Arena Controller

User Manual

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Front Matter

Trade Names

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About this Manual

This manual describes the Arena Controller and provides step-by-step instructions on how to operate the controller and manage the system components.

This manual is intended for technicians responsible for setting and operating the Arena Controller and for System Administrators responsible for managing the system.

This manual contains the following chapters and appendices:

- Chapter 1 - "Overview"
- Chapter 2 - "Using the Arena Controller"

Contents

Chapter 1 - Overview

In this Chapter:

-

Chapter 2 - Using the ARENA Controller

In this Chapter:

2.1 Accessing the Web-Based Management Utility

To access the web-based management utility of the ARENA controller, follow these steps:

1 Open a web browser and connect to the following URL: http://<ARENA_IP_address>

NOTE!

For a new unit with a default configuration, the default IP address is 192.168.1.100. Connect directly to the unit and after login select the System page's General tab. Configure the Interfaces and System Configuration parameters as required and save the settings to apply the new IP configuration. For details see "System Configuration and Interfaces Section" on page 97.

2 The login window is displayed:

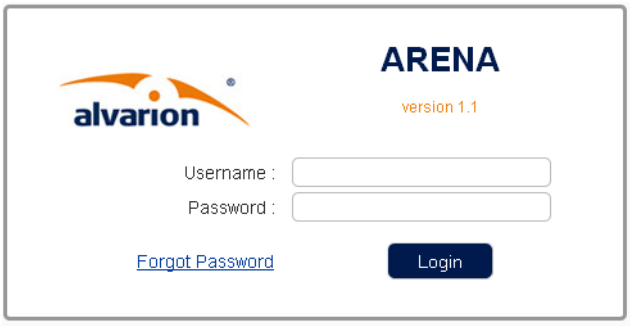


Figure 2-1: Login Window

3 Enter the User Name and Password (the default User Name/Password for a user with Admin privileges are **admin/admin**).

NOTE!

A user with Admin privileges has full access rights. A user with Operator privileges has limited access rights, allowing the user to view certain information in some pages and to execute very few actions. For details see "Operator Accounts" on page 103.

4 Click on the **Login** button. The management utility Management Status page is displayed.

NOTE!

For prevention of potential configuration conflicts, multiple concurrent logins are not allowed.

At any time, only one user with admin privileges and one user with Operator privileges may be logged in.

If there is an existing login, and another login (of the same account type) is performed, the earlier instance would be logged out with the error message: "**You are logged in at another place.**"

If you forgot your password:

1 Click on the Forgot Password link to open the Reset Password window.

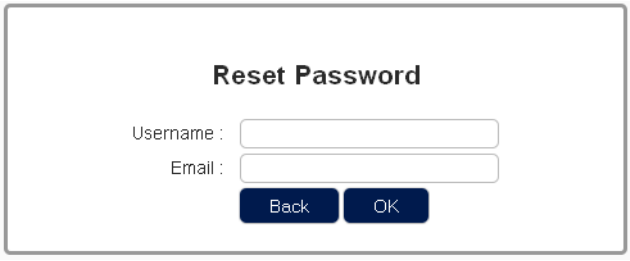


Figure 2-2: Reset Password Window

2 Enter your Username and Email address as configured for your account (see "Accounts Tab" on page 100). For an admin account the user name is admin.

3 You should get an email containing a new password for your account (the old password will become obsolete).

2.2 Configuring Required Parameters in Wireless Network Devices

To verify that the devices can be discovered and properly managed by the ARENA Controller, perform the following steps (for specific details refer to the applicable sections in the relevant manual):

1. Connect to the device and set the management IP Address (Static or DHCP Client).
2. In the L2TPv3 Settings (for devices that support L2TP), configure the IP address of the ARENA Controller as the IP address of the Remote Server.
3. Assuming default values are used for relevant parameters in the ARENA Controller, do not change the configuration of parameters required for discovery and proper management (by default the values of these parameters in the wireless devices are identical to the default values in the Controller). Otherwise, make sure that the configuration in the device matches the one of the Controller. This includes (according to specific device's capabilities) SNMPv3, SNMPv1/V2C and L2TPv3 parameters.
4. Save and apply settings.
5. For devices that support L2TPv3, verify that there is traffic on the L2TP interface indicating proper connectivity with the ARENA Controller (you may have to wait a few seconds before there is traffic on the interface). If there is no traffic, manually power off the AP, wait 10 seconds, and power it on again. If all relevant parameters are properly configured and there is IP connectivity with the controller the L2TP tunnel between the controller and the managed device should be established.

INFORMATION

Management of devices that do not support L2TP is very limited: They may be discovered and displayed on the map, a few general parameter may be displayed and SW upgrade using TFTP or FTP (as applicable) may be executed. In addition, the system enables a cut-through (in a new browser tab) to the web-based management of these devices.

In the current release only WBSIac indoor APs support L2TP.

2.3 Using the Management Utility

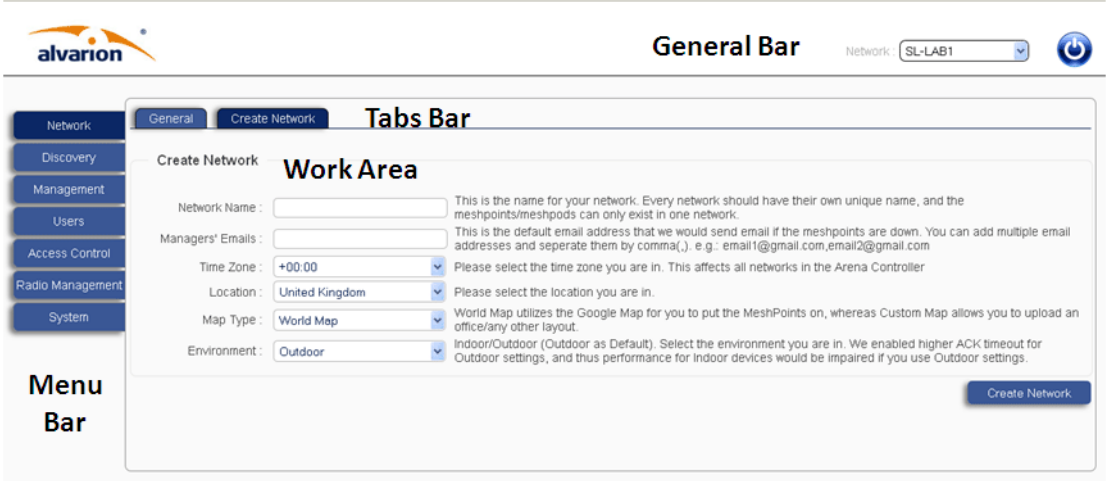


Figure 2-3: ARENA Controller's Web Page Structure

The management page comprises the following sections:

- Menu Bar: The vertical menu bar on the left side of the page enables selection of the main management function of the page. The background color of the currently selected option is dark blue.
- Tabs Bar: The tabs bar above the work area enables selection of the specific configuration/information to be presented in the work area. For certain pages second-level tabs may be available. The background color of the currently selected option is dark blue.
- Work Area: Allows viewing relevant information, performing configuration changes and executing specific actions according to the selected menu and tab options.
- General Bar at the top of the page:
  - » Use the **Network** drop-down list to select the network to be managed (when applicable).
  - » Click on the **Logout** icon ( ) to log out.

CAUTION

Do not use any of the following characters in any of the textbox fields in the ARENA Controller web pages:

- space " "
- ampersand "&"
- plus "+"
- double quote """
- single quote "'"
- backslash "\"

If by mistake you used a text that is not recognized by the system such as the characters specified above, a warning message would pop-up when attempting to save the configuration. You will prompted to correct the text by the messages "Please input correct username." (the same message, using the term username, is used for all textboxes with unrecognized characters).

2.4 Network Page

The Network page comprises two tabs:

- General Tab
- Create Network Tab

2.4.1 General Tab

The General tab in the Network page enables viewing and configuring the general settings of each of the managed networks. The network to be managed is selectable from the Network drop-down list at the top right corner of the page.

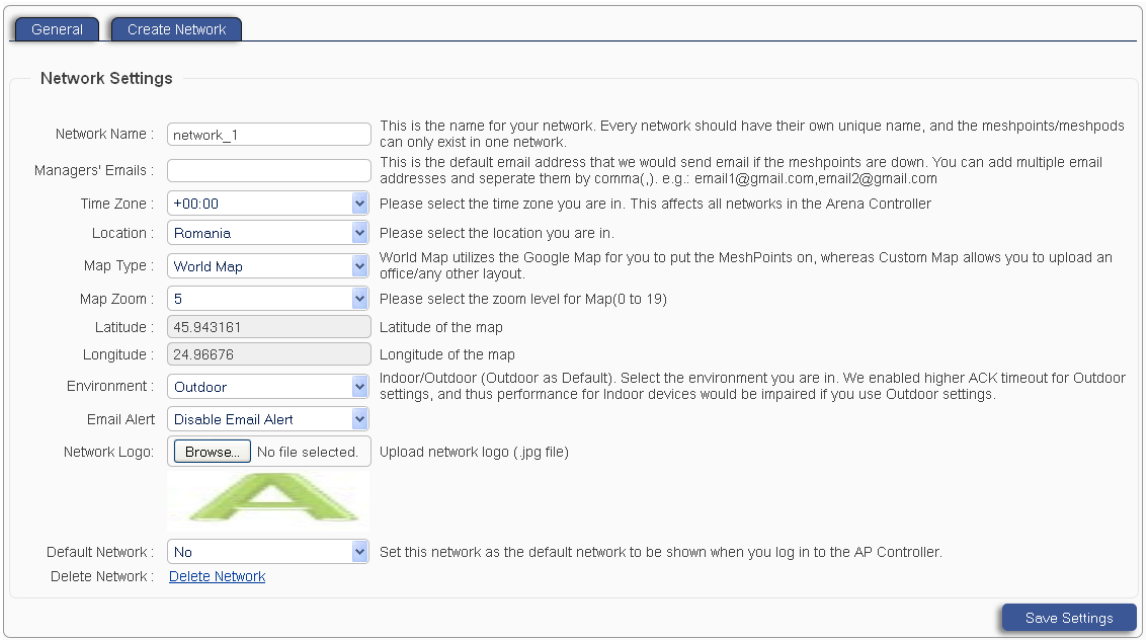


Figure 2-4: The Network Page General Tab

The following are the Network Settings parameters which are located in the General tab of the Network page:

- **Network Name**: This is the read-only name of the network. The Network Name is configurable only when creating a new network. Every network should have a unique name. A managed device can belong to one network only.
- **Managers' Emails**: The default email address(es) to which the controller would send alert emails for events such as when the operational status (up/down) of any of the devices belonging to the network has been changed. The default is the Email address of the admin account, if defined (see "Admin Account - Email" on page 101). However, you may define different address(es) for each network. You

can define multiple email addresses separated by comma(s). For example: email1@gmail.com,email2@gmail.com

- **Time Zone**: Select the time zone for the network. This affects all networks in the controller
- **Location**: Use the drop-down list to select the country in which the network is located. When Google Map is used this country will be displayed in the center of the map in the Management page, Status tab.
- **Map Type**: Selecting **World Map** utilizes the Google Map for displaying the locations of the APs belonging to the network. The **Custom Map** option allows you to upload an office/any other layout.

INFORMATION

If the Custom Map option is selected, the controls required for uploading a custom map becomes available below the map section in the Management page, Status tab. For details see "Network Map" on page 19.

- **Map Zoom**: Applicable only when Map Type is set To World Map (Google Map). The default zoom level for the displayed map, from 0 (the minimum) to19 (the maximum). The default is set according to the size of the country selected in the Location drop-down list.
- **Latitude**: Latitude of the center point of the map. The default center point is the center of the country selected in the Location drop-down list.
- **Longitude**: Longitude of the center point of the map. The default center point is the center of the country selected in the Location drop-down list.
- **Environment**: **Indoor/Outdoor** (Outdoor is the default). Select the environment of the network. Higher ACK timeout is enabled for an Outdoor environment, thus performance for Indoor devices in the network would be impaired if you use Outdoor settings, and vice versa.
- **Email Alert**: When enabled, alert emails for relevant events will be sent to the email addresses specified in the **Managers' Emails** field.
- **Network Logo**: This is the logo to be displayed on the Login page for device(s) that support hotspot functionality. Click on the **Browse** button and navigate to the required location to upload the required JPEG (.jpg) file.
- **Default Network**: Selected Yes to set the network as the default network to be shown when loging into the ARENA Controller. If no network is defined as the default one, than the default network will be the first created network.
- **Delete Network**: Click on the Delete Network link to delete the network and all its settings. A warning message will be displayed to prevent accidental deletion of a network.

Click the **Save Settings** button to save the configuration.

2.4.2 Create Network Tab

The Create Network tab in the Network page enables creation of a new network. Each network may include any number of devices (as long as the total number of devices does not exceed the number supported by the license). A device may belong only to a single network.

INFORMATION

At least one network must be created. When using the ARENA Controller for the first time, a "**There is no network in your account. Please create one first.**" message is displayed prompting you to create at least one network.

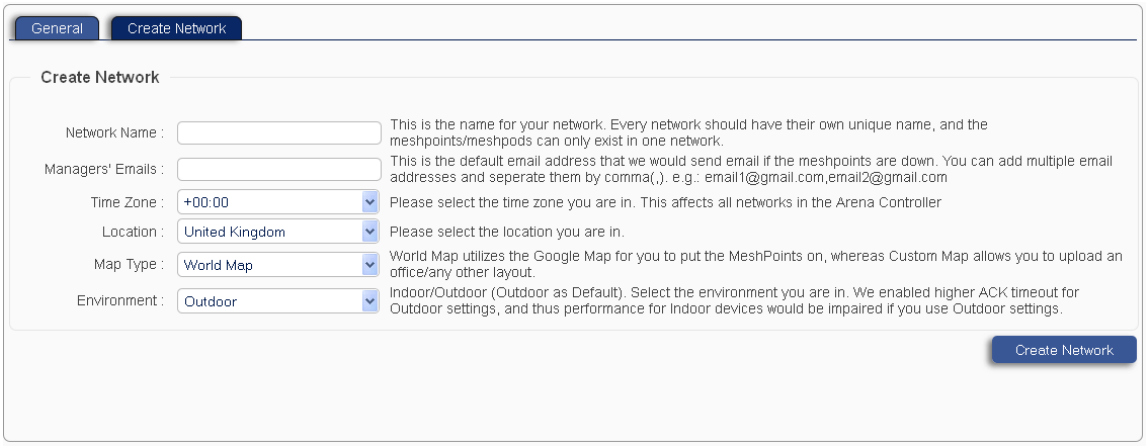


Figure 2-5: The Network Page Create Network Tab

The following are the Network Settings parameters which are located in the General tab of the Network page:

- **Network Name**: This is the name of the network. Every network should have a unique name. A managed device can belong to one network only.
- **Managers' Emails**: The default email address(es) to which the controller would send alert emails for events such as when the operational status (up/down) of any of the devices belonging to the network has been changed. The default is the Email address of the admin account, if defined (see "Admin Account - Email" on page 101). However, you may define different address(es) for each network. You can define multiple email addresses separated by comma(s). For example: email1@gmail.com,email2@gmail.com.
- **Time Zone**: Select the time zone for the network. This affects all networks in the controller.
- **Location**: Select the country in which the network is located. When Google Map is used this country will be displayed in the center of the map in the Management page, Status tab.
- **Map Type**: Selecting **World Map** utilizes the Google Map for displaying the locations of the network and its' components. The **Custom Map** option allows you to upload an office/any other layout.

INFORMATION

If the Custom Map option is selected, the controls required for uploading a custom map becomes available below the map section in the Management page, Status tab. For details see "Network Map" on page 19.

- **Environment**: **Indoor/Outdoor** (Outdoor is the default). Select the environment of the network. Higher ACK timeout is enabled for an Outdoor environment, thus performance for Indoor devices in the network would be impaired if you use Outdoor settings, and vice versa.

These parameters (excluding Network Name) may be modified in the General tab of the Network page, where additional parameters of the network may also be configured.

To create a new network:

1. In the Create Network tab configure the mandatory name for the new network.
2. Modify other parameters as required for the new network.
3. Click on the **Create Network** button.
4. A success message ("Success! Created network successfully. You can manage your network now") will be displayed. Click **Ok** to continue. The Management page, Status tab for the new network will be opened.

2.5 Discovery Page

The **Discovery** page enables discovery of connected devices. It also enables adding newly discovered devices to a selected network and, if necessary, disabling addition of specific devices to any network by moving it to the Blocked Devices list.

The Discovery page comprises two tabs:

- Discovery Tab
- Block Tab

2.5.1 Discovery Tab

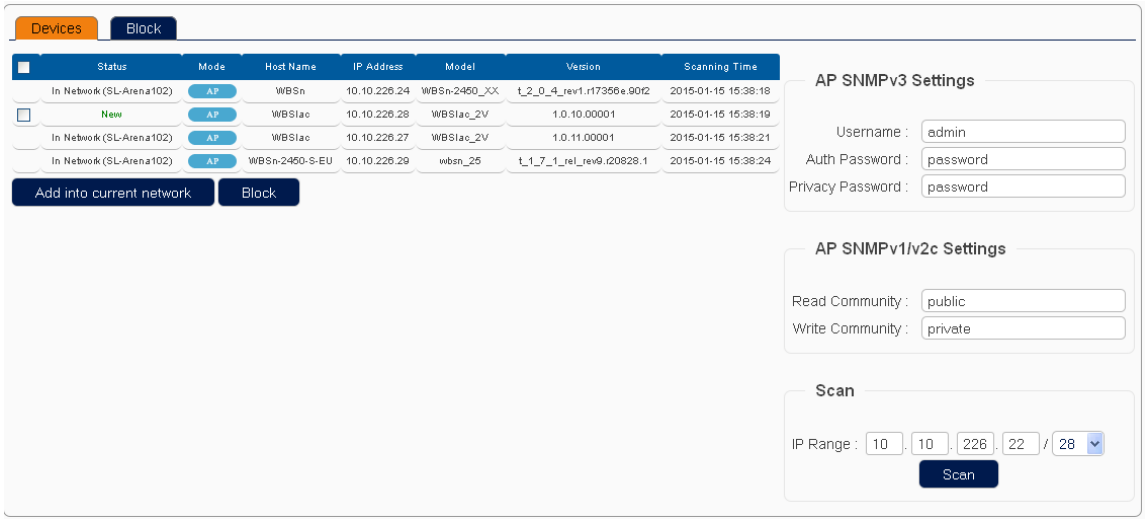


Figure 2-6: The Discovery Page Devices Tab

The Devices tab includes the following components:

- AP SNMPv3 Settings
- AP SNMPv1/v2c Settings
- Scan
- The Discovered Devices Table

2.5.1.1 AP SNMPv3 Settings

Figure 2-7: Discovery Page, AP SNMPv3 Settings Section

AP SNMPv3 settings define the parameters to be used for searching for and communicating with devices supporting SNMPv3. The settings in the devices must be identical to the settings configured in the Controller.

The SNMPv3 Settings parameters are:

- **Username**: The name assigned to the SNMP user. The default is admin.
- **Auth Password**: The password used for authentication using the MD5 protocol. A string of at least 8 characters. The default is password.
- **Privacy Password**: The password used for encrypting the SNMP traffic using the CBC-DES protocol. A string of at least 8 characters. The default is password.

2.5.1.2 AP SNMPv1/v2c Settings

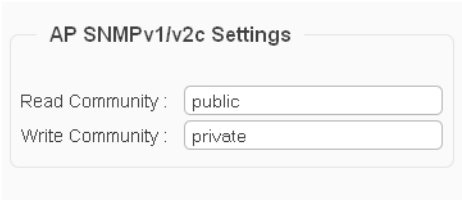


Figure 2-8: Discovery Page, AP SNMPv1/v2c Settings Section

AP SNMPv1/v2c settings define the parameters to be used for searching for and communicating with devices supporting either SNMPv1 or SNMPv2c. The settings in the devices must be identical to the settings configured in the Controller.

The SNMPv1/v2c Settings parameters are:

- **Read Community**: The community string used for read (get) operations. The default is public.
- **Write Community**: The community string used for write (put) operations. The default is private.

2.5.1.3 Scan

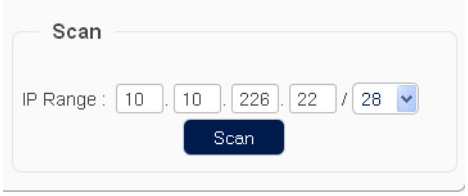


Figure 2-9: Discovery Page, Scan Section

To search for devices in a specific IP range using CIDR notation:

1. enter the IP address.
2. Select the required prefix from the drop-down list.
3. Click on the **Scan** button.

A message indicating the scanning details will be displayed:

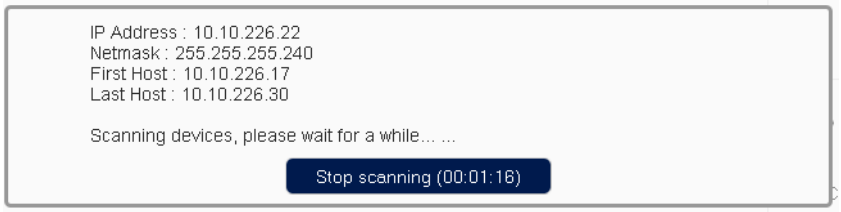


Figure 2-10: Discovery Page, Scanning in Progress Message

The estimated time for completion of the scanning process is indicated on the **Stop scanning** button. Scanning time is approximately 7 seconds per IP address.

While the scanning is in progress, newly discovered devices are added to the Discovered Devices table in real-time. If all known new devices that should be discovered are already displayed in the table, the scan can be stopped by clicking on the **Stop scanning** button.

NOTE!

For devices supporting L2TPv3, the search range may be defined using L2TP addresses, resulting in faster discovery of devices. For details refer to "Tunnelling Configuration" on page 99. Note that the L2TP addresses are assigned to devices starting from the first address in the L2TP addresses range, allowing to minimize the search range (higher prefix) according to the number of relevant devices.

2.5.1.4 The Discovered Devices Table

The Discovered Devices table lists all devices that were discovered during the last scan process:

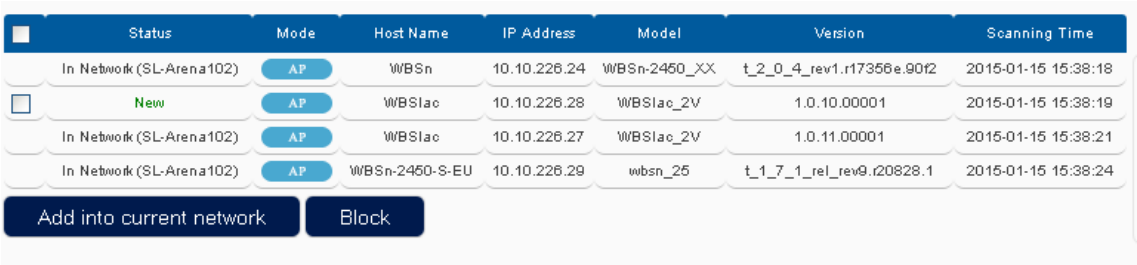


Figure 2-11: Discovery Page, Discovered Devices Table

For each discovered device the following details are provided:

- **Status**: The management status of the device:
  - **In Network** (<network_name)>: The device is already assigned to the indicated network.
  - **New**: A newly discovered device that is not assigned to any network. For a new device a checkbox is available on the left side allowing execution of certain actions (see details below).
  - **In Block**: The device has been moved to the Blocked Devices list (see details below).
- **Mode**: The operation mode of the radio(s) in the device:
  - **AP**: The radio (in a device supporting a single radio) or both radios (in a device supporting two radios) operates as an AP.
  - **CPE**: The radio (in a device supporting a single radio) operates as a CPE (Station).
  - **AP|CPE**: In a device supporting two radios, one radio operates as an AP and the other radio operates as a CPE (Station).
- **Host Name**: The device's name as configured in the device.
- **IP Address**: The IP address of the device (this will be the IP address used for management of the device, even if the scan was executed using L2TP addresses).
- **Model**: The device's model.
- **Version**: The running SW version of the device.
- **Scanning Time**: Date and time of device's discovery.

