to be re-configured to open up communication with other legacy protocols (SSLv2, TLSv1 and TLSv1.1) using the steps below. Note however, that this will make ADSP vulnerable to attacks.
    - Login as root
    - Change /usr/local/tomcat/conf/server.xml
      Add values to sslProtocols attribute in the connector parameter:
      Change sslProtocols="TLSv1.2" to sslProtocols="SSLv2Hello,TLSv1,TLSv1.1,TLSv1.2"
    - Save and restart Tomcat.
- T5 switch and TW 511 APs – Rogue AP detection does not work with one method:
    - ADSP is not able to learn wired devices in the segment of T5 sensors. So, with out-of-the-box setup, ADSP is not able to detect rouge AP in its network. APs report the wired device MACs they see on its wired interfaces. In ADSP, these devices are listed under 'unknown devices' and the 'On Network' field of these devices will be listed as 'Sensor Segment'. With T5 sensors, such devices are not seen in ADSP.
    - If we sanction one of the BSS in same segment, ADSP is able to detect rogue AP.
      ADSP learns wired devices MAC from wireless packets coming out of sanctioned BSS . In ADSP, these devices are listed under 'unknown devices' and the 'On Network' field of these devices will be mentioned as 'Authorized AP'. With T5 sensors, once one of the wired devices is detected as from 'Authorized AP', rogue AP alarm is generated against unsanctioned APs in the segment.
    - CQ 209106 - T5 v5.3.1 sensor intermittently goes offline when LiveView is running –This issue does not happen with earlier versions of T5 e.g. version 5.2. If you need to use v 5.3.1, the workaround is to configure "sensor.message.timeout.pulse" in /usr/local/smx/etc/airids.conf. Please reach out to support to implement this workaround as it will require root access.

Infrastructure Management

- CQ 201328 – AP 7532 device icons displayed incorrectly when device goes offline

- When AP 6521 and AP 6511 devices are upgraded from ADSP, they will be displayed as offline because of the extended time required by the upgrade process. They will complete the upgrade even when time out occurs
- AP 6532 running WiNG 5.4.x with radio-1 configured as a sensor and radio-2 as a RadioShare AP, no frames are sent by RadioShare sensor to ADSP.
- APs cannot be upgraded to any versions between WiNG 5.2.13 and WiNG 5.5 via ADSP using SFTP. FTP is recommended.
- The format of the folder for CLI variables must be:
  /<serverName>/<country>/<region>/<city>/<campus>/<building>/<floor>
  For example, /ADSP/USA/South/Atlanta/Alpharetta/Atlanta_main/Floor_2
  All other profiles accept the following folder format:
  <country>/<region>/<city>/<campus>/<building>/<floor>
- The In-Band sensor configuration of *password* and *sensor-server* parameters will be applied only to default policies/RF domains, but not for new management profile and/or RF domains.
- The firmware upgrade/downgrade process from ADSP fails for WS2000 device on 2.0.0-36R and 2.1.0-35R firmware versions.
- When configuring a device using expansion variable and the Address Field is left blank in RF-Domain, the configuration is not applied on a WiNG device. This occurs only when the internal relay server in the ADSP is set to SFTP.
- Upgrade of Cisco devices which implement SSH version 1.5 are not supported.
- In some cases radio indexes can get out of sync on RFS clusters when using expansion variables to configured the radios and WLANs.
- Upgrade of device firmware to releases ending in “MR” such as 3.2.2.0-015MR will show upgrade failure even when upgrade was successful.
- After changing appliance configuration to allow reception of SNMP traps from infrastructure a warm boot is required before traps will be received.
- The appliance relay server may not always work for WLC based upgrades.
- Help desk account set to read-only access still permits saving/ pushing CLI templates.

Network Assurance

- Clearing configuration in Appliance Manager may prevent edits to Live-RF application configuration. If the system gets into this state please contact support team or re-install ADSP.
- Changes to duty cycle field in the Advanced Spectrum Analysis (ASA) window will cause all channel extensions to be set to 0 on the sensor. A manual stop and start of ASA fixes the issue.
- Cannot schedule Advanced Spectrum Analysis dedicated scan with default values – change atleast one value from default to turn on the OK button.
- The Advanced Spectrum Analysis on AP 621, AP 6521 and AP 622 displays spurs when the frequency range is extended to cover Channel 14. These spurs cause the Advance Spectrum Analysis alarm “Utilization Exceeded Threshold” to be triggered.
- Spectrum Analysis – On changing chart options Duty cycle, Device count, Spectral density and Real time FFT data is lost. Do not change chart options to preserve existing data.
- AP Test – AP Test with Captive Portal is not supported. It requires a custom plugin to be created for the specific captive portal. Workaround: Use the ping test to verify reachability to the captive portal.

