API Guide

Introduction

This is the application programming interface (API) to the AirWave Management Platform (AMP). AMP collects and correlates a wealth of information from several components of a wireless LAN like access points, wireless LAN switches, LAN switches, and authentication sources. AMP can provide this valuable information to other wireless applications relegating the need for these applications to develop direct interfaces with these components. Examples of wireless applications that would require AMP's correlated information are RF scanning IDS solutions, RF scanning analysis solutions, and wireless site planning tools.
The API uses Extensible Markup Language (XML) over HTTPS using session-based authentication. All HTTP parameters and form fields must be URL encoded.

Overview

AMP APIs are split into Query APIs and Search and Report APIs.

Query APIs

AMP Stats – Provides a high level summary of the AMP's current status.
Folder List – Provides a full (or optionally partial) list of folders on an AMP, and a high level summary of the folder's current status.
Catalog Repository – Provides a list of all device types and all of their possible radio configurations. Used primarily by AMC and VisualRF.
Alert List – Provides a list of all alerts on an AMP.
AP List – Provides a full (or optionally partial) list of managed Access Points on an AMP. A partial list of APs can be obtained by providing one or more AP IDs, as described below .
AP BSSID List – Provides a full (or optionally partial) list of BSSIDs of managed Access Points on an AMP. A partial list of BSSIDs of APs can be obtained by providing one or more AP IDs, as described below .
AP Detail – Provides detailed information about managed APs: associated clients and neighboring rogue access points.
AP Log – Provides a specified number of the most recent log messages for APs. This API requires one or more AP IDs to be supplied.
Rogue Detail – Provides detailed information about rogue access points, including a history of individual discovery events. This API requires one or more rogue_ap IDs.
Client Detail – Provides detailed information about wireless clients, including a history of associations. This API requires one or more client MAC addresses.
VisualRF Config – Provides configuration information for VisualRF.
User Info – Provides authorization information about the currently logged in user.

Device RRD Info – Provides a list of all RRDs on all devices managed by AMP.
Client RRD Info – Provides a list of all RRDs for all connected clients known to AMP.

Configuration APIs

Change Set – Enables an external application to post "change sets" for AP and radio parameters (such as channel, transmit power, etc.).
Guest User – Enables an external application to create, update, and delete Guest Users on the AMP.
Modify Template Variables – Enables an external application to update AP's template variables on the AMP.
Import AP Whitelist – Enables an external application to create, update, and delete AP Whitelist on the AMP.
Deauthenticate Client – Request to deauthenticate a client on an AP that supports this operation.
Down Status Message – Enables an external application to set AMP's Down Status Message on individual devices or groups of devices.

Search APIs

AP Search – Provides an interface to AMP's AP search functionality. This API requires a query string and returns an XML version of the AMP UI's search results.
Client Search – Provides an interface to AMP's client search functionality. This API requires a query string and returns an XML version of the AMP UI's search results.
VPN User Search – Provides an interface to AMP's VPN User search functionality. This API requires a query string and returns an XML version of the AMP UI's search results.

Report APIs

Latest Report – Provides an XML version of the latest generated report for a given report definition.

Batch Execute AP Commands APIs

Batch Execute AP Command – Provides a method to execute AP commands on APs managed by an AMP. ,
Batch Execute AP Command Result – Provides the result of batch execute AP commands.

Querying by Field

AMP has two methods for querying the XML API: the URL interface, and the deprecated XML POST interface.

When using the URL interface, all the query parameters are contained in the URL of

an HTTP GET request. For example, to query for the most recent log messages of APs with ids of 12 and 13, the URL would be:

```
https://10.17.164.189/ap_log.xml?id=12&id=13
```

When using the XML POST interface, the query is made by submitting a small XML document in an HTTP POST request. To accomplish the same query as above, the POST parameter `"aps"` would be set to the following XML string:

```
<access_points>
  <ap id="12"/>
  <ap id="13"/>
</access_points>
```

The only difference for other APIs is the HTTP POST parameter name and the individual tag names and parameters in the XML document, as detailed in each API section below.

The URL interface should be used for all query APIs, and the XML POST interface has been deprecated. The existing functionality of the POST interface will be removed in a future version of AMP.

Limiting Historical Information

Certain APIs return historical information about network devices, and over time the amount of information returned can become very large. To limit the number of historical XML elements returned, the limit tag can be included in the query XML:

```
<clients>
  <client mac="00:40:96:46:43:D8"/>
  <client mac="00:30:65:08:C6:9E"/>
  <limit>5</limit>
</clients>
```

Or for the URL interface:

```
https://10.17.164.189/client_detail.xml?
mac=00:40:96:46:43:D8&mac=00:30:65:08:C6:9E&limit=5
```

This query would return the 5 most recent associations for each client.

Search and Report API Elements

The Search and Report APIs are optimized for use by the Master Console, so each XML element contains 3 different representations of the data:

1. `display_value` attribute: Suitable for inclusion in an HTML page, after HTML character entities are decoded. May contain HTML that references AMP Javascript functions.
2. `sort_value` attribute: When multiple records are returned, this field allows a logical sorting to be performed on fields for which a straight numeric or alphabetical sort is inappropriate (e.g., IP addresses and time durations).
3. element value: This is the text representation of the data.

Report API Parameters

Most of the report APIs take 2 optional parameters: `start_epoch` and `end_epoch`. These are time parameters, in number of seconds since the UNIX epoch: 00:00:00 1970-01-01 UTC. If `end_epoch` is not provided, it defaults to the most recent midnight. If `start_epoch` is not provided, it defaults to 24 hours before the `end_epoch`. Reports can be generated in either blocking or non-blocking mode. Non-blocking mode is suggested, since large reports can easily time out in blocking mode. To request a report in non-blocking mode, set `nb` to 1 in your request. The initial response will give you back an ID number. Set `report_id` to that number in subsequent queries to poll the report state. When the report is complete you will get a response with `state` set to 3 and the report data in the body. You can only pull down the completed report once, after that it will be deleted from the AMP.

Query APIs

AMP Stats

URL: `https://10.17.164.189/amp_stats.xml`
XML Schema : amp_stats.xsd
Parameters : Optionally include_bandwidth or include_all_stats can be passed in the request.
Example Output: `https://10.17.164.189/amp_stats.xml?include_all_stats=1&include_bandwidth=1`

```
<?xml version="1.0" encoding="ISO-8859-1" standalone="yes"?>
<amp:amp_stats console_refresh_rate="60" failover_status="" version="4.4rc6"
     xmlns:amp="http://www.airwave.com"
     xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
     xsi:schemaLocation="http://www.airwave.com amp_stats.xsd">
  <alerts>0</alerts>
  <audit_disabled>3</audit_disabled>
  <bandwidth_in>0</bandwidth_in>
  <bandwidth_out>0</bandwidth_out>
  <client_count>0</client_count>
  <configuration_unknown>2</configuration_unknown>
  <down>10</down>
  <down_wired>1</down_wired>
  <down_wireless>9</donw_wireless>
  <mismatched>13</mismatched>
  <name>AirWave Management Platform</name>
  <new_count>2</new_count>
  <rogue>30</rogue>
  <up>25</up>
  <up_wired>10</up_wired>
  <up_wireless>15</up_wireless>
  <vpn_bandwidth_in>0</vpn_bandwidth_in>
  <vpn_bandwidth_out>0</vpn_bandwidth_out>
  <vpn_count>0</vpn_count>
</amp:amp_stats>
```

Folder List

URL: https://10.17.164.189/folder_list.xml
XML Schema : amp_folder_list.xsd
Parameters : Optionally limit information returned to one or more folders by supplying folder IDs.
Example URL: https://10.17.164.189/folder_list.xml?id=1
Example Output :

```
<?xml version="1.0" encoding="ISO-8859-1" standalone="yes"?>
<amp:amp_folder_list version="1" xmlns:amp="http://www.airwave.com"
     xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
     xsi:schemaLocation="http://www.airwave.com amp_folder_list.xsd">
  <folder id="1">
    <bandwidth_in>1725</bandwidth_in>
    <bandwidth_out>577</bandwidth_out>
    <client_count>2</client_count>
    <down>2</down>
    <mismatch>0</mismatch>
    <name>Top</name>
    <up>12</up>
    <vpn_client_count>0</vpn_client_count>
  </folder>
  <folder id="2">
    <bandwidth_in>5783</bandwidth_in>
    <bandwidth_out>5074</bandwidth_out>
    <client_count>6</client_count>
    <down>3</down>
    <mismatch>0</mismatch>
    <name>Folder1</name>
    <parent_id>1</parent_id>
    <up>16</up>
    <vpn_client_count>3</vpn_client_count>
  </folder>
</amp:amp_folder_list>
```

Catalog Repository

URL: https://10.17.164.189/static/catalog_repository.xml
XML Schema : amp_catalog_repository.xsd
Parameters : None.
Example Output (partial):

