

How To Integrate MultiTech MTR API In Nagios XI 2024

Purpose

This document describes how to integrate the MTR API found on a MultiConnect® rCell Series Router from MultiTech with Nagios XI.

Target Audience

This document is intended for use by Nagios Administrators experienced with installing and configuring network devices.

MultiTech MTR API

More information on MultiTech's MTR API can be found at:

<http://www.multitech.net/developer/software/mtr-software/mtr-api-reference/>

Configure The MTR

Access the MultiTech device via Web browser by typing the **IP address in the URL**. If you are provisioning the device for the first time, power on the device and hold down the reset button for just over 30 seconds. This will factory reset the device.

1. The default address is 192.168.2.1
You will need to set your NIC to any address on the 192.168.2.0/24 network.
2. Navigate to the default address.
3. You will be prompted to create a username and password.
4. The Nagios MTR component connects to the MTR device's HTTPS interface to send SMS messages. This is enabled by default and uses port 443. The port is configurable under **Administration > Access Configuration > Web Server > HTTPS > Port**.

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The screenshot shows the MultiTech MTR API configuration interface. The top header includes the MultiTech logo and the text "MultiConnect® rCell - Intelligent Cellular Router" with "MTR-H5 Firmware 4.0.5" below it. A left sidebar contains navigation links: Home, Save And Restart, Setup, Cellular, Wireless, Firewall, SMS, Tunnels, Administration (highlighted), User Accounts, Access Configuration, and RADIUS Configuration. The main content area is titled "ACCESS CONFIGURATION" and contains two sections: "Web Server" and "SSH Settings".

Web Server

HTTP	HTTPS	Authorization
<input checked="" type="checkbox"/> Enabled	<input type="checkbox"/> Via WAN	Session Timeout (minutes)
<input checked="" type="checkbox"/> Redirect to HTTPS	Port	<input type="text" value="5"/>
<input checked="" type="checkbox"/> Via LAN	<input type="text" value="443"/>	
<input type="checkbox"/> Via WAN		
Port		
<input type="text" value="80"/>		

SSH Settings

<input checked="" type="checkbox"/> Enabled	Port	<input checked="" type="checkbox"/> Via LAN	<input type="checkbox"/> Via WAN
	<input type="text" value="22"/>		

The screenshot shows the MultiTech MTR API configuration interface for SMS settings. The top header is identical to the previous screenshot. The left sidebar has "SMS" highlighted, with "SMS Configuration" as a sub-link. The main content area is titled "SMS CONFIGURATION" and contains the "SMS Settings" section.

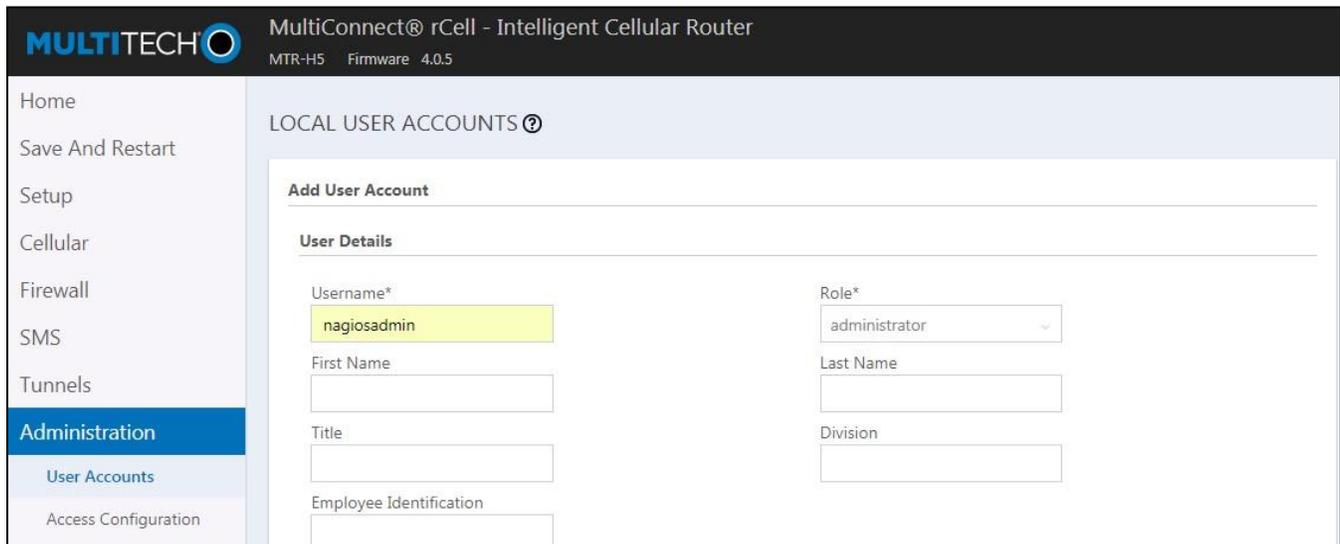
SMS Settings

<input checked="" type="checkbox"/> Enabled	Sent SMS to Keep
	<input type="text" value="1000"/>
Resend Failed SMS	Received SMS to Keep
<input type="text" value="0"/>	<input type="text" value="1000"/>

SMS Commands

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SMS must also be enabled if it is not already under **SMS > SMS Configuration > SMS Settings**.



