

REMOTE MANAGEMENT PORTAL (RMP) USER GUIDE

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Introduction

Intwine's Remote Management Portal (RMP) allows users to centrally manage a distributed network of Intwine 4G LTE Routers (4GR), Intwine Connected Gateways (ICG), and IoT devices. With the RMP, users can quickly deploy and manage networks of distributed hardware in order to increase productivity and reduce costs related to IT and customer support. Intwine improves visibility into your network with its remote management portal and enables users to:

- Monitor 4GRs, gateways, and connected clients through a single straight-forward interface
- Create notifications for network and device attributes
- Reduce truck rolls
- Increase operational efficiency in customer service
- Troubleshoot without onsite IT support
- · Prevent disruption of revenue, productivity, and customer experience
- Upgrade firmware remotely
- Group devices for batch upgrades and configuration
- Manage cellular data and associated costs
- Scale quickly and seamlessly with cloud managed support

System Requirements

The Intwine RMP is designed to be accessible from any computer and most tablets (in the horizontal position) through the web browser. In particular:

- Windows 2000/XP/7+, MAC OS X, or Linux computer and Android or iOS phone/tablets
- The following web browsers (earliest version in parenthesis): Chrome (43), Internet Explorer (IE11), or Firefox (38)

Creating an Account

To create an account, simply connect to the Internet from your preferred Internet enabled device (e.g. tablet, PC, etc.) and browse to http://rmp.intwineconnect.com/



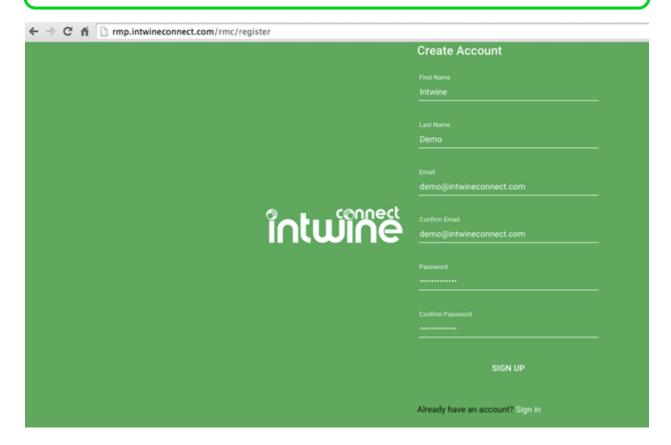
Once the site loads, click Sign Up.



Next, fill in your account information including your name, email address, and password.

NOTE:

Write down your account information and store it in a secure area.

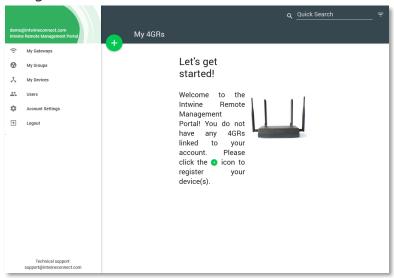




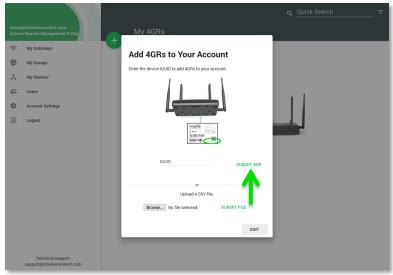
Adding a 4GR to your Account

Now that you have an account it's time to start adding systems!

To add a 4GR to your Remote Management Portal, log into your account and click on the green plus "+" sign.

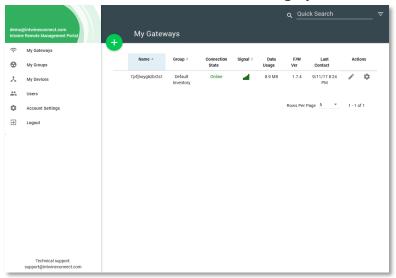


Enter the IGUID from your 4GR's label into the popup window and click **SUBMIT 4GR**. If you have multiple 4GRs to load, refer to "Bulk Upload" below.





You will now see your 4GR and its vital system information in your account! Continue to read this manual to learn how to interact with and manage your device(s).

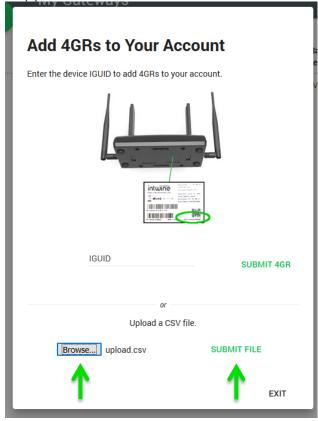




Bulk Uploading

If you have purchased multiple systems, an Intwine representative will provide you with a .csv file that can be used to load all the systems into your RMP in one easy step.

From your RMP's "My Gateways" page, press the green plus "+" to add new systems. In the pop-up window, press **Browse...**, then select the provided .csv file. Once the file loads, the file name will appear next to the Choose File button (as shown below).



Press the Submit File button to upload the file and add your systems! After the file has been uploaded the, you will see all 4GRs from the file in the account.



