

## VisualRF Notification Formats

In AirWave 8.2.11.1, we are adding support for sending RabbitMQ messages from VisualRF. AirWave publishes the messages in JSON format upon adding, editing, or deleting a campus, building, floor, wall, regions and AP from the VisualRF WebUI.

### Enabling VisualRF Notification in AirWave

For VisualRF wall and region notifications to work, you must set `visualrf.enable.wall.notification` and `visualrf.enable.region.notification` to true.

The location of the config file : `/usr/local/airwave/lib/java/core.vrfnotification.properties`

```
#set true to enable visualrf notification
visualrf.enable.wall.notification=false
visualrf.enable.region.notification=false
```

Settings:

- The default value is False.
- File permission 644

### Receiving VisualRF Notification

Configure the RabbitMQ client to connect with to the AirWave server by providing the following channel connection settings:

- Host: `<AirWaveserver IP address>`
- Username: `airwave`
- Password: `<password>`
- Port: `5671`
- Exchange name: `AMP_exchange`
- Exchange type: `topic`
- Routing key: `awupdates.notification.vrf`



While opening a secure connection with RabbitMQ, in port 5671, if AirWave blocks the port, add the following rule in iptables:

```
iptables -I INPUT 1 -p tcp --dport 5671 -j ACCEPT
```

## Notification Formats

### 1) Add Campus

The following keys and values in the JSON message are the same for adding, modifying, and deleting a campus:

- `op` - operation string
- `type` - notification type string ie `feeder.vrfcampus` in case of campus
- `creator role id` - user role id integer
- `latitude` - double value
- `longitude` - double value
- `campus_name` - string

- campus\_id - guid

The message will have the following values:

```
{ "op": "add", "type": "feeder.vrfcampus", "value": { "creator_role_id": 5, "latitude": "0.0", "campus_name": "Default campus", "campus_id": "9a2993fd-9564-4bd6-82d7-9ae3485e3eed", "longitude": "0.0" } }
{ "targetCategory": "Campus", "action": "add", "value": "", "operator": "admin", "target": "Default campus" }
```

## 2) Modify Campus

The message will have the following values:

```
{ "op": "update", "type": "feeder.vrfcampus", "value": { "creator_role_id": 5, "latitude": "1.0", "campus_name": "Campus 1 new name", "campus_id": "1ffeeb25-1d2f-4bc0-afce-4fcd74f78b3c", "longitude": "1.0" } }
{ "targetCategory": "Campus", "action": "update", "value": "[name=Campus 1 new name][view_x=192.17062423690865][view_y=114.6623422519196]", "operator": "admin", "target": "Campus 1 new name" }
```

## 3) Delete Campus

When a campus is deleted, all the buildings, sites and APs are also deleted. Each identifiable object will generate its own delete notifications using the following message formats.

```
{ "op": "delete", "type": "feeder.vrfcampus", "value": { "creator_role_id": 5, "latitude": "1.0", "campus_name": "Campus 1 new name", "campus_id": "1ffeeb25-1d2f-4bc0-afce-4fcd74f78b3c", "longitude": "0.0" } }
{ "targetCategory": "Campus", "action": "remove", "value": "", "operator": "admin", "target": "Campus 1 new name" }
```

## 4) Add Building

The following keys and values in the JSON message are the same for adding, modifying, and deleting buildings:

- op - operation string
- type - notification type string ie feeder.vrfbuilding in case of building
- building\_name - string
- building\_id - guid
- creator\_role\_id - user role id integer
- campus\_id - guid
- campus\_name - double value
- ceiling\_attenuation - double value
- ceiling\_height - double value

The message will have the following values:

```
{ "targetCategory": "Building", "action": "add", "value": "", "operator": "admin", "target": "Building 1" }
{ "op": "add", "type": "feeder.vrfbuilding", "value": { "building_id": "30363150-b00b-4a1f-ba0f-5f0624b73829", "building_name": "Building 1", "creator_role_id": 5, "ceiling_attenuation": 10, "campus_name": "Default campus", "campus_id": "9a2993fd-9564-4bd6-82d7-9ae3485e3eed", "ceiling_height": 10 } }
```