- AP Test – WEP keys entered in ASCII characters prevent successful testing of WEP networks when using M5x0 sensors. WEP keys entered as hex code work fine.
- AP Test – Due to hardware limitations AP testing using EAP-TLS or PEAP-TLS is not supported on the M5x0 sensor platforms.
- AP Test – The AP Test supplicant does not support certificates which are protected with a passphrase, only certificates which do not require a passphrase to access the key are supported.
- AP Test - AP Test scheduled using alarm action manager does not run according to the chosen profile
- AP Test - AP Test license does not get automatically applied when Auto Licensing is selected
- AP Test and Wireless Vulnerability assessment – works at a BSS level only and not at a floor/ scope level.
- AP Test – Scheduled AP Test disappears from menu despite the presence of a radio-share AP Test license. Support can issue an AP test license which will re-enable this functionality.
- AP Test – SPR 27984 - AP-Test with EAP-TLS fails with error message “Network
- AP Test – AP Test Downlink test fails for AP 7522 and AP 7532 with WiNG 5.8.4
- AP Test – AP 8432 and AP 6522 Uplink test fails while running AP test with WiNG 5.8.4
- AP Test – When using TKIP-CCMP , AP 622 acting as a client does not get an IP address via DHCP with WiNG 5.8.4
- CQ 208842 – AP Test Fails when using with 3rd radio sensor module and AP 8232 with WiNG 5.7.1. Works fine with AP 8132 with sensor module, problem is specific to AP 8232. Workaround: Works fine with WING 5.7 – use that instead.
- Authentication: EAP authentication failed” – has been fixed in WiNG 5.8.1 & higher releases.
- Multiple Vlan IDs cannot be removed – they can only be removed one at a time.
- Live view: SSID and RSSI value do not appear in devices tab occasionally.
- Live RF with AP 75xx is only supported at 11n rates

Proximity & Analytics

- The locationing performance degrades when a floor map exceeds 10,000 sq meters.
- AD Mobile 6.3.1 or later must be used with ADSP 9.1.0 when performing Sensor Survey as ADSP 9.1 requires a live connection between AD Mobile and the ADSP appliance during the Sensor Survey.
- A warm boot is required when 3rd party system communication settings are changed in existing LBS Subscriber profiles.
- API - The API LBSClient no longer caches the streaming data by default. It assumes that it will receive data from ADSP and immediately forward the data to a registered LBSStreamListener object. To help 9.0.0-23 clients migrate to 9.0.1/9.0.2, the 9.0.0-23 APIs were left in place but they do not accumulate data unless instructed to by a call to LBSClient.enableStreamingEventsCache. This affects: ‘LBSClient.getNewLocations’, ‘LBSClient.getPresenceEvents’, ‘LBSClient.getRegionEvents’, and ‘LBSClient.getRssiData’.
- API - returns location information in meters only
- RTLS Engine - If there are a large number of buildings with location tracking enabled it can take several minutes for the location tracking engine to load its cache. This occurs at startup or warm boot of the system. Live RF/Floor Plan will not display station locations and the LBS data will not be seen from the API until the load is complete.
- RTLS Engine - BSS locations are not tracked in real-time.
- Live RF/Floor Plan - Within a Virtual Region or Exclusion Region type bounding areas cannot be deleted or edited individually. If one bounding area needs to be deleted or edited then

the entire Region definition must be deleted. A Virtual Region or Exclusion Region type can be created for each bounding area if desired.

- CQ 108132 – GUI error in Sensor Operation when saving configuration if nothing has been selected. Atleast one of the check boxes needs to be checked.
- Performance slows down after 2 days of running with 2500 sensors of which 1500 are LBS sensors. Other performance issues are seen with LBS approaching peak specified platform capacity. This will be addressed in a future release.
- Proximity reports can be run for a maximum of 150,000 devices. If its necessary to scale beyond this, please split into multiple reports.
- Proximity: Wireless clients are not seen on the floor plan for AP 650 and AP 622 with WING 5.8.4.

Bluetooth Monitoring

- Bluetooth device types are reported to ADSP via the IOGear Bluetooth dongle, ADSP can display but cannot control what device types are reported.
- Bluetooth Alarm: The Device column is shows incorrect information in alarm notification
- Bluetooth Devices imported via a csv file and with a selected folder are placed in unplaced devices folder. They are moved to the correct folder when the device is seen

8. ADSP WiNG Feature Matrix

This section defines features supported by access point/ sensor module. TW 511 is not supported in WiNG.

