

GWN76x0 Firmware Release Notes

IMPORTANT UPGRADING NOTE

1. [12/14/2018] [All APs 1.0.8.17] In order to enable your AP's capability of connecting GWN Cloud EU server, AP needs to be upgraded to 1.0.8.17 or above.
2. [6/15/2018] [GWN7600&7600LR 1.0.6.41] Starting from 1.0.6.x, GWN7600 and GWN7600LR will share same firmware file name gwn7600fw.bin. As a result, when GWN7600LR upgrades from pre-1.0.6.x to latest firmware, it will still retrieve firmware with name gwn7600lrfw.bin, and when GWN7600LR upgrades from 1.0.6.x or post-1.0.6.x to other firmware, it will retrieve firmware with name gwn7600fw.bin. So, when your GWN7600LR upgrades from pre-1.0.6.x firmware, you will need to manually modify the target firmware name to gwn7600lrfw.bin.
3. [1/26/2017] [All APs 1.0.5.15] For firmware 1.0.5.15 (GWN7610) and 1.0.5.13 (GWN7600&GWN7600LR) , this is only for GWN7610/GWN7600/GWN7600LR master deployment. All users with GWN7000 as master are NOT encouraged to upgrade until 1.0.5.x matching firmware is available for GWN7000, due to the compatibility of new features.
4. [8/11/2017] [All APs 1.0.4.22] Please upgrade to 1.0.4.12 or higher version to get the patch for WPA2 4-way handshake vulnerability.
5. [8/11/2017] [GWN7610 1.0.3.21] Before starting to upgrade to latest firmware, please make sure your GWN7610's firmware version is 1.0.2.108 or higher. Also, please make sure your GWN7000 master (if any)'s firmware version is 1.0.2.71 or higher.

Table of Content

IMPORTANT UPGRADING NOTE	1
FIRMWARE VERSION 1.0.11.10.....	6
PRODUCT NAME.....	6
DATE	6
FIRMWARE FILE INFORMATION	6
CHANGES/ENHANCEMENT	6
FIRMWARE VERSION 1.0.11.8.....	7
PRODUCT NAME.....	7
DATE	7
FIRMWARE FILE INFORMATION	7
CHANGES/ENHANCEMENT	7
FIRMWARE VERSION 1.0.11.2.....	8
PRODUCT NAME.....	8
DATE	8
FIRMWARE FILE INFORMATION	8
CHANGES/ENHANCEMENT	8
NEW FEATURE OVERVIEW	9
FIRMWARE VERSION 1.0.9.13	11
PRODUCT NAME.....	11
DATE	11
FIRMWARE FILE INFORMATION	11
CHANGES/ENHANCEMENT	11
FIRMWARE VERSION 1.0.9.12	12
PRODUCT NAME.....	12
DATE	12
FIRMWARE FILE INFORMATION	12
CHANGES/ENHANCEMENT	12
NEW FEATURE OVERVIEW	12
FIRMWARE VERSION 1.0.8.18	17
PRODUCT NAME.....	17
DATE	17
FIRMWARE FILE INFORMATION	17

IMPORTANT UPGRADING NOTE	17
CHANGES/ENHANCEMENT	17
NEW FEATURE OVERVIEW	18
FIRMWARE VERSION 1.0.8.9	21
PRODUCT NAME.....	21
DATE	21
FIRMWARE FILE INFORMATION	21
CHANGES/ENHANCEMENT	21
NEW FEATURE OVERVIEW	21
FIRMWARE VERSION 1.0.7.13	23
PRODUCT NAME.....	23
DATE	23
FIRMWARE FILE INFORMATION	23
IMPORTANT UPGRADING NOTE	23
CHANGES/ENHANCEMENT	24
NEW FEATURE OVERVIEW	24
[GWN7610]FIRMWARE VERSION 1.0.6.43.....	30
PRODUCT NAME.....	30
DATE	30
FIRMWARE FILE INFORMATION	30
ENHANCEMENT	30
NEW FEATURE OVERVIEW	31
[GWN7600&7600LR]FIRMWARE VERSION 1.0.6.41	34
PRODUCT NAME.....	34
DATE	34
FIRMWARE FILE INFORMATION	34
ENHANCEMENT	34
IMPORTANT UPGRADING NOTE	34
NEW FEATURE OVERVIEW	35
[GWN7610]FIRMWARE VERSION 1.0.5.15.....	38
PRODUCT NAME.....	38
DATE	38
IMPORTANT UPGRADING NOTE	38
ENHANCEMENT	38
BUG FIX	38
NEW FEATURE OVERVIEW	38

[GWN7600&7600LR]FIRMWARE VERSION 1.0.5.13 44

PRODUCT NAME..... 44
 DATE 44
 FIRMWARE FILE INFORMATION 44
 IMPORTANT UPGRADING NOTE 44
 ENHANCEMENT 44
 BUG FIX 45
 KNOWN ISSUE 45
 NEW FEATURE OVERVIEW 45

[GWN7610]FIRMWARE VERSION 1.0.4.22..... 51

PRODUCT NAME..... 51
 DATE 51
 BUG FIX 51

[GWN7610]FIRMWARE VERSION 1.0.4.20..... 52

PRODUCT NAME..... 52
 DATE 52
 IMPORTANT UPGRADING NOTE 52
 ENHANCEMENT 52
 BUG FIX 52
 KNOWN ISSUE 53
 NEW FEATURE OVERVIEW 53

[GWN7600&7600LR]FIRMWARE VERSION 1.0.4.12 56

PRODUCT NAME..... 56
 DATE 56
 ENHANCEMENT 56
 BUG FIX 56
 KNOWN ISSUE 57
 NEW FEATURE OVERVIEW 57

[GWN7600&7600LR]FIRMWARE VERSION 1.0.3.25 60

PRODUCT NAME..... 60
 DATE 60
 IMPORTANT UPGRADING NOTE 60
 BUG FIX 60
 KNOWN ISSUE 61

[GWN7610]FIRMWARE VERSION 1.0.3.21..... 62

PRODUCT NAME.....	62
DATE	62
IMPORTANT UPGRADING NOTE	62
ENHANCEMENT	62
BUG FIX	62
KNOWN ISSUE	62
[GWN7600&7600LR]FIRMWARE VERSION 1.0.3.19	63
PRODUCT NAME.....	63
DATE	63
ENHANCEMENT	63
BUG FIX	63
KNOWN ISSUE	64
NEW FEATURE OVERVIEW	64
[GWN7610]FIRMWARE VERSION 1.0.3.19.....	70
PRODUCT NAME.....	70
DATE	70
IMPORTANT UPGRADING NOTE	70
ENHANCEMENT	70
BUG FIX	70
KNOWN ISSUE	71
NEW FEATURE OVERVIEW	71
[GWN7610]FIRMWARE VERSION 1.0.2.108.....	74
PRODUCT NAME.....	74
DATE	74
IMPORTANT UPGRADING NOTE	74
ENHANCEMENT	74
KNOWN ISSUE	74
NEW FEATURE OVERVIEW	75
[GWN7600&7600LR]FIRMWARE VERSION 1.0.1.36	77
PRODUCT NAME.....	77
DATE	77
IMPORTANT UPGRADING NOTE	77
[GWN7610]FIRMWARE VERSION 1.0.2.15.....	78
PRODUCT NAME.....	78
DATE	78
IMPORTANT UPGRADING NOTE	78

FIRMWARE VERSION 1.0.11.10

PRODUCT NAME

GWN7630LR

DATE

1/23/2020

FIRMWARE FILE INFORMATION

- GWN7630LR Firmware file name: gwn7630fw.bin
MD5 checksum: b045c2241b960f7655062235fb9294ca

CHANGES/ENHANCEMENT

- Added support of new model GWN7630LR
- Added support of DFS channel in EU for GWN7630LR

FIRMWARE VERSION 1.0.11.8

PRODUCT NAME

GWN7610; GWN7600; GWN7600LR; GWN7630

DATE

11/14/2019

FIRMWARE FILE INFORMATION

- GWN7610 Firmware file name: gwn7610fw.bin
MD5 checksum: aa17ce03794ba110e0b21f02cedf5117
- GWN7600/7600LR Firmware file name: gwn7600fw.bin
MD5 checksum: 23450a95f9b9e4c4b0adbd8ebb4c2a9c
- GWN7630 Firmware file name: gwn7630fw.bin
MD5 checksum: d988f158c2a291a1cc278e7627607566

CHANGES/ENHANCEMENT

- Added support of DFS channel in EU for GWN7630. Now both GWN7600LR and GWN7630 support DFS channel in EU.
- Internal fix for possible re-association of expired Vouchers.

FIRMWARE VERSION 1.0.11.2

PRODUCT NAME

GWN7610; GWN7600; GWN7600LR; GWN7630

DATE

10/16/2019

FIRMWARE FILE INFORMATION

- GWN7610 Firmware file name: gwn7610fw.bin
MD5 checksum: bc53beca73855b62103797b252aaa2d7
- GWN7600/7600LR Firmware file name: gwn7600fw.bin
MD5 checksum: 50bcfa41627545b098ef1cbca0af1ac4
- GWN7630 Firmware file name: gwn7630fw.bin
MD5 checksum: b62ebfd577024eb6cfb05ce54be7b9e8

CHANGES/ENHANCEMENT

- Internal fix for network capture uploading issue from Access Point to Cloud.
- Internal fix for possible re-association of expired Vouchers.
- Added feature of **Site Survey** at GWN Cloud only
- Added feature of **Minimum Rate Control**
- Added feature of **SSH Remote Access**
- Added feature of **External Portal Support Socifi Platform**
- Added feature of **Client inactivity timeout**
- Added feature of **Upgrade Regularly at Cloud**
- Added feature of **Client Steering**^{Beta}: Sticky Client Steering and Load Balancing Steering
- Enhanced feature of **Voucher: display of remaining bytes**
- Enhanced feature of **Takeover: Supports batch operations**

- Enhanced feature of **Dynamic VLAN**
- Changed **LED pattern**
 - When AP is not managed, AP will show solid purple instead of flashing purple
- Changed **Local Master External Portal configuration**
 - Combine all supported platforms into one configuration
- Changed **default setting of Mesh to OFF**
- Removed **Wechat from Wi-Fi portal authentication**
 - Tencent shut down the service.

NEW FEATURE OVERVIEW

- **Site Survey**

This feature will allow Network Administrator to scan the Wi-Fi environment. The scan result will provide useful information for Admin to plan and adjust the Wi-Fi deployment or settings, in order to optimize the Wi-Fi performance of the site.

Site survey is only available on GWN cloud. It's located at **NETWORK→Insight→Site Survey**.

- **Minimum Rate Control**

The settings of this feature are located at **NETWORK→SSIDs→Configuration→Edit→Wi-Fi Settings→Enable Minimum Rate**. By enable this, it will help to eliminated the legacy connection which slow the total performance of the Wi-Fi network.

- **Client Steering** ^{Beta}

This feature will help Wi-Fi client to roam to other APs within same Network. Roaming threshold can be configured under **NETWORK→Access Points→Configuration→Edit→Client Steering** by parameters of **RSSI Threshold** and **Client Access Threshold**. Both parameters will show up only when **Client Steering** is enabled.

- **SSH Remote Access**

This feature enables SSH access from GWN cloud to your AP device, and this is mainly for extra troubleshooting method. To enable this, you can find configuration at **NETWORK→Access Points→Status→Click on the AP→Debug**.

- **External Portal Support Socifi Platform**

This is supported by **Universal Platform** configuration under **NETWORK→Captive Portal→Policy List→Add→Splash Page: External→Platform: Universal Platform**.

- **Client inactivity timeout**

This feature will remove the Client record from current Client list, in order to generate accurate report. Default was 300 seconds, and now it's configurable at **NETWORK→SSIDs→Configuration→Edit→Wi-Fi Settings→Client Inactivity Timeout**.

- **Upgrade Regularly at Cloud**

This feature allows APs to check latest firmware and upgrade by a preassigned schedule. Configuration is available at **NETWORK→System→Upgrade→Upgrade Time→Upgrade Regularly**. Schedule is configured at **NETWORK→System→Schedule**.

- **Enhanced feature of Dynamic VLAN**

Now when using 802.1X authentication on your SSID with dynamic VLAN assignment. Admin does not need to create all VLAN SSIDs to match destination VLAN. On 1.0.11.1, AP will trunk its Ethernet with the VLAN assigned to Wi-Fi client through 802.1X.

FIRMWARE VERSION 1.0.9.13

PRODUCT NAME

GWN7610; GWN7600; GWN7600LR;

DATE

6/24/2019

FIRMWARE FILE INFORMATION

- GWN7610 Firmware file name: gwn7610fw.bin
MD5 checksum: 1aefac86dc272944c05d2557c63dd190
- GWN7600/7600LR Firmware file name: gwn7600fw.bin
MD5 checksum: f411e92c88a0ede5a48329963ac96682

CHANGES/ENHANCEMENT

- Added new OUI “C0:74:AD” support for GWN7610, GWN7600, and GWN7600LR. GWN7630LR already supported it on 1.0.9.12.

FIRMWARE VERSION 1.0.9.12

PRODUCT NAME

GWN7610; GWN7600; GWN7600LR; GWN7630

DATE

6/11/2019

FIRMWARE FILE INFORMATION

- GWN7610 Firmware file name: gwn7610fw.bin
MD5 checksum: a1c0e58525efa9513c0581dab3059496
- GWN7600/7600LR Firmware file name: gwn7600fw.bin
MD5 checksum: 05fcb911ef517b1ab6e423e7abee5de8
- GWN7630 Firmware file name: gwn7630fw.bin
MD5 checksum: 5cd325ecc1278d547e4643fe00e19330

CHANGES/ENHANCEMENT

- Added feature of **Slave AP Transfer**
- Added feature of **Client Negotiate Speed Display**
- Added feature of **One Key Debugging**
- Enhanced Captive Portal by feature of **HTTPS Portal Trusted Certificate with Auto Update**

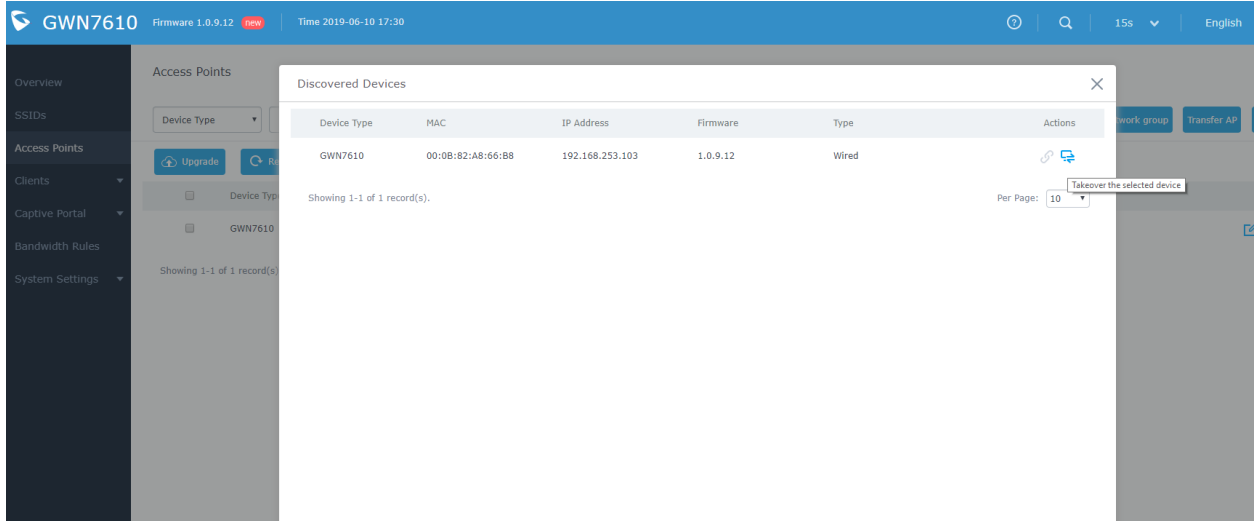
NEW FEATURE OVERVIEW

- **Slave AP Transfer**

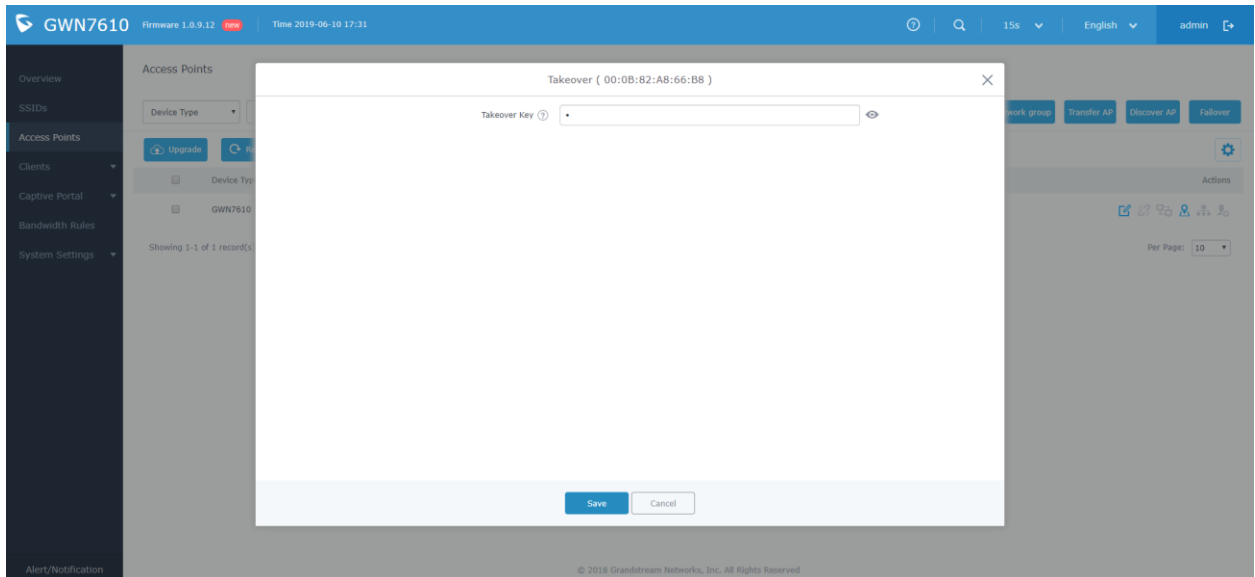
This is an enhancement feature upon **Failover Master**

. Now, when a master fails, even there is no failover master configured, Admin can still bring up a new Master and uses the old master key (admin password) to take over old slaves.

When admin add a new master into the master-failed network. New master will be able to discover the paired old slave as below.

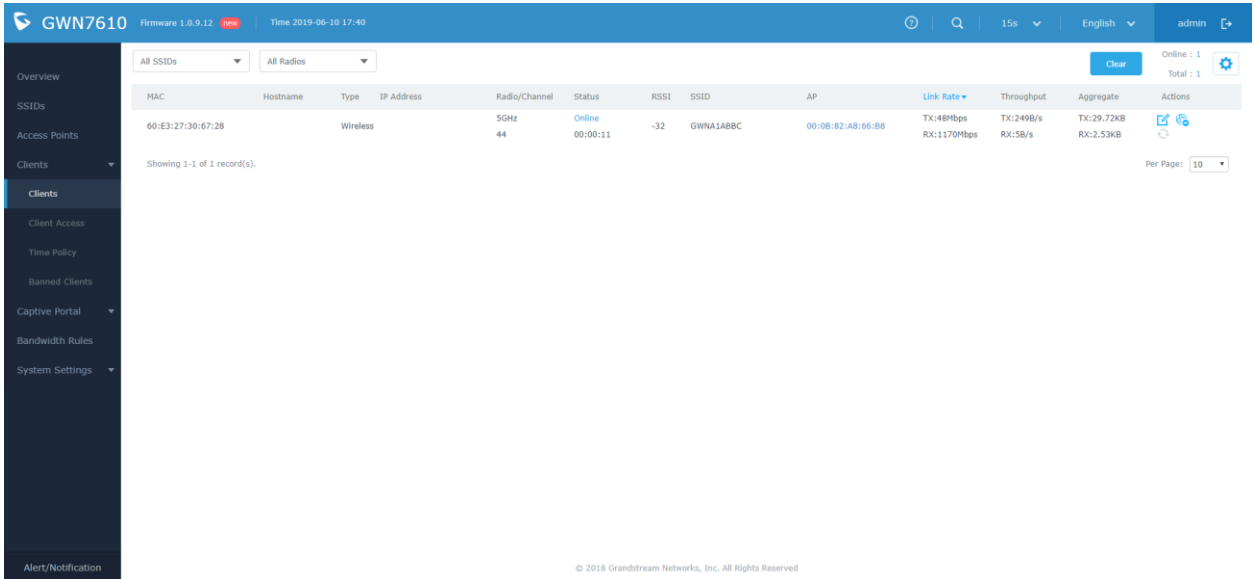


By Clicking on the “Takeover the selected device”, admin will be asked for the takeover key, which is the old master admin password.




