Airdrive
Remote Management

GSM COMMANDER
www.gsmcommander.com

amps-7.2.4.1

Airdrive Manual

Revision 2.0
06-10-2016

Intended Audience:

Distributors

Agents

Customers

Installers

End Users

Table of Contents

Table of Contents

Background
Airdrive Remote Management is an value added software as an service web framework to view/manage and maintain GSM Commanders. The system allows you to view historical logs for devices, toggle outputs and to upload/retriev setups to and from GSM Commanders in the field.

Development Tecnologies
The Airdive Remote Monitoring System have been developed based on Open Source technologies, using mySQL as an database backend and PHP as the scripting language of choice, the communications server are base on the netty project with the java programming language.

Airdrive Definitions & Terminology

Account Wallet:
The Account Wallet is connected to an Entity thus if a user is connected to an "Customer" Entity he/she will have access the the entities account wallet, but only if he/she has permissions set to access these credits.

Billing Report:
The Billing Report is found under the reports section and outlines all credit transactions on your account as well as per device.

Credit Run:
The Credit Run happens on the 1st of each month subscription credits are subtracted from devices for the previous month.

Compact View:
the compact device view is an simplistic view of all devices and includes the basic information for all your devices, use this view to quickly see what is happening with your devices.

Custom Names:
As an customization feature you can set custom names ("friendly" name) to the following items. Analog Name, Temp A Name, Temp B Name, Inputs, Outputs and Variables. Thus allows you to see more friendly names for these items, Example instead of seeing Input#1: you can set input1 to read "pump in basement"

Detailed View:
The Detailed device view is an custom detailed view of your devices, custom column display can be set, custom names and what to show in the detailed view can be set.

Device:
A Device is an GSM Commander on the Remote Monitoring Platform, there are 4 different models and the capabilities on **the platform differs, GC0321 and GC0101 does not have the hardware capabilities to perform upload/retrieval of setups or control outputs remotely**, whereas the GC0641 and GC1281 do have these capabilities.

Device Credit: Each device on airdrive have a "credit balance" each month on the 1st of the month the "credit run" takes place and subtracts the monthly "subscription" credit amount from the "device balance"

Devices Status Report:
This report also found under report shows a basis report of your devices.

Entity:An Entity is an Item that forms part of the Airdrive Hierarchal Tree of entities, thus an entity can be an user, device, site, customer, agent or an distributor.

Entity Credit:
Each Entity have an "account wallet" thus credits can be transferred to an entity (customer,agent,site) this account wallet is used to transfer/allocate credits to devices. Example: So if a user is connected to an "Customer" Entity and he has the permission to allocate credits he/she can transfer credits from the "Customer" Entity to devices in the "Customer Entity Tree", devices on sites below the "Customer"

Event:
An Event is generated by an device using an statement in the smart setup software, example if a statement is created that when output 1 is turned on then send a message "Started Pump#1" to the "server" this event have an priority of 1-10 this event is viewable and maintainable on the "events" page and can be updated with extra information and can also be finalised/acknowleded.

Elapsed Device
On the monthly credit run, If the device does not have enough credits the subscription will stay locked to the choosen subscription but the device subscription status will change to "elapsed" thus the features of the subscription will not be available until the device have been re-instated by adding credits and reinstating the device.

Filtering:
Each section on the platfrom has filtering options use these filters to quickly drill down to the information you need, example on devices view, filter to show only devices with "flat" battery voltages.

Hierarchical Tree:
The hierarchal tree is an visual tree of your sites/devices this tree can be found in the Manage Devices navigation button on the top navigation bar. If you are an agent you will also see your customers in this treeview. If you are a Distributor then you will see your agents/customers/sites/devices.

Input:
An input is also an hardware connection on the GSM Commander and can be used to retrieve input states which indicated if an input is on or off, this information is logged to the inputs columns on the Airdrive platform. GC0101 & GC0321 can have a maximum of 16 inputs, where the GC0641 can have a maximum of 21 inputs and the GC1281 can have a maximum of 32 inputs. (using Expansions)

Output:
An Output is an hardware connection on the GSM Commander and is used to control external devices or equipment. On the Airdrive platfrom an output can be remotely switched on or off using the outputs control feature on GC0641 and GC1281 devices. Outputs can also be controlled by statements on the GSM Commander itself. GC0101 & GC0321 can have a maximum of 16 outputs, where the GC0641 can have a maximum of 21 outputs and the GC1281 can have a maximum of 32 outputs. (using Expansions)

Remote Setups:
The remote setups feature allows you to retrieve or upload/retrive a setup to an device, thus this action can be done remotely without having to be at the device location, this feature is only available on GC0641 and GC1281 devices.

Scope Selector:
The scope selector allows you to quickly jump to an entity, example on devices view, show only devices under an specific site.

Subscription:
An subscription is linked to an device and indicated what features a device have access to we have 3 subscription types, Viewer, Historian and Editor Subscription.

Subscription Health:
The Subscription Health is an indicator of how long the device will be Ok for, the current statusses are available.
GREEN: Lapsing more than 3 months
BLUE: Lapsing 1-3 Months
YELLOW: Lapsing in the next Month
RED: The Subscription has lapsed and device needs to be re-instated.

User Role:
Each user has an role attached, the user role indicates what actions an user can perform on the system.

User Scope:
Each user is connected to an entity which can be an site, customer. agent etc. The user scope indicates from what level in the hierarchy the user has access to, if the user is connected to an site he/she will only have access to devices on that site. The same is applicable to an Customer, Agent and Distributor.

Weekly Billing Report:
Each week on a Friday an report summary of your devices are generated and sent to users who have the "weekly billing" flag set in their user account. This Flag can only be set by an admin user role like Customer Admin, Site Admin etc.

User Interface

General Overview

The User interface of the Airdrive Remote Monitoring system have been carefully planned to be very user friendly and easy to understand, and mainly consists of a top Navitation Area, Left Navigation menu, Filtering and Search Area, and a main content area, as outlined below.

Top Navigation

The Top Navigation Area is a Horizontal List of the Sections of the Website the user have access to.

My Account - this section is used to update your profile, change your password,timezone.

Dashboard - View info about your account, devices status, entity health and credits status.

Events - View and Manage Device Originated Events.

Devices - View Devices, History/Events per Device, Upload/Retrieve Remote Setups and Control Outputs.

Map View - View Devices with GPS Coordinates on a Google Map.

Manage Entities - Manage Entities, Create/Edit/Delete (Sites, Devices and Users etc.)

Credits Management - Transfer Credits to Devices and Entities, Reinstate & Change Device Subscriptions.

Reports - View Billing, Device Status Reports etc.

Users - Manage Users in your hierarchal tree. (Admin Roles only)

Help Tours
The help tours, allows you to view an interactive help tour about any page, just click through each button and follow the easy instuctions.

Information Panel
The Information Panel Outlines some Global Statistics like, Devices Online/Offline as well as the amount of credits in your Account/Entity Wallet.

Figure 2.1

Grid Paging
If there is more than one page of information available then paging numbers will be shown for fast loading of data.
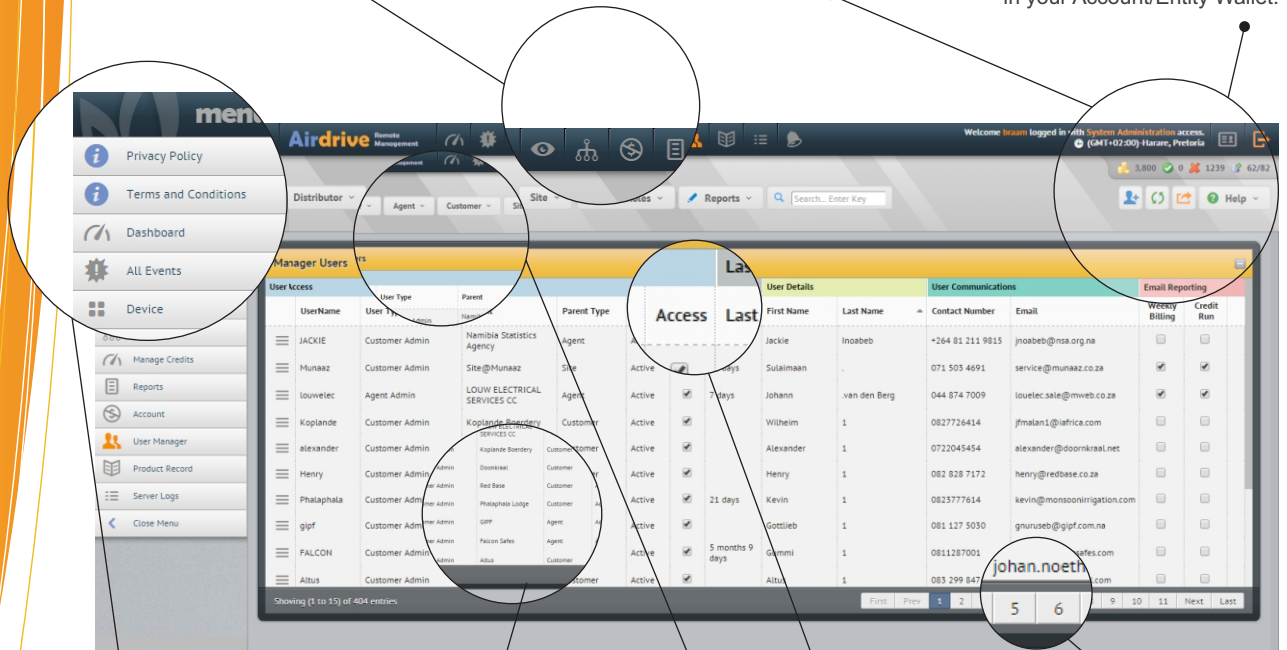
Left Navigation
The Left Navigation Area is a Duplicate of the Top Navigation for easy access and/or for mobile use.

Columns Sorting
Clicking on an column header will sort the Grid in either Ascending or Descending order.

Main Content Area
This area is where the main content of the page is displayed, mostly it is an Table of Data that can be Expanded by using the menu dropdown to show actions that can be performed on an device/user etc.

Section Filtering and Search Capabilities
This section allows you to filter the page to only show specific items, the options differs in each section, most sections also allows you to search for specific items.

3.2 Forgotten Password
If you have lost your password or cannot remember your
password just click on the forgot password button
and fill in the following form.

Just insert your email address on airdrive and click the send button.

Figure 3.1

Social Media Icons
View our Social Media pages on
Facebook,Twitter, Gmail and the
GSM Commander Website.

Figure 3.2

3.3 User Login
Login to the Airdrive Remote Monitoring Website
with the provided username and password combination.

If you we registered on the old website
your login credentials will still be valid.

3.1 Register Account
If you do not have an account yet, click on the registration button and
fill in the form, we will setup your account for you, and let you know as soon as it is ready!

Figure 3.3

Complete the Form!
Please complete all fields on the Account Registration Form,
website is not a required field.

Important Fields:
I am an: Distributor/Agent/End User and where you bought
your commander from is very important as we need this
information to be able to place your company in our
hierarchy tree.

Username: choose a unique username, if the username is
already taken we will allocate one for you.

Password: Please choose an easy to remember but strong
password. ie. letters uppercase/lowercase with numbers.

Are you Human ?
This is just to be sure that this registration is not made using a
"bot" (automated system)

My Account

General Overview

The my Account page allows you to manage your user account. See below outline of the different sections of the my Account Section.

Subscriptions
Charting of your device movement between subscriptions.

Edit/View Profile
Allows you to Edit your user Profile

Edit Preferences
Allows you to Edit your user Preferences

Change password
Allows you to change your password

Update timezone
Update your user timezone
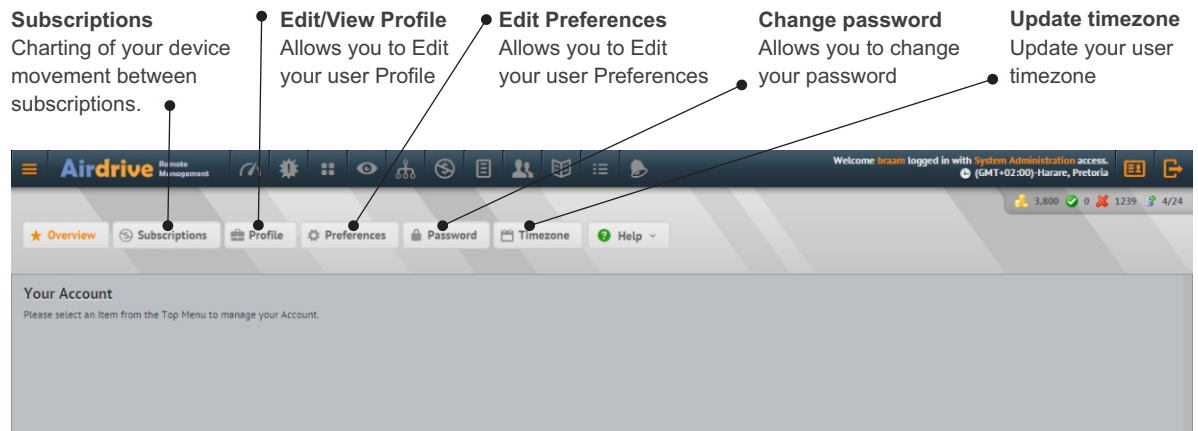
Figure 3.4

3.4 Subscriptions Chart

The Subscriptions Chart allows you to see a summary of how many devices are in what subscriptions. Also the movement from month to month between the subscription types.
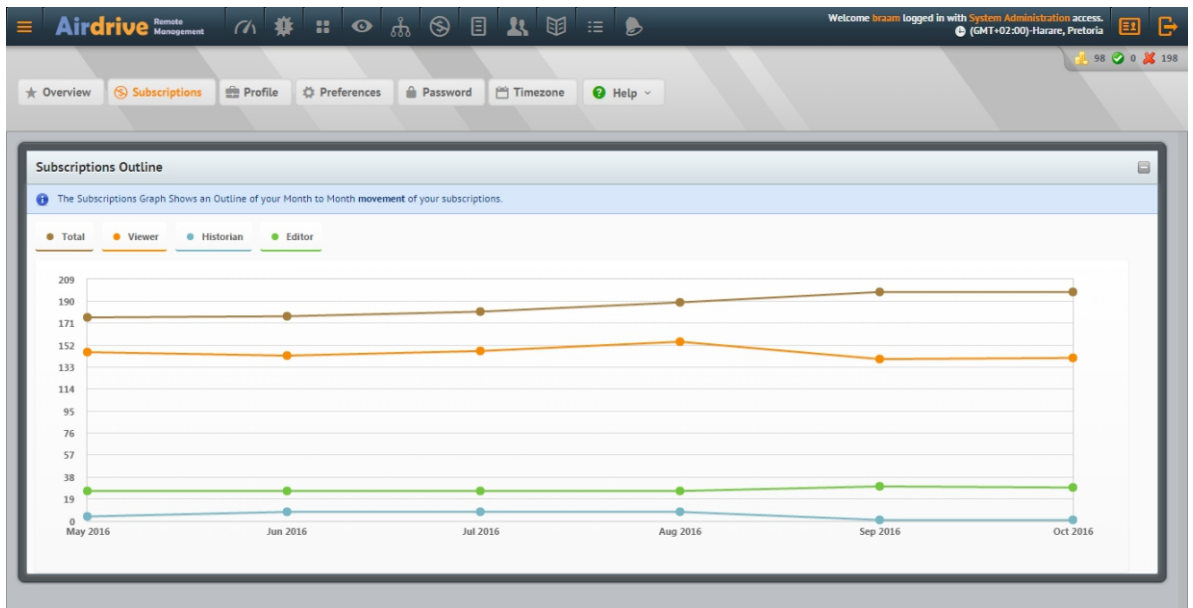
Figure 3.5

3.5 Password Change

Click on the Password button and enter an strong password at least 8 characters long consisting of characters, uppercase lowercase and numbers, enter the same password in the confirm password textbox and click on the blue change password button.

If you have forgotten your password you can always use the forgot password feature on the login page.

3.6 Timezone Change

Updating your user timezone allows you to see your device dates and times in your timezone, and not the device's timezone.

Click on the timezone button in the my Account Section change your timezone to a new timezone and click on the blue save Changes button.

Device Timezone

Please note that each device has it's own timezone, to update the timezone of a device see **Section 6 on Entity Management** to accomplish this, the device quick edit can also be used in the **device view**, click on device menu button and then on quick edit and change the device timezone, we unfortuanately do not have an batch update device timezone as this is something that is mainly done when a device is setup on the system, or an device is moved to a different timezone.

My Account

3.7 User Profile

The User Profile Page allows you to update your **user** details on Airdrive, the top section called contact information will update your user account, Please note that the bottom part Account Information is read only and connot be changed.

The bolow form is very self explanatory, so just update your details and **click the Update Profile button** on the bottom of the screen.