Alert List

URL: https://10.17.164.189/alerts.xml
XML Schema : amp_alert.xsd
Parameters : None.
Example Output :

```
<?xml version="1.0" encoding="ISO-8859-1" standalone="yes"?>
<amp:amp_alert version="1" xmlns:amp="http://www.airwave.com"
     xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
     xsi:schemaLocation="http://www.airwave.com amp_alert.xsd">
  <record id="83">
    <creation_time ascii_value="10/2/2006 10:16 AM" display_value="10/2/2006
10:16 AM"
      sort_value="1159809360">1159809360</creation_time>
    <message ascii_value="this is example message text" display_value="this
is example message text" sort_value="this is example message text">this is
example message text</message>
```

```
    <remote_id ascii_value="83" display_value="83"
sort_value="83">83</remote_id>
    <severity ascii_value="Normal" display_value="Normal"
sort_value="2">2</severity>
    <summary ascii_value="Client Count >= 10 for 15 seconds"
display_value="Client Count >= 10 for 15 seconds"
      sort_value="Client Count >= 10 for 15 seconds">Client Count >= 10 for
15 seconds</summary>
    <triggering_agent ascii_value="lwapp-1250-1" display_value="<a
href="/ap_monitoring?id=3645">LWAPP-1250-1</a>"
      sort_value="lwapp-1250-1">lwapp-1250-1</triggering_agent>
    <type ascii_value="Device Client Count" display_value="Device Client
Count" sort_value="Device Client Count">Device Client Count</type>
    <view_url ascii_value="/ap_monitoring?id=455"
display_value="/ap_monitoring?id=455" sort_value="/ap_monitoring?
id=455">/ap_monitoring?id=455</view_url>
    <viewed ascii_value="0"  display_value="0" sort_value="0">0</viewed>
  </record>
</amp:amp_alert>
```

AP List

URL: https://10.17.164.189/ap_list.xml

XML Schema : amp_ap_list.xsd

Parameters :

Optionally limit information returned to one or more APs by supplying AP IDs. Similarly, limit by AP folders, AP groups, and controllers by supplying their IDs.

Example URL: https://10.17.164.189/ap_list.xml?id=79&id=3648&ap_folder_id=3&ap_group_id=1&controller_id=15

Example Output :

```
<?xml version="1.0" encoding="ISO-8859-1" standalone="yes"?>
<amp:amp_ap_list version="1" xmlns:amp="http://www.airwave.com"
     xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
     xsi:schemaLocation="http://www.airwave.com amp_ap_list.xsd">
  <ap id="79">
    <altitude>0</altitude>
    <device_category>fat_ap</device_category>
    <client_count>1</client_count>
    <firmware>3.2.0</firmware>
    <fqdn/>
    <group id="1">Access Points</group>
    <is_up>true</is_up>
    <is_remote_ap>true</is_remote_ap>
    <remote_outer_ip>10.1.1.1</remote_outer_ip>
    <remote_lan_ip>20.20.20.20</remote_lan_ip>
    <lan_ip>10.51.1.191</lan_ip>
    <lan_mac>00:20:A6:55:E6:E1</lan_mac>
    <last_contacted>1350379063</last_contacted>
    <last_reboot>1343644897</last_reboot>
    <mfgr>Proxim</mfgr>
    <model id="44">AP-700</model>
    <monitor_only>true</monitor_only>
    <name>ORiNOCO-AP-700-55-e6-e1</name>
    <operating_mode>ap</operating_mode>
    <planned_maintenance_mode>false</planned_maintenance_mode>
    <radio index="1">
      <antenna/>
```

```
    <antenna_gain/>
    <channel>1</channel>
    <display_channel>1</display_channel>
    <display_enabled>false</display_enabled>
    <display_transmit_power>22.5 dBm</display_transmit_power>
    <enabled>true</enabled>
    <operational_mode>g</operational_mode>
    <radio_interface>1</radio_interface>
    <radio_mac>00:20:A6:55:E6:E0</radio_mac>
    <radio_type>g</radio_type>
    <transmit_power>100%</transmit_power>
  </radio>
  <reboot_count>2</reboot_count>
  <serial_number>04UT43570051</serial_number>
  <snmp_uptime>0</snmp_uptime>
  <ssid>proxim_test</ssid>
  <syscontact/>
  <syslocation/>
  <upstream_device_id>3648</upstream_device_id>
  <upstream_port_index>16</upstream_port_index>
</ap>
<ap id="3648">
  <controller_id>9</controller_id>
  <device_category>thin_ap</device_category>
  <firmware>4.0.155.0</firmware>
  <group id="1">Access Points</group>
  <is_up>true</is_up>
  <lan_ip>10.51.1.16</lan_ip>
  <lan_mac>00:0B:85:62:64:70</lan_mac>
  <mfgr>Cisco</mfgr>
  <model id="94">Aironet 1030 LWAPP</model>
  <monitor_only>true</monitor_only>
  <name>aironet-1030-5</name>
  <operating_mode>ap</operating_mode>
  <planned_maintenance_mode>false</planned_maintenance_mode>
  <radio index="1">
    <antenna>Enabled</antenna>
    <antenna_gain>15</antenna_gain>
    <antenna_type>internal</antenna_type>
    <channel>1</channel>
    <display_channel>1</display_channel>
    <display_enabled>false</display_enabled>
    <enabled>true</enabled>
    <operational_mode>g</operational_mode>
    <radio_interface>1</radio_interface>
    <radio_mac>00:0B:85:62:64:70</radio_mac>
    <radio_role>ap</radio_role>
    <radio_type>g</radio_type>
    <transmit_power>7 dBm</transmit_power>
  </radio>
  <radio index="2">
    <antenna>Side B</antenna>
    <antenna_gain/>
    <antenna_type>external</antenna_type>
    <channel>56</channel>
    <display_channel>56</display_channel>
    <display_enabled>true</display_enabled>
```

```
      <enabled>true</enabled>
      <operational_mode>a</operational_mode>
      <radio_interface>2</radio_interface>
      <radio_mac>00:0B:85:62:64:70</radio_mac>
      <radio_role>ap</radio_role>
      <radio_type>abg</radio_type>
      <transmit_power>5 dBm</transmit_power>
    </radio>
    <syscontact>dev team</syscontact>
    <syscontact>Second shelf from bottom</syscontact>
    <upstream_device_id/>
    <upstream_port_index/>
  </ap>
  <ap id="2418">
    <device_category>controller</device_category>
    <firmware>6.1.1.1</firmware>
    <group id="1">Access Points</group>
    <is_up>true</is_up>
    <lan_ip>10.51.3.119</lan_ip>
    <lan_mac>00:0B:86:61:16:5C</lan_mac>
    <mfgr>Aruba</mfgr>
    <model id="226">3200</model>
    <monitor_only>true</monitor_only>
    <name>Aruba3200-119</name>
    <operating_mode>ap</operating_mode>
    <planned_maintenance_mode>false</planned_maintenance_mode>
    <serial_number>AC0000479</serial_number>
    <syscontact>qa team</syscontact>
    <syslocation>Viewonly</syslocation>
    <upstream_device_id/>
    <upstream_port_index/>
  </ap>
  <ap id="1437">
    <device_category>switch</device_category>
    <firmware>12.2(25)SEE4</firmware>
    <group id="1">Access Points</group>
    <is_up>true</is_up>
    <lan_ip>10.51.0.26</lan_ip>
    <lan_mac>00:18:18:9E:C9:40</lan_mac>
    <mfgr>Cisco</mfgr>
    <model id="319">Catalyst 3560-24PS-S</model>
    <monitor_only>true</monitor_only>
    <name>switch7</name>
    <operating_mode>ap</operating_mode>
    <planned_maintenance_mode>false</planned_maintenance_mode>
    <serial_number>CAT10205436</serial_number>
    <syscontact/>
    <syslocation>server room</syslocation>
    <upstream_device_id/>
    <upstream_port_index/>
  </ap>
</amp:amp_ap_list>
```

AP BSSID List

URL: https://10.17.164.189/api/ap_bssid_list.xml
XML Schema : amp_ap_bssid_list.xsd

Parameters :
Optionally limit information returned to one or more APs by supplying AP IDs.
Similarly, limit by AP folders, AP groups, and controllers by supplying their IDs.
Example URL: `https://10.17.164.189/api/ap_bssid_list.xml?id=79&id=3648&ap_folder_id=3&ap_group_id=1&controller_id=15`
Example Output :

```
<?xml version="1.0" encoding="utf-8" standalone="yes"?>
<amp:amp_ap_bssid_list version="1" xmlns:amp="http://www.airwave.com"
     xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
     xsi:schemaLocation="http://www.airwave.com amp_ap_bssid_list.xsd">
  <ap id="19251" name="AP 1">
    <group id="2524">GROUP 1</group>
    <radio index="1" radio_type="abg" channel="8"
radio_mac="AA:00:00:00:00:0B">
      <bssid mac="88:88:17:2F:64:22" text="SSID 1" had_client="1"/>
      <bssid mac="88:88:35:85:74:58" text="SSID 2" had_client="0"/>
      <bssid mac="88:88:21:08:4C:8A" text="SSID 3" had_client="0"/>
    </radio>
    <radio index="2" radio_type="a" channel="8" radio_mac="AA:00:00:00:00:0D">
      <bssid mac="88:88:FA:12:37:12" text="SSID 1" had_client="0"/>
      <bssid mac="88:88:FB:18:87:23" text="SSID 2" had_client="1"/>
    </radio>
  </ap>
  <ap id="19252" name="AP 2">
    <group id="2524">GROUP 2</group>
    <radio index="1" radio_type="abg" channel="8"
radio_mac="AA:00:00:00:00:0E" />
  </ap>
</amp:amp_ap_bssid_list>
```