Once takeover key is validated, slave AP will be transferred to the new master.

- **Client Negotiate Speed Display**



The screenshot shows the Grandstream GWN7610 web interface. The top navigation bar includes the device name 'GWN7610', firmware version '1.0.9.12', and the time '2019-06-10 17:40'. A sidebar on the left contains navigation options: Overview, SSIDs, Access Points, Clients (selected), Client Access, Time Policy, Banned Clients, Captive Portal, Bandwidth Rules, and System Settings. The main content area displays a table of client information. The table has columns for MAC, Hostname, Type, IP Address, Radio/Channel, Status, RSSI, SSID, AP, Link Rate, Throughput, and Aggregate. A single record is shown with MAC '60:E3:27:30:67:28', Type 'Wireless', Radio/Channel '44', Status 'Online', and Link Rate 'TX:48Mbps, RX:1170Mbps'. The interface also includes a search bar, a 'Clear' button, and a 'Per Page' dropdown set to 10.

MAC	Hostname	Type	IP Address	Radio/Channel	Status	RSSI	SSID	AP	Link Rate	Throughput	Aggregate	Actions
60:E3:27:30:67:28		Wireless		44	Online	-32	GWNA1ABBC	00:08:82:A8:66:88	TX:48Mbps RX:1170Mbps	TX:249B/s RX:5B/s	TX:29.72KB RX:2.53KB	

Showing 1-1 of 1 record(s). Per Page: 10

© 2018 Grandstream Networks, Inc. All Rights Reserved

This is displayed as **Link Rate** under Clients page.

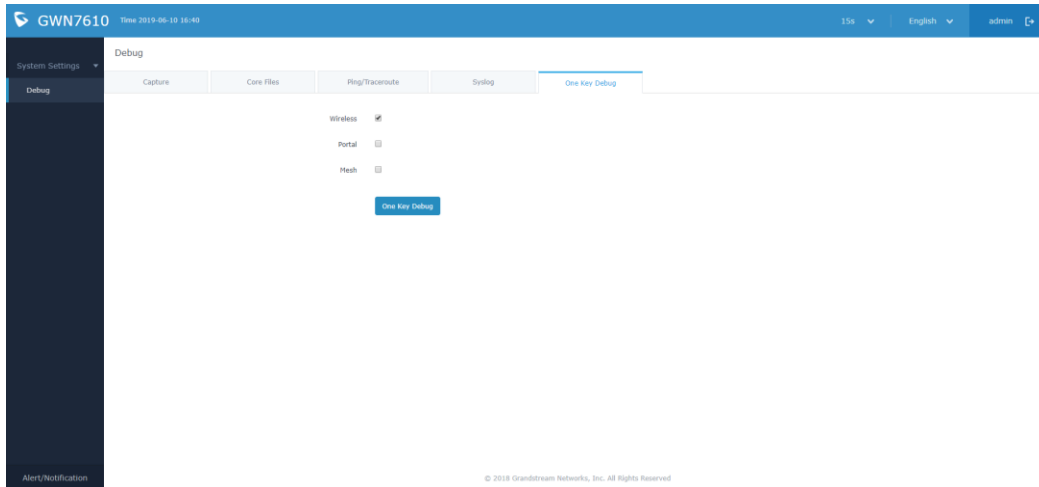
- **One Key Debugging**

For better local troubleshooting data collection, now slave APs all have their own web page login.

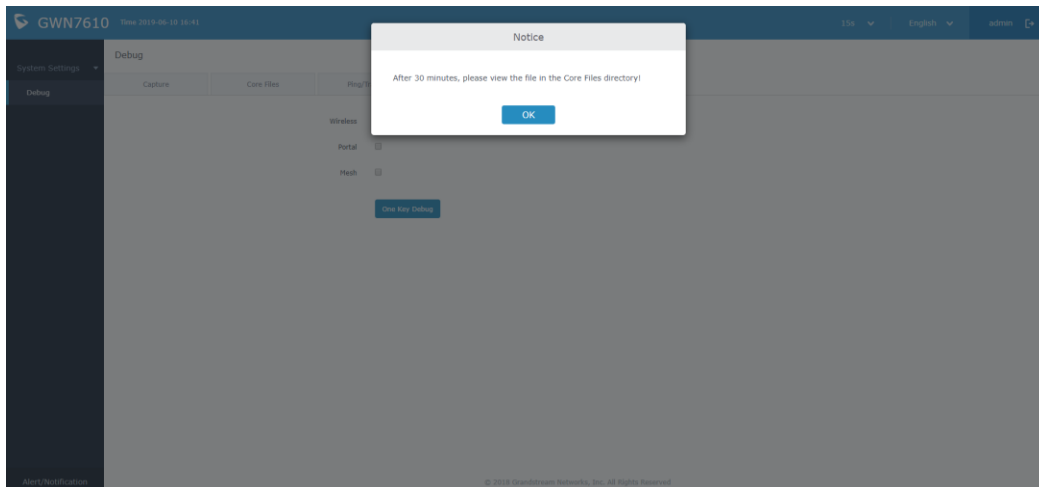


The screenshot shows the login page for a Grandstream GWN7610 device. The page features the Grandstream logo and the device name 'GWN7610' in large text. Below the name is a login form with fields for 'Username' and 'Password', and a blue 'Sign In' button. A message 'The AP is paired' is displayed below the login form. The background is dark with a faint geometric pattern. The footer contains the text 'All Rights Reserved Grandstream Networks, Inc. 2018'.

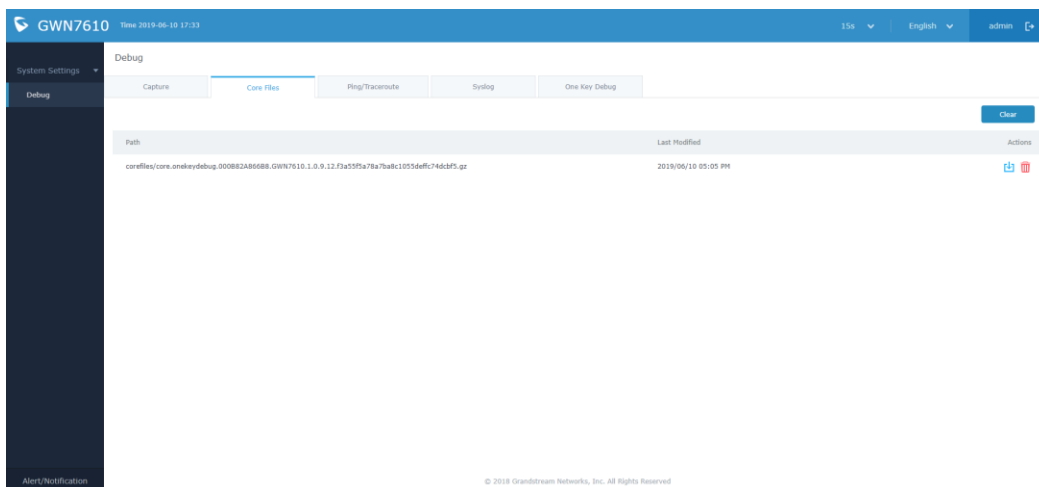
Once login, you will see Debug page as below



Besides original debugging methods. Now you have new method as One Key Debug.



Once activated, in 30 minutes, this AP will generate local debug core file.



- **HTTPS Portal Trusted Certificate with Auto Update**

This feature will solve the untrusted certificate warning reported by web browser in your HTTPS enabled captive portal deployment.

FIRMWARE VERSION 1.0.8.18

PRODUCT NAME

GWN7610; GWN7600; GWN7600LR

DATE

1/10/2019

FIRMWARE FILE INFORMATION

- GWN7610 Firmware file name: gwn7610fw.bin
MD5 checksum: 0057d240a1dee02e126d80308f5395c4
- GWN7600/7600LR Firmware file name: gwn7600fw.bin
MD5 checksum: f1166de7f2a1a51ca96f242c8da518f2

IMPORTANT UPGRADING NOTE

- In order to enable your AP's capability of connecting GWN Cloud EU server, AP needs to be upgraded to 1.0.8.17 or above. Otherwise, your AP will always be offline from your EU server portal.

CHANGES/ENHANCEMENT

- Added feature of **Advertisement**¹ for Captive Portal
- Added feature of **Custom Field**¹ for Captive Portal Splash Page
- Added feature of **ARP Proxy**
- Added feature of **Clear client data**¹
- Enhanced Event log by **WiFi authentication event**¹
- Enhanced Bandwidth Rules by adding option to **limit bandwidth Per-Client** and adding **Total Bandwidth Usage**¹ on Overview Bandwidth Chart
- Added **EU Server support**¹

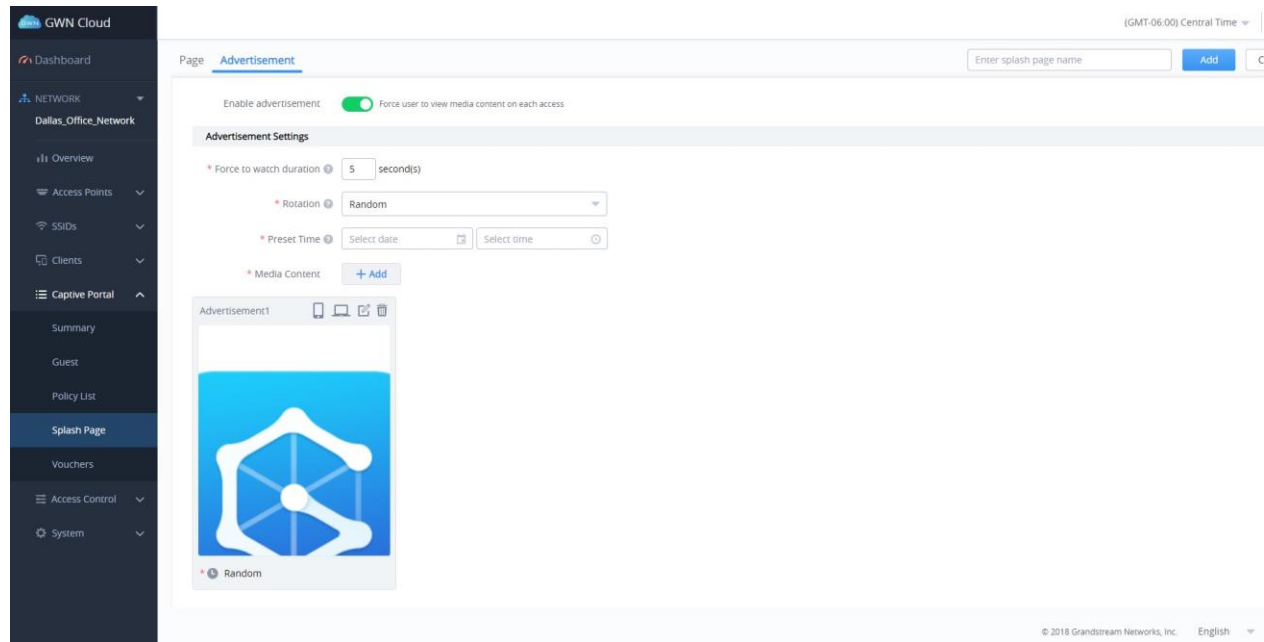
¹ This feature is only available on GWN Cloud, and local master does not have it.

NEW FEATURE OVERVIEW

- **Advertisement**

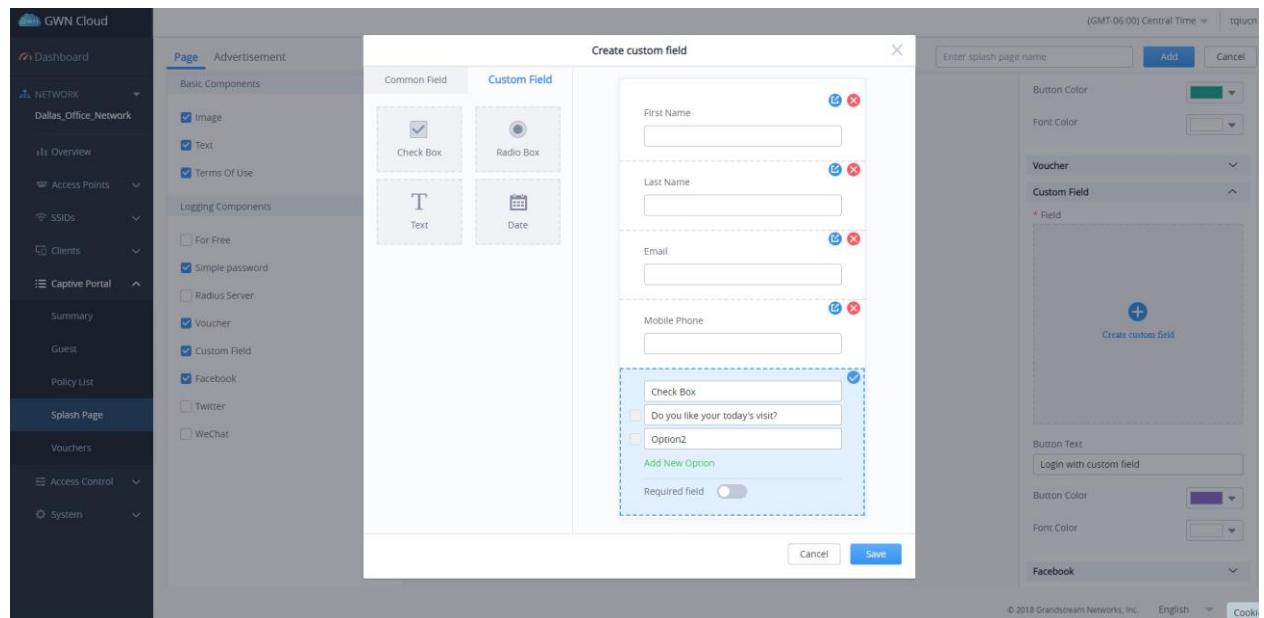
Marketing feature to play advertisement upon captive portal login for WiFi users.

Configurations are available at Cloud menu: **Captive Portal** → **Splash Page** → **Advertisement**



- **Custom Field**

By adding customizable field to your captive portal splash page to collect user information.



- **ARP Proxy**

This feature will enable GWN AP to answer the ARP requests from its LAN for its connected WiFi client. This is mainly to reduce the airtime consumed by ARP packets.

To enable this feature, configuration is available at

Cloud:

NETWORK → SSIDs → Configuration → Wi-Fi Settings → ARP Proxy

Local Master:

SSIDs → Configuration → Wi-Fi → ARP Proxy

- **Clear client data**

This feature will allow admin to clear collected data from Wi-Fi clients. This is mainly for certain data security regulation compliance.

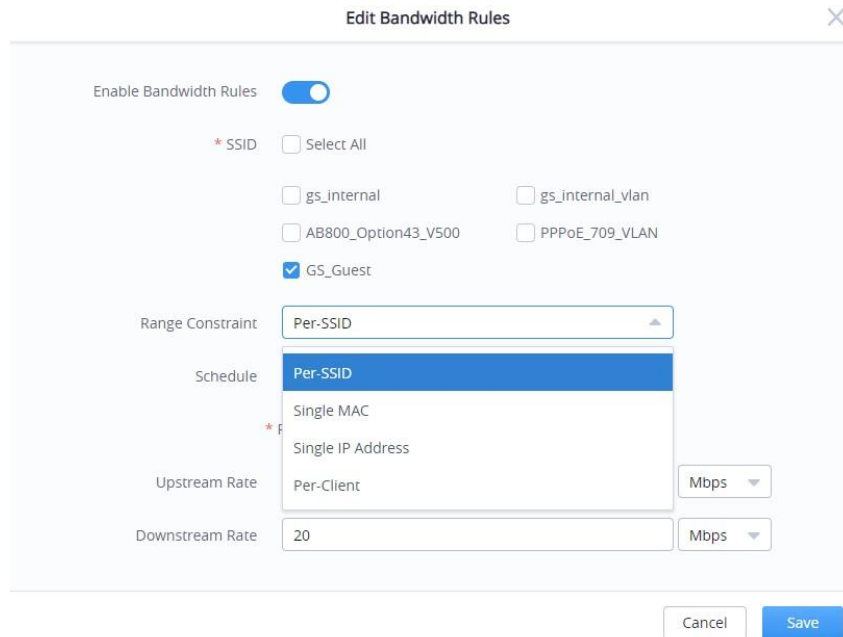
- **WiFi authentication event**

This is an enhancement for WiFi troubleshooting.

2018-12-13 16:30:19	74:DA:EA:84:CD:28	gs_internal		WPA-PSK deauthentication (four-way handshake failure)
2018-12-13 16:30:19	74:DA:EA:84:CD:28	gs_internal	gs_internal	WPA-PSK authentication failure

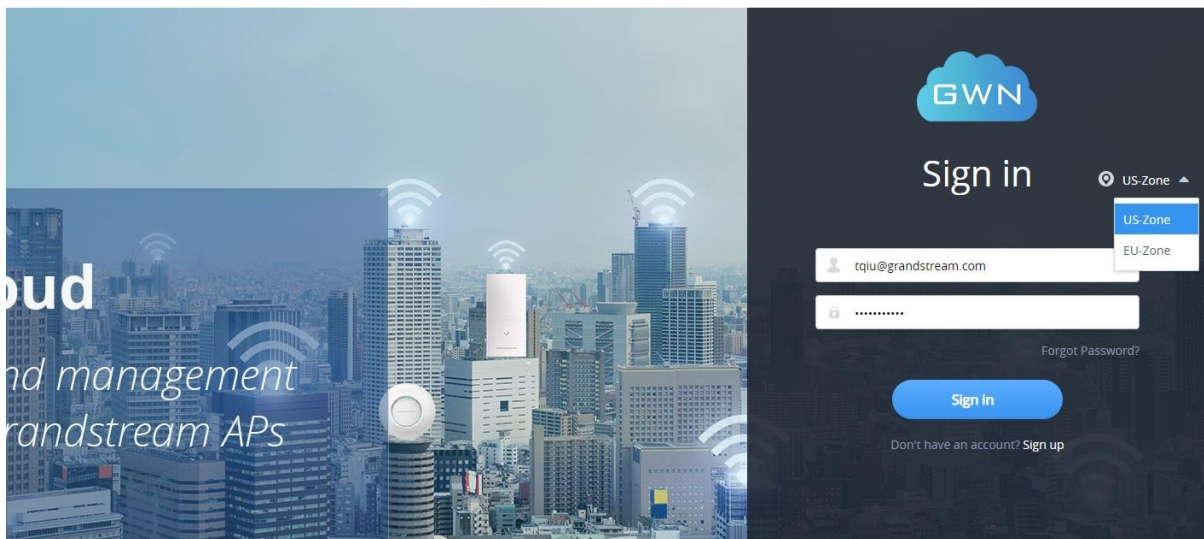
- **limit bandwidth Per-Client**

This is an enhancement for bandwidth control upon all the other available types.