When a building is added to campus, AirWave sends the following notification:

```
{ "targetCategory": "Campus", "action": "add to", "value": "Building 1", "operator": "admin", "target": "Default campus" }
{ "targetCategory": "Campus", "action": "add to", "value": "Building, ID: 30363150-b00b-4a1f-ba0f-5f0624b73829", "operator": "admin", "target": "Campus, ID: 9a2993fd-9564-4bd6-82d7-9ae3485e3eed" }
```

## 5) Modify Building

The message will have the following values:

```
{
  "op": "update",
  "type": "feeder.vrffloor",
  "value": {
    "building_id": "30363150-b00b-4a1f-ba0f-5f0624b73829",
    "building_name": "Building 1 nw",
    "creator_role_id": 5,
    "latitude": 10,
    "ceiling_attenuation": 11,
    "campus_name": "Default campus",
    "campus_id": "9a2993fd-9564-4bd6-82d7-9ae3485e3eed",
    "ceiling_height": 11,
    "longitude": 10
  }
}
{"targetCategory": "Building", "action": "update", "value": "[new parent campus=Default campus][name=Building 1 nw][Ceiling Atten. Db=11.0][Ceiling Height Ft=11.0][Longitude=10.0][Latitude=10.0][Desired Data Rate=36.0][Planned Client Xmit Mw=30][Address=a1b2][view_x=192.78504683521626][view_y=74.11045076361695][view_skin=]", "operator": "admin", "target": "Building 1"}
```

When a building is modified in campus, AirWave sends the following notification:

```
{
  "targetCategory": "Campus",
  "action": "add to",
  "value": "Building, ID: 30363150-b00b-4a1f-ba0f-5f0624b73829",
  "operator": "admin",
  "target": "Campus, ID: 9a2993fd-9564-4bd6-82d7-9ae3485e3eed"
}
```

## 6) Delete Building

```
{
  "op": "delete",
  "type": "feeder.vrffloor",
  "value": {
    "building_id": "30363150-b00b-4a1f-ba0f-5f0624b73829",
    "building_name": "Building 1 nw",
    "creator_role_id": 5,
    "latitude": 10,
    "ceiling_attenuation": 11,
    "campus_name": "Default campus",
    "campus_id": "9a2993fd-9564-4bd6-82d7-9ae3485e3eed",
    "ceiling_height": 11,
    "longitude": 10
  }
}
{"targetCategory": "Building", "action": "remove", "value": "", "operator": "admin", "target": "Building 1 nw"}
```

When a building is removed from campus, AirWave sends the following notification:

```
{
  "targetCategory": "Campus",
  "action": "remove from",
  "value": "Building, ID: 30363150-b00b-4a1f-ba0f-5f0624b73829",
  "operator": "admin",
  "target": "Campus, ID: 9a2993fd-9564-4bd6-82d7-9ae3485e3eed"
}
```

When a building is removed, all sites, APs, walls and regions inside that building will be deleted. Each deletion will generate a notification. Refer to the message format for each deleted object and the message format for the container.

## 7) Add Site

The following keys and values in the JSON message are the same for adding, modifying, and deleting sites:

- op - operation string
- type - notification type string ie feeder.vrffloor in case of floor.
- floor\_name - string
- floor\_num - double
- floor\_id - guid
- floor\_width
- floor\_gridsize
- unit - measurement unit
- building\_name - string
- building\_id - guid
- creator role id - user role id integer
- campus\_id - guid
- campus\_name - double value
- ceiling\_attenuation - double value
- ceiling\_height - double value