AP Detail

URL: `https://10.17.164.189/ap_detail.xml`
XML Schema : amp_ap_detail.xsd
Parameters :
Optionally limit information returned to one or more APs by supplying AP IDs.
Similarly, limit by AP folders, AP groups, and controllers by supplying their IDs.
Optional Tags :
`include=ignored` - neighbors that have been ignored through the AMP UI are not included in the list of neighbor APs by default.
Append this to the URL to include ignored neighbors in the output.
Example URL: `https://10.17.164.189/ap_detail.xml`, `https://10.17.164.189/ap_detail.xml?id=79&ap_folder_id=7&ap_group_id=1&controller_id=77`
Example Output :

```
<?xml version="1.0" encoding="ISO-8859-1" standalone="yes"?>
<amp:amp_ap_detail version="1" xmlns:amp="http://www.airwave.com"
     xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
     xsi:schemaLocation="http://www.airwave.com amp_ap_detail.xsd">
  <ap id="79">
    <interface id="88">
      <admin_status>Up</admin_status>
      <alias/>
      <avg_bw_in>10.11</avg_bw_in>
      <avg_bw_out>73.58</avg_bw_out>
      <description>GigabitEthernet1/0/2</description>
```

```
      <mac_address>88:88:FC:03:C6:2C</mac_address>
      <name>Gi1/0/2</name>
      <oper_status>Dormant</oper_status>
      <port_index>34</port_index>
      <type>ethernetCsmacd</type>
    </interface>
    <ap_folder>Top > FolderA</ap_folder>
    <ap_group>A Group</ap_group>
    <is_remote_ap>true</is_remote_ap>
    <is_up>true</is_up>
    <remote_lan_ip>10.1.1.1</remote_lan_ip>
    <remote_outer_ip>172.22.22.1</remote_outer_ip>
    <radio index="1">
      <bw>2</bw>
      <client id="627">
        <assoc_stat>true</assoc_stat>
        <auth_stat>false</auth_stat>
        <bw>2</bw>
        <ip>10.51.1.51</ip>
        <radio_mac>00:0E:35:52:8C:AB</radio_mac>
        <rssi>38</rssi>
        <signal>-63</signal>
        <snr>38</snr>
        <vendor>Intel</vendor>
        <role>Employee</role>
      </client>
      <neighbor_ap id="506">
        <channel>4</channel>
        <name>XEROX CORP-00:00:F0</name>
        <neighbor_mode>ap</neighbor_mode>
        <neighbor_type>rogue</neighbor_type>
        <radio_mac>00:00:00:00:00:F0</radio_mac>
        <rssi>20</rssi>
        <security>none</security>
        <signal>-82</signal>
        <snr>20</snr>
        <vendor>XEROX CORPORATION</vendor>
      </neighbor_ap>
      <neighbor_ap id="3644">
        <channel>64</channel>
        <name>aironet-1030-2</name>
        <neighbor_mode>ap</neighbor_mode>
        <neighbor_type>managed</neighbor_type>
        <radio_mac>00:0B:85:55:8A:10</radio_mac>
        <rssi>38</rssi>
        <security>none</security>
        <signal>-64</signal>
        <snr>38</snr>
        <vendor>Airespace, Inc.</vendor>
      </neighbor_ap>
      <radio_type>bg</radio_type>
      <operational_mode>g</operational_mode>
    </radio>
    <snmp_uptime>99.31</snmp_uptime>
  </ap>
</amp:amp_ap_detail>
```

AP Log

URL: https://10.17.164.189/ap_log.xml
XML Schema : amp_ap_log.xsd
Parameters : Must supply one or more AP IDs.
Optional Tags : limit - (defaults to 20) as explained above
Example URL: https://10.17.164.189/ap_log.xml?id=79&limit=5
Example Output :

```
<?xml version="1.0" encoding="ISO-8859-1" standalone="yes"?>
<amp:amp_ap_log version="1" xmlns:amp="http://www.airwave.com"
     xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
     xsi:schemaLocation="http://www.airwave.com amp_ap_log.xsd">
  <ap id="79">
    <log_message>
      <date>2006-10-04T11:16:57-07:00</date>
      <message>AP Client Count: Device: ORiNOCO-AP-700-55-e6-e1: &gt;= 1
clients for 15 seconds (Normal)</message>
      <user>System</user>
    </log_message>
    <log_message>
      <date>2006-10-04T11:16:07-07:00</date>
      <message>Configuration verification: configuration on device does not
match desired configuration</message>
      <user>System</user>
    </log_message>
    <log_message>
      <date>2006-10-04T11:16:02-07:00</date>
      <message>Up</message>
      <user>System</user>
    </log_message>
    <log_message>
      <date>2006-10-04T11:16:02-07:00</date>
      <message>Status changed to 'OK'</message>
      <user>System</user>
    </log_message>
    <log_message>
      <date>2006-10-04T11:15:18-07:00</date>
      <message>Status changed to 'SNMP Get Failed'</message>
      <user>System</user>
    </log_message>
  </ap>
</amp:amp_ap_log>
```

Rogue Detail

URL: https://10.17.164.189/rogue_detail.xml
XML Schema : amp_rogue_detail.xsd
Parameters : Must supply one or more Rogue AP IDs. Rogue IDs are obtained from a neighbor_ap ID in the AP Detail API, when the neighbor_type is rogue.
Optional Tags : limit - as explained above
Example URL: https://10.17.164.189/rogue_detail.xml?id=267
Example Output :

```
<?xml version="1.0" encoding="ISO-8859-1" standalone="yes"?>
<amp:amp_rogue_detail version="1" xmlns:amp="http://www.airwave.com"
     xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
     xsi:schemaLocation="http://www.airwave.com amp_rogue_detail.xsd">
```

```
  <rogue_ap id="495">
    <channel>6</channel>
    <discovery_event id="600644">
      <channel>6</channel>
      <discovering_ap id="3650">
        <name>Cisco-1130-1</name>
        <radio_index>1</radio_index>
      </discovering_ap>
      <discovery_time>2006-10-04T07:08:03-07:00</discovery_time>
      <mode>ap</mode>
      <rssi>-88</rssi>
      <security>WEP</security>
      <signal>-88</signal>
      <snr>-2</snr>
      <ssid>blec</ssid>
      <type>Wireless AP scan</type>
    </discovery_event>
    <discovery_event id="560515">
      <channel>6</channel>
      <discovering_ap id="3647">
        <name>ap:1b:a6:90</name>
        <radio_index>1</radio_index>
      </discovering_ap>
      <discovery_time>2006-10-03T21:56:31-07:00</discovery_time>
      <mode>ap</mode>
      <rssi>-89</rssi>
      <security>WEP</security>
      <signal>-89</signal>
      <snr>6</snr>
      <ssid>blec</ssid>
      <type>Wireless AP scan</type>
    </discovery_event>
    <first_discovered>2006-09-29T21:34:48-07:00</first_discovered>
    <ignored>false</ignored>
    <last_discovered>2006-10-04T07:08:03-07:00</last_discovered>
    <mode>ap</mode>
    <name>Cisco-Link-FC:B4:84</name>
    <radio_mac>00:13:10:FC:B4:84</radio_mac>
    <radio_vendor>Cisco-Linksys</radio_vendor>
    <score>5</score>
    <security>WEP</security>
    <ssid>blec</ssid>
  </rogue_ap>
</amp:amp_rogue_detail>
```