The My Gateways Page

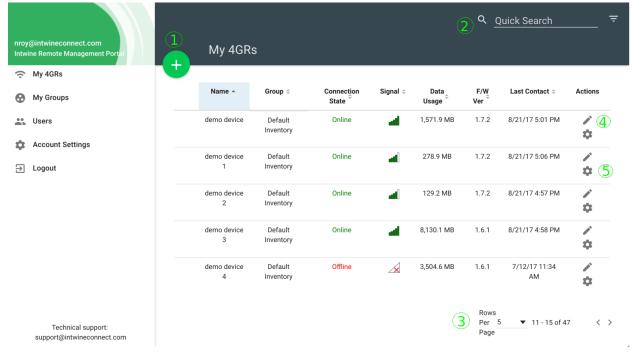
The My Gateways page (link on the left-hand side of page) is the primary location from which you will view and interact with your 4GRs.

Main Dashboard

The dashboard is the default view that you will see when you first login to your RMP. From this page, common device parameters can be seen for a large number of systems at once. These parameters include:

- Customizable device name: (Default name is the system's IGUID)
- **Group name:** The name of the group to which the 4GR has been assigned. Systems not in a custom group are in the "Default Inventory". Details in **The My Groups Page** section
- Connection State: Online/Offline
- Signal Strength: Cellular signal strength indicated in bars (1 [poor] 5 [excellent])
- **Data Usage:** Total cellular data usage in the current billing cycle (24th through the 23rd of each month) shown in megabytes
- Last Contact: Date/Time of last contact between the portal and the 4GR

Clicking on any of the column headers (e.g. "Data Usage") will sort all systems by the respective value. For example, you can use the Quick Search to search for "Online" systems and then sort based on Data Usage to see which systems are currently online have used the most data.





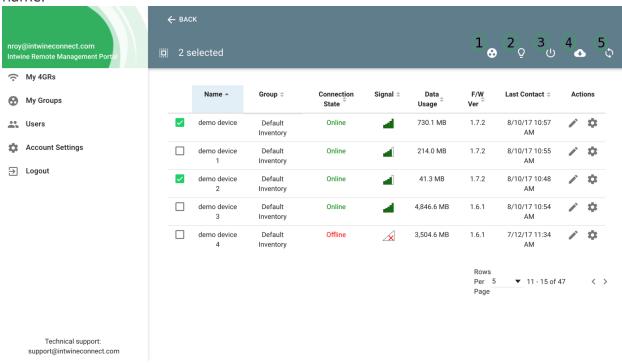
There are also a number of actions that can be performed through the My 4GRs page. These actions are labeled 1-5 above and explained below:

- 1. Add Devices: Allows users to add more devices to an account. Follow the steps outlined in the Adding a 4GR to your Account section of this manual.
- 2. **Quick Search**: Allows users to search their gateways based on any parameter shown on the homepage. Simply start typing and the list will automatically filter to the search term.
- 3. Rows per Page: Allows users to show more or fewer devices on the homepage.
- 4. Edit: Allows users to change the name of their device.
- 5. **Additional Details:** Allows users to dig deeper into the settings of an individual device.



Select and Quick Actions

You can select multiple devices by clicking on the square on the left hand side of the name.



When device(s) are selected in this manner, you can see 5 quick action buttons on the top left. These actions are labeled 1-5 above and explained below:

- 1. **Change Group**: Allows users to move one or more devices from one group to another.
- 2. **LED Control**: There are 3 options for LED control Blink, Normal, Off
 - a. Blink-Rapidly flash LEDs
 - b. Normal Solid green indicating number of bars of signal strength
 - c. Off No lights illuminated
- 3. **Reboot Gateways**: Allows users to reboot the selected gateways (Devices must be online)
- 4. **Update Firmware**: This button allows users to update the firmware of the selected gateways. Each device will check if there is new firmware available and, if needed, update itself to the latest release.
- 5. **Sync with Groups**: The selected devices will be synced to their respective group settings. (Notifications settings and Firmware version)



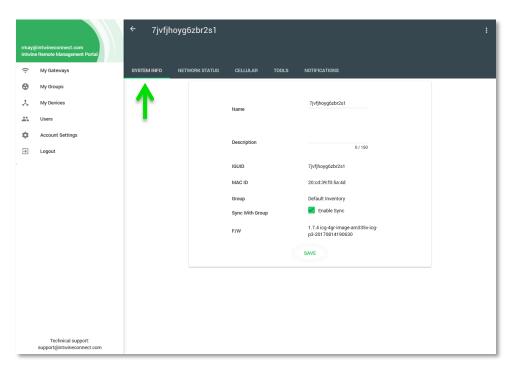
System Details Page

The "System Details" page can be accessed by clicking the gear icon on any 4GR (or double clicking on the row of an individual gateway). Users can use this page to see additional information about the device and access remote troubleshooting tools.

System Info

After clicking on the gear Icon, you will be brought to the **System Info** section for the selected device. This page shows general information about the device including:

- Name: Customizable nickname for the 4GR (Default is the system IGUID)
- Description: Free-form field where you can enter notes about the system
- IGUID: The Intwine Globally Unique Identifier of the 4GR
- MAC ID: The MAC address of the 4GR's Ethernet port
- **Group Name:** The name of the group to which the 4GR belongs (Default Inventory if unassigned)
- Sync With Group: The checkbox should be checked if you want this 4GR to get the same settings as those in its group.
- F/W: Version of firmware that the 4GR is currently running.

