



AirPrime™

AirPrime Management Services

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- Objectives
- Architecture
- Prerequisites
- Logging-in to the Management Service Portal
- Device Management Module Description

Objectives

Once a group of devices has been deployed on the field, the key challenge is to monitor, configure and maintain them cost effectively despite the distance.

The AirPrime Management Services is a cloud-based device management solution that enables manufacturers or service providers to remotely monitor and upgrade a group of AirPrime devices through a web portal, saving considerable operating costs.

This service is a turn-key solution including:

- A portal, which centralizes data and provides a web client interface to administrate a group of devices. The user interface includes the capacity to create dashboards in order to monitor key parameters and communication traffic of a group of devices, to configure them, and to remotely send AT commands. It also allows performing remote upgrade campaigns through a secure delta mechanism.
- An embedded agent natively integrated into AirPrime embedded wireless module firmware.

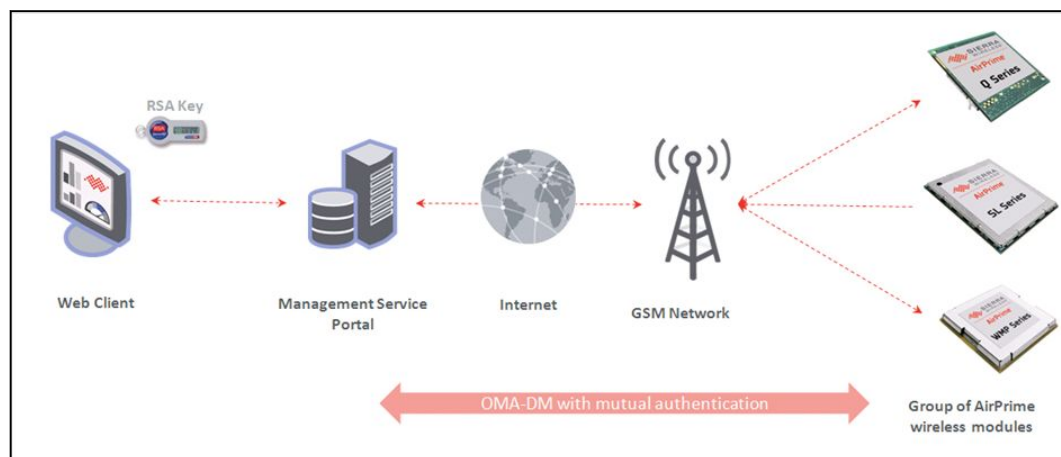
Architecture

The Management Services Portal and the embedded modules communicate together through the OMA-DM technology secured by mutual authentication mechanisms. This communication uses the same carrier subscription as for your other data transmission.

The access to the portal is protected with a RSA One Time Password.

Any data stored into the portal is redundantly saved.

The following figure shows an overview of the server and Airprime embedded modules architecture.



Prerequisites

As a prerequisite, your company account and one administrator user must have been created by the AirPrime support team, following your request. If not, you will not be able to access the portal and create children companies associated or other users within your company.



For more information on how to create a first user a company, please contact your Field Application Engineer.

Certified Browsers

The web portal can be accessed using the following certified browsers:

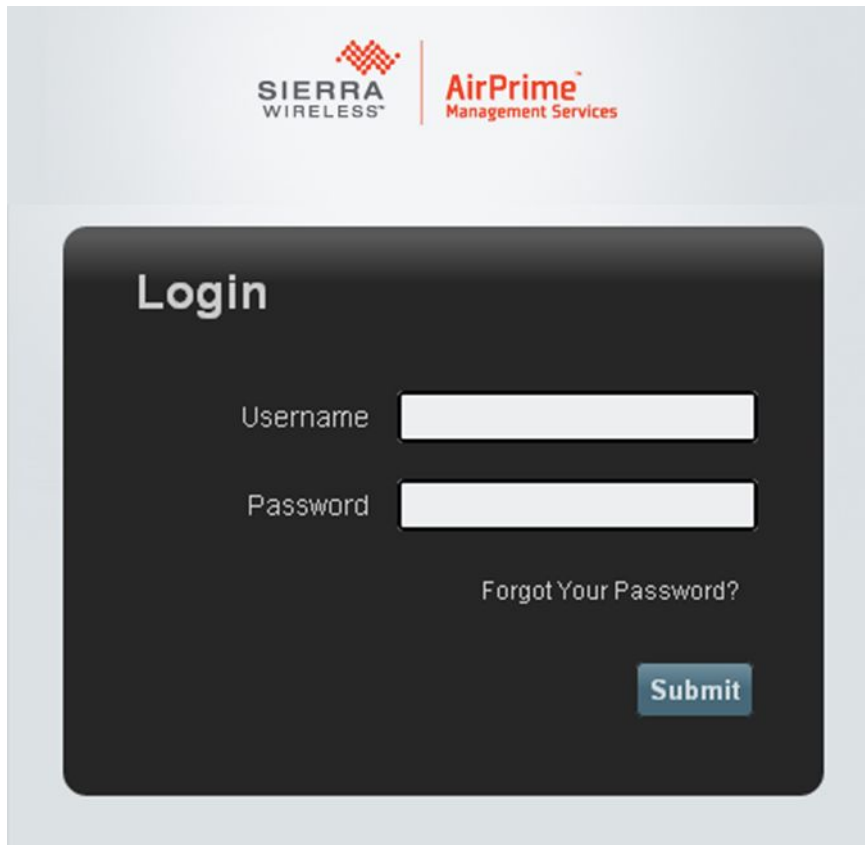
Operating System	Browser
Windows	Internet Explorer 6, 7, 8 Firefox 3.6
Linux	Firefox 3.6

Logging-in to the Management Service Portal

This section shows you how to log-in to the portal.

To log-in to the portal

- 1 Open your favorite and compatible browser.
- 2 Enter the following URL in your browser URL address bar: <http://airprimemanagement.sierrawireless.com>
The portal login page appears:



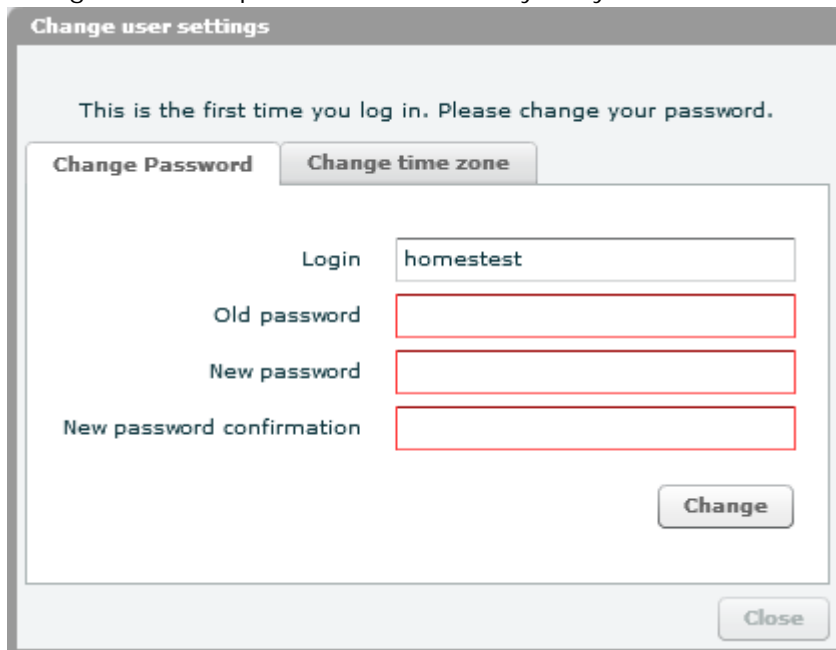
The screenshot shows the login interface for Sierra Wireless AirPrime Management Services. At the top, the Sierra Wireless logo is on the left and the AirPrime Management Services logo is on the right. Below the logos is a dark grey rounded rectangle containing the word "Login" in white. Underneath "Login" are two white input fields: "Username" and "Password". Below the "Password" field is a link that says "Forgot Your Password?". At the bottom right of the dark rectangle is a blue "Submit" button.

3 In the Username field, enter the username.

4 In the Password field, enter the user password.

5 Click on [Submit].

On your first connection, a Change user settings window opens, asking you to change the initial password created for you by the administrator:



The screenshot shows a "Change user settings" dialog box. At the top, it says "This is the first time you log in. Please change your password." Below this are two tabs: "Change Password" (which is active) and "Change time zone". Under the "Change Password" tab, there are four input fields: "Login" (containing "homestest"), "Old password", "New password", and "New password confirmation". At the bottom right of the dialog box are two buttons: "Change" and "Close".

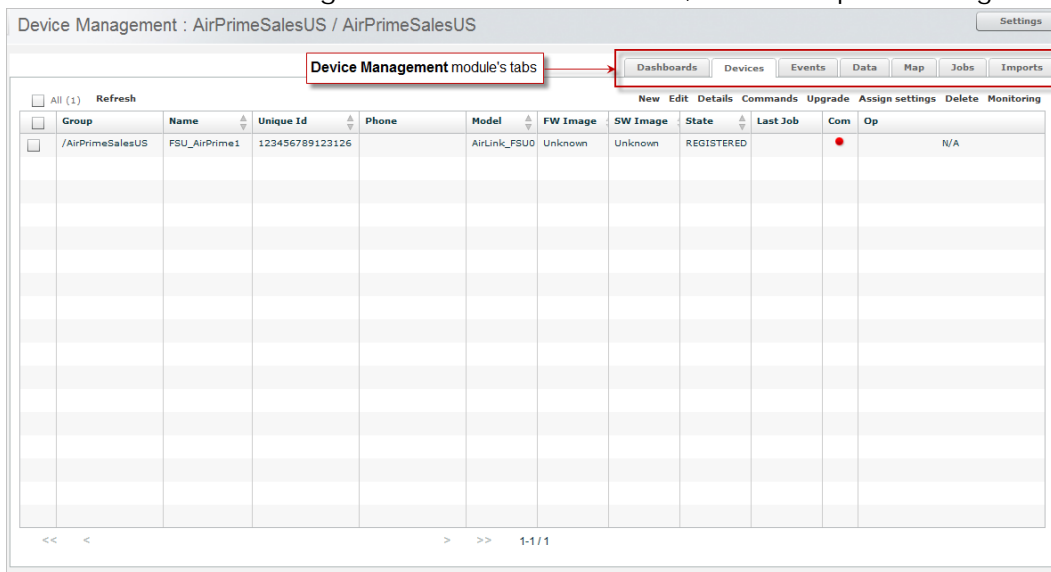
6 Enter all required information in the *Change Password* tab: Old password, New password.

7 Confirm the new password in the New password confirmation field.

- 8 If needed, change the time zone settings in the *Change time zone* tab.
- 9 Click on [Change].
A pop-up message appears, indicating that the password, and possibly time zone, settings have been successfully changed.
- 10 Click on [OK].
- 11 In the Change user settings window, click on [Close].
The portal opens on the portal homepage.

Device Management Module Description

When the Device Management module is selected, the Main pane is organized in tabs:



Each tab opens on a table, except the:

- *Dashboard* tab, which displays graphics and tables about devices activity, download and monitoring operations. For more information, see the dashboard-related sections: [MonitoringDashboard](#), [UpgradeDashboard](#) and [Monitoring Device Information](#)).
- *Map* tab, which displays a map.

The table below describes the tabs of the Device Management module's Main pane:

Tab	Description
Dashboard	Displays information about devices, such as device group details, download or monitoring information.
Devices	Displays the list of devices associated with the device group selected in the Left pane. The <i>Devices</i> tab includes a Menu and button bar for performing a number of actions on the device(s) selected in the device table.
Events	Displays the list of device events. Allows you to monitor, archive and export device events ([Export] and [Archive] buttons).
Data	Displays the list of device data. Allows you to monitor and export device data ([Export] button).
Map	Displays a map. Allows you to locate your devices.
Jobs	Displays the list of device jobs. Allows you to monitor device jobs.

Imports	Displays the list of completed device imports. Allows you to download device import logs as well as performing new device imports ([New import] button).
---------	---

Devices Tab

The table below describes the Menu and button bar of the *Devices* tab:

Button / Menu	Type	Description
Refresh	Button	Allows you to refresh the display of device information.
Details	Button	Allows you to review the details of the selected device.
Commands	Button	Allows you to send commands to devices. For more information, see Sending Commands to Devices .
Upgrade	Button	Allows you to upgrade device firmware/software. For more information, see Firmware and Software Upgrades
Assign Settings	Button	Allows you to assign settings to devices.
New device	Button	Allows you to create a new device using a device creation wizard.
Edit	Button	Allows you to edit the selected device.
Delete (Archive)	Button	Allows you to archive the selected device(s).
Undelete (Unarchive)	Button	Allows you to unarchive the selected device(s).
Purge	Button	Allows you to remove definitely the selected device(s) that have been already archived.
Monitoring	Menu	Allows you to configure monitoring tasks as well as to launch <i>Reset values</i> and <i>Monitoring off</i> commands: For more information, see Data Monitoring And Remote Diagnostics .



Users and Devices

This page deals with users and devices. It defines notions such as companies, users, devices and device groups, and describes how to create, edit and delete instances of and how to browse through them.

- Hierarchical Companies
- Users and Rights
- Manufacturer and Customer Models
- Device Groups

Hierarchical Companies

This section explains the purpose of hierarchical companies and describes how to create, edit, delete a company:

- Purpose
- Create, Edit and Delete Companies
 - To create a new company
 - To edit a company
 - To delete a company

Purpose

In the portal, companies are divided into parent and child companies. When Sierra Wireless creates your first user, which allows you to login to the portal, this user is associated with a *parent* company.

You can then create sub-companies belonging to the parent company. These are called *child* companies.

Parent and child companies are hierarchically organized as a tree structure. This tree structure is displayed in the *Companies* accordion tab of the Administration module.

Create, Edit and Delete Companies

Creating, editing or deleting a company is done from the *Companies* accordion tab of the Administration module:

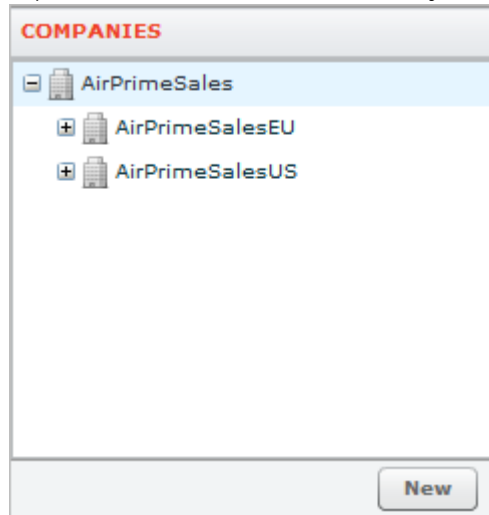
Accordion Tab

Description

Companies Allows you to:

- create new companies,
- edit and delete existing companies.

Companies are hierarchically displayed (parent company, child company) in an expandable tree structure, which allows you to browse through existing companies:



To create a new company

- 1 In the *Companies* accordion tab, select the parent company.
- 2 Click on [New].
A Company Creation window opens:

The screenshot shows a 'Company Creation' dialog box with three tabs: 'Details', 'Profiles', and 'Advanced'. The 'Details' tab is active. The form contains the following fields:

- Company Name ***: An empty text input field with a red asterisk indicating it is mandatory.
- Parent Company**: A text input field containing '/AirPrimeSales/' and a 'Choose' button to its right.
- External Id**: A greyed-out text input field.
- Email 1** through **Email 5**: Five empty text input fields for email addresses.
- Address**: A large empty text input field.
- Portal CSS URL**: An empty text input field.
- Login CSS URL**: An empty text input field.

At the bottom of the dialog are 'Create' and 'Cancel' buttons.

