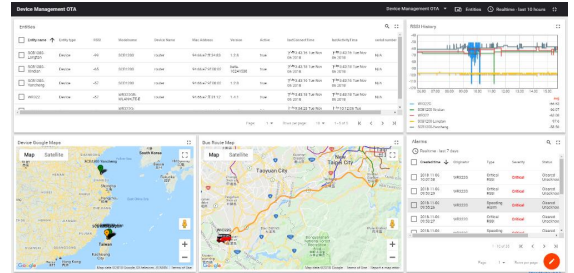


Private Platform for Device Management Over The Air

ThingsMaster OTA by WoMaster is a web-based over-the-air device management solution that provides an intuitive and customizable user interface for setting, monitoring and managing deployed gateway devices without any IT development required. Device management operations such as setting batch device configurations, group reboot, and upgrading firmware ensure you stay up to date with the latest features and security patches. Users can also customize alerts for critical events by using Node-RED-like flow-based programming.

The ThingsMaster OTA service not only features an intuitive user interface to simplify management but also leverages AI machine learning technology to prevent downtime and to recommend maintenance, providing increased managerial productivity and cost-saving benefits.

The ThingsMaster OTA can be installed on a virtual machine, or just a QNAP® NAS (network-attached storage) via APP center download. Events notification can also be sent as SMS, Email, Skype® or Facebook Instant Messenger®, and Push Service in real-time.