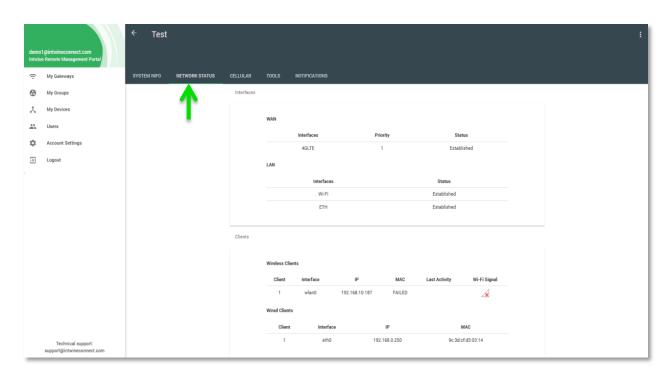


Users can change the Name, Description, or Sync with Group fields and then press SAVE to apply the changes.



Network Status

The **Network Status** tab shows the status and priority of the WAN and LAN networking interfaces. Users can also see a list of Wi-Fi and Ethernet LAN clients with information including IP address of the client, MAC address of the client, the client's last connection, and Wi-Fi signal strength (if it's a wireless LAN client).



For the system above, we can easily see that all of its network interfaces are in the "Established" state, meaning that they are up and working correctly. The 4G LTE modem is the primary WAN connection with both Wi-Fi and Ethernet acting as LAN interfaces.

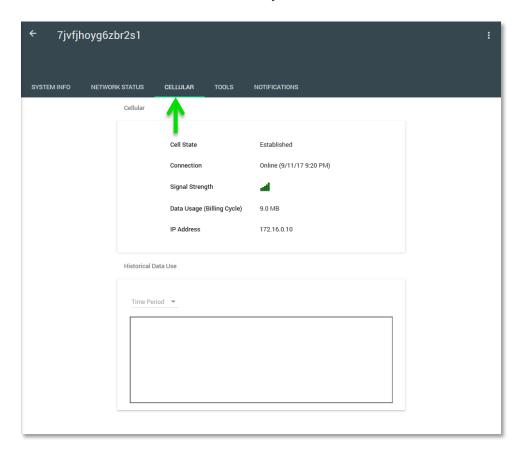
We can also gain insight into the status of any devices connected to the 4GR via the Clients list. In the case shown above, there was a device connected to the Wi-Fi network with IP of 192.168.10.187 and the given MAC address, but it is no longer connected (as indicated by the x on the Wi-Fi signal strength and blank Last Activity). There is also an Ethernet clients connected to this system with an IP of 192.168.0.250 and the shown MAC address.



Cellular

The **Cellular** tab shows more detailed information about the 4G LTE connection including:

- **Cell State**: If the cell modem is up and connected this will display "Established." If not, it will say "Disabled."
- **Connection**: Indicates if the system is currently connected to the RMP. In addition to either Online or Offline, the time of the last "check-in" from the system is shown.
- Signal Strength: The number of bars of cellular signal strength the system is reporting
- Data Usage: Cellular data use so far in the current or last reported billing cycle
- IP Address: The WAN IP address of the system.



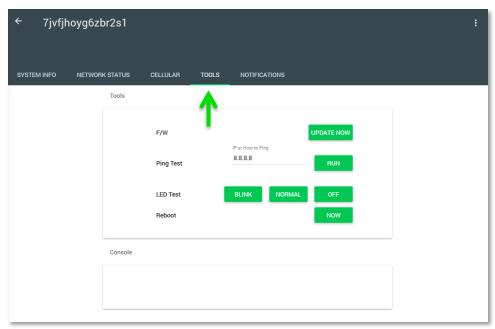


The **Cellular** tab also shows a **cellular data usage graph**. The time period can be chosen from day, week, month or year from the drop down on the top left corner of the graph. The graph for a week is shown here. Note that you can use the cursor hover over the plot to see individual values. In addition, there is a link to enable you to **download** a complete history of the system's cellular data use.



Tools

One of the most useful aspects of the Remote Management Portal is the ability to interact with devices in the field for remote maintenance and monitoring. Through the Remote Management Portal, users can update firmware, test network connectivity, send commands to change the LEDs on the front panel of the 4GR, and remotely reboot the unit.



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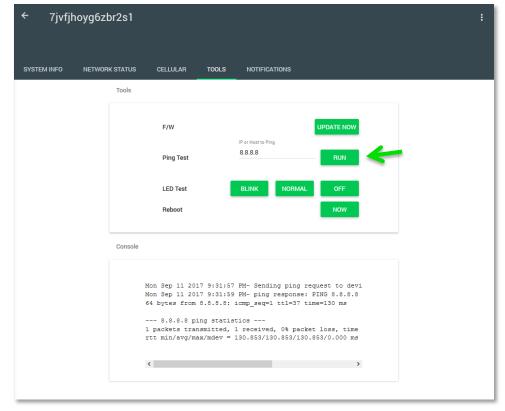
info@intwineconnect.com



Ping Test

The **Ping Test** is useful to confirm that the 4GR has WAN connectivity. It is also useful to verify that specific end-devices are connected and configured correctly. Running a ping test sends a command to the 4GR that tells the 4GR to ping the IP address entered in the box. The IP address can be on the local network or any publically addressable IP address on the Internet. The default ping target is to 8.8.8.8 (google.com).