The *Company Detail* tab is selected by default. The Parent Company field is already filled with the name of the company selected before opening the window (AirPrimeSales).

We will now create a child company called AirPrimeSalesUS.

- 3 Enter the company name in the Company Name field: for example, AirPrimeSalesUS.



Only this parameter is mandatory in this tab. All others parameters are optional.

- 4 If needed, enter an e-mail in the Email1 field. E-mails entered in the Email1 to Email5 fields are used as notification e-mail addresses when an event is triggered by a device.
 - e-mails defined at company level can be e-mails of users of the portal or not
 - e-mails of users of the portal can be used also if defined at user creation to receive alerts


The device triggering the event belongs to a device group associated with this company.

- 5 Select the *Profiles* tab.

The *Profiles* tab displays the following information:


- 6 Select a profile in the Profile drop-down menu.
Three company profiles are available:

Company Profile	Description
AirPrime Distributor	Distributor of Airprime Management Services.
AirPrime Managed	Device Management is performed by Distributor of AirPrime. For companies delegating specific management operations to their module vendor.
AirPrime Premium	Device Management is performed by the customer of AirPrime Management Services. For companies using the portal to execute themselves device management operations.

- 7 Using the Child Companies Profiles windows, specify which company profiles will be inherited by this company's children companies. To do so, select the required profile in the Available window, then click on  to make it slide to the Selected window. Companies created with this company as parent company will inherit these profiles only.
- 8 Using the User Profiles windows, specify which user profiles will be available for users associated with this company.
Available user profiles depend on the company profile. The following profiles are available:

User Profile	Description
Customer Admin	Service Administrator having full permission for managing a company's users and devices.
Customer Managed	Service Viewer having read-only access for overseeing the processing of operations delegated to the module vendor.
Customer Read Only	Service User having read-only permission.
Distributor Admin	Distributor Admin user having write permission for creating sub-companies and new users.
Distributor Read Only	Distributor Operator having read-only permission.

Access restricted to read only access. |

Select the required profiles in the Available window, then click on  to make it slide to the Selected window.



You can also group your selection by keeping the Shift key pressed while selecting the required profiles, then click on .

- 9 When all required information has been set in the Company creation window, click on [OK].
The child company now appears in the *Companies* tab.
- 10 Select the *Advanced* tab.
The *Advanced* tab displays the following information:

This tab helps you customize your company environment.

- 11 Describe the company in the Description field.
- 12 If your company is stored within SAP with a `CustomerId`, enter it in the SAP CustomerId field.
- 13 Select a SMS provider in the SMS Provider drop-down menu.
When set, all SMS sent either to devices (for commanding them) or to users (for notification) are so through the selected SMS provider. If left unset, no SMS can be sent.



SMS providers can also be set at device level, for example to take advantage of competitive price policies in certain parts of the world.

- 14 If needed, add a disclaimer by clicking on Add. A Disclaimer Edition window opens. Type in the disclaimer then click on [Ok].
Disclaimers are displayed on first login of a user.

- 15 If needed, change the default email address used when clicking on the Contact Us web link (bottom of the portal) by entering a valid email address in the "Contact us" email field.
- 16 If needed, enter in the Corporate logo url field the URL of the company logo to be inserted to the bottom left corner of the portal.
- 17 If required, select RSA authentication to give the access to the AirPrime Management Services only with a RSA key for any users of its account.

To edit an existing company

- 1 In the *Companies* accordion tab, select the required company.
A three-tabbed form appears in the Company Edition pane:

Company Edition

Details
Profiles
Advanced

Company Name *

Parent Company

External Id

UUID

Email 1

Email 2

Email 3

Email 4

Email 5

Address

Portal CSS URL

Login CSS URL

- 2 Edit each field and menu and tick or untick checkboxes of each tab as required.
- 3 Click on [Save].
New settings are saved.

To delete an existing company

- 1 In the *Companies* accordion tab, select the required company.
- 2 Click on [Delete] in the Company Edition pane which appears.
The company is deleted.

Users and Rights

This section explains the purpose of users and rights, and describes how to create, edit, delete a user:

- Purpose and User Profiles
- Create, Edit and Delete Users
 - To create a new user
 - To edit a user
 - To delete a user

Purpose and User Profiles

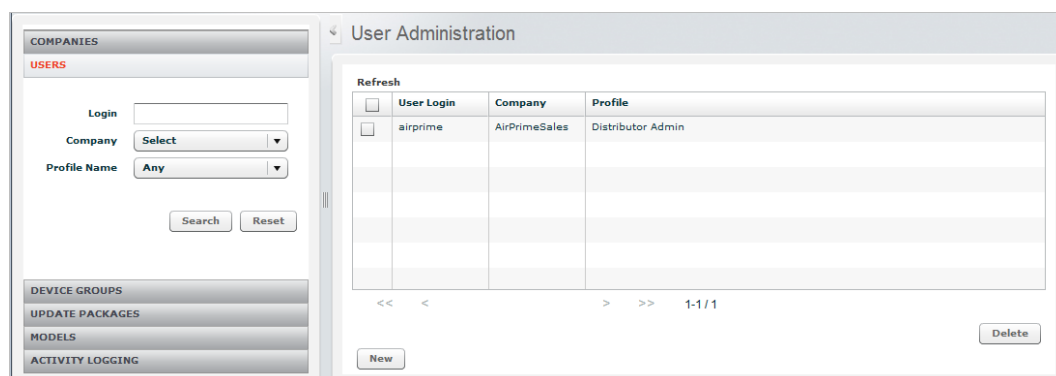
Users of companies are associated with a number of identification, contact, geographical and time parameters such as Login, First Name, Last Name, Email, Phone, Time Zone, Language, etc.

Their rights on companies depend on their profile, which can be chosen among the following ones:

User Profile	Description
Customer Admin	Service Administrator having full permission for managing a company's users and devices.
Customer Managed	Service Viewer having read-only access for overseeing the processing of operations delegated to the module vendor.
Customer Read Only	Service User having read-only permission.
Distributor Admin	Distributor Admin user having write permission for creating sub-companies and new users.
Distributor Read Only	Distributor Operator having read-only permission.

Create, Edit and Delete Users

Creating, editing or deleting a user is done from the *Users* accordion tab of the Administration module:



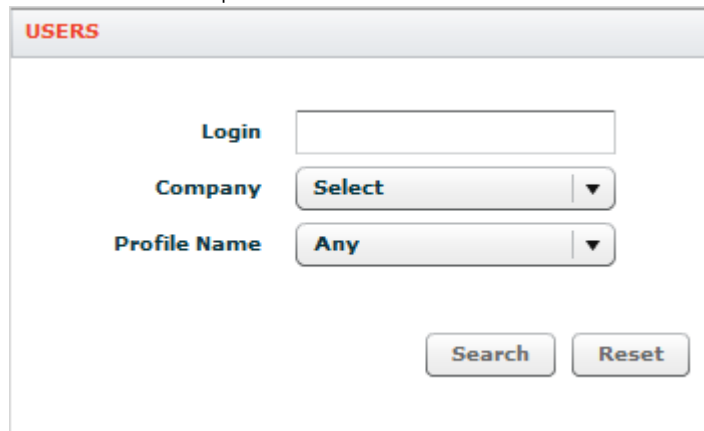
Administration Tab

Description

Users

Allows you to:

- create new users,
 - search for existing users,
 - edit and delete existing users.
- This accordion tab opens on a user search form:



USERS

Login

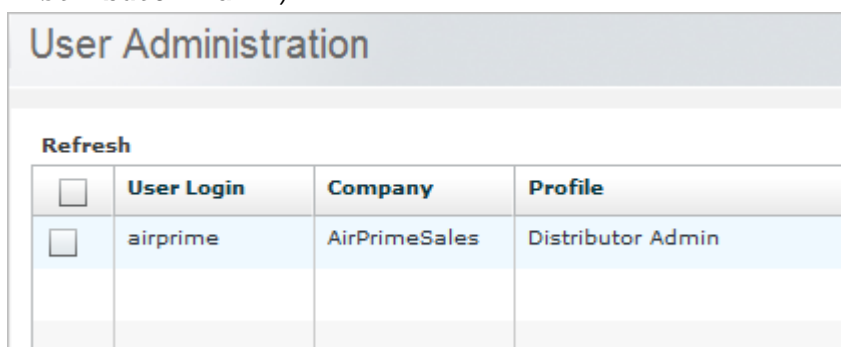
Company **Select** ▼

Profile Name **Any** ▼

Search **Reset**

To create a new user

- 1 In the Left pane, click on the *Users* accordion tab.
The accordion tab opens on a search form and the Main pane displays a User Administration table including all users created so far (here, *airprime*), together with the company it is associated with (here, *AirPrimeSales*) and its profile (here, *Distributor Admin*):



User Administration			
Refresh			
<input type="checkbox"/>	User Login	Company	Profile
<input type="checkbox"/>	airprime	AirPrimeSales	Distributor Admin

- 2 In the Main pane, click on [New].
A User Creation window opens:

- 3 Enter a login (username) in the Login field: for example, airprimesalesadminUS.
- 4 Enter and confirm the user password in the Password and Confirm password fields: for example, airprimesalesadminUS.



The password initially set for a user must be changed on first connection.

- 5 Enter an e-mail in the Email field.
- 6 Enter a phone number in the Phone number field.
E-mail and phone number are used for notifying the user of events triggered by devices belonging to the device groups specified for the user (see below).
- 7 Select a company in the Company drop-down menu: for example, .
The Device Group field becomes active. This field allows you to select among the device groups associated with the selected company.
- 8 Select a profile in the Profile drop-down menu: for example, Admin.



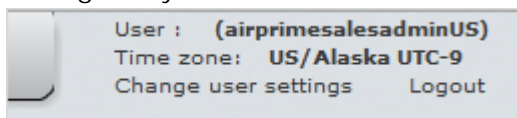
Only profiles associated with the company as user profiles when creating a company are available in the Profile drop-down menu.

- 9 Select an area and time zone in the Time zone drop-down menus: for example, America (area) and Alaska (time zone).



Only the last eight parameters are mandatory when creating a user. All other parameters are optional.

- 10 Click on [Create].
The `airprimesalesadminUS` is now created.
When connecting to the portal, the user login and time zone remain visible throughout your session in the User Settings zone of the portal:

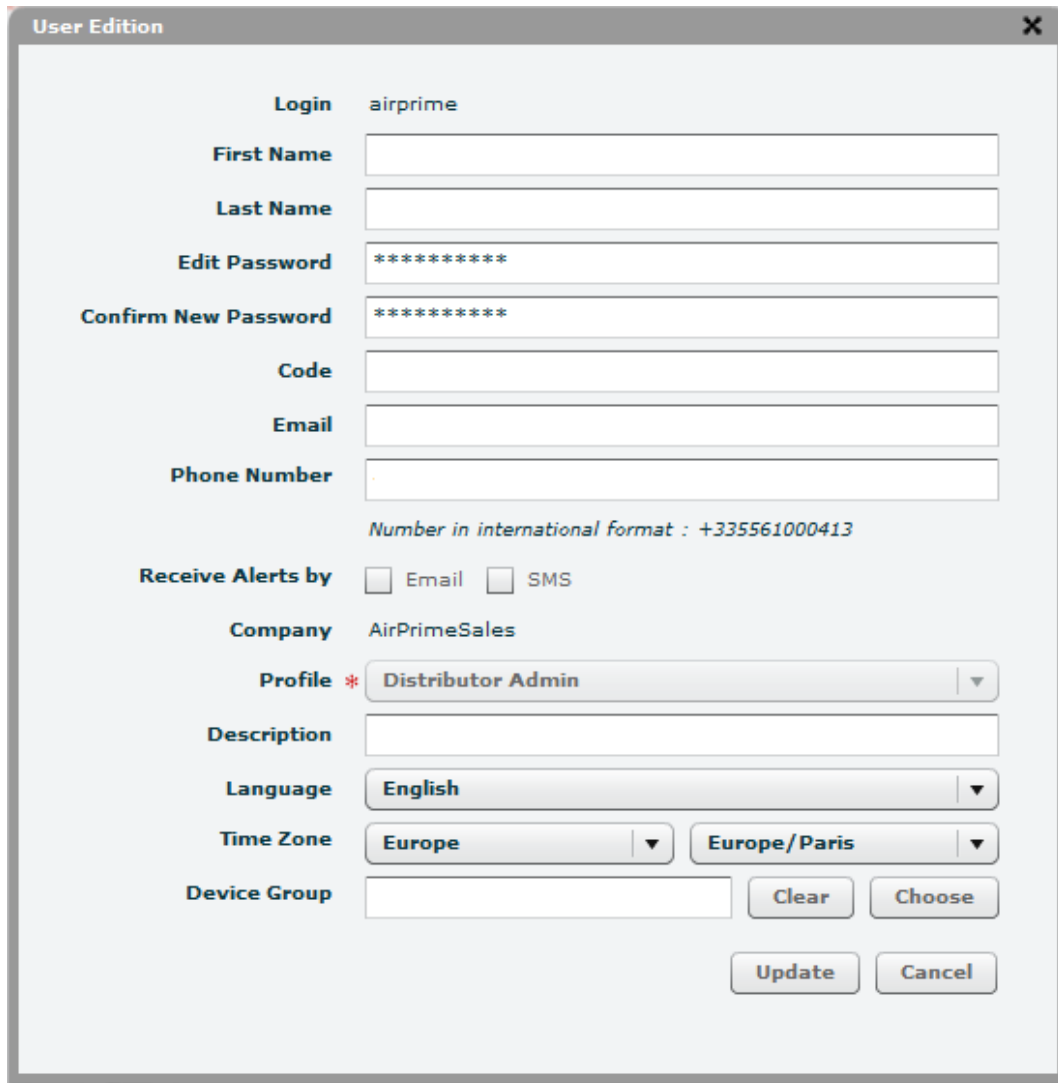


To edit a user

- 1 In the Left pane, click on the *Users* accordion tab.
The accordion tab opens on a search form and the Main pane displays a User Administration table including all users created so far.
- 2 Click on the user you want to edit:

User Administration			
Refresh			
<input type="checkbox"/>	User Login	Company	Profile
<input type="checkbox"/>	airp...	AirPrimeSales	Distributor Admin
<input type="checkbox"/>			

A User Edition window opens:



User Edition [X]

Login airprime

First Name

Last Name

Edit Password

Confirm New Password

Code

Email

Phone Number

Number in international format : +335561000413

Receive Alerts by Email SMS

Company AirPrimeSales

Profile * ▼

Description

Language ▼

Time Zone ▼ ▼

Device Group

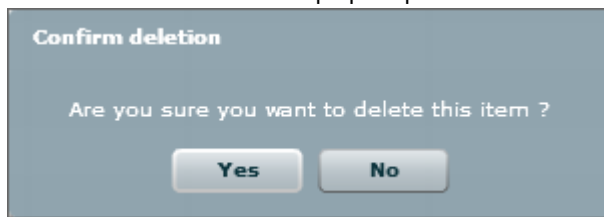
- 3 Edit the user as required.
- 4 Click on [Update].
The user is edited.

To delete a user

- 1 In the Left pane, click on the *Users* accordion tab.
The accordion tab opens on a search form and the Main pane displays a User Administration table including all users created so far.
- 2 Check the user you want to delete in the first column:

User Administration			
Refresh			
<input type="checkbox"/>	User Login	Company	Profile
<input checked="" type="checkbox"/>	airprime	AirPrimeSales	Distributor Admin
<input type="checkbox"/>			

- Click on [Delete] below the table.
A confirmation window pops-up:



- Click [Yes].

