AirDefense 10.1.0-13 Release Notes

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1. New Features in AirDefense 10.1.0-13

The AirDefense 10.1.0-13 release introduces the following key features and functionalities:

- Increased Scalability
- New UI additions
- CLI Interface to the WING controller
- SNMP optimizations
- Small appliance solution

Increased Scalability

The last few years have seen an exponential growth in the number of personal devices. Wireless Intrusion Prevention Systems such as AirDefense monitor devices seen over the airwaves in the vicinity to detect and thwart attacks. Next generation systems need to keep up with this growth in the number of devices to enforce strict security. Additionally, next generation wireless technologies like 802.11ax will increase device densities. In release 10.1, the AirDefense product has been rearchitected to meet these long-term goals. With the 10.1 release, the NX 9500/ NX 9600 appliances can now scale to a million devices. The internal architecture of AirDefense now comprises of multiple WIPS (AirIDS) engines that are spread across the different CPU cores. An internal front-end load balancer balances the traffic across these multiple engines and consolidates the results coming back from them. The UI provides a single pane of glass interface to this internal distributed system hiding the complexity from the administrator. New scalability numbers for release 10.1 are as shown in the table below.

Platform Category	Physical CPU cores - 2 hyper-threads per core VCPUs*)	Memory for ADSP VM	Hard Disk for ADSP VM	Scanning Sensors	RadioShare Non Scanning	Active WLAN Devices	Total WLAN Devices
Large**	12 (24 vcpus)	36GB	1TB	2500	3000	250,000	1,000,000
Mid**	8 (16 vcpus)	25GB	500GB	1000	1500	100,000	400,000
Small	4 (8 vcpus)	8GB	250GB	500	750	40,000	160,000
Micro	2 (4 vcpus)	4GB	250GB	100	100	10,000	40,000

Appliance	Scanning Sensors	RadioShare Non Scanning	Active WLAN Devices	Total WLAN Devices
NX 9500/ NX 9600**	2500	3000	250,000	1,000,000

*The number of VCPUs will be twice the number of physical cores since there are 2 hyper-threads per core
** With multi-core operation mode enabled in software
Device age-out time is assumed to be 1 hour for the above table.

Please see the “Configuring AirDefense for multiple WIPS (AirIDS) engines” How-To guide for more details.

New UI additions

A new light-weight, faster, simpler HTML-5 based UI is being developed for AirDefense to eventually fully replace the current UI. The new UI is being released in phases over multiple releases. AirDefense 10.0 created new Dashboard, Network and Alarms pages. AirDefense 10.1 adds Config pages and a new Config Wizard. With 10.1, the user will first see the new UI on login. The Flex based UI available in AirDefense 9.5 continues to be available in this release and can be invoked from the “Legacy UI” button in the top right-hand corner of the main screen. Detailed documentation on the new pages is available in the product manual. The Network, Dashboard and Alarms pages have also been redone for alignment across other Extreme products and improved responsiveness, however, the functionality has not been changed. The new UI is supported with Firefox, Chrome and Microsoft Edge browsers. The Internet Explorer browser is not supported.

CLI Interface to the WING controller

Prior releases allowed AirDefense to poll the WLAN controller based on data using the SNMP interface, which could run into an hour or more in large deployments when the controller is heavily loaded. Using the CLI interface increases the speed of polling. The SNMP interface imposed a limit of maximum one AirDefense server per WING controller. Using the CLI interface to poll the controller data removes this restriction permitted the addition of an additional AirDefense appliance without adding another WiNG controller.

This feature is available for demo purposes with this release and will be productized in an upcoming release.

Please see the “AirDefense: WiNG Controller import Via CLI” How-To guide for more details.

SNMP optimizations

SNMP polling in large deployments / heavily loaded WiNG controllers can take several hours to complete. The WiNG controller must reach out to the AP to collect data (sometimes over a WAN connection) increasing the time required for polling. The attributes that were polled were revisited and optimized in AirDefense 10.1 –reducing the polling time by as much as 50% in large deployments.

Please see the “AirDefense: SNMP optimizations for polling WiNG controllers” How-To guide for more details.

Small Appliance Solution

AirDefense supports a VM model for small deployments. However, sometimes, VM is not an option and there is a need for an appliance-based solution. AirDefense 10.1 can be natively installed on a supported reference server. In this release the following server has been tested and is now supported. The server and its warranty should be obtained directly from the server vendor.

The ISO image being released with AirDefense 10.1 should be installed on the server (specified below) to use this feature.