To run a ping test, simply enter the desired target IP address and click the green Run button. A successful result is shown in the screenshot below. An unsuccessful ping will trigger a timeout error, indicating that target is not reachable.

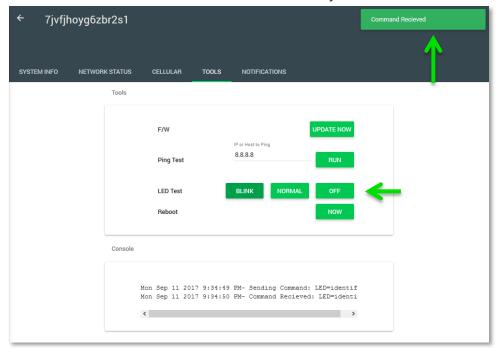




LED Test

The **LED Test** is useful for identifying an individual 4GR from during installation, debugging, kitting, or maintenance. It is also a useful tool to ensure that a remote support representative and local tech are looking at the same device and to confirm that the device is online.

To run an LED Test, click the green **BLINK** button. A successful test will trigger the **Command Received** banner in the upper right hand corner of your screen and will force the 4GR's LEDs to blink rapidly. To return the LEDs to the signal strength bars, click the **NORMAL** button. To turn the LEDs off entirely, click the **OFF** button.

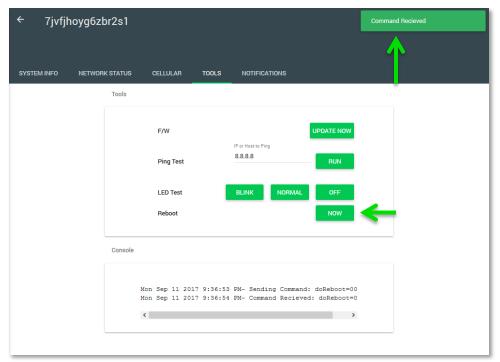




Reboot

Remotely rebooting a 4GR can sometimes cure network, connectivity, or other issues with the 4GR and end devices.

To remotely reboot your 4GR, simply click the **NOW** button. The reboot process will initiate within seconds and will cycle the device. The reboot process can take up to five minutes.

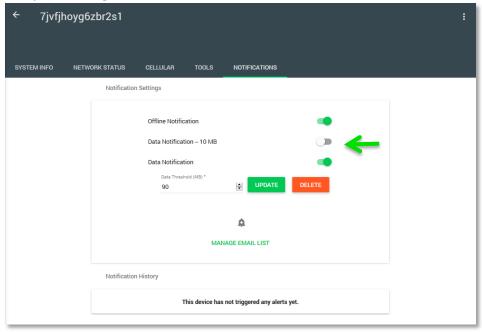




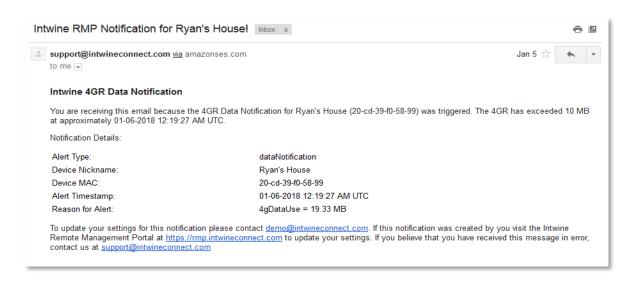
Notifications

Notifications enable you to be alerted by the RMP when events of interest happen to your 4GR. There are currently three types of notifications in the RMP.

Enable or disable specific notifications by clicking on the toggle slider or delete a notification by pressing the UPDATE or **DELETE** button.

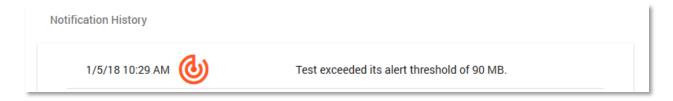


Triggering any notification will result in an email from support@intwineconnect.com.
The email will be sent to all registered email addresses with the following information:



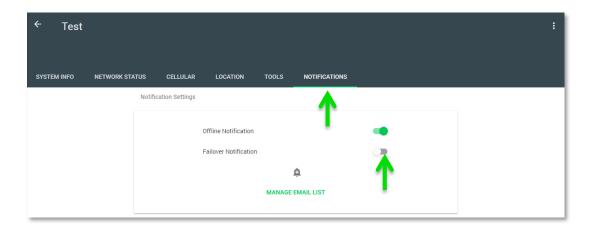


The **notification history** shows the date and time when an alert was sent to the user.