- **EU Server support**

User now will be able to choose US server or EU server to store their data at. This is mainly for GDPR regulation compliance.



FIRMWARE VERSION 1.0.8.9

PRODUCT NAME

GWN7610

GWN7600

GWN7600LR

DATE

11/21/2018

FIRMWARE FILE INFORMATION

- GWN7610 Firmware file name: gwn7610fw.bin
MD5 checksum: e35fdb2803278d2305cee46c1c436deb
- GWN7600/7600LR Firmware file name: gwn7600fw.bin
MD5 checksum: f934883870b24d911b604fedfc7a5fed

CHANGES/ENHANCEMENT

- Added feature of **URL Logging**¹
- Added feature of **Dynamic Transmit Power Control** as WP820 RF enhancement
- Enhanced Mesh by adding feature of **Switching RE & CAP according to network**
- Enhanced Core File Debugging by adding feature of **OopsTrack**
- Fixed the bug that manual configured Mesh topology may change after reboot
- Fixed a memory leak

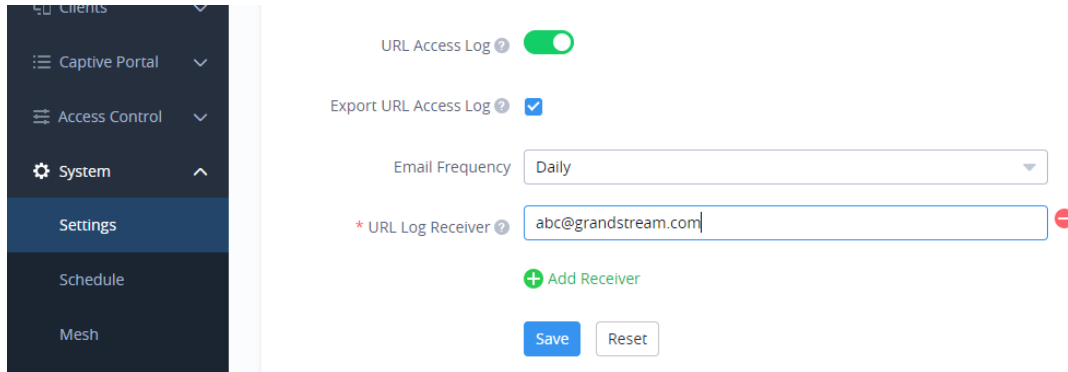
NEW FEATURE OVERVIEW

- **URL Logging**¹

GWN AP now can log user URL visiting history onto GWN server, and report to Admin on timely schedule.

¹ URL Logging is only available at GWN Cloud, and local master configuration does not support this feature.

To enable configuration, option is available at Cloud menu: **System** → **Settings**



URL Access Log

Export URL Access Log

Email Frequency

* URL Log Receiver +

[+ Add Receiver](#)

- **Dynamic Transmit Power Control**

This feature will enhance the RF performance of WP8xx Grandstream WiFi handset. No configuration is needed.

- **Switching RE & CAP according to network**

This is enhancement to GWN Mesh setup. Now mesh topology will be more precise on identifying the CAP or RE APs. System will not only detect the network cable connection for CAP election, but also check the IP address acquiring.

- **OopsTrack**

This is enhancement on the core file debugging. It will collect and save kernel stack information for debugging when AP crashes.

FIRMWARE VERSION 1.0.7.13

PRODUCT NAME

GWN7610&GWN7600&7600LR

DATE

10/18/2018

FIRMWARE FILE INFORMATION

- GWN7610 Firmware file name: gwn7610fw.bin
MD5 checksum: c13f4e003ff70e6b4e37627b0e7d2013
- GWN7600 Firmware file name: gwn7600fw.bin
MD5 checksum: c425a264b8053aac9cef33644db23477
- GWN7600LR Firmware file name: gwn7600fw.bin
MD5 checksum: c425a264b8053aac9cef33644db23477

IMPORTANT UPGRADING NOTE

Facebook and Twitter captive portal authentication backend changed. This change will lead to following result:

1. If Facebook authentication is configured on older GWN Cloud version. You will need to log in your Facebook account of <https://developers.facebook.com/apps>, and set the OAuth redirect URI to <https://cwp.gwn.cloud:8443/GsUserAuth.cgi?GsUserAuthMethod=3>
2. If Twitter authentication is configured on older GWN Cloud version. You will need to log in your Twitter account of <https://apps.twitter.com/app>, and set the callback URLs to <http://cwp.gwn.cloud:8080/GsUserAuth.cgi?GsUserAuthMethod=5>
3. Also, you will need to make sure your AP is upgraded to 1.0.7.x, since the older AP firmware will not work with new GWN Cloud for Facebook Login or Twitter Login only.


CHANGES/ENHANCEMENT

- Added feature of **RRM^{Beta 1}**
- Added feature of **Mesh** for GWN7610²
- Added feature of **External Captive Portal Support**
- Added feature of **AP Scheduling Reboot**
- Added feature of **Change Log³**
- Added feature of WiFi **Statistic Report³**
- Added feature of **Configuration Quick Navigation³**
- Added feature of Captive Portal Guest **Summary**
- Changed **SSID limit³**
- Enhanced **Access Point Status**
- Enhanced **WiFi Service** by adding configurable options of **Beacon Interval**, **DTIM Period**, and **Convert IP multicast to unicast**.
- Enhanced **Client Information**
- Enhanced **Captive Portal features**
- Enhanced **GWN Cloud mobile app**

NEW FEATURE OVERVIEW

- **RRM^{Beta}**

Radio Resource Management (RRM), includes three major features below. This feature is only available

Local Master: **Access Point** →  **Edit** → **Configuration**

- **Dynamic Channel Assignment⁴** Once enabled, AP will try to allocate and move to the best channel during operation, unlike Auto Channel Selection (ACS) which online scan and assign channel when WiFi interface goes up for one.

¹ Local Master only

² Mesh is already supported on GWN7600 and GWN7600LR in previous feature pack

³ GWN Cloud only

⁴ **Dynamic Channel Assignment** is not supported on GWN7610.

- **Transmit Power Control** TPC algorithm runs every 10 minutes. AP acquires the RSSI information of the neighbor by wireless scanning and establishes the neighbor table. The algorithm requires that there must be at least 3 neighbor APs with larger than -70dbm in RSSI. Otherwise, power will not be adjusted.
- **Coverage Hole Detection** CHD enables AP to decide whether to increase the AP power by the current SNR and SNR threshold of the connected clients.

- **External Captive Portal Support**
Linkyfi¹ and Purple² as external captive portal are supported now on GWN APs for both local master and GWN Cloud.
Configurations now are available at **Captive Portal** → **Policy List** → **Add/Edit** → **Splash Page**
Choose **External**, and then choose platform to configure.

- **AP Scheduling Reboot**
You can schedule reboot for your APs. Configuration is available at:
 - Local Master: **System Settings** → **Maintenance** → **Basic** → **Reboot Schedule**
 - GWN Cloud: **NETWORK** → **System** → **Settings** → **Reboot Schedule**You will need to have a time schedule defined for this feature to adopt.

- **Change Log**
Change log is now recorded on GWN Cloud. You can access the log from **[Your account]** on top right corner → **Change Log**.

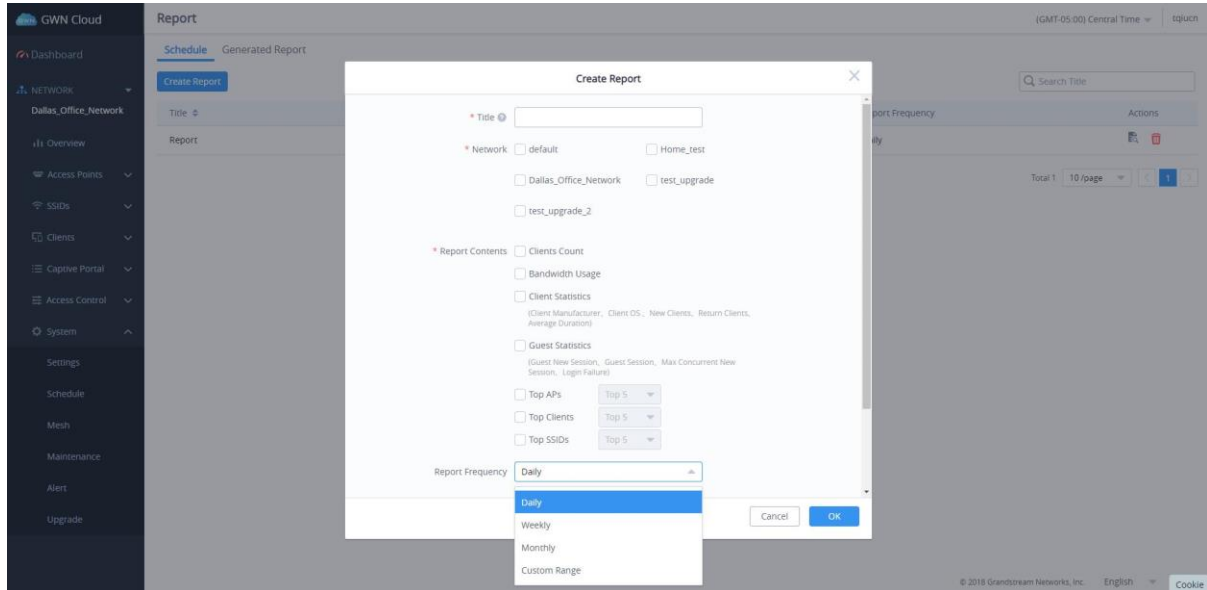
Note: ¹ Linkyfi <https://www.avsystem.com/products/linkyfi/>

² Purple <https://purple.ai/>

- **Statistic Report**

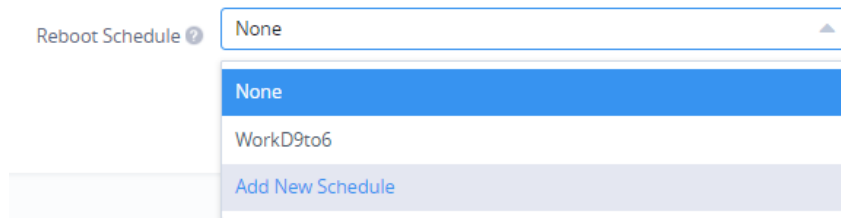
On GWN Cloud, you can configure server to send report to you periodically. Configuration is available at:

[Your account] on top right corner → **Report** → **Schedule** → **Create Report**



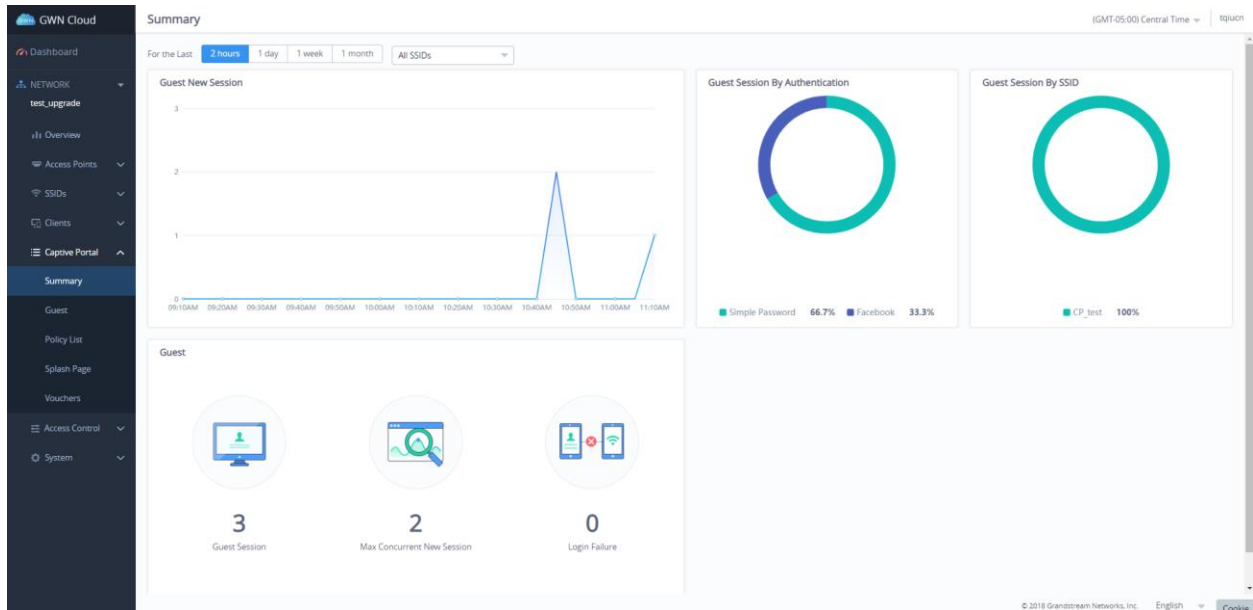
- **Configuration Quick Navigation**

Now on GWN Cloud support Configuration Quick Navigation. This feature will help to quick move to prerequisite settings during configuration. For example, when you configure a AP scheduling reboot, but you don't have a time schedule reconfigured. Then you will see an option as **Add New Schedule**.



- **Captive Portal Guest Summary**

GWN Cloud now gives a summary of captive portal login Guest Summary as below:



- **SSID limit** changes

In previous GWN Cloud version, every Network has limit of 16 SSID. In FP6 GWN Cloud version, limit in Network has been removed, but when any AP has reach to its limit of 16 SSID, it will be shown in grey in the new SSID's available devices, and cannot be added to new SSID anymore.

- **Access Point Status** Enhancement

CPU and Memory information is added in Access Points **Status**.

For Email Alert, feature is enhanced for AP offline event to report when AP goes back online.

- **WiFi Service** Enhancement

Three configurable options, as **Beacon Interval**, **DTIM Period**, and **Convert IP multicast to unicast**, are available at

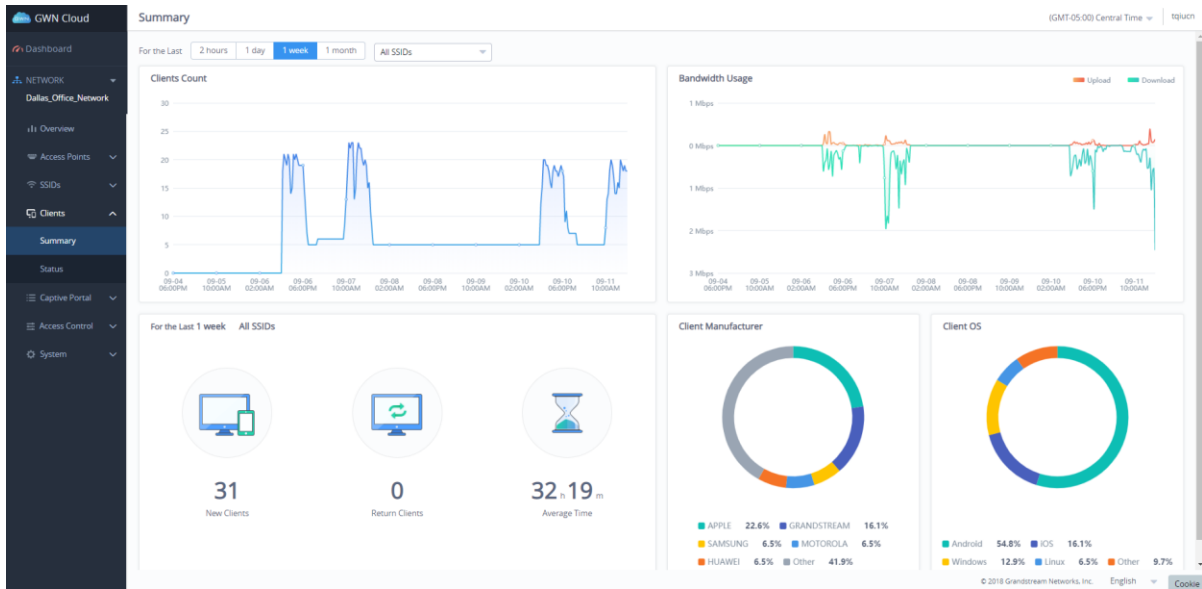
- Local Master: **SSID** → **Add/Edit** → **Beacon Interval / DTIM Period / Multicast to Unicast**
- GWN Cloud: **NETWORK** → **SSID** → **Add/Edit** → **Advanced** → **Beacon Interval / DTIM Period / Convert IP Multicast to Unicast**

- **Client Information Enhancement**


More WiFi client's information is collected on GWN AP. And statistic is shown in graphic on GWN Cloud and text only format on Local Master.

- Local Master: Information is available at **Clients** → **Clients**, and information can be checked to display at the top right gear icon. 

- GWN Cloud:



And now, admin can name the clients not only on local master but also on GWN Cloud page **NETWORK** →

Clients → **Status** →  → **Hostname**

- **Captive Portal features Enhancement**

- **Failsafe mode:** AP will grant access to STA if AP can't reach to external authentication server. This feature only available in radius authentication and voucher authentication.

- **Byte limit** and **Daily limit**: Captive portal now can limit user connection by measuring data amount and times of a day.
- **Twitter authentication** enhanced: Twitter splash page has been redesigned, and **Force To Follow** option added. By enabling **Force To Follow** option, admin can request login WiFi user to follow his Twitter account when getting authenticated.
- **GWN Cloud mobile app** enhancement
 - Dashboard, on GWN Cloud Mobile app, now allow admin to select different Network to display, while all Networks' information is combined to display.
 - Deleting AP, on GWN Cloud Mobile app, now allow admin to delete APs from Networks.