ThingsMaster OTA

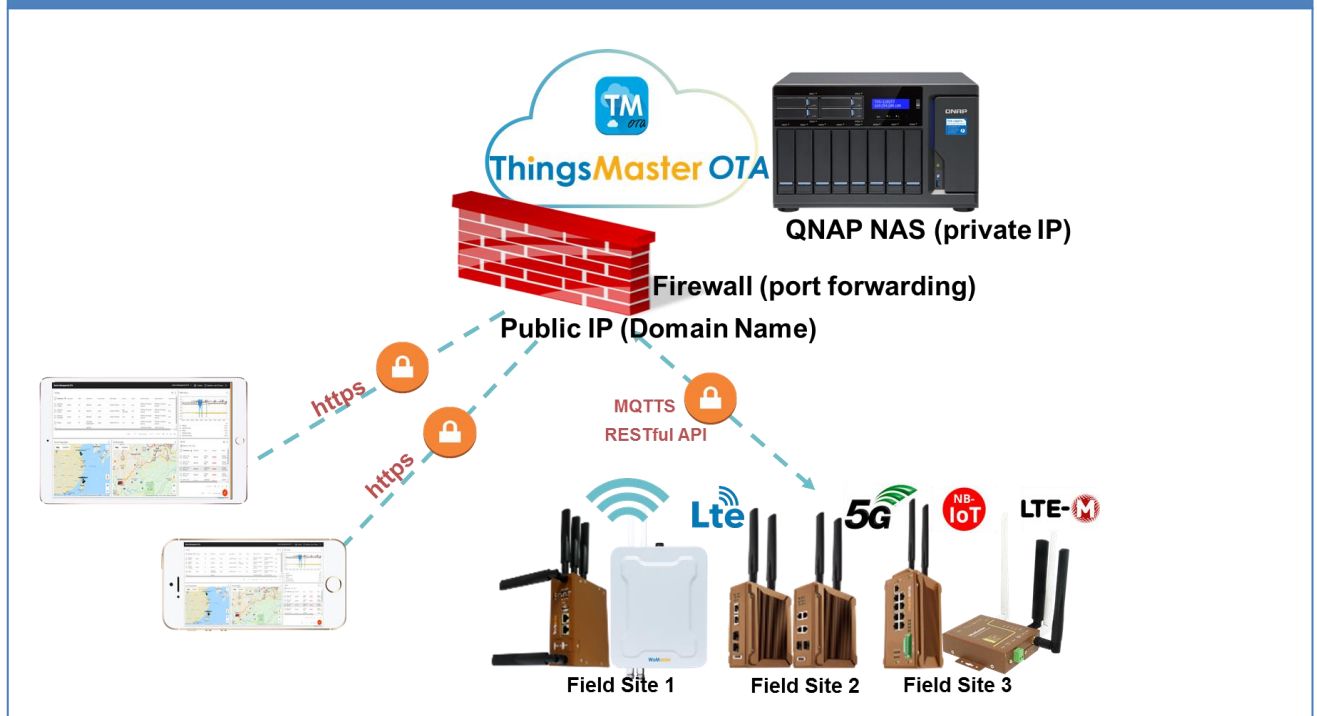


Features & Benefits

ThingsMaster OTA : Device Management Over-the-Air

- Interactive monitoring dashboard with a map that displays device status, wireless signal strength, and the location of all deployed LTE/5G routers
- MAP shows devices online/offline/warning status in Green/Red/Orange color, respectively
- Supports over-the-air batch device configuration and firmware* update and batch register
- Set alerts on critical events to prevent downtime (i.e. signal strength is too low or temperature is too high)
- Support the latest TLS encryption and X.509 authentication
- Multi-Tenant and Project oriented IoT deployment
- Supports MQTT and RESTful APIs
- Monitor and manage multi-site device real time status*, ex. CPU/RAM/Flash real time usages

Secure Multi-Sites Management Any Time, Any Where



ThingsMaster OTA : Device Management Over-the-Air

- Model name/MAC address/FW version/RSSI/Last Connection Time/Last Activity Time
- MAP shows devices online/offline/Warning status in **Green/Red/Orange** color, respectively

Google/Tencent/OpenStreet/Image Map

Entity name	Entity type	Model name	Device Name	Mac Address	FW Version	RSSI	Active	Last Connection Time	Last Activity Time	Warning
WR224	Device	NR224-M4241-1201	114501	544E-471A-3333	3.11	-71	OFF	11:17:2020	11:17:2020	None
WR312	Device	NR312-M4241-1201	114502	544E-471A-3333	3.11	-71	OFF	11:17:2020	11:17:2020	None
WR322	Device	NR322-M4241-1201	114503	544E-471A-3333	3.11	-71	OFF	11:17:2020	11:17:2020	None
WR329	Device	NR329-M4241-1201	114504	544E-471A-3333	3.11	-71	OFF	11:17:2020	11:17:2020	None

Monitor Device Information

Click on a device

Entity name: WR224-M4241-1201

Entity type: Device

Model name: NR224-M4241-1201

Device Name: 114501

Mac Address: 544E-471A-3333

FW Version: 3.11

RSSI: -71

Active: OFF

Last Connection Time: 11:17:2020

Last Activity Time: 11:17:2020

Warning: None

Display device location, route and speed on the Map

Group Configuration and Reboot OTA

Group Selection

Select entities

Entity name	Entity type	active
<input checked="" type="checkbox"/> WR224	Device	false
<input checked="" type="checkbox"/> WR312		
<input checked="" type="checkbox"/> WR322		
<input checked="" type="checkbox"/> WR329		

Import device config

Config file

Drop a file or click to select a file to upload.

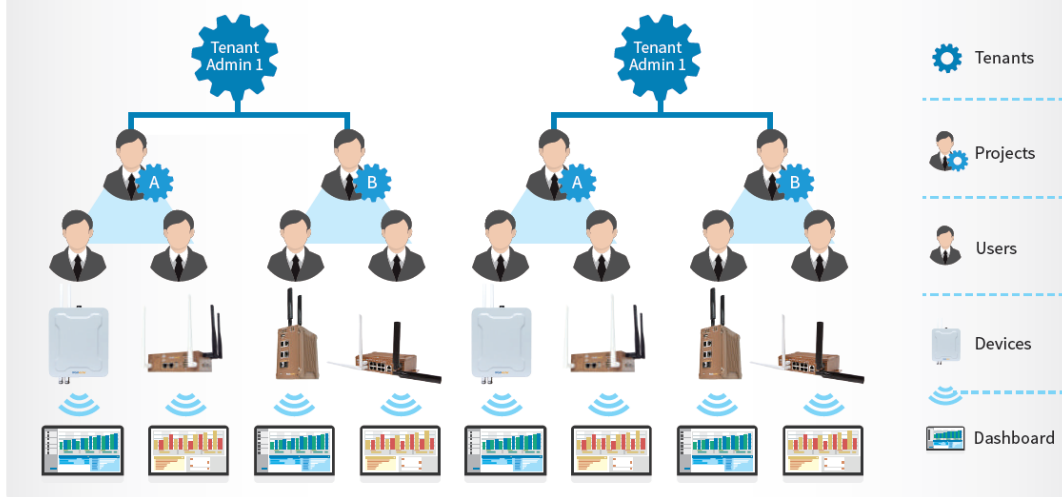
router.cfg

IMPORT CANCEL

Multi-Tenant and Project-Oriented IoT deployment

Group Management

- Multi-Tenant Architecture
- Grouping and organize tasks for IoT deployment
- Each user has his own Dashboard