Offline Notification

The "Offline Notification" (shown below) will send a notification if the 4GR has lost its WAN connection. The online offline status is checked every twenty (20) minutes so resolution can vary, but a notification will be sent within twenty (20) minutes of going offline. A notification is also sent immediately when a system returns to "Online" status.



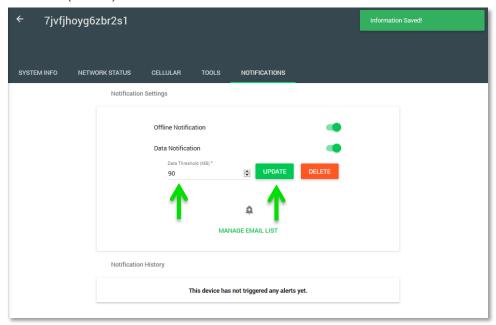
Failover Notification

The second notification type is a Failover Notification. When enabled, the failover notification alerts users anytime cellular data is used. This notification is very usefulfor customers that have their 4GR setup as a secondary/tertiary WAN because cellular data costs money and it is beneficial to get the primary connection back up and running ASAP. Upon receiving this notification it is recommended that the customer contact's their IT provider or ISP to troubleshoot the primary Internet connection. A notification is also sent immediately when the system stops using data.

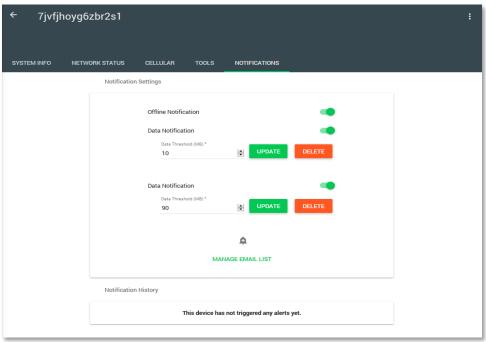


Data Notification

The final type of notification is a "Data Notification." Data Notifications are configurable data thresholds that will send a notification when the designated threshold (in MB) is crossed). Data Notifications can be set by clicking on the **bell** icon and modifying the desired threshold (in MB). Press **UPDATE** to save the alert.



Selecting the **bell** icon again will allow you to create multiple alerts that can be set for multiple thresholds.



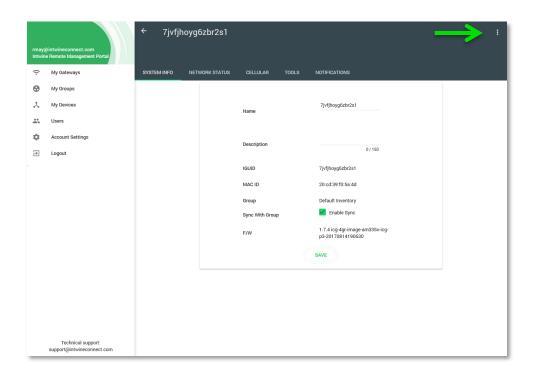


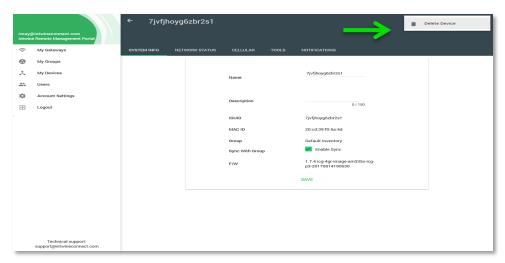
Removing a 4GR

To remove a 4GR from your RMP, click on the three vertical dots on the top of the page and a 'delete device' option will be shown.

Caution:

Deleting a device will remove the device, device's alerts, and alert history log.







A pop-up will ask you to confirm the action.



Selecting "DELETE THE DEVICE" will remove the 4GR from your RMP and remove all alerts and historical data. Removing the device will NOT cancel any monthly services that the 4GR is associated with. To cancel monthly billing for a device, send an email to activations@intwineconnect.com with the requested action and IGUIDs.



Customizing Your 4GRs

Changing 4GR Name

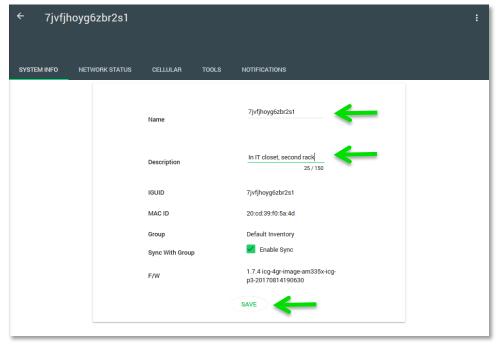
To change the 4GR name from the default IGUID, simply click the gear icon and enter new text into the name field then press the Floppy Disk icon to save the action.



Free-Form Description

In addition to changing the system's name you can create a custom, free-form description for each 4GR. This text is also searchable via the Quick Search box!

To add a description, navigate to the system's info page and type your text into the Description area. You can use up to 150 characters. When complete, press the **SAVE** button at the bottom of the page.