This updates only your user account and **not the entity** you are connected to. To Update an Entity you need to use the **Treeview Manager** to Update Entity Details. **See Section 6 Entity Management** for more information how to do this.
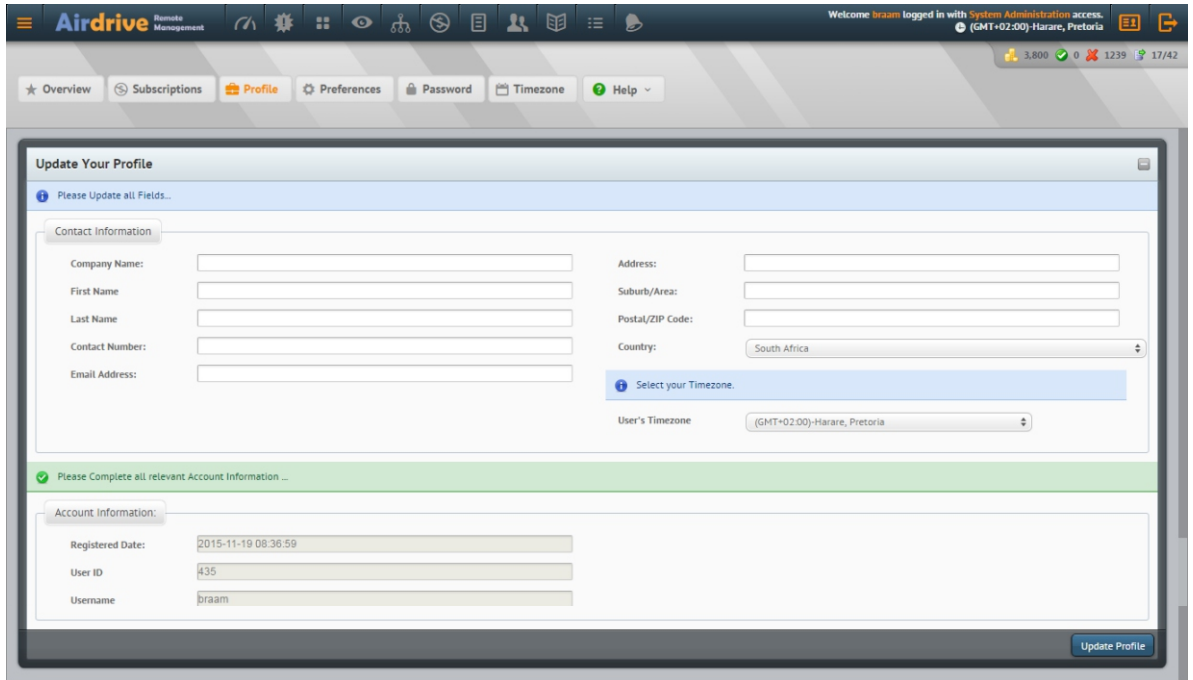
Figure 3.6

3.8 User Preferences

The User Preferences Section allows you to tailor your user experience on airdrive, the page are very self explanatory but there is some interesting settingd we would like to expand on:

What page to load when a user has logged on:
As soon as you login you will be taken to this page, some users like to be landing an a specific page.

Sort History/Events in Descending order: the Latest Logs and Events will be shown first.

Show Records per page in History and Events: overload the default of 50 items per page to your own amount of records per page, just a note the more items per page the longer the page will take to load.

Figure 3.7

Page 6
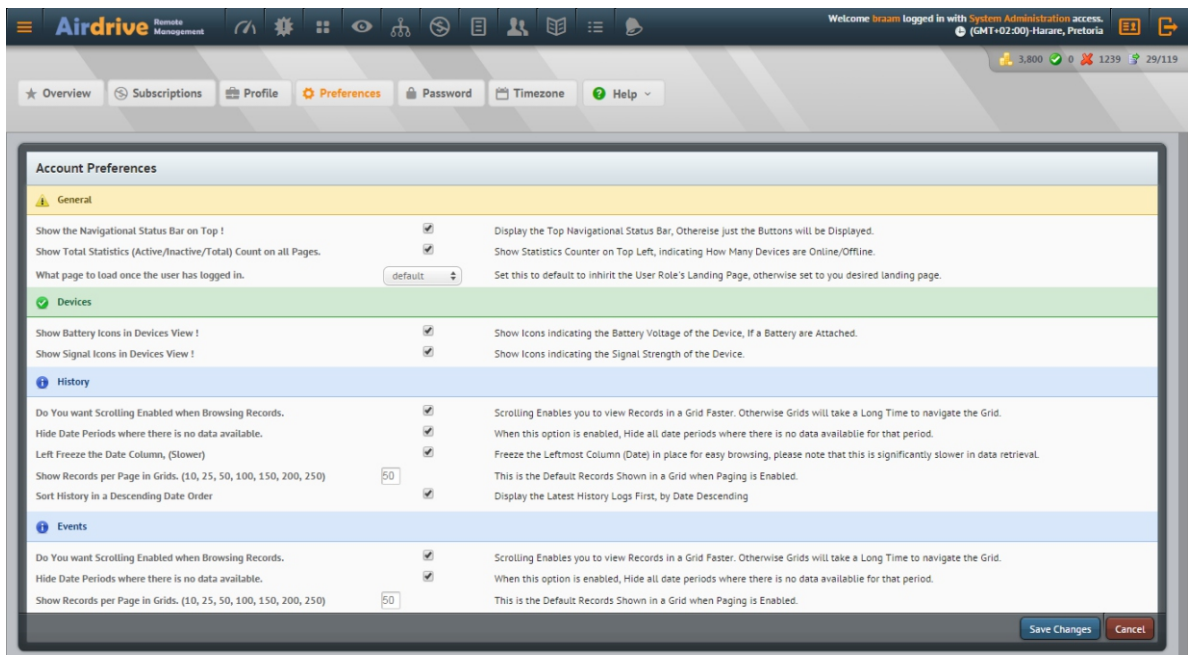
User Management

4.1 Overview
The User management section of the webiste allows you to create/edit/delete users within your Entity hierarchy/Business.

User Entity Scope
The User Entity Scope determines where a "user" is located in your Business Hierarchy. If a user is located under a company/site entity he/she will have access to only that "company/site" and below it. Thus He/she will be able to monitor sites/devices on that level.

Use Case Scenario:
You want "Peter" to manage a site only, he is in installer on that site only. The site is called site@companyabc, you would create an user at this site level. He/she will have access to only that site and those devices under that site.

The same is applicable if you have a customer that want to manage his/hers own company. you would create an user account on that "company" level.
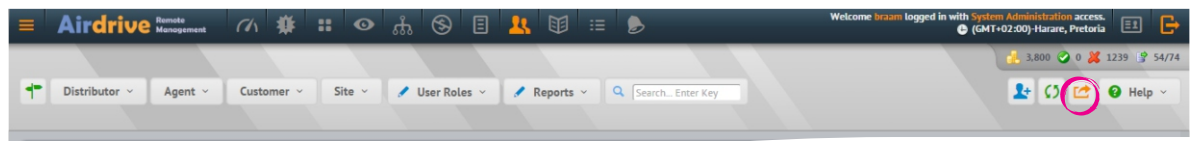
Figure 4.1

4.2 Section Filtering and Search Capabilities
Scope Selector
By using the scope selector you can drill down users to an entity, thus show only users that are in an downline of an site/company etc.

Filtering
Additionally the user management page you can also filter users by their individual roles, also filter users by what reports they receive.

Search
A search feature is also available that will search the system by **username, firstname, lastname, contact number and email address.**

4.3 Users Export
The Users pages also allows you to export your users to an csv file, for use in an external system, by clicking the circled icon as in Figure 4.1, clicking this button will export all the users "you have permission to access"

4.4 User Creation and Editing

Create a User
Creating users can be done from the user management section or for the Entities management section. Creating a user from the User Management section, click on the blue user with the plus sign as indicated in Figure 4.2 below.
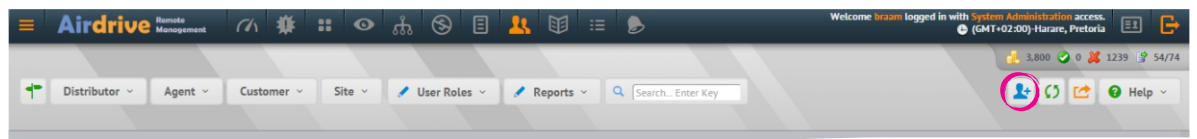
Figure 4.2

Edit/Delete a User
Editing or Deleting a user can be done from the user management section or for the Entities management section. Editing a user from the User Management section, click on the menu icon on the user you want to edit.
When the User Options Panel opens click on the Edit User button. As illustrated in Figure 4.3 below.

Figure 4.3

User Management

Create/Edit/Delete Form Input

When Creating/Editing or Deleting a User the information required are basically the same, below follow an explanation about the fields and what they are used for. Also see Figure 4.4 for what the Form Looks like.

Figure 4.4

Upload a User Picture
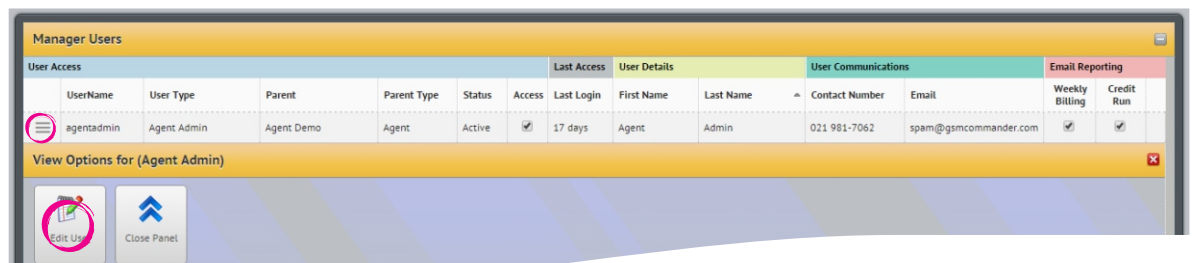Extra info, add a picture to identify an user more easily.

Additional Identification Name/Number
This field can be used to be used as an extra identification name or number for your use.

User's Timezone
When nformation is displayed on the website involving dates and times then these dates will be displayed in the user's timezone.

Username/Password
Choose a unique username and a strong password, this the user will use to login to the system.

Parent Location
This indicates what the user's scope will be, i.e: what entity he/she is connected to.

User Role
What User Role will this user fullfill, Explanation of All the User Roles are explained in **Section 4.5**

Reports
Will the user receive a Weekly Credit Report and/or Monthly Credit Run Report these reports are **explained in Section 4.4**

Delete If the logged in user has permission to delete users this button will be enabled/displayed.

4.5 User Automated Reports

Receive Weekly Credit Report - This report is an autogenerated report of all die devices that this user have access to, the report outlines the devices subscription health and also highlights the devices that will elapsed the end of that month.

This Report are send automatically on each Friday morning.

Receive Monthly Credit Run Report
The Monthly Credit Run Report is the same as the Weekly one, some users prefer to only receive the report on a monthly basis, this report are generated and sent after the Credit Run has taken place.

User Management

4.6 User Roles & Permissions

When creating or editing an user one of the most important fields on the form is the User Role, that identified what access permission the user has, as seen below in figure 4.5 the access permissions is outlined below.

Figure 4.5

	System Admin	Distributor Admin	Distributor User	Agent Admin	Agent User	Customer Admin	Customer User	Site Admin	Site User
User Management									
User Create	✓	✓	✗	✓	✗	✓	✗	✓	✗
User Editing	✓	✓	✗	✓	✗	✓	✗	✓	✗
User Deletion	✓	✓	✗	✓	✗	✓	✗	✓	✗
Users Exporting	✓	✓	✗	✓	✗	✓	✗	✓	✗
Credit Management									
Subscription Change	✓	✓	✓	✓	✓	✓	✓	✓	✓
Reinstate Device	✓	✓	✗	✓	✗	✓	✗	✓	✗
Transfer Credits	✓	✓	✗	✓	✗	✓	✗	✓	✗
Credit Reversals	✓	✗	✗	✗	✗	✗	✗	✗	✗
Entity Management									
Distributor Add/Edit/Delete	✓	✗	✗	✗	✗	✗	✗	✗	✗
Agent Add/Edit/Delete	✓	✓	✓	✗	✗	✗	✗	✗	✗
Customer Add/Edit/Delete	✓	✓	✓	✓	✓	✗	✗	✗	✗
Site Add/Edit/Delete	✓	✓	✓	✓	✓	✓	✓	✓	✓
Device Add/Edit/Delete	✓	✓	✓	✓	✓	✓	✓	✓	✓
User Add/Edit/Delete	✓	✓	✗	✓	✗	✓	✗	✓	✗
Events									
View Event Details	✓	✓	✓	✓	✓	✓	✓	✓	✓
Update Event Details	✓	✓	✓	✓	✓	✓	✓	✓	✓
Finalise Event Details	✓	✓	✓	✓	✓	✓	✓	✓	✓
Export Events	✓	✓	✓	✓	✓	✓	✓	✓	✓
Delete Events	✗	✗	✗	✗	✗	✗	✗	✗	✗
Devices									
Compact/Detail View	✓	✓	✓	✓	✓	✓	✓	✓	✓
Edit Device	✓	✓	✓	✓	✓	✓	✓	✓	✓
Delete Device	✓	✓	✓	✓	✓	✓	✓	✓	✓
Detail View Columns	✓	✓	✓	✓	✓	✓	✓	✓	✓
Remote Setups	✓	✓	✓	✓	✓	✓	✓	✓	✓
Control Outputs	✓	✓	✓	✓	✓	✓	✓	✓	✓
View Device History	✓	✓	✓	✓	✓	✓	✓	✓	✓
View Device Events	✓	✓	✓	✓	✓	✓	✓	✓	✓
Map View									
View Access	✓	✓	✓	✓	✓	✓	✓	✓	✓
Reports View									
Devices Billing Report	✓	✓	✓	✓	✗	✓	✗	✓	✗
Devices Status Report	✓	✓	✓	✓	✓	✓	✓	✓	✓

System Admin
The System Admin Role is an Airdrive Administration Role and can only be assigned to Airdrive admin staff.

Some actions on the platform require an System Administrator to process, these actions are sensitive actions like "Credit Reversals" that only a System Admin can perform please **contact our Support Department** via email on support@gsmcommander.com, to assist with the process.

Credits & Subscription Management

5.1 Overview

Our Billing System works on Subscriptions and Credits. Each Entity on the airdrive system have a **Account Wallet**, as defined in the **Airdrive Definitions and Terminology** in **Section 1**.

Users are connected to an **Entity** and thus shares this **Account Wallet**. Only Users that have the credit transfer permission can transfer credits to other Entities or Devices in their downline.

Devices also have a **"Account Wallet"** this is an special wallet for each device. When a subscription for an device is upgraded credits are "taken/subtracted" from this wallet. Also when credits are transferred to an device this "device wallet" is added to/updated.

The Device "Account Wallet" is also updated during the Credit Run. The Credit Run happens on the 1st of Each month and subtracts the monthly Subscription value from the device **"Account Wallet".** If an device wallet does not have enough credits the device subscription "health" will change to the red state **"elapsed"** and the functionality of the subscription for that device will fall back to the viewer subscription. The Subscription is not changed but the functionality is taken away.

5.2 Subscriptions
Each device has an Subscription, these subscriptions differs in the functionality for that device on the Airdrive platform. As long as there is enough credits in the device **"Account Wallet"** the device will keep that subscription functionality.

5.2.1 Subscription Types
We have 3 different subscription types, and are explained below in **Figure 5.1**

Subscription Features	Viewer	Historian	Editor
Credits/month	0	30	100
Device Realtime View This Allows the user to see the realtime state of the device	✓	✓	✓
History View View the Historic Logs of an device	✗	✓	✓
History Export Allows for the Exporting of Historic Logs	✗	✓	✓
Events Realtime View * Allows for the Realtime View of Device Events	✗	✓	✓
Events History View * Allows for the viewing/managing of historic device events	✗	✓	✓
Events History Export * Allows for the exporting of device events	✗	✓	✓
Remote Setups * Allows to upload and retrive setups from the device	✗	✗	✓
Remote Control Outputs * Allows the user to remotely control outputs on the device	✗	✗	✓

* Features are Model Dependant for only GC0641 and GC1281 GSM Commander Models.
**See Section 8.2 for more information on this.**   Figure 5.1

5.2.2 Subscription Health
What is the Subscription Health ? We introduced a color code that indicates the health of your Subscription. This is also outlined in the Airdrive Definitions and Terminology in Section 1. But we are going to explain it here in more detail.

The Subscription Health is an indicator of how long the device will be Ok for, the current statusses are available.

GREEN: The Device is quite OK, it is only going to elapse in ore than 3 months

BLUE: The Device will "fall back" to Viewer Functionality in 1 to 3 months, so you have some time.

YELLOW: The Device will "fall back" to Viewer Functionality by the end of the month, so credits needs to be allocated to the device to stop this from happening.

RED: The Subscription has lapsed "run our of credits", there is two actions that can be taken here.
1.) Transfer credits to the device and re-instate the device, this will "consome" a months credits immediately and make the device regain the full functionality of it's subscription.
or
2.) Transfer credits to the device, once the Credit Run takes place on the 1st of the Month the device will regain the full functionality of it's subscription. This action was introduced as not all users need a the full functionality right now and can wait till the end of the month.

Credits & Subscription Management

5.3.1   Credits - Overview

Credits are the heart of our Billing and Subscription Platform, All Entities and devices have an Account Wallet that hold the credits. Entity Credits are shared amongst users connected to that entity. Device credits are unique to an device and are used to maintain that the device are in good subscription health.

5.3.2   Credits - Credit Types - Account Wallet and Entity Credits

We have 2 different Account Wallets we will cover the first one here, the Entity Account Wallet holds credits to an Entity, this entity are shared amongst users, as you will see in the treeview manager, users are connected to an Entity, thus can be an Distributor, Agent, Customer or Site.

The Credits on an entity are shared by the users connected to that entity, thus any user that have the "transfer permission ie. Admin User Accounts like Agent Admin or Customer Admin can transfer credits to other entities or devices. We will cover the action to transfer of credits later in this section.
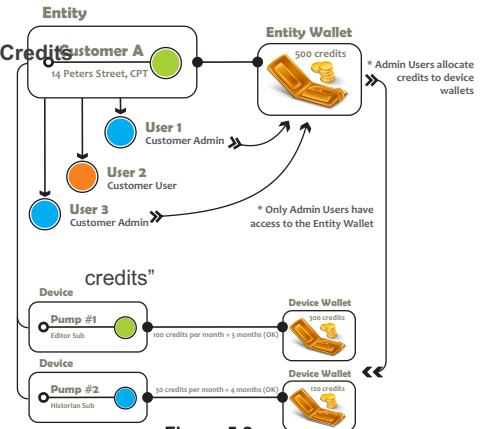
The process is illustrated in Figure 5.2

Figure 5.2

5.3.2.2   Credits - Credit types - Device Credits

The second Account wallet type is the Device "Account Wallet", each device has it's own credit balance this is used to maintain the health of the underlying subscription connected to that device, when a device subscription is upgraded/choosen credits will be subtracted/used from the device "Account Wallet" also each month when the Credit Run happens credits will be consumed for the subscription the device is connected to.