[GWN7610] FIRMWARE VERSION 1.0.6.43

PRODUCT NAME

GWN7610

DATE

6/15/2018

FIRMWARE FILE INFORMATION

- GWN7610 Firmware file name: gwn7610fw.bin
MD5: ae52aea470e6bf0fdcca95b1537df8e9

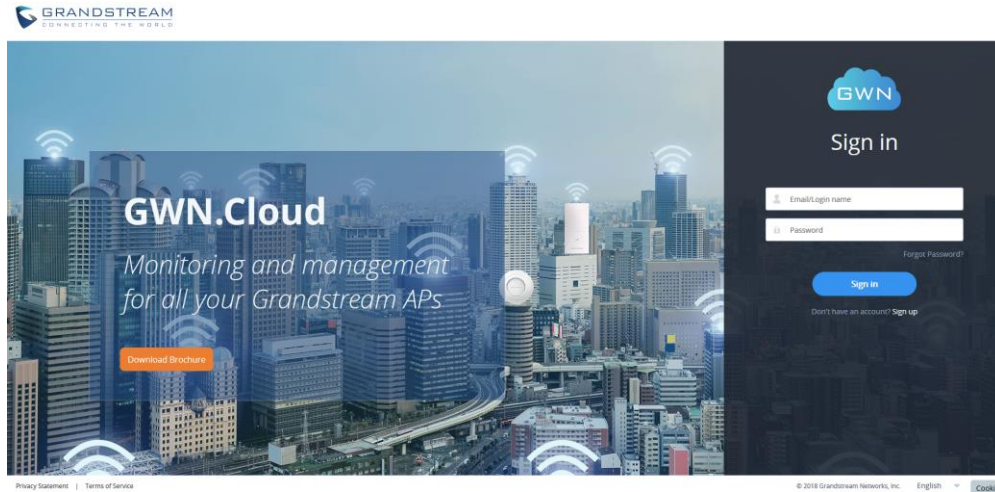
ENHANCEMENT

- Added support for **GWN.Cloud**
- Added support Outdoor/Indoor **Scene** WiFi channel configuration
- Added feature for **Transfer AP** and **Transfer Network Group** to Cloud
Newly designed
- **Feature Schedulingg**
- Split **Network Group** into separate **SSID** and **DHCP server** configurations

NEW FEATURE OVERVIEW

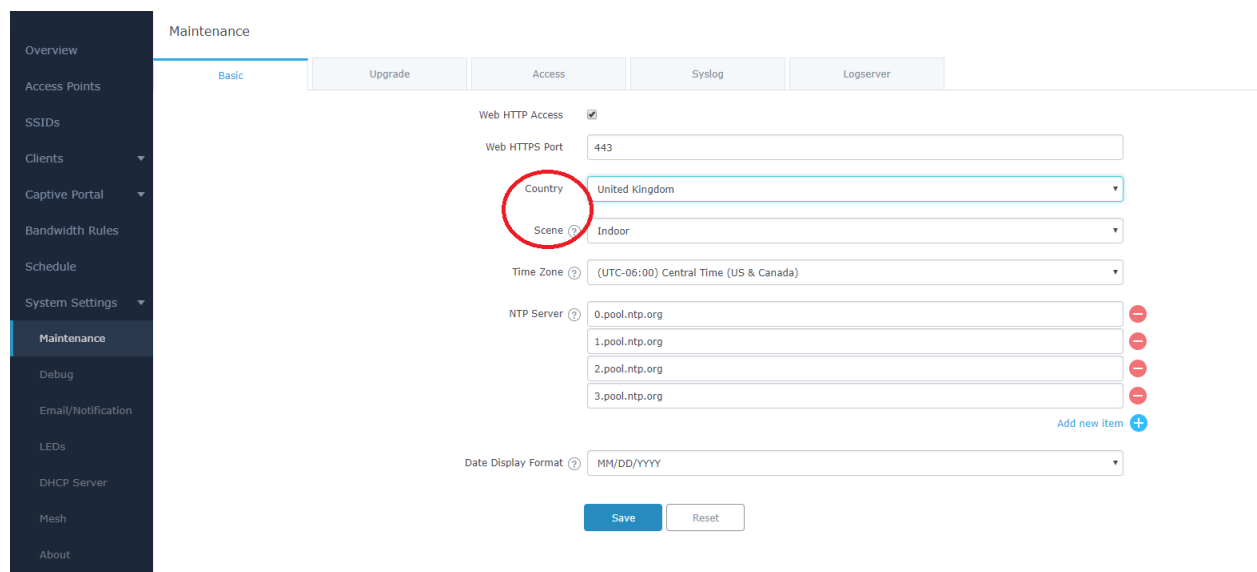
- **GWN.Cloud**

Since FP5, GWN AP can be managed by your **GWN.Cloud** account. **GWN.Cloud** web interface now can be accessed at <https://www.gwn.cloud>. Please refer to **GWN Cloud User Guide** for how to add your GWN AP to **GWN.Cloud**.



- Outdoor/Indoor **Scene** configuration

This configuration is available on your Master web, when your country has different outdoor/indoor WIFI channel regulations.



Maintenance

Basic Upgrade Access Syslog Logserver

Web HTTP Access

Web HTTPS Port 443

Country United Kingdom

Scene Indoor

Time Zone (UTC-06:00) Central Time (US & Canada)

NTP Server 0.pool.ntp.org
1.pool.ntp.org
2.pool.ntp.org
3.pool.ntp.org

Date Display Format MM/DD/YYYY

Save Reset

- **Transfer AP and Transfer Network Group**

Transfer AP feature will allow you to easily transfer your AP from local master to your GWN.Cloud account.

When you already have network/WiFi configurations on your cloud account, use this feature will let you to choose cloud existing network/SSID to adopt your local AP. Note: local configurations will not be transferred.

Transfer Network Group feature will allow you to transfer your local configurations to your cloud account.

Access Points

Device Type

Search

transfer network group
Transfer AP
Discover AP
Failover

Upgrade
Reboot
+ Add to SSIDs
✖ Configure
⚙

	Device Type	Name/MAC	IP Address	Status	Uptime	Firmware	Actions
<input type="checkbox"/>	GWN7610	Front_AP_unlocked 00:0B:82:A1:A6:AC	192.168.254.35	Master	13d 1h 57m 50s	1.0.6.40	🔗 🔄 👤 👥 🔧
<input type="checkbox"/>	GWN7610	Back_AP_Locked_EU 00:0B:82:A8:66:A8	192.168.254.36	Offline	11d 20h 26m 0s	1.0.6.40	🔗 🔄 👤 👥 🔧

- **Feature Scheduling**

We have newly designed feature scheduling. Please refer to user manually for configuration details.

+ Create New Schedule

Add Schedule

Name:

Click + to create new schedule

Weekly

Select All	Sun	Mon	Tues	Wed	Thur	Fri	Sat
00:00-00:30							
00:30-01:00							
01:00-01:30							
01:30-02:00							
02:00-02:30							
02:30-03:00							
03:00-03:30							
03:30-04:00							
04:00-04:30							
04:30-05:00							
05:00-05:30							
05:30-06:00							
06:00-06:30							
06:30-07:00							
07:00-07:30							

Absolute

📅
🕒
🔍
➖
➕

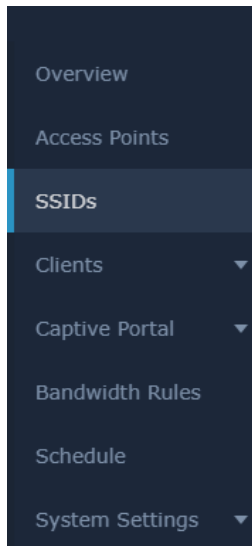
Add new item

Save
Cancel

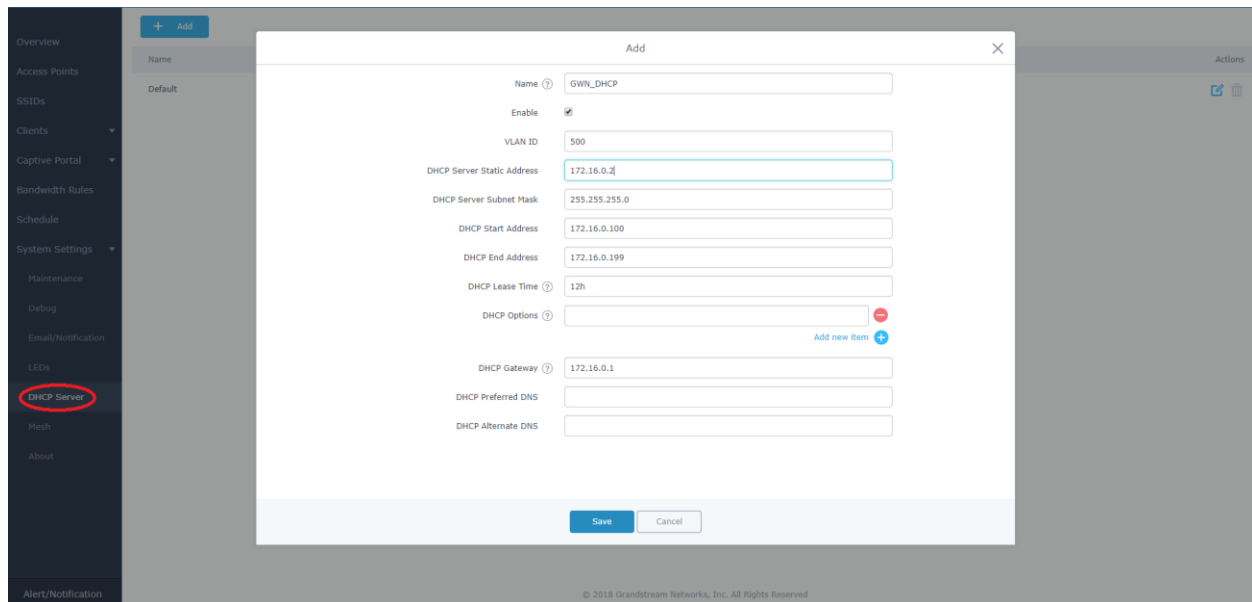
- **SSID and DHCP server** configurations

Now the original **Network Group** configuration is split into **SSID** and **DHCP server** configurations.

SSID is located at below menu bar.



DHCP server configuration is moved to System settings.



[GWN7600&7600LR] FIRMWARE VERSION 1.0.6.41

PRODUCT NAME

GWN7600&7600LR

DATE

6/15/2018

FIRMWARE FILE INFORMATION

- GWN7600&7600LR Firmware file name: gwn7600fw.bin
MD5: 8659930c6fe9601f551d87df9ae381ed
- GWN7600LR Firmware file name: gwn7600lrfw.bin
MD5: 61784977a1a698e3d85f376200124010

ENHANCEMENT

- Added support for **GWN.Cloud**
- Added support Outdoor/Indoor **Scene** WiFi channel configuration
- Added feature for **Transfer AP** and **Transfer Network Group** to Cloud
Newly designed
- **Feature Scheduling**
- Split **Network Group** into separate **SSID** and **DHCP server** configurations

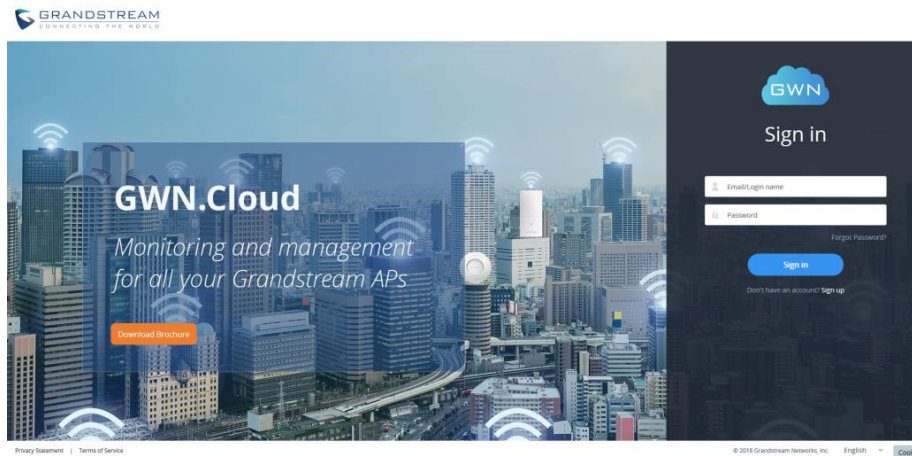
IMPORTANT UPGRADING NOTE

1. Starting from 1.0.6.x, GWN7600 and GWN7600LR will share same firmware file name gwn7600fw.bin. As a result, when GWN7600LR upgrades from pre-1.0.6.x to latest firmware, it will still retrieve firmware with name gwn7600lrfw.bin, and when GWN7600LR upgrades from 1.0.6.x or post-1.0.6.x to other firmware, it will retrieve firmware with name gwn7600fw.bin. So, when your GWN7600LR upgrades from pre-1.0.6.x firmware, you will need to manually modify the target firmware name to gwn7600lrfw.bin.

NEW FEATURE OVERVIEW

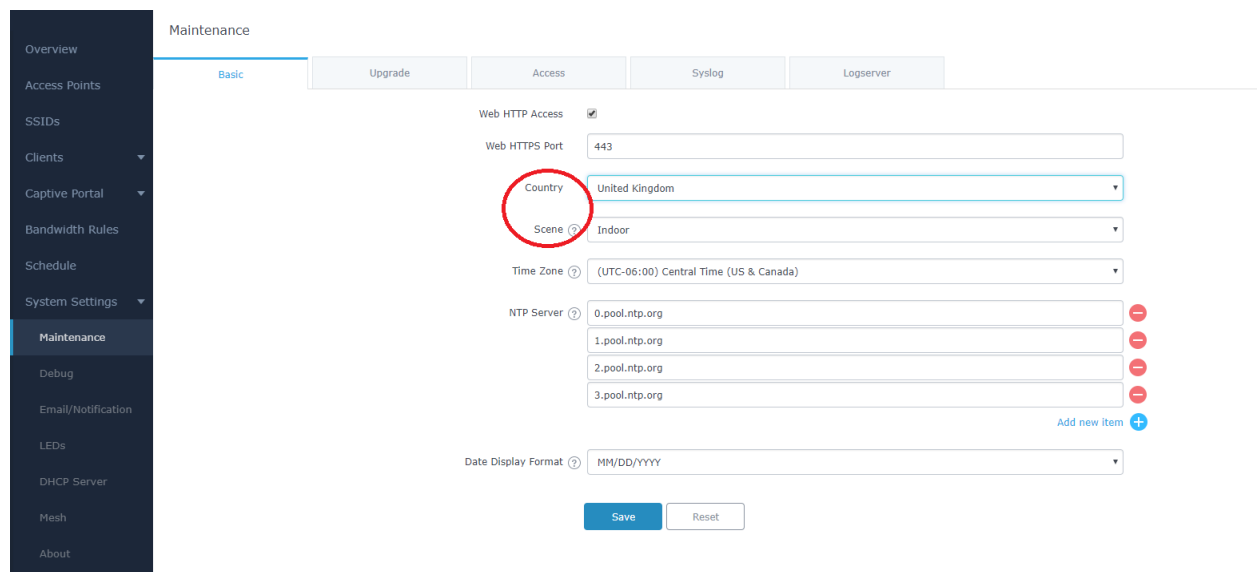
- **GWN.Cloud**

Since FP5, GWN AP can be managed by your **GWN.Cloud** account. **GWN.Cloud** web interface now can be accessed at <https://www.gwn.cloud>. Please refer to **GWN Cloud User Guide** for how to add your GWN AP to **GWN.Cloud**.



- **Outdoor/Indoor Scene configuration**

This configuration is available on your Master web, when your country has different outdoor/indoor WIFI channel regulations.



Maintenance

Basic Upgrade Access Syslog Logserver

Web HTTP Access

Web HTTPS Port 443

Country United Kingdom

Scene Indoor

Time Zone (UTC-06:00) Central Time (US & Canada)

NTP Server

0.pool.ntp.org

1.pool.ntp.org

2.pool.ntp.org

3.pool.ntp.org

Add new item

Date Display Format MM/DD/YYYY

Save Reset

- **Transfer AP and Transfer Network Group**

Transfer AP feature will allow you to easily transfer your AP from local master to your GWN.Cloud account.

When you already have network/WiFi configurations on your cloud account, use this feature will let you to choose cloud existing network/SSID to adopt your local AP. Note: local configurations will not be transferred.

Transfer Network Group feature will allow you to transfer your local configurations to your cloud account.

Access Points

Transfer network group
Transfer AP
Discover AP
Failover

Upgrade
Reboot
+ Add to SSIDs
✖ Configure

⚙

	Device Type	Name/MAC	IP Address	Status	Uptime	Firmware	Actions
<input type="checkbox"/>	GWN7610	Front_AP_unlocked 00:08:B2:A1:A6:AC	192.168.254.35	Master	13d 1h 57m 50s	1.0.6.40	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
<input type="checkbox"/>	GWN7610	Back_AP_locked_EU 00:08:B2:A8:66:A8	192.168.254.36	Offline	11d 20h 26m 0s	1.0.6.40	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

- **Feature Scheduling**

We have newly designed feature scheduling. Please refer to user manually for configuration details.

+ Create New Schedule

Click + to create new schedule

Add Schedule

Name

Weekly

Select All	Sun	Mon	Tues	Wed	Thur	Fri	Sat
00:00-00:30							
00:30-01:00							
01:00-01:30							
01:30-02:00							
02:00-02:30							
02:30-03:00							
03:00-03:30							
03:30-04:00							
04:00-04:30							
04:30-05:00							
05:00-05:30							
05:30-06:00							
06:00-06:30							
06:30-07:00							
07:00-07:30							

Absolute

⏰
⊖

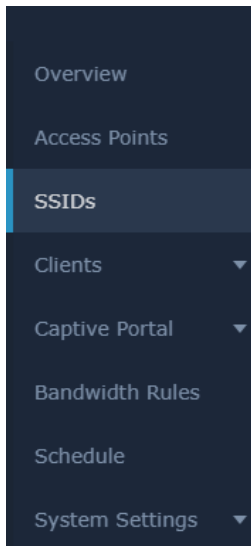
Add new Item +

Save
Cancel

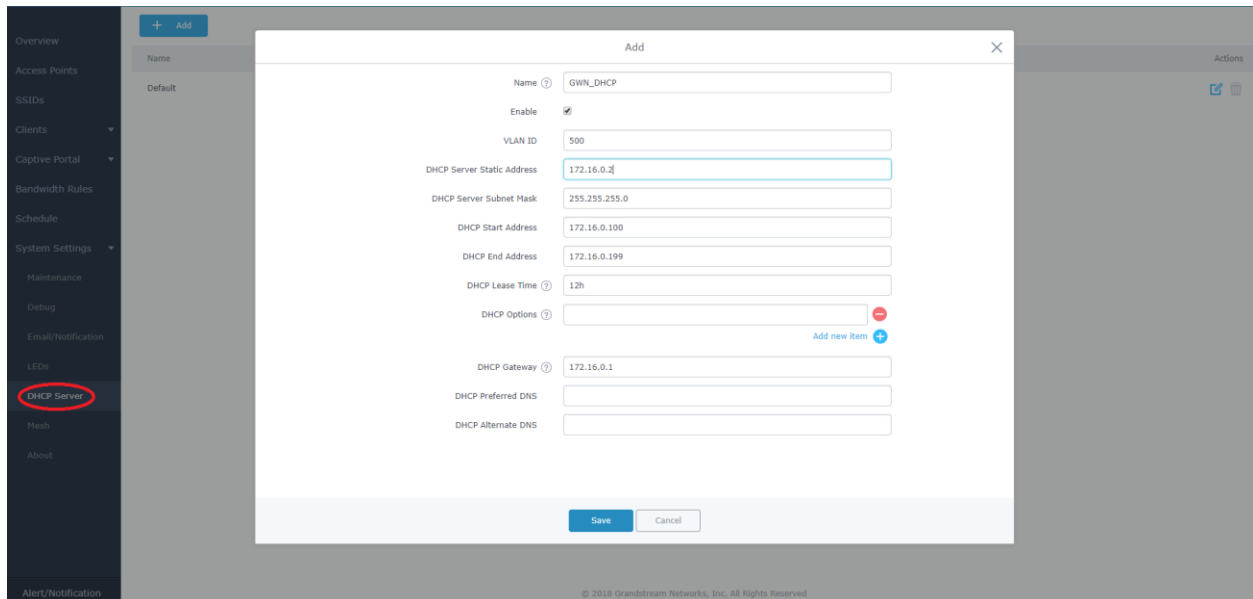
- **SSID and DHCP server** configurations

Now the original **Network Group** configuration is split into **SSID** and **DHCP server** configurations.

SSID is located at below menu bar.



DHCP server configuration is moved to System settings.



[GWN7610] FIRMWARE VERSION 1.0.5.15

PRODUCT NAME

GWN7610

DATE

1/26/2017

IMPORTANT UPGRADING NOTE

- For firmware 1.0.5.15, this is only for GWN7610/GWN7600/GWN7600LR master deployment. All users with GWN7000 as master are NOT encouraged to upgrade until 1.0.5.x matching firmware is available for GWN7000, due to the compatibility of new features.

ENHANCEMENT

- Added support for **New Firmware Reminder on Master Web**
- Added support for **Sequential Upgrade**
Added support for
- **Feature Scheduling**
- Added support for **Master Direction**
- Added support for **Master Transfer**
- Added support for **Airtime Fairness**
- Added support for **Social login/Voucher**

BUG FIX

- Wifi client may fail to connect if SSID uses 2.4G only with WEP authentication.
- The Bandwidth Rules schedule configurations require a reboot to take effect.