Client Detail

URL: https://10.17.164.189/client_detail.xml
XML Schema : amp_client_detail.xsd
Parameters : Must supply one or more Client MAC Addresses.
Optional Tags : limit - as explained above
Example URL: https://10.17.164.189/client_detail.xml?mac=00:0E:35:52:8C:AB
Example Output :

```
<?xml version="1.0" encoding="ISO-8859-1" standalone="yes"?>
<amp:amp_client_detail version="1" xmlns:amp="http://www.airwave.com"
     xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
```

```
     xsi:schemaLocation="http://www.airwave.com amp_client_detail.xsd">
  <client mac="00:0E:35:52:8C:AB">
    <ap id="3645">LWAPP-1250-1</ap>
    <assoc_stat>true</assoc_stat>
    <association id="1962">
      <ap id="79">ORiNOCO-AP-700-55-e6-e1</ap>
      <bytes_used>135357</bytes_used>
      <connect_time>2006-10-04T11:22:43-07:00</connect_time>
      <disconnect_time>2006-10-04T11:27:30-07:00</disconnect_time>
      <lan_elements>
        <lan hostname="bob.acmeville.org" ip_address="192.1.50.102" />
        <lan hostname="cats.awesome.com"
ip_address="26:1F89:1820:A:98:7A:75AD:53B" />
      </lan_elements>
      <rssi>36</rssi>
    </association>
    <association id="1961">
      <ap id="79">ORiNOCO-AP-700-55-e6-e1</ap>
      <bytes_used>512</bytes_used>
      <connect_time>2006-10-04T11:19:12-07:00</connect_time>
      <disconnect_time>2006-10-04T11:20:13-07:00</disconnect_time>
      <vpn_elements>
        <vpn hostname="bob.acmeville.org" ip_address="192.1.1.1" />
      </vpn_elements>
      <rssi>38</rssi>
    </association>
    <auth_stat>false</auth_stat>
    <connect_time>2006-10-04T11:48:19-07:00</connect_time>
    <lan_elements>
      <lan hostname="cats.awesome.com"
ip_address="26:1F89:1820:A:98:7A:75AD:53B" />
    </lan_elements>
    <rssi>0</rssi>
    <signal>-42</signal>
    <snr>0</snr>
    <vendor>Intel</vendor>
  </client>
</amp:amp_client_detail>
```

VisualRF Config

URL: https://10.17.164.189/visualrf_config.xml
XML Schema : amp_visualrf_config.xsd
Parameters : None.
Example Output :

```
<?xml version="1.0" encoding="ISO-8859-1" standalone="yes"?>
<amp:amp_visualrf_config version="1" xmlns:amp="http://www.airwave.com"
     xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
     xsi:schemaLocation="http://www.airwave.com amp_visualrf_config.xsd">
  <dynamic_attenuation>false</dynamic_attenuation>
  <location_cache_interval>900</location_cache_interval>
  <location_caching_threads>2</location_caching_threads>
  <location_deviation>6</location_deviation>
  <max_rogues>10</max_rogues>
  <multi_floor_bleed_through>true</multi_floor_bleed_through>
  <product_name>VisualRF</product_name>
```

```
<restrict_empty_floorplan_visibility>false</restrict_empty_floorplan_visibili
ty>
  <site_caching_threads>2</site_caching_threads>
  <timer type="olap">
    <max>360</max>
    <min>90</min>
    <samples>3</samples>
  </timer>
  <timer type="nlap">
    <max>360</max>
    <min>90</min>
    <samples>3</samples>
  </timer>
  <timer type="phone">
    <max>240</max>
    <min>60</min>
    <samples>3</samples>
  </timer>
  <timer type="rfid">
    <max>120</max>
    <min>30</min>
    <samples>4</samples>
  </timer>
  <timer type="scale">
    <max>2000</max>
    <min>500</min>
    <samples>3</samples>
  </timer>
  <timer type="printer">
    <max>480</max>
    <min>120</min>
    <samples>3</samples>
  </timer>
  <timer type="rogue">
    <max>2000</max>
    <min>500</min>
    <samples>3</samples>
  </timer>
  <timer type="default">
    <max>360</max>
    <min>90</min>
    <samples>3</samples>
  </timer>
  <ui_threads>2</ui_threads>
  <use_metric_units>true</use_metric_units>
  <wall id="1">
    <attenuation>3</attenuation>
    <color>0x0000FF</color>
    <name>Glass</name>
  </wall>
  <wall id="2">
    <attenuation>7</attenuation>
    <color>0xFFFF00</color>
    <name>Drywall</name>
  </wall>
  <wall id="3">
```

```
    <attenuation>5</attenuation>
    <color>0x008000</color>
    <name>Cubicle</name>
  </wall>
  <wall id="4">
    <attenuation>16</attenuation>
    <color>0xFF0000</color>
    <name>Concrete</name>
  </wall>
</amp:amp_visualrf_config>
```

User Info

URL: https://10.17.164.189/user_info.xml
XML Schema : amp_user_info.xsd
Parameters : None.
Example Output :

```
<?xml version="1.0" encoding="ISO-8859-1" standalone="yes"?>
<amp:amp_user_info version="1" xmlns:amp="http://www.airwave.com"
     xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
     xsi:schemaLocation="http://www.airwave.com amp_user_info.xsd">
  <user id="3">
    <access_level>admin</access_level>
    <rapids>true</rapids>
    <username>admin</username>
  </user>
</amp:amp_user_info>
```

Device RRD Info

URL: https://10.17.164.189/device_rrd_info.xml
Parameters : None.
Example Output for an access point:

```
<?xml version="1.0" encoding="UTF-8"?>
<amp:device_rrd_info version="1" xmlns:amp="http://www.airwave.com"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="http://www.airwave.com device_rrd_info.xsd">
  <configuration>
    <datasources>
      <subtree name="1252-2">
        <param name="id" value="17" />
        <param name="sysContact" value=".1.3.6.1.2.1.1.4.0" />
        <param name="sysDescr" value=".1.3.6.1.2.1.1.1.0" />
        <param name="sysLocation" value=".1.3.6.1.2.1.1.6.0" />
        <param name="sysObjectID" value=".1.3.6.1.2.1.1.2.0" />
        <param name="group" value="Access Points" />
        <param name="group-id" value="1" />
        <param name="folder" value="Top" />
        <param name="folder-id" value="1" />
        <param name="system-id" value="10.51.3.199" />
        <param name="mac-address" value="00:1B:D5:13:22:60" />
        <subtree name="ap_is_up">
          <leaf name="snmp_up">
            <param name="comment" value="SNMP Up Status" />
            <param name="rrd-create-dstype" value="GAUGE" />
            <param name="rrd-ds" value="snmp_up" />
            <param name="vertical-label" value="" />
```

```
          </leaf>
          <leaf name="icmp_up">
            <param name="comment" value="ICMP Up Status" />
            <param name="rrd-create-dstype" value="GAUGE" />
            <param name="rrd-ds" value="icmp_up" />
            <param name="vertical-label" value="" />
          </leaf>
          <param name="data-dir" value="/var/airwave/rrd/ap_is_up" />
          <param name="data-file" value="17" />
        </subtree>
        <subtree name="ap_sysuptime">
          <leaf name="sysUpTime">
            <param name="comment" value="System UpTime" />
            <param name="rrd-create-dstype" value="GAUGE" />
            <param name="rrd-ds" value="sysUpTime" />
            <param name="vertical-label" value="seconds" />
          </leaf>
          <param name="data-dir" value="/var/airwave/rrd/ap_sysuptime" />
          <param name="data-file" value="17" />
        </subtree>
        <subtree name="dot11_counters">
          <leaf name="r1trans_frag">
            <param name="comment" value="Tx Fragment Rate (frames/sec)" />
            <param name="rrd-create-dstype" value="COUNTER" />
            <param name="rrd-ds" value="r1trans_frag" />
            <param name="vertical-label" value="frames/s" />
          </leaf>
          ...
          <param name="data-dir" value="/var/airwave/rrd/dot11_counters" />
          <param name="data-file" value="17" />
        </subtree>
        <subtree name="dot11_qos_counters">
          <leaf name="r1ack_fail_vid">
            <param name="comment" value="ACK Failure" />
            <param name="rrd-create-dstype" value="COUNTER" />
            <param name="rrd-ds" value="r1ack_fail_vid" />
            <param name="vertical-label" value="frames/s" />
          </leaf>
          ...
          <param name="data-dir"
value="/var/airwave/rrd/dot11_qos_counters" />
          <param name="data-file" value="17" />
        </subtree>
      </subtree>
    </datasources>
  </configuration>
</amp:device_rrd_info>
```