5.3.3   Credits Acquiring and Allocation

Contact your distributor/agent so that they can top up your Entity Account Wallet, once your credits is loaded to your account you can distribute/transfer your credits to other downline entities such as (Customers/Sites or Devices), only transfer credits to an site if you have Site Admin Users that load devices directly, otherwise you can transfer direct to devices.
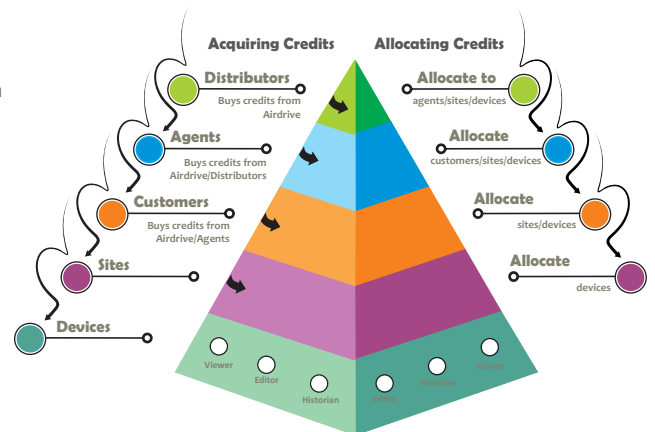
Figure 5.3

This process is illustrated in Figure 5.3. The Transferring/distributing credits transaction can also be seen in the Billing Report in the Reports Section on the Website.

5.3.4   Credit Run

The Credit Run is a Monthly Task that happen on the 1st of Every month. The "Credit Run" is responsibile for subtracting the monthly subscription amount from the "Device Wallet" and also to update the Subscription Health Status of each Device.

For Editor Subscriptions the Credit Run will subtract 100 credits each month and 30 credits from Historian Subscriptions.

The Weekly Billing Report are a way for you to know beforehand what will happen when the Credit Run takes place on the 1st. This Report will indicate which devices will be lapsing, so this allows you to be pro-active in this regard.

Also the Billing Report in the Reports Section will indicate exactly what happened in the Credit Run. We are covering the Billing Report in Detail later in this Section.

5.4.1 User Actions - Filtering and Search

The Filtering and Search features allows you to quickly filter the data and find an entity or device you are looking for, without having to page through the dataand look for the item you are looking for. See Figure 4.9 below for an explanation of the filters and search capabilities.
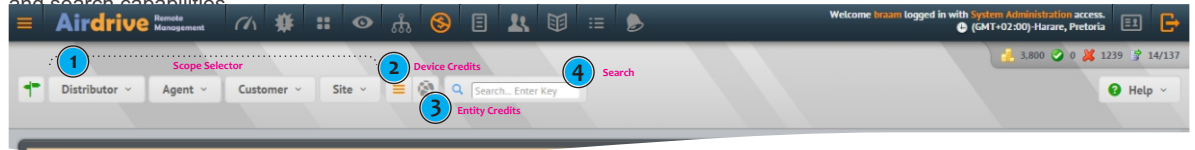

Figure 5.4

1) **The Scope Selector** enables you to show only devices and entities under that entity. Example Show me all devices under CompanyABC or show me all customers under AgentXYZ.

2) **Device Credits Page** enables you to transfer/allocate credits to the **Devices Wallet**, as covered in Section 5.3.2.
3) **Entities Credits Page** enables you to transfer/allocate credits to the **Entity Wallets**, as covered in Section 5.3.2.
4) **Search Ability** - enter an entity name, custom name of device or device serial number, and press the ener key, to find the device/entity you are looking for.
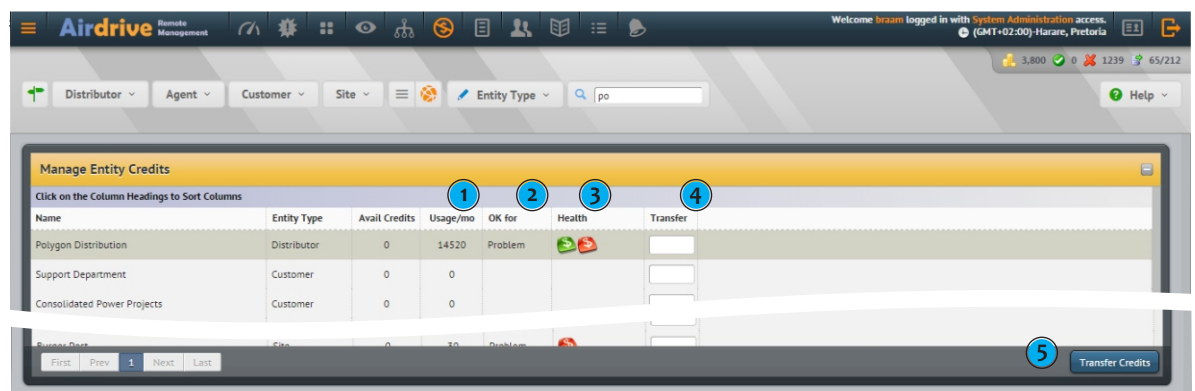

Figure 5.5

Entities Credits

Transferring Credits from your "Account Wallet" to another entity in your downline are mainly applicable to Distributors or Agents but also to Customers if they choose to have "Site Admins" users that manage the devices on their sites themselves. So an Customer then would transfer credits to an site and the Site Admins would allocate credits to the device wallets themselves.

Important Fields on the Entity Credits Page

1) **Usage/Month** this indicates how many credits an entity is using per month, so for example an Customer has 5 editor subscriptions, 2 Historian Subscriptions and 25 Viewer Subscriptions, The Usage/month would be (5*100)+(2*30) = 560.

2) **Ok For** this indicates how many months this "entity" are OK for, this calculation uses the usage/month value and calculates shortage of credits on the entity **"Account Wallet"** this does not take the device's wallets in consideration. This will show something like 4 months or if there is an shortage would indicate "Problem".

3) **Health** this indicator calculates the Subscription Health of Devices under this entity. This Column can be used to monitor device Subscriptions.

   The icons shown can be summerized as follows:
   Green: Subscripion Ok > 3 months, when you hover over the icon it will show x Installations OK.
   Blue: Subscripion Ok 1-3 months, when you hover over the icon it will show x Installations OK.
   Orange: Subscripion Ok 1 months, when you hover over the icon it will show x Installations OK.
   Red: Subscripion Lapsed, when you hover over the icon it will show x Installations **Lapsed**.

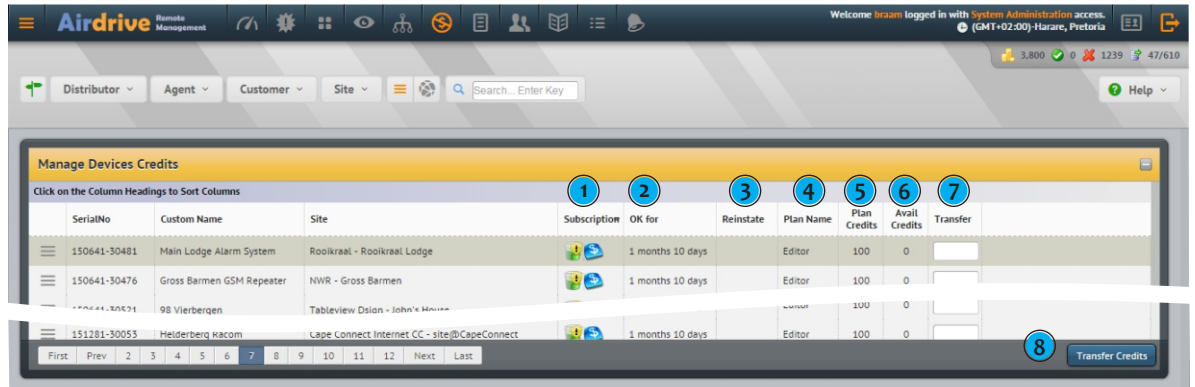4) **Transfer** input textbox on how many credits you want to transfer to an "entity"

Page 12

Figure 5.6

Devices Credits

Transferring Credits from your "Account Wallet" to device is applicable to all Admin Users, Agent Admin, Customer Admin etc. Only Admin Users can transfer credits to devices and entities. Transferring credits to the device "Wallets" allows the devices to stay functional in their current subscription.

Important Fields on the Device Credits Page

1) **Subscription** this indicated the subscription icon and the "Subscription Health" indicator.
2) **Ok For** this indicates how many months this device are OK for on it's current subscription.
3) **Reinstate** currently not applicable
4) **Plan Name** the Name of the Subscription Plan
5) **Plan Credits** how many credits does this Plan consume in any given month.
6) **Avail Credits** how many credits does this **"Device Wallet"** contain.
7) **Transfer** input textbox on how many credits you want to transfer to an "entity"

The Allocation Process

Allocation of Credits to Entities and devices are very easy. Follow the following steps.

1) Enter the credit amounts on each entity/device you want to transfer credits to, in the "transfer" textbox (4), please make sure that you have enough credits in your **"Account Wallet"**

2) Click the Transfer credits Button (8) on the bottom of the page.

3) The Confirm Credits Transfer Modal Window will appear as illustrated in Figure 5.7.

4) Validate the information on the Credits Transfer Modal Window. Pay special attention to the Amounts and Reference/Invoice# Columns.

   Reference/Invoice# Column allows you to attach a reference to the transaction this reference are also shown on your billing report.
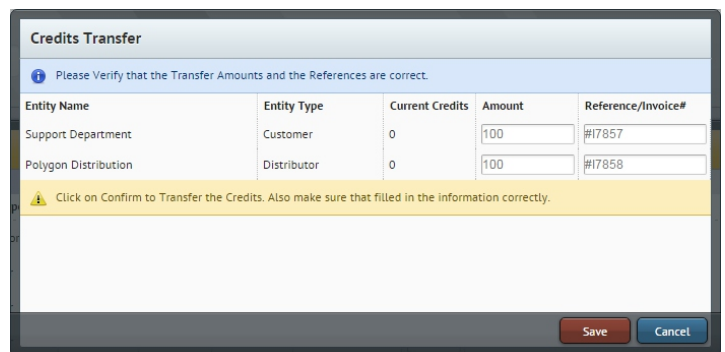
5) Click the Save Button

Figure 5.7

5.4.2 Change Device Subscription

When a device is added to the system it's device wallet will be credited with 30 credits for an GC0101 or GC0321 and 100 credits for an GC0641 or GC1281. Thus each device will have an free "month" in credits allocated.The Device Subscription will also be as an default set to the Viewer Subscription.
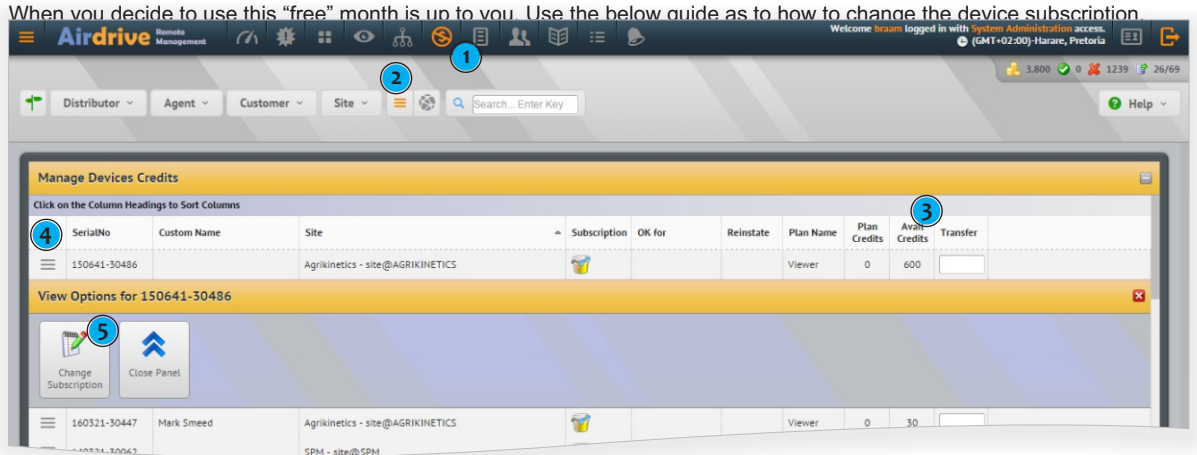
When you decide to use this "free" month is up to you. Use the below guide as to how to change the device subscription.

Figure 5.8

Device Subscription Change Process
Changing the Device Subscription is quite easy.
1)   Go to the manage credits page from the top navigation bar.
2)   Make sure that you are on the "devices credits" page and not the entities credits
3)   Make sure that the device you want to change the subscription for has at least 1 month of **Avail Credits** in it's "device wallet"
4)   Select the device you want to change the subscription for by clicking the menu butto on the far left of the grid.
5.)   Click on the change subscription button for the device.

After the Change Subscription Button have been clicked the modal popup will be displayed as in Figure 5.9
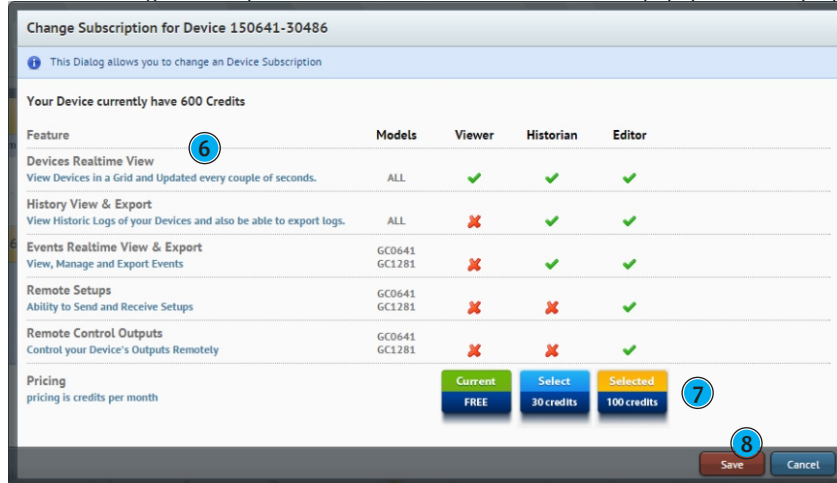

Figure 5.9

6.) The differences between the subscriptions are outlined on the page, if you have an GC0101 or GC0641 the maximum subscription will be the Historian Subscrioption, as these model cannot control outputs, remote setups and also do not have the events logging feature.

7.) Click on the button inline with the choosen subscription. This button will change color once clicked.

8.) Click the Save button at the bottom of the modal popup.

Some Important Notes
Changing Subscription mistakes.
Let's say you change the device subscription to the Historian subscription and you realise that you actually wanted the Editor Subscription (and vica-versa), Please contact us to that we can revert the "Historian/Editor" subscription change. Otherwise the system will subtract the Historian and the Editor Subscription. This reverting change is up to Polygon to decide on merit.

Changing Subscription day of the month - If you change the subscription of an device after the 15th of the month we do not subtract the credits for that month, so we are actually giving upto 15 days for free.

This is an leniency we offer to our clients and can change in the future, if we find that this feature is abused by the users.

5.4.3 Reinstate Device Subscription

If an device's subscription health goes into the red state "elapsed" then the subscription features for that device are disabled.
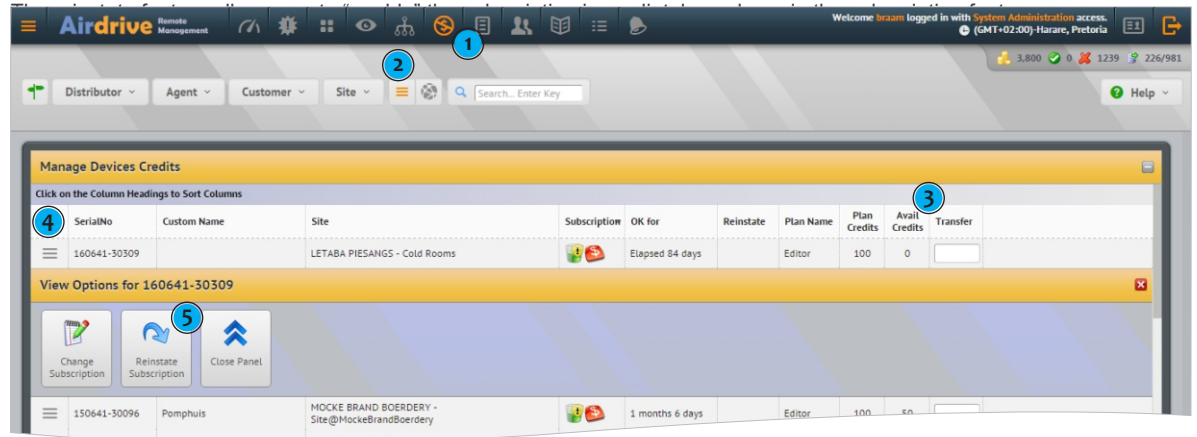

Figure 5.10

Reinstate Device Process

Reinstating a Device Subscription is quite easy, this is only if the subscription health has gone into the "lapsed" state.