To add discovered devices to an existing network:

1. In the **Network** drop-down list (in the right top corner of the page) select the target network.
2. Click to select the checkboxes of the devices you want to add to the target network (you may click on the checkbox on the left side of the headers row to select all new devices).

3 Click on the **Add into current network** button.

4 You should get a success message: "Success! The devices that you selected have been added into the current network. ". Click on the **Ok** button to return to the Discovery page.

To block discovered devices:

1 Click to select the checkboxes of the devices you want to block (you may click checkbox on the left side of the headers row to select all new devices).

2 Click on the **Block** button.

3 You should get a success message: "Success ! The devices that you selected have been blocked.". Click on the **Ok** button to return to the Discovery page.

Blocked devices are added to the Blocked Devices list. In the Discovered Devices list their status becomes In Block. As long as the status of a device is In Block it cannot be added to any network. For removal of devices from the Blocked Devices list refer to Block Tab below.

2.5.2 Block Tab

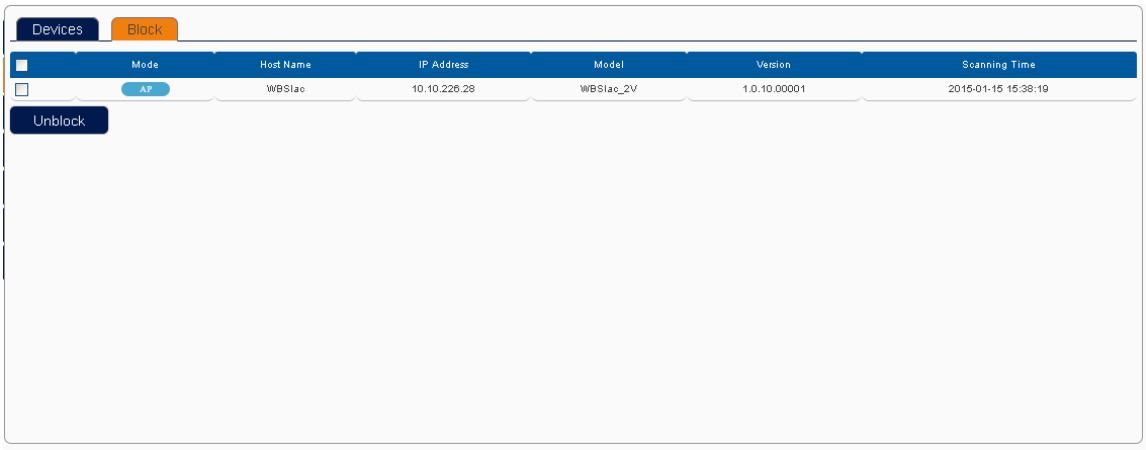


Figure 2-12: Discovery Page Block Tab

The Block tab includes the Blocked Devices table, displaying the details of all blocked device (if any).

To unblock devices:

1 Click to select the checkboxes of the devices you want to unblock (you may click checkbox on the left side of the headers row to select all blocked devices).

2 Click on the **Unblock** button.

3 You should get a success message: "Success! The devices that you selected have been unblocked.". Click on the **Ok** button to return to the Discovery page.

Following the next scan of the relevant range the unblocked devices will be marked as New.

2.6 Management Page

The Management page comprises the following tabs:

- Status Tab
- SNMP traps Tab
- Export AP(s) Tab
- Import AP(s) Tab
- Create AP Tab
- Upgrade AP(s) Tab

In addition, from the Devices Table in the Status tab you can open the Settings page allowing you to change the configuration of selected devices. For details see Changing Device(s) Settings.

2.6.1 Status Tab

The Status tab provides a general view of the selected network and the devices it includes. It also enables various options for viewing more details for a selected device and managing a selectable device or device groups.

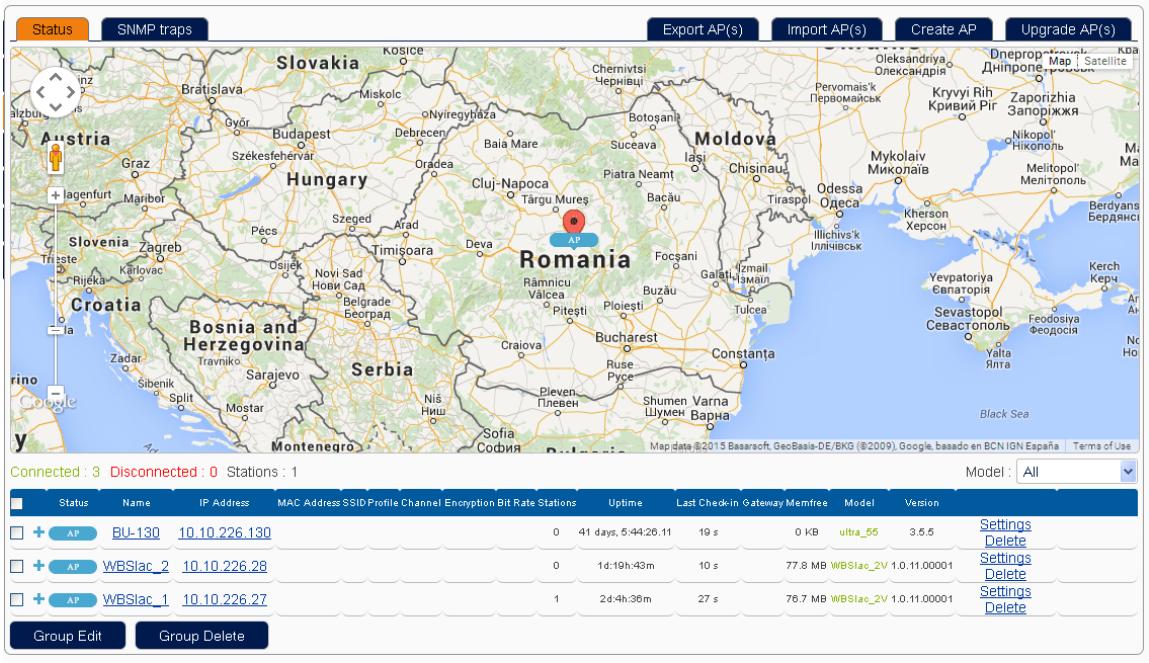


Figure 2-13: Management Page Status Tab

The Status tab includes the following sections:

- Network Map

- Devices Table

From the Devices table you can also open the The Device Information Pop Up Box.

2.6.1.1 Network Map

Figure 2-14: Management Page Status Tab, Network Map Section (Google Map)

The default displayed map will be according to configuration of the relevant parameters in the selected Network Settings in the Network page (see "General Tab" on page 8).

For a World Map (Google Map), the default location of all devices is in the center of the displayed map (defined by the Longitude and Latitude settings in the General tab of the Network page). For details on moving devices to other locations on the map refer to "Position Settings" on page 37.

Device's icon on the map includes its' status (see Status parameter in "Devices Table" on page 20). Place the mouse over the icon to view the device name.

If a the Custom Map option was selected as the Map Type, the following controls will be available below the Map section:

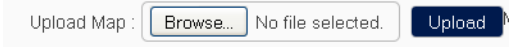


Figure 2-15: Custom Map Upload

To upload a Custom Map

1. Click on the **Browse** button and navigate to the required location to upload the pre-prepared JPEG (.jpg) file.
2. Click on the **Upload** button. The selected Custom Map will be displayed in the Map section.

2.6.1.2 Devices Table

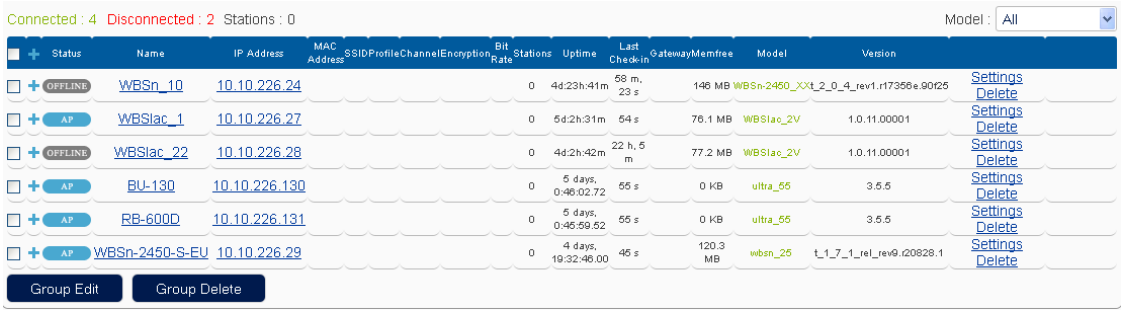


Figure 2-16: Management Page Status Tab, Devices Table Section

This section includes:

- Contents of the Devices Table
- Wireless Networks Details
- Deleting Devices

2.6.1.2.1 Contents of the Devices Table

Above the table summary information for all the devices included in the selected network is displayed. The displayed information includes total numbers for currently Connected devices, Disconnected devices and Stations.

To filter the list of displayed devices by device model:

The Model drop-down list (on the right side above the table) enables selection of the model of devices to be displayed in the table. The available options include All (the default) and the specific models of devices included in the network.

To sort the table by the values in a selected column:

Click on a column header to sort the table by the content of this column in ascending order. Click again to sort in descending order.

For each device the following details and operations are available:

- **Status**: The management status/mode of the device (used also for the device's icon on the map):
  - **AP**: The device is connected and managed. The radio (in a device supporting a single radio) or both radios (in a device supporting two radios) operates as an AP.
  - **CPE**: The device is connected and managed. The radio (in a device supporting a single radio) operates as a CPE (Station).
  - **AP|CPE**: The device is connected and managed. In a device supporting two radios, one radio operates as an AP and the other radio operates as a CPE (Station).
  - **OFFLINE**: The device is considered as disconnected (it was considered as being online but no information was received from it for more than 2 minutes.
  - **WAITING**: The device has been discovered but no information was received from it after discovery. Once it starts sending information it is considered as being online.
  - **FAULT**: It was considered as being online but no information was received from it for more than one minute. This is a temporary status: After one additional minute in this status it will be considered as being offline. If the device will start sending information it will be considered as being online.
  - **Applying** (with a red background): A temporary status indicating that changes are being applied to the settings of the device (see Apply to AP below).

  Click on the **+** sign to on the left side of a device Status to view main details for the VAPs defined in the device. For details see "Wireless Networks Details" on page 22.

  Click on the checkbox on the left side of a device details row to add the device to a Group. See "Deleting Devices" on page 23 and "Changing Device(s) Settings" on page 34 for details on actions available for device groups.
- **Name**: The device's name as configured in the device. Click on a device Name to open the device information window (see "The Device Information Pop Up Box" on page 23) in the map area.
- **IP Address**: The management IP address of the device. Click on the IP address to open in a new browser tab a cut-through to the device's web-based management.
- **Stations**: The number of stations connected to the device.
- **Uptime**: The uptime of the device.
- **Last Check-in**: Elapsed time since the last check-in of the device. If it did not check-in for more than 1 minute, it's status will change to FAULT. If it did not check-in for more than 2 minutes, it's status will change to OFFLINE. If it never checked-in, it status will be WAITING.
- **Gateway**:
- **Memfree**: Available free memory in the device.

- **Model**: The model of the device:
  - WBSIac_2V
  - wbsn_2 (WBSn-2400)
  - wbsn_25 (WBSn-2450)
  - ultra_5 (single sector BreezeULTRA B350)
  - ultra_5 (dual sector BreezeULTRA B600)

  Hover with the mouse over a Model value (colored green) to open a pop-up box with details of the supported radio(s).
- **Version**: The running SW version of the device.
- **Setting**: Click on the **Settings** link (on the right side of the device details row) to open the Settings page for the device (for devices that do not support this feature a cut-through to the device's web-based management will be opened in a new browser tab). You will be requested to wait a few seconds to allow the controller to get relevant settings from the device. See more details in "Changing Device(s) Settings" on page 34.
- **Delete**: Click on the **Delete** link to remove the device from the network. A warning message will be displayed requesting you to either confirm or cancel the action.
- **Apply to AP**: After making changes to device(s) settings, a blinking **Apply to AP** message is displayed on the right side of each relevant device. Click on the message to apply the changes to the device. The device status (in the table and on the map) will change temporarily to **Applying**.

The following buttons are available below the table to support operations on a group of APs:

- **Group Edit** button: refer to "Changing Device(s) Settings" on page 34 for details on functionality of this button.
- **Group Delete** button: Refer to "Deleting Devices" on page 23 for details on functionality of this button.

The table is updated every 15 seconds.

2.6.1.2.2 Wireless Networks Details

To view main details of the wireless networks (VAPs for WBSn and WBSIac/Sectors for BreezeULTRA) defined in a specific device, click on the **+** sign on the left side of the device Status (you can click in the **+** sign on the left side of the headers row to open the details for all devices). The sign will be changed to a **-** sign.

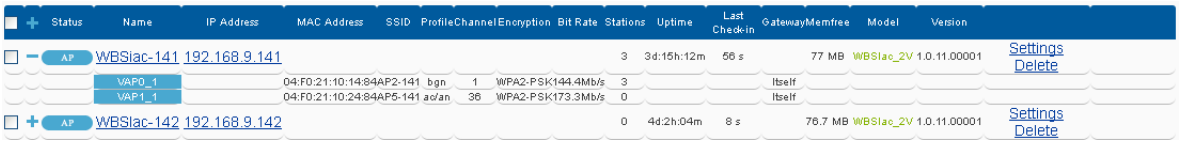


Figure 2-17: VAPs/Sectors Details

The details available for each VAP/Sector are:

- **Name**: The wireless network identification (a greyed-out background for a disabled VAP/Sector).
- **MAC Address**: The MAC address(es) of the radio(s) used by the wireless network.
- **SSID**: The SSID identifying the wireless network.
- **Profile**: The profile(s) (IEE802.11 standards) supported by the radio(s).
- **Channel**: The current operating channel(s)/frequency of the radio(s).
- **Encryption**: The Security Mode used for traffic on the wireless network.
- **Bit Rate**: The total bit rate(s) that can be supported by the radio(s).
- **Stations**: The total number of stations connected to the wireless network.

Click on the **-** sign to hide the wireless networks details.

2.6.1.2.3 Deleting Devices

To delete a single device:

Click on the **Delete** link (on the right side of the device details row) of the selected device. A warning message will be displayed requesting you to either confirm or cancel the action.

To delete multiple device:

1. Click on the checkbox on the left side of a device details row to add the device to a Group. You may click on the checkbox on the left side of the headers row to select all devices.
2. Click on the **Group Delete** button to remove all selected devices from the network. A warning message will be displayed requesting you to either confirm or cancel the action.

2.6.1.3 The Device Information Pop Up Box

Click on a device Name in the Devices table to open the Device Information pop up box in the map area:

Figure 2-18: The Device Information Window, General Tab)

The Device Information pop up box includes the following tabs:

- General Tab
- Radios Tab
- SSIDs Tab
- Neighbors Tab
- Stations Tab
- Logs Tab

2.6.1.3.1 General Tab

The details provided in the General tab are identical to those shown for the device in the Devices Table (see "Contents of the Devices Table" on page 20).

2.6.1.3.2 Radios Tab

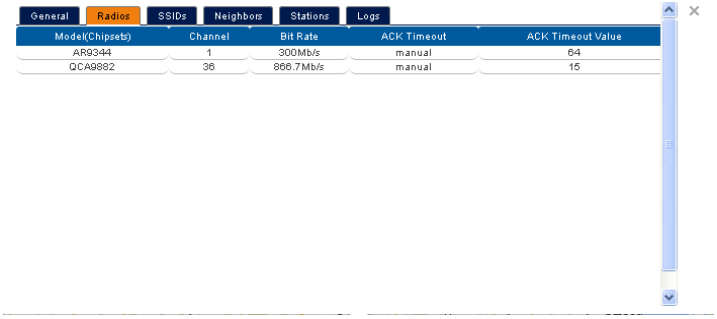


Figure 2-19: The Device Information Window, Radios Tab

The Radio tab provides the following details for each radio card:

- **Model(Chipset)**: The type of chipset used in the card.
- **Channel**: The current operating channel.
- **Bit Rate**: The total bit rate supported by the radio.

- **ACK Timeout**: The method of setting the ACK Timeout parameter (Manual or Automatic).
- **ACK Timeout Value**: The value setting of the ACK Timeout parameter.

2.6.1.3.3 SSIDs Tab

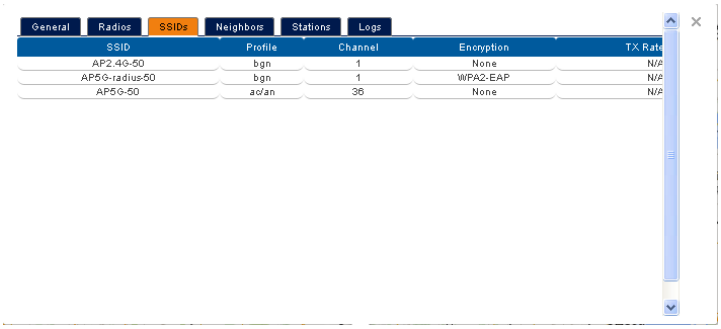


Figure 2-20: The Device Information Window, SSIDs Tab

The SSIDs tab provides the following details for each configured VAP:

- **SSID**: The SSID identifying the VAP.
- **Profile**: The profiles (IEE802.11 standards) supported by the radio(s).
- **Channel**: The current operating channel(s) of the radio(s).
- **Encryption**: The Security Mode used for traffic on the VAP.
- **TX Rate/RX Rate**: The total Tx and Rx bit rate(s) that can be supported by the radio(s).

2.6.1.3.4 Neighbors Tab

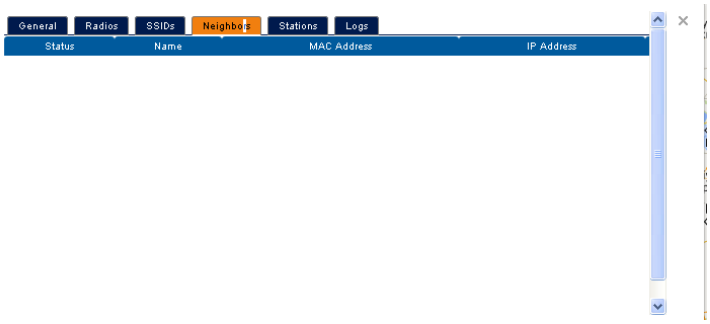


Figure 2-21: The Device Information Window, Neighbors Tab

The Neighbors tab is applicable only for devices belonging to a mesh network, providing the following details for each configured neighbor (see ....).

- **Status**:
- **Name**: The name of the neighbor device.

- **MAC Address**: The MAC address of the neighbor device
- **IP Address**: The IP address of the neighbor device

2.6.1.3.5 Stations Tab

Figure 2-22: The Device Information Window, Stations Tab

The Stations tab provides the following details for each connected station:

- **Host**: The name of the station.
- **IP Address**: The IP address of the station.
- **MAC Address**: The MAC address of the station.
- **Network**: The SSID identifying the VAP to which the station is connected.
- **Signal**: The total strength (in dBm) of the signal received from the station.
- **Signal/Chains**: The strength of the signal received from the station per chain (the value of -95 dBm is taken to mean "no antenna").
- **TX Rate**: The transmit bit rate of the station.
- **RX Rate**: The receive bit rate of the station.
- **TX-CCQ**: The transmission quality in % (a higher percentage means a better wireless connection quality).

The list of stations is updated every 1 minute.

2.6.1.3.6 Logs Tab

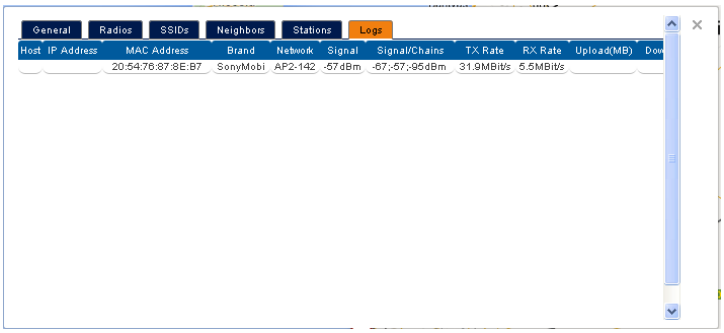


Figure 2-23: The Device Information Window, Logs Tab

The Logs tab displayed the recorded activity of stations that were connected to the AP during the last hour:

- **Host**: The name of the station.
- **IP Address**: The IP address of the station.
- **MAC Address**: The MAC address of the station.
- **Brand**: The brand (manufacturer) of the station.
- **Network**: The SSID identifying the VAP to which the station is connected.
- **Signal**: The total strength (in dBm) of the signal received from the station.
- **Signal/Chains**: The strength of the signal received from the station per chain (the value of -95 dBm is taken to mean "no antenna").
- **TX Rate**: The average transmit bit rate of the station during the recorded session.
- **RX Rate**: The average receive bit rate of the station during the recorded session.
- **Upload(MB)**: The total amount of data uploaded from the device during the recorded session.
- **Download(MB)**: The total amount of data downloaded to the device during the recorded session.
- **Total(MB)**: The total amount of data uploaded/downloaded from/to the device during the recorded session.

The information is updated every 15 seconds.

2.6.2 SNMP traps Tab

Figure 2-24: The SNMP traps Tab

The SNMP traps tab displays the traps received from APs belonging to the selected network (provided they are configured to send traps to the controller).

Click on the **Download** button (at the bottom of the page) to save the information as a text file.

2.6.3 Export AP(s) Tab

The Export AP(s) tab allows saving certain details of the devices belonging to the selected network in a comma separated values (.csv) file. This file can be used at a later time for importing these devices to the same or another network (see "Import AP(s) Tab" on page 29).

Figure 2-25: The Export AP(s) Tab

The file includes the following parameters for each device:

- Device Name
- IP Address
- MAC Address
- Device Model
- Latitude
- Longitude
- SNMP V3 Username
- SNMP V3 Auth Password
- SNMP V3 Privacy Password
- SNMP V1 Write Community

When importing this file in the future, these parameters will be used for discovering the devices and positioning them in the configured coordinates.

To export devices to a .csv file:

1 Enter a name for the file in the **Filename** text box.

2 Click on the **Start Export** button to save the CSV file. The date will be added as a suffix to the file name.

3 The file will be saved in the Downloads directory.

2.6.4 Import AP(s) Tab

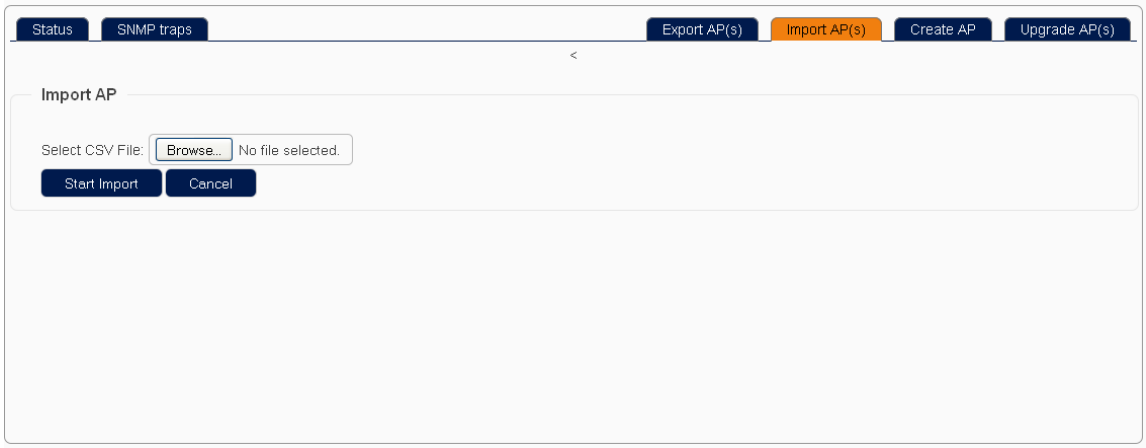


Figure 2-26: Import AP(s) Tab

The Import AP(s) feature can be used when there is a need to restore the list of devices in a network or to move the devices from one network to another one (in the same or another controller).