Example Output for a controller with attached access points:

```
<?xml version="1.0" encoding="UTF-8"?>
<amp:device_rrd_info version="1" xmlns:amp="http://www.airwave.com"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="http://www.airwave.com device_rrd_info.xsd">
  <configuration>
    <datasources>
      <subtree name="(id: 3787)">
        <param name="id" value="3787" />
        <param name="sysContact" value=".1.3.6.1.2.1.1.4.0" />
```

```
<param name="sysDescr" value=".1.3.6.1.2.1.1.1.0" />
<param name="sysLocation" value=".1.3.6.1.2.1.1.6.0" />
<param name="sysObjectID" value=".1.3.6.1.2.1.1.2.0" />
<param name="group" value="__TEST17504__" />
<param name="group-id" value="2746" />
<param name="folder" value="Top" />
<param name="folder-id" value="1" />
<param name="system-id" value="10.123.123.123" />
<param name="mac-address" value="AA:00:00:00:00:0F" />
<subtree name="access-points">
  <subtree name="cyclometries-haustorial">
    <param name="id" value="3789" />
    <param name="sysContact" value=".1.3.6.1.2.1.1.4.0" />
    <param name="sysDescr" value=".1.3.6.1.2.1.1.1.0" />
    <param name="sysLocation" value=".1.3.6.1.2.1.1.6.0" />
    <param name="sysObjectID" value=".1.3.6.1.2.1.1.2.0" />
    <param name="group" value="__TEST17504__" />
    <param name="group-id" value="2746" />
    <param name="folder" value="Top" />
    <param name="folder-id" value="1" />
    <param name="system-id" value="10.123.123.123" />
    <param name="mac-address" value="AA:00:00:00:00:13" />
    <subtree name="ap_is_up">
      <leaf name="snmp_up">
        <param name="comment" value="SNMP Up Status" />
        <param name="rrd-create-dstype" value="GAUGE" />
        <param name="rrd-ds" value="snmp_up" />
        <param name="vertical-label" value="" />
      </leaf>
      <leaf name="icmp_up">
        <param name="comment" value="ICMP Up Status" />
        <param name="rrd-create-dstype" value="GAUGE" />
        <param name="rrd-ds" value="icmp_up" />
        <param name="vertical-label" value="" />
      </leaf>
      <param name="data-dir" value="/var/airwave/rrd/ap_is_up" />
      <param name="data-file" value="3789" />
    </subtree>
    <subtree name="ap_sysuptime">
      <leaf name="sysUpTime">
        <param name="comment" value="System UpTime" />
        <param name="rrd-create-dstype" value="GAUGE" />
        <param name="rrd-ds" value="sysUpTime" />
        <param name="vertical-label" value="seconds" />
      </leaf>
      <param name="data-dir" value="/var/airwave/rrd/ap_sysuptime" />
      <param name="data-file" value="3789" />
    </subtree>
    <subtree name="dot11_counters">
      <leaf name="r1trans_frag">
        <param name="comment" value="Tx Fragment Rate (frames/sec)" />
        <param name="rrd-create-dstype" value="COUNTER" />
        <param name="rrd-ds" value="r1trans_frag" />
        <param name="vertical-label" value="frames/s" />
      </leaf>
      ...
```

```
              <param name="data-dir"
value="/var/airwave/rrd/dot11_counters" />
              <param name="data-file" value="3789" />
            </subtree>
            <subtree name="dot11_qos_counters">
              <leaf name="r1ack_fail_vid">
                <param name="comment" value="ACK Failure" />
                <param name="rrd-create-dstype" value="COUNTER" />
                <param name="rrd-ds" value="r1ack_fail_vid" />
                <param name="vertical-label" value="frames/s" />
              </leaf>
              ...
              <param name="data-dir"
value="/var/airwave/rrd/dot11_qos_counters" />
              <param name="data-file" value="3789" />
            </subtree>
          </subtree>
          <subtree name="Osseous-zygopterous">
            <param name="id" value="3788" />
            <param name="sysContact" value=".1.3.6.1.2.1.1.4.0" />
            <param name="sysDescr" value=".1.3.6.1.2.1.1.1.0" />
            <param name="sysLocation" value=".1.3.6.1.2.1.1.6.0" />
            <param name="sysObjectID" value=".1.3.6.1.2.1.1.2.0" />
            <param name="group" value="__TEST17504__" />
            <param name="group-id" value="2746" />
            <param name="folder" value="Top" />
            <param name="folder-id" value="1" />
            <param name="system-id" value="10.123.123.123" />
            <param name="mac-address" value="AA:00:00:00:00:11" />
            <subtree name="ap_is_up">
              <leaf name="snmp_up">
                <param name="comment" value="SNMP Up Status" />
                <param name="rrd-create-dstype" value="GAUGE" />
                <param name="rrd-ds" value="snmp_up" />
                <param name="vertical-label" value="" />
              </leaf>
              <leaf name="icmp_up">
                <param name="comment" value="ICMP Up Status" />
                <param name="rrd-create-dstype" value="GAUGE" />
                <param name="rrd-ds" value="icmp_up" />
                <param name="vertical-label" value="" />
              </leaf>
              <param name="data-dir" value="/var/airwave/rrd/ap_is_up" />
              <param name="data-file" value="3788" />
            </subtree>
            <subtree name="ap_sysuptime">
              <leaf name="sysUpTime">
                <param name="comment" value="System UpTime" />
                <param name="rrd-create-dstype" value="GAUGE" />
                <param name="rrd-ds" value="sysUpTime" />
                <param name="vertical-label" value="seconds" />
              </leaf>
              <param name="data-dir" value="/var/airwave/rrd/ap_sysuptime" />
              <param name="data-file" value="3788" />
            </subtree>
            <subtree name="dot11_counters">
              <leaf name="r1trans_frag">
```

```
                <param name="comment" value="Tx Fragment Rate (frames/sec)" />
                <param name="rrd-create-dstype" value="COUNTER" />
                <param name="rrd-ds" value="r1trans_frag" />
                <param name="vertical-label" value="frames/s" />
              </leaf>
              ...
              <param name="data-dir"
value="/var/airwave/rrd/dot11_counters" />
              <param name="data-file" value="3788" />
            </subtree>
            <subtree name="dot11_qos_counters">
              <leaf name="r1ack_fail_vid">
                <param name="comment" value="ACK Failure" />
                <param name="rrd-create-dstype" value="COUNTER" />
                <param name="rrd-ds" value="r1ack_fail_vid" />
                <param name="vertical-label" value="frames/s" />
              </leaf>
              ...
              <param name="data-dir"
value="/var/airwave/rrd/dot11_qos_counters" />
              <param name="data-file" value="3788" />
            </subtree>
          </subtree>
        </subtree>
        <subtree name="ap_is_up">
          <leaf name="snmp_up">
            <param name="comment" value="SNMP Up Status" />
            <param name="rrd-create-dstype" value="GAUGE" />
            <param name="rrd-ds" value="snmp_up" />
            <param name="vertical-label" value="" />
          </leaf>
          <leaf name="icmp_up">
            <param name="comment" value="ICMP Up Status" />
            <param name="rrd-create-dstype" value="GAUGE" />
            <param name="rrd-ds" value="icmp_up" />
            <param name="vertical-label" value="" />
          </leaf>
          <param name="data-dir" value="/var/airwave/rrd/ap_is_up" />
          <param name="data-file" value="3787" />
        </subtree>
        <subtree name="ap_sysuptime">
          <leaf name="sysUpTime">
            <param name="comment" value="System UpTime" />
            <param name="rrd-create-dstype" value="GAUGE" />
            <param name="rrd-ds" value="sysUpTime" />
            <param name="vertical-label" value="seconds" />
          </leaf>
          <param name="data-dir" value="/var/airwave/rrd/ap_sysuptime" />
          <param name="data-file" value="3787" />
        </subtree>
      </subtree>
    </datasources>
  </configuration>
</amp:device_rrd_info>
```

Client RRD Info

URL: https://10.17.164.189/user_rrd_info.xml
Parameters : None.
Example Output :

```
<?xml version="1.0" encoding="UTF-8"?>
<amp:user_rrd_info version="1" xmlns:amp="http://www.airwave.com"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="http://www.airwave.com user_rrd_info.xsd">
  <configuration>
    <datasources>
      <subtree name="00:40:96:43:0F:6F">
        <param name="id" value="6" />
        <subtree name="client_signal_metrics">
          <leaf name="signal">
            <param name="comment" value="Signal Level (dBm)" />
            <param name="rrd-create-dstype" value="GAUGE" />
            <param name="rrd-ds" value="signal" />
            <param name="vertical-label" value="dBm" />
          </leaf>
          <leaf name="snr">
            <param name="comment" value="Signal to Noise Ratio (dB)" />
            <param name="rrd-create-dstype" value="GAUGE" />
            <param name="rrd-ds" value="snr" />
            <param name="vertical-label" value="dB" />
          </leaf>
          <param name="data-dir"
value="/var/airwave/rrd/client_signal_metrics_6F" />
          <param name="data-file" value="00_40_96_43_0F_6F" />
        </subtree>
        <subtree name="signal_quality">
          <leaf name="quality">
            <param name="comment" value="Signal Quality" />
            <param name="rrd-create-dstype" value="GAUGE" />
            <param name="rrd-ds" value="quality" />
            <param name="vertical-label" value="" />
          </leaf>
          <param name="data-dir" value="/var/airwave/rrd/signal_quality_6F" />
          <param name="data-file" value="00_40_96_43_0F_6F" />
        </subtree>
      </subtree>
    </datasources>
  </configuration>
</amp:user_rrd_info>
```

Configuration APIs

Change Set

URL: https://10.17.164.189/site_changes
Request XML Schema : amp_change_set.xsd
Parameters :

- site_id - unique identifier obtained from the Site List API
- site_name - existing or new name for the site
- changeset - XML document following the above schema

Response XML Schema: amp_redirect.xsd - Supplies a redirect to a change set

confirm page, or one or more error messages

Example POST:

```
<amp_ap_update version="1">
  <ap id="7">
    <name>new name</name>
    <lan_ip>10.32.12.33</lan_ip>
    <radio index="1">
      <channel>6</channel>
      <transmit_power>100%</transmit_power>
    </radio>
    <radio index="2">
      <channel>60</channel>
      <transmit_power>100%</transmit_power>
    </radio>
  </ap>
  <ap id="21">
    <name>District AP1</name>
    <radio index="1">
      <antenna>Left/Right</antenna>
      <channel>11</channel>
      <transmit_power>50 mW</transmit_power>
    </radio>
  </ap>
</amp_ap_update>
```

Example Successful Output:

```
<?xml version="1.0" encoding="ISO-8859-1" standalone="yes"?>
<amp:redirect version="1" xmlns:amp="http://www.airwave.com"
     xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  <url>https://10.34.2.1/confirm?current_change_set_ids=7657</url>
</amp:redirect>
```

Example Failure Output:

```
<?xml version="1.0" encoding="ISO-8859-1" standalone="yes"?>
<amp:redirect version="1" xmlns:amp="http://www.airwave.com"
     xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  <error>Error: Missing site_id</error>
</amp:redirect>
```

Guest User

URL: `https://10.17.164.189/guest_user_api`

Parameters : None.