Specifications for the supported server are: Dell PowerEdge R330 Server Intel Xeon E3-1240 v6 3.7GHz, (4 physical cores, 8 VCPUs), 8M CPU cache; 8GB RAM; 1TB 7.2K RPM SATA 6Gbps Hard Drive, H330 RAID Controller

Scanning Sensors	RadioShare Non Scanning	Active WLAN Devices	Total WLAN Devices
500	750	40,000	160,000

2. Version Compatibility

The 10.1.0-13 SM version is upgradable from 10.0.0-14. Direct upgrade from any other version is not supported.

For existing customers who would like to upgrade to 10.1.0-13, AirDefense is an entitled Product and requires a support contract to be in place.

WiNG Version Compatibility

AirDefense 10.1.0-13 SM has been tested for compatibility against

- WiNG 5.9.3.x (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

AirDefense 10.1.0-13 SM has been tested for compatibility against

- Extreme Wireless 10.51.01

ExtremeCloud Appliance Version Compatibility

AirDefense 10.1.0-13 SM has been tested for compatibility against

- ExtremeCloud Appliance 4.26.01

Hardware Appliances

- Model NX-9500
- Model NX-9600

Virtual Platforms

- VMWare EXSi Hypervisor 5.5, 6.0, 6.5

Supported WiNG Wireless Access Points

- AP 6522, AP 6562
- AP 7161
- AP 7522, AP 7532, AP 7562
- AP 8163
- AP 8533
- AP 8432
- AP 7602
- AP 7622
- AP 7612, AP 7632, AP 7662

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

Supported Extreme Wireless Access Points

- AP 3915
- AP 3916
- AP 3917
- AP 3912
- AP 3935
- AP 3965

Supported Browsers

Flash Player 10.1 or later is required.
Following browsers are supported:

- Firefox 65 or later
- Chrome 72 or later
- Microsoft Edge 42.17134.1.0 or later

Internet Explorer is NOT supported

Supported OS

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

3. Installation

Please follow the steps below to upgrade an AirDefense system that is currently running AirDefense 10.0.0-14 firmware. Direct upgrade from any other version is not supported.

- Copy the file AD-service-SM6-10.1.0-13.tar to the /usr/local/tmp folder on the AirDefense server using the smxmgr account. You can use any tool like scp, ssh secure file transfer client, putty etc. for this.
- Login to AirDefense 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-service-SM6-10.1.0-13 and press enter. AirDefense will now install 10.1.0-13.

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

4. Important Notes

1. Backup all config and forensics files prior to upgrade
2. When restoring a backup with multiple AirIDS engines enabled on one AirDefense appliance to another, the number of WIPS engines will go back to one. Follow the instructions in the How-To to configure the appropriate number of WIPS engines on the new appliance. This also applies when upgrading from an NX-9500 to an NX-9600 appliance.
3. Toolkit will need to be re-installed. Toolkits installed in prior versions should not be reused.
4. 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”.
5. AirDefense VM – Note that the minimum virtual disk size must be 50GB for the VM solution.
6. 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 AirDefense 9.5 (or higher) for AP 7522, AP 7532, AP 8432 sensors.
7. With AirDefense 9.4.0 (and higher) 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 AirDefense 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 AirDefense 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 AirDefense services will need to restart.
- Type Yes to continue.
- Once you exit of the WIPSadmin login, the AirDefense service will be restarted

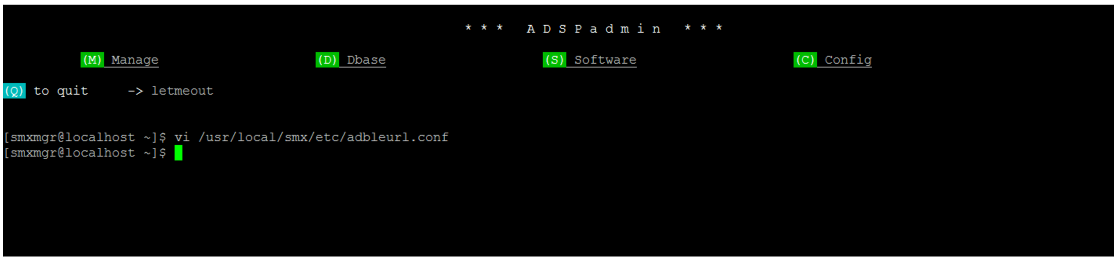
8. With AirDefense 9.2.0 the sensor to AirDefense server communication has been switched to use 2048-bit key length and TLS 1.2. By default, AirDefense will use 2048 key length certificate. In order to fall back to 1024-bit key length (not recommended), please follow the following steps.
    - Login to AirDefense as root (contact support for assistance)
    - Touch file /usr/local/smx/.k/key1024
    - Restart AirDefense services.