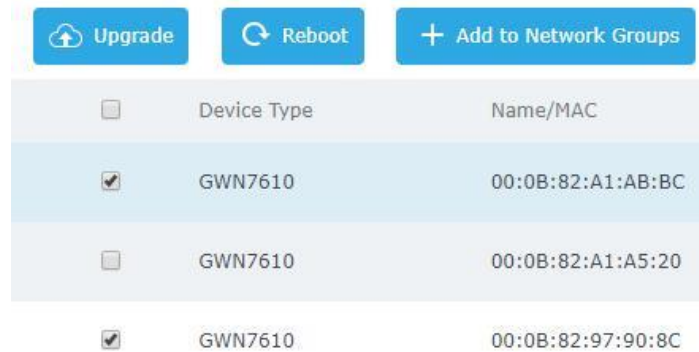
NEW FEATURE OVERVIEW

- **New Firmware Reminder on Master Web**

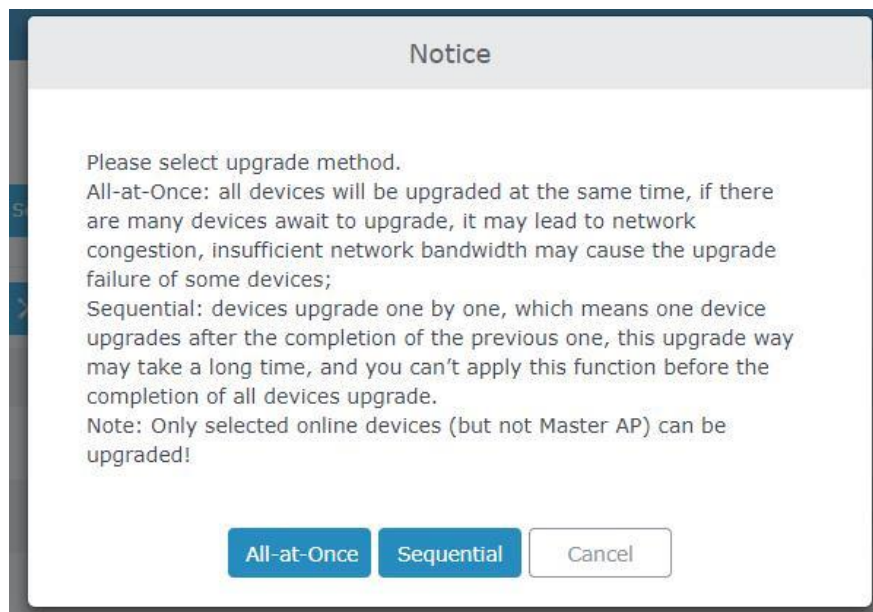


Once a different OFFICIAL firmware than current running firmware is detected on Grandstream Network website by master GWN7610, a “NEW” icon will appear to remind network administrator to upgrade. Clicking on the “NEW” icon will open the new firmware’s release note.

- **Sequential Upgrade**



Now if you choose multiple slave devices to upgrade their firmware, two options as “All-at-Once” and “Sequential” are available. “All-at-Once” will trigger the traditional way that all checked slaves will try to retrieve and change their firmware at the same time, while “Sequential” upgrade will let the slaves to



upgrade one by one in order to 1) avoid entire wifi service interruption by full system firmware upgrade; 2) reduce network stress caused by firmware downloading.

Access Points  1 / 2

Once you choose sequential upgrade, the number with beside the green upgrading icon will tell you how many slaves have done its upgrading.

- Feature Scheduling**

Scheduled bandwidth control or client access control is available now under System Settings→Schedule

Add

Enabled

Name

The field should not be empty

Scheduled Feature

Bandwidth Rules

The field should not be empty

Schedule Type

Month for Turn On ?

Month for Turn Off ?

Day of Month for Turn On ?

Day of Month for Turn Off ?

Day of Week for Turn On ?

Day of Week for Turn Off ?

Schedule On Time

Save

Cancel

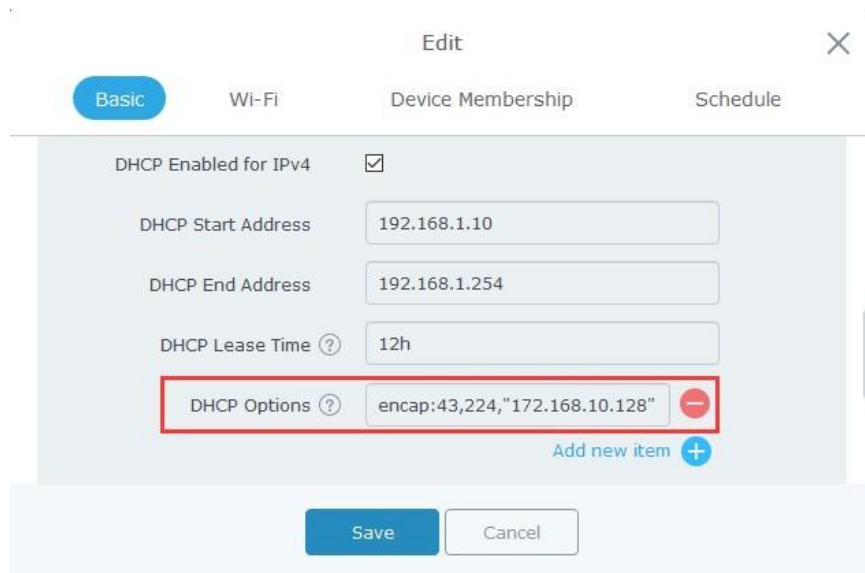
Please be noted that you will need a Bandwidth rule (can be created in Bandwidth Rules) or a Client Access list (can be created under Client→Client Access), in order to create a schedule.

- **Master Direction**

When GWN7610 slave is not in the same broadcast domain with its master, this feature is available for all factory configured GWN7610 to find its master IP address offered by local DHCP option 43.

GWN7610 accepts option 224 encapsulated in option43, and the syntax is in TLV format. So, the for a simple example of DHCP 43 configuration would be:

224(Type)12(Length)10.157.0.234(Value) translated into Hex as e00c31302e3135372e302e323334



For DHCP server configuration on GWN7000, which translates the values automatically, is as follows:

- **Master Transfer**

Access Points

Device Type Search Discover AP Fallback

Upgrade Reboot + Add to Network Groups Configure

Device Type	Name/MAC	IP Address	Status	Uptime	Firmware	Actions
GWN7610	00:08:82:A1:AB:BC	192.168.253.230	Online	52m 53s	1.0.5.11	
GWN7610	00:08:82:A1:A5:20	192.168.253.175	Master	6m 57s	1.0.5.11	

Showing 1-2 of 2 record(s). Per Page: 10

Now an easier way to transfer your master authority from one unit to another available unit is available on Access Point management page. By clicking the Transfer to Master button above in red circle, the designated slave unit will be upgraded to master and current master will be downgraded to slave accordingly.

- **Airtime Fairness**

Turning Airtime Fairness ON or OFF options can be found under Access Point→Edit→Configuration→Airtime Fairness.

- **Social login/Voucher**

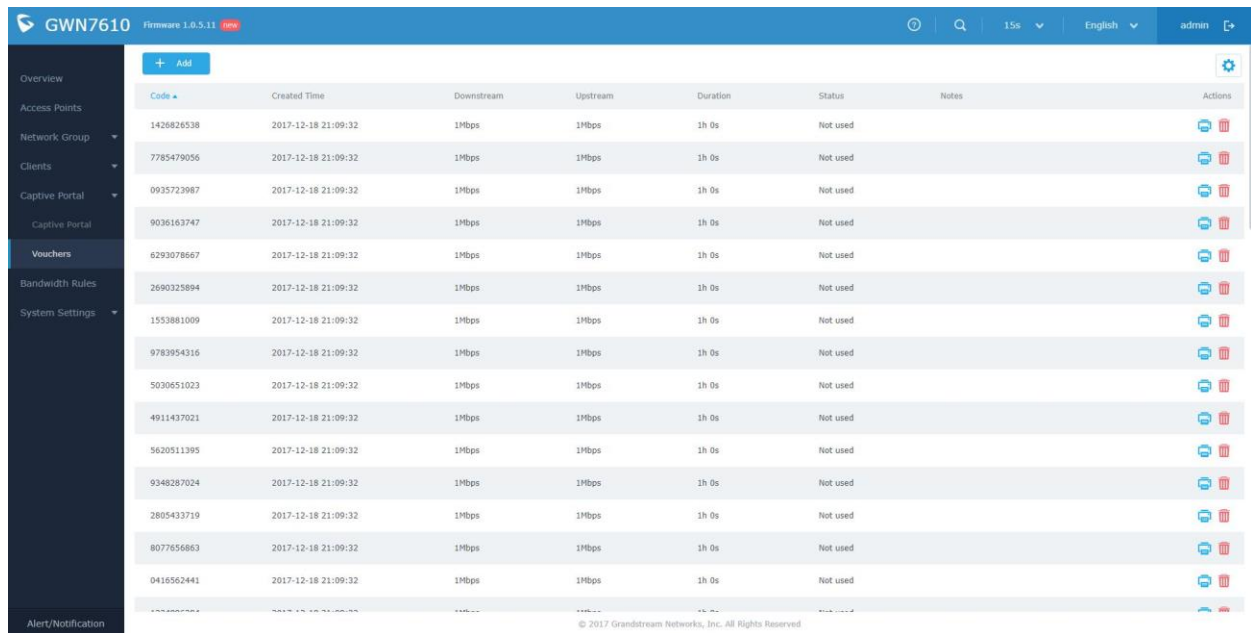
As an enhancement of Captive Portal, social Login as Wechat/Facebook/Twitter have been added.

Add

Name	<input style="width: 100%;" type="text"/> The field should not be empty
Authentication Type	<div style="border: 1px solid #ccc; padding: 2px; display: flex; justify-content: space-between; align-items: center;"> Social Login Authentication ▼ </div>
Expiration (?)	<div style="display: flex; align-items: center;"> <input style="width: 80%; border: 1px solid #ccc;" type="text"/> The field should not be empty </div> <div style="display: flex; align-items: center; margin-left: 10px;"> <div style="border: 1px solid #ccc; padding: 2px 5px;">seconds</div> ▼ </div>
WeChat	<input type="checkbox"/>
Facebook (?)	<input type="checkbox"/>
Twitter (?)	<input type="checkbox"/>
Use Default Portal Page	<input checked="" type="checkbox"/>
Portal Page Customization	<div style="border: 1px solid #ccc; padding: 2px; display: flex; justify-content: space-between; align-items: center;"> /social_auth.html ▼ </div>
Landing Page	<div style="border: 1px solid #ccc; padding: 2px; display: flex; justify-content: space-between; align-items: center;"> Redirect to the Original URL ▼ </div>

Also, Voucher is added as another Captive Portal authentication option.

Voucher management interface is available under Captive Portal→Vouchers



The screenshot shows the 'Vouchers' management interface in the Grandstream GWN7610 web management system. The interface includes a sidebar with navigation options like Overview, Access Points, Network Group, Clients, Captive Portal, Vouchers, Bandwidth Rules, and System Settings. The main area displays a table of vouchers with columns for Code, Created Time, Downstream, Upstream, Duration, Status, Notes, and Actions. All vouchers listed have a status of 'Not used' and a duration of '1h 0s'.

Code	Created Time	Downstream	Upstream	Duration	Status	Notes	Actions
1426826538	2017-12-18 21:09:32	1Mbps	1Mbps	1h 0s	Not used		[Edit] [Delete]
7785479056	2017-12-18 21:09:32	1Mbps	1Mbps	1h 0s	Not used		[Edit] [Delete]
0935723987	2017-12-18 21:09:32	1Mbps	1Mbps	1h 0s	Not used		[Edit] [Delete]
9036163747	2017-12-18 21:09:32	1Mbps	1Mbps	1h 0s	Not used		[Edit] [Delete]
6293078667	2017-12-18 21:09:32	1Mbps	1Mbps	1h 0s	Not used		[Edit] [Delete]
2690325894	2017-12-18 21:09:32	1Mbps	1Mbps	1h 0s	Not used		[Edit] [Delete]
1553881009	2017-12-18 21:09:32	1Mbps	1Mbps	1h 0s	Not used		[Edit] [Delete]
9783954316	2017-12-18 21:09:32	1Mbps	1Mbps	1h 0s	Not used		[Edit] [Delete]
5030651023	2017-12-18 21:09:32	1Mbps	1Mbps	1h 0s	Not used		[Edit] [Delete]
4911437021	2017-12-18 21:09:32	1Mbps	1Mbps	1h 0s	Not used		[Edit] [Delete]
5620511395	2017-12-18 21:09:32	1Mbps	1Mbps	1h 0s	Not used		[Edit] [Delete]
9348287024	2017-12-18 21:09:32	1Mbps	1Mbps	1h 0s	Not used		[Edit] [Delete]
2805433719	2017-12-18 21:09:32	1Mbps	1Mbps	1h 0s	Not used		[Edit] [Delete]
8077656863	2017-12-18 21:09:32	1Mbps	1Mbps	1h 0s	Not used		[Edit] [Delete]
0416562441	2017-12-18 21:09:32	1Mbps	1Mbps	1h 0s	Not used		[Edit] [Delete]

© 2017 Grandstream Networks, Inc. All Rights Reserved

[GWN7600&7600LR] FIRMWARE VERSION 1.0.5.13

PRODUCT NAME

GWN7600/GWN7600LR

DATE

2/12/2018

FIRMWARE FILE INFORMATION

- GWN7600 Firmware file name: gwn7600fw.bin
MD5: 0e02717ca35b7563df41091fdbd1612c
- GWN7600LR Firmware file name: gwn7600lrfw.bin
MD5: 9acb5a9db5ce4f179ec7bb5c4be596cd

IMPORTANT UPGRADING NOTE

- For firmware 1.0.5.13, this is only for GWN7610/GWN7600/GWN7600LR master deployment. All users with GWN7000 as master are NOT encouraged to upgrade until 1.0.5.x matching firmware is available for GWN7000, due to the compatibility of new features.

ENHANCEMENT

- Added support for **New Firmware Reminder on Master Web**
- Added support for **Sequential Upgrade**
Added support for
- **Feature Scheduling**
- Added support for **Master Direction**
- Added support for **Master Transfer**
- Added support for **Airtime Fairness**

- Added support for **Social login/Voucher**
- Added support for **Mesh Network**

BUG FIX

- There is low probability that auto pop-up portal page of the iOS couldn't be displayed normally.
- "Hostname" on client page and the "Top AP" \ "Top SSID" \ "Top Clients" on overview page may show empty occasionally.

KNOWN ISSUE

- Configuring Radius server address with domain name instead of IP will cause the WIFI under configuration become open without authentication. Note: issue will be addressed in next feature packet release.
- After clicking on the reset button in maintenance page, there is chance to prompt "Reset failed!" wrongly.

NEW FEATURE OVERVIEW




- **New Firmware Reminder on Master Web**

Once a different OFFICIAL firmware than current running firmware is detected on Grandstream Network website by master GWN7610, a "NEW" icon will appear to remind network administrator to upgrade.

Clicking on the "NEW" icon will open the new firmware's release note.



- **Sequential Upgrade**

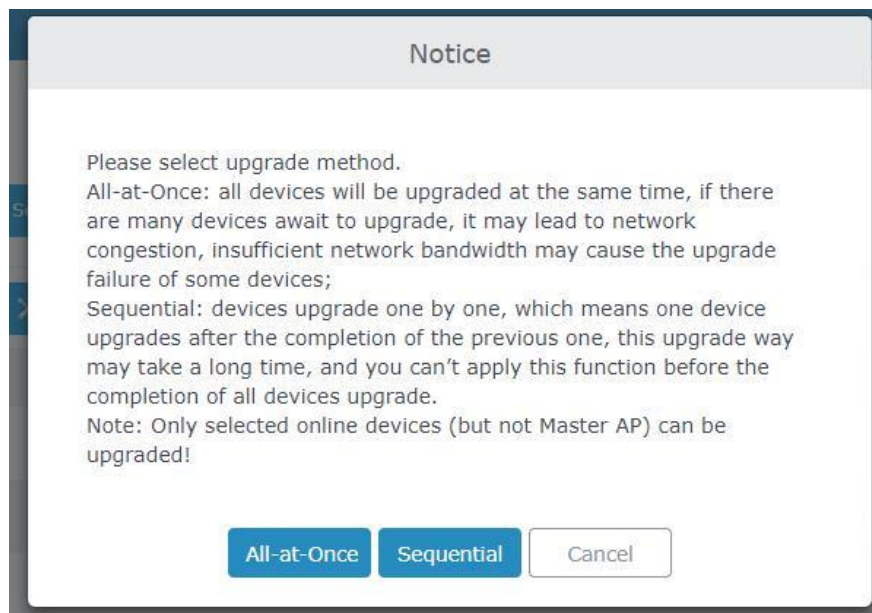
 Upgrade
 Reboot
 Add to Network Groups

<input type="checkbox"/>	Device Type	Name/MAC
<input checked="" type="checkbox"/>	GWN7610	00:0B:82:A1:AB:BC
<input type="checkbox"/>	GWN7610	00:0B:82:A1:A5:20
<input checked="" type="checkbox"/>	GWN7610	00:0B:82:97:90:8C

Now if you choose multiple slave devices to upgrade their firmware, two options as “All-at-Once” and “Sequential” are available. “All-at-Once” will trigger the traditional way that all checked slaves will try to retrieve and change their firmware at the same time, while “Sequential” upgrade will let the slaves to upgrade one by one in order to 1) avoid entire wifi service interruption by full system firmware upgrade; 2) reduce network stress caused by firmware downloading.

Access Points  1 / 2

Once you choose sequential upgrade, the number with beside the green upgrading icon will tell you how many slaves have done its upgrading.



- **Airtime Fairness**

Turning Airtime Fairness ON or OFF options can be found under Access Point→Edit→Configuration→Airtime Fairness.

- **Feature Scheduling**

Scheduled bandwidth control or client access control is available now under System Settings→Schedule

Add

Enabled

Name
The field should not be empty

Scheduled Feature

Bandwidth Rules
The field should not be empty

Schedule Type

Month for Turn On


Month for Turn Off

Day of Month for Turn On

Day of Month for Turn Off

Day of Week for Turn On

Day of Week for Turn Off

Schedule On Time 

Please be noted that you will need a Bandwidth rule (can be created in Bandwidth Rules) or a Client Access list (can be created under Client→Client Access), in order to create a schedule.

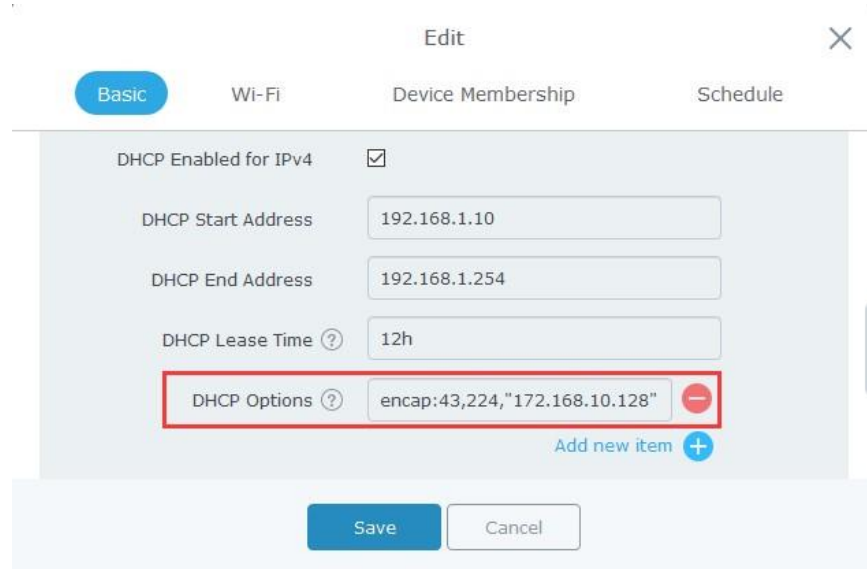
- **Master Direction**

When GWN7610 slave is not in the same broadcast domain with its master, this feature is available for all factory configured GWN7610 to find its master IP address offered by local DHCP option 43.