Manufacturer and Customer Models

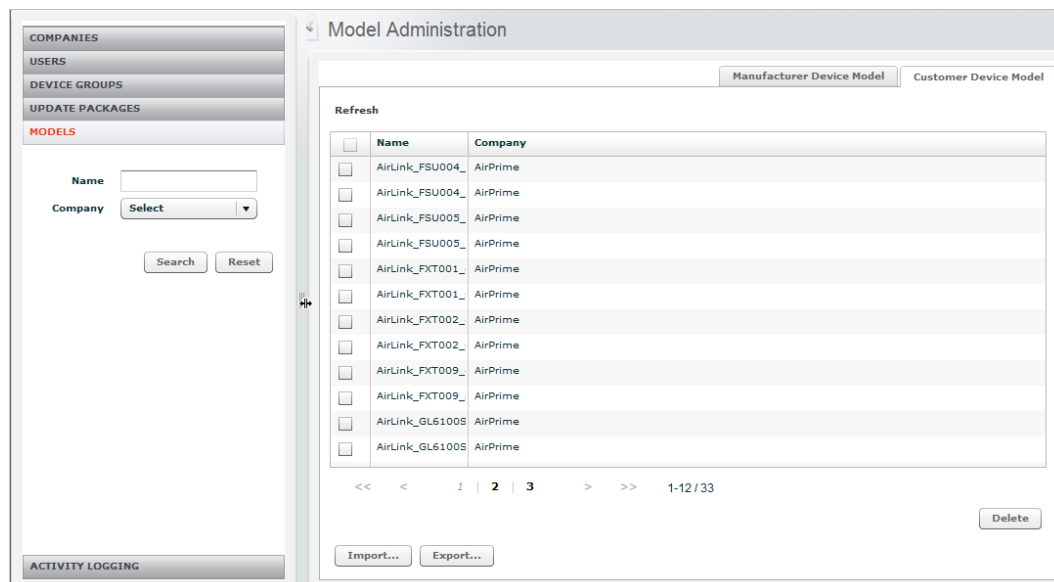
Device Models describe the properties or communication capabilities of devices you want to manage.

There are 2 type of models:

- manufacturer models which are created by the vendor
- customer models which inherit from a manufacturer model and eventually include additional properties of your devices

Models are managed from the *Models* tab of the Administration module. This tab allows you to:

- export Manufacturer Device Models
- import/export Customer Device Models



The following procedure shows you how to import a customer device model.

To import a model

- In the Left pane, click on the *Models* accordion tab.
The accordion tab opens on a search form and the Main pane on a Model Administration pane including two tabs: *Manufacturer Device Model* and *Customer Device Model*. Each tab includes a table listing all models imported so far in the portal.

- 2 To import a Customer Device Model, select the *Customer Device Model* tab in the Main pane.
- 3 Click on [Import].
A file explorer opens.
- 4 Browse to the folder where your device model is stored.
- 5 Select the model in .xml format.
- 6 Click on [OK].
- 7 The customer device model is displayed in the model list.

Device Groups

This section explains the purpose of device groups, and describes how to create, edit, delete a device group:

- Purpose
- Create, Edit and Delete Device Groups
 - To create a new device group
 - To edit a device group
 - To delete a device group
- Create, Edit and Delete Devices
 - To create a new device
 - To edit a device
 - To delete a device

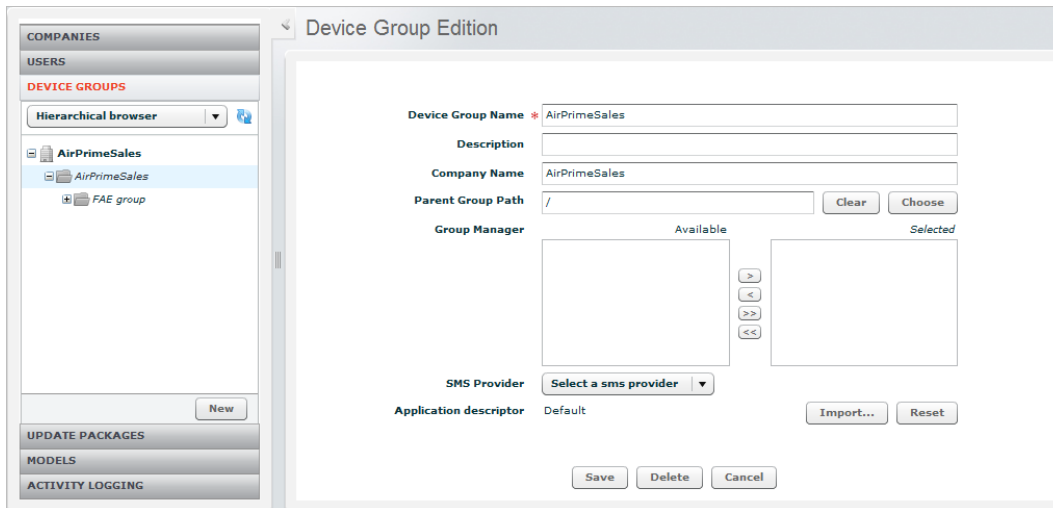
Purpose

Device groups allow you to group your device fleets by groups, to organize them either fonctionnally, geographically, or for any other reason.

Default device groups are automatically created when creating a company, meaning that a company is always associated with a device group of the same name.

Create, Edit and Delete Device Groups

Creating, editing or deleting a user is done from the *Device Groups* accordion tab of the Administration module:



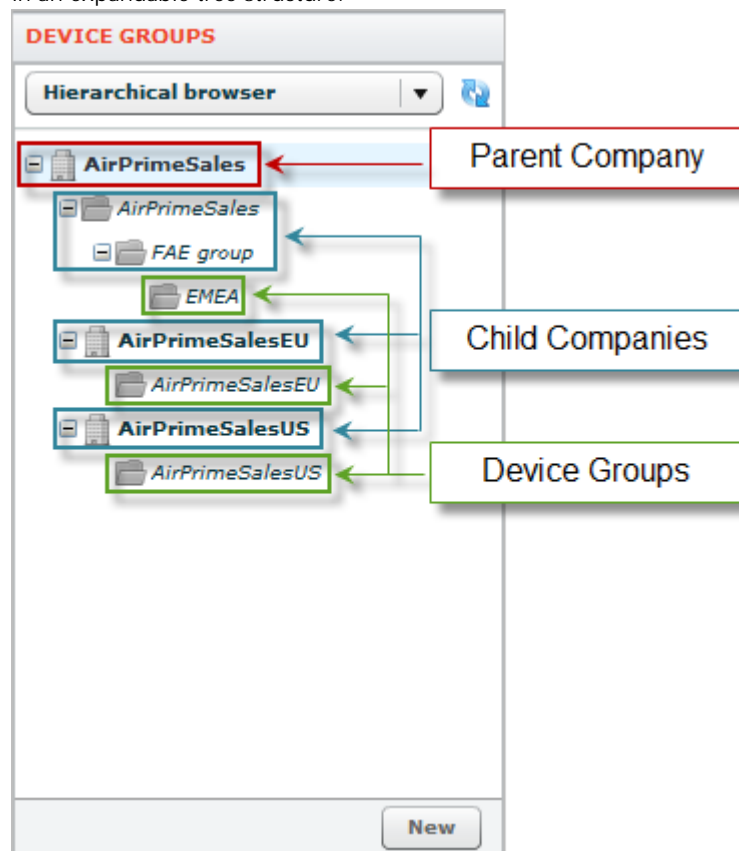
Administration
Tab

Description



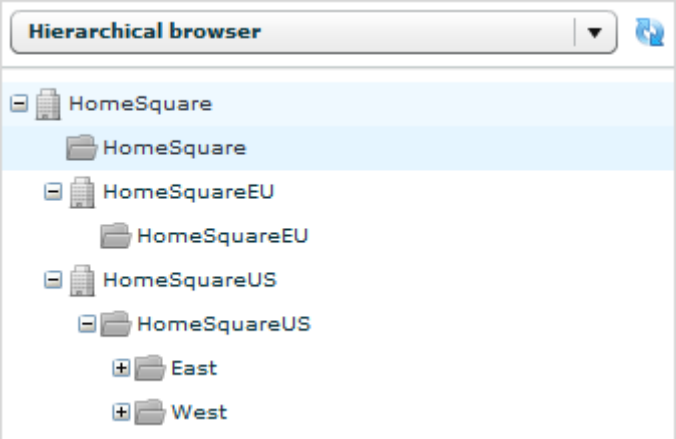
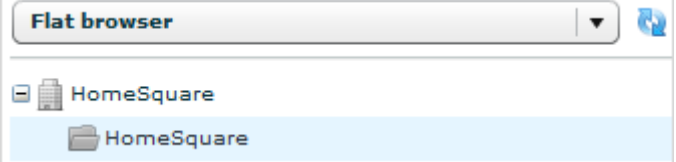
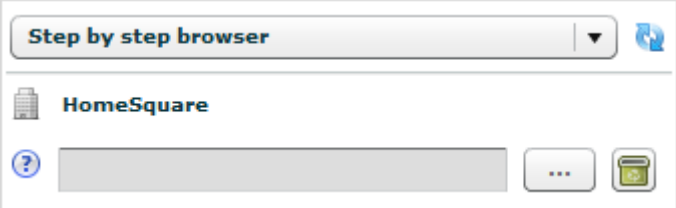

Device
Groups

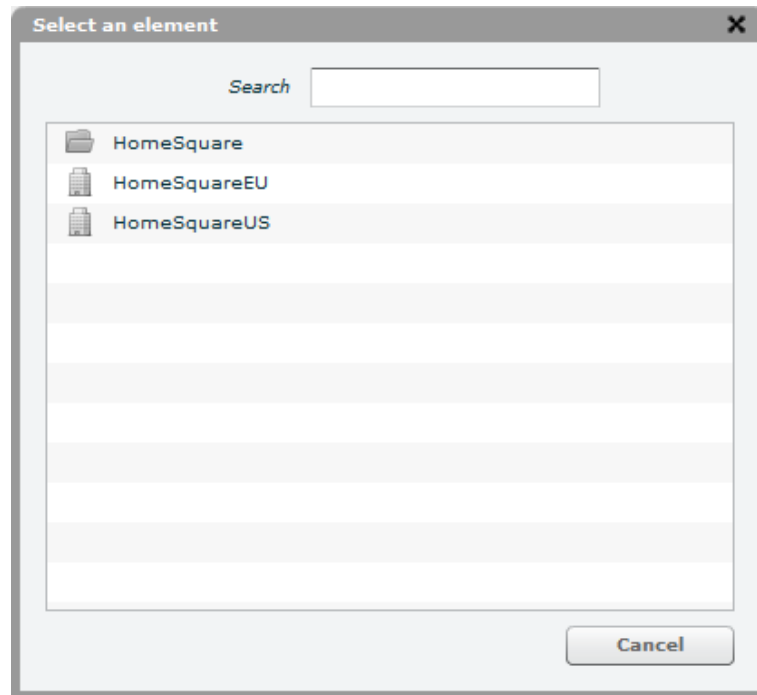
Allows you to manage your device groups, that is to say, groups of communicating devices related to a same company or sub-company to:



- create new device groups,
 - edit and delete existing device groups.
- Device groups are hierarchically displayed (company, sub-company and device groups) in an expandable tree structure:



The table below describes how to browse through device groups using one of the three browsers available in the *Device Groups* tab:


Browser Type	Description
Hierarchical Browser	Displays all existing device groups as a traditional tree structure, with parent company and child companies identified by  and device groups identified by  :
	
Flat Browser	Displays all the companies and sub-companies in alphabetic order:
	
Step-By-Step Browser	Allows you to select only device groups to be displayed. Useful when managing a large number of groups within a complex company structure:
	
	To select a device group, click on  . A Select an Element window opens:



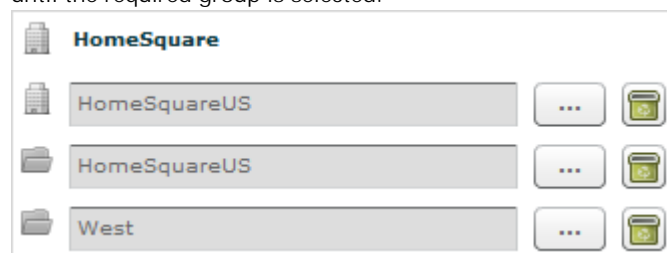
The Select an Element window allows you to select either a group () or a company (), or to search for a specific element using the Search field.


- If you select a company/group, the company/group appears in the Left pane together with a second line for refining your search:



Clicking on the second line's Browse button () gives you access to device groups included in the previously selected company/group only.

- You can then repeat the procedure and browse down your company/group structure until the required group is selected:



To remove a company/group, click on the corresponding "Reset" icon ().

To create a new device group

In the Left pane, click on the *Device Groups* accordion tab.

The accordion tab opens on a tree structure displaying companies administered by the user. By expanding each of them, device groups automatically created when creating companies appear:



Only companies visible by the user are displayed in the Device Groups tab. Visible companies depend on the user profile and company.

The following procedure shows how to create a device group (called East) as a child of another device group (called AirPrimeSalesUS).

- 1 Select the parent device group in the Left pane: for example, AirPrimeSalesUS.
- 2 Click on [New]. A Device Group Creation window opens:

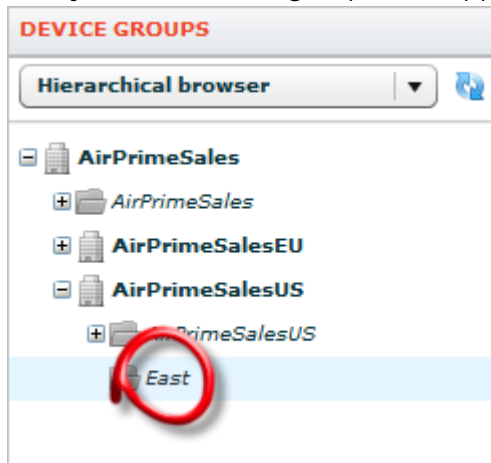
The Company and Parent Group Path fields are already filled with the name of the previously selected device group and associated company

- 3 Enter a device group name in the Device Group Name field: for example, East



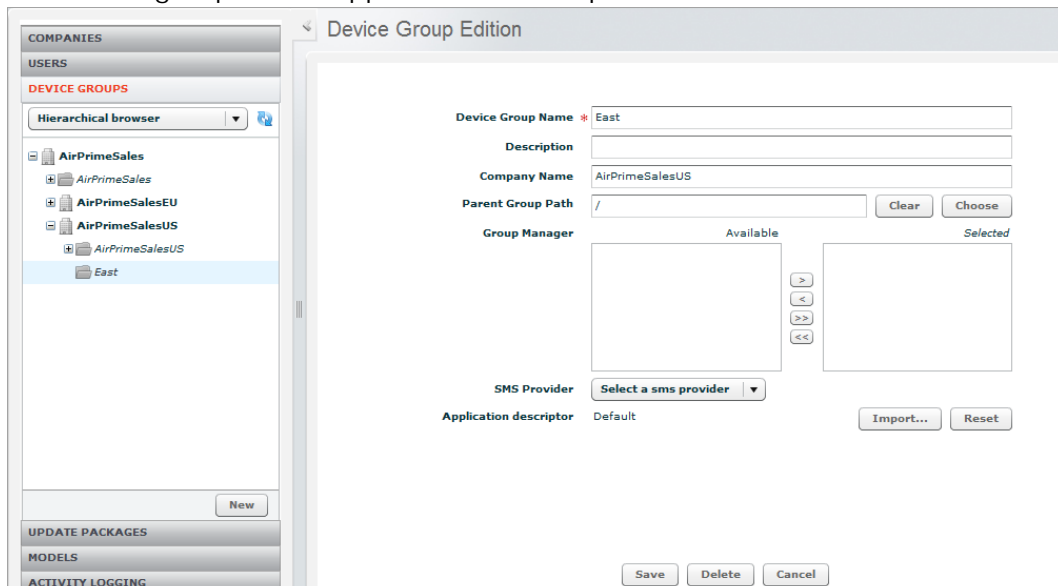
Only the Company and Device Group Name parameters are mandatory when creating a device group

- 4 Click on [OK]. The East device group is now created.
- 5 Repeat the previous procedure for creating the West device group.
Newly created device groups now appear in the Left pane:



To edit a device group

- 1 In the Left pane, click on the *Device Groups* accordion tab.
The accordion tab opens on a tree structure displaying companies administered by the user. By expanding each of them, device groups automatically created when creating companies appear.
- 2 Click on the device group to be edited.
The device group details appear in the Main pane:



- 3 Edit fields and menus as required.
- 4 Click on [Save].
The device group is updated.