1) Go to the manage credits page from the top navigation bar.
2) Make sure that you are on the "devices credits" page and not the entities credits
3) Make sure that the device you want to change the subscription for has at least 1 month of **Avail Credits** in the "device wallet"
4) Select the device you want to reinstate by clicking the menu button on the far left of the grid.
5.) Click on the reinstate subscription button for the device.
6) Modal Popup as seen in Figure 5.11 will be displayed click on the Confirm button to reinstate the device immediately.
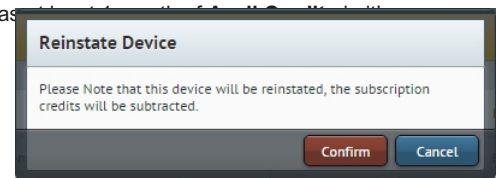

Figure 5.11

Some Important Notes

Reinstating a device will subtract one full months subscription credits from the device wallet. Regardless of which day of the month this is done, As we send out "Billing Reports" on each Friday of the month and also have a subscription health indicator, ample warning is given that an device is in "danger" of elapsing.

If you just want to enable the subscription features and **do not need it immediately** you can just transfer credits to that device wallet and on the next Credit Run that device will be reinstated.

5.4.4 Device Credit Reversal

The device Credit reversal feature are only allocated to staff at Polygon Technologies, please contact our support or sales department if you need to revert credit transfers done by mistake. Credit reversals are done on merit.

5.5.1 Reports - Billing Report

The Billing Report outlines credit transactions on an entity level, you can also filter the report to show only items from an downline entity or even just transactions from a device.

Figure 5.12

Important Items to note on the Billing Report

1) The Billing Report can be found on the main top navigation as indicated by (1)

2.) Filtering can be done by selecting an downline entity, only devices and enties underneath this entity will be shown in the report. Use this only if you are looking for specific information for an entity.

3.) You can also filter the report just to show an device billing report, just use the dropdown list and select the device you are interested in.

4.) The **Transaction Description** describe the transaction, there are a couple types of transaction that are explained below.

Initial 6 Months FREE Credits: This entry each device will have, when we launched the site in May 2016 we gave each device already on the system 6 months of credits for FREE.

Insufficient Credits available on Account. When you try and allocate credits to an device/entity but you do not have enough credits on your account wallet this transaction will be created.

Subscription Failed (Insufficient Credits) [100 needed.] You tried to change the subscription of a device but the "device wallet" did not have enough credits.

Allocate Credits to Entity: You transferred credits to an entity in your downline. This transaction will always have a corresponding "Decrement Credits from {entity}" which indicated from what entity it was transferred from.

Monthly Credit Run for {month} {year}: This transaction gets created for each device when the Credit Run happens each month on the 1st.

Decrement Credits from {serial_number}: This transaction will be created for each device also when the Credit Run happens.

Increment Credits to {serial}: You transferred credits to an device wallet. This transaction will always have a corresponding "Decrement Credits from {entity}" which indicated from what entity it was transferred from.

Decrement Credits from {entity} Credits was transferred from an Entity, with corresponding "Allocate Credits to Entity"

6.) The **Entity Column** will show the entity that this transaction are applicable to. Should be an Entity or Device.

7.) The **Reference/Invoice** Column, will show if a Reference was entered, almost like when you do payments in online banking and you enter a reference.

8.) **Open** shows the "balance" before that transaction.

9.) **Amount** shows the "transaction amount".

10.) **Balance** will be the balance of the entity/device after the transaction.

Entity Management

6.1 Entities Overview - What are an Entity ?

An Entity is an Item that forms part of the Airdrive Hierarchal Tree of entities, thus an entity can be an user, device, site, customer, agent or an distributor. This is more easily explaining with an Illustration, se Figure 6.1 for more of an visual explaination on what entities are.

Fixed Structure Entities

Fixed Structure Entities have a fixed hierarcal structure for example an Agent can only fall under and Distributor, an Customer must be placed under an Agent.

Entity

Distributor A
1000 Credits

Entity

Agent A
500 Credits

Entity

Customer A1
200 Credits

Loose Structure Entities

Loose Structure Entities have a loose structure, which basically means that a site or an user can be placed under a Distributor, Agent, Customer. Also an User can also be placed under a Site.

Devices: Each Device has a device wallet that are used to "consume" credits from, thus if no credits are allocated to an device the functionailty of the Historian and Editor Subscription will fall away.

Devices

Site

Each Device has an "Device Wallet"

User

An user also have an *Role thus indicated what actions this user can perform.

* User Role Permissions an fully explained in previous Section 4.6
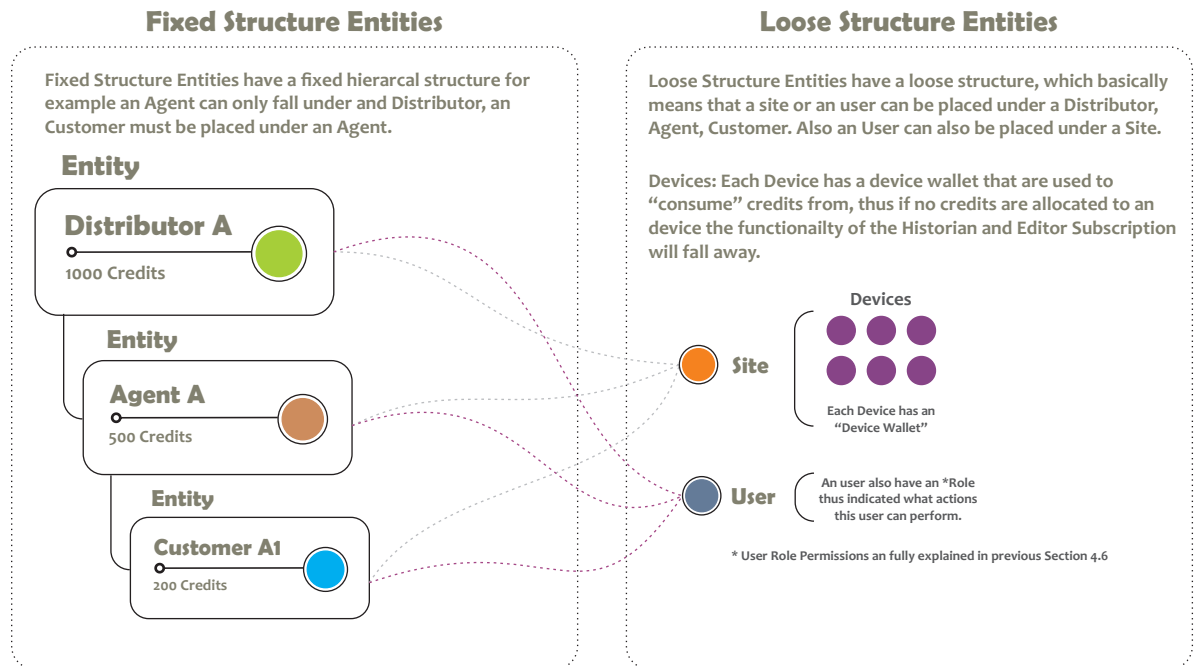
Figure 6.1

6.2 Entity Types

We have 5 Entity Types in our hierarical structure. Each entity is explained below. All entity types have different levels of functionality on the platform as well as discount structures.

Distributors: Distributors are our top level "clients", we have only one distributor per country, thus for example all Agents and Customers in South Africa will fall under Polygon Distribution, our Inhouse Distributor at Polygon Technology.
If you would like to become an distributor please contact our sales department for more information.

Agents: Agents are the second highest level of client, as an agent you are entitied to a higher discount level than an end customers, also you can resell the platform to end customers, thus buy credits from airdrive at a discount rate and resell to end customers, please note that you have to service these customers, to become an agent also please contact our sales department to sign up for the agent training as per our website at gsmcommander.com

Customers:
End Customers are at the bottom level of the chain, as Polygon sells directly to end customers these customers will fall under Polygon Agency our inhouse Agency to End Customers, as an agent you are more than welcome to resell the platform to end customers.

Sites:
Sites are basically a grouping of devices, lets say you have 3 devices at an power plant, you would call this "site" lets say, "ABC Powerplant" now all devices under this site are grouped and much easier to manage on the platform, especially in the devices view. An site can be place on the Distributor, Agents and Customer level.

Devices:
Devices is what this is all about, each device must be connected to an site even if there is only one device, the site is like a placeholder for your devices. Each device has an "device wallet" as explained earlier.

Users:
Users are created to manage the platform a user can be placed anywhere in the hierarcal tree, each user has an Role to identify what actions this user can peform, these roles and actions are explained in previous section 4.6. The ability to create and manage users in **"your business"** are only allocated to the the "Admin Roles" ie: Customer Admin, Agent Admin and Site Admin.

Entity Management

6.3 Entities User Interface

The **"Entities Treeview Manager"** are used to manage entities in a treelike fashion, this page can also be used to view the enties as well as devices online state. In this page you can create new entities like creating devices and users. See below illustration of the different sections of the page.
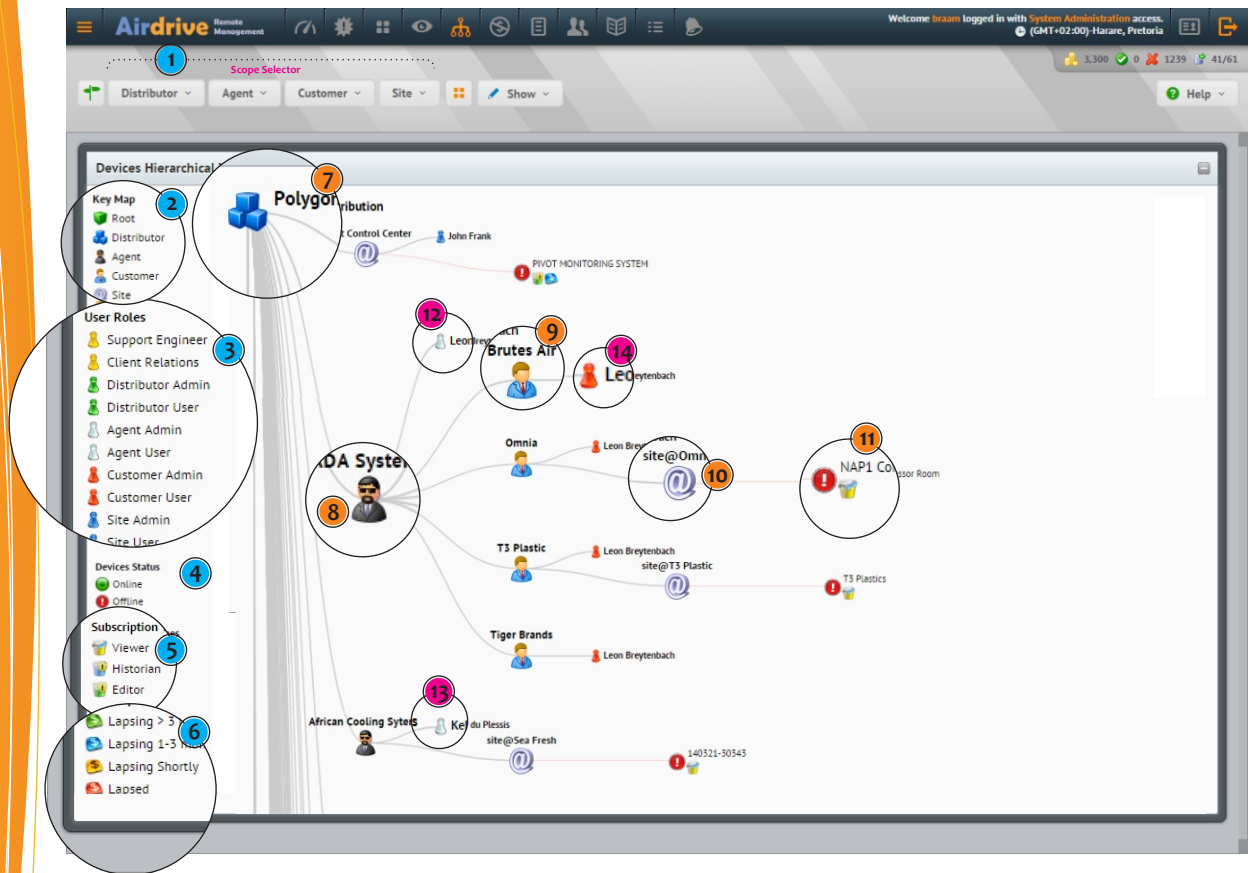

Figure 6.2

1) **Section Filtering and Search Capabilities**
   This section allows you to filter the hierarcal tree to only display entities in the downline of an Agent, Customer, Site, use this to quickly filter the tree and to find entities.

2) **Entity Types Key Map**
   This key map is an indicator of the different icons on each entity type, use this as an refernce to determine the type of entity.

3) **User Roles Key Map**
   This key map is an indicator of the different icons on each user role, use this to identify the user role.

4) **Device Online Status Key Map**
   This indicator show what icons are displayed if a device is online or offline.

5) **Subscriptions Key Map**
   These icons show which icons are used to display devices subscriptions.

6) **Subscrition Health Key Map**
   These icons show which icons are used to display devices subscription health.

7) **Distributor**
   This is what a Distributor looks like in the treeview, **"left click"** on the icons to show the popup menu.

8) **Agent**
   This is what an Agent looks like in the treeview, **"left click"** on the icons to show the popup menu.

9) **Customer**
   This is what an Customer looks like in the treeview, **"left click"** on the icons to show the popup menu.

10) **Site**
   This is what an Site looks like in the treeview, **"left click"** on the icons to show the popup menu.

11) **Device**
   This is what an Device looks like in the treeview, **"left click"** on the icons to show the popup menu, see that this also shows the online/offline icon and the subscription and the subscription health.

12-14) **Users**
   This shows the user and their roles, as you can see a user can be connected to an site, agent or customer thus that user will only have access to that site, agent or customer. Use this to give users access to only a customer/agent or site. Also creating Admin users will give them access to manage users and credits as axplained in section 4.6.

Entity Management

6.3.1 Entity Popup Menu

The entity popup menu displays a popup menu of which actions can be performed on an entity, by clicking on the entity icon. Each entity type have different items that are displayed as well as actions that can be performed on an entity. In Figure 6.3 the Agent Popup menu is displayed. In section 6.1 our hierarcal tree of entities are explained.
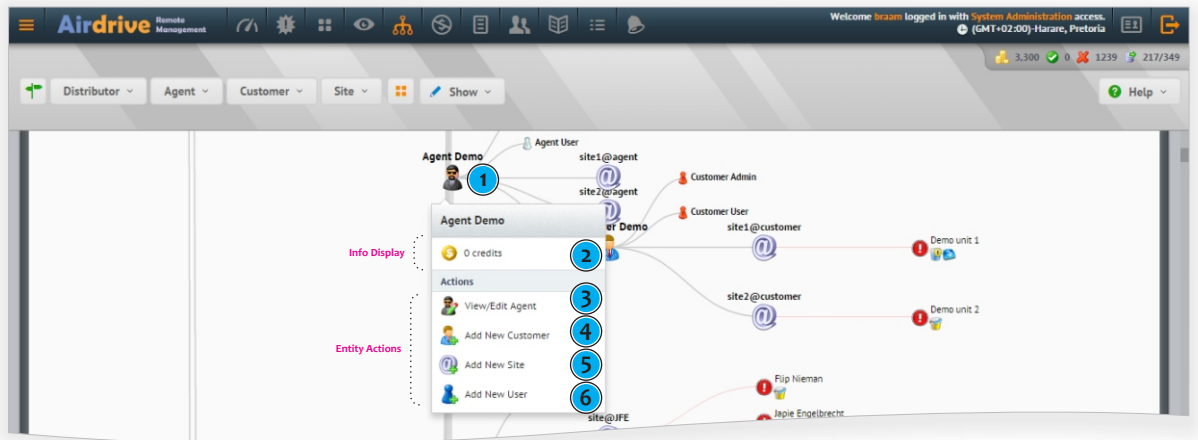

Figure 6.3

1) Click on an Entity Icon in this case the black agent man to display the Menu Popup
2) This is the info Display in this case only amount of credits in the agent "Account Wallet" are displayed.
3) This allows you to view/edit the Agent Information. Other entities will allow you to edit their respective customer/site/device or user.
4) As an Agent Entity a Customer can be added to an Agent. Use this to Identify your Customers with their sites etc.
5) Adding a Site can be done on any entity except an user. A Site groups devices.
6) Adding a User to an entity allows that user to access this Agent, the User Role of that user is very important.

6.3.2 Entity Info Display

The below table shows the info display for each entity type, this info is displayed above the Entity Actions in the Entity Popup Menu.

	#Credits	#Sites	#Users	#Devices	Subscription	Subscription Health
Distributors	✓	✓	✓	✗	✗	✗
Agents	✓	✗	✗	✗	✗	✗
Customer	✓	✗	✗	✗	✗	✗
Site	✓	✗	✓	✓		
Device	✓	✗	✗	✗	✓	✓
User	✓	✗	✗	✗	✗	✗

6.3.3 Entity Actions Matrix

The below table shows the allowed creation and editing by entity type, this correlates to section 6.1.