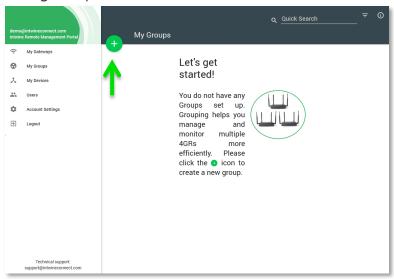


The My Groups Page

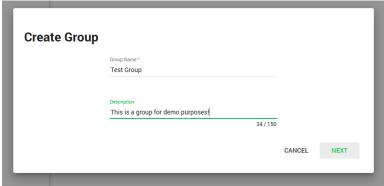
Grouping devices is a useful tool for sorting, looking at multiple gateways as a whole, and performing actions on multiple systems. Customers commonly group devices by end customer, location, application, or anything that makes sense to their specific use case.

Creating a Group

To create a group, simply click on the **My Groups** tab and then click the add button found at the top left (green plus +).

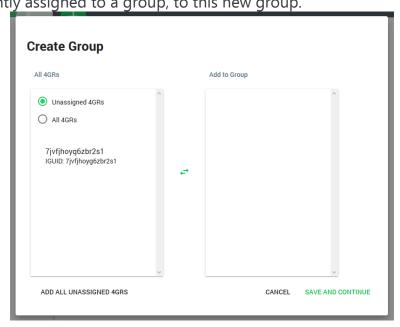


You will then be presented with the Create Group pop-up. Here you can customize the group name and give it a description. Click **NEXT** to continue.



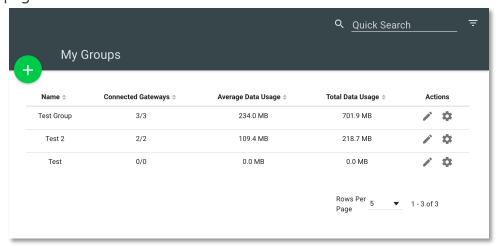


Next, assign individual 4GRs to the newly created group. To do so, drag and drop devices from the All 4GRs or Unassigned 4GRs list, to the Add to Group list on the right. Optionally you can use the Add All Unassigned 4GRs button to move all 4GRs not currently assigned to a group, to this new group.



Group Overview

Once a group has been created, it can be used to easily sort and search devices on the My 4GRs page and to view total consumption and average data usage in the My Groups page.



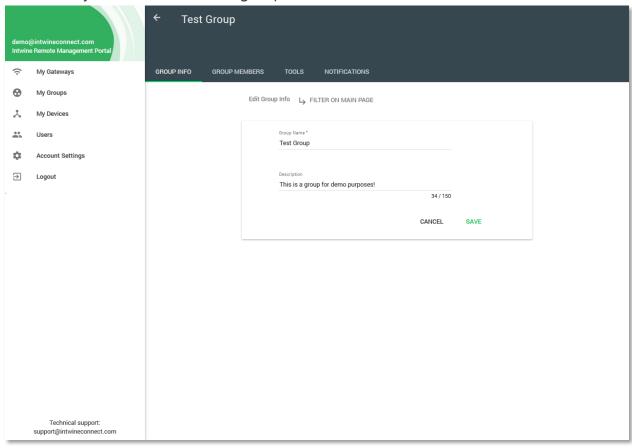
As with the My Gateways page, the **pencil** icon can be used to quickly edit the name of a group. Clicking on the **gear** icon will take you to the group's details page.



Group Details

Group Info

From the Group Info page, you can change the Group Name or Description. You also can use the "Filter on Main Page" link to return you to the My Gateways view with a filter to show only the 4GRs within this group.

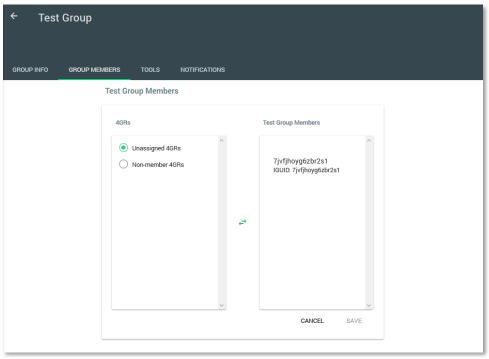




Group Members

The Group Members page enables you to change the membership of the group. You can add devices to an existing group by dragging and dropping 4GRs from the left pane into the Group Members pane on the right. By default, only 4GRs in the Default Inventory are shown in the left pane, but by selecting the "Non-member 4GRs" button, you can select any 4GR, even one in another group. Note that a 4GR can be in only ONE group at a time.

Once all changes have been made, press the SAVE button to apply the changes.



Tools

Tools can be useful for updating the Firmware version of all the devices in the group by clicking on the "Update Now" button



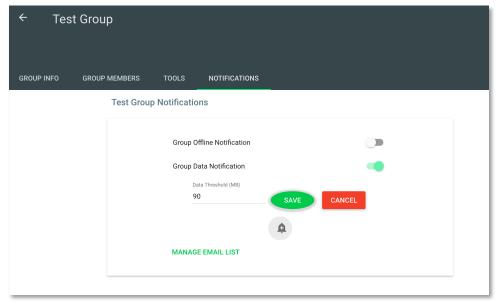


Group Notifications

There is also an option to setup notifications when the data usage of Gateways in a certain group reaches a specified threshold. The interface is the same for a Group as it is for a single 4GR (see

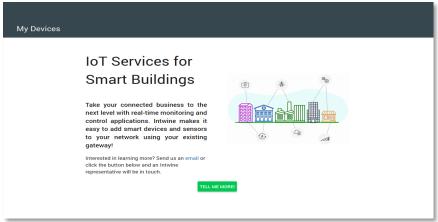


Notifications).