The guest user API will accept either requests with a Content-Type of application/x-www-form-urlencoded or text/xml. Requests with Content-Type application/x-www-form-urlencoded must submit the url encoded XML data in a parameter named 'xml'.

Example Create User POST:

```
<?xml version="1.0" encoding="ISO-8859-1" standalone="yes"?>
<guest_user_api:create version="1"
xmlns:guest_user_api="http://www.airwave.com">
    <email_address>bob@bob.arubanetworks.com</email_address>
    <profile>spring-cleaner-araeotic</profile>
    <company_name>Acme Sales, Inc.</company_name>
    <description>Bob, visiting from Acme Sales</description>
    <username>bob_acme</username>
    <password>secret</password>
    <name>Bob Acme</name>
    <expiration>7/4/2009 at 12:00 PM</expiration>
```

```
    <sponsor_name>Jill</sponsor_name>
    <enabled>1</enabled>
</guest_user_api:create>
```

Example Successful Output:

```
<?xml version="1.0" encoding="ISO-8859-1" standalone="yes"?>
<guest_user_api:create_results version="1"
xmlns:guest_user_api="http://www.airwave.com">
  <record>
    <company_name>Acme Sales, Inc.</company_name>
    <created_by>Sean B</created_by>
    <description>Bob, visiting from Acme Sales</description>
    <email_address>bob@bob.arubanetworks.com</email_address>
    <enabled>Yes</enabled>
    <expiration>7/4/2009 12:00 PM</expiration>
    <last_sponsor_editor>Sean B</last_sponsor_editor>
    <name>Bob Acme</name>
    <password>secret</password>
    <profile>spring-cleaner-araeotic</profile>
    <sponsor_name>Jill</sponsor_name>
    <status>Pending</status>
    <username>bob_acme</username>
  </record>
</guest_user_api:create_results>
```

Example Get User POST:

```
<?xml version="1.0" encoding="ISO-8859-1" standalone="yes"?>
<guest_user_api:get version="1" xmlns:guest_user_api="http://www.airwave.com">
      <username>bob_acme</username>
</guest_user_api:get>
```

Example Successful Output:

```
<?xml version="1.0" encoding="ISO-8859-1" standalone="yes"?>
<guest_user_api:get_results version="1"
xmlns:guest_user_api="http://www.airwave.com">
  <record>
    <company_name>Acme Sales, Inc.</company_name>
    <created_by>Sean B</created_by>
    <description>Bob, visiting from Acme Sales</description>
    <email_address>bob@bob.arubanetworks.com</email_address>
    <enabled>Yes</enabled>
    <expiration>7/4/2009 12:00 PM</expiration>
    <last_sponsor_editor>Sean B</last_sponsor_editor>
    <name>Bob Acme</name>
    <password>philoleucosis-hemicircle</password>
    <profile>-</profile>
    <sponsor_name>Jill</sponsor_name>
    <status>Pending</status>
    <username>bob_acme</username>
  </record>
</guest_user_api:get_results>
```

Example Get_all User POST:

```
<?xml version="1.0" encoding="ISO-8859-1" standalone="yes"?>
<guest_user_api:get_all version="1"
xmlns:guest_user_api="http://www.airwave.com">

</guest_user_api:get_all>
```

Example Successful Output:

```
<?xml version="1.0" encoding="ISO-8859-1" standalone="yes"?>
```

```
<guest_user_api:get_all_results version="1"
xmlns:guest_user_api="http://www.airwave.com">
  <record>
    <company_name>Acme Sales, Inc.</company_name>
    <created_by>Sean B</created_by>
    <description>Salesman</description>
    <email_address>john@example.com</email_address>
    <enabled>Yes</enabled>
    <expiration>Never</expiration>
    <last_sponsor_editor></last_sponsor_editor>
    <name>John Doe</name>
    <password>a93bndo2</password>
    <profile>-</profile>
    <sponsor_name>Jill</sponsor_name>
    <status>Pending</status>
    <username>92kdsbggf</username>
  </record>
  <record>
    <company_name>Acme Sales, Inc.</company_name>
    <created_by>Sean B</created_by>
    <description>Bob, visiting from Acme Sales</description>
    <email_address>bob@bob.arubanetworks.com</email_address>
    <enabled>Yes</enabled>
    <expiration>7/4/2009 12:00 PM</expiration>
    <last_sponsor_editor>Sean B</last_sponsor_editor>
    <name>Bob Acme</name>
    <password>75bsxykc7</password>
    <profile>guest_profile6</profile>
    <sponsor_name>Jill</sponsor_name>
    <status>Pending</status>
    <username>bob_acme</username>
  </record>
</guest_user_api:get_all_results>
```

Example Update User POST:

```
<?xml version="1.0" encoding="ISO-8859-1" standalone="yes"?>
<guest_user_api:update version="1"
xmlns:guest_user_api="http://www.airwave.com">
    <company_name>Acme Sales, Inc.</company_name>
    <username>bob_acme</username>
    <enabled>0</enabled>
</guest_user_api:update>
```

Example Successful Output:

```
<?xml version="1.0" encoding="ISO-8859-1" standalone="yes"?>
<guest_user_api:update version="1"
xmlns:guest_user_api="http://www.airwave.com">
    <company_name>Acme Sales, Inc.</company_name>
    <username>patrol-mutuel</username>
    <enabled>0</enabled>
</guest_user_api:update>
```

Example Delete User POST:

```
<?xml version="1.0" encoding="ISO-8859-1" standalone="yes"?>
<guest_user_api:delete version="1"
xmlns:guest_user_api="http://www.airwave.com">
      <username>bob_acme</username>
</guest_user_api:delete>
```

Example Successful Output:

```
<?xml version="1.0" encoding="ISO-8859-1" standalone="yes"?>
<guest_user_api:delete_results version="1"
xmlns:guest_user_api="http://www.airwave.com">
  <deleted>1</deleted>
</guest_user_api:delete_results>
```

Modify Template Variables

URL: `https://10.17.164.189/template_variable_api`
Parameters : None.

The modify template variable API will accept either requests with a Content-Type of application/x-www-form-urlencoded or text/xml. Requests with Content-Type application/x-www-form-urlencoded must submit the url encoded XML data in a parameter named 'xml'.

Supported Template Variable List: variable_list.txt **Example POST:**

```
<?xml version="1.0" encoding="ISO-8859-1" standalone="yes"?>
<amp_template_variable_update version="1"
xmlns:template_variable_api="http://www.airwave.com">

  <ap id="4370">
    <custom_variable_9>Malayo-javanese-Hydrocotyle</custom_variable_9>
    <swarm_radius_servers>10.250.244.121,10.14.112.234</swarm_radius_servers>
    <prefer_master>1</prefer_master>
    <custom_variable_1>Goerke-bristling</custom_variable_1>
    <pppoe_username>patrol-mutuel</pppoe_username>
    <instant_networking_mode>1</instant_networking_mode>
    <zone_name>Beta Sales, Inc</zone_name>
  </ap>

  <ap id="4371">
    <custom_variable_9>Malayo-javanese-Hydrocotyle</custom_variable_9>
    <swarm_radius_servers>10.250.244.121,10.14.112.234</swarm_radius_servers>
    <prefer_master>1</prefer_master>
    <custom_variable_1>Goerke-bristling</custom_variable_1>
    <pppoe_username>patrol-mutuel</pppoe_username>
    <instant_networking_mode>1</instant_networking_mode>
    <zone_name>Beta Sales, Inc</zone_name>
  </ap>

</amp_template_variable_update>
```

Example Successful Output:

```
<?xml version="1.0" encoding="utf-8" standalone="yes"?>
<template_variable_api:results version="1"
xmlns:template_variable_api="http://www.airwave.com">
  <result ap_id="134" ap_name="test_ap" index="1" lan_mac="34:a2:34:2e:45:87">
    <update monitor_only="0" name="vilipenditory-gregaritic"
needs_config_push="1" swarm_mode="1"/>
    <info>config is pushed to device since it is in manage mode</info>
    <warning>variable:'custom_variable_9' is not supported by this
device.</warning>
    <warning>variable:'radius_server_ip' is not supported by this
device.</warning>
    <warning>variable:'custom_variable_1' is not supported by this
device.</warning>
```

```
    <warning>variable:'pppoe_username' is not supported by this
device.</warning>
 </result>
</template_variable_api:results>
```