	Editing Own Entity	Creation/Editing Agent	Customer	Site	Device	User
Distributors	✓	✓	✗	✓	✗	✓
Agents	✓	✗	✓	✓	✗	✓
Customer	✓	✗	✗	✓	✗	✓
Site	✓	✗	✗	✗	✓	✓
Device	✓	✗	✗	✗	✗	✗
User	✓	✗	✗	✗	✗	✗

6.3.4 Entities User Scope

As users are connected to entities the user will have access to the entity he/she is connected to, the user's role also identifies what permissions/actions they may perform as explained in the User Role Permissions in section 4.6.
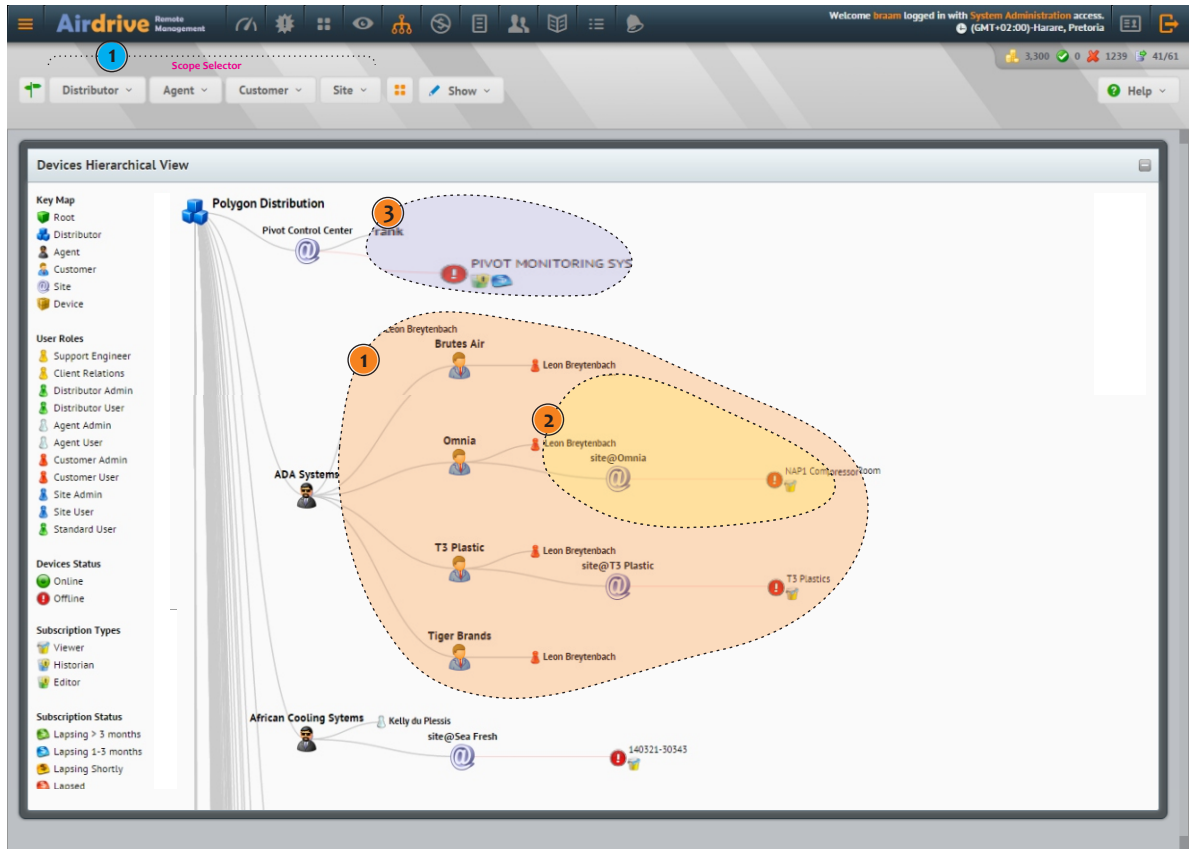

Figure 6.4

As seen in Figure 6.4 above a user has a entity scope, meaning what access to entities he has for viewing and editing. Lets do same examples:

User are Connected to an Agent Entity
1) User indicated by number 1 is connected to an Agent Entity thus he will have the scope in the light orange polygon, thus he will have access to the 4 Customers it's sites and devices. His Role is an Agent Admin witch will give him permission to create additional users withinhis scope of entities, also he will be able to transfer credits to devices, customers etc.

User are Connected to an Customer Entity
2) User indicated by number 1 is connected to an Customer Entity, as seen in the scope he is an customer of ADA Systems, he/she will only have access to Customer Omnia, devices and sites. He/she is an Customer Admin thus will have the ability to create additional users on his customer entity, and also transfer credits to devices.

He will most probably make additional users a Customer User, thus not be able to create additional users or transfer credits.

3) User a Connected to an Site
This user is connected to an site, He/she is an Site Admin thus he can create additional users, Site Users to help him manage the site, he can also transfer credits to devices. If this type of structure is used a Customer or Agent will transfer credits to an site so that an Site Admin can manage the credits for his site, or oversee this as an Customer Admin, by loading credits directly to the devices if so choosen.

Important Notes
Credits are always consumed from the logged in users, entity wallet. So if you are logged in with a user connected to an Agent Entity and loading credits the credits will be consumed from that Agents Account.

6.4   Maintaining Entities

Entity maintenence is done from the Entity Tree mananger page, We will be explaining some of the core management features of the platform in this section. All actions for entities are controlled by the Entity Popup Menu as outlined in **section 6.3.1** this menu can be accessed by clicking on an entity icon. This Menu is displayed with all the options available for that entity as well as your user permissions.

6.4.1 Creating, Editing and Deleting Entities

We will be going over each entity type in detail here, the available actions, how to guides as well as some explanations on the form fields and what is required fields.

6.4.1.1 Responsibilities

We are outlining the responsibilities of the different type of entities as below in the responsibilities matrix.

	Creation					Credits Allocation	
	Agent	Customer	Site	Device	User	Entities	Devices
Distributors	✔	✔	✔	✔	✔	✔	✔
Agents	✘	✔	✔	✔	✔	✔	✔
Customer	✘	✘	✔	✔	✔	✘	✔

6.4.1.2 Creating Agents (Distributors Only)

The process of creating agent on the platform is very easy, as outlined below follow the easy steps in this tutorial.
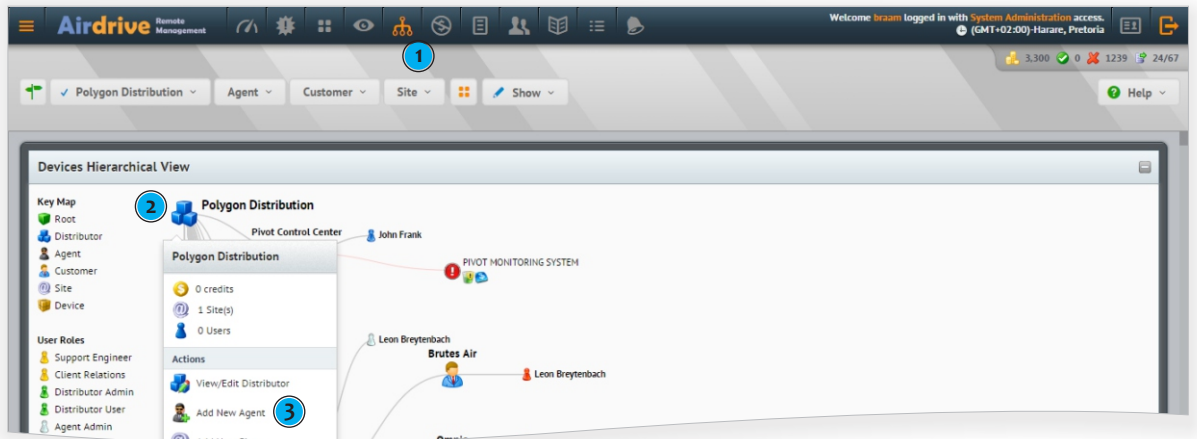
Figure 6.5

1) Start by clicking on the top navigation with the tree icon, this is the treeview manager.
2) The Root/top most element on the tree as outlines with the (2) would be you, the distributor. Click (left) on the 3 blue boxes icon. Once clicked the above menu will apear.
3) Select the item in the menu called "Add New Agent" once clicked a new form will open as illustrated in Figure 6.6.
4) Complete the form below and click on the Blue Save Button.

Figure 6.6

Agent Name (Required Field)
The Agent Name is very important as this is shown accross the site, try and use naming convention that you are happy with, ie. Uppercase, Title or Lowercase.

Address, Suburb, Postal Code and Country
These are very self explanatory and not required fields, but nice to capture.

Contact Number (Required)
The Contact Number is important as this indicates the "main" contact number for this agent ie. Office Number.

Email (Required)
The Email is important as this indicated the "main" email for this agent, use a "main" email like info@yourcompany.com

6.4.1.3 Creating Customers (Distributors and Agents)

The process of creating customers on the platform is very easy, as outlined below follow the easy steps in this tutorial.
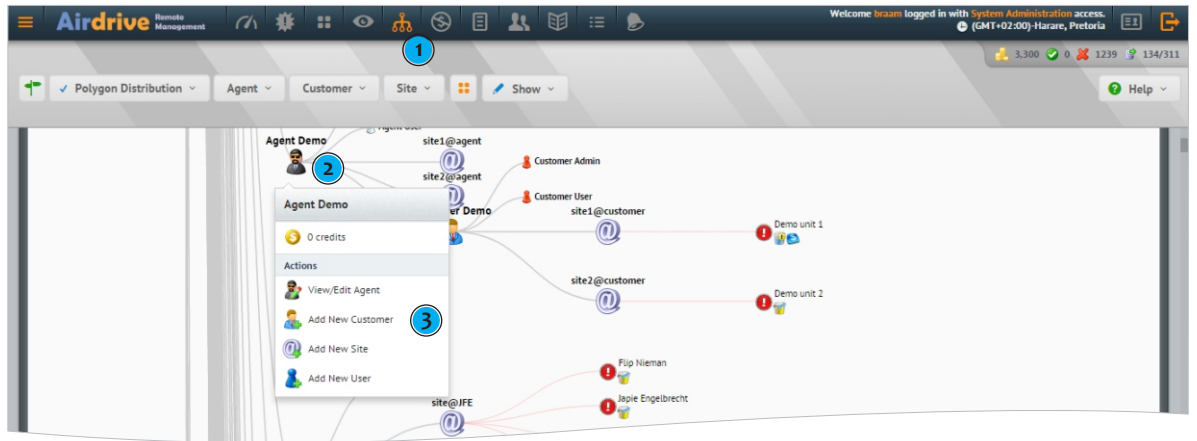

Figure 6.7

1) Start by clicking on the top navigation with the tree icon, this is the treeview manager.
2) Look for the Agent you want to create an Customer Under as outlined with the (2). Click (left) on the black agent man icon. Once clicked the above menu will apear.
3) Select the item in the menu called **"Add New Customer"** once clicked a new form will open as illustrated in Figure 6.8.
4) Complete the form below and click on the Blue Save Button.

Figure 6.8

Customer Name (Required Field)
The Customer Name is very important as this is shown accross the site, try and use a naming convention that you are happy with, ie. Uppercase, Title or Lowercase.

Address, Suburb, Postal Code and Country
These are very self explanatory and not required fields, but nice to capture.

Contact Number (Required)
The Contact Number is important as this indicates the "main" contact number for this agent ie. Office Number.

Email (Required)
The Email is important as this indicated the "main" email for this agent, use a "main" email like info@yourcompany.com

Entity Management

6.4.1.4 Creating Sites (Distributors, Agents and Customers)

The process of creating sites on the platform is very easy, as outlined below follow the easy steps in this tutorial.
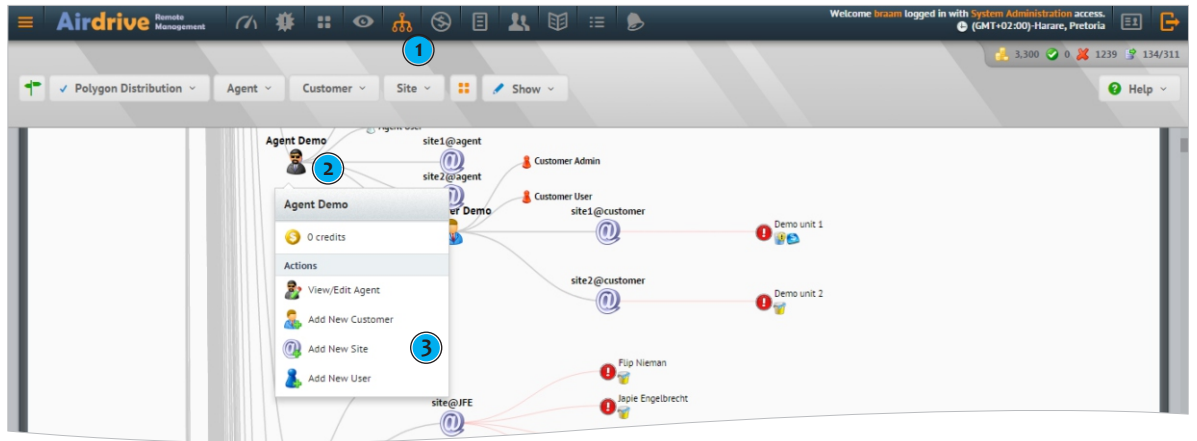

Figure 6.8

1) Start by clicking on the top navigation with the tree icon, this is the treeview manager.

2) Look for the Distributor/Agent/Customer you want to create an Site Under as outlined with the (2). A Site can be created under a Distributor/Agent or Customer, Click (left) on the icon. Once clicked the above menu will apear.

3) Select the item in the menu called **"Add New Site"** once clicked a new form will open as illustrated in Figure 6.9.

4) Complete the form below and click on the Blue Save Button.

Figure 6.9

Site Name (Required Field)
The Site Name is very important as this is shown accross the site, try and use a naming convention that you are happy with, ie. Uppercase, Title or Lowercase.

Address, Suburb, Postal Code and Country
These are very self explanatory and not required fields, but nice to capture.

Contact Number (Required)
The Contact Number is important as this indicates the "main" contact number for this agent ie. Office Number.

Email (Required)
The Email is important as this indicated the "main" email for this agent, use a "main" email like info@yourcompany.com

6.4.1.5 Creating Users (Distributors, Agents, Customers and Sites)

The process of creating users have already been outlined in **section 4.4,** please refer to this section for more information, please note that only admin users can create/edit users ie. Agent Admin, Customer Admin, Site Admin Etc these User Roles are outlined in section 4.6.

6.4.1.5 Creating Devices (Distributors, Agents, Customers and Sites)

The process of creating devices on the platform is very easy, as outlined below follow the easy steps in this tutorial, please note that devices can **only** be created **under a Site** that groups devices.
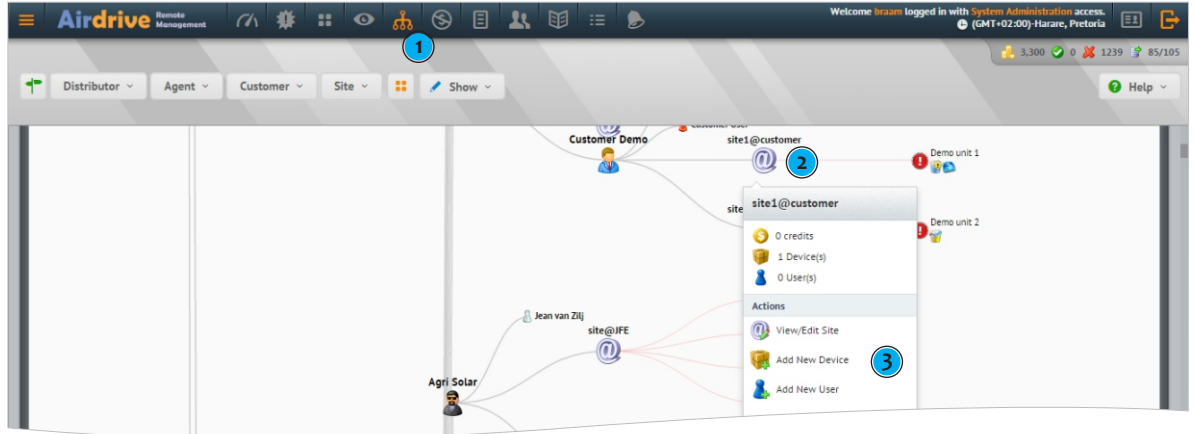
Figure 6.10

1) Start by clicking on the top navigation with the tree icon, this is the treeview manager.
2) Look for the Site you want to create an Device Under as outlined with the (2). A Device can be created only under a Site, Click (left) on the icon. Once clicked the above menu will apear.
3) Select the item in the menu called **"Add New Device"** once clicked a new form will open as illustrated in Figure 6.10.
4) Complete the form below and click on the Blue Save Button.

Serial Number (Required Field)
This is the Serial Number and can be found on the device itself

IMEI (Required Field)
This is the IMEI an dcan be retrieved from the smartsetup software, this validation is used to make sure that you own this device.

SAP/Identification Number
This your own reference number for this device if needed.

Custom Name
This custom name is displayed accross the site for easy reference "friendly name"

Device Timezone
This is the Timezone of the Device and is used to calculate the date/time of the device. This should only be changed once.

Device Images
Upload images of the device if needed, click on the image placeholder to upload image in it's slot.

Location of Device (Optional)
Set the location of an device, this uses the google location api and once location lookup is done the GPS Coordinates will be placed in the textbox below.

Suburb Name (only)
Capture the Suburb for each access, this is also an optional field.

Figure 6.11

Once the device form have been filled in the device will be on the system, the subscription will be on viewer subscription and 1 months free credits will be loaded. GC0101 and GC0321 will have 30 credits and GC0641 and GC1281 will have 100 credits loaded.

Once you are ready to enable all features of the subscription refer to section 5.4.2 on how to change the device subscription.