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

    To switch back to 2048 bit certificates:
    - Login to AirDefense as root (contact support for assistance)
    - Delete /usr/local/smx/.k/key1024 file
    - Restart AirDefense services.
9. Upgrade from AirDefense 9.0.3 to 9.1.0 (and higher) is not seamless. AirDefense 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. It is recommended that upgrades from 9.0.3 be performed via 9.2.0 release – which has enhancements to ease the upgrade.
10. When upgrading firmware to 9.2.0 (from 9.0.3), 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. Alarm action manager profiles – exception option has been removed from GUI in 9.1.2 and added to the advanced filter.
12. 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 AirDefense after the file is modified for the changes to take effect.
13. Bluetooth Beacon using unauthorized URL: EddyStone URLs are validated against the configured URLs in /usr/local/smx/etc/adbleurl.conf file. Advertised URLs from EddyStone BLE beacons are validated against these allowed URL list for checking whether authorized or not. AirDefense will check the sensed URL from beacons against the configured URLs and trigger an alarm if any violation is detected. There are two types of configurations allowed.
    a. List of allowed URLs
    b. Allowed URLs for a specific BLE beacon mac address [Note: there is no short mac address and tiny URL's are not allowed]

    Instructions to configure the URLs in a file:

    In AirDefense 10.0, this configuration is done via the CLI. Login to the AirDefense CLI using the smxmgr credentials



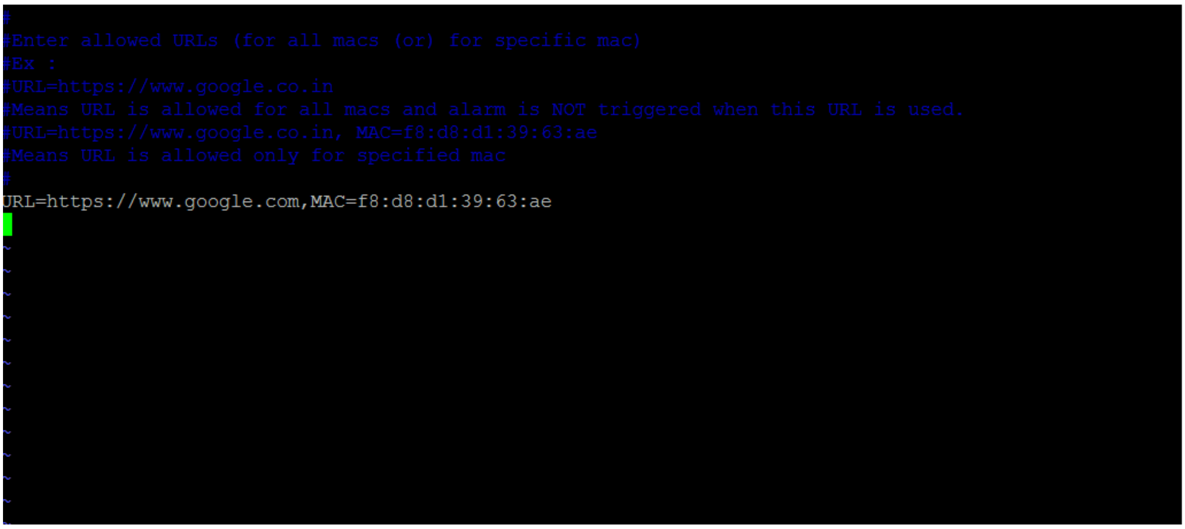
```
                                    * * *  A D S P a d m i n  * * *

        (M) Manage                    (D) Dbase                    (S) Software                    (C) Config

(Q) to quit     -> letmeout


[smxmgr@localhost ~]$ vi /usr/local/smx/etc/adbleurl.conf
[smxmgr@localhost ~]$ 
```

On the menu item, type letmeout and get the prompt **smxmgr#localhost ~]$**

Edit the file using vi /usr/local/smx/etc/adbleurl.conf

#Enter allowed URLs (for all macs (or) for specific mac)
#URL=https://www.google.co.in
#Means URL is allowed for all macs and alarm is NOT triggered when this URL is used.
#URL=https://www.google.co.in, MAC=f8:d8:d1:39:63:ae
#Means URL is allowed only for specified mac