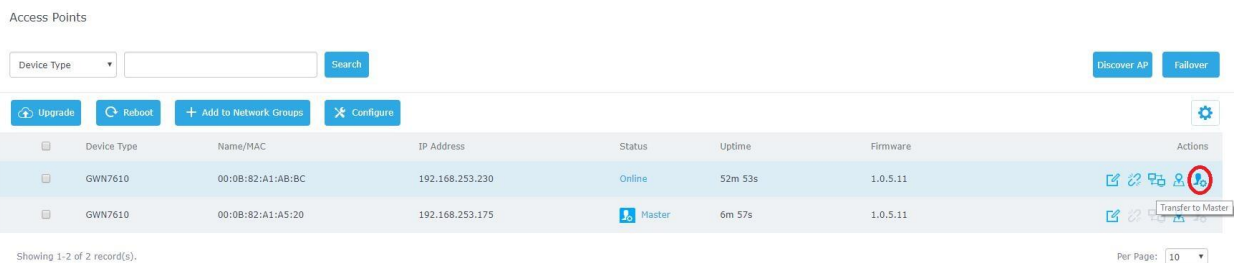
GWN7610 accepts option 224 encapsulated in option43, and the syntax is in TLV format. So, the for a simple example of DHCP 43 configuration would be:

224(Type)12(Length)10.157.0.234(Value) translated into Hex as e00c31302e3135372e302e323334

For DHCP server configuration on GWN7000, which translates the values automatically, is as follows:



- **Master Transfer**



Now an easier way to transfer your master authority from one unit to another available unit is available on Access Point management page. By clicking the Transfer to Master button above in red circle, the designated slave unit will be upgraded to master and current master will be downgraded to slave accordingly.

- **Social login/Voucher**

As an enhancement of Captive Portal, social Login as Wechat/Facebook/Twitter have been added.

Add

Name
The field should not be empty

Authentication Type Social Login Authentication ▼

Expiration ? seconds ▼
The field should not be empty

WeChat

Facebook ?

Twitter ?

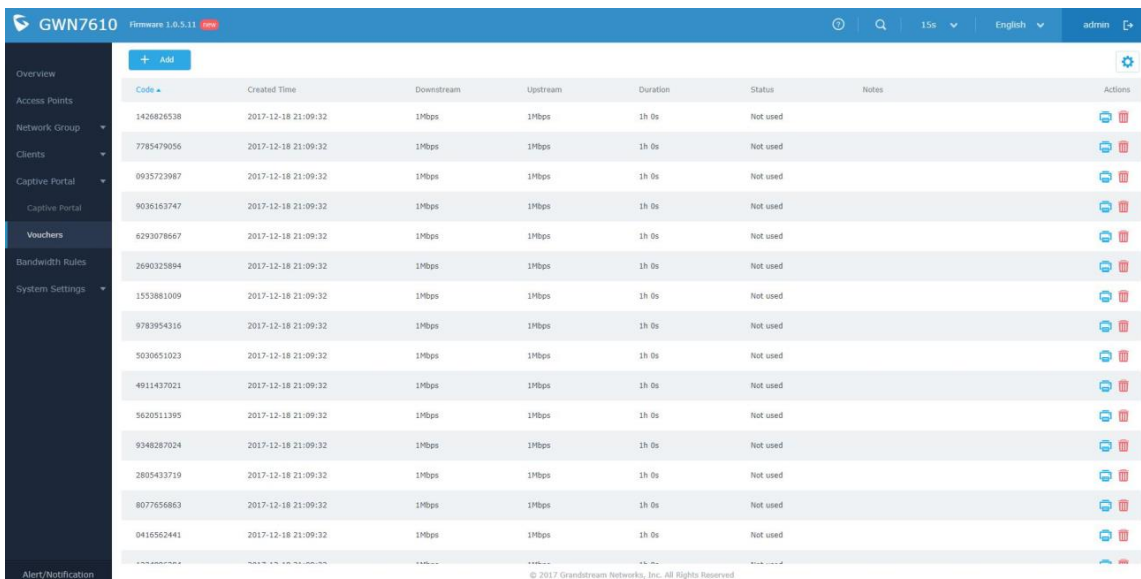
Use Default Portal Page

Portal Page Customization /social_auth.html ▼

Landing Page Redirect to the Original URL ▼

Also, Voucher is added as another Captive Portal authentication option.

Voucher management interface is available under Captive Portal→Vouchers



The screenshot shows the 'Vouchers' management page in the Grandstream GWN7610 firmware. The page has a blue header with the title 'GWN7610 Firmware 1.0.5.11' and user 'admin'. A sidebar on the left contains navigation options: Overview, Access Points, Network Group, Clients, Captive Portal, Vouchers (selected), Bandwidth Rules, and System Settings. The main content area features a table with columns: Code, Created Time, Downstream, Upstream, Duration, Status, Notes, and Actions. There are 18 rows of voucher data, all with a status of 'Not used'. Each row has a 'Code' starting with '9036163747' and a 'Created Time' of '2017-12-18 21:09:32'. The 'Actions' column contains icons for edit, delete, and refresh.

Code	Created Time	Downstream	Upstream	Duration	Status	Notes	Actions
1426826538	2017-12-18 21:09:32	1Mbps	1Mbps	1h 0s	Not used		[edit] [delete]
7785479056	2017-12-18 21:09:32	1Mbps	1Mbps	1h 0s	Not used		[edit] [delete]
0935723987	2017-12-18 21:09:32	1Mbps	1Mbps	1h 0s	Not used		[edit] [delete]
9036163747	2017-12-18 21:09:32	1Mbps	1Mbps	1h 0s	Not used		[edit] [delete]
6293078667	2017-12-18 21:09:32	1Mbps	1Mbps	1h 0s	Not used		[edit] [delete]
2690325894	2017-12-18 21:09:32	1Mbps	1Mbps	1h 0s	Not used		[edit] [delete]
1553881009	2017-12-18 21:09:32	1Mbps	1Mbps	1h 0s	Not used		[edit] [delete]
9783954316	2017-12-18 21:09:32	1Mbps	1Mbps	1h 0s	Not used		[edit] [delete]
5030651023	2017-12-18 21:09:32	1Mbps	1Mbps	1h 0s	Not used		[edit] [delete]
4911437021	2017-12-18 21:09:32	1Mbps	1Mbps	1h 0s	Not used		[edit] [delete]
5620511395	2017-12-18 21:09:32	1Mbps	1Mbps	1h 0s	Not used		[edit] [delete]
9346287024	2017-12-18 21:09:32	1Mbps	1Mbps	1h 0s	Not used		[edit] [delete]
2805433719	2017-12-18 21:09:32	1Mbps	1Mbps	1h 0s	Not used		[edit] [delete]
8077656863	2017-12-18 21:09:32	1Mbps	1Mbps	1h 0s	Not used		[edit] [delete]
0416562441	2017-12-18 21:09:32	1Mbps	1Mbps	1h 0s	Not used		[edit] [delete]

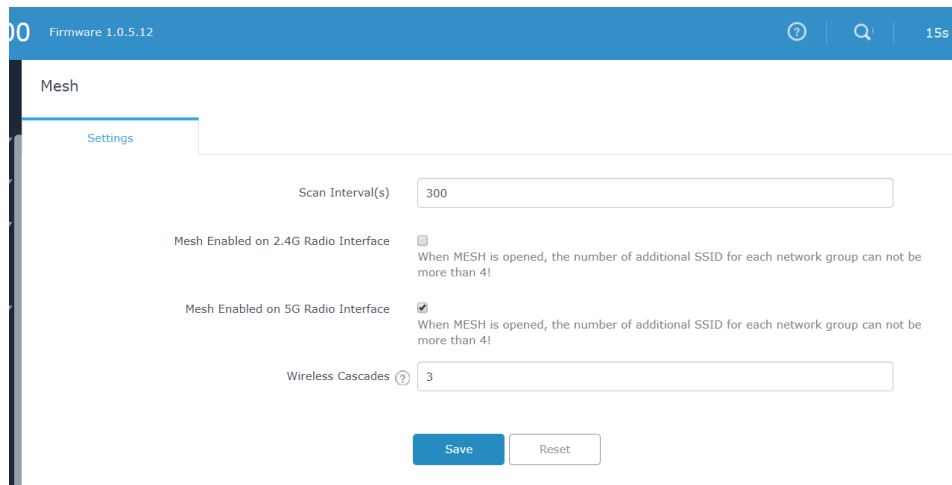
- **Mesh Network**



Mesh feature is now available for your GWN7600/7600LR wireless deployment!

With Mesh setup, APs can connect wirelessly to each other and cooperate with one another to efficiently route data from/to clients.

To use Mesh feature, here is some basic instructions:

- 1) Add all APs you want to use to form a mesh network in to a same network group.
- 2) Configure mesh under System Settings → Mesh



- 3) Disconnect network of those APs, except the root AP or APs for uplink internet access, and power those back on at the location you want to install.
- 4) Wait... The process of forming Mesh network may take several minutes. Once one AP has allocated itself into the Mesh network, its status will change from “online” to  Online Wireless
- 5) At this moment, you can check the Mesh topology by clicking 
- 6) Mesh topology is automatically calculated; however, you still can modify it manually by specifying each AP’s wireless uplink in AP edit page tag “Uplink”.

[GWN7610] FIRMWARE VERSION 1.0.4.22

PRODUCT NAME

GWN7610

DATE

11/14/2017

BUG FIX

- Fixed the WPA2 4-way handshake vulnerability*
- Fixed the WPA2 802.11r vulnerability*

*Note: Please refer to our white paper of “WPA Security Vulnerability” here:

<http://www.grandstream.com/sites/default/files/Resources/WPA%20Security%20Vulnerability.pdf>

[GWN7610] FIRMWARE VERSION 1.0.4.20

PRODUCT NAME

GWN7610

DATE

10/31/2017

IMPORTANT UPGRADING NOTE

- Before starting to upgrade, please make sure your GWN7610's firmware version is 1.0.2.108* or higher.
- Before starting to upgrade, please make sure your GWN7000 (the master device)'s firmware version is 1.0.2.71* or higher.

**GWN7610 firmware 1.0.2.108 package is available for downloading at*

http://firmware.grandstream.com/Release_GWN7610_1.0.2.108.zip

**GWN7000 firmware 1.0.2.75 package is available for downloading at*

http://firmware.grandstream.com/Release_GWN7000_1.0.2.75.zip

ENHANCEMENT

- Added support for **Timed Client Disconnect and Enhanced Client Blocking**
- Added support for **Client Bridge**
- Added support for **Syslog Server**
- Added support for **Configurable web UI access port**
- Added support for **E-mail notifications**

BUG FIX

- Internal bug fixes.
- Banned Band steering feature does not affect wireless Black/White/Banned client list feature anymore.

KNOWN ISSUE

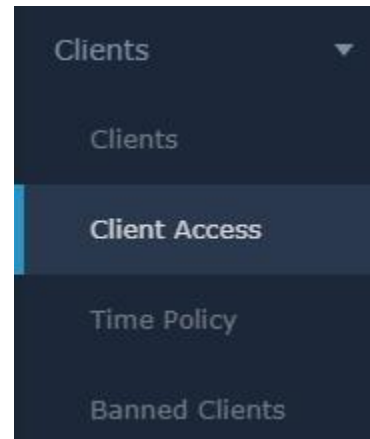
- After blocking wireless client, blocked client will be displayed as wired in the clients list instead of showing in the Blocked client list. The client can still be unblocked from Global Blacklist under Client Access.

NEW FEATURE OVERVIEW





- **Timed Client Disconnect and Enhanced Client Blocking**

The Client Connection Permissions Management enhanced client blocking provides a more manageable method for Wi-Fi client whitelist and blacklist configuration. It allows any combination of globally-maintained connection access control lists to be applied to network groups as desired for blacklisting and whitelisting WIFI clients.



The timed client disconnect feature allows the system administrator to set a fixed time for which clients should be allowed to connect to the access point, after which the client will no longer be allowed to connect for a user configurable cooldown period.



- 1) New Client bar (See picture on the right)
- 2) Client Access

+ Add		Name	MAC Addresses	Actions
		Global Blacklist		 
		Access List 1	(4) 00:00:00:12:34:56, 00:00:00:12:34:57, 00:00:00:12:34:58, 00:00:00:12:34:59	 

- 3) Time Policy

+ Add		Name	Enabled	Connection Time	Reconnect Type	Reconnect Time	Actions
		TEST_POLICY	✓	3h	Reset Daily	23:00	 

- 4) Banned Client This list is moved from original Client page to a separate page now.

- **Client Bridge**

The Client Bridge feature allows an access point to be configured as a client for bridging wired only clients wirelessly to the network. When an access point is configured in this way, it will share the wifi connection to the LAN ports transparently. This is not to be confused with a mesh setup. The client will not accept wireless clients in this mode.

Once a Network Group has an Client Bridge Support enabled, the AP adopted in this Network Group can be turned in to Bridge Client mode by click the Bridge button:

Please be noted that once an AP it turned into Client Bridge mode, it cannot be controlled by a Master

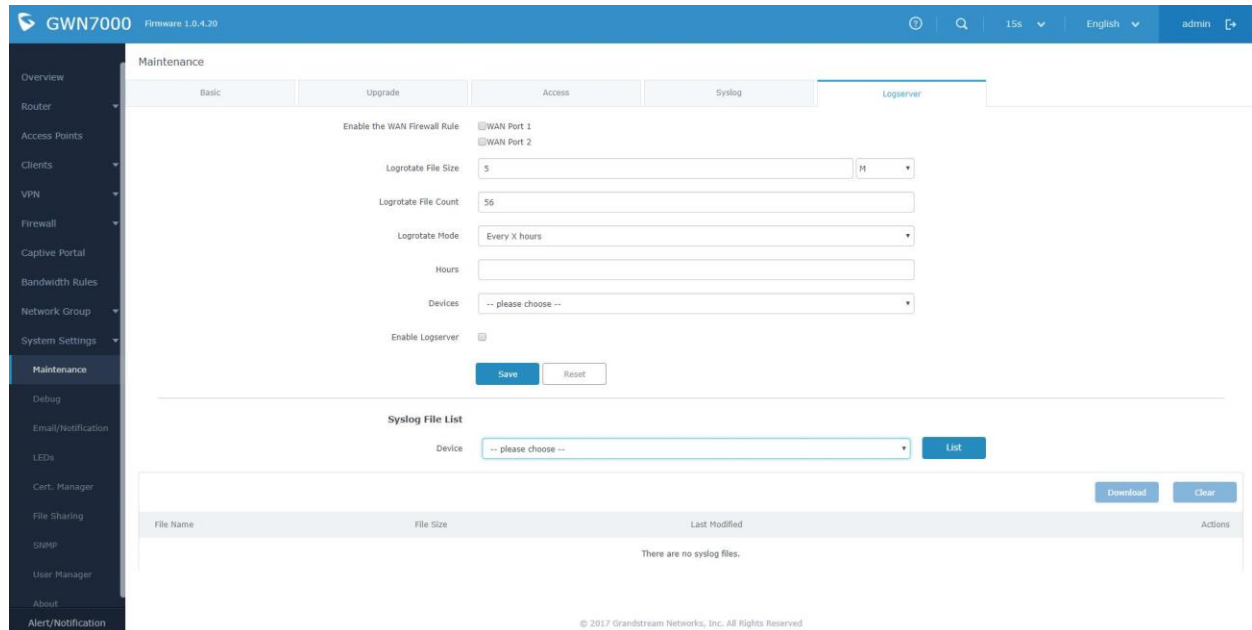
Device Type	Name/MAC	IP Address	Status	Uptime	Firmware	Actions
GWN7610	00:08:82:97:90:8C	192.168.1.146	Online	1d 17h 51m 13s	1.0.4.19	Refresh Refresh Refresh Refresh Refresh

Showing 1-1 of 1 record(s). Per Page: 10

anymore, and a factory reset is required to turn it back into normal AP mode.

- **Syslog Server**

Syslog Server is now available on GWN7000. Configuration page is as below:



- **Configurable web UI access port**

Under System → Maintenance, following configuration is available now:

1) Web WAN Access; 2) Web HTTP Access; 3) Web HTTPS Port

- **E-mail notifications**

Email notification allows the administrator to select a predefined set of system events and to send notification upon the change of the set events.

Email notification configuration is under System → Email/Notification.

Selectable system events are listed as below:

Email/Notification

Email Notification

Enabled

Memory Usage ?

CPU Usage ?

WAN Port 1 Usage

WAN Port 2 Usage

Firmware Upgrade ?

Add/Remove Network Group ?

Additional SSID ?

Time Zone Change ?

Administrator Password Change ?

AP Offline ?

Save Reset

[GWN7600&7600LR] FIRMWARE VERSION 1.0.4.12

PRODUCT NAME

GWN7600, GWN7600LR

DATE

10/31/2017

ENHANCEMENT

- Added support for **Timed Client Disconnect and Enhanced Client Blocking**
- Added support for **Client Bridge**
- Added support for **Syslog Server**
- Added support for **Configurable web UI access port**
- Added support for **E-mail notifications**

BUG FIX

- Fixed the WPA2 4-way handshake vulnerability*
- Fixed the WPA2 802.11r vulnerability*

*Note: “Out of the box” Grandstream Access Points are not affected by this issue. APs with old firmware are only affected after changing into client-bridge mode. Please refer to our white paper of “WPA Security Vulnerability” here:

<http://www.grandstream.com/sites/default/files/Resources/WPA%20Security%20Vulnerability.pdf>

- Fixed the issue that “Band Steering” option requires a system reboot to take effect.
- Fixed the issue that “Gateway MAC address” options and requires a system reboot to take effect.
- Fixed the issue that when Facebook and WeChat authentication are enabled at the same time, client cannot redirect to landing page after Facebook auth success.

- Fixed the issue that after many times of enabling and disabling Captive Portal, there is chances that WIFI clients can access to Internet without authentication challenge.

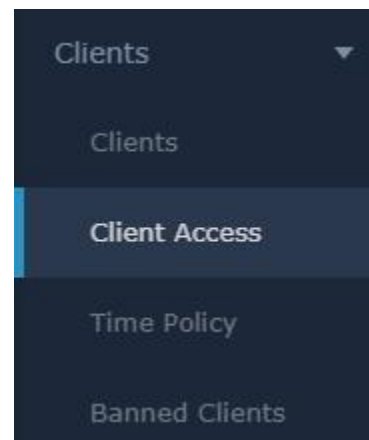
KNOWN ISSUE

- Configuring Radius server address with domain name instead of IP will cause the WIFI under configuration become open without authentication.
- “Hostname” on client page and the “Top AP” \ “Top SSID” \ “Top Clients” on overview page may show empty occasionally.
- After clicking on the reset button in maintenance page, it may prompt "Reset failed!".

NEW FEATURE OVERVIEW





- **Timed Client Disconnect and Enhanced Client Blocking**

The Client Connection Permissions Management enhanced client blocking provides a more manageable method for Wi-Fi client whitelist and blacklist configuration. It allows any combination of globally-maintained connection access control lists to be applied to network groups as desired for blacklisting and whitelisting WIFI clients. The timed client disconnect feature allows the system administrator to set a fixed time for which clients should be allowed to connect to the access point, after which the client will no longer be allowed to connect for a user configurable cooldown period.




5) New Client bar (See picture on the right)

6) Client Access

+ Add		Name	MAC Addresses	Actions
		Global Blacklist		 
		Access List 1	{4} 00:00:00:12:34:56, 00:00:00:12:34:57, 00:00:00:12:34:58, 00:00:00:12:34:59	 

7) Time Policy

+ Add		Name	Enabled	Connection Time	Reconnect Type	Reconnect Time	Actions
		TEST_POLICY		3h	Reset Daily	23:00	 




8) Banned Client This list is moved from original Client page to a separate page now.

- **Client Bridge**

The Client Bridge feature allows an access point to be configured as a client for bridging wired only clients wirelessly to the network. When an access point is configured in this way, it will share the wifi connection to the LAN ports transparently. This is not to be confused with a mesh setup. The client will not accept wireless clients in this mode.