6.4.2 Editing Entities

Editing entities, Agents, Customer, Sites and Devices ae basically the same as creating these entities, so we are not going to go in depth into this as creating entities, we are however going to go into the process of how to get to the edit screen. This process is outlined as below.
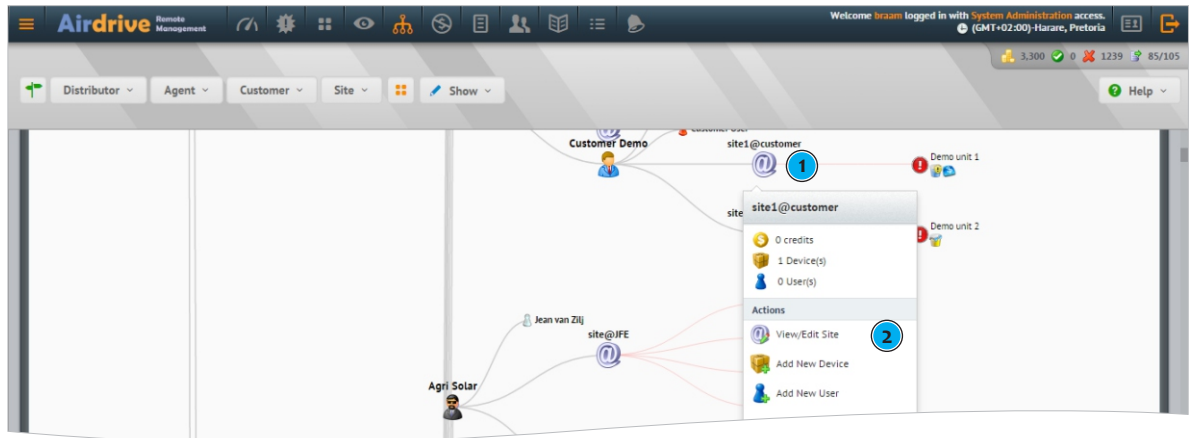

Figure 6.12

Start by clicking on the top navigation with the tree icon, this is the treeview manager.

1) Look for the Entity you want to edit, Agents/Customer/Site/Device or User.
   Click (left) on the icon. Once clicked the above menu will appear.
3) Select the item in the menu called **"View/Edit Agent/Customer/Site/Device"** once clicked entity edit form will open.
4) Update the information and click on the Blue Save Button.

6.4.3 Deleting Entities

Deleting entities, Agents, Customer, Sites and Devices are a very crucial operation, be sure that it is in fact what you want to do, maybe you just want to move the entity, also when deleting entities especially devices all logs,events will be permanently deleted so once again be carefull of this feature.

To get to this feature use the edit entity information above, and when you get to the edit screen, click on the delete button on the bottom left side of the edit screen. Click this button to delete the entity.
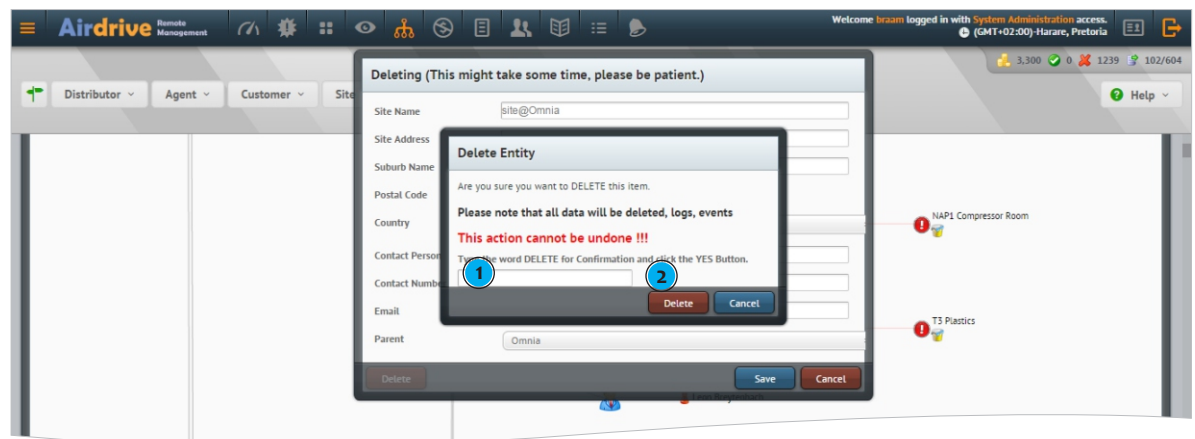

Figure 6.13

Once the delete button have been clicked a confirmation dialog will be displayed. To delete an entity finalise this witht the following process. as described in Figure 6.13
1) Type the words "DELETE" in uppercase to make sure you understand that you are deleting an Entity.
2) Click the Delete button.

If the entity have dependants , sites or devices underneath a message will be displayed that you first have to delete the dependants, delete the dependant sites/devices before deleting this entity.

See next section 6.4.4 if you just want to move an entity and the dependants.

6.4.4 Moving and Restructuring Entities

Moving Entities are a very usefull function, lets say you want to move an site with all it's devices from an Agent to an direct customer, or you want to move a customer from one agent to another this feature comes in very helpfull.

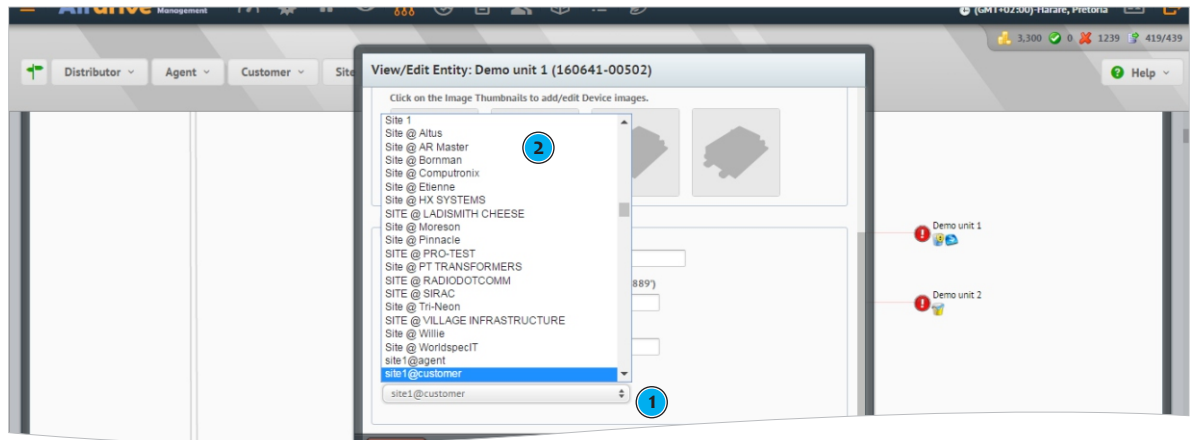See tutorial below for more information on how to do this.

Figure 6.14

Start by clicking on the top navigation with the tree icon, this is the treeview manager.

Look for the Entity you want to move in this case we are going to move a device to another site.

1) Edit the Device as per instructions in 6.4.2 and when you get to the edit screen scroll down to the parent field.

2) Select another site from the dropdown list, this list will now only list sites.

3) Click the Save button and the device will now fall under the newly seelcted site.

This feature can be applied to any entity, Agents, Customers, Sites, Devices and Users.

Dashboard

What is the Dashboard ? The Dashboard gives you an overview of how your system is doing, devices, subscriptions and credits. See Figure 7.1 for the User Interface of the Dashboard.
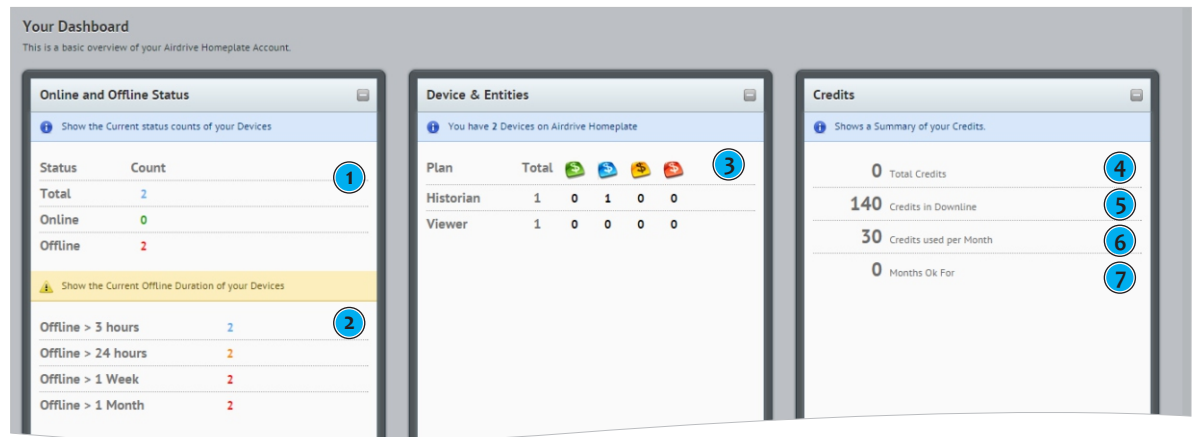
Figure 7.1

7.1 Devices Status

This section outlines your devices online status, when a device connectes to the server this device status are changed to online, as the device "checks in" with the server every 2 minutes this status will stay as "online", if the device fails to check in with the server the state will be changed to "offline" if the device has not checked in for at least 10 minutes.

1) This Status Counts shows the current Total Devices (the user has access to) also the Total Online and Total Offline.

2) We also breakdown the offline devices in terms of when they went offline, so that you can pinpoint when a device(s) has fallen off the "server" this can be due to an power failure or an network connectivity issue.

7.2 Entities Statistics

3) The Devices and Entities Overview shows a breakdown of your devices. This overview also give you an breakdown by subscriptions and also the Subscription Health, The Credits and Subscriptions system are explained in detail in section 5 - Credits and Sucscriptions Management.

7.3 Credits Summary

The Credits Summary gives you an overview of your Credits on the Management System. There are four important items to note here, we will be covering these below.

4) **Total Credits -** This is the total credits the **"entity"** has, as an user is connected to an entity the total credits indicate how many credits the "user" has access to. Entity Credits are shared between the users connected to it.

5) **Credits in Downline -** This is the sum of all the credits loaded within the hierarcal tree. In this case this amount indicates that 140 credits is available in the downline, these amount can be seen in the credits page, in this case Demo Unit 1 has 40 and Demo Unit 2 has 100 credits.

6) **Credits Used per Month -** This amount shows how many credits are used on a monthly basis for all devices in the downline.

7) **Months Ok for -** The Ok for indicator shows how many months your devices could be ok for, this takes your **total credits** and divides the **credits used per month,** please note that you must still load credits to your device wallets.

Devices

8.1 Device Overview & Model Capabilities

The Devices Page are used to monitor your devices, update settings, control outputs and send and receive setups from devices. Some handy features include a device search, filter devices by Signal Quality, Battery Voltage and Temperatures. This page is an birds-eye view of your devices all on one page. You will be able to see all the devices that you have access to. See below comparison matrix of the supported GSM Commander Models.

Model Capabilites	GC0101 GC0321 GC1281	GC0641
Device Realtime View This Allows the user to see the realtime state of the device	✔	✔
History View View the Historic Logs of an device	✔	✔
History Export Allows for the Exporting of Historic Logs	✔	✔
Events Realtime View * Allows for the Realtime View of Device Events	✘	✔
Events History View * Allows for the viewing/managing of historic device events	✘	✔
Events History Export * Allows for the exporting of device events	✘	✔
Remote Setups * Allows to upload and retrive setups from the device	✘	✔
Remote Control Outputs * Allows the user to remotely control outputs on the device	✘	✔

8.2 Devices Views

8.2.1 Compact Devices View

The Compact View was created to give you an quick list of devices with some basic information. This view is an fixed view with the following fields, Serial Number, Custom Name, Subscription, Credits, Status, ALst Activity FW Version, Battery Voltage, Signal Airtime and TempA & TempB. Use this view to see all devices quickly and to determine devices that have for example low airtime. See below explanation of important items.
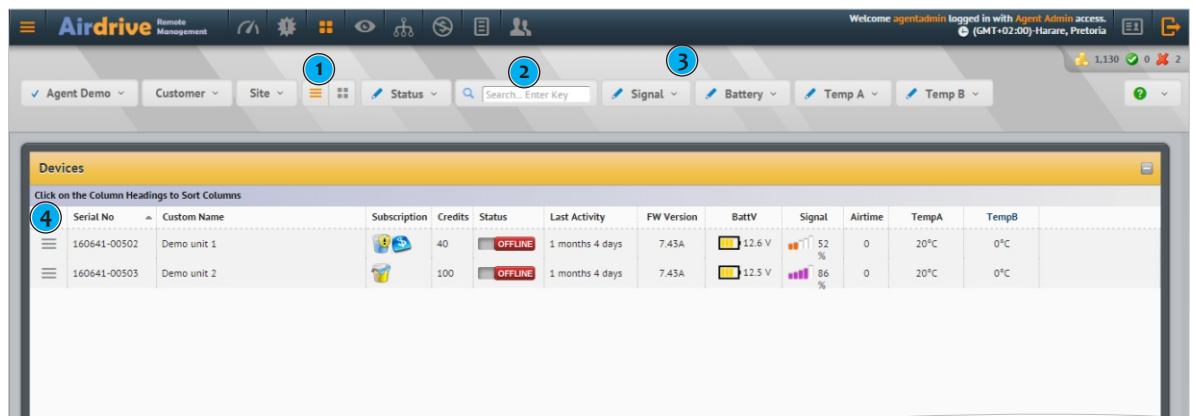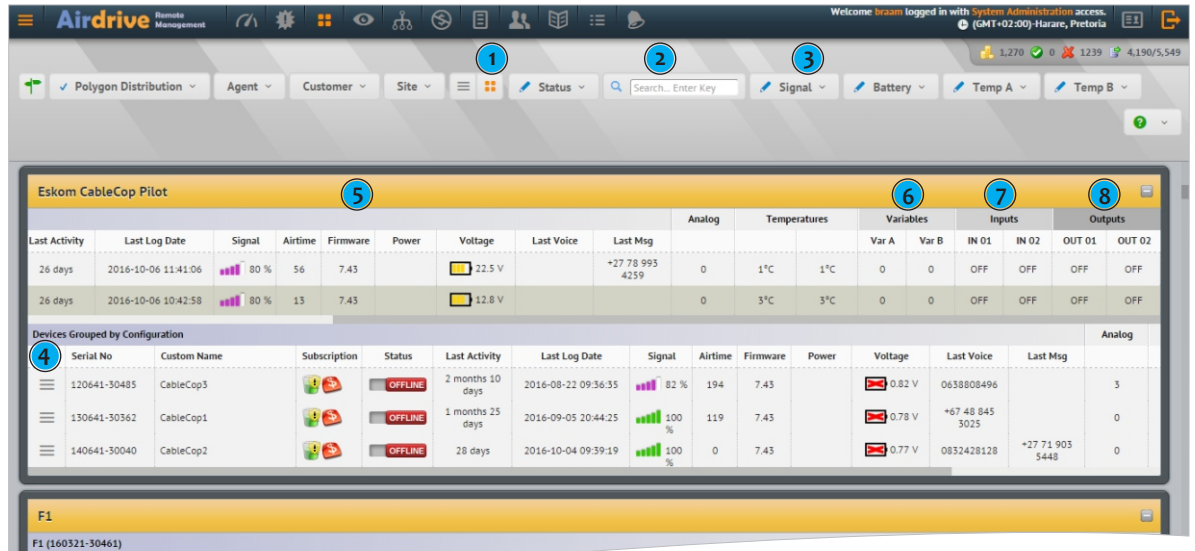
Figure 8.1 - Devices Compact View

1) Click this button to view the Compact View, as a default the detailed View are loaded when the devices page are opened,
2) Do an Quick Search for an device, type an serial number, or an customname to search for a device (partial names and numbers are also accepted)
3) These ae the page filters, show only specific devices that meets this criteria.
4) This is the data grid, that displays the devices, also note that the menu is also available with quick access to important actions like Quick Edit, Outputs Control, Remote Setups, View History and Events.

8.2.2 Detailed Devices View

The Detailed View was created to give you an custom view of your devices. This view is an dynamic view and shows your devices grouped by sites and configurations. Thus all devices under an site that have the same "settings" will be grouped together.

This Custom View allows you to customize what columns are shown for each device. Columns include, general settings, variables, inputs and outputs. See below explanation of the main important areas of this view.

Figure 8.2 - Devices Detailed View

1) This is the icon to click to view the detailed view, the detailed view is also the default initial view when the page is opened.
2) The same as the Custom View a Search can be performed to show only devices with serial number or custom name. Example: search for cop and all devices with a custom name containing "cop" will be shown or type in 140641 all 0641 devices made in 2014 will be listed, or alternatively type in 130641-30176 and only this device will be shown..
3) Filtering devices that have special criteria, we will be covering the Filtering options in section 8.3
4) This is the device menu click on the horizontal lines icon to open up this menu, the options for the device menu is covered in section 8.4, device actions.
5) This Column Group is the General Columns Group, and general fields will be shown here.
6) This Column Group is the Variables Column Group, the variables are shown here.
7) This Column Group is the Inputs Column Group, the inputs are shown here.
8) This Column Group is the Outputs Column Group, the outputs are shown here.

Important Notes:

When the system determines if devices must be grouped together it will look at the numbered items 5,6,7,8. If the same settings are found (column names, visibility) it will group those devices together, minimizing the cluttering of the section.

8.3 Filtering & Search Capibilities

As mentioned above in Figure 8.2 (3) we have "fixed" filtering that can be applied to the page, check the items that must be displayed and click the apply filter button.

Status: Show only Online/Offline Devices
Signal: Poor (0-20%) Bad (20-40) Average (40-60) Good (60-80) Excellent (>80) This is an percentage.
Battery: Dead (0-10V) Flat (10-11) Average (11-12) Good (12-13) Excellent (>13) This is an Voltage.
TempA & TempB: Freezing (0-20) Cold (20-40) Hot (40-60) Fire Hazard (>60)

Examples:

Show devices that are **Offline** and a Battery Voltage of (Flat)
Show devices that are **Offline** and a signal of Bad.