Copy and Paste to add Devices

The screenshot shows the ThingsMaster interface. On the left, the 'DEVICES' menu is highlighted. In the center, the 'Add Device' dialog is open, showing a 'Router5' device with a 'COPY ACCESS TOKEN' button highlighted. On the right, the 'ROUTERS' device details page is visible, also with the 'COPY ACCESS TOKEN' button highlighted. Below these, a 'Device Attribute Upload to Cloud' dialog shows a table of client attributes:

Client attributes	Key	Value
<input type="checkbox"/>	Last update time	
<input type="checkbox"/>	2018-08-20 19:33:04	discriminator
<input type="checkbox"/>	2018-08-20 19:33:04	latitude
<input type="checkbox"/>	2018-08-20 19:33:04	longitude
<input type="checkbox"/>	2018-08-20 19:33:04	mac address
<input type="checkbox"/>	2018-08-20 19:33:04	modelname
<input type="checkbox"/>	2018-08-20 19:33:04	imei
<input type="checkbox"/>	2018-08-20 19:33:04	version

At the bottom right, the 'Remote Management System' configuration page is shown, with the 'ACCESS TOKEN' field highlighted.

Rule Engine: Node-RED-like flow-based programming

The screenshot shows the ThingsMaster Rule Engine interface. The 'RULE CHAINS' menu is highlighted. The main area displays a flow-based programming diagram for the 'Root Rule Chain (Root)'. The flow starts with an 'Input' node, followed by a 'Message Type Switch' node. The flow then branches into two paths:

- Default Rule:** This path includes nodes for 'Past attributes', 'Past telemetry', 'RPC Request from Device', 'Other', and 'RPC Request to Device'. These nodes lead to 'Log' and 'Log RPC from Device' nodes.
- Alarm Rule:** This path includes nodes for 'Success' and 'Failure', which lead to 'rule chain Create & Clear Alarms' and 'rule chain Speeding Alarms' nodes.

Blue and purple brackets at the bottom of the diagram label the 'Default Rule' and 'Alarm Rule' sections respectively.

Rule Import from Examples

The screenshot shows the ThingsMaster Rule Engine interface. The 'Import rule chain' dialog is open, displaying a text area with the text 'Drop a file or click to select a file to upload.' and a file named 'create_clear_alarms (2).json'. To the right of the dialog, two example files are shown: 'rssi_alarm.json' and 'speeding_alarm.json'. A red circle highlights a '+' button at the bottom right of the dialog, indicating the option to add more files.

Interactive monitoring and map shows the status, wireless signal strength, location and route

The screenshot displays the 'Device Management OTA' interface. It features a table of devices with columns for Entity name, Entity type, RSSI, Modelname, Device Name, Mac Address, Version, Active status, lastConnectTime, lastActivityTime, and serial number. Below the table are two maps: 'Device Google Maps' showing a location in Taiwan and 'Bus Route Map' showing a route in Taipei. To the right, there is an 'RSSI History' graph and an 'Alerts' log with columns for Created time, Originator, Type, Severity, and Status.

Entity name	Entity type	RSSI	Modelname	Device Name	Mac Address	Version	Active	lastConnectTime	lastActivityTime	serial number
SCB1200-Longtan	Device	-90	SCB1200	router	94.66.47.934.83	1.2.8	true	1753:43:16 Tue Nov 06 2018	1753:43:16 Tue Nov 06 2018	N/A
SCB1200-Linshan	Device	-85	SCB1200	router	94.66.47.9310.00	Beta-10241530	true	1753:43:16 Tue Nov 06 2018	1753:43:16 Tue Nov 06 2018	N/A
SCB1200-Yancheng	Device	-57	SCB1200	router	94.66.47.9310.00	1.2.8	true	1753:43:16 Tue Nov 06 2018	1753:43:16 Tue Nov 06 2018	N/A
WR3222	Device	-57	WR3220R-WLANH+TEE	router	94.66.47.931.12	1.4.1	true	1753:43:16 Tue Nov 06 2018	1753:43:16 Tue Nov 06 2018	N/A
WR3220	Device	-57	WR3220	router	1759:34:23 Tue Nov 06 2018			1759:34:23 Tue Nov 06 2018	1759:34:23 Tue Nov 06 2018	