Once a Network Group has an Client Bridge Support enabled, the AP adopted in this Network Group can be turned in to Bridge Client mode by click the Bridge button:

Please be noted that once an AP is turned into Client Bridge mode, it cannot be controlled by a Master

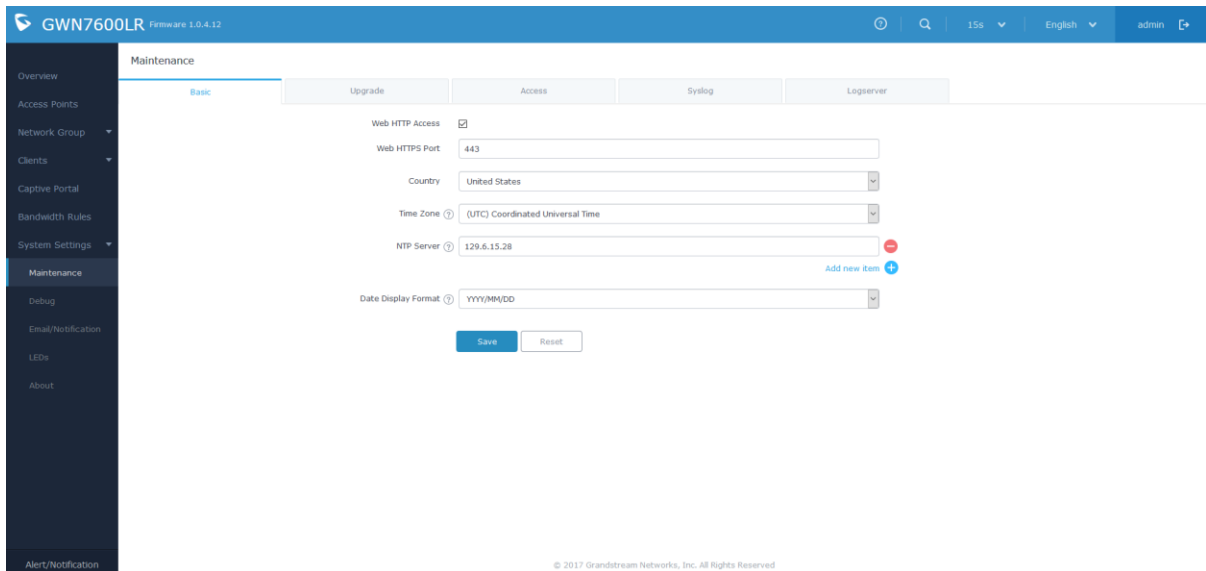
Device Type	Name/MAC	IP Address	Status	Uptime	Firmware	Actions
GWN7610	00:08:82:97:90:8C	192.168.1.146	Online	1d 17h 51m 13s	1.0.4.19	  

Showing 1-1 of 1 record(s). Per Page: 10

anymore, and a factory reset is required to turn it back into normal AP mode.

- **Syslog Server**

Syslog Server is now available on GWN7600 and GWN700LR. Configuration page is as below:



The screenshot shows the configuration page for the Syslog Server on a GWN7600LR device. The page is titled "Maintenance" and has a sub-tab for "Syslog". The configuration options are as follows:

- Web HTTP Access:
- Web HTTPS Port: 443
- Country: United States
- Time Zone: (UTC) Coordinated Universal Time
- NTP Server: 129.6.15.28
- Date Display Format: YYYY/MM/DD

Buttons for "Save" and "Reset" are located at the bottom of the configuration area. The footer of the page reads "© 2017 Grandstream Networks, Inc. All Rights Reserved".

- **Configurable web UI access port**

Under System →Maintenance, following configuration is available now:

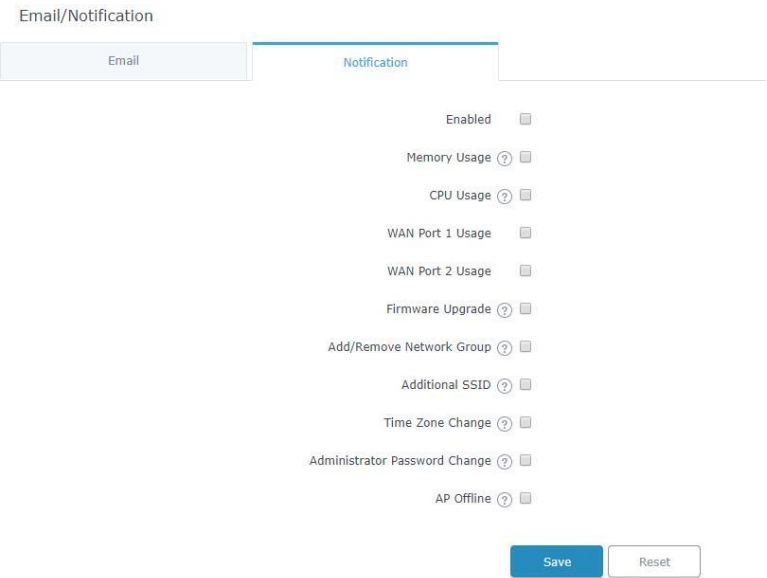
- 2) Web WAN Access;
- 2) Web HTTP Access;
- 3) Web HTTPS Port

- **E-mail notifications**

Email notification allows the administrator to select a predefined set of system events and to send notification upon the change of the set events.

Email notification configuration is under System →Email/Notification.

Selectable system events are listed as  below:



[GWN7600&7600LR] FIRMWARE VERSION 1.0.3.25

PRODUCT NAME

GWN7600, GWN7600LR

DATE

9/20/2017

IMPORTANT UPGRADING NOTE

This is the initial official release of GWN7600LR

BUG FIX

- Fixed issue that GWN7600's 5G radio power won't take effect after select frequency to only 5G.
- Fixed issue that WiFi client cannot connect to the 802.11g AP WiFi when it uses the 802.11b protocol.
- Fixed issue that WeChat authentication for Captive portal sometimes behaves abnormal and it will be hard for WiFi client to authenticate when issue happens.
- Fixed issue that Captive Portal Policy changes require a reboot to take effect.
- Fixed issue that device cannot catch packet if a value is set in "File Size" option.
- Fixed issue that 2.4GHz mode need to be enabled for changing Channel Width and Active Spatial Streams.
- Fixed issue that WeChat authentication of Captive portal does not work, when adopting WiFi has WEP security mode.
- Fixed issue that If only 802.11r is enabled, Voice enterprise feature will not take effect.
- Fixed issue that iPhone does not work with current Minimum RSSI design.
- Internal bug fixes

KNOWN ISSUE

- "Band Steering" and "Gateway MAC address" options and requires a system reboot to take effect.
- Configuring Radius server address with domain name instead of IP will cause the WIFI under configuration become open without authentication.
- "Hostname" on client page and the "Top AP" \ "Top SSID" \ "Top Clients" on overview page may show empty occasionally.
- After clicking on the reset button in maintenance page, it may prompt "Reset failed!".
- When Facebook and WeChat authentication are enabled at the same time, client cannot redirect to landing page after Facebook auth success.
- After many times of enabling and disabling Captive Portal, there is chances that WIFI clients can access to Internet without authentication challenge.

[GWN7610] FIRMWARE VERSION 1.0.3.21

PRODUCT NAME

GWN7610

DATE

8/11/2017

IMPORTANT UPGRADING NOTE

- Before starting to upgrade, please make sure your GWN7610's firmware version is 1.0.2.108 or higher.
- Before starting to upgrade, please make sure your GWN7000 (the master device)'s firmware version is 1.0.2.71 or higher.

ENHANCEMENT

BUG FIX

- Fixed the issue that beacon frame has a random information element

KNOWN ISSUE

- Banned Band steering feature still affect wireless Black/White/Banned client list feature. Please use Band steering or Black/White/Banned client list feature exclusively.

-

[GWN7600&7600LR] FIRMWARE VERSION 1.0.3.19

PRODUCT NAME

GWN7600

DATE

7/14/2017

ENHANCEMENT

- Added support for Captive Portal
- Added support for 802.11k/r/v (Enable Voice Enterprise)
- Added support for Failover Master
- Added support for VLAN assignment via RADIUS
- Added support for Select Band per SSID Added support for Exact Radio Power Configuration in dBm
- Added support for AP Locating by Blinking LED
- Added support for Per-Client/Per-SSID Bandwidth Management
- Added support for Limit Client Count per SSID
- Added support for WIFI schedule
- Added support for LED control
- Added support for Enabling/Disabling DHCP option 66 for firmware upgrade

BUG FIX

- Internal bug fixes

KNOWN ISSUE

- "Band Steering" and "Gateway MAC address" options and requires a system reboot to take effect.
- Configuring Radius server address with domain name instead of IP will cause the WIFI under configuration become open without authentication.
- "Hostname" on client page and the "Top AP" \ "Top SSID" \ "Top Clients" on overview page may show empty occasionally.
- GWN7600's 5G radio power won't take effect after select frequency to only 5G.
- Client cannot connect to the 802.11g AP WIFI when it uses the 802.11b protocol.
- After clicking on the reset button in maintenance page, it may prompt "Reset failed!".
- WeChat authentication for Captive portal sometimes behaves abnormal and it will be hard for WIFI client to authenticate when issue happens.
- When Facebook and WeChat authentication are enabled at the same time, client cannot redirect to landing page after Facebook auth success.
- After many times of enabling and disabling Captive Portal, there is chances that WIFI clients can access to Internet without authentication challenge.
- Device cannot catch packet if a value is set in "File Size" option.
- Captive Portal Policy changes require a reboot to take effect.
- 2.4GHz mode need to be enabled for changing Channel Width and Active Spatial Streams.
- WeChat authentication of Captive portal does not work, when adopting WIFI has WEP security mode.
- If only 802.11r is enabled, Voice enterprise feature will not take effect.
- iPhone does not work with current Minimum RSSI design.

NEW FEATURE OVERVIEW

- Captive Portal

You can configure different portal policies with names and adopt one policy while configuring your Network groups. Captive portal now also supports authentication by Radius and WeChat/Facebook.

Add ✕

Name
The field should not be empty

Expiration(s)
The field should not be empty

Authentication Type

WeChat Authentication

Facebook Authentication

Portal Page Customization

Landing Page

Enable HTTPS

Pre Authentication Rule(s) -
Add new item +

Post Authentication Rule(s) -
Add new item +

- 802.11k/r/v (Enable Voice Enterprise)

Configuration available at Network Group->Add/Edit->WIFI-> **Enable Voice Enterprise / Enable 11R / Enable 11K / Enable 11V**

Enable Voice Enterprise

Enable 11R

Enable 11K

Enable 11V

- Failover Master

Failover Master is supported on GWN7600LR now. You can specify a slave AP as failover master. Whenever it detects the master is down, it will promote itself to be as failover master. After then, if master comes back, failover master will automatically go back to slave mode, or if the master doesn't come back to alive, Administrator can login to turn the failover master to true master and take over all controls.



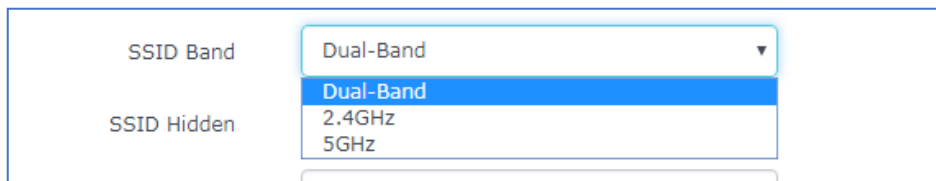
- AP Locating by Blinking LED

Now, when you can't match your AP list on web with your real AP deployment in the field. This feature will help you to find your AP.

Device Type	Name/MAC	IP Address	Status	Uptime	Firmware	Actions
GWN7610	00:0B:82:97:90:8C	192.168.1.146	Master	1d 16h 3m 1s	1.0.3.15	[Refresh] [Locate] [User]
GWN7610	00:0B:82:8B:4E:1C	192.168.1.21	Online	1d 16h 6m 15s	1.0.3.15	[Refresh] [Locate the device]

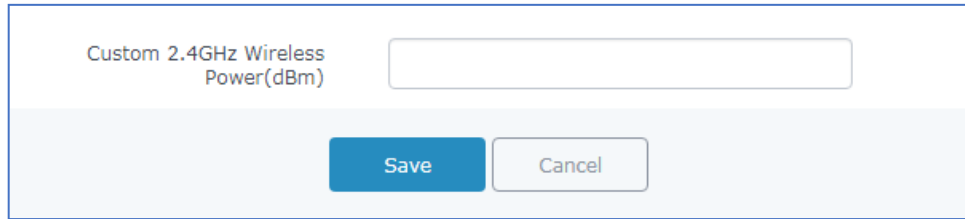
- Select Band per SSID

Configuration available at Network Group->Add/Edit->WIFI-> **SSID band**.



- Exact Radio Power Configuration in dBm

Configuration available at Access Point->Edit->Configuration-> **Custom 2.4GHz Wireless Power (dBm)**.

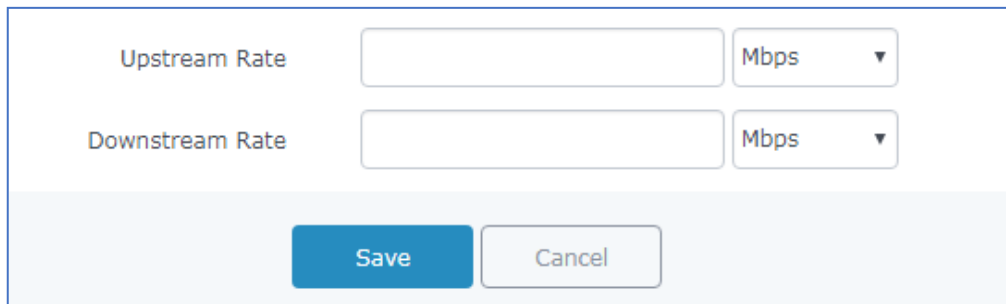


Custom 2.4GHz Wireless Power(dBm)

- Per-Client/Per-SSID Bandwidth Management

Configuration available at

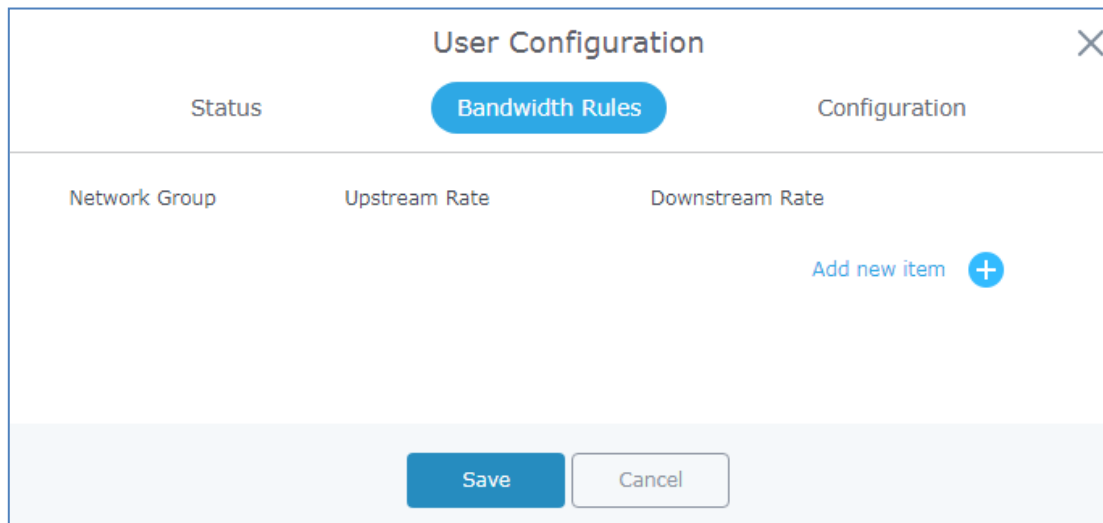
Per-SSID: Network Group->Add/Edit->WIFI-> **Upstream Rate / Downstream Rate**.



Upstream Rate Mbps

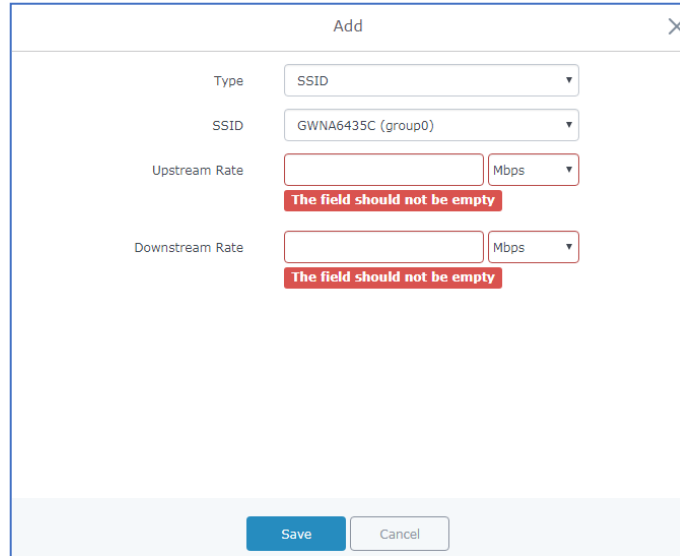
Downstream Rate Mbps

Per-Client: Client->Edit->Bandwidth Rules-> Add new item.



User Configuration			<input type="button" value="X"/>
Status	<input type="button" value="Bandwidth Rules"/>		Configuration
Network Group	Upstream Rate	Downstream Rate	
			Add new item <input type="button" value="+"/>
<input type="button" value="Save"/>			<input type="button" value="Cancel"/>

General configuration: **Bandwidth Rules** on left root menu bar.



The 'Add' dialog box contains the following fields:

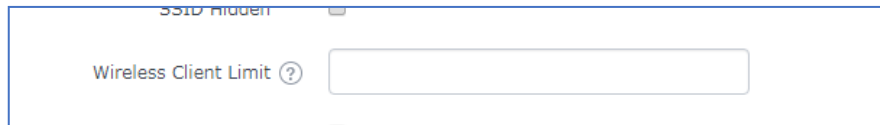
- Type: SSID (dropdown)
- SSID: GWNA6435C (group0) (dropdown)
- Upstream Rate: [Empty field] Mbps (dropdown)
- Downstream Rate: [Empty field] Mbps (dropdown)

Red error messages are displayed below the Upstream Rate and Downstream Rate fields: "The field should not be empty".

Buttons: Save, Cancel

- Limit Client Count per SSID

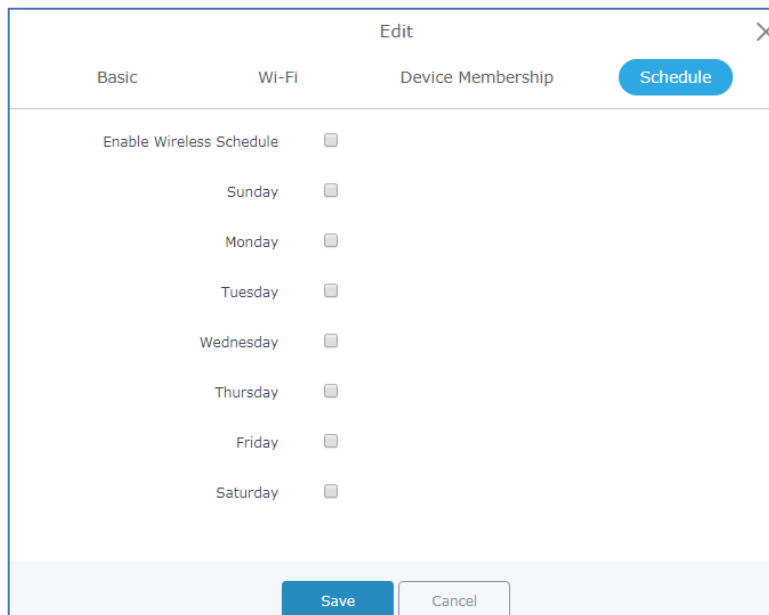
Configuration available at Network Group->Add/Edit->WIFI-> **Wireless Client Limit**.