To delete a device group

- 1 In the Left pane, click on the *Device Groups* accordion tab.
The accordion tab opens on a tree structure displaying companies administered by the user. By expanding each of them, device groups automatically created when creating companies appear.
- 2 Click on the device group to be deleted.
- 3 Click on [Delete] in the Main pane.
The device group is deleted.

Create, Edit and Delete Devices

Device creation, edition and deletion is managed from the *Devices* tab of the Device Management module, using the [New], [Edit] and [Delete] buttons of the Main pane. This section describes how to create, edit and delete a device, and how to review a device's details.

To create a new device

- 1 Assuming that the *Devices* tab is selected, select a device group in the Left pane.
After creation, the newly created device will be automatically included in the selected group.
- 2 Click on the [New] link in the Main pane.
A Device Creation wizard opens automatically. The first step displays Initialization parameters:

Device Creation [X]

Initialization

Initialize the device.

Company Name * HomeSquare ▼

Device Group * HomeSquare ▼

Customer Device Model * Select a model ▼

UniqueId Type * Free ▼

Back Next Finish Cancel

- 3 Select a company name in the Company Name drop-down menu.
- 4 Select a device group in the Device Group drop-down menu.
- 5 Select a device model in the Customer Device Model drop-down menu.
Device parameters depend on the device model. When selecting FSU20 as device model, the next step (Standard) displays all parameters related to a FSU20 device.
- 6 Select the UniqueID Type: Free, Imei.
- 7 Click on [Next]. The second step displays Standard parameters:

Device Creation [X]

Standard

Fill standard device fields.

Name

Serial Nb *

State *

SMS Provider

APN Provider

Description

Latitude

Longitude

- 8 Enter a name in the Name field.
- 9 Enter a serial number in the Serial Nb field.
- 10 Select a State in the State drop-down menu, either REGISTERED or ACTIVATION READY.
- 11 Select a SMS provider if there is not already defined for the company or the group of the device.
- 12 Select an APN provider to be set to the device at first connection if required.
- 13 Enter a description for your device in the Description field.
- 14 To provide accurate information on your device location, enter a latitude (between -90 and 90) and a longitude (between -180 and 180) value in the Latitude and Longitude fields.
- 15 Click on [Next]. The third step displays parameters related to GSM:

- 16 Enter the device's IMEI in the IMEI field.
- 17 The UniqueId field is automatically filled with the same value.



Only the previous parameters are mandatory when creating a new device. If you need to send SMS notification, enter also the phone number of the device.

- 18 Click on [Finish].
The device is now created in the system. It appears in the device table:

Device Management : HomeSquareUS / West Settings

Dashboards Devices Events Data Map Jobs Imports

All (1) Refresh Details | Commands Upgrade Assign settings | New device Edit | Delete Undelete Purge | Monitoring

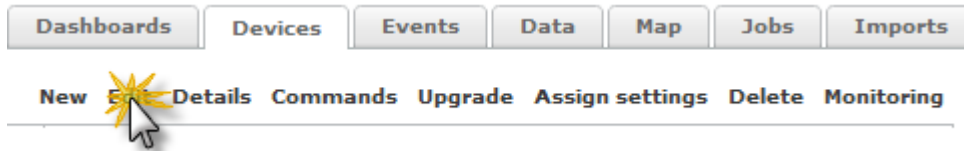
<input type="checkbox"/>	Group	Name	Unique Id	Phone	Model	FW Image	SW Image	State	Last Job	Com	Op	Deleted
<input type="checkbox"/>	West	FSU2094500	356187030033852		FSU20	Unknown	Unknown	REGISTERED		●	N/A	false

To edit a device

- 1 In the device table, check the checkbox corresponding to the device to be edited, in the table first column:

<input type="checkbox"/>	Group	Name	Unique Id	Phone	Model	FW
<input checked="" type="checkbox"/>	West	FSU2094500	356187030033852		FSU20	Unkr

- 2 Click on [Edit] in the tab's Button bar:



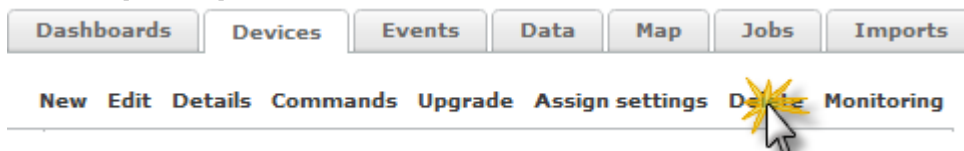
- 3 A Device Edition window opens. It contains information entered in the Device Creation window when creating the device.
- 4 Change any required value.
- 5 Click on [Update].
Device details are now updated.

To delete a device

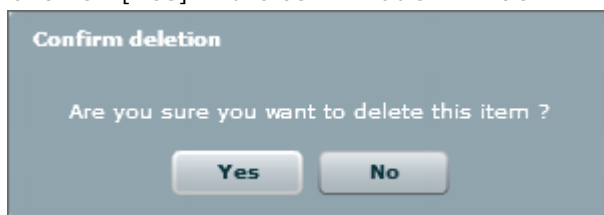
- 1 In the device table, check the checkbox corresponding to the device to be deleted, in the table first column:

<input type="checkbox"/>	Group	Name	Unique Id	Phone	Model	FW
<input checked="" type="checkbox"/>	West	FSU2094500	356187030033852		FSU20	Unkr

- 2 Click on [Delete] in the tab's Button bar:



- 3 Click on [Yes] in the confirmation window which opens:



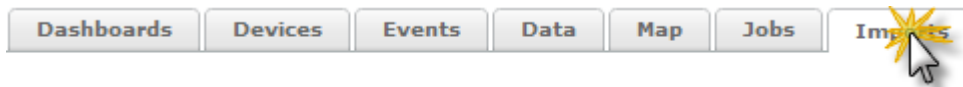
The device is now archived.

- 4 Depending on your user's profile, you can have to purge the device for it to be fully deleted. If so, click on [Purge] in the tab's Button bar.

Create multiple devices

To create multiple devices at the same time, you have to import files with data required to declare devices.

- 1 Select the Device Management module.
- 2 Click on the *Imports* tab



In the import page, select on the *New import* button and retrieve the device file. You can also download the import template by clicking the [Download a template] link below the table:

<input type="checkbox"/>	vipadmin	08/03/10 16:06	MoveVIPDevices	DONE_OK
<input type="checkbox"/>	vipadmin	08/03/10 16:03	PentalogTest_De	DONE_OK
<input type="checkbox"/>	vipadmin	08/03/10 16:01	PentalogTest_De	DONE_ERRORS
<< < 1 2 3 4 > >> 1-12 / 39				
<div style="display: flex; justify-content: space-between; align-items: center;"> New import Download template </div>				

Once a device file is imported, you can check whether the import ended normally or in failure by opening import logs.

Open Import Log

The following procedure shows you how to open an import log.

- 1 Select the Device Management module.
- 2 Click on the *Imports* tab

All import logs are displayed in a table together with the user having initiated the import. Imports are timestamped and their state (DONE_OK or DONE_ERRORS) is indicated:

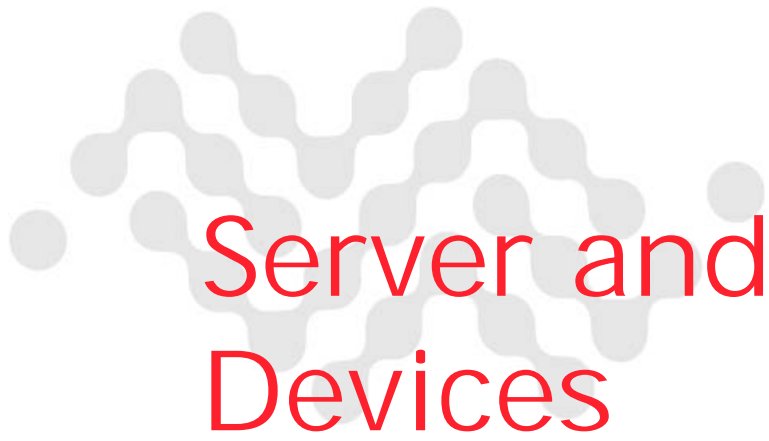
Refresh				
<input type="checkbox"/>	Imported by	Date	File name	State
<input type="checkbox"/>	vipadmin	12/14/10 16:56	WIK_IMEI_50pcs	DONE_OK
<input type="checkbox"/>	vipadmin	12/14/10 16:34	WIK_IMEI_50pcs	DONE_OK
<input type="checkbox"/>	vipadmin	11/18/10 12:17	upload_devices_	DONE_OK
<input type="checkbox"/>	vipadmin	09/21/10 14:32	M2MOP-SR2M2M	DONE_OK
<input type="checkbox"/>	vipadmin	09/21/10 14:31	M2MOP-SR2M2M	DONE_ERRORS
<input type="checkbox"/>	vipadmin	09/21/10 14:30	M2MOP-SR2M2M	DONE_ERRORS

- 1 Click on the required import log row.
A download/open window pops-up.
- 2 Click [OK].
The import log opens in CSV format:

A			
Line Number	Status	Device Id	Error Message
1	CREATED	359126030000053	

An error message is included if the import ended in error:

A			
Line Number	Status	Device Id	Error Message
1	ERROR	359913020000007	Unknown company path : /SmartAutomation/HomeSquare/HomeSquareUS (Top Level Customer not found for name: SmartAutomation)ERROR,359913020000007, (NullPointerException)



Server and Devices Communication

This page deals with server jobs and device communication. It introduces the notion of "job" and describes schedule options. Communication initiation is also described in this page, whether from the server or the device. A procedure shows you how to send a NAP to reconfigure the communication device.

- [Server Jobs](#)
- [Communication Initiation](#)
- [Communication Configuration](#)

Server Jobs

Different kind of operations can be scheduled on the server to be executed on the remote devices such as:

- configuration operations to set parameters on devices or set the monitoring of devices
- sending of commands such as AT commands
- program software upgrades

Each time an operation of this kind is scheduled, a job is created on the server. The status of any job enables to follow the status of the operation from its creation date until its end of execution.

Any job follow up can be done through the logs listed in the job tab in the Device Management Main Pane.

An operation can be launched on a single device or a list of multiple devices at the same time within a group of devices.

By selecting the *Jobs* tab in the Device Management module's Main Pane, the list of scheduled jobs is displayed:

Refresh						
Job Id	Job Type	State	Start Time	Creation Time	Device	Created by
584408	MONITORING_ASSIGNMENT	DONE	11/09/10 03:29:53	11/09/10 03:29:53	3552120103799	userQA

The meaning of each column is described in the table below:

Job column	Description
Job Id	Unique identifier assigned to each job created on the server. Eases search in the list of jobs.
Job Type	Available job types are the following: DISCOVER: it reads a node or a list of nodes in the OMA-DM tree of devices. FIRMWARE UPGRADE: it downloads remotely a new firmware into devices. MONITORING ASSIGNMENT: it sends monitoring profiles to configure the monitoring of devices. PROVISIONING ASSIGNMENT: it sends the provisioning profiles to set parameters on devices. SOFTWARE UPGRADE: it downloads remotely a new customer application into devices. WORKFLOW: it executes a list of unitary commands on devices.
State	Provides the status of job processing: PENDING: server about to execute the job. APPLIED: job taken into account by server, waiting for devices to connect to the server. IN PROGRESS: device is currently executing the job. DONE: job complete (either successful, partially successful or in failure)

	CANCELLED: job cancelled by user
Start Time	Shows the actual date and time of a given job execution.
Creation Time	Shows the date of the creation of the job.
Device	Provides the unique identifier of the device on which the job was created for.
Created by	Displays the user who created the job.
Job Name	Displays the name of the job given by the user who created it (if any).



When a communication is initiated between a device and the server, all pending jobs are successively executed for this device

Communication Initiation

There are 2 ways to make operations executed by devices, either the Server is initiated the communication with devices by sending SMS to wake up devices or devices are programmed to poll periodically the server to check if there are operations waiting for them.

Initiated by Server

When launching any operation, it is always possible primarily to send a notification to devices to wake up in order to make them connect to the server.

To do so, when scheduling an operation select the option Send notification to send a Wakeup SMS as shown in the figure below:

Once devices receive the SMS, devices will connect to the server and execute any waiting jobs for them.



If you want to use SMS sending of the Airprime Management Services, you have to enter phone numbers when registering devices into the Portal.

Initiated by Device

The services can also be used without sending any *Wakeup SMS* command. In that case, devices must be preprogrammed prior to being deployed in order to initiate server connection (for example, this can be set periodically). To do so, use AT+WDSC or AT+WDSS commands from a main processor or from an Open AT application to set the right parameters.

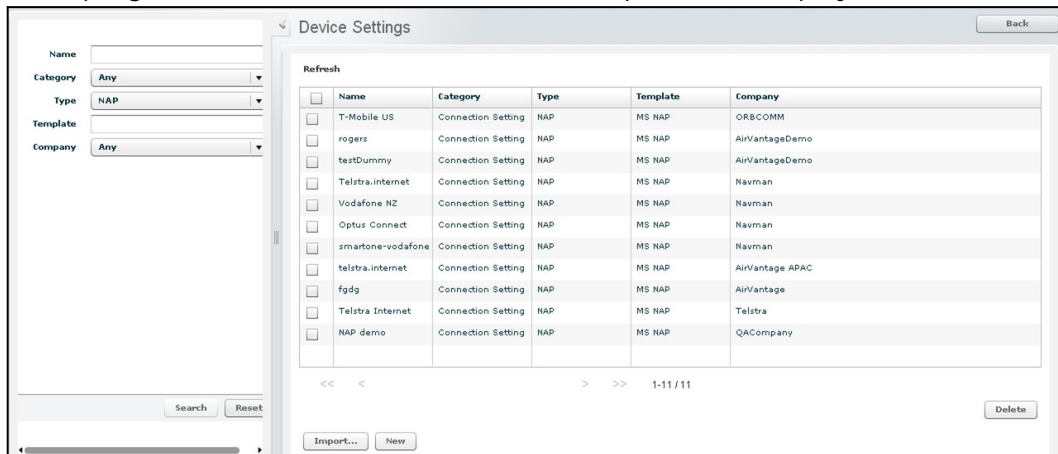
For more information, refer to the AT commands interface guide.

Communication Configuration

In order to communicate with the portal, each device must be configured with an APN (Access Point Name) which is used for any management service operation. A device's APN can be set through the AT command AT+WDSS before device deployment (for more information, refer to the AT command interface guide).

Once a device is deployed on the field, its APN can be set or reconfigured through an OMA-DM command called *Send NAP*.

To add the APN on the portal, create a NAP profile by clicking on the [Settings] button on the top right of the screen. The list of available profiles is displayed, as shown below:



If there is not any NAP profile corresponding to the APN you want to use, then select NEW button on the bottom left of the Main Page.

Select the company for which you want to make available this profile, then Create a profile with category "connection setting" and template type "MS NAP".