Devices

8.4 Device Actions

Device actions allows you to perform various actions on a device, our menu dropdown structure are constant across the site, if you see an menu icon it means that there are actions that can be performed on an device/user etc.
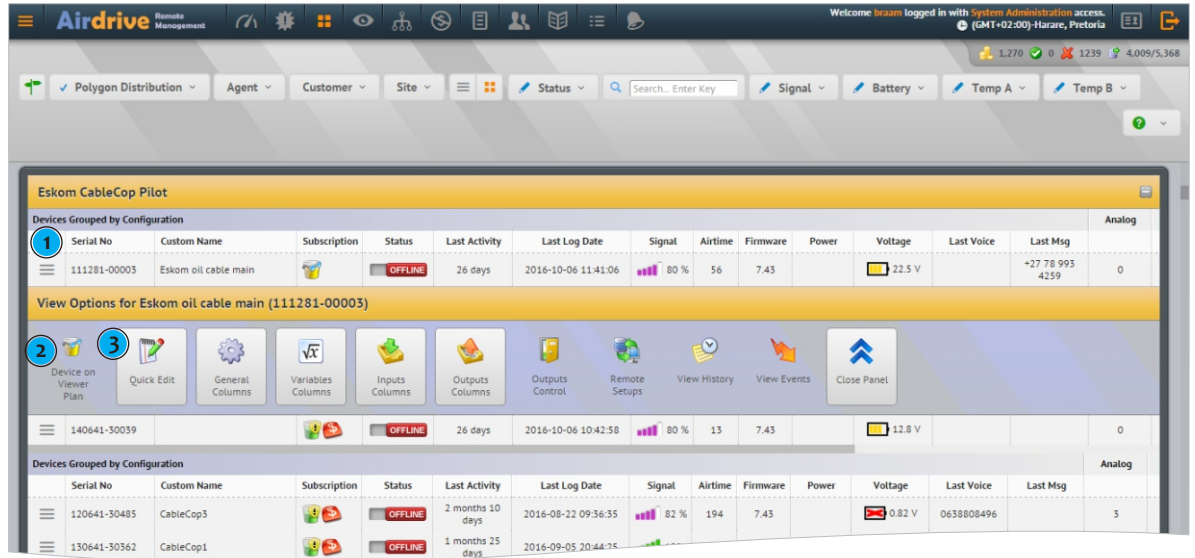
These actions are explained in the following section.

Figure 8.3 - Devices Actions

1) **Menu Dropdown:-** By Clicking on the menu icon on a device the available actions are displayed in a panel.
2) **Device Info:** Important Device information are shown on the left this includes on what subscription this device is.
3) **Device Actions Panel:** The actions panel show actionable items, if an action is disabled ("not clickable") then that action is not available, this can be because of the following reasons.

    3.1) Device Subscription does not allow this feature (upgrade the subscription).

    3.2) Device Subscription is "red" (elapsed) this actionable functionality has ceased.

    3.3) Your User Access Role does not allow this acton (or)

    3.4) The Device does not have the capabilities to perform the action (see section 8.1 for model capabilities)

Device Actions

8.5.1 Quick Edit

The Quick Edit allows you to edit your device, we are not going to cover this here as it has been covered in **section 6.4.1.5** in the Entities Management chapter.

8.5.2 General Columns (Detailed View Only)

The General Columns are only applicable to the detailed view, this allows you to "show/hide" specific columns for a device, also you can set cutom names here for the "custom name", "analog name" , TempA & TempB. See below Figure 8.4 for more information.
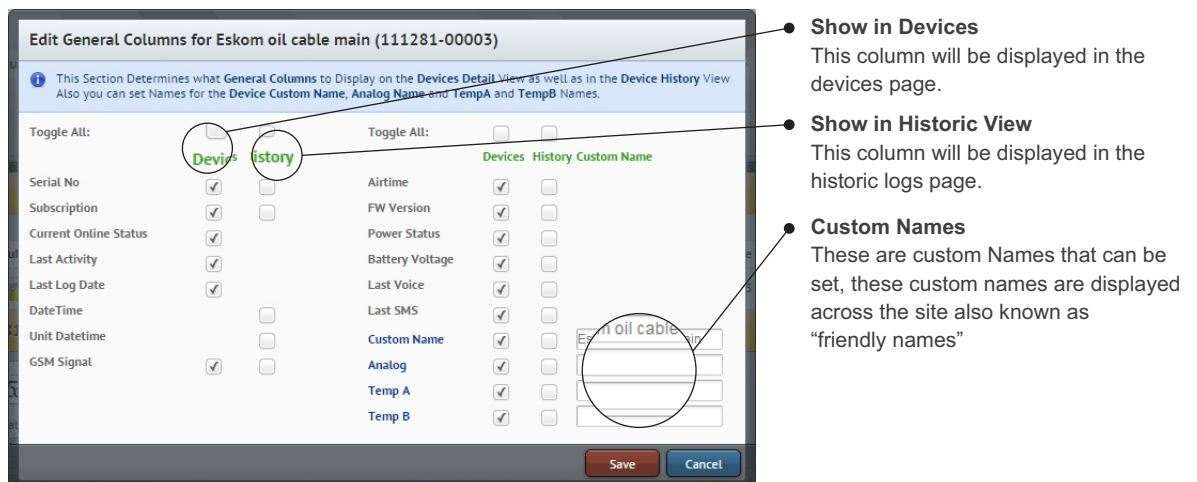

Show in Devices
This column will be displayed in the devices page.

Show in Historic View
This column will be displayed in the historic logs page.

Custom Names
These are custom Names that can be set, these custom names are displayed across the site also known as "friendly names"

Figure 8.4 - General Columns

8.5.3 Variables Columns (Detailed View Only)

The Variable Columns are only applicable to the detailed view, this allows you to "show/hide" specific columns for a device, also you can set custom names here for the "variable names". See below Figure 8.5 for more information.
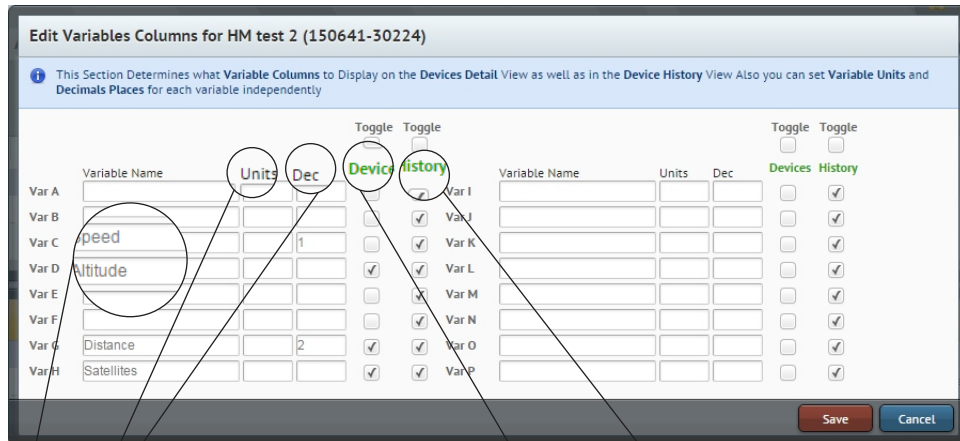

Figure 8.5 - Variables Columns

Set Units and Decimals
You can set the decimals and units of a variable as well, so that a variable show correctly on the system.

Set Custom Names for your Variables
These are custom Names that can be set, these custom names are displayed across the site also known as "friendly names"

Show in Historic View
This column will be displayed in the historic logs page.

Show in Devices
This column will be displayed in the devices page.

8.5.4 Inputs Columns (Detailed View Only)

The Input Columns are only applicable to the detailed view, this allows you to "show/hide" specific columns for a device, also you can set custom names here for the "input names". See below Figure 8.6 for more information.
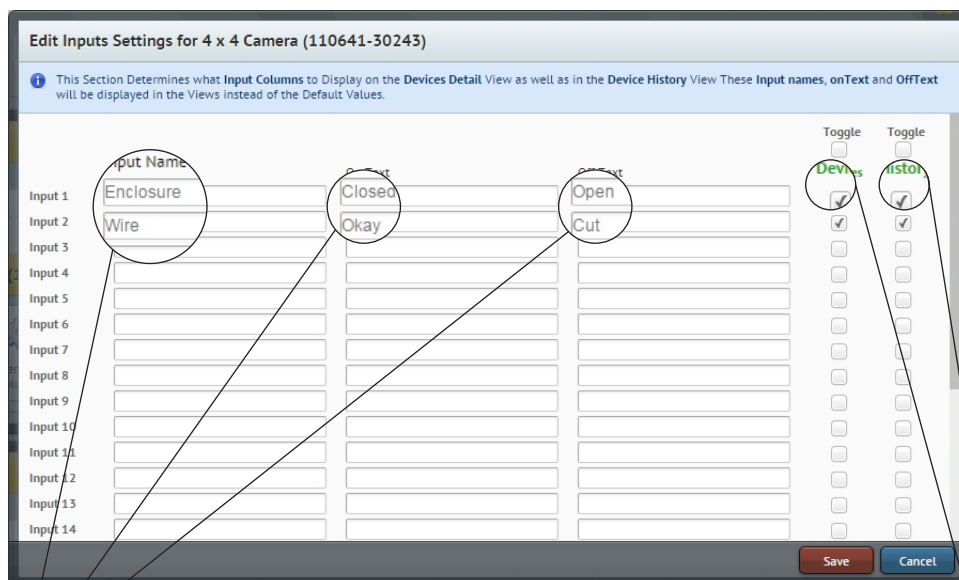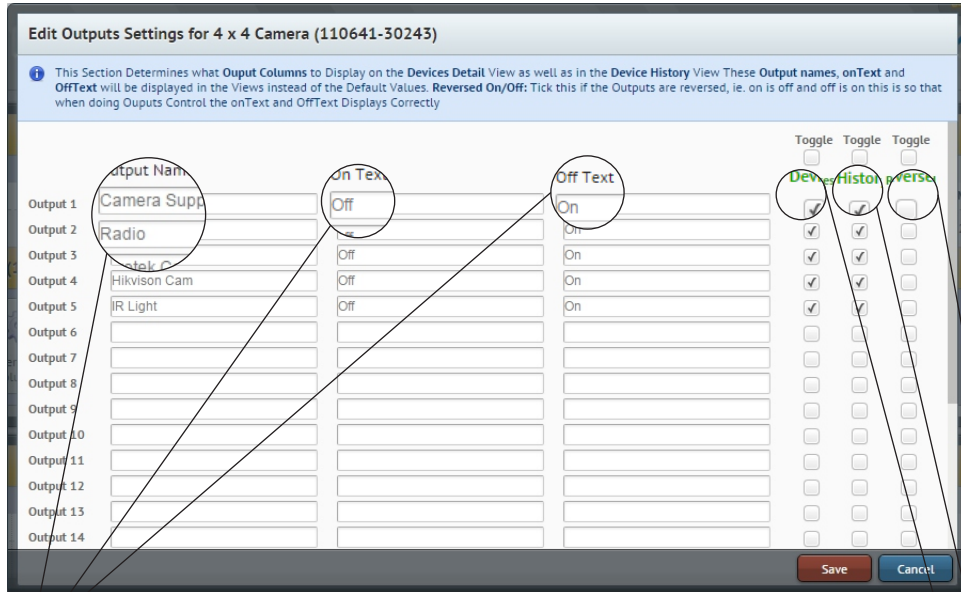

Figure 8.6 - Input Columns

On/Off Text
This text will be displayed when the input is on instead of "on" or "off" use this for example to display "open" or "closed"

Set Custom Names for your Inputs
These are custom Names that can be set, these custom names are displayed across the site also known as "friendly names"

Show in Historic View
This column will be displayed in the historic logs page.

Show in Devices
This column will be displayed in the devices page.

![Devices logo] **Devices**

8.5.5 Outputs Columns (Detailed View Only)

The Output Columns are only applicable to the detailed view, this allows you to "show/hide" specific columns for a device, also you can set custom names here for the "output names". See below Figure 8.7 for more information.

Figure 8.7 - Output Columns

On/Off Text
This text will be displayed when the output is on insteadof "on" or "off" use this for example to display "open" or "closed"

Set Custom Names for your Outputs
These are custom Names that can be set, these custom names are displayed across the site also known as "friendly names"

Reversed
This indicates that the ontext are "reversed" this shows the system that this is reversed, and is primarily for showing the correct text when doing **"output control"**

Show in Historic View
This column will be displayed in the historic logs page.

Show in Devices
This column will be displayed in the devices page.

8.5.6 Outputs Control

The Outputs Control Functionality alows you to control outputs on an device the following features are available. **Turn On/Off** an Output or **Pulse an Output** for (n) seconds to the on or off state. The Features of this functionality are explained below, see Figure 8.8 for more information.
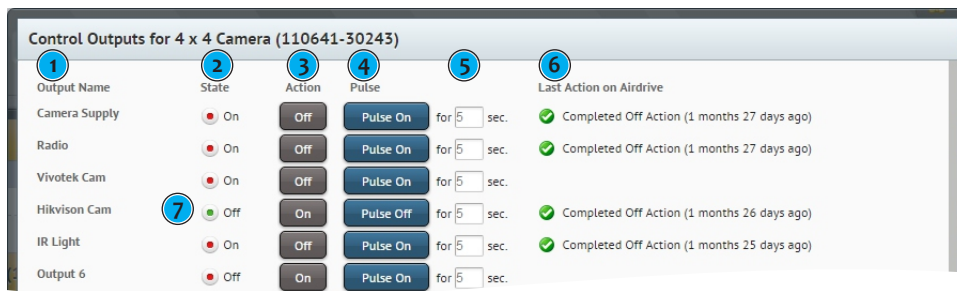
Figure 8.8 - Outputs Control

1) This Shows the Output Name, if you have a custom name for the output this will be shown.

2) Shows the current state of the Outputs, see (7) on "reversed" property here.

3) This allows you to control an output from the button, click on the button to toggle the Outputs to the "on" or "off" state, note that if an output is "on" you can only turn it "off" and vica-versa.

4) Pulse an Output for x seconds, type in the amount of seconds to "pulse" and click the "pulse" button.
Example: Pulse On for 5 seconds: This will turn on the output for 5 seconds and then turn it off again.

5) The emaount of seconds to pulse the output.

6) This is the last remote output control for this output, with the date and time.

7) **Reversed**: in this case the reversed checkbox was not clicked on the outputs settings erplained in **section 8.5.4** thus you will see that the On state icon are red and off are green, when reversed is checked off will show as red and on as green.

8.5.7 Remote Setups

The remote setups functionality allows you to upload or retrieve an setup from an device, this feature is model dependant so please see section 8.1 for model capabilities. This saves a lot of time and money as you can change statements/settings on a device remotely, thus no need to drive out to an device and do changes/additions. See Figure 8.9 for explanation of this feature.
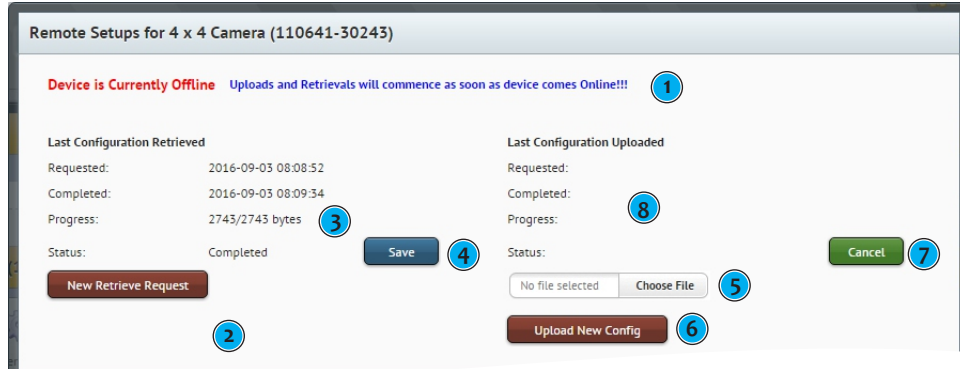

Figure 8.9 - Remote Setups

When you click on the menu icon for a device and select remote setups, the above modal dialog will be displayed.

1)   If the device is not currently online this message will be displayed, you can still send or retrieve an setup and the device will perform the action as soon as it comes online.

Retrieve a Setup from a Device

2)   To initiate a new retrieval request click this button "once".

3)   The Requested Date, Progress and Status will be updated as the server retrieves the setup from the device the following are the states of the retrieval process:

Pending:	Awaiting for the device
Processing:	The Device is sending the setup the progress will update with something like
	128/1256 bytes as soon as the process is completed the Status will change to **Completed.**
Cancelled:	As the device is sending the setup to the server this acion can be cancelled, as soon as
	the state changes to **"Pending"** this button will appear.
Completed:	The Date and Time when this was completed will be updated.

4)   Once the setup has been retrieved the "Save" button will appear and the setup can be saved to your computer, this ".ini" file can be loaded in **SmartSetup** and manipulated/changes, saved as an **"upl"** file and then re-uploaded to the device using the **"Upload Setup"** feature.