Before saving a value change, when the floor plan is uploaded, AirWave will send the following notification:

```
{
  "op": "add",
  "type": "feeder.vrffloor",
  "value": {
    "floor_name": "Floor 1",
    "building_id": "8e3d271a-2697-4008-83a0-ccbc9e314e71",
    "building_name": "Building 1",
    "unit": "ft",
    "creator_role_id": 5,
    "floor_num": 1,
    "floor_gridsize": 20,
    "floor_width": 1252,
    "floor_id": "970ad26d-4649-4ea9-8e4b-76a8d9bc24a5",
    "campus_name": "Default campus",
    "floor_height": 854,
    "campus_id": "9a2993fd-9564-4bd6-82d7-9ae3485e3eed"
  }
}
```

```
{"targetCategory":"Site","action":"add","value":"","operator":"admin","target":"Floor 1 [Floor=1.0]"}
```

After saving a value change, AirWave will send the following notification:

```
{"op":"update","type":"feeder.vrffloor","value":{"floor_name":"Floor 1","building_id":"8e3d271a-2697-4008-83a0-ccbc9e314e71","building_name":"Building 1","unit":"ft","creator_role_id":5,"floor_num":1,"floor_gridsize":20,"floor_width":1252,"floor_id":"970ad26d-4649-4ea9-8e4b-76a8d9bc24a5","campus_name":"Default campus","floor_height":854,"campus_id":"9a2993fd-9564-4bd6-82d7-9ae3485e3eed"}} {"targetCategory":"Site","action":"update","value":"","operator":"admin","target":"Floor 1 [Floor=1.0]"}
```

When a floor is added to building, AirWave will send the following notification:

```
{"targetCategory":"Building","action":"add to","value":"Floor 1 [Floor=1.0]","operator":"admin","target":"Building 1 [in campus: Default campus]"}
```

## 8) Modify Site

The following message will have the updated value:

```
{"op":"update","type":"feeder.vrffloor","value":{"floor_name":"Floor 1","building_id":"8e3d271a-2697-4008-83a0-ccbc9e314e71","building_name":"Building 1","unit":"ft","creator_role_id":5,"floor_num":1,"floor_width":1234.33,"floor_id":"970ad26d-4649-4ea9-8e4b-76a8d9bc24a5","campus_name":"Default campus","floor_height":841.95,"campus_id":"9a2993fd-9564-4bd6-82d7-9ae3485e3eed"}} {"targetCategory":"Site","action":"update","value":"","operator":"admin","target":"Floor 1 [Floor=1.0]"}
```

## 9) Delete Site

```
{"op":"delete","type":"feeder.vrffloor","value":{"floor_name":"Floor 1","building_id":"8e3d271a-2697-4008-83a0-ccbc9e314e71","building_name":"Building 1","unit":"ft","creator_role_id":5,"floor_num":1,"floor_gridsize":20,"floor_width":1234.33,"floor_id":"970ad26d-4649-4ea9-8e4b-76a8d9bc24a5","campus_name":"Default campus","floor_height":841.95,"campus_id":"9a2993fd-9564-4bd6-82d7-9ae3485e3eed"}} {"targetCategory":"Site","action":"remove","value":"","operator":"admin","target":"Floor 1 [Floor=1.0]"}
```

When a site is removed from building, AirWave will send the following notification:

```
{"targetCategory":"Building","action":"remove from","value":"Site, ID: 970ad26d-4649-4ea9-8e4b-76a8d9bc24a5","operator":"admin","target":"Building, ID: 8e3d271a-2697-4008-83a0-ccbc9e314e71"}
```

When a site is removed, all APs, walls and regions inside that site will be deleted. Each deletion will generate a notification. Refer to the message format for each deleted object and the message format for the container.