Example Failure Output:

```
<?xml version="1.0" encoding="utf-8" standalone="yes"?>
<template_variable_api:results version="1"
xmlns:template_variable_api="http://www.airwave.com">
  <result ap_id="134" ap_name="test_ap" index="1" lan_mac="34:a2:34:2e:45:87">
    <error>missing ap id</error>
    <error>cannot find device by given id</error>
    <error>not well-formed (invalid token) at line 1, column 0</error>
    <error>device does not support management</error>
    <error>cannot modify igc managed device</error>
    <error>no changes found</error>
    <error>Management Mode: must be an integer.</error>
    <error>Management Mode: must be numeric.</error>
    <error>Use DHCP: must be an integer.</error>
    <error>Invalid LAN IP Address.</error>
    <error>Invalid Subnet Mask.</error>
    <error>Invalid Gateway.</error>
    <error>Invalid DNS IP Address.</error>
    <error>Uplink VLAN: must be an integer.</error>
    <error>Uplink VLAN: must be numeric.</error>
    <error>Ethernet port mode: must be an integer.</error>
    <error>Instant Networking Mode: must be an integer.</error>
    <error>config is not updated to the device</error>
    <warning>variable:'prefer_master' is not supported by this
device.</warning>
    <warning>variable:'pppoe_password' is not supported by this
device.</warning>
    <warning>variable:'zone_name' is not supported by this device.</warning>
    <warning>variable:'syslog_server' is not supported by this
device.</warning>
    <warning>variable:'vc_vlan_gateway' is not supported by this
device.</warning>
    <warning>variable:'vc_vlan_netmask' is not supported by this
device.</warning>
    <warning>variable:'pppoe_servicename' is not supported by this
device.</warning>
    <warning>variable:'has_vc_vlan' is not supported by this device.</warning>
    <warning>variable:'clock_timezone' is not supported by this
device.</warning>
    <warning>variable:'rf_band' is not supported by this device.</warning>
    <warning>variable:'radius_server_ip' is not supported by this
device.</warning>
    <warning>variable:'pppoe_username' is not supported by this
device.</warning>
    <warning>variable:'pppoe_chapsecret' is not supported by this
device.</warning>
    <warning>variable:'vc_vlan_num' is not supported by this device.</warning>
    <warning>variable:'Marshville_metal_grinding' is not supported by
system.</warning>
  </result>
</template_variable_api:results>
```

Import AP Whitelist

URL: https://10.17.164.189/api/ap_whitelist_upload

Parameters:

csv - AP whitelist in csv format

append_whitelist - 0: Replace the whole list 1: Update list without removing

Example POST:

```
Name,LAN MAC Address,Serial Number,Virtual Controller Name,Group Name,Folder
Name,custom_variable_1,custom_variable_9,Modify authorized device,Sync
dynamic variables,dynamic_variable_rule_name
IAP_Canada_1,ff:c7:c8:c4:21:ff,BD0086086,Canada-
Office,Canada,Vancouver:Downtown,abc,456,0,0,foo
IAP_US_1,F0:0B:86:CF:93:FF,BE0542245,US-Office,US,San
Fancisco:CenterTown:HillTop,cde,789,1,1,bar
```

Example Successful Output:

```
Device (Name:IAP_Canada_1, LAN MAC:ff:c7:c8:c4:21:ff, Serial
Number:BD0086086): created/updated successfully
Device (Name:IAP_US_1, LAN MAC:F0:0B:86:CF:93:FF, Serial Number:BE0542245):
created/updated successfully
2 devices created or updated.
```

Example Failure Output:

```
CSV list is empty.
Invalid headers in CSV file.
Error parsing line 2 (Name:Customer_1, LAN MAC:U8:c7:c8:c4:21:ff, Serial
Number:BD0086086): U8:c7:c8:c4:21:ff: Invalid LAN MAC Address.
Error parsing line 3 (Name:Customer_2, LAN MAC:00:08:86:CF:93:5F, Serial
Number:were): were: Invalid Serial Number.
Error parsing line 5 (Name:Fake_test): Please provide serial number or LAN
MAC address.
Error parsing line 5 (LAN MAC:D8:C7:C8:CD:ED:1D): Please provide Name
```

Log Messages: Changes made to APs will be logged in audit log. In case of whitelists, log could be found in System > Event Log

Deauthenticate Client

URL: https://10.17.164.189/deauthenticate_user.xml

Parameters: mac - client MAC address

The MAC addresses must correspond to clients who are connected to a device which supports this operation; the device must be in "Manage Read/Write" mode, and editable by the user making the request.

Example URL: https://10.17.164.189/deauthenticate_user.xml?mac=88:88:B3:93:7D:0D&mac=88:88:B3:ED:FD:C3

Example Output:

```
<amp:deauthenticate_client version="1"
xsi:schemaLocation="http://www.airwave.com deauthenticate_client.xsd">
  <client mac="88:88:B3:93:7D:0D" status="succeeded"/>
  <client mac="88:88:B3:ED:FD:C3" status="failed" message="Client not
connected"/>
</amp:deauthenticate_client>
```

Down Status Message

URL: https://10.17.164.189/down_status_message.xml

Parameters:

- At least one of:

- `ap_id` - the database ID of a AP/Device.
- `ap_group_id` - the database ID of an AP Group. All APs/Devices in the specified AP Group will be updated.

- Either or both of:
  - `down_status_message` - the message to set on the specified devices.
  - `auto_clear_down_status_message` - whether to automatically clear the Down Status Message when the AP/Device comes back up. Send `1` or `0` to toggle this behavior on and off.

The specified devices must be editable by the user making the request.

Example URL: `https://10.17.164.189/down_status_message.xml?ap_id=1&ap_id=2&ap_group_id=27&down_status_message=Scheduled+maintenance+until+Friday+at+12pm&auto_clear_down_status_message=1`

Example Output:

```
<amp:down_status_message version="1"
xsi:schemaLocation="http://www.airwave.com down_status_message.xsd">
  <ap id="1" status="succeeded"/>
  <ap id="2" status="failed" reason="Device not found"/>
  <ap id="18" status="succeeded"/>
  <ap id="20" status="succeeded"/>
</amp:down_status_message>
```

The sample response indicates that ap_id 1 referred to a real device, ap_id 2 referred to a non-existant device, and ap_group_id 27 referred to devices 18 and 20.

Search APIs

AP Search

URL: `https://10.17.164.189/ap_search.xml`

Parameters: `query` - search string

Example URL: `https://10.17.164.189/ap_search.xml?query=00:40:96`

Example Output (most `display_value`'s omitted for brevity):

```
<?xml version="1.0" encoding="ISO-8859-1" standalone="yes"?>
<amp:amp_ap_search version="1" xmlns:amp="http://www.airwave.com"
     xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
     xsi:schemaLocation="http://www.airwave.com amp_ap_search.xsd">
  <record id="3647">
    <ap_folder_name
      display_value="&lt;a href=&quot;/ap_list?ap_folder_id=1&quot;
target=&quot;_blank&quot;&gt;Top&lt;/a&gt;"
      sort_value="top">Top</ap_folder_name>
    <ap_group_name display_value="[...]" sort_value="Access Points">Access
Points</ap_group_name>
    <apparent_ip display_value="[...]"
sort_value="010.051.001.028">10.51.1.28</apparent_ip>
    <bandwidth display_value="0" sort_value="0">0</bandwidth>
    <cached_type_string display_value="Cisco Aironet 1030 LWAPP"
```

```
      sort_value="Cisco Aironet 1030 LWAPP">Cisco Aironet 1030
LWAPP</cached_type_string>
    <client_count display_value="0" sort_value="0">0</client_count>
    <configuration_status display_value="[...]"
sort_value="Mismatched">Mismatched</configuration_status>
    <device_config_ssid display_value="-" />
    <device_config_uptime display_value="5 days 21 hrs 1 min"
      sort_value="50768400">5 days 21 hrs 1 min</device_config_uptime>
    <display_channel_1 display_value="1" sort_value="1">1</display_channel_1>
    <display_channel_2 display_value="36"
sort_value="36">36</display_channel_2>
    <firmware_status display_value="-" sort_value="-" />
    <lan_mac display_value="00:0B:85:1B:A6:90"
sort_value="00:0B:85:1B:A6:90">00:0B:85:1B:A6:90</lan_mac>
    <monitoring_status display_value="[...]"
sort_value="Up">Up</monitoring_status>
    <name display_value="[...]" sort_value="ap:1b:a6:90">ap:1b:a6:90</name>
    <radio_mac display_value="00:0B:85:1B:A6:90"
sort_value="00:0B:85:1B:A6:90">00:0B:85:1B:A6:90</radio_mac>
    <radio_type_1 display_value="802.11bg" sort_value="bg">bg</radio_type_1>
    <radio_type_2 display_value="802.11a" sort_value="a">a</radio_type_2>
    <version display_value="4.0.179.8"
sort_value="4.0.179.8">4.0.179.8</version>
  </record>
</amp:amp_ap_search>
```