NOTE!

A device may belong to one network only. If necessary, verify that relevant devices are deleted from the original network before importing them (to either the same or another network).

To import devices to the selected network:

1 Make sure that the required file is available on your PC. It should be a file prepared previously using the Export AP(s) feature.

2 Click on the **Browse** button and navigate to the required location to upload the CSV file.

3 Click on the **Start Import** button. Appropriate messages indicating the progress of the process and the results will be displayed.

4 The imported devices will be added to the network. It may take a few minutes before all verified details and status are properly displayed in the Status tab.

2.6.5 Create AP Tab

The Create AP feature enables creating a device's entity even before the device is connected to the network, to be automatically added to the network with a WAITING status to be updated once the device can be reached by the controller.

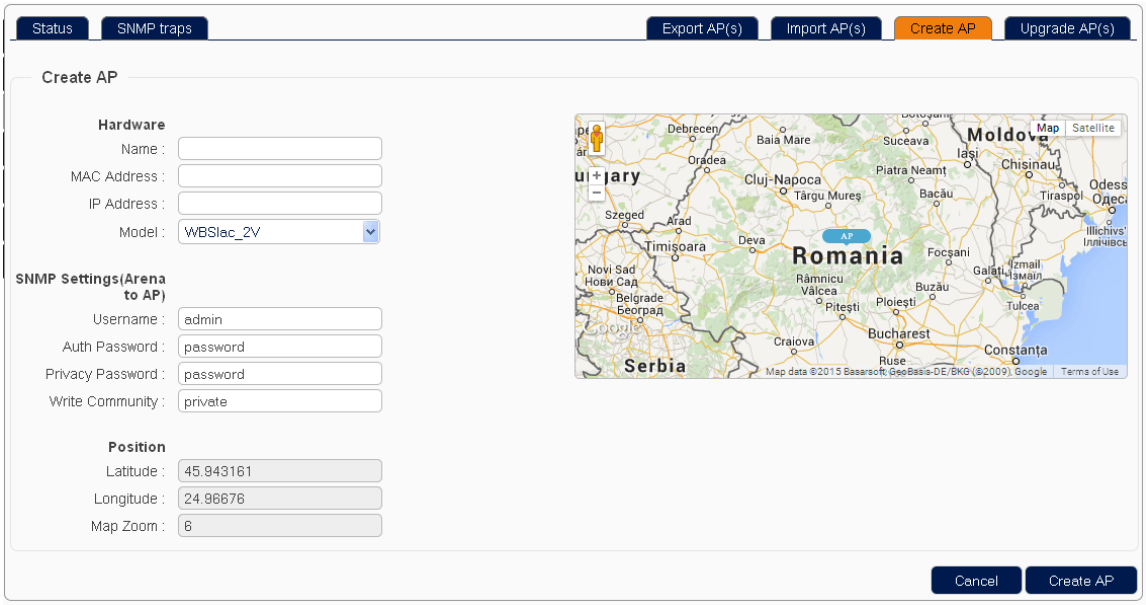


Figure 2-27: Create AP Tab

To create a new AP:

1 Configure the following identification parameters in the **Hardware** section:

- **Name**: The Name of the device.
- **MAC Address**: The MAC address of the device.
- **IP Address**: The management IP address of the device.
- **Model**: Select the device's model from the drop-down list.

2 Configure the following SNMP parameters in the **SNMP Settings (Arena to AP)** section (if different from the defaults):

- **Username**: Applicable only for devices supporting SNMPv3. The name assigned to the SNMP user. The default is admin.
- **Auth Password**: Applicable only for devices supporting SNMPv3. The password used for authentication using the MD5 protocol. A string of at least 8 characters. The default is password.
- **Privacy Password**: Applicable only for devices supporting SNMPv3. The password used for encrypting the SNMP traffic using the CBC-DES protocol. A string of at least 8 characters. The default is password.
- **Write Community**: Applicable only for devices supporting SNMPv1/v2c. The write (put) community string that can also be used for read (get) operations. The default is private

These settings must match the SNMP settings in the device.

3 If required, modify the position of the device:

The read only settings in the **Position** section show the coordinates (Latitude and Longitude) that will be used for positioning the device on the map, and the current Zoom level of the map.

The default position coordinates is the location selected for the entire network in the Network page (see "General Tab" on page 8).

To change device's position on the map:

a In the map area, change the zoom level as required (the read-only Map Zoom parameter in the Position section will changed accordingly).

b Click and drag the device icon to the required location for the device (the read-only coordinates in the Position section will changed accordingly).

4 Click on the **Create AP** button to create an entry for the new device.

The created device will be added to the network with a WAITING status. If all parameters are properly configured, the status will be updated once the device is connected and starts sending information to the controller.

2.6.6 Upgrade AP(s) Tab

Figure 2-28: Upgrade AP(s) Tab

The ARENA Controller lets you upgrade multiple selected devices concurrently.

Depending on the type of devices to be upgraded, either FTP or TFTP is used for the upgrade process (TFTP client in the management PC should be used for BreezeULTRA, an external FTP server should be used for WBSn and WBSIac units).

Prior to starting the upgrade process, the required firmware file should be available on the FTP server/management station.

The Upgrade AP(s) tab includes the following sections:

- Devices Table
- FTP Settings
- TFTP Settings

2.6.6.1 Devices Table

The devices table includes the following details for each of the selected network's devices:

- **Status**: The status of the device (for details see "Devices Table" on page 20).
- **Name**: The name of the device.
- **IP Address**: The management IP address of the device.
- **Model**: The hardware model of the device.
- **Version**: The current running SW version in the device.

A selection checkbox is available on the left side of each entry.

2.6.6.2 FTP Settings

The FTP Settings section includes the following parameters required for upgrading firmware using FTP:

- **FTP IP**: The IP address of the FTP server.
- **FTP PORT**: The port number used for FTP. The default is 21.
- **FTP Username**: The user name to be used for FTP transactions.
- **FTP Password**: The password to be used for FTP transactions.
- **FTP File Type**: The FTP file type. The default is 1.
- **FTP File Name**: The name of the file in the FTP server.

2.6.6.3 TFTP Settings

The TFTP Settings section includes the **TFTP File Name**. Click on the **Browser** button and navigate to the required location to upload the upgrade file.

To upgrade device(s) firmware:

1. Enter the necessary FTP/TFTP settings.
2. Select the devices to be upgraded (you may select all devices by clicking on the checkbox in the headers row). All selected devices must be of the same Model. Only devices whose Status is online should be selected for an upgrade process.
3. Click on the **Upgrade** button below the table.
4. The AP Upgrade page will be opened:

Figure 2-29: AP Upgrade Page

5. The AP Upgrade page includes a table with the details of all APs selected for upgrade. In addition, it provides the **Response Status** for each entry. If there is a problem such as incomplete or wrong FTP/TFTP settings or no connectivity from the target device to the FTP server, the response status (colored red) will indicate the problem. Otherwise:
   - » For BreezeULTRA and WBSn units, the response status should be "Ready to upgrade" and an **Upgrade** button will become available on the right side of the entry.
   - » For WBSIac units, the response status should be "Ready to download from FTP server" and a **Download** button will become available on the right side of the entry.

6 Click on each **Upgrade/Download** button to initiate the upgrade process. The ARENA Controller sends the applicable SNMP commands to each device for downloading the firmware as it's shadow version.

7 Once each device has downloaded the firmware, the **Upgrade** button appears for the device.

8 Click on the **Upgrade** button to complete the upgrade process and start running the device using the new version as it's main version.

9 The Status Response field will indicate whether the firmware upgrade was successful or unsuccessful.

When there are any problems in the upgrade process, **Upgrade issue!** is displayed in red text. This is because the AP did not send the upgrade success message to the ARENA Controller. Hover your mouse over the red text to see the details in the infotip.

If the upgrade was carried out successfully, **Upgrade success!** is displayed in green text.

2.6.7 Changing Device(s) Settings

NOTE!

In the current release, editing device(s) configuration is applicable only for WBSIac units.

To open the Settings page for a single device:

Click on the Settings link (on the right side of the device details row) of the selected device to open the Settings page for a single device. You may have to wait a few seconds to allow the controller to get relevant settings from the device.

NOTE!

The Setting page for a single device can also be opened by selecting a single device and clicking on the Group Edit button (see details below).

To open the Settings page for multiple device:

1 Click on the checkbox on the left side of a device details row to add the device to a Group. You may click on the checkbox on the left side of the headers row to select all devices.

NOTE!

To properly support Group Edit functionality for multiple devices all selected devices must be of the same hardware model.

2 Click on the Group Edit button to open the Group Edit device selection page:

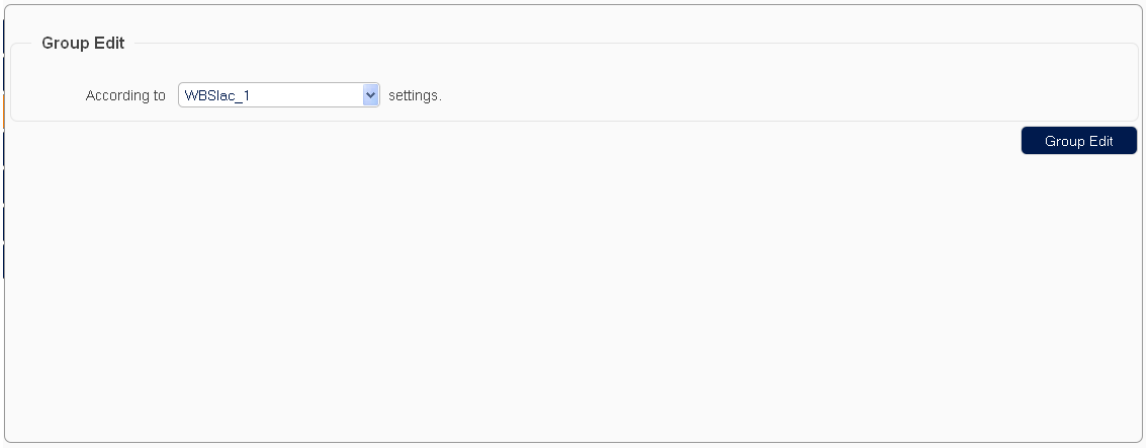


Figure 2-30: Group Edit Device Selection

3 In the **According to** drop-down list select the device whose setting will be used as the basis for editing.

4 Click on the **Group Edit** button to open the Settings page for multiple devices (see details in "Changing Device(s) Settings" on page 34).

In a group editing mode, changes will be applied to all selected devices.

The Settings tabs are the following:

- General Settings Tab (available only in Setting page for a single device)
- Radio Settings Tab
- Advanced Settings Tab
- Access Settings Tab

Refer to the relevant device manual for more details on the parameters available in the Settings tabs.

NOTE!

If you make any changes, remember to click the **Save Settings** button at the bottom right corner before switching to another Settings tab or exiting editing mode.

The changes are saved in the database of the controller. After making changes to device(s) settings, click on the **Management** option in the vertical menu bar to view the devices table. A blinking **Apply to AP** message is displayed on the right side of each relevant device. Click on the message to apply the changes to the device. The device status (in the table and on the map) will change temporarily to **Applying**.

2.6.7.1 General Settings Tab

NOTE!

The General Settings tabs is available only when editing a single device.

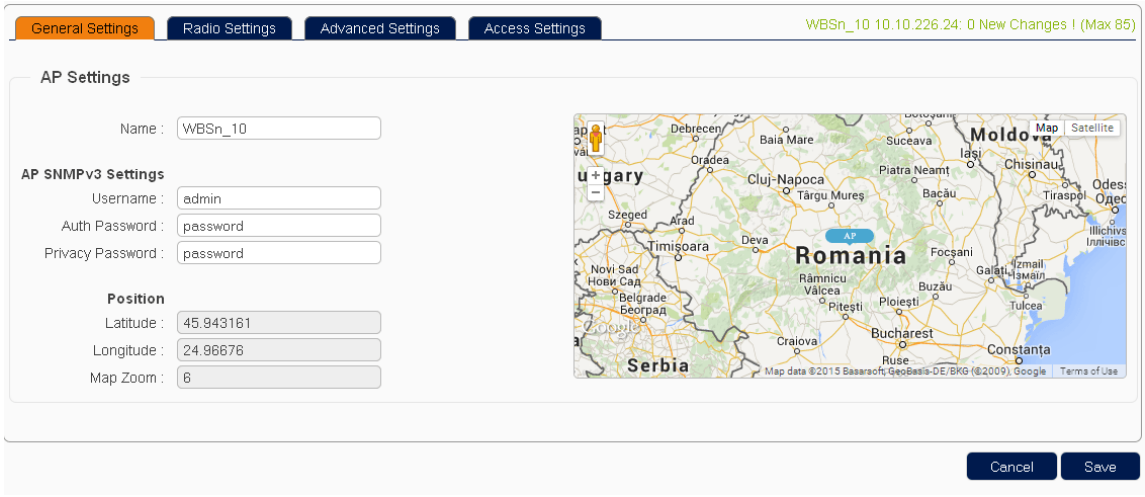


Figure 2-31: General Settings Tab

The General Settings tab includes the following sections:

- AP Settings
- AP SNMPv3 Settings
- Position Settings

2.6.7.1.1 AP Settings

The AP Settings section includes a single parameter:

- Name: The Name of the device.

2.6.7.1.2 AP SNMPv3 Settings

AP SNMPv3 settings define the parameters to be used for searching for and communicating with devices supporting SNMPv3.

The SNMPv3 Settings parameters are:

- **Username**: The name assigned to the SNMP user. The default is admin.
- **Auth Password**: The password used for authentication using the MD5 protocol. A string of at least 8 characters. The default is password.
- **Privacy Password**: The password used for encrypting the SNMP traffic using the CBC-DES protocol. A string of at least 8 characters. The default is password.

These settings could be different for different devices. They must match the SNMPv3 settings in the device. Due to security reasons, these settings cannot be transferred from the ARENA Controller to the devices. The same values should be configured on both the ARENA Controller and the device.

2.6.7.1.3 Position Settings

The Position read only settings show the current coordinates (Latitude and Longitude) for the device location on the map and the current Zoom level.

The default location on the general map for all devices is the location selected for the entire network in the Network page (see "General Tab" on page 8).

To change device location on the map:

1. In the map area, change the zoom level as required (the read-only Map Zoom parameter in the Position section will changed accordingly).
2. Click and drag the device icon to the required location for the device (the read-only coordinates in the Position section will changed accordingly).
3. Click on the **Save** button to save the new device coordinates.

The change will affect the location of the device icon on the general network map.

2.6.7.2 Radio Settings Tab

The Radio Settings tab includes the following second-level tabs:

- Main
- Radio Tab(s)

2.6.7.2.1 Main

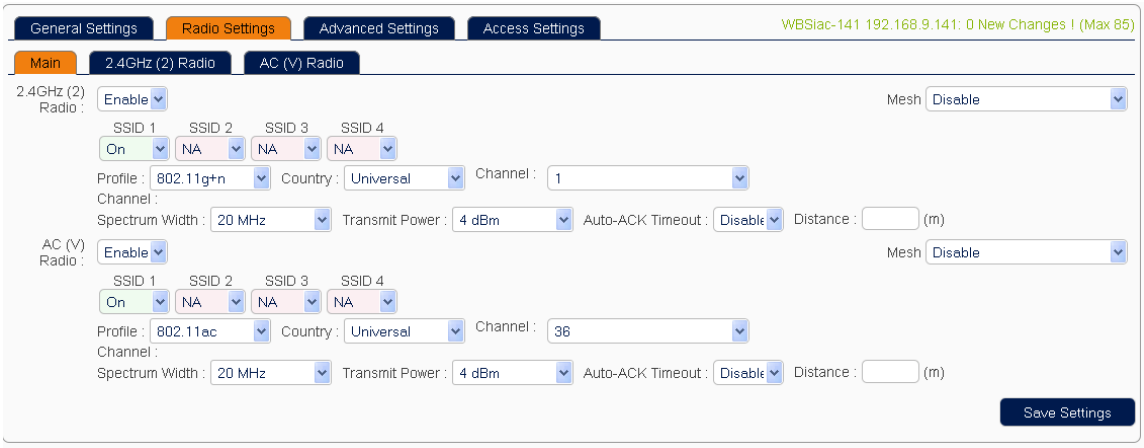


Figure 2-32: Radio Settings, Main Tab

The Main second-level tab includes the following parameters for each of the radios available in the device(s).

- **Enable/Disable** the radio.
- **Mesh**: Disable (the default) or Enable. Refer to .... for details on configuring mesh networks.
- **SSID1** through **SSID4**: Up to 4 SSIDs (VAPs) can be configured for each radio. The available options for each SSID are On (enable), Off (disable) and NA (not available).
- **Profile**: The wireless IEEE standard(s) used. For the 2.4 GHz band only the 802.11g+n (meaning 802.11g+802.11n) option is applicable. For the 5 GHz band available options are 802.11ac and 802.11a+n (meaning 802.11ac+802.11n).
- **Country**: Select the country in which the device operates to ensure that the applicable regulatory requirements are enforced. Local regulations affects parameters such as available channels and maximum Tx power.
- **Channel**: Select Auto or a specific channel. For an AP, use the Auto option to select the channel with the least interference. For a Station, always use the Auto option to automatically select the same channel as its AP.
- **Spectrum Width**: The available options for the channel bandwidth are:
  - » 20 MHz
  - » 20/40 MHz, allows both 20 and 40 MHz bands to be used (depending on the connected device).
  - » 20/40/80 MHz: Available only for the 802.11ac wireless standard, allowing bandwidths of 20, 40, and 80 MHz.
- **Transmit Power**: The total transmit power at the antennas ports. Select a specific value or Max. The maximum allowed value depends on applicable regulatory limitations and, in certain cases, the operating channel.
- **Auto-ACK Timeout**: Auto or Disable. Select auto to automatically adjust the ACK-timeout according to the calculated distance of each station from the AP. If the AP serves multiple stations located at different distances from the AP, it is recommended to disable this option to prevent the ACK timeout from fluctuating widely. If set to Disable, ACK timeout is determined by the Distance parameter.
- **Distance (m)**: Available only if Auto-ACK Timeout is disabled. The maximum distance of any station from the AP. The minimum is 300 meters. The maximum is 12000 (for a 80MHz bandwidth) / 24000 (for a 40MHz bandwidth) / 48000 (for a 20MHz bandwidth). This value should be set to slightly more than the physical distance between the AP and the farthest station.

2.6.7.2.2 Radio Tab(s)

For each SSID configured for the relevant radio, the following sub-tabs are available:

- General Setup
- Wireless Security
- MAC Filter
- Advanced Settings

The tabs and their options are listed in the following sections.

2.6.7.2.2.1 General Setup

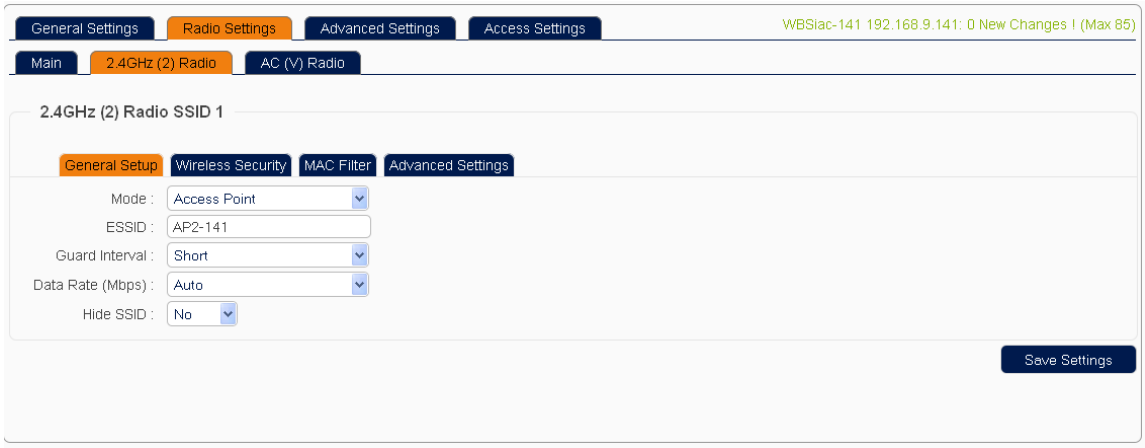


Figure 2-33: Radio Settings, Radio General Setup Tab

The General Setup sub-tab includes the following parameters:

- **Mode**: The operation mode of the VAP. Available options are:
  - Access Point
  - Access Point (WDS)
  - Station
  - Station (WDS)

NOTE!

Setting more than 1 station is not supported because there can only be one default gateway. Both radios cannot be in Station or Station (WDS) mode at the same time.

- **ESSID**: The name or extended service set identifier (ESSID) of the wireless network. A string of up to 32 characters. In AP mode, it is the name of the network as advertised in the beacon messages. In Station mode, it is the network name that the can station associate with.
- **Guard Interval**: Short (the default) or Long. Guard intervals are used to ensure that distinct transmissions do not interfere with one another. Data rate is improved in both downlink and uplink if both AP and station use Short Guard Interval.

- **Data Rate (Mbps)**: Selects the maximum data rate or the modulation and coding scheme (MCS). In Auto mode (the default) the MCS and data rates are adjusted automatically depending on the wireless channel conditions. The available options are:
  - » Auto (default)
  - » 6, 9, 12, 18, 24, 36, 48, 54 Mbps (applicable for 802.11g)
  - » MCS 0 - 15 (applicable for 802.11n and 802.11ac)
- **Hide SSID**: Yes or No (the default). Select Yes to hide the network name (ESSID) from being broadcasted publicly (applicable only for AP mode). Hiding the SSID can decrease the amount of stations that may try connecting to the wireless network. If Hotspot service is enabled, SSID should not be hidden.

2.6.7.2.2.2 Wireless Security

Figure 2-34: Radio Settings, Radio Wireless Security Tab

The Wireless Security sub-tab includes the following parameters:

- **Wireless Security**: The selected Wireless Security option and relevant parameters define the methods to be used for authentication of client stations and for protecting the information transferred over the wireless link. The available options are:
  - No Encryption
  - WEP-Open
  - WEP-Shared
  - WPA-PSK
  - WPA2-PSK
  - WPA/WPA2-PSK
  - WPA/EAP
  - WPA2/EAP

  No Encryption: No authentication, no encryption of over the air information. This is the default mode that should typically be used for testing purposes or for enabling any client to connect with the AP (e.g. to support Hotspot services).

  WEP: Wired Equivalent Privacy (WEP) is the oldest and least secure encryption algorithm. In 2004 the IEEE declared that both WEP-40 and WEP-104 "have been deprecated as they fail to meet their security goals". Stronger encryption using WPA or WPA2 should be used where possible.

  The same shared WEP key must be configured in both side of the wireless link, and is used for both authentication and encryption of over the air traffic.

  For the WEP Open System and WEP Shared Key encryptions, you can specify up to 4 keys and only 1 would be used at a time. The following parameters are available:

  - **Used Key Slot**: Chooses between Key #1 to Key #4.
  - **Key #1**: Specifies a string of characters to be used as the password. It may consist of 5 ASCII characters or 10 HEX characters, implying a 64-bit WEP key length (WEP 40). Otherwise, it may consist of 13 ASCII or 26 HEX characters, implying a 128-bit key length (WEP 104).
  - **Key #2, Key #3, and Key #4**: Similar to Key #1.

Valid HEX characters are numbers 0-9 and letters A-F, case insensitive. Valid ASCII characters are numbers and the letters of the English alphabet, case sensitive.

WPA or WPA2 with PSK: WPA (Wi-Fi Protected Access) became available in 2003 and was intended as an intermediate measure in anticipation of the availability of the more secure and complex WPA2. WPA is a more powerful security technology for Wi-Fi networks than WEP. It provides strong data protection by using encryption as well as better access control and user authentication. TKIP (Temporal Key Integrity Protocol) is used for data encryption. TKIP is no longer considered secure and was deprecated in the 2012 revision of the 802.11 standard.