The screenshot shows the MultiTech MultiConnect rCell web interface. The top header displays the MultiTech logo and the device information: "MultiConnect® rCell - Intelligent Cellular Router" and "MTR-H5 Firmware 4.0.5". The left sidebar contains navigation options: Home, Save And Restart, Setup, Cellular, Firewall, SMS, Tunnels, Administration (highlighted), User Accounts, and Access Configuration. The main content area is titled "LOCAL USER ACCOUNTS" and features an "Add User Account" form. The form includes a "User Details" section with the following fields: Username* (containing "nagiosadmin"), Role* (a dropdown menu set to "administrator"), First Name, Last Name, Title, and Division. The Employee Identification field is also present but empty.

To help avoid login conflicts, it is recommended to create an administrator account on the device that only the Nagios XI machine will use. The account can be created under Administration > User Accounts.

Install The MTR Component

You must install the Nagios XI MTR component (if it is not already installed) in order to enable SMS notification functionality. To do this, first download the component from the following URL and save it to your local computer:

<https://assets.nagios.com/downloads/nagiosxi/components/xi55/mtr.zip>

Next, login to your Nagios XI server as an administrator and navigate to Admin > System Extensions > Manage Components. Upload the component zip file you just downloaded.

Configure The MTR Component

Once the MTR component has been installed in Nagios XI, click the settings icon next to the component.

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MultiTech MTR Integration
Provides integration with the MultiTech MTR devices. User 🔍 ⬇️ 🗑️ 1.0.1

1.0.1 Nagios Enterprises, LLC

Which will bring up the MultiTech MTR Integration screen:

MultiTech MTR Integration



Allows integration between Nagios XI and a MultiTech MTR device. **Requires MultiTech MTR setup.**

Integration Settings

Enable integration

Sender Settings

These settings relate to sending SMS alerts from Nagios XI through the MTR API.

Address:
The IP address or hostname of the MTR.

HTTPS Port:
The HTTPS port used to access the MTR API.

Username:
The username used to authenticate to the MTR API.

Password:
The password used to authenticate to the MTR API.

Test Message

Phone Number:
Enter a mobile phone number to send a test SMS message to. This is used for testing the Nagios XI and MultiTech MTR integration.

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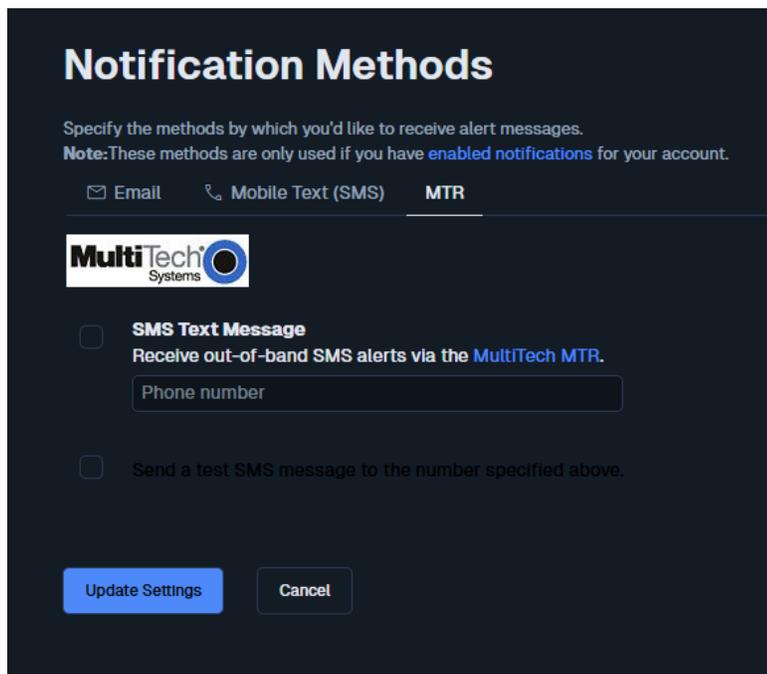
On the component settings page, make sure to set the following options:

- Check the **Enable Integration** option.
- Supply the **IP Address** or **hostname** of the **MTR modem**.
- Ensure the **HTTPS Port** matches the **MTR modem** configuration (the default port is 443)
- Supply the **Username** and **Password** to authenticate to the MTR modem.
- Click the **Apply Settings** button to **save** your settings.