## 10) Add AP

The following keys and values in the JSON message are the same for adding, modifying, and deleting APs:

- op – operation string
- type – notification type string ie feeder.vrffloor in case of AP.
- ap\_id – guid in case of planned AP and integer in case of deployed AP
- ap\_name – string
- mac\_address – string
- X, Y – x and y coordinates of location in floor plan
- floor\_id – guid
- model – AP model string
- manufacturer\_name – Make string
- status – planned for planned AP and deployed for deployed AP string

```
{
  "op": "add/update",
  "type": "feeder.vrfaccesspoint",
  "value": {
    "ap_id": "abf23880-071a-4e8b-a08b-519d02f76610",
    "ap_name": "testing",
    "mac_address": "30-65-EC-6F-C4-58",
    "X": 861.37573,
    "Y": 196.5481,
    "floor_id": "7ff751a7-2197-44d5-b77c-e213075d0cf3",
    "model": "AP 267",
    "manufacturer_name": "Aruba",
    "status": "planned"
  }
}
{"targetCategory": "AP", "action": "add", "value": "NO MAC", "operator": "admin", "target": "[id=abf23880-071a-4e8b-a08b-519d02f76610]"}
```

When an AP is added to floor, AirWave will send the following notification:

```
{
  "targetCategory": "Site",
  "action": "add to",
  "value": "[id=abf23880-071a-4e8b-a08b-519d02f76610] [Location: x=861.37573,y=196.5481]",
  "operator": "admin",
  "target": "Floor 1[Floor=1.0] [in building: Building 1, in campus: Default campus]"
}
```

## 11) Modify AP

```
{
  "op": "add/update",
  "type": "feeder.vrfaccesspoint",
  "value": {
    "ap_id": "abf23880-071a-4e8b-a08b-519d02f76610",
    "ap_name": "testing",
    "mac_address": "30-65-EC-6F-C4-58",
    "X": 861.37573,
    "Y": 196.5481,
    "floor_id": "7ff751a7-2197-44d5-b77c-e213075d0cf3",
    "model": "AP 267",
    "manufacturer_name": "Aruba",
    "status": "planned"
  }
}
{"targetCategory": "AP", "action": "update", "value": "MAC=30-65-EC-6F-C4-58", "operator": "admin", "target": "testing[id=abf23880-071a-4e8b-a08b-519d02f76610]"}
```

When an AP location is changed, AirWave will send the following notification:

```
{
  "targetCategory": "Site",
  "action": "add to",
  "value": "AccessPoint, ID: abf23880-071a-4e8b-a08b-519d02f76610 [Location: x=755.8869,y=168.95871]",
  "operator": "admin",
  "target": "Site, ID: 7ff751a7-2197-44d5-b77c-e213075d0cf3"
}
```

## 12) Delete AP

```
{
  "targetCategory": "Site",
  "action": "remove from",
  "value": "AccessPoint, ID: d00aec77-b4a8-44be-b539-419a958e7dd7 [Location: x=819.18774,y=388.0584]",
  "operator": "admin",
  "target": "Site, ID: 7ff751a7-2197-44d5-b77c-e213075d0cf3"
}
{"targetCategory": "AP", "action": "remove", "value": "NO MAC", "operator": "admin", "target": "[id=d00aec77-b4a8-44be-b539-419a958e7dd7]"}
```

## 13) Add Wall

Below are the keys and values in the json message. Same follows for add/edit and delete:

- op - operation string
- type - notification type string ie feeder.vrfwall in case of Wall.
- wall\_id - guid
- wall\_type - 1 is glass, 2 is dry wall , 3 is cubicle and 4 is concrete
- X1, Y1 , X2 and Y2 - x and y coordinates of location of wall's starting and ending points.
- floor\_id - guid
- wall\_attenuation - double

```
{
  "op": "add/update",
  "type": "feeder.vrfwall",
  "value": {
    "wall_id": "4b92f386-e287-44bb-8353-f5633984f4ba",
    "wall_type": 3,
    "Y1": 212.6848572127673,
    "X1": 330.2604066109171,
    "Y2": 216.6772041515428,
    "X2": 677.5945902843864,
    "floor_id": "7ff751a7-2197-44d5-b77c-e213075d0cf3",
    "wall_attenuation": 4
  }
}
{"targetCategory": "Wall ", "action": "add or modify", "value": "Wall type[3] loss[4] color [java.awt.Color[r=0,g=128,b=0]]", "operator": "admin", "target": "in Site [Name: Floor 1, Floor: 1.0] of Building [Building 1]"}
```