The My Devices Page

Welcome to the world of the Internet of Things (IoT)! The My Devices page lets you manage, monitor, and interact with any IoT devices that you have connected to your 4GRs. To learn more about Intwine's IoT offerings and the value that the IoT can bring to your business contact your Intwine representative.

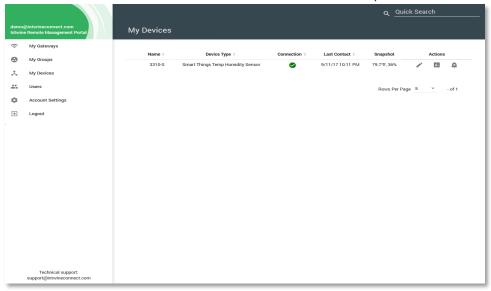


If you have purchased an IT/IoT bundle then you will already have a Temperature/Humidity Sensor assigned to your 4GR and it will be visible in your dashboard.



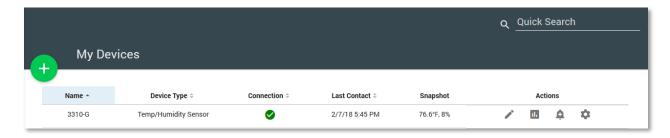
Device Dashboard

The Device Dashboard is very similar to the 4GR Dashboard in that it provides a list-based overview of all devices within your account. From this page you can quickly see the current status of sensors, if devices are online/offline, and perform actions.



For each device in your account you will see the following parameters:

- Customizable device name: Default is the device's model number
- **Device Type**: The type of device
- Connection State: Online/Offline
- Last Contact: Date/Time of last contact between the portal and the device
- **Snapshot:** A quick status of the device's current state. For a temperature sensor it will show the most recent measured temperature.

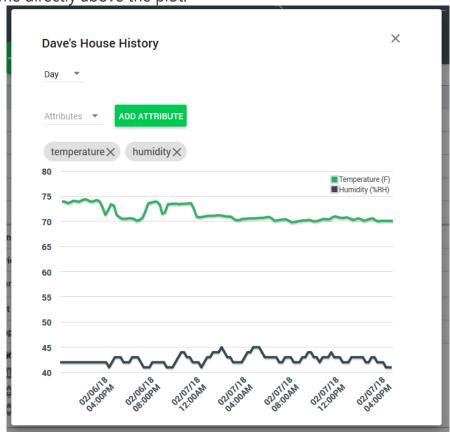


Additionally, actions can be performed on each device. The pencil will let you edit the device's name, the plot icon will let you view historical data, the bell icon will allow you to create device-specific alerts, and the gear icon will show some details on the specific device.



Historical Data

The plot icon will launch the History popup window. This customizable plot allows users to quickly view the data being generated by the device. Users can select how far back in time they want to view the data for (day, week, month, year) as well as add or remove attributes from the plot. To add an attribute, select it from the drop-down list and click the ADD ATTRIBUTE button. To remove an attribute, simply click the X next to the attribute name directly above the plot.



If this window is left open in your browser, the page will auto-refresh to show the most current data.

Device Alerts

Device alerts are intended to help users keep an eye on critical assets without requiring constant manual monitoring. To enable customers to get real-time notifications of possible problems, device specific alerts can be created.

To create an alert for a device, click the bell icon on the My Devices page. A popup will appear allow you to select the specific alerts and thresholds of interest. For the Temperature/Humidity sensor users can create alerts that will generate an email on temperature bounds or humidity bounds.

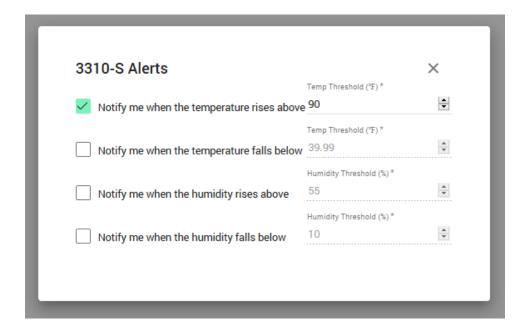
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To enable an alert, check the box to the left of the alert name. Then change the threshold to the desired value. That's it!

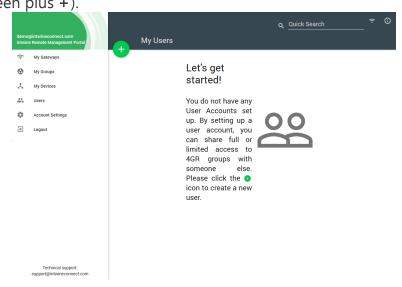




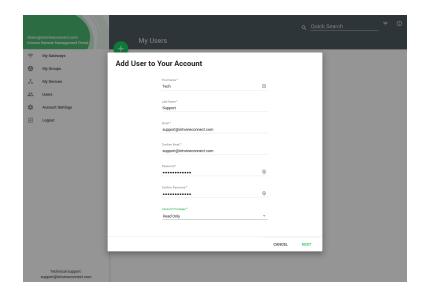
The Users Page

The Users tab allows you to create additional user accounts and assign access privileges. The user accounts tab allows you to maintain complete control over what users can see each system and what actions (if any) they can take.