Users can add/edit the URL and MAC address as required.



```
#
#Enter allowed URLs (for all macs (or) for specific mac)
#Ex :
#URL=https://www.google.co.in
#Means URL is allowed for all macs and alarm is NOT triggered when this URL is used.
#URL=https://www.google.co.in, MAC=f8:d8:d1:39:63:ae
#Means URL is allowed only for specified mac
#
URL=https://www.google.com,MAC=f8:d8:d1:39:63:ae

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```

5. SPR/Issues Fixed

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

SPR/ CQ	Description
SPR-3323	Forensic analysis window showing only "Rx Beacons" for BSS
SPR-3413	Device Action rule filters reset when using "Not in" expression
SPR-3449	"Redundant power supply failure" alarm is not triggered for NX9600
SPR-3513	Core crash caused by anomaly detector enabled
SPR-3535	Unable to update OUI via Internet

6. Vulnerabilities Fixed

Vulnerabilities Fixed in AirDefense 10.1

AirDefense 10.1 includes upgrades to several internal packages (including kernel to: 2.6.32-754.10.1, openssh: 5.3p1-123.el6_9 and etc.) to provide fixes for several vulnerabilities including:

- CVE-2018-14634
- CVE-2018-5391
- CVE-2018-5390
- CVE-2018-3693
- CVE-2018-10901
- CVE-2018-3620
- CVE-2018-7566
- CVE-2018-1000004
- CVE-2016-6210

Vulnerabilities Fixed in AirDefense 10.0

AirDefense 10.0 includes upgrades to several internal packages (including kernel to: 2.6.32-754.2.1, microcode_ctl: 1.17-33.1 and Java) to provide fixes for several vulnerabilities including:

- CVE-2018-10675
- CVE-2018-10872
- CVE-2018-1130
- CVE-2018-3639
- CVE-2018-3665
- CVE-2018-5803
- CVE-2017-1000111
- CVE-2017-1000112
- CVE-2017-1000251
- CVE-2017-1000253
- CVE-2017-1000364
- CVE-2017-5715
- CVE-2017-5753
- CVE-2017-5754
- CVE-2017-6001
- CVE-2017-6214
- CVE-2017-7308
- CVE-2017-7541
- CVE-2017-7542
- CVE-2017-7616
- CVE-2017-7889
- CVE-2017-7895

- CVE-2017-1000410
- CVE-2017-11176
- CVE-2017-12190
- CVE-2017-13166
- CVE-2017-14106
- CVE-2017-15121
- CVE-2017-18017
- CVE-2017-18203
- CVE-2017-2636
- CVE-2017-2671
- CVE-2017-8824
- CVE-2017-8890
- CVE-2017-9074
- CVE-2017-9075
- CVE-2017-9076
- CVE-2017-9077
- CVE-2016-7910
- CVE-2016-8650
- CVE-2015-8830
- CVE-2012-6701

Vulnerabilities Fixed in AirDefense 9.5

AirDefense 9.5 includes upgrades to several internal packages to provide vulnerability fixes (including kernel to 2.6.32-696.10.1, nss, bind, ca-certificates, glibc, jasper, openldap, rpcbind and sudo)

Vulnerabilities Fixed in AirDefense 9.4

AirDefense 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-2016-7545
- CVE-2015-8325
- CVE-2010-5107

Vulnerabilities Fixed in AirDefense 9.3

AirDefense 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 AirDefense 9.2

AirDefense 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 AirDefense 9.1.3-10b6

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

Vulnerabilities Fixed in AirDefense 9.1.3-10a8

- OpenSSL vulnerability – LOGJAM - CVE-2015-4000

Vulnerabilities Fixed in AirDefense 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 AirDefense 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 AirDefense 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, 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 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 AirDefense 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

- Locating a rogue access point or a rogue client does not work correctly in 10.1 for with the multiple WIPS (AirIDS) engines configuration for increased scalability. It works correctly in the single WIPS engine mode (i.e. what was supported in prior releases). This will be addressed in an upcoming release.
- With multiple AirIDS engines configured - Manual polling(data collection) and Audit will not work if a device is in Unplaced folder - but auto polling works. Not applicable with single AirIDS engine.
- "Move" option (on right click) for a device does not work if auto placement rules are configured.
- Custom dashboards created in the old Flex UI will not show up in the new UI.
- The new UI is supported for the admin user in this release. Support for other user roles will be added in a future release.
- New UI - Unknown devices turned into rogue devices widget does not show data. Will be addressed in a future release.
- New UI – In the network snapshot grid, the total BT device count does not match the old UI. Sensor details are missing. Will be addressed in a future release.
- New UI - Radio Bands on WLAN do not show the correct count of WLANs.
- NEW UI: Search filter for the “polled devices” coloumn does not work.