Network Assurance Toolset when Radio is dedicated as a sensor	WIPS & Advanced Forensics	Spectrum Analysis	Advanced Spectrum Analysis	Live RF	Live View	AP Test	Connection Troubleshooting	Proximity	WVA
AP 6511/6521[1]	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	No
AP 650/6532	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes
AP 6522/6562	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
AP 7131/7161	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes
AP 7532/7522/7562[3]	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
AP 8132/8122/8163	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
AP 8232/8222	No	No	No	No	No	No	No	No	No
AP 7502	No	No	No	No	No	No	No	No	No
AP 8533[2]	Yes	No	Yes	No	Yes	Yes	Yes	Yes	Yes
AP 8432[2]	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
AP 7602/7622	Yes	No	No	No	No	No	No	Yes	No
AP 7632/ 7662/ 7612	Yes	No	No	No	Yes	No	No	No	No

Notes:
[1]GUI is disabled and the number of SSH sessions is limited to 1
[2]Support is limited to the dedicated sensor (Radio 3) for AP 8533. Support is limited to the dedicated sensor (Radio 1) for AP 8432.
[3] AP 7522, AP 7532, AP 7562 radios are band-locked, entire AP needs to be dedicated as sensor

3. Radio Share functionality (allows for enabling the Network Assurance toolkit in ADSP, without dedicating a radio as a sensor) is available on the 802.11n/802.11ac APs with some caveats – please see details below:

Network Assurance Toolset with Radio Share	WIPS & Advanced Forensics	Spectrum Analysis[2]	Advanced Spectrum Analysis[3]	Live RF	Live View	AP Test	Connection Troubleshooting	Proximity	WVA
AP 6511/ 6521[1]	No	No	Yes	Yes	Yes	Yes	Yes	Zone only	No
AP 650/6532	No	No	No	Yes	Yes	Yes	Yes	Yes	No
AP 6522/6562	No	No	Yes	Yes	Yes	Yes	Yes	Yes	No
AP 7131/7161	No	No	No	Yes	Yes	Yes	Yes	Yes	No
AP 7532/7522/7562	Yes[4]	No	No	Yes	Yes	Yes	Yes	Yes	No
AP 8132/8122/8163	No	No	Yes	Yes	Yes	Yes	Yes	Yes	No
AP 8232/8222	No	No	No	No	No	No	No	No	No
AP 7502	No	No	No	No	No	No	No	No	No
AP 8533	No	No	No	No	No	No	No	Yes	No
AP 8432	Yes	No	No	No	Yes	Yes	Yes	Yes	No
AP 7602/7622	No	No	No	No	No	No	No	Yes	No
AP 7632/ 7662/ 7612	No	No	No	No	No	No	No	No	No

Notes:

[1]GUI is disabled when Radio Share is enabled.

[2]Spectrum Analysis is not supported with Radio share enabled.

[3]Advanced Spectrum Analysis in RadioShare mode may impact WLAN performance.

[4] Does not work in WiNG 5.8.3.

[5]AP 622, 6522, 6562 – The first radio is band-locked to 2.4Ghz. The second radio is capable of ABGN sensor operation.

- In Radio 1 = Sensor, Radio 2 = Wlan configuration, the sensor will only scan 2.4Ghz channels on Radio 1.
- In Radio 1 = Wlan , Radio 2 = Sensor configuration, the sensor will scan both bands on Radio 2
- In Radio 1 = Sensor, Radio 2 = Sensor configuration, the sensor will scan 2.4GHz on Radio 1 and 5GHz on Radio 2

[6]AP 7522, AP 7532, AP 7562 radios are band-locked, both radios are required for sensing

[7]AP 6511 does NOT support OCS or over-the-air termination

[8]AP Testing in radio share mode - only single-cell/internal BSS AP testing is supported. AP Testing on remote BSS is not supported.

9. ADSP Extreme Wireless Feature Matrix

For the EW 39xx series access points operating as dedicated sensors, ADSP supports the following features together with EW 10.41.02 (or higher) firmware:

- WIPS
- Advanced Forensics
- Liveview

ADSP also supports the following features for AP 39xx operating as radio-share sensors together with EW 10.41.07 (or higher) firmware. Please see section 1 for more details.

- WIPS
- Advanced Forensics