## 14) Modify Wall

```
{
  "op": "add/update",
  "type": "feeder.vrfwall",
  "value": {
    "wall_id": "4b92f386-e287-44bb-8353-f5633984f4ba",
    "wall_type": 4,
    "Y1": 212.6848572127673,
    "X1": 330.2604066109171,
    "Y2": 216.6772041515428,
    "X2": 677.5945902843864,
    "floor_id": "7ff751a7-2197-44d5-b77c-e213075d0cf3",
    "wall_attenuation": 15
  }
}
{"targetCategory": "Wall ", "action": "add or modify", "value": "Wall type[4] loss[15] color [java.awt.Color[r=255,g=0,b=0]]", "operator": "admin", "target": "in Site [Name: Floor 1, Floor: 1.0] of Building [Building 1]"}
```

## 15) Delete Wall

```
{"targetCategory":"Wall ","action":"remove","value":"Wall type[4] loss[15] color [java.awt.Color[r=255,g=0,b=0]]","operator":"admin","target":"in Site [Name: Floor 1, Floor: 1.0] of Building [Building 1]"}
{"op":"delete","type":"feeder.vrfwall","value":{"wall_id":"4b92f386-e287-44bb-8353-f5633984f4ba","wall_type":4,"Y1":212.6848572127673,"X1":330.2604066109171,"Y2":216.6772041515428,"X2":677.5945902843864,"floor_id":"7ff751a7-2197-44d5-b77c-e213075d0cf3","wall_attenuation":0}}
```

## 16) Add Region

The following keys and values in the JSON message are the same for adding, modifying, and deleting regions:

- op - operation string
- type - notification type string ie feeder.vrfregion in case of Region.
- path - Regions's x and y coordinates of all edges.
- region\_type - string planning , boundary , airprint , airplay or probability
- region\_id - guid
- region\_name - guid or string
- floor\_id - guid

```
{"op":"add","type":"feeder.vrfregion","value":{"path":[[[1641.01,950.06], [1879.81,955.88], [1879.81,1596.58], [1600.24,1579.11]]],"region_type":"planning","region_id":"836cdb69-56d4-4911-98d3-1e9330dd4908","region_name":"664ee3df-01ba-4f49-9f68-48cc4692aa0d","floor_id":"75caf04b-db4d-41b1-949e-4f00b377cc79"}}
{"targetCategory":"Region","action":"add or modify","operator":"admin","target":"of type planning in Site [Name: Floor 3, Floor: 3.0] of Building [Building 1]"}

```

## 17) Modify Region

```
{"targetCategory":"Region","action":"add or modify","operator":"admin","target":"of type planning in Site [Name: Floor 3, Floor: 3.0] of Building [Building 1]"}
{"op":"update","type":"feeder.vrfregion","value":{"Path":[[[1641.01,950.06], [1879.81,955.88], [1932.22,1264.53], [1879.81,1596.58], [1600.24,1579.11]]],"Type":"planning","region_id":"836cdb69-56d4-4911-98d3-1e9330dd4908","region_name":"664ee3df-01ba-4f49-9f68-48cc4692aa0d","floor_id":"75caf04b-db4d-41b1-949e-4f00b377cc79"}}

```

## 18) Delete Region

```
{"op":"delete","type":"feeder.vrfregion","value":{"Path":[],"Type":"location","region_id":"836cdb69-56d4-4911-98d3-1e9330dd4908","region_name":"7903cc84-61b4-4711-9f34-4b9697ccb3ea","floor_id":"75caf04b-db4d-41b1-949e-4f00b377cc79"}}
{"targetCategory":"Region","action":"remove","operator":"admin","target":"of type location in Site [Name: Floor 3, Floor: 3.0] of Building [Building 1]"}

```