QNAP® NAS Free Download

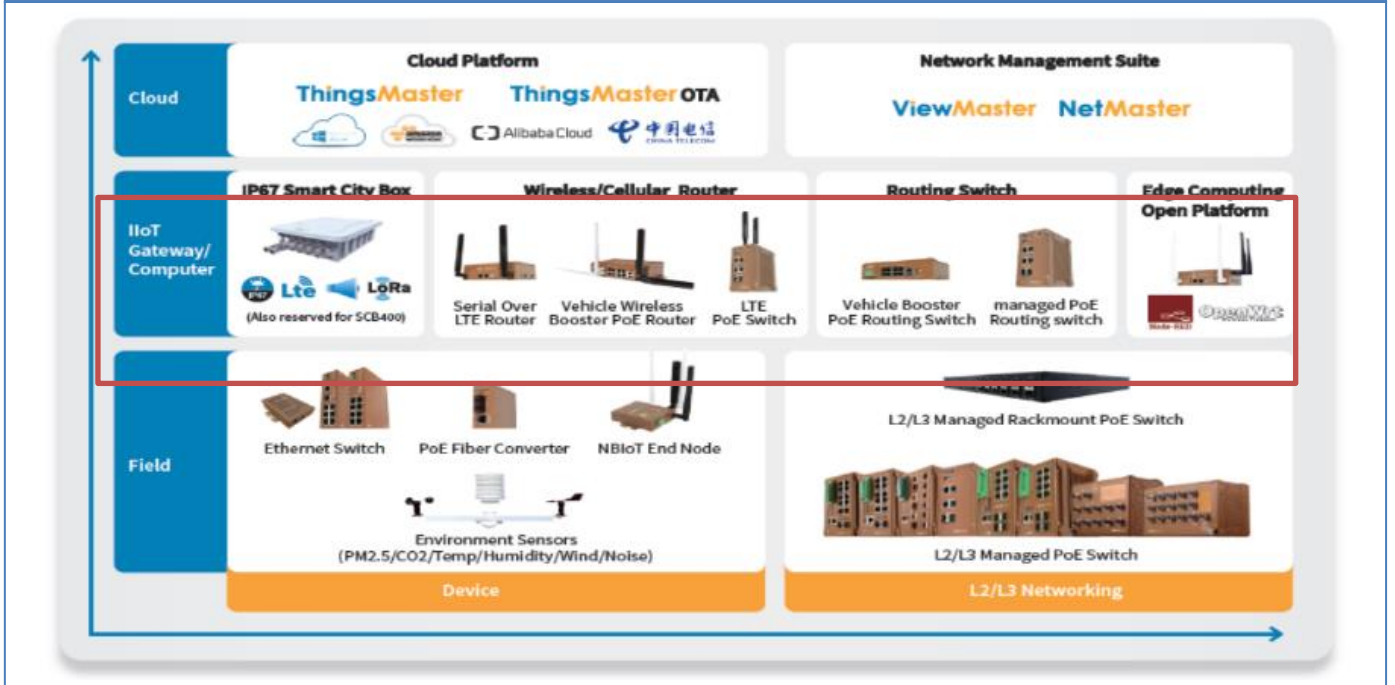
The image shows the QNAP NAS web interface on the left, featuring a dashboard with various system tools and monitoring widgets. On the right is a photograph of the physical QNAP NAS device, a black server rack unit with multiple drive bays and a control panel.