Client Search

URL: https://10.17.164.189/client_search.xml
Parameters: query - search string
Example URL: https://10.17.164.189/client_search.xml?query=8C:AB
Example Output:

```
<?xml version="1.0" encoding="ISO-8859-1" standalone="yes"?>
<amp:amp_client_search version="1" xmlns:amp="http://www.airwave.com"
     xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
     xsi:schemaLocation="http://www.airwave.com amp_client_search.xsd">
  <record id="310">
    <ap_id ascii_value="lwapp-1250-1" display_value="&lt;a
href=&quot;/ap_monitoring?id=3645&quot;
        target=&quot;_blank&quot;&gt;LWAPP-1250-1&lt;/a&gt;"
      sort_value="lwapp-1250-1">3645</ap_id>
    <last_ap_id ascii_value="pentahedral" display_value="&lt;a
href=&quot;/ap_monitoring?id=1436&quot;&gt;pentahedral&lt;/a&gt;"
sort_value="pentahedral">1436</last_ap_id>
    <ap_radio_description ascii_value="802.11bg" display_value="802.11bg"
      sort_value="802.11bg">802.11bg</ap_radio_description>
    <from_snmp_trap ascii_value="Poll" display_value="Poll"
sort_value="Poll">Poll</from_snmp_trap>
    <connect_time ascii_value="10/4/2006 11:48 AM" display_value="10/4/2006
11:48 AM"
      sort_value="1159987699.52914">10/4/2006 11:48 AM</connect_time>
    <duration ascii_value="2 mins" display_value="2 mins"
sort_value="136.636464983225">2 mins</duration>
    <lan_ip ascii_value="0.0.0.0" display_value="0.0.0.0"
sort_value="000.000.000.000">0.0.0.0</lan_ip>
    <mac ascii_value="00:0E:35:52:8C:AB" display_value="[...]"
sort_value="00:0E:35:52:8C:AB">00:0E:35:52:8C:AB</mac>
```

```
    <radio_mode ascii_value="802.11b" display_value="802.11b"
sort_value="b">b</radio_mode>
    <ssid ascii_value="Wireless Network" display_value="Wireless Network"
sort_value="Wireless Network">Wireless Network</ssid>
    <username ascii_value="packplane" display_value="packplane"
sort_value="packplane">packplane</username>
    <vlan ascii_value="0" display_value="0" sort_value="0">0</vlan>
    <device_type ascii_value="HTC" display_value="HTC"
sort_value="HTC">HTC</device_type>
    <device_os ascii_value="Windows Mobile" display_value="Windows Mobile"
sort_value="Windows Mobile">Windows Mobile</device_os>
    <device_os_detail ascii_value="Windows Mobile 5.0" display_value="Windows
Mobile 5.0" sort_value="Windows Mobile 5.0">Windows Mobile
5.0</device_os_detail>
    <aruba_device_type ascii_value="AP125" display_value="AP125"
sort_value="AP125">AP125</aruba_device_type>
    <forward_mode ascii_value="-" display_value="-" sort_value="-" />
    <ht_mode ascii_value="-" display_value="-" />
    <is_guest_user ascii_value="No" display_value="No"
sort_value="No">No</is_guest_user>
    <lan_hostname ascii_value="-" display_value="-"
sort_value=""></lan_hostname>
    <role ascii_value="-" display_value="-" />
    <vpn_hostname ascii_value="-" display_value="-"
sort_value=""></vpn_hostname>
    <vpn_ip ascii_value="-" display_value="-" />
  </record>
</amp:amp_client_search>
```

VPN User Search

URL: https://10.17.164.189/vpn_user_search.xml
Parameters: query - search string
Example URL: https://10.17.164.189/vpn_user_search.xml?query=lionizers
Example Output:

```
<?xml version="1.0" encoding="ISO-8859-1" standalone="yes"?>
<amp:amp_vpn_user_search version="1" xmlns:amp="http://www.airwave.com"
                         xmlns:xsi="http://www.w3.org/2001/XMLSchema-
instance"
                         xsi:schemaLocation="http://www.airwave.com
amp_vpn_user_search.xsd">
  <record id="310">
    <first_seen ascii_value="8/12/2011 9:50 PM" display_value="8/12/2011 9:50
PM" sort_value="1313166011">1313166011</first_seen>
    <last_seen ascii_value="8/12/2011 9:50 PM" display_value="8/12/2011 9:50
PM" sort_value="1313166011">1313166011</last_seen>
    <userid ascii_value="photocrayon" display_value="&lt;a
href=&quot;/vpn_user_monitoring?
userid=photocrayon&quot;&gt;photocrayon&lt;/a&gt;"
sort_value="photocrayon">photocrayon</username>
    <session_count ascii_value="1" display_value="1" sort_value="1">1</vlan>
  </record>
</amp:amp_vpn_user_search>
```

Report APIs

Latest Report

URL: https://10.17.164.189/latest_report.xml
Parameters:
report_definition_id - Get it from the URL of a Report Definition Edit Page, ex. https://10.17.164.189/reports_definition?definitions_edit=1&id=42
Example Output:

```
<?xml version="1.0" encoding="ISO-8859-1" standalone="yes"?>
<amp:report version="1" xmlns:amp="http://www.airwave.com"
     xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
     xsi:schemaLocation="http://www.airwave.com report.xsd"
     report_id="72" state="3">
  <pickled_remote_capacity
     ap_name="[...]"
     capacity_combined="0.06"
     capacity_in="0.03"
     capacity_out="0.16"
     description="[...]"
     end_epoch="1198891800"
     interface_id="53"
     managed_amp_id="16"
     raw_in="9921"
     raw_out="16506"
     report_id="72"
     start_epoch="1198890000"/>
</amp:report>
```

Batch Execute AP Command APIs

Batch Execute AP Command

URL: https://10.17.164.189/api/batch_command_execute
Parameters:
cmds - Must provide the commands to execute. Multiple commands must be separated by enter or comma.
cmd_type - Optional. Execute commands on ap type of selected. Valid value: thin_ap not_thin_ap (Other values or not provided is for all ap types).
Optionally limit information returned to one or more APs by supplying AP IDs.
Similarly, limit by AP folders, AP groups, and controllers by supplying their IDs.

The batch execute ap commands API will accept either requests with a Content-Type of application/x-www-form-urlencoded or text/xml. Requests with Content-Type application/x-www-form-urlencoded must submit the url encoded XML data in a parameter named 'xml'.

Example POST:

```
<?xml version="1.0" encoding="ISO-8859-1" standalone="yes"?>
<amp_batch_command_execute version="1"
xmlns:batch_command_execute="http://www.airwave.com" cmds="show version,show
aps" cmd_type="thin_ap">
  <ap id="231" />
  <ap controller_id="136" />
  <ap ap_group_id="13" />
  <ap ap_folder_id="3" />
</amp_batch_command_execute>
```

Example Successful Output:

```
<?xml version="1.0" encoding="utf-8" standalone="yes"?>
```

```
<batch_command_execute:results version="1"
xmlns:batch_command_execute="http://www.airwave.com">
  <result>Executing commands... (please go to link
https://xxxx/api/batch_command_execute_result for result)</result>
</batch_command_execute:results>
```

Example Failure Output:

```
<?xml version="1.0" encoding="utf-8" standalone="yes"?>
<batch_command_execute:results version="1"
xmlns:batch_command_execute="http://www.airwave.com">
  <error>Commands are not provided!</error>
</batch_command_execute:results>
```

Batch Execute AP Command Result

URL: https://10.17.164.189/api/batch_command_execute_result

Parameters: None

Example Output:

Initialing message:

```
The batch command execute is initializing...
```

In progress message:

```
The batch command execute is in progress with 3 of 10 APs are processed.
```

Final result:

```
Device Name: 6c:f3:7f:cb:8b:06
Device Type: Aruba AP 105
IP Address: 192.168.2.102
MAC Address: 6C:F3:7F:CB:8B:06

show version
Aruba Operating System Software.
ArubaOS (MODEL: 105), Version 6.4.2.0-4.1.1.0
Website: http://www.arubanetworks.com
Copyright (c) 2002-2014, Aruba Networks, Inc.
Compiled on 2014-08-26 at 22:48:42 PDT (build 45641) by p4build

AP uptime is 8 minutes 18 seconds
Reboot Time and Cause: unknown

--------------------------------------------------------------------------------
-------
Device Name: d8:c7:c8:c4:21:9f
Device Type: Aruba AP 93
IP Address: 192.168.2.101
MAC Address: D8:C7:C8:C4:21:9F

show version
Aruba Operating System Software.
ArubaOS (MODEL: 93), Version 6.4.2.0-4.1.1.0
Website: http://www.arubanetworks.com
Copyright (c) 2002-2014, Aruba Networks, Inc.
Compiled on 2014-08-26 at 22:48:42 PDT (build 45641) by p4build

AP uptime is 8 minutes 43 seconds
Reboot Time and Cause: unknown
```