WPA has been replaced by WPA2 using the much stronger AES-based security. The WPA options are available for supporting some client devices that do not support WPA2 with AES encryption. These options are no longer supported for client using the IEEE 802.11n standard.

For WPA-PSK, WPA2-PSK, WPA-PSK/WPA2-PSK Mixed Mode encryptions, we have the following options.

- **Cipher**: Can be set to Auto, CCMP (AES), or TKIP and CCMP (AES). The Counter Mode Cipher Block Chaining Message Authentication Code Protocol (CCMP) is based on the Advanced Encryption Standard (AES) and is the most secure protocol.
- **Key**: The pre-shared key (PSK) is the password for the wireless network. This may consist of 8 to 63 printable ASCII characters.

WPA or WPA2 with EAP: The Extensible Authentication Protocol (EAP) is encapsulated by the IEEE 802.1X authentication method. IEEE 802.1X is equivalent to EAP over LAN or WLAN. Enterprise networks commonly use this authentication method.

Required parameter depend on the operation mode of the device:

1 **AP Mode**

- **Cipher**: The options are Auto, CCMP (AES), TKIP and CCMP (AES).
- **Radius-Authentication-Server**: The IP address of the RADIUS authentication server.
- **Radius-Authentication-Port**: The port number for the RADIUS authentication server. Normally, the port number is 1812.
- **Radius-Authentication-Secret**: The password for authentication transaction.
- **Radius-Accounting-Server**: The IP address of the RADIUS accounting server.
- **Radius-Accounting-Port**: The port number for the RADIUS accounting server. Normally, the port number is 1813.
- **Radius-Accounting-Secret**: The password for accounting transaction.
- **NAS ID**: Specifies the identity of the network access server (NAS).

2 **Station Mode**

- **Cipher**: The options are Auto, CCMP (AES), TKIP and CCMP (AES).
- **EAP-Method**: The authentication protocol can be set to Transport Layer Security (TLS), Tunneled TLS (TTLS), or Protected EAP (PEAP).
- **Path to CA-Certificate**: Selects the file for the CA certificate.
- **Path to Client-Certificate**: Selects the file for the client certificate.

NOTE! The certificate authority (CA) is a trusted third party that issues digital certificates. In a public key infrastructure scheme, a digital certificate certifies the ownership of a public key by the named subject of the certificate.

Options for TLS as the EAP method:

- **Path to Private Key**: Selects the file for the private key.
- **Password of Private Key**: The password for the private key.

Options for TTLS or PEAP as the EAP method:

- **Authentication**: Selects the authentication method used by the AP, e.g., PAP, CHAP, MSCHAP, or MSCHAPV2.
- **Identity**: Sets the identity used by the supplicant for EAP authentication.
- **Password**: Sets the password used by the supplicant for EAP authentication.

2.6.7.2.2.3 MAC Filter

The MAC Filter sub-tab is applicable only for AP Mode.

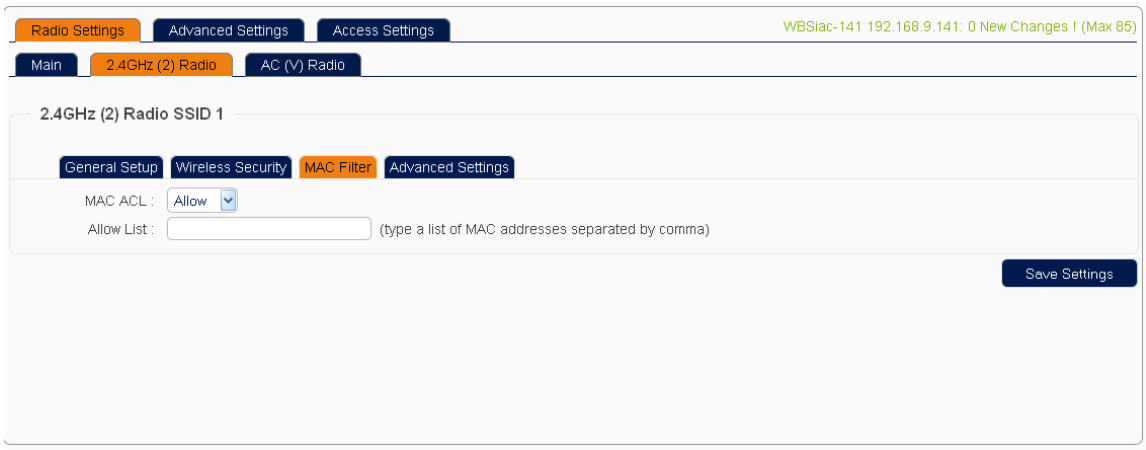


Figure 2-35: Radio Settings, Radio MAC Filter Tab

- **MAC ACL**: The options are Disable (the default), Allow and Deny.

A MAC access list is a group of client MAC addresses that can be either permitted or denied access to the network.

If an Allow ACL is defined, only stations with a MAC address included in the ACL are allowed to associate to the wireless network, and an association attempt by any stations whose MAC address is not included will be rejected.

If a Deny ACL is defined, an association attempt by any stations whose MAC address is included in the ACL will be rejected. All stations with a MAC address that is not included in the ACL are allowed to associate to the network.

If either Allow or Deny option is selected, you can enter a list of MAC addresses (separated by comma) that will be included in the Allow/Deny list.

2.6.7.2.2.4 Advanced Settings

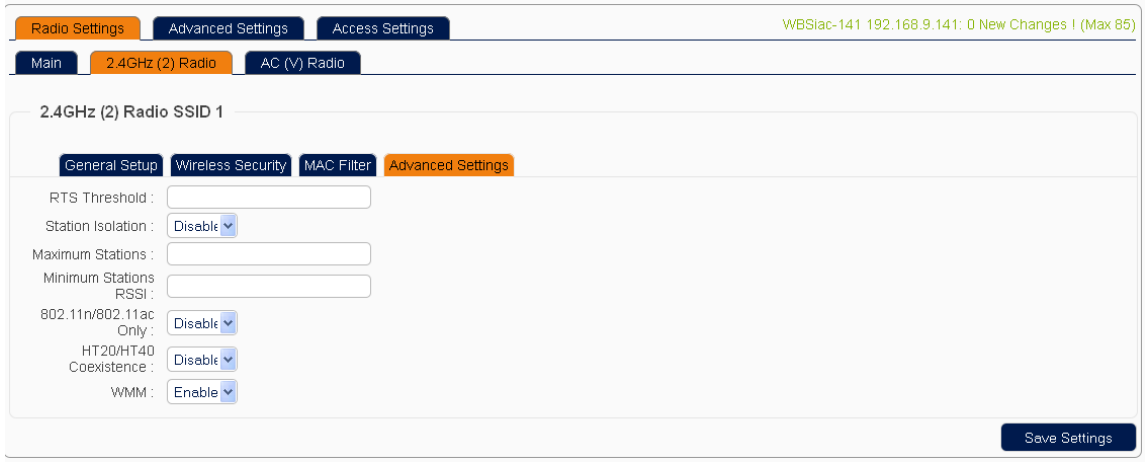


Figure 2-36: Radio Settings, Radio Advanced Settings Tab

The parameters available in the Advanced Settings sub-tab are:

- **RTS Threshold**: Sets the threshold for the packet size (in octets) above which the request to send (RTS) mechanism is used. The default in the device is 2346 octets, which means that practically RTS will never be used. There is a trade-off to consider when setting this parameter. On the one hand, using a small value causes RTS packets to be sent more often, consuming more of the available bandwidth, and therefore reducing the throughput of the network. On the other hand, when more RTS packets are sent, the system recovers faster from interference or collisions. This is useful in a heavily loaded network, or a wireless network with high interference level. The default in the controller is blank, meaning no change.
- **Station Isolatio**n: Applicable only for AP mode. When Station Isolation is disabled (the default), wireless clients can communicate with one another normally by sending traffic through the AP. When Station Isolation is enabled, the AP blocks communication between wireless clients on the same AP.
- **Maximum Stations**: Applicable only for AP mode. The maximum number of stations that can associate with the AP (the default in the AP is 127). The default in the controller is blank, meaning no change.
- **Minimum Stations RSSI**: Applicable only for AP mode. The minimum received signal strength indicator required for allowing a station to be associated. At value of 0 (the default in the AP) means that the AP would allow a station to associate independent of its RSSI. The default in the controller is blank, meaning no change.
- **802.11n/802.11ac Only**: Applicable only for AP mode. When enabled, the device can use only the IEEE802.11n or IEEE802.11ac standard. The default is Disable.
- **HT20/HT40 Coexistence**: Allows the network to use both 20 MHz and 40 MHz bandwidths. Required on AP side primarily to support co-existence. The station can also send intolerant bit status to AP to signal the use of a 20 MHz channel. The station follows the AP's channel bonding and

channel switching HT 20/40 mechanism. Disabling this parameter (the default) forces the use of 40 MHz bandwidth/channel bonding, and results in a high data rate.

- **WMM**: WMM (Wi-Fi Multi Media), as defined by the IEEE 802.11e standard, provides basic quality of service (QoS) features to IEEE 802.11 wireless networks. WMM enables the classification of the network traffic into 4 main types in decreasing order of priority:
  - » Voice (the highest priority)
  - » Video
  - » Best Effort (data from applications or devices that do not support QoS)
  - » Background (the lowest priority, used for file downloads, print jobs and other traffic that does not suffer from increased latency)

  Higher priority traffic has a higher transmission opportunity and would have to wait less time to transmit. As a result, an existing video stream would not be interrupted by additional background processes.

NOTE!

In order to support end-to-end QoS, both ends of the network should support the same QoS priority marking.

2.6.7.3 Advanced Settings Tab

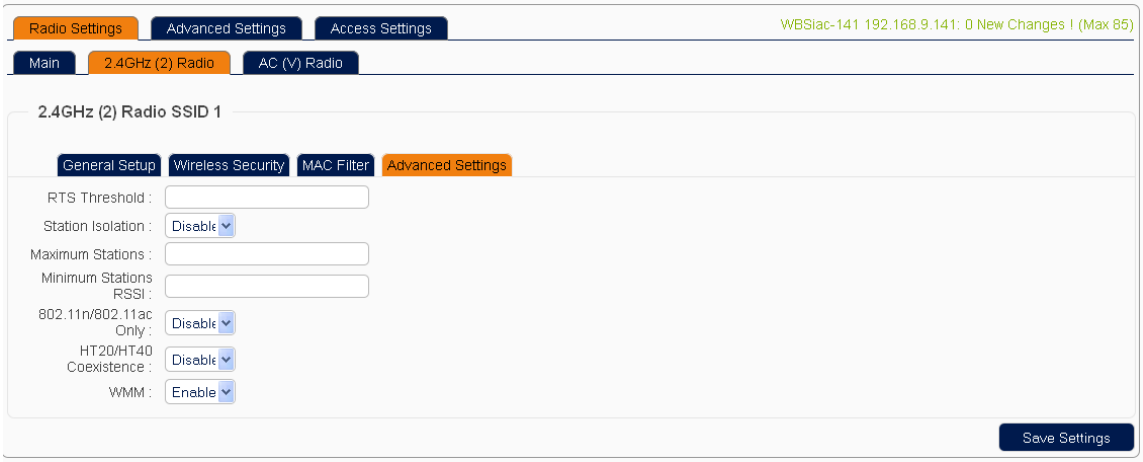


Figure 2-37: Advanced Settings Tab

The Advanced Settings tab includes the following parameters:

- **Set SSH Passwords of root user**: You may enter a new password for the "root" user of the ARENA Controller AP's Linux shell.
- **Web**:

- **Failover AP Controller**: Future feature)

2.6.7.4 Access Settings Tab

The Access Settings tab enables configuring the AP to operate as a hotspot, offering public access to the internet.

NOTE! Before configuring an AP to provide hotspot service, you should connect to the device and configure the LAN, Wifi, and WAN settings, then test it before enabling the hotspot settings using the ARENA controller. For details refer to the Hotspot section in the relevant device manual.

The Access Settings tab includes the following second-level tabs:

- General Settings
- Network Configuration
- Radius Configuration

2.6.7.4.1 General Settings

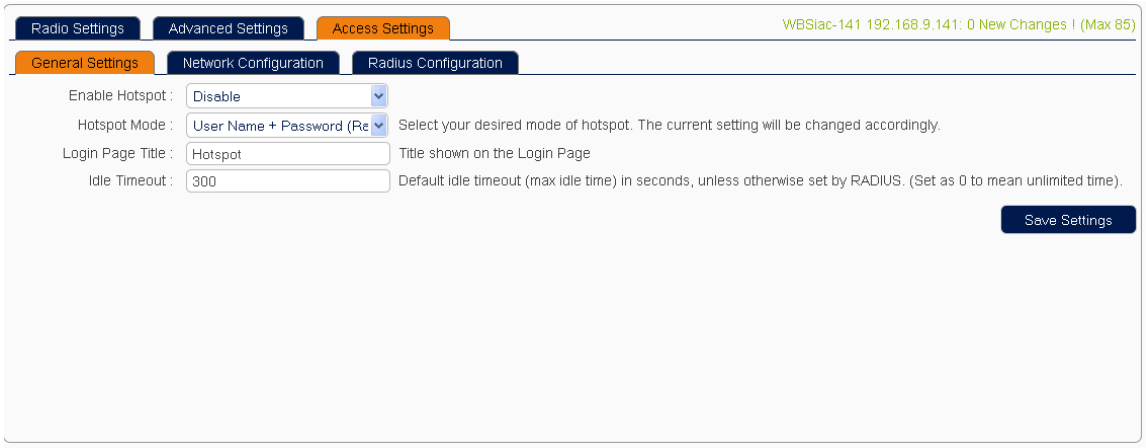


Figure 2-38: Access Settings, General Settings Tab

The General Setting second-level tab includes the following parameters:

- **Enable Hotspot**: Enable or Disable (the default) Hotspot service.

- **Hotspot Mode**: Selects the required mode for providing hotspot service. The available options are:
  - User Name + Password (Radius Required)
  - Agreement (Radius Required)
  - Agreement (Radius not Required)
  - Password (Radius Required)
  - Password (Radius not Required)
- **Password**: Available only if selected mode is Password (Radius not Required). The password to be used for allowing access to the Internet.
- **Login Page Title**: The title to be shown on the Login Page.
- **Idle Timeout**: The timeout in seconds before disconnecting non-active users (unless otherwise set by the RADIUS server). A value of 0 means unlimited time. The default is 300 seconds.

2.6.7.4.2 Network Configuration

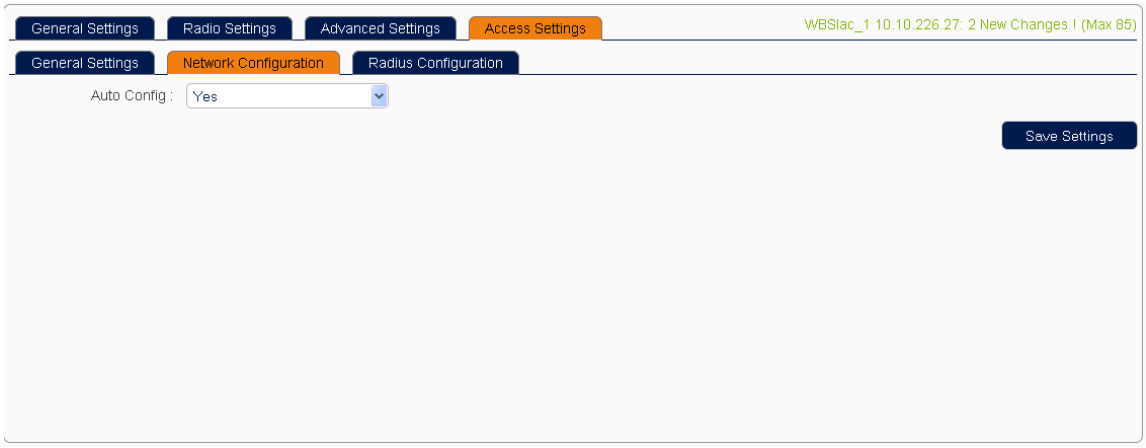


Figure 2-39: Access Settings, Network Configuration Tab

- **Auto Config**: Do not change the default configuration (Yes) to automatically configure the network parameters.

2.6.7.4.3 Radius Configuration

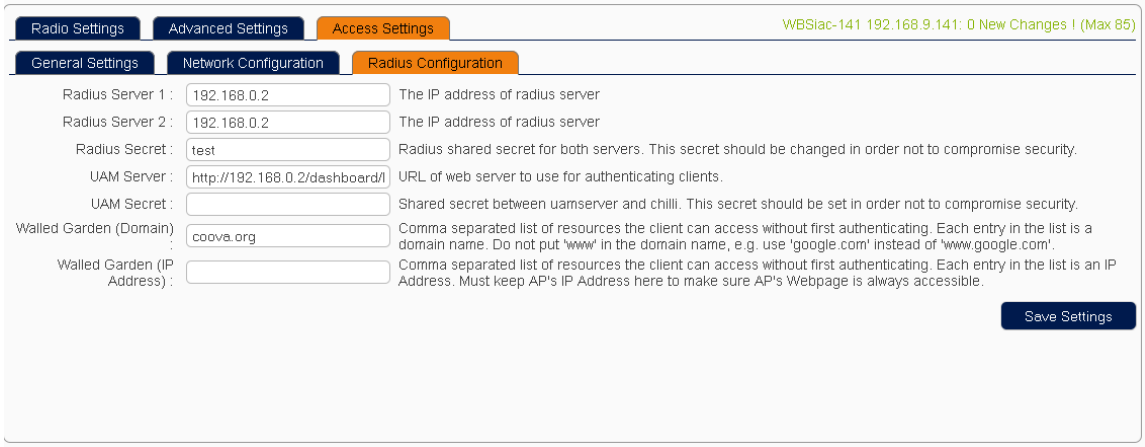


Figure 2-40: Access Settings, Radius Configuration Tab

The Radius Configuration second-level tab includes the following parameters:

- **Radius Server 1**: The IP address of the primary RADIUS server. The IP address of the ARENA Controller can be used.
- **Radius Server 2**: The IP address of the secondary RADIUS server.
- **Radius Secret**: The Radius shared secret for both servers. The secret should be changed from its default value (test) in order not to compromise security.
- **UAM Server**: URL of the UAM (Universal Access Method) web server to use for authenticating clients.
- **UAM Secret**: Shared secret between the UAM server and the controller. This secret should be set in order not to compromise security (default: leave as blank).
- **Walled Garden (Domain)**: A comma separated list of resources the client can access without first authenticating. Each entry in the list is a domain name. Do not put www in the domain name. For example: google.com is a valid domain name, www.google.com is not acceptable.
- **Walled Garden (IP Address)**: A comma separated list of resources the client can access without first authenticating. Each entry in the list is an IP Address. The list must include the IP addresses of the AP's web page and the ARENA Controller's web page.

2.7 Users Page

The Users page includes the following tabs:

- Stations Tab
- Logs Tab
- Clear users Tab

2.7.1 Stations Tab

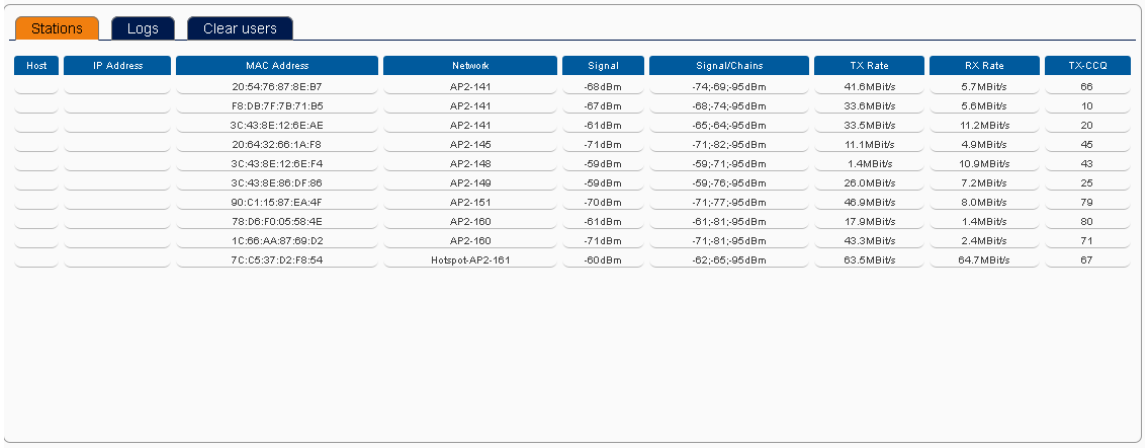


Figure 2-41: The Users Page, Stations Tab

The Stations tab provides the following details for each of the currently connected stations:

- **Host**: The name of the station.
- **IP Address**: The IP address of the station.
- **MAC Address**: The MAC address of the station.
- **Network**: The SSID identifying the VAP to which the station is connected.
- **Signal**: The total strength (in dBm) of the signal received from the station.
- **Signal/Chains**: The strength of the signal received from the station per chain (the value of -95 dBm is taken to mean "no antenna").
- **TX Rate**: The transmit bit rate of the station.
- **RX Rate**: The receive bit rate of the station.
- **TX-CCQ**: The transmission quality in % (a higher percentage means a better wireless connection quality).

2.7.2 Logs Tab

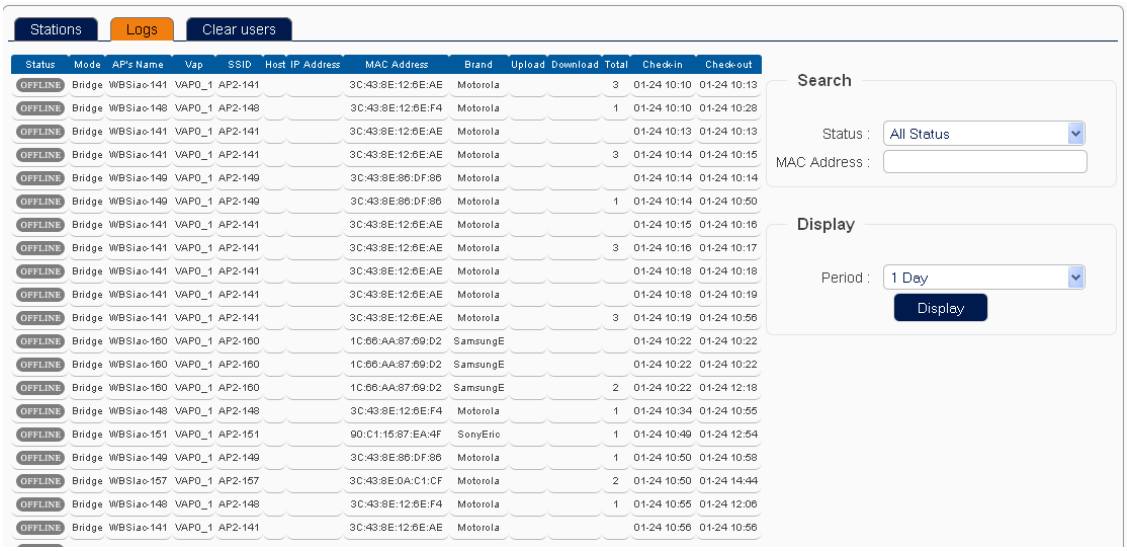


Figure 2-42: The Users Page, Logs Tab

The Logs tab displays the recorded activity for a selectable time period of all devices that were connected to all managed APs. The parameters displayed includes the following:

- **Status**: The current connection status. ONLINE or OFFLINE.
- **Mode**: The operation mode of the AP (Bridge or Router).
- **AP's Name**: The AP to which the device is/was connected.
- **VAP**: The VAP to which the device is/was connected.
- **SSID**: The SSID of the VAP to which the device is/was connected.
- **Host IP Address**: The IP address of the end user device.
- **MAC address**: MAC address of the end user device.
- **Brand**: The brand (manufacturer) of the end user device.
- **Upload**: The total amount of data uploaded from the device (in Mbits).
- **Download**: The total amount of data downloaded to the device (in Mbits).
- **Total**: The total amount of data uploaded/downloaded to the device (in Mbits).
- **Check-in time**: Date and time at which the device became connected.
- **Check-out time**: Date and time at which the device became disconnected (not applicable for an ONLINE connection record).