Multiple Notification Channels

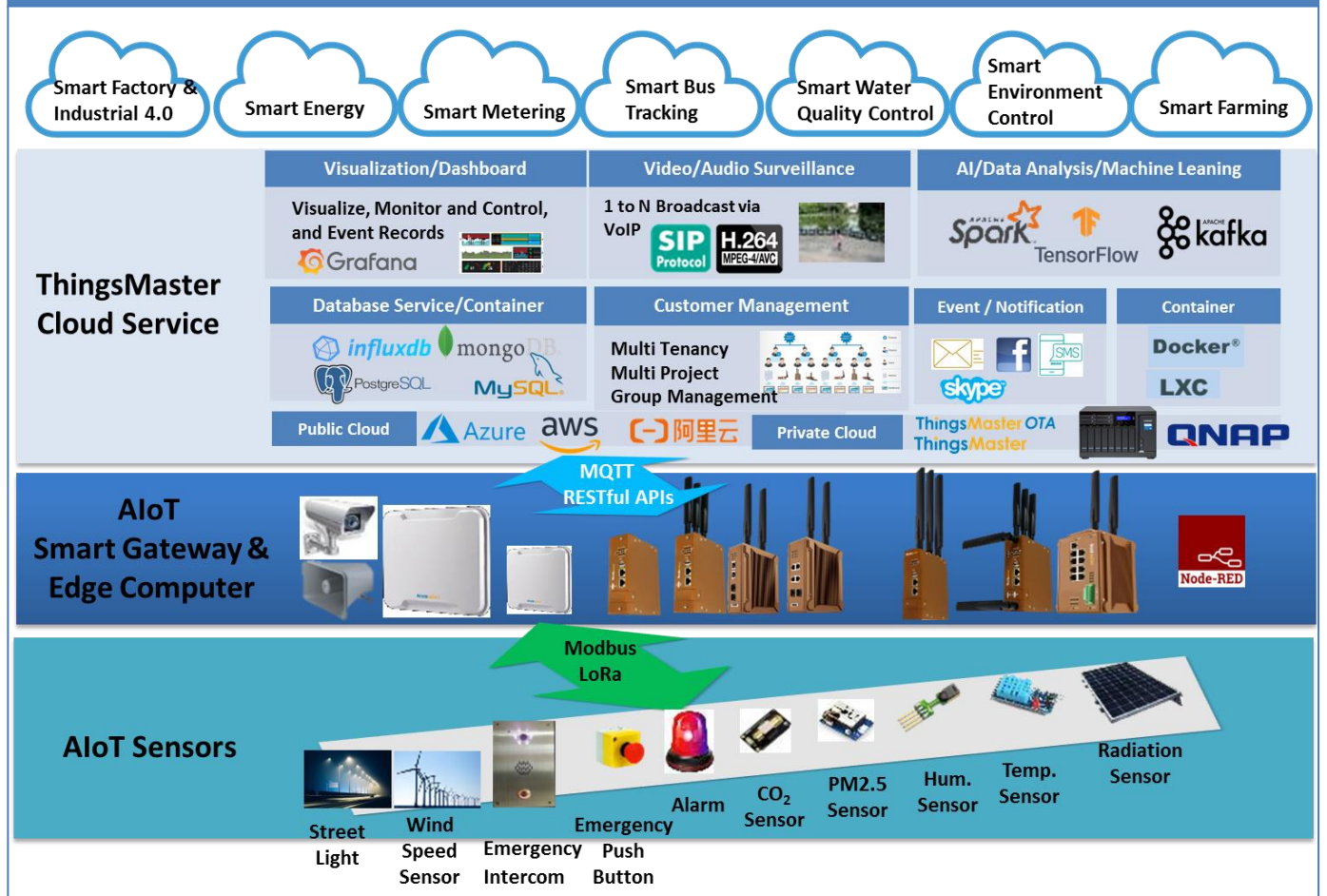
The screenshot shows the 'Notification Center' settings in the QNAP web interface. It includes a sidebar with navigation options like Overview, Notification Queue and History, Service Account and Device Pairing, System Notification Rules, and Global Notification Settings. The main area is a table for configuring notification channels for various applications.

Application	E-mail	SMS	Instant Messaging	Push Service
SSD Profiling Tool	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Security	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Service Discovery	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Shared Folders	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Storage & Snapshots	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Syslog Server	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
System Logs	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
TFTP Server	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Telnet / SSH	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
ThingsMaster OTA	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Transcode Management	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
User Groups	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Users	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Web Server	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Win/Mac/NFS	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

All Gateways Supported



ThingsMaster IloT Platform



System requirements for private cloud

Cloud Server	
CPU	Intel® i5 4 core Processor
RAM	16GB DDR3 (8GB for trial version)
Storage	at least 20G free space

System requirements for QNAP Nas

Supports X86 NAS Models with memory able to be expanded to 16GB:

- TVS/TS-951X, X63, X73, X77, X82, X85
- With Container Station



Ordering Information

Model Name	Description
ThingsMaster OTA-Annual-100	ThingsMaster OTA Online OTA annual fee for 100 nodes
ThingsMasterOTA-5GW	ThingsMaster OTA for 5 gateways, one year license
ThingsMasterOTA-10GW	ThingsMaster OTA for 10 gateways, one year license
ThingsMasterOTA-50GW	ThingsMaster OTA for 50 gateways, one year license
ThingsMasterOTA-100GW	ThingsMaster OTA for 100 gateways, one year license
ThingsMasterOTA-300GW	ThingsMaster OTA for 300 gateways, one year license
ThingsMasterOTA-500GW	ThingsMaster OTA for 500 gateways, one year license
ThingsMasterOTA-1000GW	ThingsMaster OTA for 1000 gateways, one year license



OTA Device Management System

<https://ota-thingsmaster.womaster.eu>

Username: womaster@womaster.eu

Password: womaster101