



Cato Socket X1500 Deployment Guide

Document Version 4.3
May 2021



© COPYRIGHT 2021 BY CATO NETWORKS LTD

This document and all of its content, design and structure, and all trademarks, trade names and logos herein, and all intellectual property rights thereto are owned by Cato Networks Ltd and its affiliates and licensors and are deemed as Cato Networks Ltd's confidential information and may not be copied, disclosed to third parties, made available to the public or distributed. This document and all data herein are provided "as is" and without warranties of any kind, either express or implied. All technical data herein is subject to U.S., Israeli and possibly other countries' export control and sanctions laws, regulations and requirements. You have sole liability and responsibility to obtain all permits and licenses required for export or re-export of this document. This document and its use are subject to the agreement entered between you and Cato Networks Ltd, and you shall destroy all copies thereof upon expiration or termination of said agreement.

Table of Contents

Overview	4
Scope	4
Typical Topology	5
Prerequisites	5
Administrator Account Onboarding	6
Creating a Site	6
Deploying Your Cato Socket	10
Connecting the X1500 Socket to the Cato Cloud	10
Connecting a Cellular Modem	11
Assigning a Static IP to the X1500 Socket (Optional)	13
Connecting the Socket through PPPoE (Optional)	15
Assigning Your Cato Socket to a Site	16
Additional Resources	18
Cato Approved Cellular Modems	18

Overview

Scope

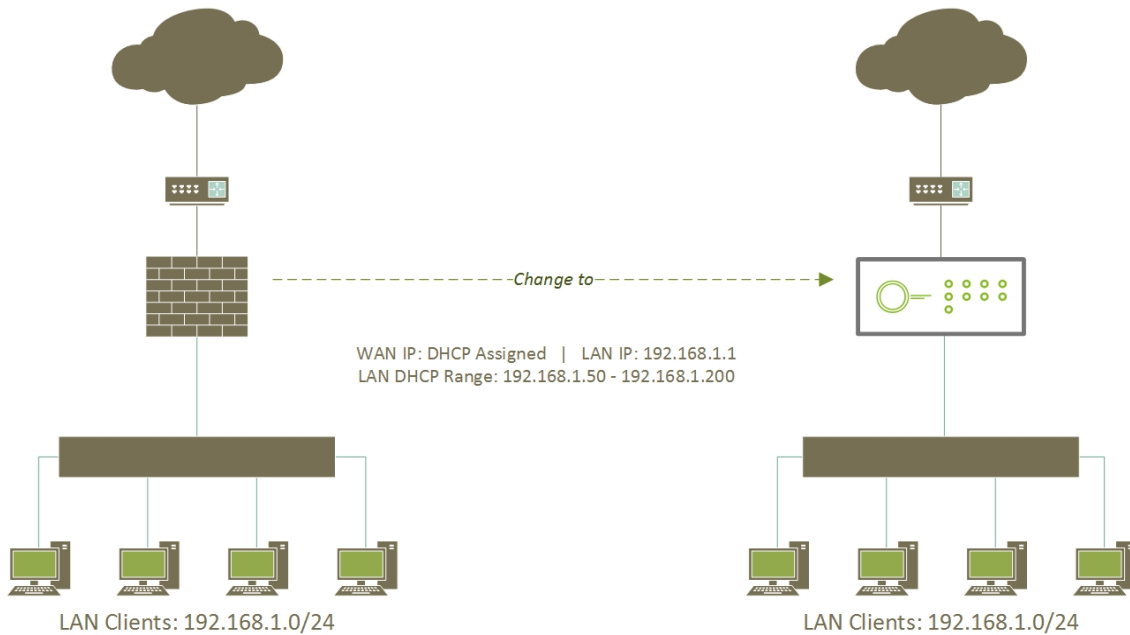
This guide describes how to deploy a Cato Socket X1500 at your site as follows:

- [Administrator Account Onboarding](#) - the administrator account onboarding for access to the Cato Management Application.
- [Creating a Site](#) - the procedure for creating a site in the Cato Management Application.
- [Deploying Your Cato Socket](#) - connecting and configuring the socket, then associating it with the site you created.

Typical Topology

While other topologies are supported, since the Cato Socket usually replaces the site's existing firewall, the topology shown below will be used as an example throughout this guide.

Note: Other topologies are also supported.



Prerequisites

The following items are required before you start to deploy the Socket:

- **Cato Socket**- The Cato Socket that was shipped to you.
- **ISP connection** - the Internet connection through which the Cato Socket connects to Cato Cloud.
- **WAN IP** - a DHCP or statically-assigned IP address.
- **Native Range** - the range(s) that will be directed towards the Cato Socket.
- **DHCP Range** - The DHCP-assigned range(s) that the Cato Socket supports (optional).
- **Gateway IP** - The network's gateway's IP address.
- Open the following ports and protocols:
 - UDP port 53
 - UDP port 52 (optional, DNS fallback port)
 - UDP port 443