In the example, a NAP profile to Orange carrier in France is displayed:

Setting creation

Template : MS NAP

Name * my orange apn

Display Name * orange.fr

Bearer Direction * Outgoing

NAP Address * orange.fr

Address Type * APN

DNS Address

Internet true false

Authentication Type * CHAP

Authentication Username orange

Authentication Password orange



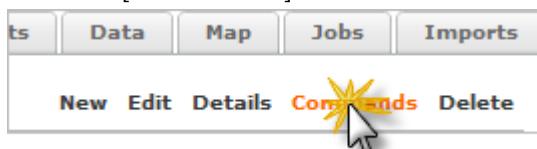
For more general information on OMA Device Management, see the [OMA Device Management official page](#)

To send an APN to a communication device

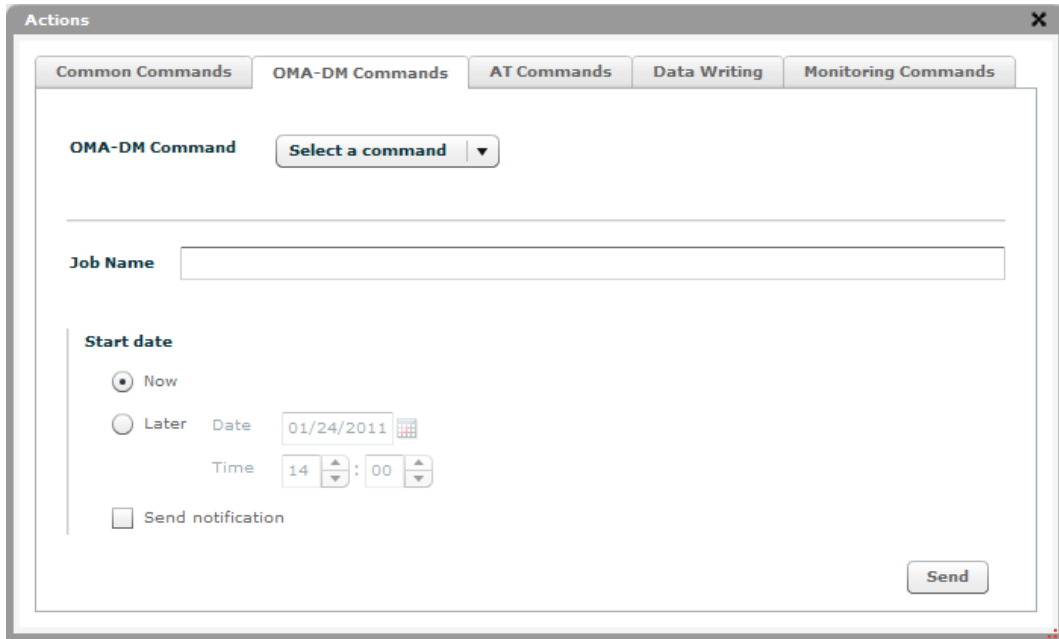
- 1 Assuming that the *Device Management* tab is selected, check the required device in the device table first column:

<input checked="" type="checkbox"/>	Group	Name	Unique Id	Phone	Model	FW
<input checked="" type="checkbox"/>	West	FSU2094500	356187030033852		FSU20	Unkr

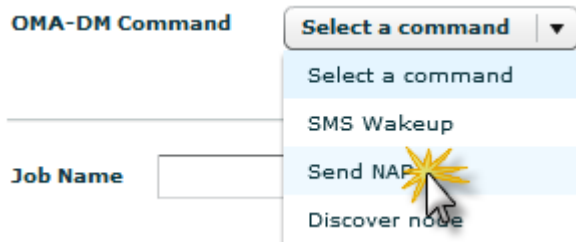
- 2 Click on [Commands] in the tab's Button bar:



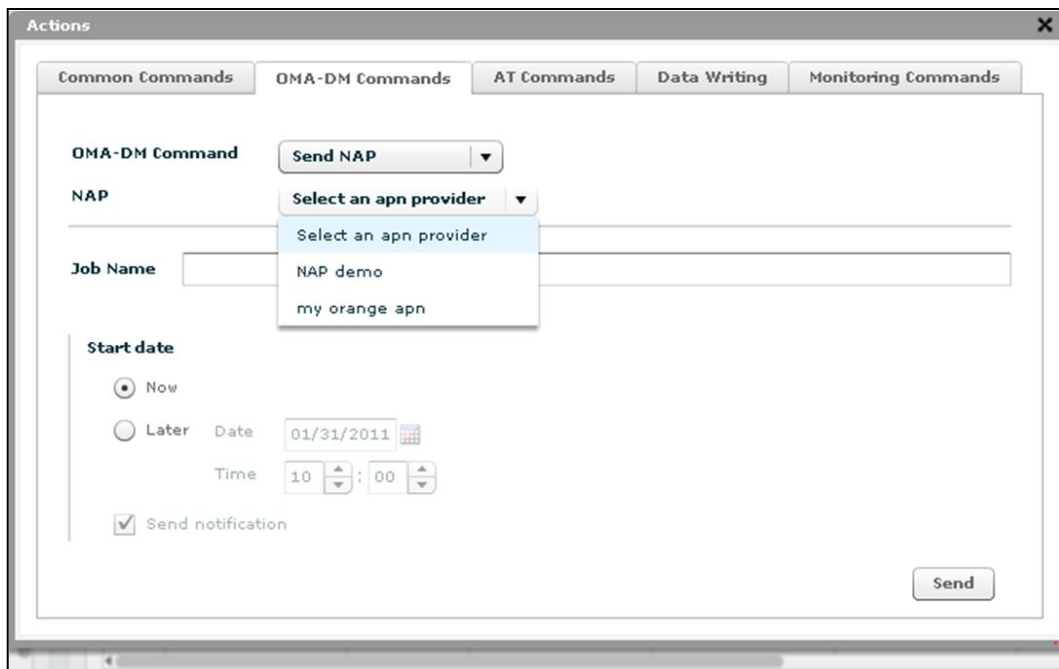
- 3 The Actions window opens.
- 4 Click on the *OMA-DM Commands* tab:



5 Select Send NAP in the OMA-DM Command drop-down menu:



6 Select the APN to send





Firmware and Software Upgrades

This page introduces the notion of "packages" as applied to software and firmware. It defines the different types of packages available, illustrates the package publication process and shows through step-by-step procedures how to create, edit and delete packages, launch a download campaign and monitor it using the Upgrade Dashboard.

- Purpose
- Update Packages
- Definitions
- Create, Edit, Delete Update Packages
- Launch Upgrade Campaign
- Download Campaigns Dashboard

Purpose

The Operating Portal provides remote update and quick fix capabilities, therefore avoiding field technician visits and operation downtimes.

The server interoperates with compliant devices using standard hand-off mechanisms to achieve firmware package downloads into remote devices.

Update Packages

Definitions

Firmware: AirPrime embedded module core software provided by Sierra Wireless. It includes telecom capabilities and the embedded agents needed for operating the AirPrime Management Service.

A firmware package is linked to a **Manufacturer Model**.

Software: Open AT application which allows to embed your own software into the module.

A software package is linked to a **Customer model**.



There may be some dependencies between firmware and software. Any change to the software or the firmware may imply updating both.

Update package: package to be downloaded; installs a firmware or a software into the AirPrime module.

Binary package: update package containing the full firmware or software binary.

Delta package: update package containing only the difference between two binary versions of a firmware or software. Allows you to save air-time cost during the download operation.

Reverse option: when activated into an update package, includes reverse information allowing to come back to initial firmware or software in case of installation failure.

Create, Edit, Delete Update Packages

Update Packages List

If you need to upgrade a firmware or software version, please first check that corresponding update packages are available on the server. To do so, select the Administration module's *Update Packages* accordion tab. This displays all update packages of Sierra Wireless firmware assigned to your customer account as well as all dedicated software for your own applications. Firmware update packages are generated and uploaded on the portal only by Sierra Wireless.

Update Package Generation and Signing

The following procedure shows you how to create an update package:

- Assuming that the Administration module's *Update Packages* tab is selected, click on the [New] button. The Upload Package Upload window opens.

Name	Company	Cust. Model	Model Name	From Image	To Image	Type	Format	Generation Status
...	Firmware Diff Package	Binary	SIGNED
...	Firmware Diff Package	Binary	SIGNED
...	Firmware Diff Package	Binary	SIGNED
...	Firmware Diff Package	Binary	SIGNED
...	Firmware Diff Package	Binary	SIGNED
...	Firmware Diff Package	Binary	SIGNED
...	Firmware Diff Package	Delta and Reverse	SIGNED
...	Firmware Diff Package	Delta and Reverse	SIGNED
...	Firmware Diff Package	Delta and Reverse	SIGNED
...	Firmware Diff Package	Delta and Reverse	SIGNED
...	Firmware Diff Package	Binary	SIGNED
...	Firmware Diff Package	Binary	SIGNED

Navigation: << < 1 2 3 4 5 6 > >> 1-12/69

Buttons: [Delete] [New]

- Package type: Firmware package generation being restricted to Sierra Wireless administrator profiles only, check the Software radio button in package generation options.

Update Package Upload

Name * My Update Package

Firmware Software

Manufacturer Device Model Select a Manufacturer Model

Restrict to Company * Select a company

Customer Device Model * Select a model

Upload Existing Package Create Delta

From Image * [Text Field]

From Image Zip * [Text Field] [Browse]

To Image * [Text Field]

To Image Zip * [Text Field] [Browse]

Generate Reverse Delta

Metadata

name	Value

[Add] [Remove]

[Cancel] [Create]

- Company: Select the company having the rights to use the update package in the Restrict to Company drop-down menu.

The screenshot shows the 'Update Package Upload' dialog box. The 'Name' field is 'My Update Package'. The 'Restrict to Company' dropdown is highlighted with a red box and shows 'Select a company'. The 'Customer Device Model' dropdown is also highlighted with a red box and shows 'Select a model'. The 'Upload Existing Package' and 'Create Delta' radio buttons are visible, with 'Create Delta' selected.

- Customer model: Select the model defining targeted devices in the Customer Device Model drop-down menu.

The screenshot shows the 'Update Package Upload' dialog box. The 'Name' field is 'My Update Package'. The 'Restrict to Company' dropdown is 'A Company'. The 'Customer Device Model' dropdown is highlighted with a red box and shows 'Select a model'. The 'Format' dropdown is highlighted with a red box and shows 'Select an update format'. The 'Upload Existing Package' and 'Create Delta' radio buttons are visible, with 'Upload Existing Package' selected.

■ Process:

- Upload existing package: If you already generated a package, check this radio button to upload the whole image package.
- Create delta: Check this radio button to generate a delta package (difference between two image packages).
Format: format of the update package to be generated. The following formats are available for a Software update package :
 - Delta
 - Delta and reverse
 - Binary
 - Binary and reverse binary

The screenshot shows the 'Update Package Upload' dialog box. The 'Name' field is 'My Update Package'. The 'Firmware' radio button is unselected, and the 'Software' radio button is selected. The 'Manufacturer Device Model' is 'Select a Manufacturer Model'. The 'Restrict to Company' is 'A Company'. The 'Customer Device Model' is 'A Customer Model'. The 'Upload Existing Package' radio button is selected and highlighted with a red box. The 'Create Delta' radio button is unselected. The 'Format' dropdown menu is highlighted with a red box and shows 'Select an update format'. The 'From Image' field is empty. The 'Update Package' field is empty, with a 'Browse' button next to it. The 'To Image' field is empty. The 'Reverse Package' field is empty, with a 'Browse' button next to it. At the bottom, there is a 'Metadata' table with columns 'name' and 'Value', and 'Add' and 'Remove' buttons. The 'Cancel' and 'Create' buttons are at the bottom right.

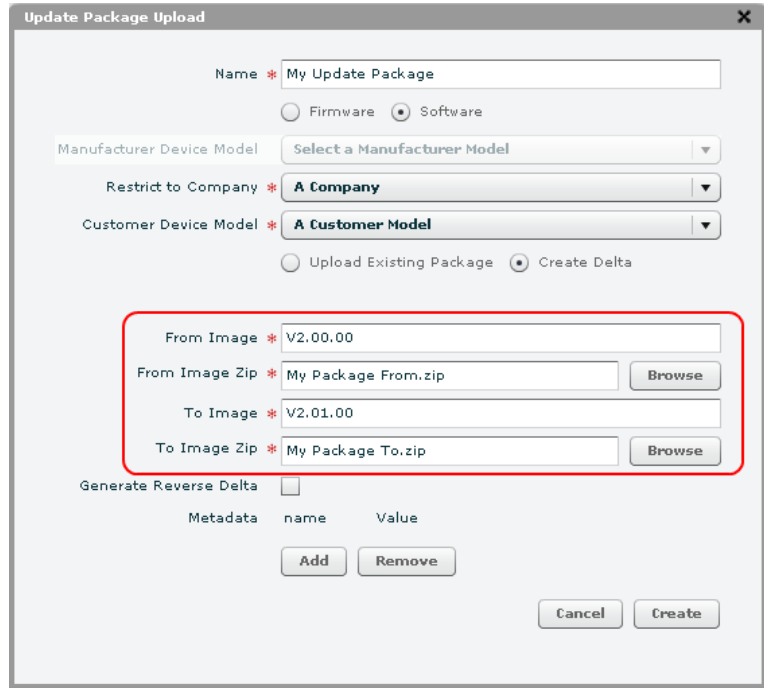
■ If you have checked the Upload existing package radio button:

- 1 Click on the [Browse] button next to the Update Package field.
- 2 Click on the [Browse] button next to the Update Package field then upload the ZIP file of your Open AT application generated by the Developer Studio.

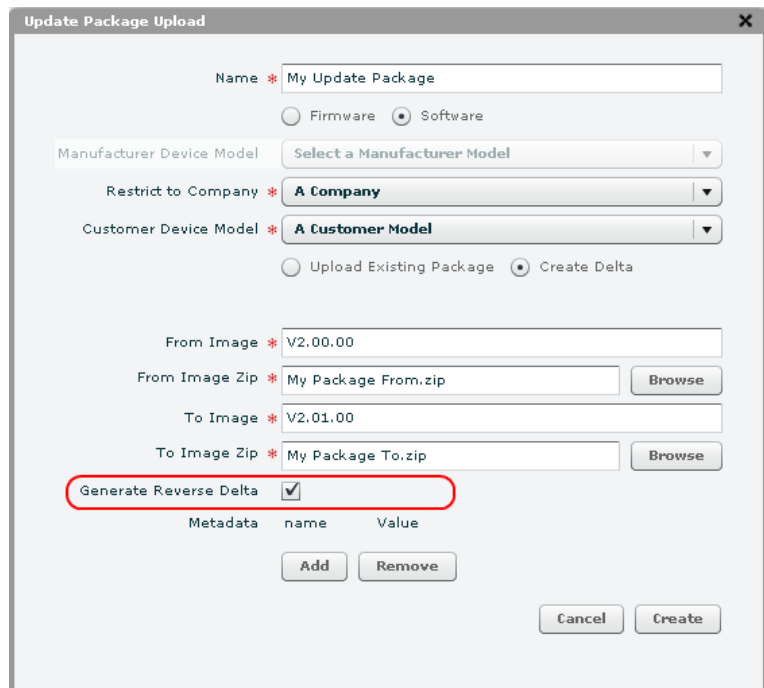
The screenshot shows the 'Update Package Upload' dialog box. The 'Name' field is 'My Update Package'. The 'Firmware' radio button is unselected, and the 'Software' radio button is selected. The 'Manufacturer Device Model' is 'Select a Manufacturer Model'. The 'Restrict to Company' is 'A Company'. The 'Customer Device Model' is 'A Customer Model'. The 'Upload Existing Package' radio button is selected. The 'Create Delta' radio button is unselected. The 'Format' dropdown menu is set to 'Binary'. The 'From Image' field is empty. The 'Update Package' field now contains 'My Package.zip' and is highlighted with a red box, with a 'Browse' button next to it. The 'To Image' field now contains 'V2.00.00'. The 'Reverse Package' field is empty, with a 'Browse' button next to it. At the bottom, there is a 'Metadata' table with columns 'name' and 'Value', and 'Add' and 'Remove' buttons. The 'Cancel' and 'Create' buttons are at the bottom right.