The end users are updated every 15 seconds.

The **Search** section enables activating an on-the-fly filter on the displayed records using either one or both of the following criteria:

- **Status**: Online, Offline, or All Status (the default).
- **MAC Address**: The list is filtered on-the-fly, meaning that after entering any number of characters, only records with a MAC address starting with these characters (case sensitive) will be displayed.

In the **Display** section you can select the period for which connection records will be displayed: In the **Period** drop-down menu select the required option (1 Day, 3 day, 5 Day) and click on the **Display** button to update the displayed information.

2.7.3 Clear users Tab

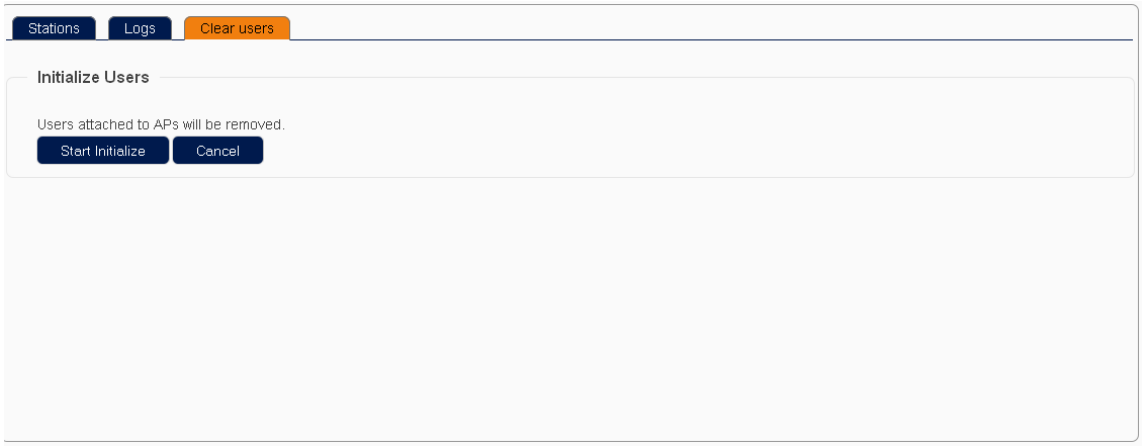


Figure 2-43: The Users Page, Clear users Tab

The Clear users tabs enables disassociate connected users.

2.8 Access Control Page

The Access Control page enables management of various plans for hotspot public access services and of end-users that are allowed to use any of these plans.

An access plan includes certain service limitations such as maximum download/upload rates and maximum amount of data and/or usage time. Users that are allowed to access the Internet using any of the defined plans are provided with a personal password/code.

The Access Control page comprises the following tabs:

- Prepaid Tab
- Postpaid Tab
- Office Tab
- Guest Tab
- Report Tab

2.8.1 Prepaid Tab

The Prepaid tab includes the following second-level tabs enabling management of prepaid access plans and accounts:

- Prepaid Plan
- Prepaid List

2.8.1.1 Prepaid Plan

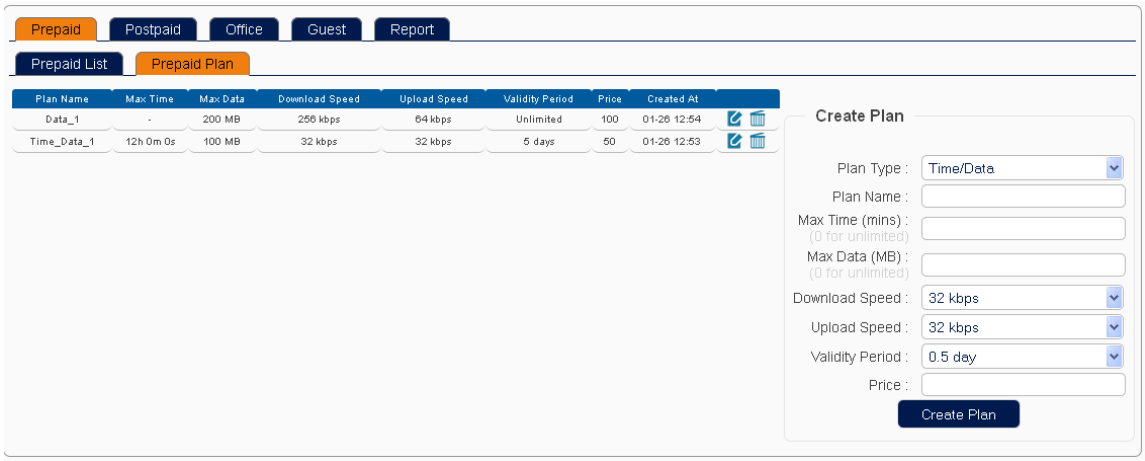


Figure 2-44: Access Control Page, Prepaid Tab, Prepaid Plan

The Prepaid Plan tab includes the following sections:

- Create Plan
- Prepaid Plans Table

2.8.1.1.1 Create Plan

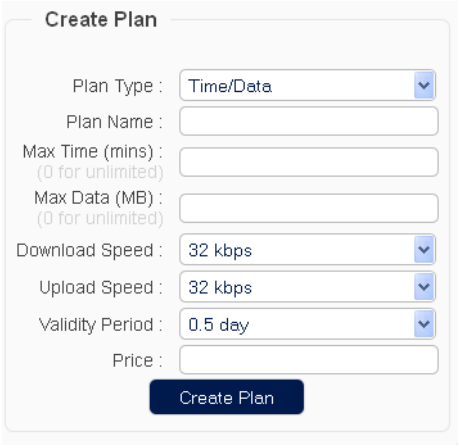


Figure 2-45: Prepaid Plan - Create Plan Section

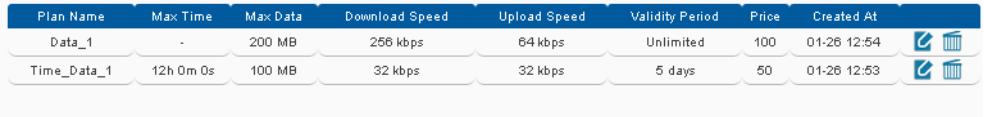
The Create Plan section enables creating a new Prepaid plan, using the following parameters:

- **Plan Type**: The type of the plan. The following options are available in the drop-down list:
  - Time/Data: Both time usage and total amount of data (upload/download) are limited.
  - Data: Total amount of data (upload/download) is limited. There is no limit on time usage.
  - Time: Time usage is limited. There is no limit on amount of data that can be uploaded/downloaded.
- **Plan Name**: The name of the plan.
- **Max Time (mins)**: The maximum usage time (in minutes) available for users of the plan. Set to 0 (not editable) for a Data plan. For other plan types a value must be entered (0, meaning no limit, is a valid value).
- **Max Data (MB)**: The maximum amount of data (upload and download, in Mbits) available for users of the plan. Set to 0 (not editable) for a Time plan. For other plan types a value must be entered (0, meaning no limit, is a valid value).
- **Download Speed**: The download speed for users of the plan. Available options in the drop down list include different speeds from 32 kbps (the default) to 8 Mbps, and Unlimited.
- **Upload Speed**: The download speed for users of the plan. Available options in the drop down list include different speeds from 32 kbps (the default) to 8 Mbps, and Unlimited.

- **Validity Period**: The validity period of a code (account) for this plan from the time at which the code was generated (see details in "Prepaid Accounts Table" on page 57). Available options in the drop-down list includes several periods from 0.5 day (the default) to 5 days, and Unlimited.
- **Price**: The plan price. A value must be entered (0 is a valid value).

After configuring all required parameters, click on the **Create Plan** button. The newly created plan will be added at the top of the Prepaid Plans table (see below).

2.8.1.1.2 Prepaid Plans Table



Plan Name	Max Time	Max Data	Download Speed	Upload Speed	Validity Period	Price	Created At	
Data_1	-	200 MB	256 kbps	64 kbps	Unlimited	100	01-26 12:54	
Time_Data_1	12h 0m 0s	100 MB	32 kbps	32 kbps	5 days	50	01-26 12:53	

Figure 2-46: Prepaid Plan - Prepaid Plans Table

The Prepaid Plans table provides the following details for each of the previously created prepaid plans:

- **Plan Name**: The name of the plan.
- **Max Time**: The maximum usage time available for users of the plan (- or 0s means unlimited).
- **Max Data**: The maximum amount of data (upload and download) available for users of the plan (- or 0 KB means unlimited).
- **Download Speed**: The download speed for users of the plan.
- **Upload Speed**: The download speed for users of the plan.
- **Validity Period**: The validity period of a code (account) for this plan from the time at which the code was generated (see details in "Prepaid Accounts Table" on page 57).
- **Price**: The plan price.
- **Created At**: The date and time at which the plan was created.

The icons on the right side of each entry enables the following actions:

To delete a plan from the database:

Click on the **Delete** ( ) icon. You will be prompted to confirm or cancel the requested action.

To edit the parameters of a plan:

1 Click on the **Edit** ( ) icon to open the Edit Plan (instead of the Create Plan) section:

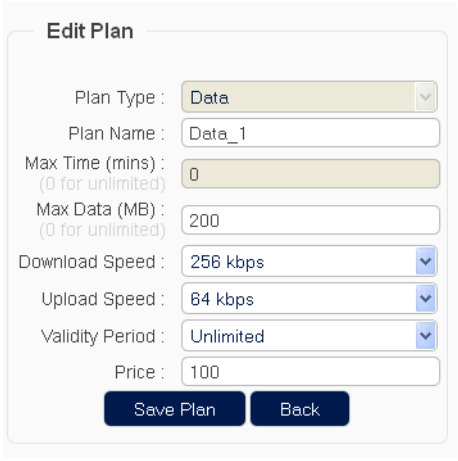


Figure 2-47: Prepaid Plan - Edit Plan Section

The parameters available for plan editing are the same as those available when creating a new plan (see "Create Plan" on page 54), excluding **Plan Type** and **Plan Name** that are not editable.

2 Edit the plan as required and click on the **Save Plan** button to save the modified plan (or click on the **Back** button to cancel the editing action).

2.8.1.2 Prepaid List

The Prepaid List second-level tab enables managing accounts of users that are allowed to access the Internet using a Prepaid Plan.

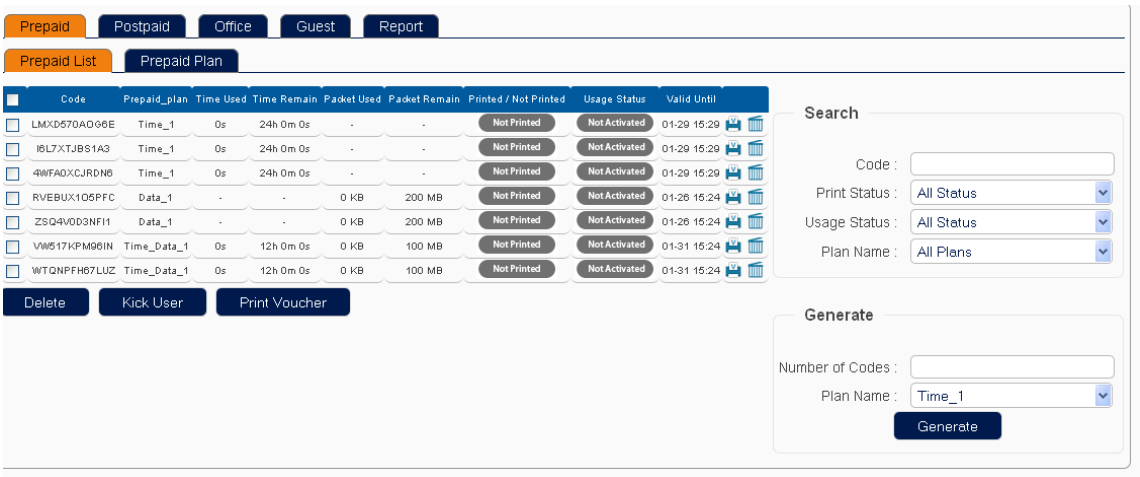


Figure 2-48: Access Control Page, Prepaid Tab, Prepaid List

The Prepaid List tab includes the following sections:

- Prepaid Accounts Table

- Search
- Generate

2.8.1.2.1 Prepaid Accounts Table

This section includes:

- Table's Details
- Deleting Accounts
- Printing Vouchers
- Kicking Users

2.8.1.2.1.1 Table's Details

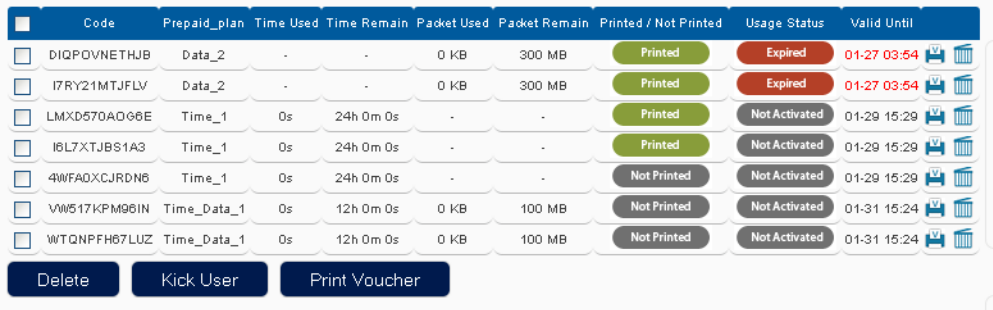


Figure 2-49: Prepaid List - Accounts Table

The Prepaid Accounts table provides the following details for each of the existing prepaid accounts:

- **Code**: The unique code to be used for getting access to the Internet (used for both User Name and Password in the Login page).
- **Prepaid-Plan**: The name of the plan.
- **Time Used**: The amount of time already used by the account (not applicable for Data plans).
- **Time Remain**: The amount of time still available for use by the account (not applicable for Data plans).
- **Packet Used**: The amount of data (upload/download) already used by the account (not applicable for Time plans).
- **Packet Remain**: The amount of data (upload/download) still available for use by the account (not applicable for Time plans).
- **Printed/Not Printed**: The print status of a voucher for the account.

- **Usage Status**: The current usage status of the account:
  - Online: The account is being used (active).
  - Used: The account has been fully used (the maximum limit for time and/or data usage was reached).
  - Finished: The account was activated but is currently offline. It may still be used.
  - Expired: The account is no longer valid (Validity Period expired).
  - Kicking...
  - Not Activated: The account was not activated yet.
- **Valid Until**: The date and time at which the account will expire (or expired - in red).

A selection checkbox is available on the left side of each entry, allowing to select/deselect accounts for various operations using the buttons below the table. The checkbox in the headers row can be used to select/de-select all entries.

The icons on the right side of each entry and the buttons below the table enable the actions described in the following sections:

2.8.1.2.1.2 Deleting Accounts

To delete a single account from the database:

Click on the **Delete** ( ) icon. You will be prompted to confirm or cancel the requested action.

NOTE!

The **Delete** icon is not applicable for an account that is currently Online (for an Online account it is replaced by the **Kick User** icon).

To delete multiple accounts from the database:

1. Select the accounts to be deleted.
2. Click on the **Delete** button.

2.8.1.2.1.3 Printing Vouchers

To print a voucher for a single account:

1. Click on the **Print Voucher** ( ) icon (pop-up windows should not be blocked in the browser's settings).
2. A pop-up window with voucher's details will be opened. Click **Ctrl+P** to open the Print dialog box.

To print multiple vouchers:

1. Select the accounts for which vouchers should be generated.
2. Click on the **Print Voucher** button (pop-up windows should not be blocked in the browser's settings).
3. A pop-up window with details of invoices for all selected accounts will be opened. Click **Ctrl+P** to open the Print dialog box.

2.8.1.2.1.4 Kicking Users

The Kick User action is applicable only for online users, disconnecting an active session and forcing the user to login again.

To kick a single user:

Click on the **Kick User** ( ) icon (available only for online users, replacing the Delete icon). You will be prompted to confirm or cancel the requested action.

To kick multiple users:

1. Select the accounts to be kicked.
2. Click on the **Kick User** button. You will be prompted to confirm or cancel the requested action.

2.8.1.2.2 Search

The Search section enables selection of one or several search criteria for on-the-fly filtering of the entries in the accounts table. Only entries that match all selected criteria will be displayed.

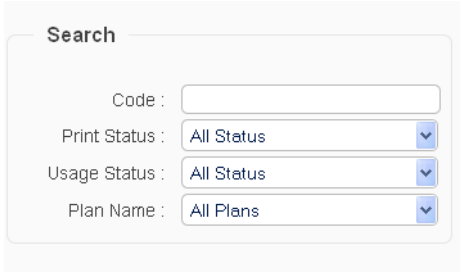


Figure 2-50: Prepaid List - Search Section

The available search criteria are:

- **Code**: The code generated for the account. The list is filtered on-the-fly, meaning that after entering any number of characters, only accounts with a code starting with these characters (case sensitive) will be displayed.
- **Print Status**: Available options in the drop-down list are All Status (the default), Printed, and Not Printed.
- **Usage Status**: Available options in the drop-down list are All Status (the default), Online, Used, Finished, Expired, Kicking... and Not Activated (see Usage Status in "Prepaid Accounts Table" on page 57 for more details on these options).
- **Plan Name**: Available options in the drop-down list include All Plans (the default) and the names of all currently available prepaid plans.

2.8.1.2.3 Generate

The Generate section enables creating new accounts by generating appropriate codes to be used for getting access to the Internet (the code is used as both User Name and Password in the Login page).

Figure 2-51: Prepaid Plan - Generate Section

To generate new codes:

1. In the **Plan Name** drop-down list select the name of the plan for which you want to generate new codes. The list includes all available plans (the default is the last created plan).
2. In the **Number of Codes** text field enter the number of new accounts you want to generate.

3 Click on the **Generate** button. The new accounts will be added at the top of the table.

NOTE!

Note that Validity Period for a new account starts at the time of code's generation.

2.8.2 Postpaid Tab

The Postpaid tab includes the following second-level tabs enabling management of postpaid access plans and accounts:

- Postpaid Plan
- Postpaid List
- Postpaid Import

2.8.2.1 Postpaid Plan

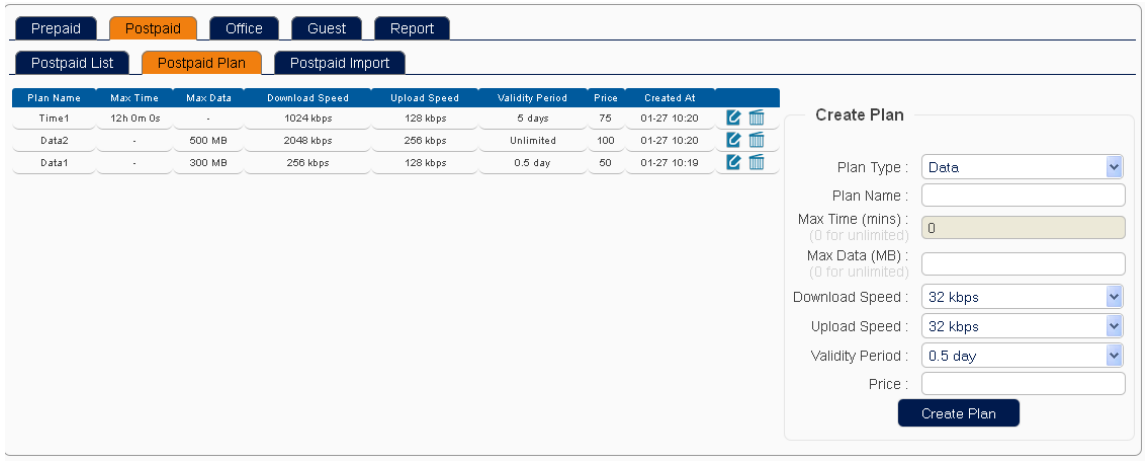


Figure 2-52: Access Control Page, Postpaid Tab, Postpaid Plan

The Postpaid Plan tab includes the following sections:

- Create Plan
- Postpaid Plans Table

2.8.2.1.1 Create Plan

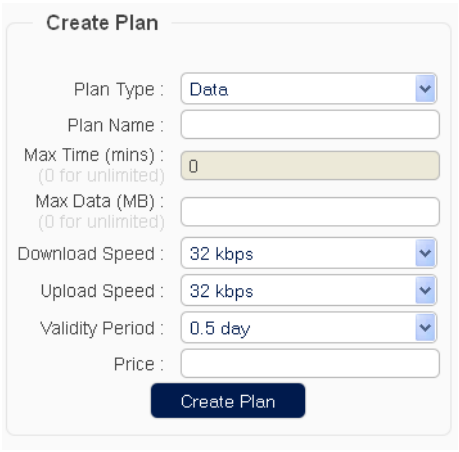


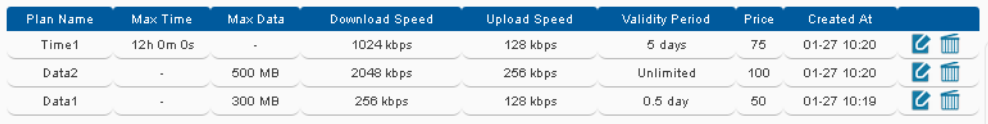
Figure 2-53: Postpaid Plan - Create Plan Section

The Create Plan section enables creating a new Pospaid plan, using the following parameters:

- **Plan Type**: The type of the plan. The following options are available in the drop-down list:
  - » Data (the default): Total amount of data (upload/download) is limited. There is no limit on time usage.
  - » Time: Time usage is limited. There is no limit on amount of data that can be uploaded/downloaded.
- **Plan Name**: The name of the plan.
- **Max Time (mins)**: The maximum usage time (in minutes) available for users of the plan. Set to 0 (not editable) for a Data plan. For Time plans a value must be entered (0, meaning no limit, is a valid value).
- **Max Data (MB)**: The maximum amount of data (upload and download, in Mbits) available for users of the plan. Set to 0 (not editable) for a Time plan. For Data plans a value must be entered (0, meaning no limit, is a valid value).
- **Download Speed**: The download speed for users of the plan. Available options in the drop down list include different speeds from 32 kbps (the default) to 8 Mbps, and Unlimited.
- **Upload Speed**: The download speed for users of the plan. Available options in the drop down list include different speeds from 32 kbps (the default) to 8 Mbps, and Unlimited.
- **Validity Period**: The validity period of a password (account) for this plan from the time at which the password was generated. Available options in the drop-down list includes several periods from 0.5 day (the default) to 5 days, and Unlimited.
- **Price**: The plan price. A value must be entered (0 is a valid value).

After configuring all required parameters, click on the **Create Plan** button. The newly created plan will be added at the top of the Postpaid Plans table (see below).

2.8.2.1.2 Postpaid Plans Table



Plan Name	Max Time	Max Data	Download Speed	Upload Speed	Validity Period	Price	Created At	
Time1	12h 0m 0s	-	1024 kbps	128 kbps	5 days	75	01-27 10:20	
Data2	-	500 MB	2048 kbps	256 kbps	Unlimited	100	01-27 10:20	
Data1	-	300 MB	256 kbps	128 kbps	0.5 day	50	01-27 10:19	

Figure 2-54: Postpaid Plan - Postpaid Plans Table

The Postpaid Plans table provides the following details for each of the previously created postpaid plans:

- **Plan Name**: The name of the plan.
- **Max Time**: The maximum usage time available for users of the plan (- or 0s means unlimited).
- **Max Data**: The maximum amount of data (upload and download) available for users of the plan (- or 0 KB means unlimited).
- **Download Speed**: The download speed for users of the plan.
- **Upload Speed**: The download speed for users of the plan.
- **Validity Period**: The validity period of a password (account) for this plan from the time at which the password was generated.
- **Price**: The plan price.
- **Created At**: The date and time at which the plan was created.

The icons on the right side of each entry enables the following actions:

To delete a plan from the database:

Click on the **Delete** ( ) icon. You will be prompted to confirm or cancel the requested action.