The MTR component is now available for use by users. Each user that wants to receive SMS alerts must now enable them, as outlined in the steps on the following page.

Enabling SMS Alerts For Users

Each user that wants to receive SMS alerts must enable them in their account settings. To do this, select the Notification Methods link in your account settings and click on the MTR tab.



The screenshot shows the 'Notification Methods' configuration page in Nagios XI. The page title is 'Notification Methods' and it includes a sub-header: 'Specify the methods by which you'd like to receive alert messages. Note: These methods are only used if you have enabled notifications for your account.' There are three tabs: 'Email', 'Mobile Text (SMS)', and 'MTR', with 'MTR' being the active tab. Under the 'MTR' tab, there is a 'MultiTech Systems' logo. Below the logo, there is a checkbox for 'SMS Text Message' which is currently unchecked. The text next to it says 'Receive out-of-band SMS alerts via the MultiTech MTR.' Below this is a text input field labeled 'Phone number'. There is another unchecked checkbox below that with the text 'Send a test SMS message to the number specified above.' At the bottom of the form, there are two buttons: 'Update Settings' and 'Cancel'.

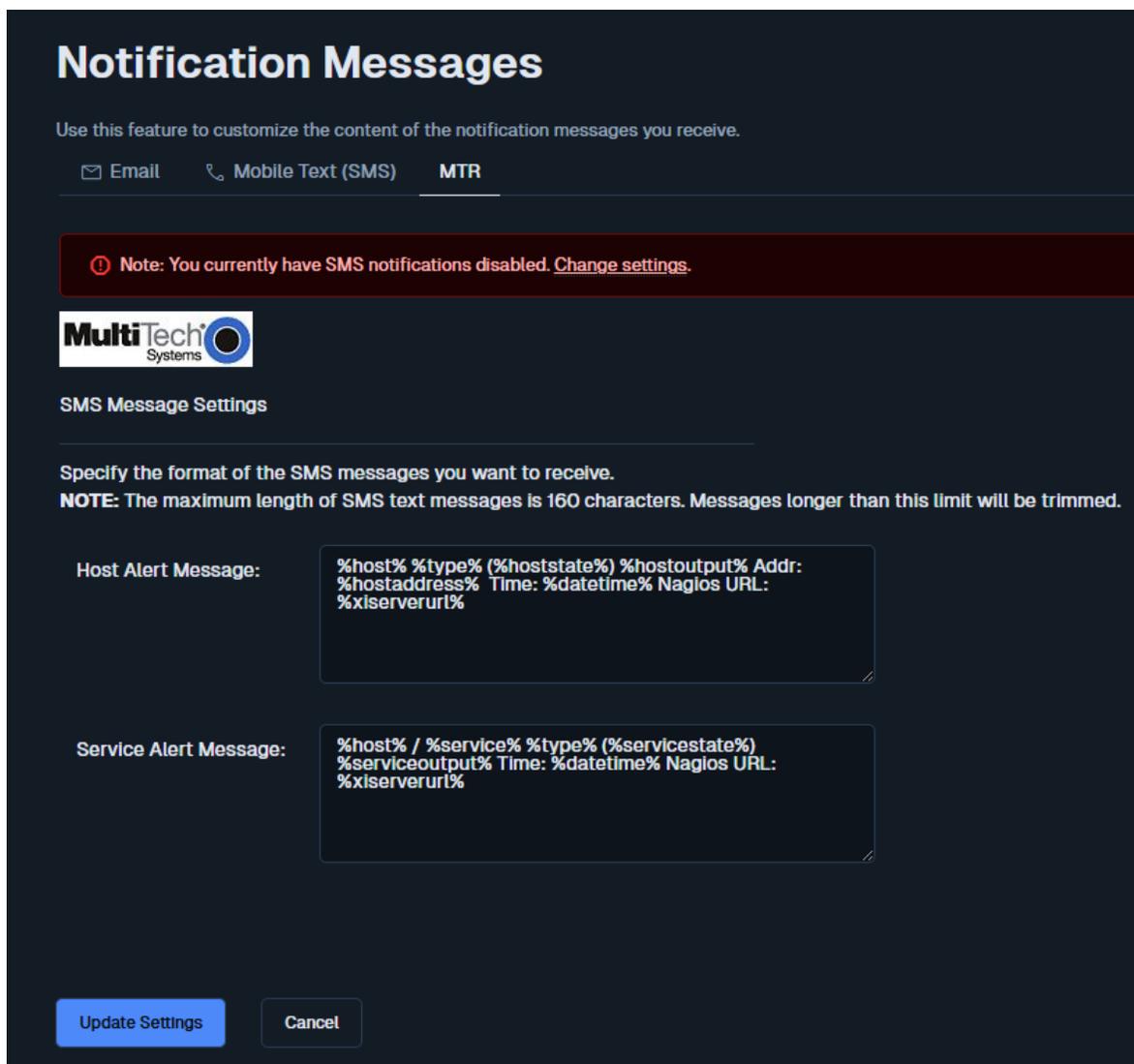
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Check the **SMS Text Message** checkbox and enter your cellphone or mobile phone number.