The configuration shows a label "Wireless Client Limit" with a help icon (?) and an empty input field.

- WIFI schedule

User can configure WIFI on/off schedule under Network Group->Edit->**Schedule**.



The 'Edit' dialog box has tabs for Basic, Wi-Fi, Device Membership, and Schedule. The 'Schedule' tab is active.

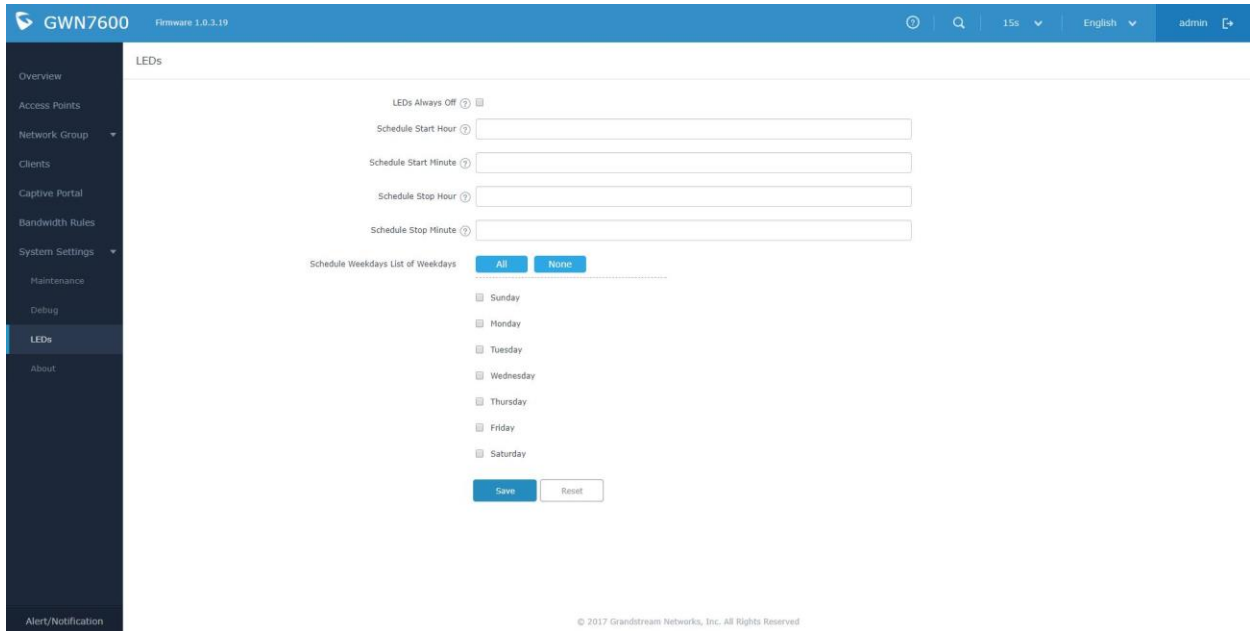
Configuration options under the 'Schedule' tab:

- Enable Wireless Schedule:
- Sunday:
- Monday:
- Tuesday:
- Wednesday:
- Thursday:
- Friday:
- Saturday:

Buttons: Save, Cancel

- LED control

User can define the LED on/off schedule in following page.



- Enabling/Disabling DHCP option 66 for firmware upgrade

Configuration available at System Settings->Maintenance->Upgrade-> **Allow DHCP options 66 and 43 override.**

Allow DHCP options 66 and 43 override

[GWN7610] FIRMWARE VERSION 1.0.3.19

PRODUCT NAME

GWN7610

DATE

6/20/2017

IMPORTANT UPGRADING NOTE

- Before starting to upgrade, please make sure your GWN7610's firmware version is 1.0.2.108 or higher.
- Before starting to upgrade, please make sure your GWN7000 (the master device)'s firmware version is 1.0.2.71 or higher.

ENHANCEMENT

- Added support for Captive Portal
- Added support for 802.11k/r/v (Enable Voice Enterprise)
- Added support for Failover Master
- Added support for VLAN assignment via RADIUS
- Added support for Select Band per SSID
- Added support for Selectively Enable b/g/n
- Added support for Exact Radio Power Configuration in dBm
- Added support for AP Locating by Blinking LED
- Added support for Per-Client/Per-SSID Bandwidth Management
- Added support for Limit Client Count per SSID
- Added support for Enabling/Disabling DHCP option 66 for firmware upgrade

BUG FIX

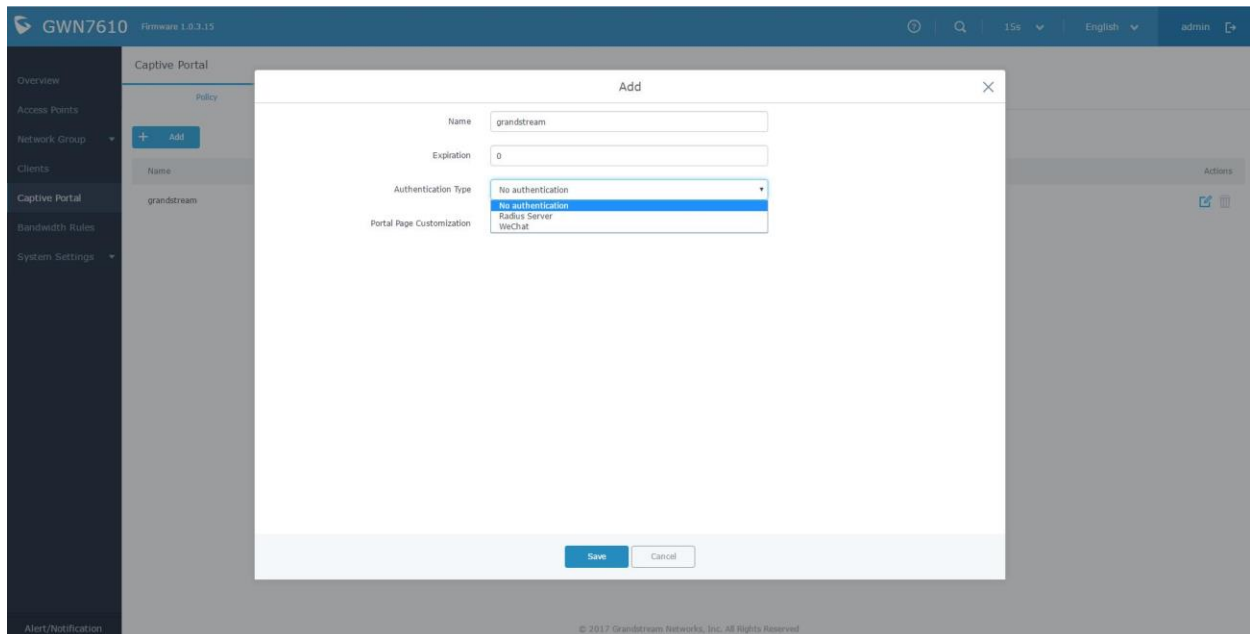
- Internal bug fixes

KNOWN ISSUE

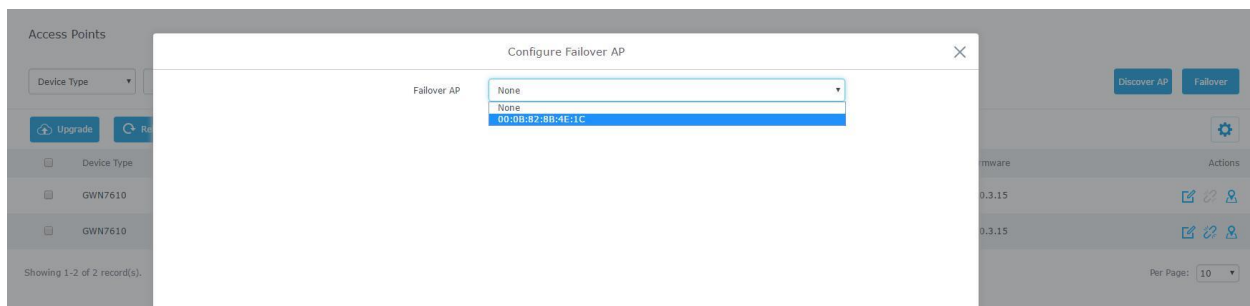
- Banned Band steering feature still affect wireless Black/White/Banned client list feature. Please use Band steering or Black/White/Banned client list feature exclusively.

NEW FEATURE OVERVIEW

- Captive Portal Enhancement
 1. Now you can configure different portal policies with names and adopt one policy while configuring your Network groups.
 2. Now captive portal starts to support authentication by Radius and WeChat.



- Failover Master









Failover Master is supported on GWN7610 now. You can specify a slave AP as failover master. Whenever it detects the master is down, it will promote itself to be as failover master. After then, if master comes back,

failover master will automatically go back to slave mode, or if the master doesn't come back to alive, Administrator can login to turn the failover master to true master and take over all controls.

- AP Locating by Blinking LED

Now, when you can't match your AP list on web with your real AP deployment in the field. This feature will help you to find your AP.

Device Type	Name/MAC	IP Address	Status	Uptime	Firmware	Actions
GWN7610	00:0B:82:97:90:8C	192.168.1.146	Master	1d 16h 3m 1s	1.0.3.15	  
GWN7610	00:0B:82:8B:4E:1C	192.168.1.21	Online	1d 16h 6m 15s	1.0.3.15	  

- 802.11k/r (Enable Voice Enterprise)

Configuration available at Network Group->Add/Edit->WiFi-> **Enable Voice Enterprise**.

- Select Band per SSID

Configuration available at Network Group->Add/Edit->WiFi-> **SSID band**.

- Selectively Enable b/g/n

Configuration available at Access Point->Edit->Configuration-> **Mode (2.4G)**.

- Exact Radio Power Configuration in dBm

Configuration available at Access Point->Edit->Configuration-> **Custom 2.4GHz Wireless Power (dBm)**.

- Per-Client/Per-SSID Bandwidth Management

Configuration available at

Per-SSID: Network Group->Add/Edit->WiFi-> **Upstream Rate / Downstream Rate**.

Per-Client: Client->Edit->Bandwidth Rules-> Add new item.

- Limit Client Count per SSID

Configuration available at Network Group->Add/Edit->WiFi-> **Wireless Client Limit**.

- Enabling/Disabling DHCP option 66 for firmware upgrade

Configuration available at System Settings->Maintenance->Upgrade-> **Allow DHCP options 66 and 43 override.**

[GWN7610] FIRMWARE VERSION 1.0.2.108

PRODUCT NAME

GWN7610

DATE

4/19/2017

IMPORTANT UPGRADING NOTE

- Controller protocol security enhancement is important for secured provision from Master to Slave. So once a master with 1.0.2.108 found a slave with 1.0.2.15, it will disable the slave's wifi and show the slave's firmware version in RED BOLD to remind user to upgrade the slave. (This is implemented on GWN7000 version 1.0.2.71 too)

ENHANCEMENT

- Controller protocol security enhancement
- LED control
- Captive Portal
- Additional SSID
- WIFI schedule
- Client Isolation enhancement
- Syslog stored on unit and displayed on web is available now
- Few web enhancement.

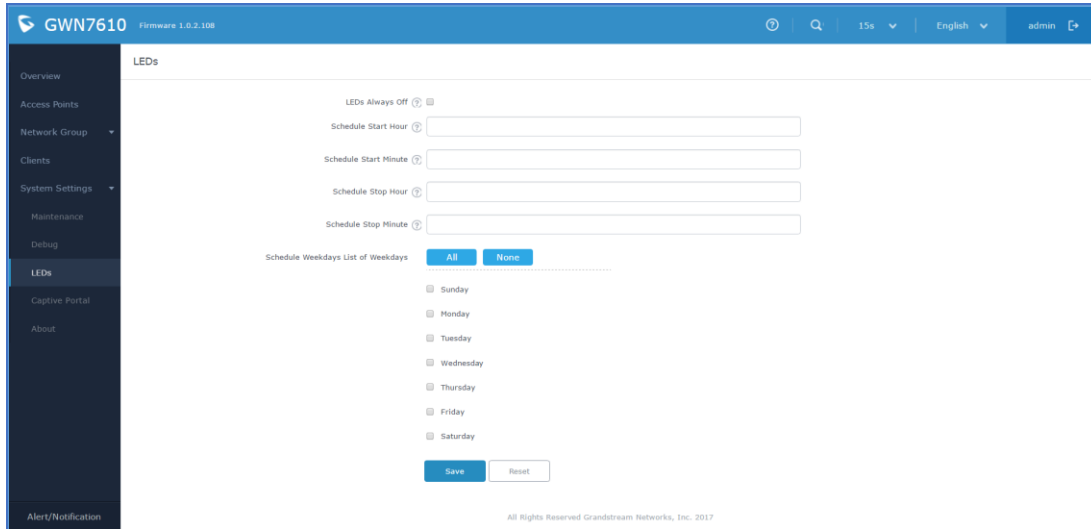
KNOWN ISSUE

- Banned Band steering feature still affect wireless Black/White/Banned client list feature. Please use Band steering or Black/White/Banned client list feature exclusively.

NEW FEATURE OVERVIEW

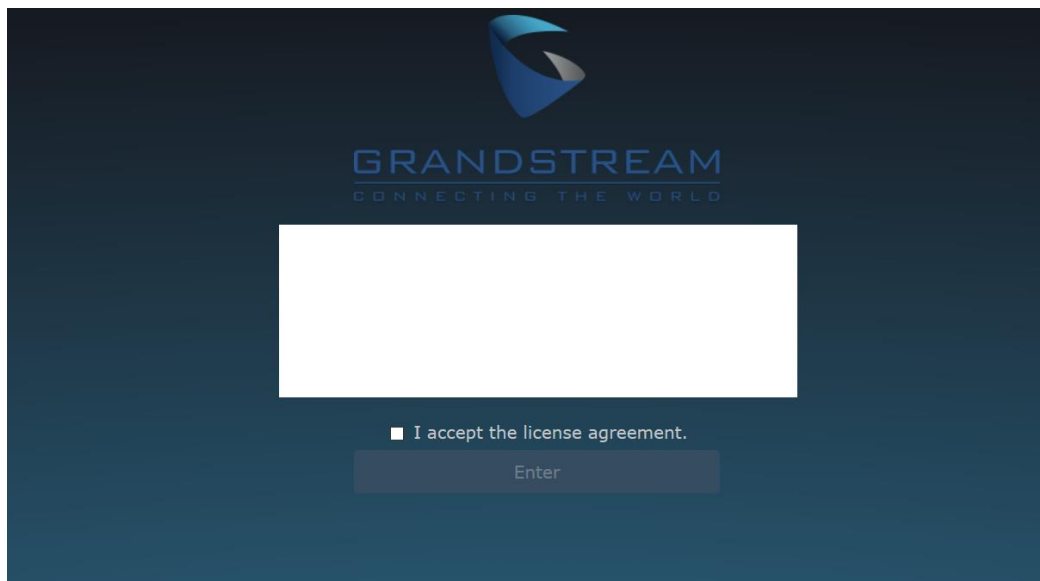
- LED control

User can define the LED on/off schedule in following page.



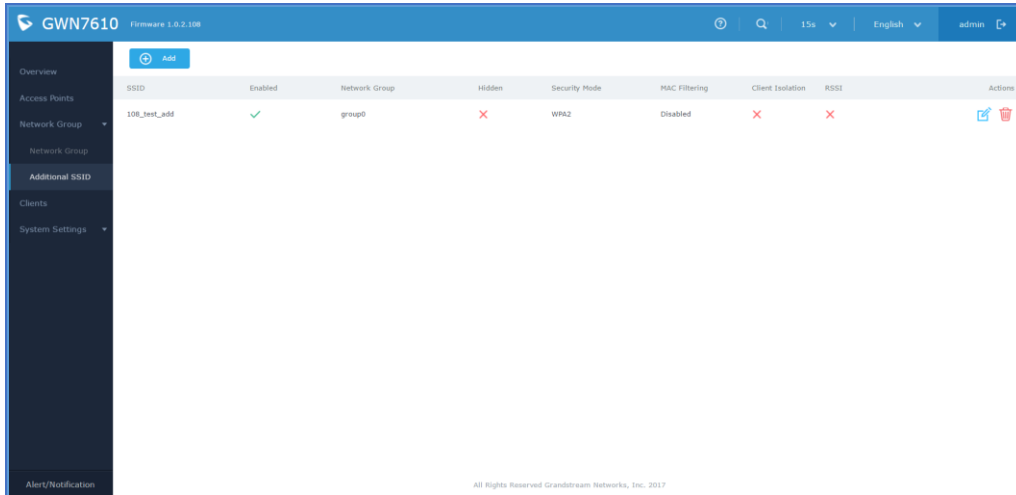
- Captive Portal

Configurations are available under System settings. Now user can customize the portal web page including their service terms by uploading splash.html and related web files in “Files” tag. (The blank window below is left for the service term to be customized)



- Additional SSID

Now user can add additional SSID to any network group by configuring the following page.

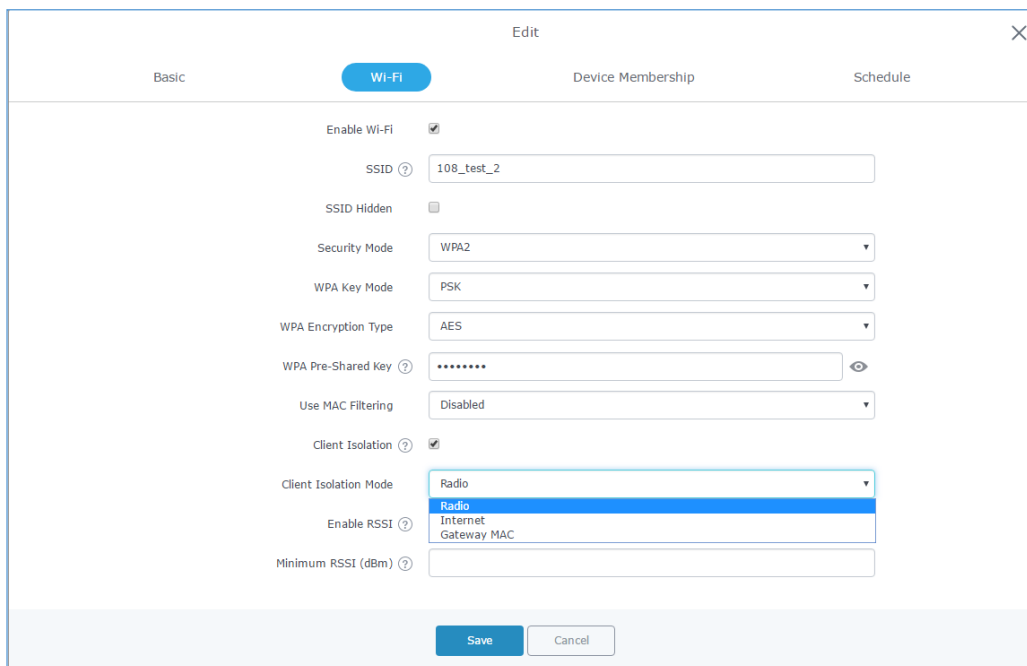


- WIFI schedule

User can configure WIFI on/off schedule under Network Group->Edit->Schedule

- Client Isolation enhancement

Now, 3 client isolation modes (Radio/Internet/Gateway MAC) are available now. Please refer to user manual for the detailed features.



[GWN7600&7600LR]FIRMWARE VERSION 1.0.1.36

PRODUCT NAME

GWN7600

DATE

3/15/2017

IMPORTANT UPGRADING NOTE

This is the initial official release of GWN7600

[GWN7610]FIRMWARE VERSION 1.0.2.15

PRODUCT NAME

GWN7610

DATE

1/31/2017

IMPORTANT UPGRADING NOTE

This is the initial official release of GWN7610