To edit the parameters of a plan:

1 Click on the **Edit** ( ) icon to open the Edit Plan (instead of the Create Plan) section:

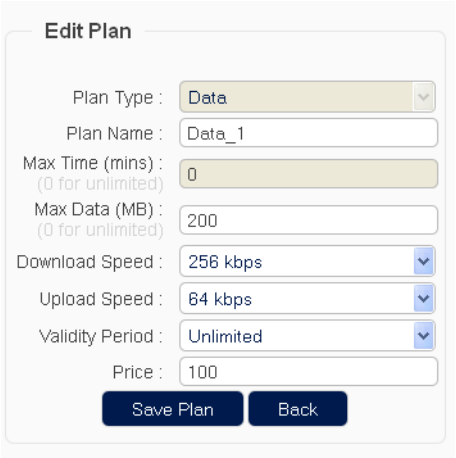


Figure 2-55: Postpaid Plan - Edit Plan Section

The parameters available for plan editing are the same as those available when creating a new plan (see "Create Plan" on page 62), excluding **Plan Type** and **Plan Name** that are not editable.

2 Edit the plan as required and click on the **Save Plan** button to save the modified plan (or click on the **Back** button to cancel the editing action).

2.8.2.2 Postpaid List

The Postpaid List second-level tab enables managing accounts of users that are allowed to access the Internet using a Postpaid Plan.

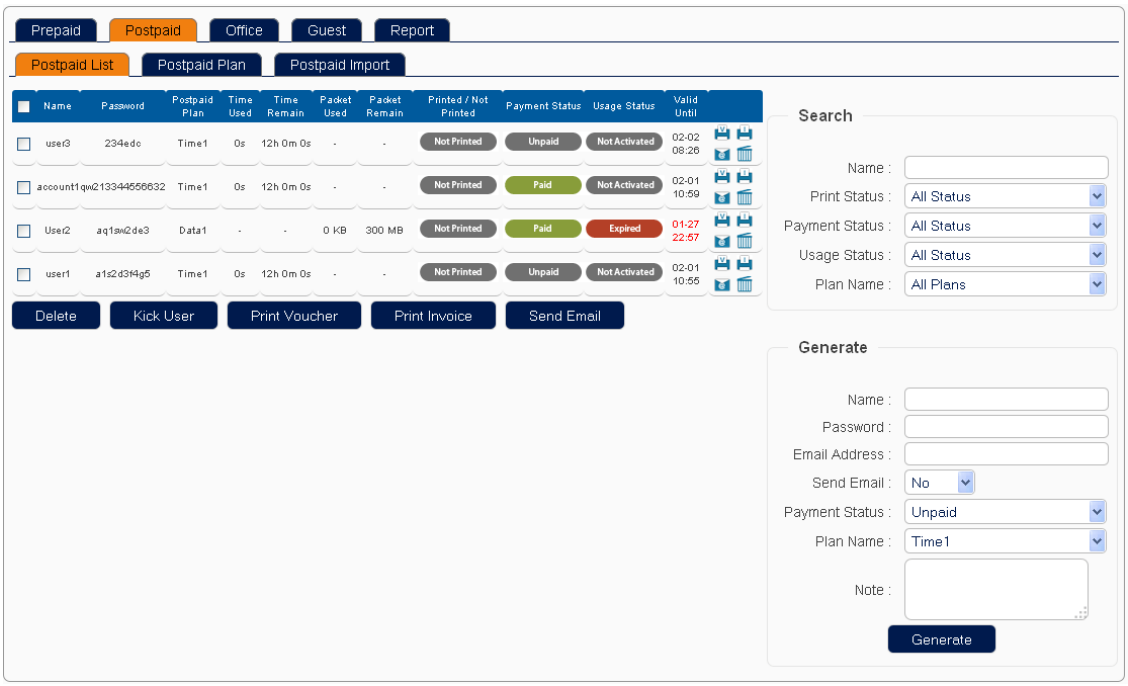


Figure 2-56: Access Control Page, Postpaid Tab, Postpaid List

The Postpaid List tab includes the following sections:

- Postpaid Accounts Table
- Search
- Generate

2.8.2.2.1 Postpaid Accounts Table

This section includes:

- Table's Details
- Deleting Accounts
- Printing Vouchers
- Printing Invoices
- Sending E-Mails
- Kicking Users

2.8.2.2.1.1 Table's Details

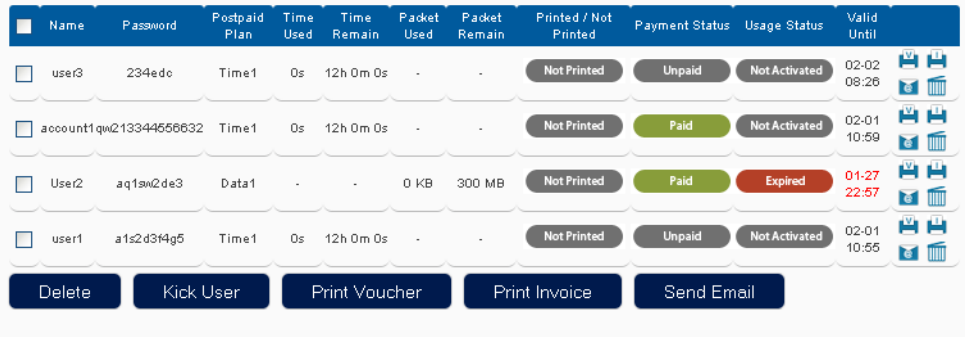


Figure 2-57: Postpaid List - Accounts Table

The Postpaid Accounts table provides the following details for each of the existing postpaid accounts:

- **Name**: The name of the account (user).
- **Password**: The unique password to be used for getting access to the Internet.
- **Postpaid Plan**: The name of the plan.
- **Time Used**: The amount of time already used by the account (not applicable for Data plans).
- **Time Remain**: The amount of time still available for use by the account (not applicable for Data plans).
- **Packet Used**: The amount of data (upload/download) already used by the account (not applicable for Time plans).
- **Packet Remain**: The amount of data (upload/download) still available for use by the account (not applicable for Time plans).
- **Printed/Not Printed**: The print status of a voucher for the account.
- **Payment Status**: Paid or Unpaid. Paid status means one of the following:
  - » Payment Status was defined as Paid during account generation.
  - » An invoice for the account was generated (see below information about printing invoices).

- **Usage Status**: The current usage status of the account:
  - Online: The account is being used (active).
  - Used: The account has been fully used (the maximum limit for time and/or data usage was reached).
  - Finished: The account was activated but is currently offline. It may still be used.
  - Expired: The account is no longer valid (Validity Period expired).
  - Kicking...
  - Not Activated: The account was not activated yet.
- **Valid Until**: The date and time at which the account will expire (or expired - in red).

A selection checkbox is available on the left side of each entry, allowing to select/deselect accounts for various operations using the buttons below the table. The checkbox in the headers row can be used to select/de-select all entries.

The icons on the right side of each entry and the buttons below the table enables the actions described in the following sections:

2.8.2.2.1.2 Deleting Accounts

To delete a single account from the database:

Click on the **Delete** ( ) icon. You will be prompted to confirm or cancel the requested action.

NOTE!

The **Delete** icon is not applicable for an account that is currently Online (for an Online account it is replaced by the **Kick User** icon).

To delete multiple accounts from the database:

1. Select the accounts to be deleted.
2. Click on the **Delete** button.

2.8.2.2.1.3 Printing Vouchers

To print a voucher for a single account:

1 Click on the **Print Voucher** ( ) icon (pop-up windows should not be blocked in the browser's settings).

2 A pop-up window with voucher's details for the account will be opened. Click **Ctrl+P** to open the Print dialog box.

To print multiple vouchers:

1 Select the accounts for which vouchers should be generated.

2 Click on the **Print Voucher** button (pop-up windows should not be blocked in the browser's settings).

3 A pop-up window with details of vouchers for all selected account will be opened. Click **Ctrl+P** to open the Print dialog box.

2.8.2.2.1.4 Printing Invoices

To print an invoice for a single account:

1 Click on the **Print Invoice** ( ) icon (pop-up windows should not be blocked in the browser's settings).

2 A pop-up window with invoice's details will be opened. Click **Ctrl+P** to open the Print dialog box.

3 The Payment Status for this account will change to Paid.

To print multiple invoices:

1 Select the accounts for which invoices should be generated.

2 Click on the **Print Invoice** button (pop-up windows should not be blocked in the browser's settings).

3 A pop-up window with details of invoices for all selected accounts will be opened. Click **Ctrl+P** to open the Print dialog box.

4 The Payment Status for the selected accounts will change to Paid.

2.8.2.2.1.5 Sending E-Mails

To send an e-mail to the address specified for the account:

1 Click on the **Send Email** ( ) icon.

2 An e-mail containing usage details will be sent to the Email Address defined during generation of the account. A message stating "Emailing usage status to this user, please wait for a while..." will be displayed.

To send e-mails to multiple addresses:

1 Select the accounts for which e-mails containing usage details should be sent.

2 Click on the **Send Email** button.

3 E-mails with usage details will be sent to Email Addresses defined during generation of the selected accounts. A message stating "Emailing usage status to these users, please wait for a while..." will be displayed.

2.8.2.2.1.6 Kicking Users

The Kick User action is applicable only for online users, disconnecting an active session and forcing the user to login again.

To kick a single user:

1. Click on the **Kick User** ( ) icon (available only for online users, replacing the Delete icon). You will be prompted to confirm or cancel the requested action.

To kick multiple users:

1 Select the accounts to be kicked.

2 Click on the **Kick User** button. You will be prompted to confirm or cancel the requested action.

2.8.2.2.2 Search

The Search section enables selection of one or several search criteria for on-the-fly filtering of the entries in the accounts table. Only entries that match all selected criteria will be displayed.

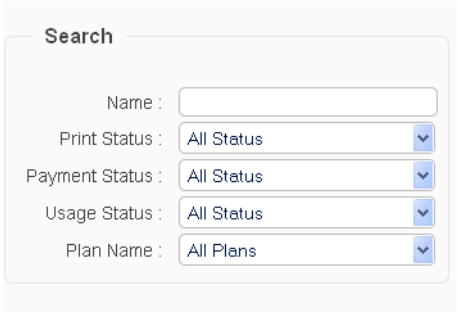


Figure 2-58: Postpaid List - Search Section

The available search criteria are:

- **Name**: The name defined for the account. The list is filtered on-the-fly, meaning that after entering any number of characters, only accounts with a name starting with these characters (case sensitive) will be displayed.
- **Print Status**: Available options in the drop-down list are All Status (the default), Printed, and Not Printed.
- **Payment Status**: Available options in the drop-down list are All Status (the default), Paid, and Unpaid.
- **Usage Status**: Available options in the drop-down list are All Status (the default), Online, Used, Finished, Expired, Kicking... and Not Activated (see Usage Status in "Prepaid Accounts Table" on page 57 for more details on these options).
- **Plan Name**: Available options in the drop-down list include All Plans (the default) and the names of all currently available postpaid plans.

2.8.2.2.3 Generate

The Generate section enables creating new accounts.

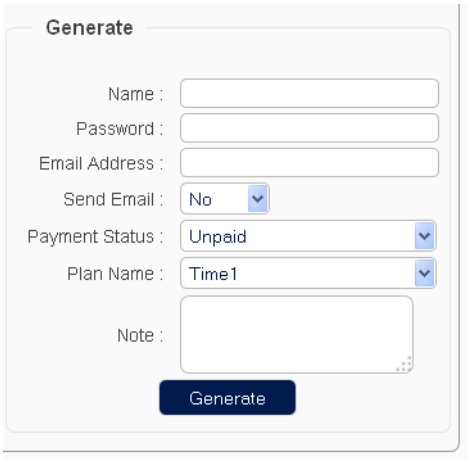


Figure 2-59: Postpaid Plan - Generate Section

The configurable account generation parameters are:

- **Name**: The name of the account (user).
- **Password**: The unique password to be used for getting access to the Internet. A string of 6 to 18 characters, case sensitive.
- **Email Address**: The e-mail address to be used for relevant messages.
- **Send Email**: No (the default) or Yes. If Yes is selected, an email containing configured account's details will be sent to the specified address (accompanied by the optional text entered in the Note field if applicable) after completing generation of the account.
- **Payment Status**: Unpaid (the default) or Paid.
- **Plan Name**: The name of the plan for which you want to generate a new account. The list includes all available plans (the default is the last created plan).
- **Note**: An optional free text field. The Note text will be added to account's details sent to the specified email address together with account's details (if Send Email parameter is set to Yes)

To generate a new account:

1. Configure all account generation parameters.
2. Click on the **Generate** button. The new account will be added at the top of the accounts table.

2.8.2.3 Postpaid Import

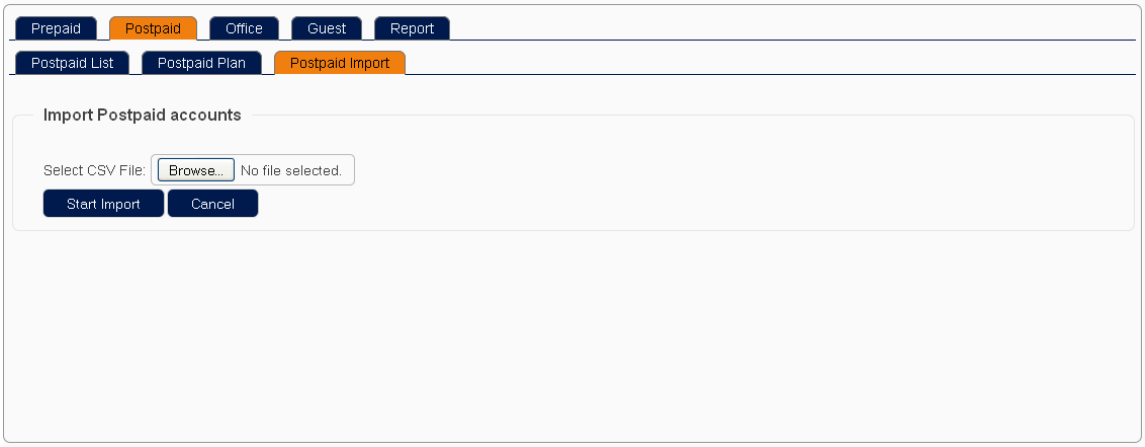


Figure 2-60: Postpaid Import

The Postpaid Import tab enables importing a comma separated values file containing predefined accounts.

To import accounts:

1. Make sure that the required file is available on your PC. It should be a file prepared previously using the .....
2. Click on the **Browse** button and navigate to the required location to upload the required CSV file.
3. Click on the **Start Import** button. Appropriate messages indicating the progress of the process and the results will be displayed.

The imported accounts will be added to the accounts table.

2.8.3 Office Tab

The Office tab includes the following second-level tabs enabling management of plans and accounts enabling free access to the Internet for office's staff:

- Office Plan
- Office List
- Office Import

2.8.3.1 Office Plan

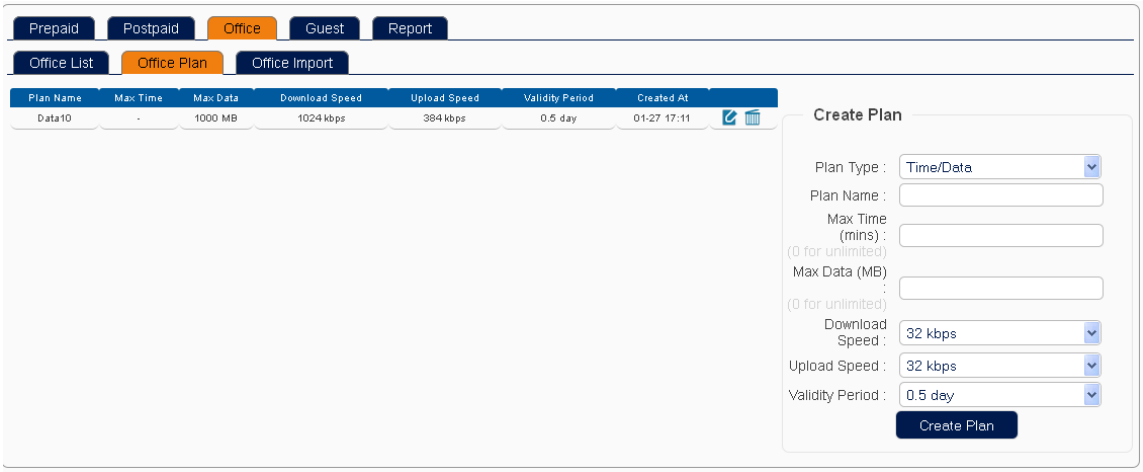


Figure 2-61: Access Control Page, Office Tab, Office Plan

The Office Plan tab includes the following sections:

- Create Plan
- Office Plans Table

2.8.3.1.1 Create Plan

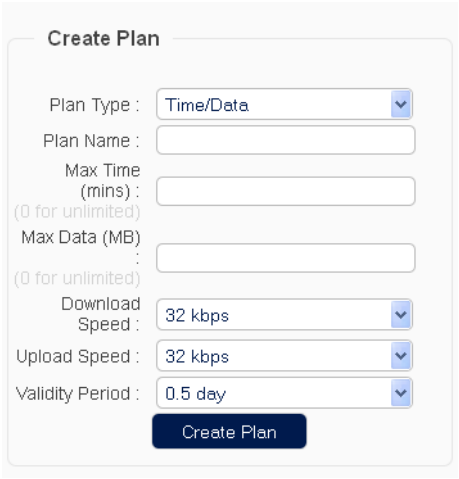


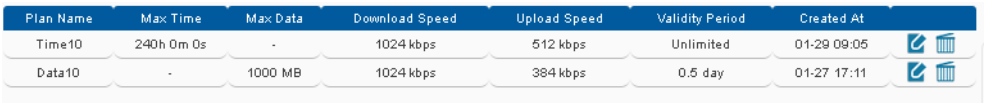
Figure 2-62: Office Plan - Create Plan Section

The Create Plan section enables creating a new Office plan, using the following parameters:

- **Plan Type**: The type of the plan. The following options are available in the drop-down list:
  - » Time/Data: Both time usage and total amount of data (upload/download) are limited.
  - » Data: Total amount of data (upload/download) is limited. There is no limit on time usage.
  - » Time: Time usage is limited. There is no limit on amount of data that can be uploaded/downloaded.
- **Plan Name**: The name of the plan.
- **Max Time (mins)**: The maximum usage time (in minutes) available for users of the plan. Set to 0 (not editable) for a Data plan. For other plan types a value must be entered (0, meaning no limit, is a valid value).
- **Max Data (MB)**: The maximum amount of data (upload and download, in Mbits) available for users of the plan. Set to 0 (not editable) for a Time plan. For other plan types a value must be entered (0, meaning no limit, is a valid value).
- **Download Speed**: The download speed for users of the plan. Available options in the drop down list include different speeds from 32 kbps (the default) to 8 Mbps, and Unlimited.
- **Upload Speed**: The download speed for users of the plan. Available options in the drop down list include different speeds from 32 kbps (the default) to 8 Mbps, and Unlimited.
- **Validity Period**: The validity period of an account for this plan from the time at which the account was generated. Available options in the drop-down list includes several periods from 0.5 day (the default) to 5 days, and Unlimited.

After configuring all required parameters, click on the **Create Plan** button. The newly created plan will be added at the top of the Office Plans table (see below).

2.8.3.1.2 Office Plans Table



Plan Name	Max Time	Max Data	Download Speed	Upload Speed	Validity Period	Created At	
Time10	240h 0m 0s	-	1024 kbps	512 kbps	Unlimited	01-29 09:05	
Data10	-	1000 MB	1024 kbps	384 kbps	0.5 day	01-27 17:11	

Figure 2-63: Office Plan - Office Plans Table

The Office Plans table provides the following details for each of the previously created Office plans:

- **Plan Name**: The name of the plan.
- **Max Time**: The maximum usage time available for users of the plan (- or 0s means unlimited).
- **Max Data**: The maximum amount of data (upload and download) available for users of the plan (- or 0 KB means unlimited).
- **Download Speed**: The download speed for users of the plan.
- **Upload Speed**: The download speed for users of the plan.

- **Validity Period**: The validity period of the account from the time at which it was generated.
- **Created At**: The date and time at which the plan was created.

The icons on the right side of each entry enables the following actions:

To delete a plan from the database:

Click on the **Delete** ( ) icon. You will be prompted to confirm or cancel the requested action.

To edit the parameters of a plan:

1 Click on the **Edit** ( ) icon to open the Edit Plan (instead of the Create Plan) section:

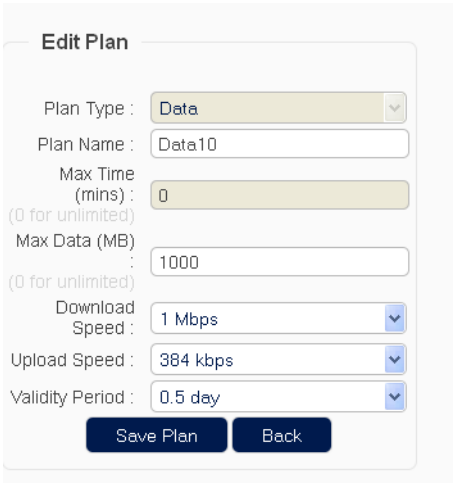


Figure 2-64: Office Plan - Edit Plan Section

The parameters available for plan editing are the same as those available when creating a new plan (see "Create Plan" on page 73), excluding **Plan Type** and **Plan Name** that are not editable.

2 Edit the plan as required and click on the **Save Plan** button to save the modified plan (or click on the **Back** button to cancel the editing action).

2.8.3.2 Office List

The Office List second-level tab enables managing accounts of users that are allowed to access the Internet using an Office Plan.

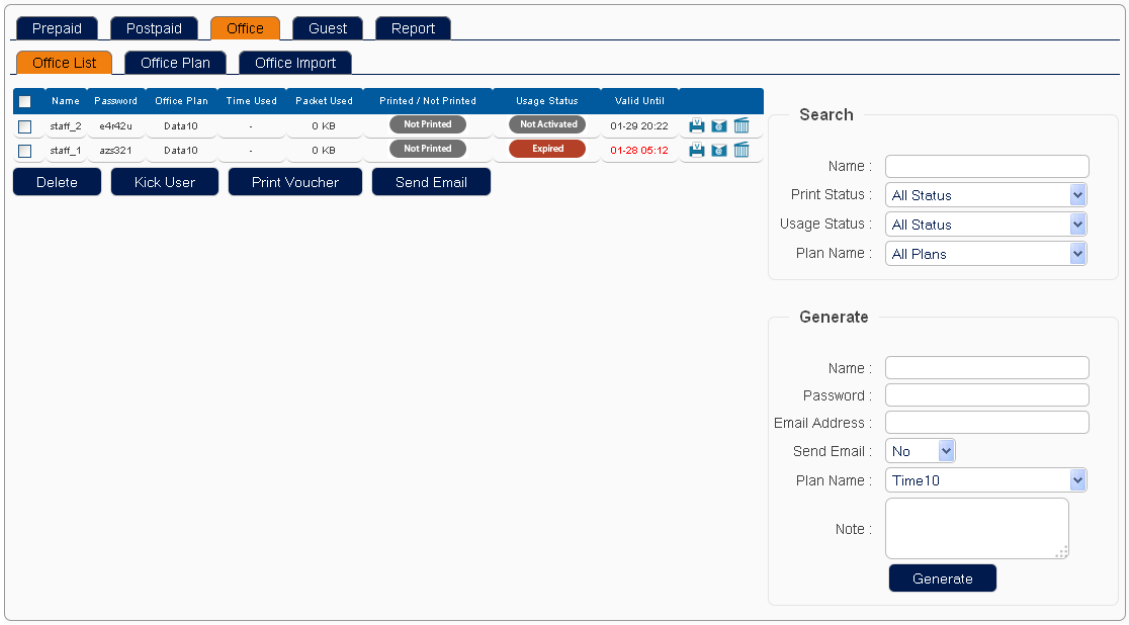


Figure 2-65: Access Control Page, Office Tab, Office List

The Office List tab includes the following sections:

- Office Accounts Table
- Search
- Generate

2.8.3.2.1 Office Accounts Table

This section includes:

- Table's Details
- Deleting Accounts
- Printing Vouchers
- Sending E-Mails
- Kicking Users

2.8.3.2.1.1 Table's Details

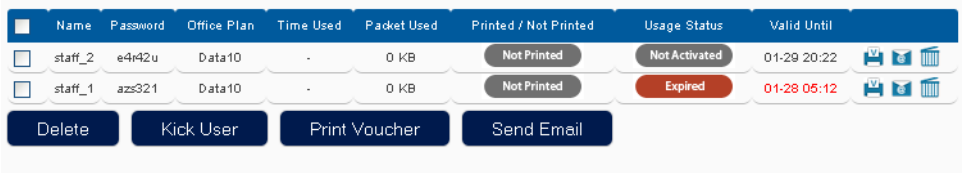


Figure 2-66: Office List - Accounts Table

The Office Accounts table provides the following details for each of the existing Office accounts:

- **Name**: The name of the account (user).
- **Password**: The unique password to be used for getting access to the Internet.
- **Office Plan**: The name of the plan.
- **Time Used**: The amount of time already used by the account (not applicable for Data plans).
- **Packet Used**: The amount of data (upload/download) already used by the account (not applicable for Time plans).
- **Printed/Not Printed**: The print status of a voucher for the account.
- **Usage Status**: The current usage status of the account:
  - Online: The account is being used (active).
  - Used: The account has been fully used (the maximum limit for time and/or data usage was reached).
  - Finished: The account was activated but is currently offline. It may still be used.
  - Expired: The account is no longer valid (Validity Period expired).
  - Kicking...
  - Not Activated: The account was not activated yet.
- **Valid Until**: The date and time at which the account will expire (or expired - in red).