- New UI: BLE device classification widget doesn’t show correct counts.
- 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.
- AirDefense 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 AirDefense, 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 AirDefense Alarm Action Manager.
- AirDefense 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) sometimes restarts 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, AirDefense 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 AirDefense 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 AirDefense (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.
- 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 AirDefense 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.
- The format of the folder for CLI variables must be:
  /<serverName>/<country>/<region>/<city>/<campus>/<building>/<floor>
  For example, /AirDefense/USA/South/Atlanta/Alpharetta/Atlanta_main/Floor_2
  All other profiles accept the following folder format:
  <country>/<region>/<city>/<campus>/<building>/<floor>
- CQ 201328 – AP 7532 device icons displayed incorrectly when device goes offline

Network Assurance

- Clearing configuration in Appliance Manager may prevent edits to Live-RF application configuration. If the system gets into this state, please contact the support team or re-install AirDefense.
- Changes to duty cycle field in the Advanced Spectrum Analysis 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 6522 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
- 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

Bluetooth Monitoring

- 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
- Some Eddystone tags have non-standard fields and may not be correctly recognized by the AP. Some tags do not advertise a URL in the beacon – such tags cannot be protected with the BT 4.0/ BLE security feature. The following tags have been tested against AirDefense:
    - Kartographer eddystone beacons – UFOBeacon Odyssey
    - Ibeacons – used Wing Devices as advertisers. Apple ibeacons were also sensed.

  - BLE simulator app – TxEddystone
  - BLE Scanning app -- Beacon simulator
- Some tags advertise additional ".com"'s in the URL field. This does not impact URL matching, however, they will show up in the alarm description text.

8. AirDefense WiNG Feature Matrix

This section defines features supported by access point/ sensor module.

As a dedicated sensor	WIPS & Advanced Forensics	Spectrum Analysis	Advanced Spectrum Analysis	Live RF	Live View	AP Test	Connection Troubleshooting	WVA
AP 6522/6562	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes
AP 7161	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
AP 7532/7522/7562[1]	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes
AP 8163	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes
AP 8533[2]	Yes	No	Yes	No	Yes	Yes	Yes	Yes
AP 8432[2]	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes
AP 7602/7622	Yes	No	No	No	No	No	No	No
AP 7632/ 7662/ 7612[1]	Yes	No	Yes	No	Yes	No	No	Yes

Notes:

[1] AP 7522, AP 7532, AP 7562, AP 7632, AP 7662, AP 7612 radios are band-locked, entire AP needs to be dedicated as sensor

[2] Support is limited to the dedicated sensor (Radio 3) for AP 8533. For AP 8432 – either Radio 1 can be used as a dedicated sensor and Radio 2 for data or the entire AP can be dedicated as sensor.

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

In Radio Share mode	WIPS & Advanced Forensics	Spectrum Analysis[2]	Advanced Spectrum Analysis[3]	Live RF	Live View	AP Test[5]	Connection Troubleshooting	WVA
AP 6522/6562[1]	No	No	Yes	Yes	Yes	Yes	Yes	No
AP 7161	No	No	No	Yes	Yes	Yes	Yes	No
AP 7532/7522/7562[4]	Yes	No	No	Yes	Yes	Yes	Yes	No
AP 8163	No	No	Yes	Yes	Yes	Yes	Yes	No
AP 7502	No	No	No	No	No	No	No	No
AP 8533	No	No	No	No	No	No	No	No
AP 8432	Yes	No	No	No	Yes	Yes	Yes	No
AP 7602/7622	No	No	No	No	No	No	No	No
AP 7632/ 7662/ 7612[4]	Yes	No	No	No	Yes	No	No	No

Notes:

[1]AP 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

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

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

[4]AP 7522, AP 7532, AP 7562, AP 7632, AP 7662, AP 7612 radios are band-locked, both radios are required for sensing

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

9. AirDefense Extreme Wireless Feature Matrix

For the EW 39xx series access points operating as dedicated sensors, AirDefense supports the following features:

- WIPS
- Advanced Forensics
- Liveview

AirDefense also supports the following features for AP 39xx operating as radio-share sensors.

- WIPS
- Advanced Forensics