Special Notes: If for some reason it appears that it is taking a long time to retrieve the setup, you can just cancel the retrieval and try it again. When an cancel retrieval have been issues just give the device about 1 minute just to take a breather before issuing another "retrieval" or "upload"
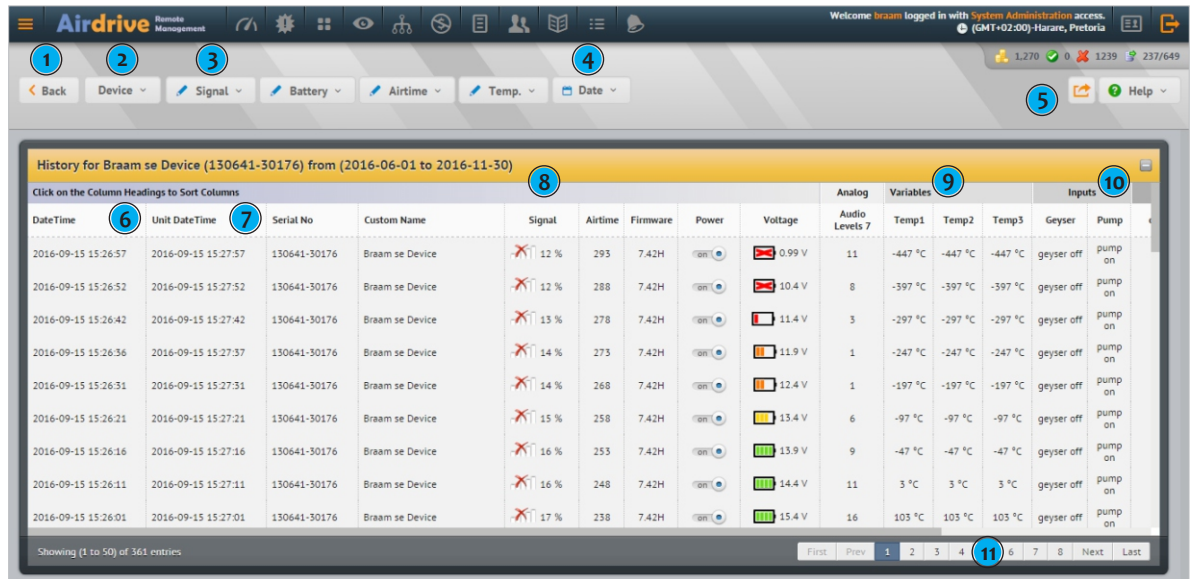
Upload a Setup from a Device

5)   To initiate a new setup upload select the ".upl" file from your computer and click on the Upload New Setup (6)

7)   The Requested Date, Progress and Status will be updated as the server upload the setup to the device the following are the states of the upload process:

Pending:	Awaiting for the device
Processing:	The Server is sending the setup the progress will update with something like
	2/12 as soon as the process is completed the Status will change to **Completed (8)**
Cancelled:	As the server is sending the setup to the device this acion can be cancelled, as soon as
	the state changes to **"Pending" (8)** this button will appear.
Completed:	The Date and Time when this was completed will be updated **(8)**

Special Notes: As soon as the Setup has been uploaded to the device the setup will be verified by the device and the **device will restart** applying the changes in the setup **(upl) file**.

Devices

8.5.8 Device History (Logs)

When using the device menu on the device view you have the option to view your device history. This Device Historic Logs shows an log of your device information, the columns displayed in this historic log are determined
by the general, variables, inputs and outputs columns, setting these values are covered in pervious **section 8.5.2-8.5.5**
Some important features of this page are outlined below.

Figure 8.10 - Historic View

1) By clicking on the back button this will take you back to "this" device, exactly whwre you we're with the panel expanded, we have done this so that not to loose track of where you were. The Events View also works in this way.

2) By Selecting another device from this dropdown will allow you to quickly jump to another device without haing to click the back button and the selecting another device and viewing the history.

3) These are fixed standard filters that can be applied to the page so to find specific logs.

4) Filter the Date Range allows you to select an start and end date of viewing logs, as a default the history will show the last 30 days if no date filter have been applied.

5) Export the Historic Data to an CSV File for analysing in external software like Excel, OpenOffice & LibreOffice

6) This shows each log date and time (time on the server)

7) This shows each log date and time (time on the device), this uses the Timezone of your device as described in **Section 6.4.1.5** update the Device Timezone using this guide. Note that after a timezone change all future logs date and time will be correct but previous logs will be on the old timezone, so be sure to set your timezone correctly when adding an device to the system.

8) **General Columns** These columns from Datetime to Voltage are set in the General Columns as per **section 8.5.2**

9) **Variable Columns:** These Columns grouped are set in the Variable Columns as per **section 8.5.3**

10) **Input & Output Columns:** These Columns grouped are set in the Input & Outputs Columns as per **section 8.5.4 & 8.5.5**

11) These are paging options, making the site nice and fast by only loading a certain amount of records per page, this setting can by personalised in the preferences section in the my Acoount section see **section 3.8** for more information

8.5.9 Device Events

We will be covering the device events in the next section 9 in detail.

Devices

8.6 Map View

The Map view is a special kind of devices view page, that allows you to see your devices on a Google Map ,when you edit a device and assign GPS Coordinates to an device the device will show up in the Map View, we have also implemented the Google Location lookup service that translates a location (address) to an GPS coordinate when you edit a device.
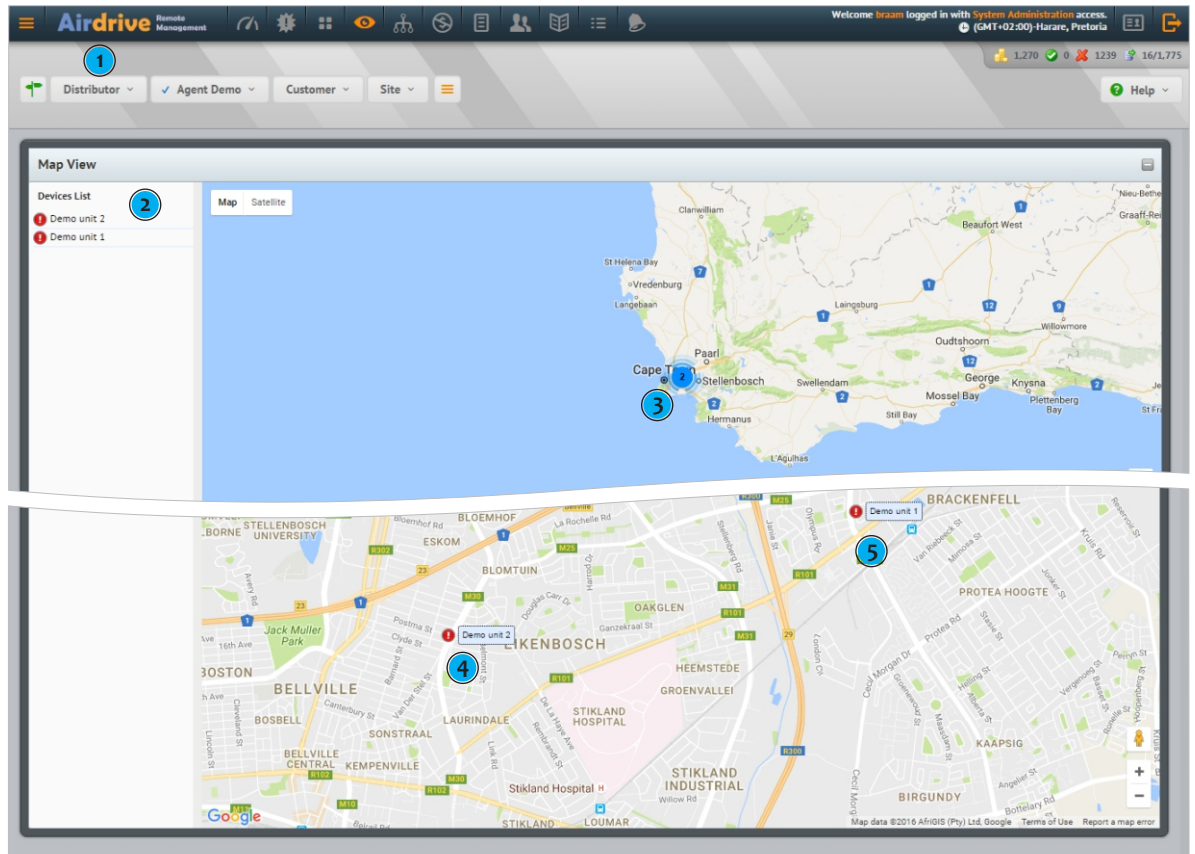
See below Figure 9.1 for more on this.

Figure 8.11 - Map Devices View - Clustering & Zoom

8.6.1 Devices List (2)

When you view the Map View you will see on the left side all your devices that have GPS Coordinates assigned, by clicking on a device it will take you directly to that device on the map.

8.6.2 Clustering (3)

Devices are grouped in clusters thus making an icon with a number, this allows your to zoom I more easily to an area. Also allows you to have more devices on the map without cluttering the syste as seen in Figure 8.12 makes the system less cluttered.
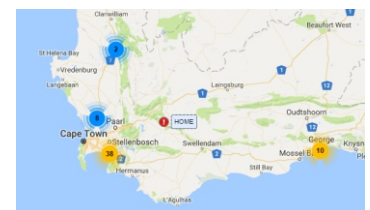
Figure 8.12 - Map Clustering

8.6.3 Enable Device to show in Map View

As noted before when you edit an device and allocate a GPS Coordinate this device will be automatically be displayed on the map view.

8.6.4 Map Icons & Interactions

A Device is shown on the map with it's name and also an status icon of the device as seen in Figure 8.11.

When you click on an device icon (4-5) more information are displayed about the device as seen in Figure 8.13.
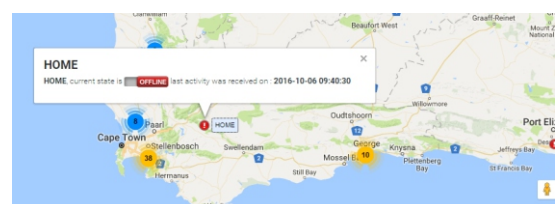

Figure 8.13 - Device Information

Page 35

Events Management

9.1 Events - Overview

The Events section are an incident management feature, events are generated from devices only, this section allows you to manage events generated. Features includes the ability to update an generated event or to finalise an event. All events for all devices are shown on this page or view events from only one device from the devices page. See below Figure 9.1 for an explanation of the events page.

Figure 9.1 - Events Viewing Page

1) Filter the events page to only show events from an Site, Customer, Agent.

2) Device Filtering is also available, select an device from the drop-down menu to only show events from a specific device.

3) Search for an specific event, partial match is also available. Example type "temp" to show only events that contains the letters "temp", this is to allow you to quickly view events that have to do with temperate events.

4) The Status of an Event allows you to show only events with a specific state the allowed states are the following:
   Not Started: These events have been generated, no updates to these events have been made.
   In Progress: Update Notes have been made to the event, thus someone is looking at it.
   Finalised: These events have been finalised/acknowledged. Thus these events can now only be viewed.

5) The priority of an event is set by statements in the smartsetup software, when you create a statement you specify what the priority for this event is, when an statement is created with a priority 1-5 the events will show up with a white background, 6-7 will show up as orange and a priority >8 will be shown as red, this is to distinguish between important events.

6) Show only events in a certain date period, the default period will always be in the last month.

7) This export button allows you to exports the events currently shown to be exported to an csv file, for analysing in external software.

DataGrid Fields

8) This shows the serial number of the device that generated the event.

9) The Event discription/message is the message that was setup in the smartsetup software when statement was created.

10) This is the state of the event, see above (4) for explanation of the event statuses.

11) The Priority Field shows the priority of the event see above (5) for more information.

12) Last Update Field shows when was the event last updated.

13) Last Update by shows who was the last peron that updated/finalised the event.

14) Last Note is the last note that was left on this event.

15) Action allows you to Update the event, when clicked an Update Dialog will be shown this allows you to add a note or to finalise the event, also if the event have been finalised this will only show an view button that allows you to view the notes/updates that have been logged to this event.

16) This event have been finalised thus only the view event option is available.

Events Management

9.2 Generating Events

Generating events are done in the smartsetup software, when creating an statement that sends a message to the server this message are logged as an event with a priority as explained in section 91 (5).

9.3 Maintaining Events

When an event is logged to the server the initial state will be Not Started, to update this event just go to the event and click on the Update button, if this event have been finalised the "update" button will not be available but you will be able to view the event logs. Once the update button have been clicked the following dialog will be shown.

This dialog will show all event transactions that have been logged to the system this includes who logged the transaction as well as the time and date. Also each transaction have a note attached.

Figure 9. - Event Transactions

9.3.1 Updating Events:

To Update an event click on the blue Update button, as soon as this button have been clicked the following dialog will be shown.

Enter an message or note in the provided textarea and click on the red Update button. The dialog box will close
and the page will be updated.

9.3.2 Finalising Events:

To Finalise an event click on the red Finalise button, as soon as this button have been clicked the following dialog will be shown.

Enter an message or note in the provided textarea and click on the red Finalise button. The dialog box will close and the page
will be updated.

9.4 Exporting Events:

To export all events on the page, click on the export events button as illustrated in Figure 9.1 (7) this will allow you to export all events shown.

10 Reports - Overview

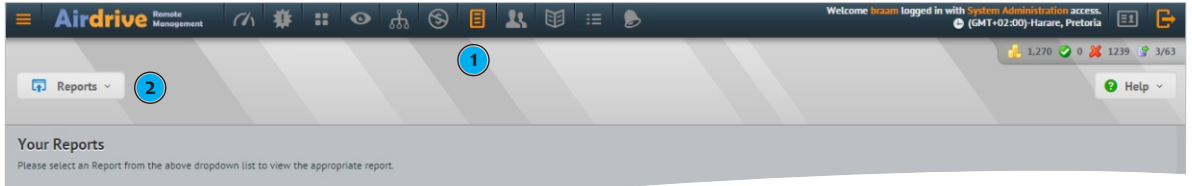The reports section allows you to generate specific reports see Figure 10.1 for an outline of the reports page.

Figure 10.1 - Reports Page

1) Select this icon on the top navigation to view the reports page
2) Select a report to view.

Reports - Devices Status Report

The devices status report outlines all devices with their statuses, alos includes the last event that was generated for each device.
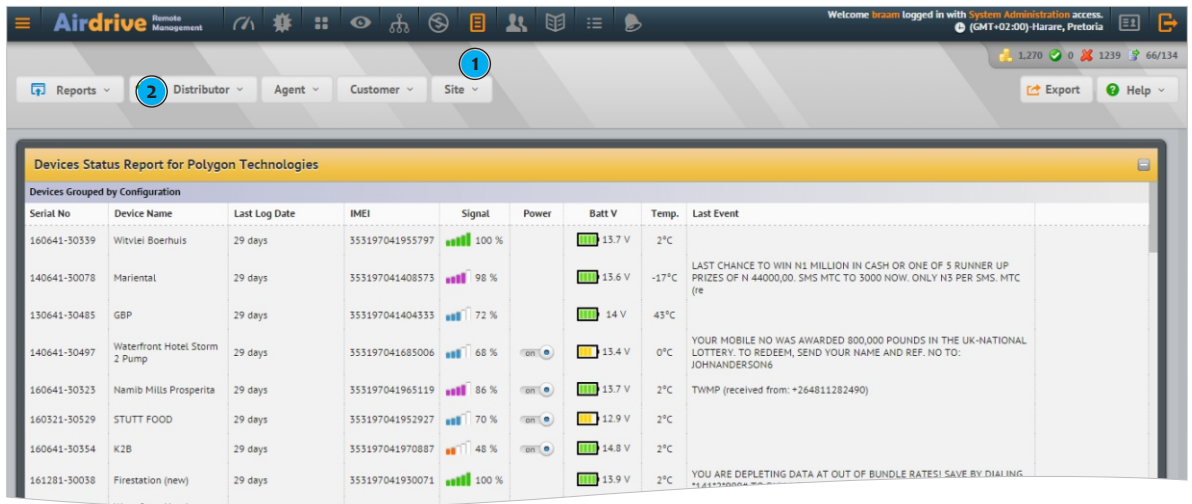

Figure 10.2 - Devices Status

Reports - Billing Report

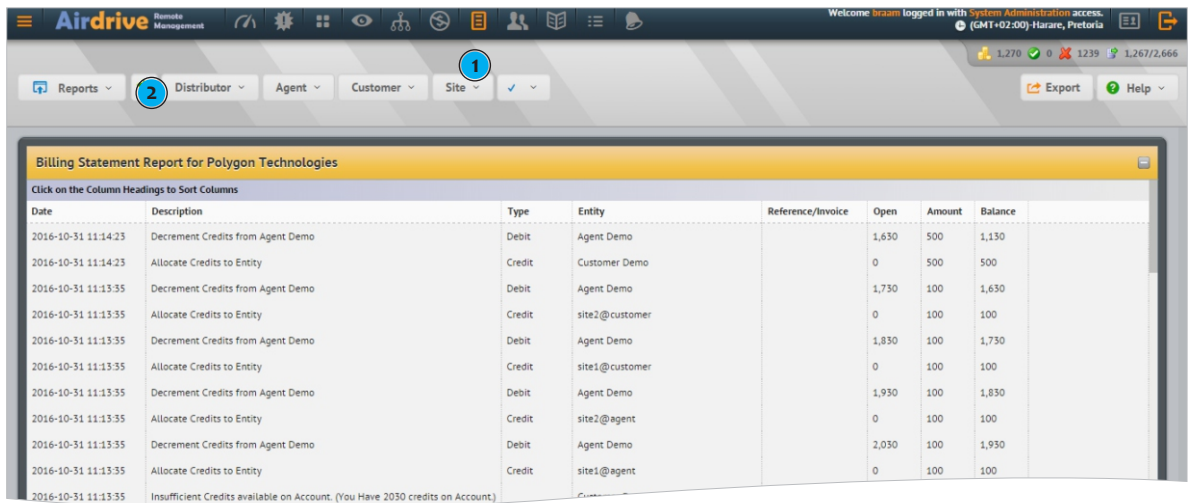The billing report shows all credit ransactions for all devices and entities, use this to see what has happened credit wise with your "Account Wallet"

Figure 10.1 - Reports Page