■ If you have checked the Create delta radio button:

- 1 Click on the [Browse] button next to the From Image Zip field to select the original software ZIP file as created by the Developer Studio.
- 2 In the From Image field, enter the original software version as the constant defined in the Open AT application.
- 3 Click on the [Browse] button next to the To Image Zip field then upload the image package of the new update package.
- 4 In the To Image field, enter the version name of the new software.



■ Reverse Delta : Check this checkbox to create a reverse package (in case an error occurred on the device while upgrading).



The newly created update package is added to the update package table. The corresponding Generation Status column displays the "INITIALIZED" status at first, then "SIGNED" after a few seconds. According to selected options, a *Delta* or an *Image package* is generated.

The device generation status can turn to "GENERATION FAILED" if an error occurs at zip files level (for example, if the same "From" and "To" zip files are uploaded).

Once the form has been filled and validated using the [Create] button, an update package is generated and/or signed using a HSM (High Security Module). This security step ensures that devices receive a valid package from the right issuer.

Update Package Validation

Once the update package is generated and signed, edit the generated update package and validate each state.

Once the update package is in "RELEASED" status, it is ready for use for device upgrade.

Validation Process

The release step must be validated prior to authorizing an update package.

This step ensures that the generated and signed update package is properly tested.

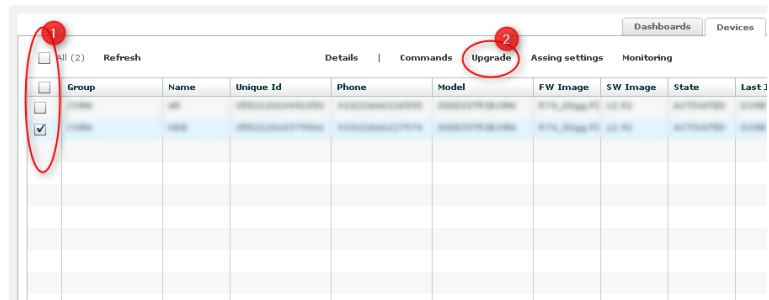
Only after this step has been executed is the update package ready for download.

Launch Upgrade Campaign

To download an existing update package into a device, please first activate the device management module, then display the device list by clicking on a device group in the module's left pane.

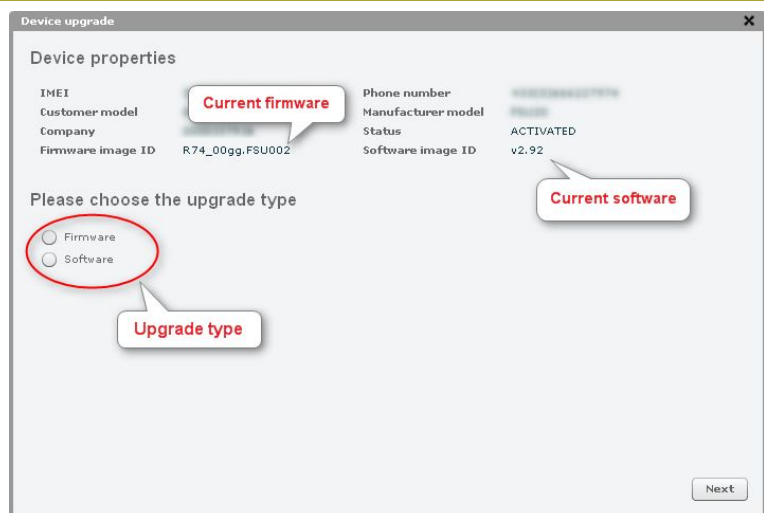
Once the device list is displayed:

- 1 Select the device(s) to be upgraded.
- 2 Click on the [Upgrade] button in the Button bar. Prerequisites: Customer model must be the same to upgrade several devices at the same time.

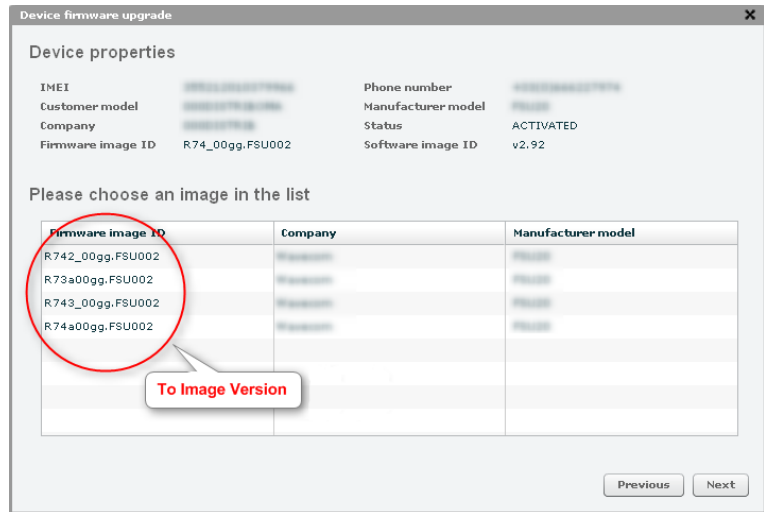


The upgrade wizard displays:

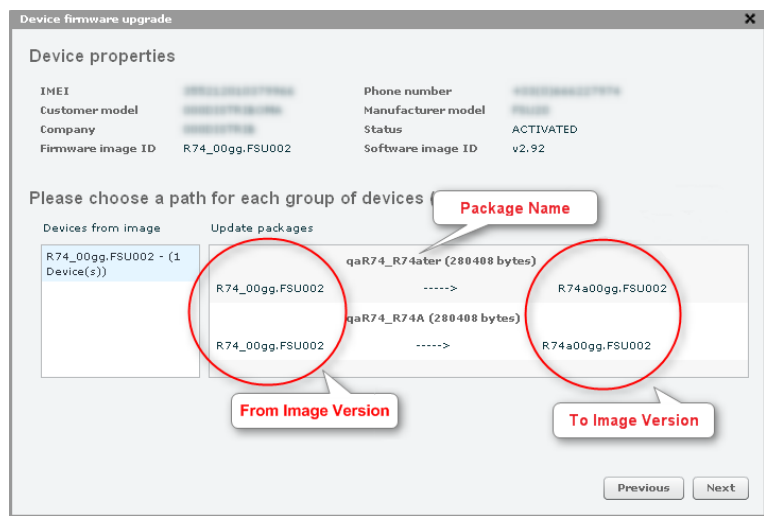
- a summary of device(s) properties,
- upgrade type options: Firmware or Software. Select the required upgrade type then click on [Next].



The next screen lists the compatible update packages for the selected device(s). Choose one of them then click on [Next].

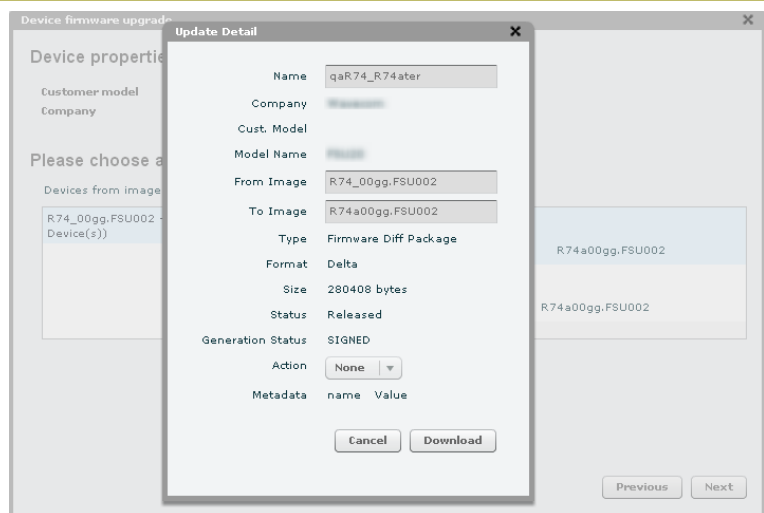


Once the update package has been selected, the wizard displays all possible upgrades (with one or many steps). If you click on a package name, a popup opens displaying update package details.



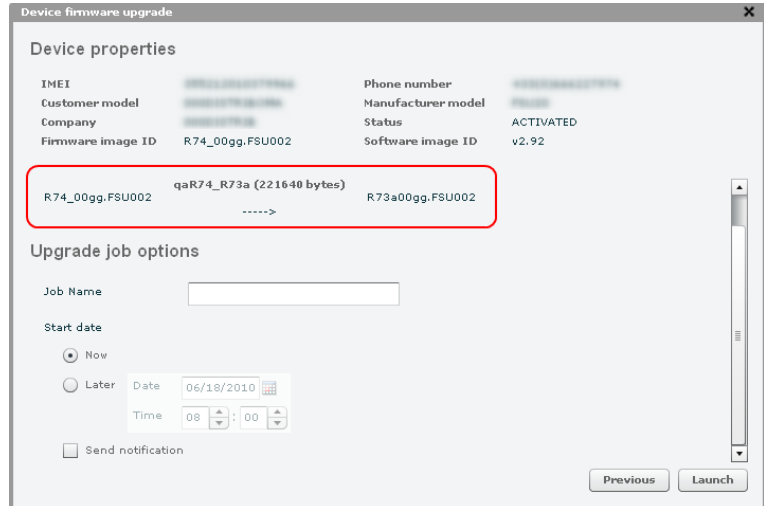
The popup includes the following update package details:

- General information about the package context: company, model, status.
- Package specific details: images version, package type, size.



The last step of the wizard allows you to set upgrade job options:

- Job name: Set here an optional name for the job (useful for later search purposes).
- Job schedule options: Set here when the job should start and whether the device(s) has(ve) to be waken up.



Download Campaigns Dashboard

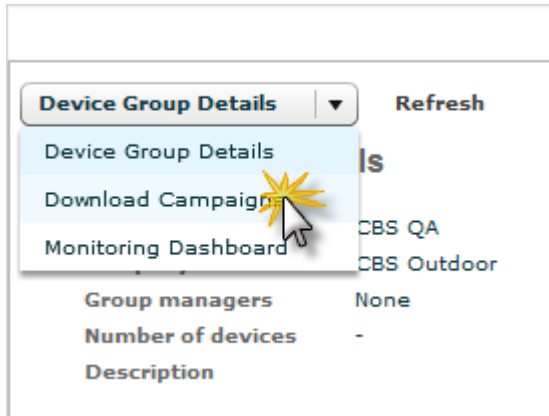
To monitor upgrade processing is by using the Download Campaigns dashboard, which is part of the set of dashboards featured in the portal for monitoring device and device group information such as jobs, traffic, state, activity, etc. A download campaign is performed whenever the firmware/software version of a fleet of devices must be upgraded simultaneously.

Three dashboards are currently accessible (from the Device Management module):

- Device Group Details - displays general information about the selected device group as well as a distribution of firmware/software versions, device states and latest device job states among a fleet of devices (in ring diagrams) and a bar graph representing the number of download, monitoring and provisioning requests for the last six months. For more information, see [Managing your Devices](#).
- Download Campaigns - displays information related to all download campaigns carried out for the selected device group. This screen includes a summary table with download campaign-specific information and, for each campaign, a circular histogram as well as a 2-axis diagram showing the number of pending, failed, successful and cancelled device upgrades and an error description table. This screen is described in further detail in this section.
- Monitoring Dashboard - displays monitoring jobs and group traffic information. For more information, see [Monitoring Dashboard](#).

To access the Download Campaigns dashboard

- 1 Select the Device Management module.
The *Dashboard* tab is automatically selected.
- 2 Select Download Campaigns in the drop-down menu:



The Download Campaigns dashboard is displayed:

Download Campaigns Refresh

SAEngine.m2mboxpro_v2.1.5_b

Starting day 11/23/2010
 Total requested 1
 Success Rate 0.00%
 Updated 0
 Pending 0
 0 devices upgraded per minute

Statistics

Refresh

Job Id	Job Type	State	Total	Success	Updated	Pending	Failed	Cancelled	Duration	Starting Date
642070	Software Upgrad	DONE	1	0.00%	0	0	1	0	03 m 30 ± 307	11/23/10 13:47:44
585820	Software Upgrad	DONE	12	100.00%	12	0	0	0	13 m 30 ± 929	11/19/10 15:15:47
583466	Software Upgrad	DONE	1	100.00%	1	0	0	0	02 m 47 ± 407	11/19/10 11:21:12
583350	Software Upgrad	DONE	1	100.00%	1	0	0	0	02 m 44 ± 860	11/19/10 11:08:26
583225	Software Upgrad	DONE	1	100.00%	1	0	0	0	02 m 42 ± 645	11/19/10 10:54:54
583055	Software Upgrad	DONE	1	100.00%	1	0	0	0	04 m 42 ± 018	11/19/10 10:40:05
582945	Software Upgrad	DONE	3	100.00%	3	0	0	0	04 m 55 ± 569	11/19/10 10:27:54
582820	Software Upgrad	DONE	5	100.00%	5	0	0	0	06 m 17 ± 892	11/19/10 10:14:14
572773	Software Upgrad	DONE	12	100.00%	12	0	0	0	11 m 27 ± 414	11/18/10 17:21:09
571688	Software Upgrad	DONE	3	100.00%	3	0	0	0	09 m 02 ± 657	11/18/10 15:25:11

Device states

Download Campaigns 642070

Failed

Last update: 11/23/10 14:48

Download Errors

Refresh

action	deviceId	deviceUniqueId	id	jobDisplay	jobId	jobType	message	phoneNumber	time
FAILED	7593	3532240400296	0	Software Upgrad	642070	Software Upgrad	Expected image	+467190002882	Tue Nov 23 13:51:13 GMT+0100 2010

This dashboard is divided into four sections:

- Statistics
- Device States
- Download Campaigns
- Download Errors

These sections are described in further detail in the following sections.

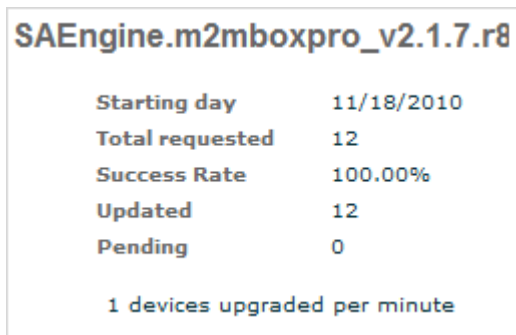
STATISTICS

Provides the user with a table including information about all download campaigns carried out for the device group selected in the Left pane:

Column Name	Description
-------------	-------------

Job Id	Job identification number, as referenced in the jobs list accessible from the <i>Jobs</i> tab.
Job Type	Type of job (Discover, Software Upgrade, Common Command, etc.)
State	Upgrade job state: . PENDING: Upgrade job about to enter job queue, . APPLIED: Upgrade job in buffer. Will be processed as soon as the communication device connects to the Operating Portal, . DONE: Command processed successfully by communication device, . CANCELLED: Upgrade job cancelled by user (available only if job status has not turned APPLIED yet)
Total	Total number of requests sent to the communication device as part of the upgrade.
Success Rate	Percentage of successful requests out of the total number of requests.
Updated	Number of requests successfully processed by the communication device.
Pending	Number of pending requests.
Failed	Number of failed requests. Connection with the device was successful but request could not be processed.
Cancelled	Number of cancelled requests.
Duration	Time required for performing the upgrade.
Starting Date	Job starting date.