To add a user, simply click on the **My Users** tab and then click the add button found at the top left (green plus +).



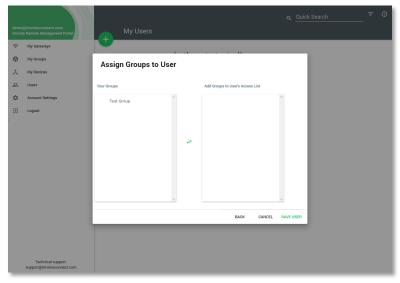
Enter details about the new user and create a password. The password must be 12 characters long and contain at least one upper-case, lower-case, and numeric character.



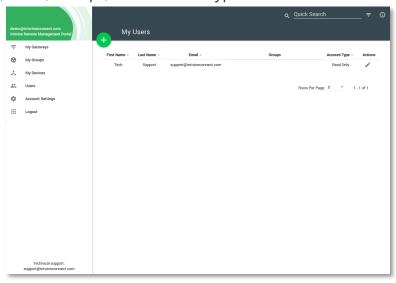


To limit control that the new user has over devices you can change what kind of access you would like the user to have. There are two options in the drop-down menu – 'Read/Write' or 'Read Only'. 'Read/Write' gives the user full access over assigned devices and allows them to use all tools. 'Read Only' simply allows users to view systems that are assigned to them.

To assign a specific subset of devices to an individual user, use the Assign Groups function and drag/drop groups into the account. This allows the "master user" to decide what systems are viewable for individual users.

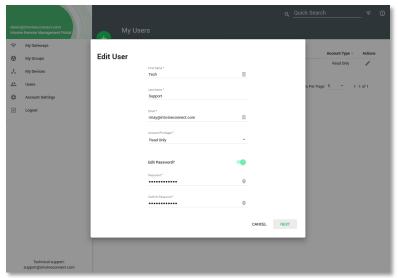


Once you have users in your account you will see a high-level overview of each user including Name, Email, Groups, and Account Type.





Clicking on the edit pencil icon will bring up a window from which all of the properties of the specific user can be edited.

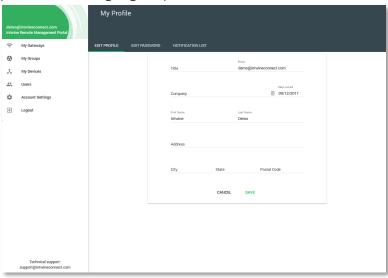




The Account Settings Page

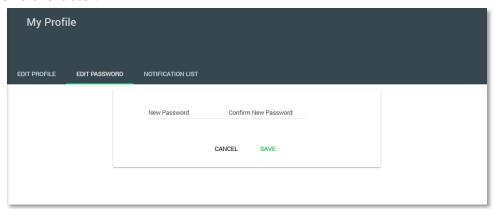
Edit Profile

Users can keep their account information up-to-date here as well as add additional information not provided during sign-up.



Edit Password

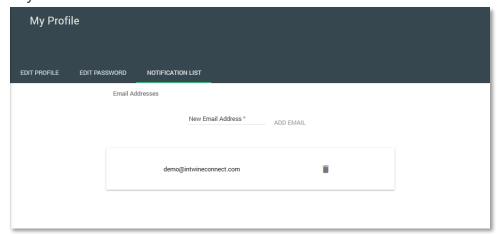
Change your password here. Minimum password requirements are: Password must be 12 characters long and contain at least one upper-case, lower-case, and numeric character.



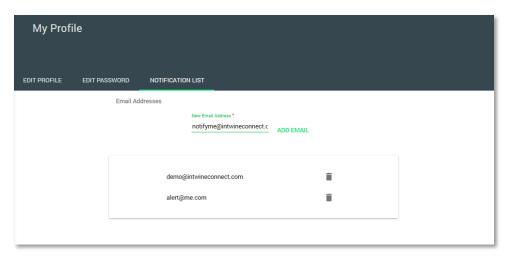


Notification List

When notifications/alerts are generated an email will be sent to the primary user's email address. However, it is often useful for others to get the alert notifications as well. This notification list is a customizable list of email address that will receive all alerts generated by the RMP account.



The default, the recipient is simply the email address associated with the account. It can be removed by clicking the trash can icon. New addresses can be added by typing in the email address into the "New Email Address" field and clicking ADD EMAIL. The newly added account will then appear in the list.



It is important to note that any email address added to the notification list will receive notifications for ALL systems in the account. In order to limit the amount of notifications for certain users it is necessary to create them a sub-account and configure their notifications separately.



Additional Resources

For additional help, contact tech support at (216) 314-2922 x2 or support@intwineconnect.com