A selection checkbox is available on the left side of each entry, allowing to select/deselect accounts for various operations using the buttons below the table. The checkbox in the headers row can be used to select/de-select all entries.

The icons on the right side of each entry and the buttons below the table enables the actions described in the following sections:

2.8.3.2.1.2 Deleting Accounts

To delete a single account from the database:

Click on the **Delete** ( ) icon. You will be prompted to confirm or cancel the requested action.

NOTE!

The **Delete** icon is not applicable for an account that is currently Online (for an Online account it is replaced by the **Kick User** icon).

To delete multiple accounts from the database:

1. Select the accounts to be deleted.
2. Click on the **Delete** button.

2.8.3.2.1.3 Printing Vouchers

To print a voucher for a single account:

1. Click on the **Print Voucher** ( ) icon (pop-up windows should not be blocked in the browser's settings).
2. A pop-up window with voucher's details for the account will be opened. Click **Ctrl+P** to open the Print dialog box.

To print multiple vouchers:

1. Select the accounts for which vouchers should be generated.
2. Click on the **Print Voucher** button (pop-up windows should not be blocked in the browser's settings).
3. A pop-up window with details of vouchers for all selected account will be opened. Click **Ctrl+P** to open the Print dialog box.

2.8.3.2.1.4 Sending E-Mails

To send an e-mail to the address specified for the account:

1. Click on the **Send Email** ( ) icon.
2. An e-mail containing usage details will be sent to the Email Address defined during generation of the account. A message stating "Emailing usage status to this user, please wait for a while..." will be displayed.

To send e-mails to multiple addresses:

1. Select the accounts for which e-mails containing usage details should be sent.

2 Click on the **Send Email** button.

3 E-mails with usage details will be sent to Email Addresses defined during generation of the selected accounts. A message stating "Emailing usage status to these users, please wait for a while..." will be displayed.

2.8.3.2.1.5 Kicking Users

The Kick User action is applicable only for online users, disconnecting an active session and forcing the user to login again.

To kick a single user:

1. Click on the **Kick User** ( ) icon (available only for online users, replacing the Delete icon). You will be prompted to confirm or cancel the requested action.

To kick multiple users:

1 Select the accounts to be kicked.

2 Click on the **Kick User** button. You will be prompted to confirm or cancel the requested action.

2.8.3.2.2 Search

The Search section enables selection of one or several search criteria for on-the-fly filtering of the entries in the accounts table. Only entries that match all selected criteria will be displayed.

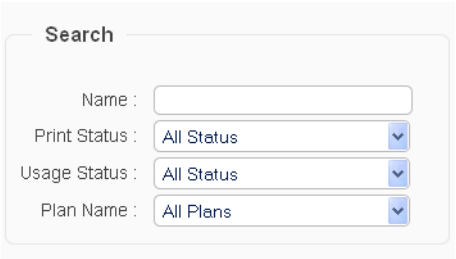


Figure 2-67: Office List - Search Section

The available search criteria are:

- **Name**: The name defined for the account. The list is filtered on-the-fly, meaning that after entering any number of characters, only accounts with a name starting with these characters (case sensitive) will be displayed.
- **Print Status**: Available options in the drop-down list are All Status (the default), Printed, and Not Printed.

- **Usage Status**: Available options in the drop-down list are All Status (the default), Online, Used, Finished, Expired, Kicking... and Not Activated (see Usage Status in "Office Accounts Table" on page 76 for more details on these options).
- **Plan Name**: Available options in the drop-down list include All Plans (the default) and the names of all currently available postpaid plans.

2.8.3.2.3 Generate

The Generate section enables creating new accounts.

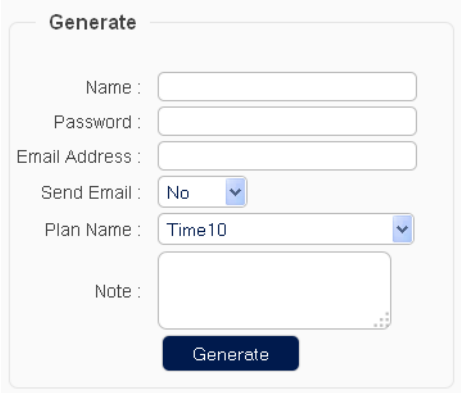


Figure 2-68: Office Plan - Generate Section

The configurable account generation parameters are:

- **Name**: The name of the account (user).
- **Password**: The unique password to be used for getting access to the Internet. A string of 6 to 18 characters, case sensitive.
- **Email Address**: The e-mail address to be used for relevant messages.
- **Send Email**: No (the default) or Yes. If Yes is selected, an email containing configured account's details will be sent to the specified address (accompanied by the optional text entered in the Note field if applicable) after completing generation of the account.
- **Plan Name**: The name of the plan for which you want to generate a new account. The list includes all available plans (the default is the last created plan).
- **Note**: An optional free text field. The Note text will be added to account's details sent to the specified email address together with account's details (if Send Email parameter is set to Yes)

To generate a new account:

1. Configure all account generation parameters.
2. Click on the **Generate** button. The new account will be added at the top of the accounts table.

2.8.3.3 Office Import

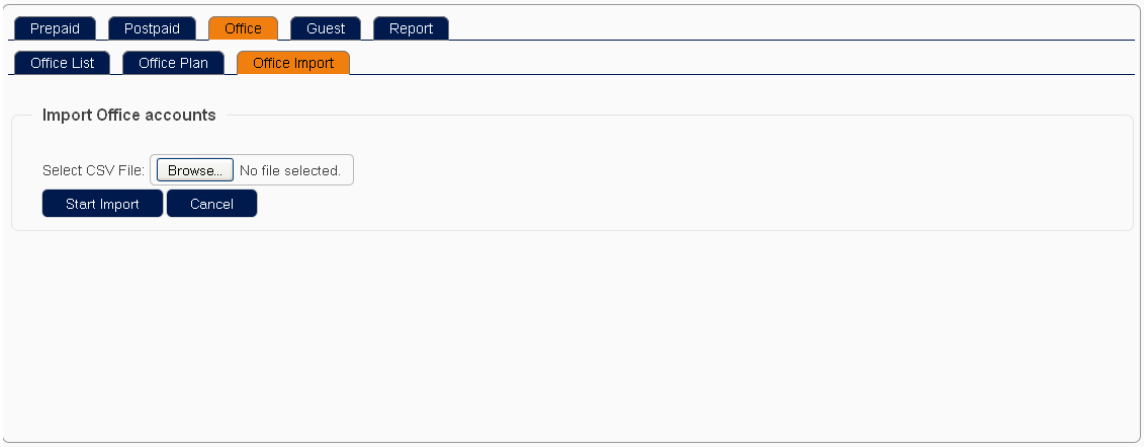


Figure 2-69: Office Import

The Office Import tab enables importing a comma separated values file containing predefined accounts.

To import accounts:

1. Make sure that the required file is available on your PC. It should be a file prepared previously using the .....
2. Click on the **Browse** button and navigate to the requiredlocation to upload the CSV file.
3. Click on the **Start Import** button. Appropriate messages indicating the progress of the process and the results will be displayed.

The imported accounts will be added to the accounts table.

2.8.4 Guest Tab

The Guest tab includes the following second-level tabs enabling management of plans and accounts enabling free access to the Internet for guests (the same account may be used by multiple users):

- Guest Plan
- Guest List

2.8.4.1 Guest Plan

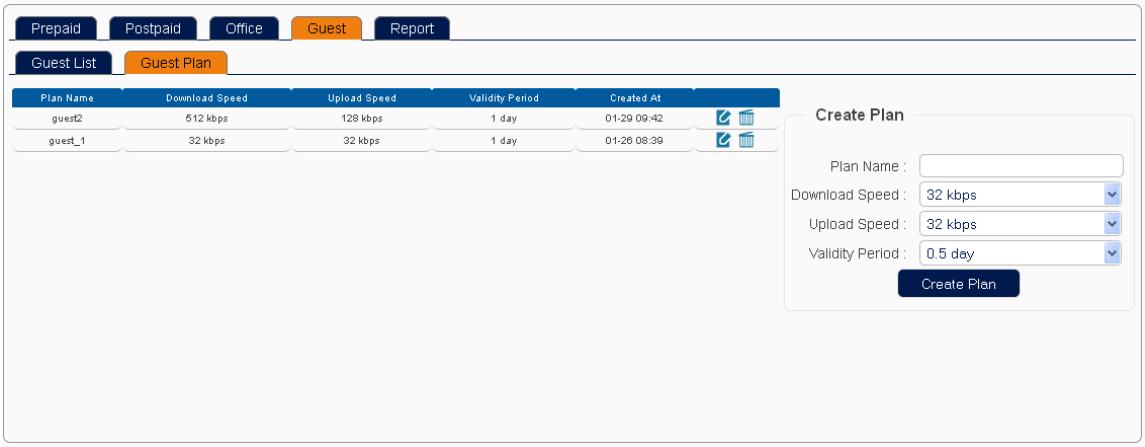


Figure 2-70: Access Control Page, Guest Tab, Guest Plan

The Guest Plan tab includes the following sections:

- Create Plan
- Guest Plans Table

2.8.4.1.1 Create Plan

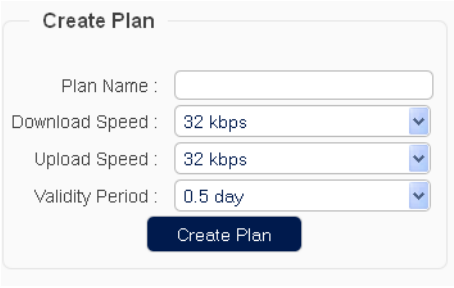


Figure 2-71: Guest Plan - Create Plan Section

The Create Plan section enables creating a new Guest plan, using the following parameters:

- **Plan Name**: The name of the plan.
- **Download Speed**: The download speed for users of the plan. Available options in the drop down list include different speeds from 32 kbps (the default) to 8 Mbps, and Unlimited.
- **Upload Speed**: The download speed for users of the plan. Available options in the drop down list include different speeds from 32 kbps (the default) to 8 Mbps, and Unlimited.

- **Validity Period**: The validity period of an account for this plan from the time at which the account was generated. Available options in the drop-down list includes several periods from 0.5 day (the default) to 5 days, and Unlimited.

After configuring all required parameters, click on the **Create Plan** button. The newly created plan will be added at the top of the Guest Plans table (see below).

2.8.4.1.2 Guest Plans Table

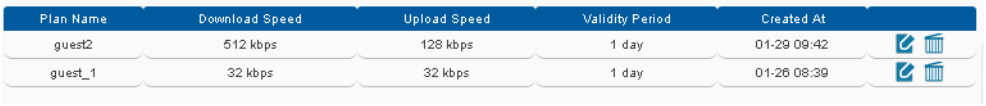


Figure 2-72: Guest Plan - Guest Plans Table

The Guest Plans table provides the following details for each of the previously created Guest plans:

- **Plan Name**: The name of the plan.
- **Download Speed**: The download speed for users of the plan.
- **Upload Speed**: The download speed for users of the plan.
- **Validity Period**: The validity period of the account from the time at which it was generated.
- **Created At**: The date and time at which the plan was created.

The icons on the right side of each entry enables the following actions:

To delete a plan from the database:

Click on the **Delete** ( ) icon. You will be prompted to confirm or cancel the requested action.

To edit the parameters of a plan:

1 Click on the **Edit** ( ) icon to open the Edit Plan (instead of the Create Plan) section:

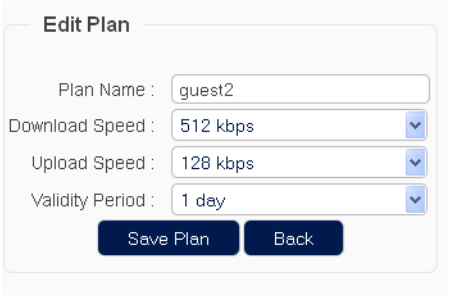


Figure 2-73: Guest Plan - Edit Plan Section

The parameters available for plan editing are the same as those available when creating a new plan (see "Create Plan" on page 82), excluding **Plan Name** that is not editable.

2 Edit the plan as required and click on the **Save Plan** button to save the modified plan (or click on the **Back** button to cancel the editing action).

2.8.4.2 Guest List

The Guest List second-level tab enables managing accounts of users that are allowed to access the Internet using a Guest Plan.

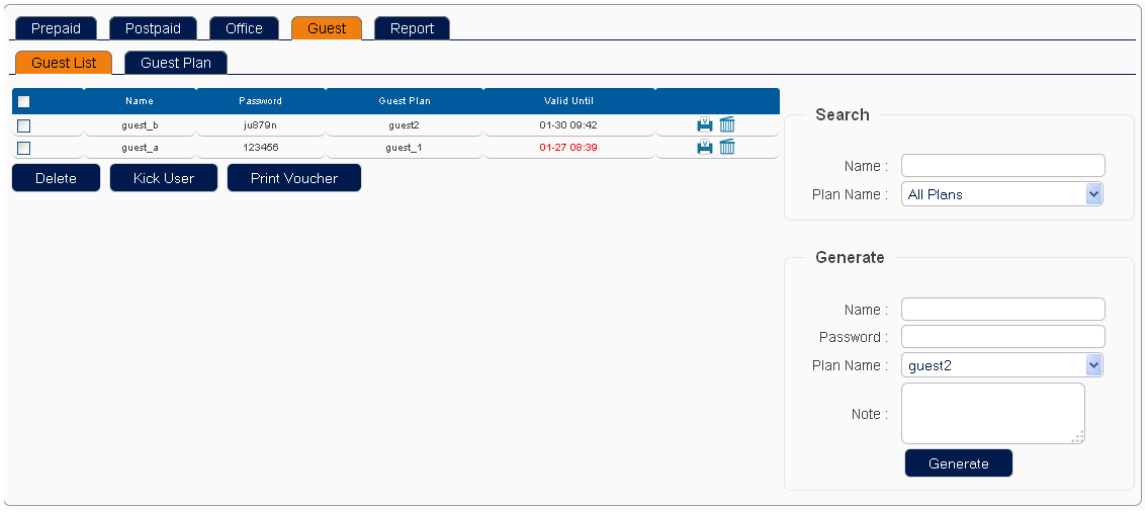


Figure 2-74: Access Control Page, Guest Tab, Guest List

The Guest List tab includes the following sections:

- Guest Accounts Table
- Search
- Generate

2.8.4.2.1 Guest Accounts Table

This section includes:

- Table's Details
- Deleting Accounts
- Printing Vouchers
- Kicking Users

2.8.4.2.1.1 Table's Details

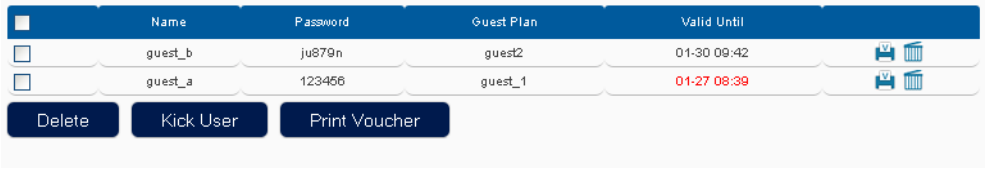


Figure 2-75: Guest List - Accounts Table

The Guest Accounts table provides the following details for each of the existing Guest accounts:

- **Name**: The name of the account (user).
- **Password**: The unique password to be used for getting access to the Internet.
- **Guest Plan**: The name of the plan.
- **Valid Until**: The date and time at which the account will expire (or expired - in red).

A selection checkbox is available on the left side of each entry, allowing to select/deselect accounts for various operations using the buttons below the table. The checkbox in the headers row can be used to select/de-select all entries.

The icons on the right side of each entry and the buttons below the table enables the actions described in the following sections:

2.8.4.2.1.2 Deleting Accounts

To delete a single account from the database:

Click on the **Delete** ( ) icon. You will be prompted to confirm or cancel the requested action.

NOTE!

The **Delete** icon is not applicable for an account that is currently Online (for an Online account it is replaced by the **Kick User** icon).

To delete multiple accounts from the database:

1. Select the accounts to be deleted.
2. Click on the **Delete** button.

2.8.4.2.1.3 Printing Vouchers

To print a voucher for a single account:

1. Click on the **Print Voucher** ( ) icon (pop-up windows should not be blocked in the browser's settings).
2. A pop-up window with voucher's details for the account will be opened. Click **Ctrl+P** to open the Print dialog box.

To print multiple vouchers:

1. Select the accounts for which vouchers should be generated.
2. Click on the **Print Voucher** button (pop-up windows should not be blocked in the browser's settings).
3. A pop-up window with details of vouchers for all selected account will be opened. Click **Ctrl+P** to open the Print dialog box.

2.8.4.2.1.4 Kicking Users

The Kick User action is applicable only for online users, disconnecting an active session and forcing the user to login again.

To kick a single user:

1. Click on the **Kick User** ( ) icon (available only for online users, replacing the Delete icon). You will be prompted to confirm or cancel the requested action.

To kick multiple users:

1. Select the accounts to be kicked.
2. Click on the **Kick User** button. You will be prompted to confirm or cancel the requested action.

2.8.4.2.2 Search

The Search section enables selection of one or several search criteria for on-the-fly filtering of the entries in the accounts table. Only entries that match all selected criteria will be displayed.

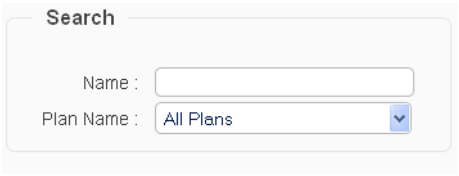


Figure 2-76: Guest List - Search Section

The available search criteria are:

- **Name**: The name defined for the account. The list is filtered on-the-fly, meaning that after entering any number of characters, only accounts with a name starting with these characters (case sensitive) will be displayed.
- **Plan Name**: Available options in the drop-down list include All Plans (the default) and the names of all currently available postpaid plans.

2.8.4.2.3 Generate

The Generate section enables creating new accounts.

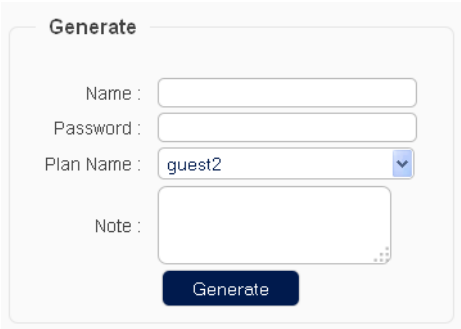


Figure 2-77: Guest Plan - Generate Section

The configurable account generation parameters are:

- **Name**: The name of the account (user).
- **Password**: The unique password to be used for getting access to the Internet. A string of 6 to 18 characters, case sensitive.
- **Plan Name**: The name of the plan for which you want to generate a new account. The list includes all available plans (the default is the last created plan).
- **Note**: An optional free text field.

To generate a new account:

1. Configure all account generation parameters.
2. Click on the **Generate** button. The new account will be added at the top of the accounts table.

2.8.5 Report Tab

The Report tab provides activity view for all accounts for a certain time period (up to the last 3 days).

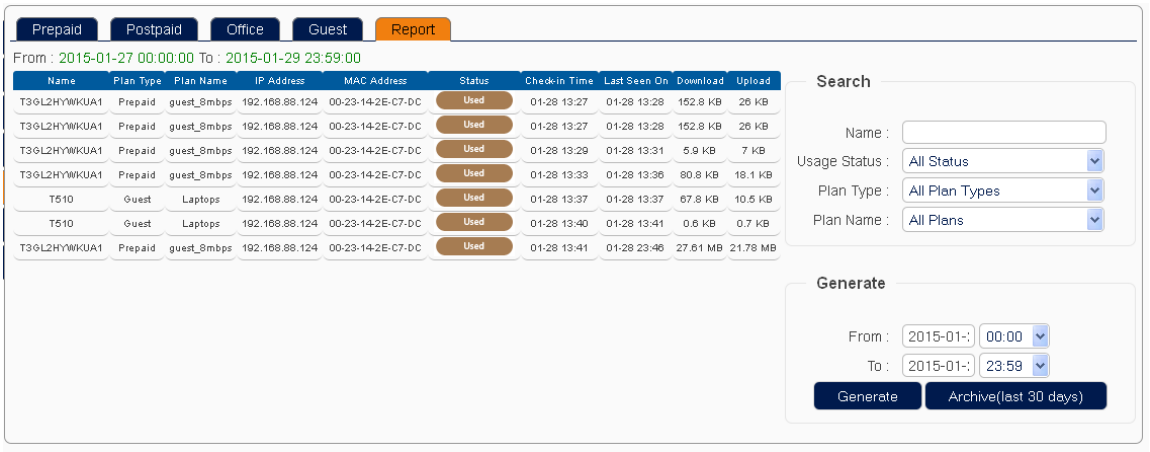
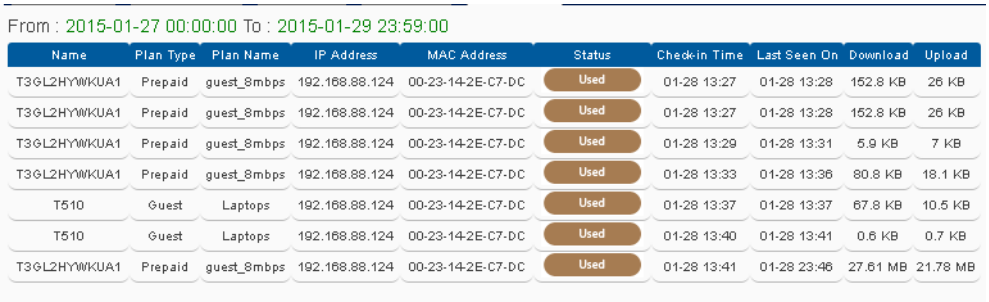


Figure 2-78: Report Tab

The Report tab comprises the following sections:

- Report Table
- Search
- Generate

2.8.5.1 Report Table



From : 2015-01-27 00:00:00 To : 2015-01-29 23:59:00

Name	Plan Type	Plan Name	IP Address	MAC Address	Status	Check-in Time	Last Seen On	Download	Upload
T3GL2HYWKUA1	Prepaid	guest_8mbps	192.168.88.124	00-23-14-2E-C7-DC	Used	01-28 13:27	01-28 13:28	152.8 KB	26 KB
T3GL2HYWKUA1	Prepaid	guest_8mbps	192.168.88.124	00-23-14-2E-C7-DC	Used	01-28 13:27	01-28 13:28	152.8 KB	26 KB
T3GL2HYWKUA1	Prepaid	guest_8mbps	192.168.88.124	00-23-14-2E-C7-DC	Used	01-28 13:29	01-28 13:31	5.9 KB	7 KB
T3GL2HYWKUA1	Prepaid	guest_8mbps	192.168.88.124	00-23-14-2E-C7-DC	Used	01-28 13:33	01-28 13:36	80.8 KB	18.1 KB
T510	Guest	Laptops	192.168.88.124	00-23-14-2E-C7-DC	Used	01-28 13:37	01-28 13:37	67.8 KB	10.5 KB
T510	Guest	Laptops	192.168.88.124	00-23-14-2E-C7-DC	Used	01-28 13:40	01-28 13:41	0.6 KB	0.7 KB
T3GL2HYWKUA1	Prepaid	guest_8mbps	192.168.88.124	00-23-14-2E-C7-DC	Used	01-28 13:41	01-28 23:46	27.61 MB	21.78 MB

Figure 2-79: Report Table

The time period for the report (From...To...) is indicated above the table. The default period is current day (from 00:00:00 to 23:59:00). For details on modifying the report's period refer to "Generate" on page 90). The Report Table provides the following details for each user's activity during a certain period.