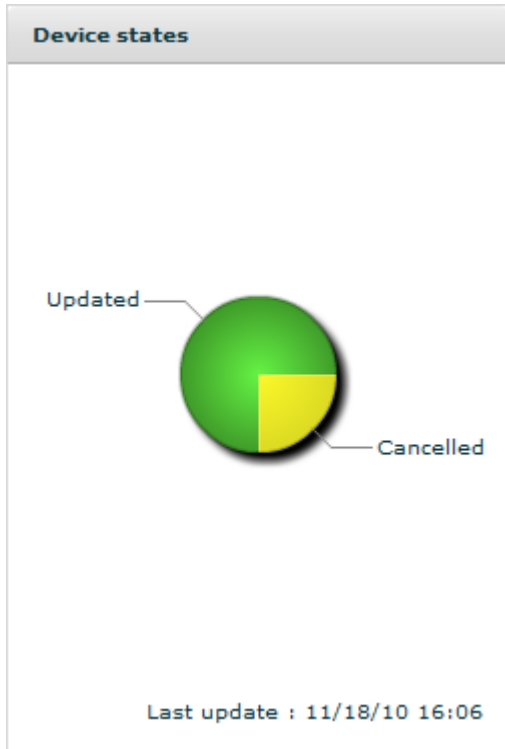
When selecting a download campaign in the table, the dashboard is updated. It displays a summary of the download campaign to the left of the table:



The other three sections (Device States, Download Campaigns and Download Errors), which display information specific to the selected download campaign only, are also updated. These sections are described in the following paragraphs.

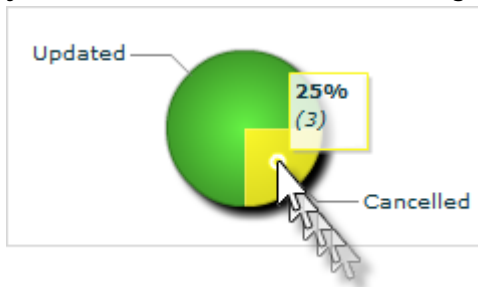
DEVICE STATES

Circular histogram representing the current status of requests for the selected download campaign:



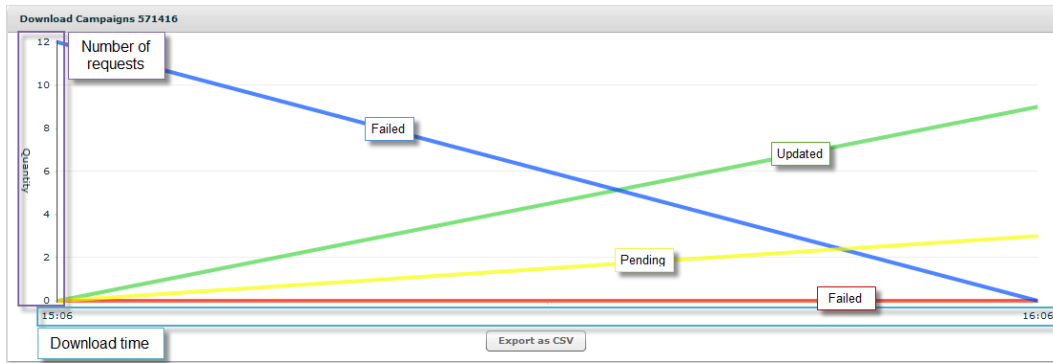
Request Date	Description
Updated	The device has been successfully updated. Percentage of successful requests appear in green.
Pending	The request is still pending. Percentage of pending requests appear in blue.
Cancelled	The request has been cancelled by the user. Percentage of cancelled requests appear in yellow.
Failed	The request has been sent to the communication device but ended in error. Percentage of failed requests appear in red. Errors are described in the Download Error section (see below).

To know more about the exact percentage and number of requests of a given status, point your mouse over the circular histogram:

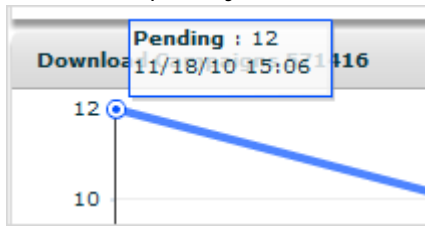


DOWNLOAD CAMPAIGNS [JOBNUMBER]

2-axis diagram representing the number of updated, pending, failed and cancelled requests over the total download time (abscissa unit is 1h) for the [JobNumber] download campaign :



To know more about the exact number of requests of a given status at start or end of the download, point your mouse over the required line:



To export download campaign data in CSV format, click on [Export as CSV]. Data automatically appears in CSV format in your default spreadsheet software:

	A	B	C	D	E	F	G	H	I	J	K
1	Job Id	Job Type	Status	Affected Devices	Waiting Devices	Updated Devices	Postponed devices	Failed Devices	Cancelled Devices	Scheduled Time	
2	571416	Software Upg	APPLIED	12	0	9	0	0	3	18/11/2010 15:05	
3											
4	Time	Updated	Waiting	Failed	Cancelled						
5	18/11/2010 15:06	0	12	0	0						
6	18/11/2010 16:06	9	0	0	3						
7											

DOWNLOAD ERRORS

Table offering diagnosis capabilities by displaying error-specific information such as:


Column	Description
action	Status of the request.
deviceUniqueId	IMEI of the communication device for which the upgrade returned an error.
jobType	Type of job which returned an error.
message	Error message.
time	Time at which the error occurred.

After the problem has been diagnosed and possibly resolved, you can try relaunching the upgrade by:

- 1 Selecting the job to be relaunched in the table:

<input checked="" type="checkbox"/>	action	deviceId	deviceUniqueId	id
<input checked="" type="checkbox"/>	FAILED	7593	3532240400296	0

- 2 Clicking on [Upgrade] below the error description table. This launches the Device upgrade wizard (for more information, see [Device\(s\) Upgrade](#)).



Data Monitoring and Remote Diagnostics

This chapter shows you how to monitor data from the portal, including alerts, scheduled acquisition of data, use of cumulative counters. It also describes the Monitoring Dashboard.

- Purpose
- Device Parameters
- Periodic & Alert Monitoring
- On Demand Monitoring
- Cumulative Counters
- Monitoring Dashboard

Purpose

The portal provides visibility, configuration, and diagnostic capabilities to quickly and easily understand and resolve problems occurring on complex devices.

Clear, concise and accurate information on device status, configuration and operation is displayed in the portal in the form of a *Monitoring Dashboard*. This dashboard provides you with a clear view of your device activity and state, through monitoring parameters such as the number of sent and received SMS, calling times, etc. It also helps you understand how to switch your device back to regular operation, for example following an incident.

A number of provisioning parameters regarding commercial features, connection or SIM settings, or numerous other aspects of the communication device, can also be either "got" or "set". These are described in further detail in the the [Device Parameters](#) section.

Three types of monitoring can currently be used and set:

- *Periodic monitoring* - selected information is sent at a predefined frequency.
- *On demand monitoring* - selected information is sent on demand.
- *Alerts* - alerts are sent to the server when a threshold value is reached.

Device Parameters

The device parameters for monitoring and provisioning are fully described in the table below. The "Get" column specifies whether these parameters can be read through the Management Service. The "Set" column specifies whether these parameters can be written through the Management Service. The "Cumulative Counter" column indicates whether cumulative counters apply to the described parameter:

Categories	Parameters	Description	Get	Set	Cumul. Counter
Commercial Features	Commercial Features	Configure the internal commercial features (refer to AT+WCFM in AT command interface guide)	Y	Y	N
	AEC	Configure Echo Cancellation settings (refer to AT+ECHO in AT command interface guide)	Y	Y	N
	Voice Codec	Configure Voice Codec combination (refer to AT+WDR in AT command interface guide)	Y	Y	N
Connection Settings	GPRS Class	Configure GPRS class of the device (refer to AT+CGCLASS in AT command interface guide)	Y	Y	N
	MS Polling Timer	Configure DM polling timer. The timer determines how frequently the device should	Y	Y	N

		connect to the server to see if there are any pending jobs			
	MS Retry Timer	Configure DM retry timers (timer before resending a new tentative IDS server connection if previous failed)	Y	Y	N
	Network Selection	Configure the network selection mode and the PLMN	Y	Y	N
	Data User NAP	Configure PDP context's Network Access Point for standard GPRS connection (refer to AT+CGACT in AT command interface guide)	Y	Y	N
Device Monitoring	Back Trace	Read out the back-traces happened on the device	Y	N	N
	Battery	Track of the current battery voltage in millivolts	Y	N	N
	Bootstrap Version	Track of the bootstrap version	Y	N	N
	Downloader Version	Track the version of the embedded bootloader in the device	Y	N	N
	Flash Objects	Track usage of object storage for firmware and Open AT application. The values are reported as both a percentage and actual Kbyte values.	Y	N	N
	Flash Volume	Track of A&D zone storage. The values are reported as both a percentage and actual Kbyte values. The report is split into DOTA (FW/SW update) and MS storage spaces	Y	N	N
	Open AT App. State	Track of the Open AT application state (started, stopped...)	Y	N	N
	Reset	Track of all types of reset that the device experiences	Y	N	N
Device Settings	Modem Alarm	Configure the alarm (set/get, activate/desactivate) (refer to AT+CALA in AT command interface guide)	Y	Y	N
	Module Greeting	Configure the answer string in AT+CGMI (refer to AT+CGMI in AT command interface guide)	Y	Y	N
NAP	MS NAP	Configure PDP context's Network Access Point for Management Service connection (refer to AT+WDS in AT command interface guide)			
Network Monitoring	Cell ID	Latest 10 cell identifications	Y	N	N
	Data Bandwidth	Track of the bandwidth experienced on GPRS/EDGE in the uplink and downlink directions	Y	N	N
	Data Channel	Track of the average number of traffic channels assigned to the device for GPRS/EDGE connections in the uplink and downlink directions	Y	N	N
	IP Address	Track of the IP addresses assigned to the 4 available PDP contexts	Y	N	N
	Network Coverage	Track of the percentage of time the device stays in network coverage	Y	N	N
	RSSI	RSSI Rx level value	Y	N	N
GPS Monitoring	Device Position		Y	N	N

SIM Monitoring	IMSI	SIM IMSI and the SIM long and short names for the operator	Y	N	N
SIM Settings	MSISDN	Configure the MSISDN	Y	Y	N
	PIN Status	Configure the SIM PIN activation/deactivation	Y	Y	N
	Preferred Operator PLMN	Configure the list of preferred PLMN	Y	Y	N
Traffic Error Monitoring		Number of unsuccessful originated voice call	Y	N	Y
		Number of unsuccessful originated voice call on Home PLMN	Y	N	Y
		Number of unsuccessful originated voice call in roaming	Y	N	Y
		Last error code for unsuccessful originated voice call (for error code, refer to AT+CEER in AT command interface guide)	Y	N	N
		Number of unsuccessful terminated voice call	Y	N	Y
		Number of unsuccessful terminated voice call on Home PLMN	Y	N	Y
		Number of unsuccessful terminated voice call in roaming	Y	N	Y
		Last error code for unsuccessful terminated voice call (for error code, refer to AT+CEER in AT command interface guide)	Y	N	N
		Number of unsuccessful sent SMS	Y	N	Y
		Number of unsuccessful sent SMS on Home PLMN	Y	N	Y
		Number of unsuccessful sent SMS in roaming	Y	N	Y
		Last error code for unsuccessful sent SMS	Y	N	N
		Number of unsuccessful received SMS	Y	N	Y
		Number of unsuccessful received SMS on Home PLMN	Y	N	Y
		Number of unsuccessful received SMS in roaming	Y	N	Y
	Last error code for unsuccessful received SMS	Y	N	N	
Traffic Monitoring		Number of successful originated voice call	Y	N	Y
		Number of successful originated voice call on Home PLMN	Y	N	Y
		Number of successful originated voice call in roaming	Y	N	Y
		Number of successful terminated voice call	Y	N	Y
		Number of successful terminated voice call on Home PLMN	Y	N	Y
		Number of successful terminated voice call in roaming	Y	N	Y
		Number of successful voice call on Home PLMN	Y	N	Y
		Number of successful voice call in roaming	Y	N	Y
	Duration of successful originated voice call on Home PLMN	Y	N	Y	

Duration of successful originated voice call in roaming	Y	N	Y
Duration of successful terminated voice call on Home PLMN	Y	N	Y
Duration of successful terminated voice call in roaming	Y	N	Y
Number of successful sent SMS	Y	N	Y
Number of successful sent SMS on Home PLMN	Y	N	Y
Number of successful sent SMS in roaming	Y	N	Y
Number of successful received SMS	Y	N	Y
Number of successful received SMS on Home PLMN	Y	N	Y
Number of successful received SMS in roaming	Y	N	Y
Uplink Data Volume	Y	N	Y
Downlink Data Volume	Y	N	Y
Uplink Data Volume on Home PLMN	Y	N	Y
Downlink Data Volume on Home PLMN	Y	N	Y
Uplink and Downlink Sum Data Volume on Home PLMN	Y	N	Y
Uplink Data Volume in roaming	Y	N	Y
Downlink Data Volume in roaming	Y	N	Y
Uplink and Downlink Sum Data Volume in roaming	Y	N	Y

Periodic & Alert Monitoring

For each class of device, Sierra Wireless defined a number of settings templates listing predefined "monitorable" parameters (for instance, "Traffic monitoring", "Device monitoring", etc.).

This list of parameters can be displayed from the Operating Portal's device management module, by clicking on the [Settings] button.

To use monitoring services, a number of "Settings" should be created first.

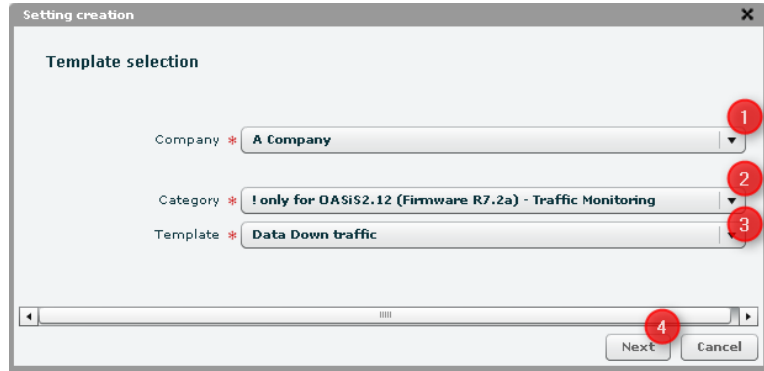
The "Settings" term is used to define an instance of a template including set default values and behavior.

Start Monitoring

To create a "Setting", click on the [Settings] button of the Device Management module, then click on the [New] button.

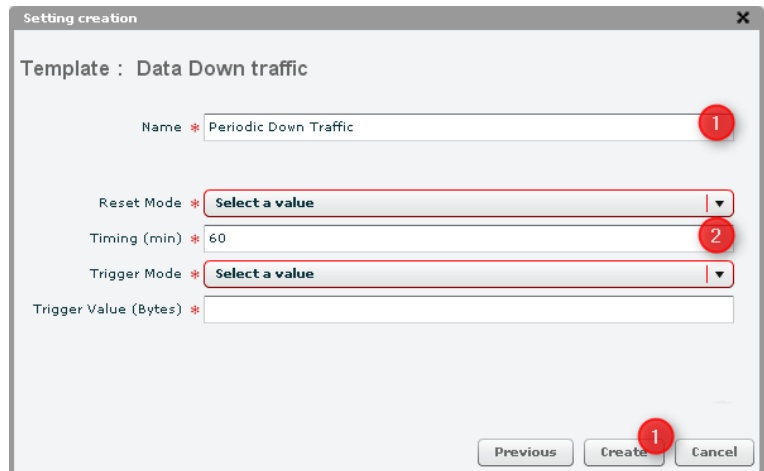
A Setting creation wizard is automatically launched. In each drop-down menu of the first screen:

- 1 Select a Company: company (and its child companies) which will be able to use this settings.
- 2 Select a Category: functional group containing the template.
- 3 Select a Template: monitoring template to be used.
- 4 Click on [Next].