Click the **Update Settings** buttons to enable SMS alerts.

Customizing SMS Alert Messages

Each user that receives SMS alerts can choose how the messages should be formatted, and what information they should contain. Click the **Notification Messages** link in your account settings and click the **MTR** tab.



The screenshot shows the 'Notification Messages' configuration page in Nagios XI. At the top, there are three tabs: 'Email', 'Mobile Text (SMS)', and 'MTR'. The 'MTR' tab is selected. A red notification banner states: 'Note: You currently have SMS notifications disabled. [Change settings.](#)' Below this is the MultiTech Systems logo. The section is titled 'SMS Message Settings' and includes the instruction: 'Specify the format of the SMS messages you want to receive. NOTE: The maximum length of SMS text messages is 160 characters. Messages longer than this limit will be trimmed.' There are two text input fields: 'Host Alert Message' with the placeholder text '%host% %type% (%hoststate%) %hostoutput% Addr: %hostaddress% Time: %datetime% Nagios URL: %xiserverurl%' and 'Service Alert Message' with the placeholder text '%host% / %service% %type% (%servicestate%) %serviceoutput% Time: %datetime% Nagios URL: %xiserverurl%'. At the bottom, there are two buttons: 'Update Settings' and 'Cancel'.

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Users can customize message formats for both host and service alert messages they receive.

Messages can contain macros that are substituted with real data when Nagios XI sends an alert. For more information on notification macros please refer to the following documentation:

[Understanding Nagios XI Notification Variables](#)

API calls with Python sample:

```
from bs4 import BeautifulSoup
import requests
from requests.auth import HTTPBasicAuth
import urllib3
urllib3.disable_warnings(urllib3.exceptions.InsecureRequestWarning)

# API endpoint
login_url = "http://192.168.0.222/api/login"
hardwareVersion = "https://192.168.0.222/api/system/hardwareVersion"

# Credentials
username = "e"
password = "ethan1234$"

# Create a session object to maintain login state
session = requests.Session()
session.verify = False # Disable SSL certificate warnings

try:
    # Perform login request
    print("Attempting login...")
    response = session.get(login_url, auth=HTTPBasicAuth(username,
password))

    if response.status_code == 200:
        print("[SUCCESS] Login successful.\n")

        # Network status request
        print("Fetching network status...")
        network_response = session.get(hardwareVersion)
```

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```
if network_response.status_code == 200:
    print("[SUCCESS] Network Status Request Successful.\n")
    print("Response Data (JSON):")
    # Format JSON response for better readability
    print(f"\n{network_response.json()}\n")
else:
    print(f"[ERROR] Failed to get network status. Status Code:
{network_response.status_code}")
    print(f"Response Content:\n{network_response.text}\n")

else:
    print(f"[ERROR] Login failed. Status Code: {response.status_code}")
    print(f"Response Content:\n{response.text}\n")

except requests.exceptions.RequestException as e:
    print(f"[ERROR] An error occurred: {e}\n")
```

CODE OUTPUT:

```
Attempting login...
[SUCCESS] Login successful.
Fetching network status...
[SUCCESS] Network Status Request Successful.
Response Data (JSON):
```

```
● G/mtr.py"
Attempting login...
[SUCCESS] Login successful.

Fetching network status...
[SUCCESS] Network Status Request Successful.

Response Data (JSON):

{'code': 200, 'result': 'MTR-0.1', 'status': 'success'}

{'code': 200, 'result': 'MTR-0.1', 'status': 'success'}
```

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API Documentation:

https://www.multitech.net/developer/software/mtr-software/mtr-api-reference/rcell_api_requests/making-requests/

Finishing Up

This completes the documentation on How To Integrate MultiTech MTR API in Nagios XI. If you have additional questions or other support-related questions, please visit us at our Nagios Support Forum, Nagios Knowledge Base, or Nagios Library:

[Visit Nagios Support Forum](#)

[Visit Nagios Knowledge Base](#)

[Visit Nagios Library](#)