- **Name**: The name of the account (User Name).
- **Plan Type**: The plan type (Prepaid, Postpaid, Office, or Guest).
- **Plan Name**: The name of the plan.
- **IP Address**: The IP address of the user's device.
- **MAC Address**: The MAC address of the user's device.
- **Status**: The current status of the account:
  - » Online: The account is being used (currently active).
  - » Used: The account has been fully used (the maximum limit for time and/or data usage was reached).
  - » Finished: The account was activated but is currently offline. It may still be used.
  - » Expired: The account is no longer valid (Validity Period expired).
- **Check-in Time**: Date and time at which the reported session started.
- **Last Seen On**: Date and time at which the reported session ended (not applicable for a currently active session with Online status).
- **Download**: Amount of data downloaded to the device during the session.
- **Upload**: Amount of data downloaded to the device during the session.

2.8.5.2 Search

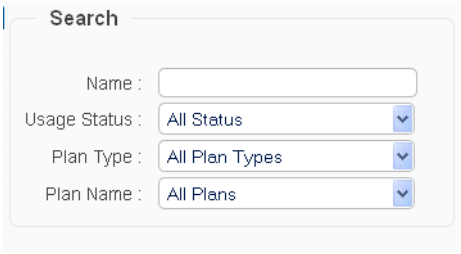


Figure 2-80: Report Search

The Search section enables selection of one or several search criteria for on-the-fly filtering of the entries in the report table. Only entries that match all selected criteria will be displayed.

The available search criteria are:

- **Name**: The name defined for the account. The list is filtered on-the-fly, meaning that after entering any number of characters, only sessions of accounts with a name starting with these characters (case sensitive) will be displayed.
- **Usage Status**: Available options in the drop-down list are All Status (the default), Online, Used, Finished, Expired. For details see Status in "Report Table" on page 89.
- **Plan Type**: Available options include All Plan Types (the default), Prepaid, Postpaid, Office and Guest.
- **Plan Name**: Available options in the drop-down list include All Plans (the default) and the names of all currently available plans for the option selected for Plan Type.

2.8.5.3 Generate

The Generate section enables to change the report period:

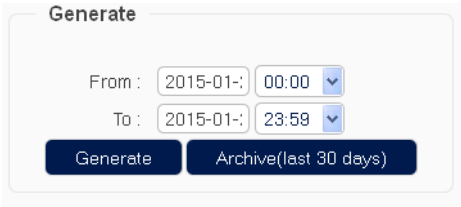


Figure 2-81: Report Generate

To change the period for the report:

1. Click on the **From** Date field to open the date selection window. Select the start date for the report.
2. Use the **From** Time drop-down list to select the start time for the report.

3 Click on the **To** Date field to open the date selection window. Select the start date for the report.

4 Use the **To** Time drop-down list to select the start time for the report.

5 Click on the **Generate** button.

The time period for reported activities in the report table will be according to the selected values.

2.9 Radio Management Page

The Radio Management page enables efficiently managing one or several groups of outdoor WBSn devices that are located near to each other.

The Radio Management page includes the following tabs:

- Zones Tab
- Access Points Tab

2.9.1 Zones Tab

Figure 2-82: Radio Management Page Zones Tab

A zone is a group of APs presented schematically in a matrix structure. A zone typically represent a group of APs covering a certain area in applications such as provisioning of access services to stadiums, music arenas, exhibition halls, etc. For efficient radio planning and mass configuration, in most deployments several neighboring such zones are defined.

The Zones tab includes the following sections:

- Create Zone
- Zones Table

2.9.1.1 Create Zone

The Create Zone section enables adding new zones to the selected network.

The parameters available for creation of a new zone include:

- **Zone Name**: The unique name of the zone.
- **Description**: An optional text description of the zone.
- **Rows**: The number of rows in the schematic map of the zone.
- **Columns**: The number of columns in the schematic map of the zone.
- **North Neighbor**: The neighboring zone on the north (up) side of the zone. A north neighboring zone must have the same number of columns as the new one. The drop-down list includes the default N/A (none) option, and all previously defined zones.
- **South Neighbor**: The neighboring zone on the south (down) side of the zone. A south neighboring zone must have the same number of columns as the new one. The drop-down list includes the default N/A (none) option, and all previously defined zones.
- **East Neighbor**: The neighboring zone on the east (right) side of the zone. An east neighboring zone must have the same number of rows as the new one. The drop-down list includes the default N/A (none) option, and all previously defined zones.

- **West Neighbor**: The neighboring zone on the west (left) side of the zone. A west neighboring zone must have the same number of rows as the new one. The drop-down list includes the default N/A (none) option, and all previously defined zones.

To create a new zone:

1. Configure all zone creation parameters.
2. Click on the **Create** button.

The new zone will be added at the bottom of the zones table. Relevant neighbors relations will be updated: If for example a previously defined zone A is defined as the North Neighbor of the new zone B, then zone B is automatically configured as the South Neighbor for zone A.

2.9.1.2 Zones Table

The Zones table includes the following details for each of the defined zones:

- **Status**: Active (at least one AP is assigned to the zone) or Inactive (no AP is assigned to the zone).
- **Zone Name**: The unique name of the zone.
- **Description**: An optional text description of the zone.
- **APs**: The number of APs assigned to the zone.
- **Rows**: The number of rows in the schematic map of the zone.
- Columns: The number of columns in the schematic map of the zone.
- **North Neighbor**: The neighboring zone on the north (up) side of the zone.
- **South Neighbor**: The neighboring zone on the south (down) side of the zone.
- **East Neighbor:** The neighboring zone on the east (right) side of the zone.
- **West Neighbor**: The neighboring zone on the west (left) side of the zone.

To delete zones:

1. Select the zone(s) to be deleted by clicking on the checkbox(ex) on the left side of each entry (you may select all zones by clicking on the checkbox in the headers row).
2. Click on the **Delete** button to delete the selected zones.

To change a zone settings:

Click on the **Settings** link on the right side of a zone entry to open the Zone Setting page for the selected zone (see Changing the Zone and Map Settings below).

2.9.1.3 Changing the Zone and Map Settings

The Zone and Map Settings page enables editing the zone's parameters and configuring the main properties of APs assigned to the zone (refer to "Access Points Tab" on page 95 for details on adding APs to a zone).

To open the Zone and Map Settings page from the Zones tab click on the **Settings** link on the right side of the zone's entry in the Zones table.

The Zone and Map Settings page includes the following sections:

- Zone Settings
- Zone Map View

2.9.1.3.1 Zone Settings

Figure 2-83: Zone Settings

The Zone Settings section enables viewing and editing the properties of the selected zone.

Excluding the Rows and Columns parameter, the parameters available for editing are the same as those available when creating a new zone (see "Create Zone" on page 92).

After making any changes, click on the **Save Settings** button.

2.9.1.3.2 Zone Map View

Figure 2-84: Zone Map View

The Zone Map View section provides a schematic view of the selected zone, allowing to map the locations of APs within the zone and managing the main radio parameters of these APs.

The following parameters are common to all APs in the zone:

- **Band**: The radio band (2.4 GHz or 5 GHz) to be displayed in the map (typically both bands are supported, but only one is shown at any time).
- **Map By**: The parameter that should be used for mapping APs within the zone. Available options include IP Address (the default), Hostname and MAC Address.

You can check the **Common Power** checkbox to force the same transmit power level (per band) for all APs in the zone.

The map displays a schematic layout of the zone, according to the configured number of rows and columns. Each cell in the array can represent an AP. Cells representing possible neighboring APs

(according to zone structure) are also indicated. When a neighboring AP does exist, it's direction (North/South/East/West) and radio channel are indicated.

The available options in the drop-down mapping list in each of the array's cells include N/A and all the available APs (see "Access Points Tab" on page 95.), using the configured selection (**Map By**) parameter.

Depending on APs availability, you can configure each cell as either representing a specific AP or "empty" (N/A). An AP can be selected for one cell only (otherwise the configuration will be rejected upon trying to save the changes).

For each selected AP you may change the settings for the operational radio **Channel** and **Tx Power**.

After completing configuration changes on the map click on the **Save Map** button to save the changes and apply new settings (if applicable) to the relevant APs.

2.9.2 Access Points Tab

Figure 2-85: Radio Management Page Access Points Tab

The Access Points table presents the following details for each of the WBSn outdoor APs in the selected network:

- **Status**: For details on the Status parameter refer to Status in "Devices Table" on page 20.
- **Name**: The AP's name.
- **IP Address**: The AP's IP address.
- **MAC Address**: The AP's MAC address (this is the MAC address of the Ethernet interface, indicated also on the unit's label).
- **Zone Name**: The name of the zone to which the AP is currently assigned (or N/A).
- **Model**: The model of the AP.
- **Version**: The running SW version of the AP.

To assign AP(s) to a zone:

1. Select the AP(s) to be added by clicking on the checkbox(es) on the left side of each entry. You may select all APs by clicking on the checkbox in the headers row.
2. Click on the **Add to Zone** button to open the Select Zone page.

Figure 2-86: Radio Management Select Zone Page

3 In the Select Zone page, select the zone to which the selected AP(s) should be added from the **Zone Name** drop-down list (the list includes all defined zones), and click on the **Save** button.

4 You should get a success message indicating successful addition of devices to the selected zone. Click on the **Ok** button to return to the Access Points page.

NOTE!

If an AP that was previously assigned to zone A is assigned to another zone B, it will automatically be removed from the first zone A.

To remove AP(s) from zone(s):

1 Select the APs to be removed from their assigned zone(s) by clicking on the checkbox(es) on the left side of each entry. You may select all APs by clicking on the checkbox in the headers row.

2 Click on the **Remove from Zone** button. You will be prompted to confirm (Yes) or cancel (No) the requested action.

3 Click on the **Yes** button to confirm the request.

4 You should get a success message indicating successful removal of devices. Click on the **Ok** button to return to the Access Points page.

2.10 System Page

The System page consists of the following tabs:

- General Tab
- Accounts Tab
- Upgrade Tab
- Backup Tab
- License Tab
- System Logs
- System Tools

2.10.1 General Tab

The General tab includes the following sections:

- System Configuration and Interfaces Section
- Time Configuration
- Tunnelling Configuration
- Radius Configuration
- Restart Controller

2.10.1.1 System Configuration and Interfaces Section

Figure 2-87: System Page General Tab, System Configuration and Interfaces Section

The controller has two network interface cards (NICs). One interface should be used for connecting to the Internet, while the other one may be used for local connection to the controller.

The System Configuration and Interfaces section enables configuring the two interfaces and defining which interface should be the primary one, used for connecting to the Internet:

CAUTION

Changes that affect the primary interface should be made very carefully to avoid possible loss of remote management connectivity.

- **IP Configuration** Parameters:
  - **Name**: The system name of the controller.
  - **Default Interface**: The network interface card to be used by the controller for connecting to the Internet (see below). The default is Interface 1.
  - **Name Server 1**: The IP address of the primary DNS server be used for URL resolving.
  - **Name Server 1**: The IP address of the primary DNS server be used for URL resolving.
- **Interfaces**

  The following parameters are available for each of the two interfaces:
  - **IP Address**
  - **Netmask**
  - **Gateway** (relevant only for the Interface selected as the Default Interface)

NOTE!

After making any changes click on the **Save Settings** button of this section.

2.10.1.2 Time Configuration

Figure 2-88: System Page General Tab, Time Section

Automatic settings of the system's real-time clock is based on using NTP (Network Time Protocol) for acquiring the date and time from an NTP time server.

The Time Configuration section enables includes the following parameters:

- Current date/time: Read-only. The current date and time of the system's real-time clock, based on information received from an NTP time server and the offset according to the Timezone parameter.
- Timezone: The appropriate time zone for the geographical location of the controller.
- NTP Server 1: The name or IP address of the primary NTP server (or servers pool). The default is 0.pool.ntp.org.
- NTP Server 2: The name or IP address of the secondary NTP server (or servers pool). The default is 1.pool.ntp.org.

The time provided by a time server is always UTC (Coordinated Universal Time). You should properly configured the Time Zone Configuration parameter to adjust the real-time clock to local time.

Note that GMT (Greenwich Mean Time) is an absolute reference time and does not change with the seasons. You can change the Time Zone Configuration for adjusting the real-time clock in accordance with local daylight saving changes.

NOTE!

After making any changes click on the **Save Settings** button of this section.

2.10.1.3 Tunnelling Configuration

Figure 2-89: System Page General Tab, Tunnelling Configuration Section

Layer Two Tunneling Protocol (L2TP) is used to enable the operation of a virtual private network (VPN) for securely managing devices over the Internet. IPsec (using CHAP) is used to secure L2TP packets by providing confidentiality, authentication and integrity.

In the current release L2TPv3 is used for managing WBSIac units.

The Tunnelling Configuration parameters define the required parameters to support L2TPv2 and IPsec:

- **Server Name**: The name of the L2TP network server. The default is xl2tpd.
- **Ip Range Start**: The first address in the addresses pool to be assigned to managed devices to be used by the tunnelling protocol. The default is 131.168.1.2.
- **Ip Range End**: The last address in the addresses pool to be assigned to managed devices to be used by the tunnelling protocol. The default is 131.168.1.254.
- **Local IP**: The IP address of the L2TP network server to be used by the tunnelling protocol. The default is 131.168.1.1.
- **Chap User Name**: The User Name for Challenge-Handshake Authentication Protocol (CHAP).
- **Chap Secret**: The Chap Secret. The default is abcd12345.

NOTE!

The CHAP settings in managed devices must match the settings in the controller.

NOTE!

After making any changes click on the **Save Settings** button of this section.

2.10.1.4 Radius Configuration

Figure 2-90: System Page General Tab, Radius Configuration Section

The Radius Configuration section enables selecting the RADIUS server(s) to be used for authentication and accounting and configure relevant parameters:

- **Radius Proxy**: Select whether to use the built-in RADIUS server (Radius Proxy Disabled, which is the default) or external servers (Radius Proxy Enabled).
- **Local Server Secret**: The Secret string to be used for communicating with the built-in server. Applicable only if Radius Proxy is Disabled.
- **Authentication Server**: Applicable only if Radius Proxy is Enabled. The IP address and port (default is 1812) of the remote Authentication server.
- **Accounting Server**: Applicable only if Radius Proxy is Enabled. The IP address and port (default is 1813) of the remote Accounting server.
- **Remote Secret**: Applicable only if Radius Proxy is Enabled. The Secret string to be used for communicating with the remote server(s).

NOTE!

After making any changes click on the **Save Settings** button of this section.

2.10.1.5 Restart Controller

Figure 2-91: System Page General Tab, Restart Controller Section

Click on the **Restart** button to restart the controller.

2.10.2 Accounts Tab

The Accounts tab includes the following sections:

- Admin Account - Password
- Admin Account - Email
- AP SNMPv3 Settings
- AP SNMPv1/v2c Settings
- SMTP Server Settings
- Operator Accounts

2.10.2.1 Admin Account - Password

Figure 2-92: System Page Accounts Tab, Admin Account - Password Section

The Admin Account - Password section enables changing the password for the admin account:

To change the password for the admin account

1. Enter the current password in the **Old Password** text field.
2. Enter the new password (6 to 18 printable characters) in the **New Password** text field.
3. Re-enter the new password in the **Confirm Password** text field.
4. Click on the **Save Settings** button.

The new password will become valid after logging out from the controller.

NOTE!

The Username for the admin account (**admin**) cannot be modified.

2.10.2.2 Admin Account - Email

Figure 2-93: System Page Accounts Tab, Admin Account - Email Section

The Admin Account - Email section enables changing the email address for the admin account. This email address will be used for sending various system messages, including password recovery details.

The current admin email address is displayed in the read-only **Current Email** field.

To change the admin email address

1. Enter the new address in the **New Email** text field.
2. Re-enter the address in the **Confirm Email** text field.
3. Click on the **Save Settings** button.

The new email address will be displayed in the read-only **Current Email** field.

NOTE!

Configuring a proper email address is critical for supporting password recovery if you forgot your password. This is the email address to be entered in Reset Password window (see "Accessing the Web-Based Management Utility" on page 3), to which the new password will be sent.

2.10.2.3 AP SNMPv3 Settings

Figure 2-94: System Page Accounts Tab, AP SNMPv3 Settings Section

AP SNMPv3 settings define the parameters to be used for searching for and communicating with devices supporting SNMPv3. The settings in the devices must be identical to the settings configured in the Controller.

The SNMPv3 Settings parameters are:

- **Username**: The name assigned to the SNMP user. The default is admin.
- **Auth Password**: The password used for authentication using the MD5 protocol. A string of at least 8 characters. The default is password.
- **Privacy Password**: The password used for encrypting the SNMP traffic using the CBC-DES protocol. A string of at least 8 characters. The default is password.

NOTE!

After making any changes click on the **Save Settings** button of this section.

2.10.2.4 AP SNMPv1/v2c Settings

Figure 2-95: System Page Accounts Tab, AP SNMPv1/v2c Settings Section

AP SNMPv1/v2c settings define the parameters to be used for searching for and communicating with devices supporting either SNMPv1 or SNMPv2c. The settings in the devices must be identical to the settings configured in the Controller.

The SNMPv1/v2c Settings parameters are:

- **Read Community**: The community string used for read (get) operations. The default is public.
- **Write Community**: The community string used for write (put) operations. The default is private.

NOTE!

After making any changes click on the **Save Settings** button of this section.

2.10.2.5 SMTP Server Settings

The SMTP Server Settings section enables defining required parameters for an SMTP server to be used for sending relevant emails such as alert or password reset messages:

- **Email Address**: The email address to be used for sending messages. Must be an email address of an existing account in the server.
- **Server**: The name of the EMTP server (e.g. smtp.gmail.com)
- **Port**: The port to be used for communicating with the SMTP server. Value depends on the configuration of the SMTP server being used.

- **Connection Security**: None, SSL, or STARTTLS. The option to be selected depends on the configuration of the SMTP server being used.
- **Authentication Method**: None or Normal Password. The option to be selected depends on the configuration of the SMTP server being used.
- **Username**: Applicable only if the Normal Password option is selected for Authentication Method. The username for the account.
- **Password**: Applicable only if the Normal Password option is selected for Authentication Method. The password defined for the account.

NOTE!

After making any changes click on the **Save Settings** button of this section.

2.10.2.6 Operator Accounts

While there can be only a single Admin account, several Operator accounts can be defined (by a user with admin account privileges). A user with Operator privileges may only view some limited information. Only the following operations are available to such a user:

- Cut-through to the web-based management of managed devices.
- Ping and Trace operations (see "System Tools" on page 106).

Figure 2-96: System Page Accounts Tab, Operator Accounts Section

In the Operator Accounts section you can create, edit and delete operator accounts:

To create a new operator account:

1. Click the **Create Operator Account** button to display the **Operator Account** fields.
2. Define the following parameters:
   - » **Username**: The Username to be used for login.
   - » **Password**: The Password to be used for login
   - » **Email**: The email address to be used for password reset.
3. Click on the **Save Settings** button to save the settings. A message "New Operator Account has been created" will be displayed. Click on the **Ok** button to return to the Accounts tab. The new account will be added to the Operator Accounts table.

To edit the parameters of an existing operator account:

You may modify the Password and or Email parameters (the **Username** of an existing account cannot be modified):

1. Click the **Edit** button on the right side of the operator account's table entry to display the **Operator Account** fields.
2. Enter the old or a new **Password** (mandatory)
3. You may modify the **Email** address for the account.
4. Click on the **Save Settings** button to save the settings. A message "Operator Account has been modified" will be displayed. Click on the **Ok** button to return to the Accounts tab. The account's details in the Operator Accounts table will be updated.

To delete an existing operator account:

Click on the **Delete** button on the right side of the operator account's table entry.

2.10.3 Upgrade Tab

Figure 2-97: System Page Upgrade Tab

The Upgrade tab enables upgrading the SW version of the controller.

The **Current version** is indicated.

You should have the correct upgrade image (.bin file) available on your PC.

To upgrade the SW version of the controller:

1. Click on the **Browse** button and navigate to the required location to upload the required upgrade file.
2. Click on the **Start Import** button.
3. You should get a success message ("Upgrade file successfully imported").
4. Click on the **Ok** button to return to the Upgrade tab. The new SW version should be indicated as the **Current version**.

2.10.4 Backup Tab

Figure 2-98: System Page Backup Tab

The Backup tab enables saving a configuration file of the controller, restoring the configuration using a previously saved configuration file, and reverting to the factory default configuration.

To backup the current configuration of the controller:

1 Click on the Backup button. The progress of the process will be displayed at the bottom of the page.

2

To revert to factory default configuration:

Click on the **Reset to default** button.

The controller's settings will revert to it's factory default configuration.

CAUTION

After reverting to factory default configuration you will use the ability of remote management connection to the controller. You will have to connect directly to the unit for configuring required IP and other parameters (see "Accessing the Web-Based Management Utility" on page 3).

To restore the configuration to a previously saved backup file:

1 Click on the **Browse** button and navigate to the required location to upload the backup file.

2 The path to the selected file will be displayed next to the Browse button.

3 Click on the **Restore** button.

2.10.5 License Tab

Figure 2-99: System Page License Tab

The License tab displays the details of the current license and enables loading a new license file for extending the license's period or increasing the maximum number of devices that may be managed by the controller.

A license file received from the manufacturer is valid only for the specific controller for which it was generated. The proper license file should be available on the management station before starting the license upgrade process.

NOTE!

Prior to importing a new license, review the License Agreement below. Click on the **Download Agreement** button to view the agreement in a Notepad window or to save it as a text file on your PC.

To import a license file.

1. Click on the **Browse** button and navigate to the required location of the license (.lic) file. The details of the selected file will be displayed next to the Browse button.
2. Click on the **Start Import** button. If the license file is valid, a success message will be displayed. Click on the **Ok** button to return to the License tab. The displayed license details reflects the properties of the new license.

2.10.6 System Logs

Figure 2-100: System Page System Logs Tab

The System Logs tab displays a log of all reported events.

The **Log source** drop-down list on the right top corner of the page enables selecting the source for the logs to be displayed. In addition to the system.log default option, the list includes additional possible sources such as ....

Click on the **Download** button at the bottom of the page to download the displayed logs text file.

2.10.7 System Tools

Figure 2-101: System Page System Tools Tab

The System Tools tab enables using the following diagnostic tools:

- Ping
- Trace

2.10.7.1 Ping

Ping is a diagnostic tool for checking connectivity to and measuring transit delay to a destination address.

To perform a ping test:

1. Enter the destination IP address in the **Target** text field.
2. Click on the **Ping** button

5 packets will be sent to the target address. The test results will be displayed below.

2.10.7.2 Trace

Trace (or Traceroute) is a diagnostic tool for displaying the route (path) and measuring transit delays of packets across an Internet Protocol (IP) network.

To perform a traceroute test to a destination device:

1. Enter the destination IP address in the **Target** text field.
2. Click on the Trace button.

The test results will be displayed below.