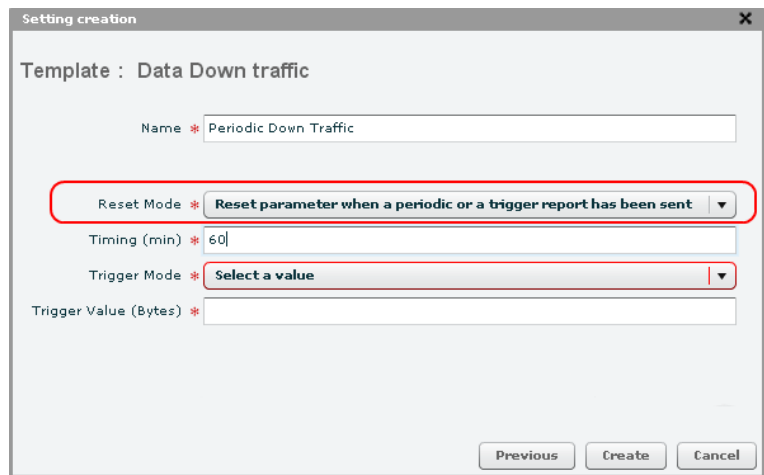


The setting creation form is displayed. It depends on the selected category and template. In this second screen:

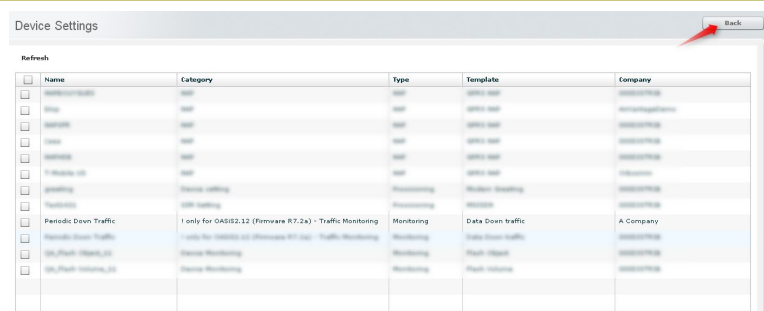
- 1 Enter a setting name in the Name field.
- 2 Set a Timing: time interval between value reports. The timing must be given in minutes and greater than zero.
- 3 Click on [Create].



Reset conditions that are already predefined like existing cumulative counters that may have to be reset. Available options can be selected from a drop-down list (see screenshot).



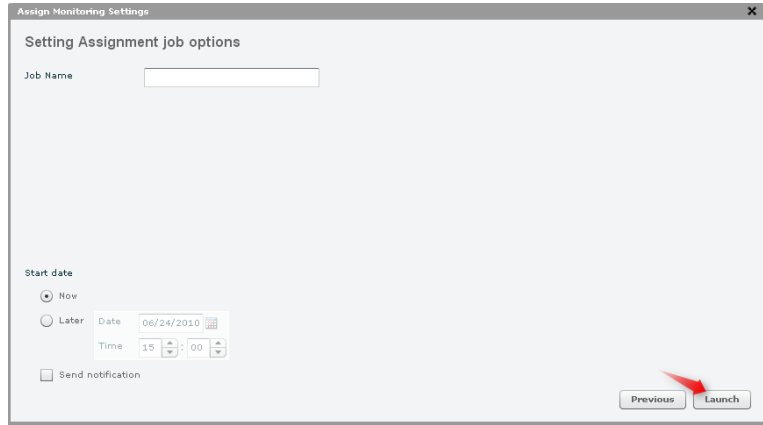
New settings appear in the settings list. Once created, a setting can be assigned to a device or to a set of devices. Click on the [Back] button to go back to the tabs of the device management module.



To be effective on devices, a periodic monitoring "Setting" must be assigned.

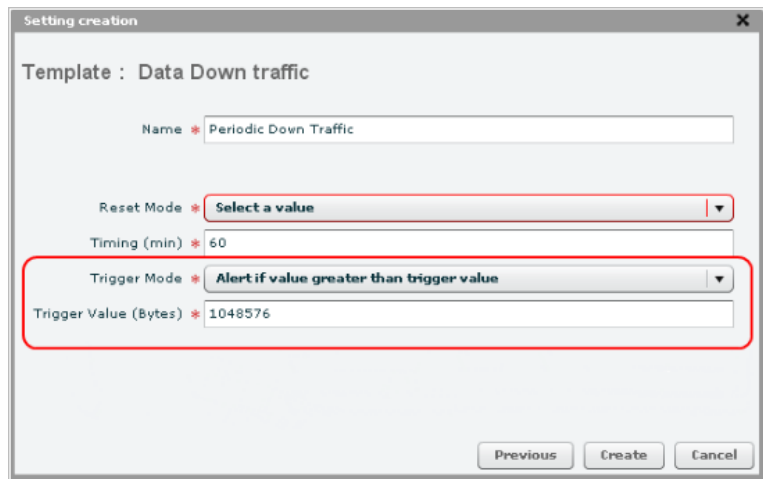
The last step of the wizard consists in setting assignment job options:

- Job name: Set here an optional name for the job (useful for later search purposes).
- Job schedule options: Set here when the job should start and whether the device(s) has(ve) to be waken up. Click on [Launch] to create a new setting assignment job.

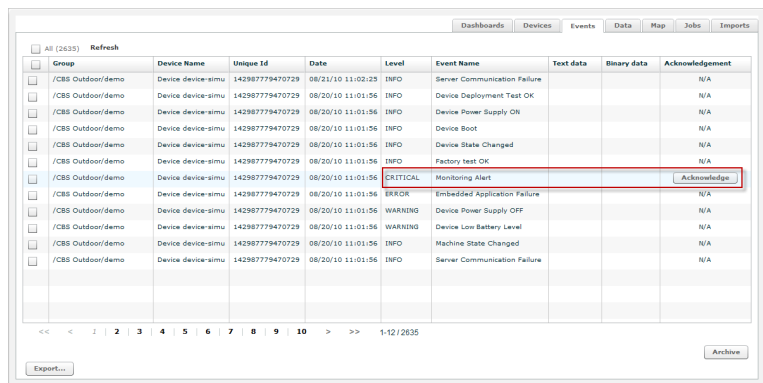


Alert Reporting

The Trigger Mode drop-down menu (see third step of Start Monitoring section) includes a number of alert conditions, which can be used to generate alerts. For instance, traffic consumption can be reported when a threshold is reached. Trigger conditions depend on the selected template.

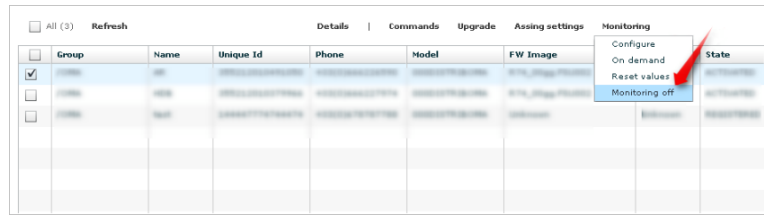


Alerts create events which can be monitored and acknowledged, if need be, in the Device Management module's *Events* tab.



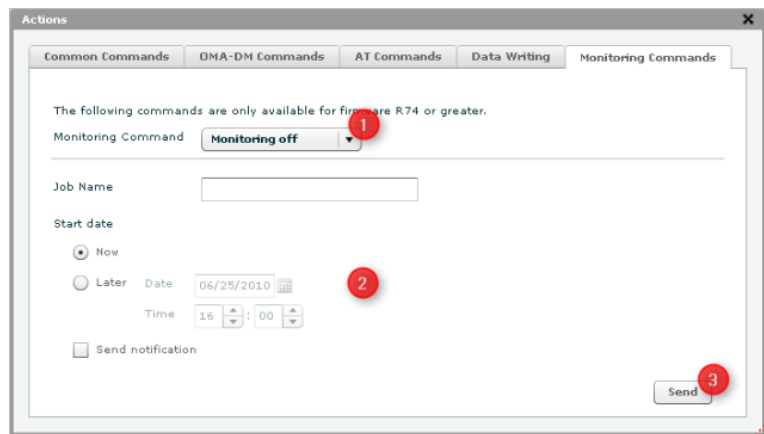
Stop Monitoring

To disable the acquisition of monitoring values and alerts, select the required device(s) then click on the Monitoring Off command in the Monitoring menu of the tab's Menu bar.



The Actions window opens with the *Monitoring Commands* tab selected.

- 1 The previously selected command is selected by default in the Monitoring Command drop-down menu.
- 2 Set the required job options.
- 3 Click on [Send].
A new command monitoring job is created.
Note: these commands are also accessible from the Commands button of the Button bar

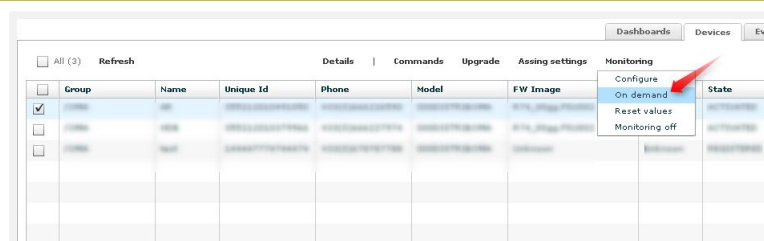


On Demand Monitoring

Parameters to be monitored are accessible from existing monitoring settings. For instance, three "Settings" are displayed in the following figure, each of them containing its own parameters group.

Name	Category	Type	Template	Company
My Battery Monitoring	Device Monitoring	Monitoring	Battery	
My Traffic Monitoring	Traffic Monitoring	Monitoring	Total Data traffic on HPLMN	
My Sim Monitoring	SIM Monitoring	Monitoring	IMSI	

To retrieve setting parameters for a given device or set of devices, select the required device(s) by checking them in the list, then select the Monitoring > On Demand command.



Setting creation

Template : Number of received SMS in Roaming

Name *

Reset Mode * Select a value

Timing (min) * Select a value

Trigger Mode * Reset parameter when a periodic or a trigger report has been sent

Trigger Value *

Back Create Cancel

Reset Cumulative Counter

To reset all existing cumulative counters, select the required device(s) then click on Reset Values in the Monitoring menu of the tab's Menu bar.

All (3) Refresh		Details	Commands	Upgrade	Assigning settings	Monitoring	State
<input checked="" type="checkbox"/>	Group	Name	Unique Id	Phone	Model	FW Image	Monitoring
							Configure On demand Reset values Monitoring off

The Actions window opens with the *Monitoring Commands* tab selected.

- 1 The previously selected command is selected by default in the Monitoring Command drop-down menu.
- 2 Set the required job options.
- 3 Click on [Send].
A new command monitoring job is created.
Note: these commands are also accessible from the Commands button of the Button bar.

Actions

Common Commands | **OMA-DM Commands** | AT Commands | Data Writing | Monitoring Commands

The following commands are only available for firmware R74 or greater.

Monitoring Command: Monitoring off

Job Name:

Start date:

Now

Later Date: 06/25/2010

Time: 16:00

Send notification

Send

Monitoring Dashboard

The Operating Portal features a number of dashboards for monitoring device and device group information such as jobs, traffic, state, activity, etc. Dashboards also offer diagnosis capabilities.

There are three device group dashboards:

- **Device Group Details** - displays general information about the selected device group as well as a distribution of firmware/software versions, device states and latest device job states among a fleet of devices (in ring diagrams) and a bar graph representing the number of download, monitoring and provisioning requests for the last six months. For more information, see [Monitoring Device Information - The Dashboard](#).
- **Download Campaigns** - displays information related to all download campaigns carried out for the selected device group. This screen includes a summary table with download campaign-specific information and, for each campaign, a circular histogram as well as a 2-axis diagram showing the number of pending, failed, successful and cancelled device upgrades and an error description table. For more information, see [Upgrades Monitoring](#).
- **Monitoring Dashboard** - displays monitoring jobs and group traffic information. This screen is described in further detail in this section.

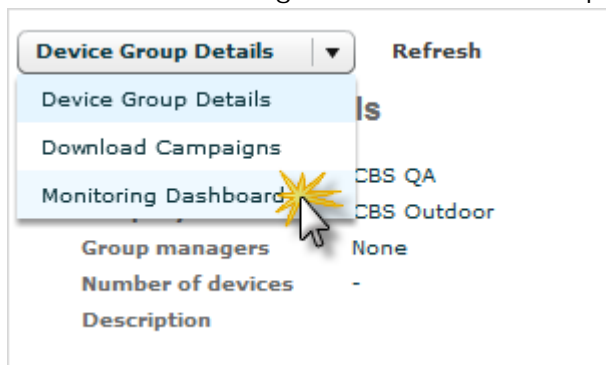


The Monitoring Dashboard is available for one device in traffic tab only, not for a group of devices.

Monitoring services are available only if the module runs a firmware version compatible with management Services for Airprime.

To access the Monitoring Dashboard

- 1 Select the Device Management module.
The *Dashboard* tab is automatically selected.
- 2 Select the Monitoring Dashboard in the drop-down menu:



The Monitoring Dashboard is displayed:

This dashboard shows the statistics section is described in further detail in the following paragraph.

STATISTICS

Allows you to search for jobs over a given period of time using calendars and the [Refresh] button. Matching jobs are displayed in a job description table:

Column Name	Description
Job Id	Job identification number, as referenced in the jobs list accessible from the <i>Jobs</i> tab.
Job Type	Type of job (Discover, Software Upgrade, Common Command, etc.)
State	Job state: <ul style="list-style-type: none"> ■ PENDING: Main job about to enter job queue, ■ APPLIED: Device job in buffer. Will be processed as soon as the communication device connects to the Operating Portal, ■ DONE: Command processed successfully by communication device, ■ CANCELLED: Main job cancelled by user (available only if job status has not turned APPLIED yet)
Total	Total number of requests sent to the communication device as part of the job.
Success Rate	Percentage of successful requests out of the total number of requests.
Updated	Number of requests successfully processed by the communication device.
Pending	Number of pending requests.
Failed	Number of failed requests. Connection with the device was successful but request could not be processed.
Cancelled	Number of cancelled requests.
Duration	Time required for processing the job.
Starting Date	Job starting date.



AT Commands Over The Air

Purpose

The possibility to send AT commands Over-The-Air allows you to get a configuration of one device or a set of devices, set a configuration or execute a command (like reset command) without having to send a field technician on the field.

Device Parameters

The list of ATcommands supported is described in the AT command interface user guide documentation.

To send a such command, select the devices where you want the AT command to execute and choose "commands in the Device Management Main Pane.

The following popup is opened, then select AT commands tab and enter the text of the AT command to send.

The screenshot shows a dialog box titled "Actions" with a close button (X) in the top right corner. It features five tabs: "Common Commands", "OMA-DM Commands", "AT Commands", "Data Writing", and "Monitoring Commands". The "AT Commands" tab is currently active. Below the tabs, there are several input fields and controls:

- Command Data:** A text input field containing the command "AT+wdss?".
- Job Name:** A text input field containing "apn status".
- Start date:** A section with two radio buttons: "Now" (selected) and "Later".
 - Under "Later", there is a "Date" field with a calendar icon, showing "02/01/2011".
 - Below the date is a "Time" field with two spinners, showing "06" and "00".
- Send notification:** A checkbox that is checked.
- Send:** A button located at the bottom right of the dialog.