- TCP port 443

Administrator Account Onboarding

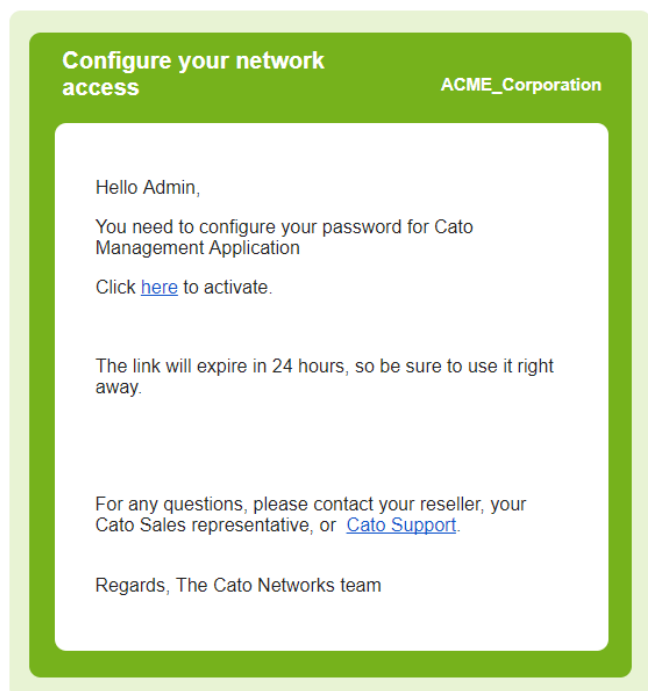
- If you already have a Cato Networks account, skip to [Creating a Site](#).
- If you already have a Cato Networks account and you have created a site, skip to [Deploying Your Cato Socket](#).

After Cato Networks opens an account for your organization, your account administrator must onboard to the Cato Management Application. This administrative access is required to create, configure and associate the Cato Socket with the appropriate site.

The onboarding procedure starts when your account's administrator receives an invitation email from Cato Networks.


To set your account password:

1. Click the activation link to redirect to the password configuration window.
2. Set your password.
3. You will receive a second email and a link to the Cato Management Application.

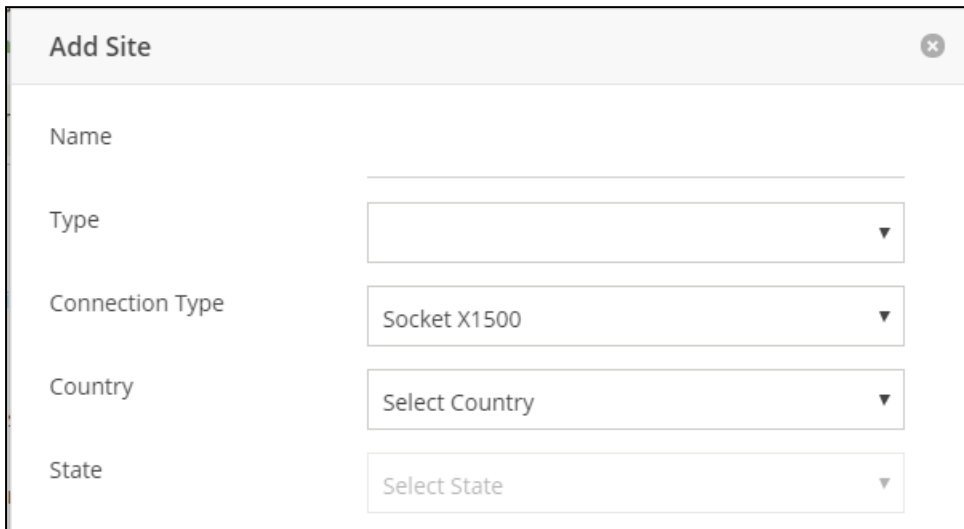


Creating a Site

To create a site:

1. Log in to the Cato Management Application.
2. In the navigation panel, click **Configuration** > **Sites** and click Add Site .

3. Configure your site settings as described in the table below.



Field	Description
Name	A name to identify the site.
Type	The site type only used is for display purposes in the user interface. There are no technical differences between the options. Select the option that reflects the site purpose: <ul style="list-style-type: none"> • Branch • Headquarters • Cloud Data Center • Data Center
Connection Type	Select the Socket option for how this site connects to the Cato Cloud: <ul style="list-style-type: none"> • Socket X1500
Country	The country in which the configured site is located.
State	Where applicable, the state in which the configured site is located.

Field	Description
Enable/Use WAN2	Select if an additional link is connected to the socket. <div style="border: 1px solid green; padding: 5px; background-color: #f0f0f0;"> <p>IMPORTANT: If you are connecting a single ISP to WAN2, select this option to prevent connectivity loss when first connecting to Cato Cloud.</p> </div>
Primary Connection (WAN1) Bandwidth	Your upstream and downstream bandwidth for the WAN1 link according to the ISP bandwidth and the license that was purchased from Cato.
Secondary Connection (WAN2) Bandwidth (Only applicable if you select Enable/Use WAN2)	Your upstream and downstream bandwidth for the WAN2 link according to the ISP bandwidth and the license that was purchased from Cato.
Native Range	The main network range (in CIDR format) of the subnet in the site. <div style="border: 1px solid green; padding: 5px; background-color: #f0f0f0;"> <p>Note: You cannot use /31 or /32 CIDR blocks.</p> </div>

4. Click **OK**.

To configure the LAN settings for a site:

LAN 01 + 🗑️

Range Type	IP Ranges	Characteristics	DHCP Settings
Native Range	Range: <input type="text" value="10.0.0.0/24"/>	Local IP: <input type="text" value="10.0.0.4"/> ID(VLAN): <input type="text"/>	<input type="text" value="Account Default"/> ▼

1. Select the site and expand the **Networks** section.
2. Configure the settings for the **Native Range** (the LAN):
 - a. Enter the **Local IP**, the IP address for the Cato LAN port.
 - b. **(Optional)** Configure the **DHCP Settings** for the LAN.
3. Click **Save**.

For more about configure the settings for a site, see the [Network Setup & Connectivity](#) articles in the Cato Networks Knowledge Base.

Deploying Your Cato Socket

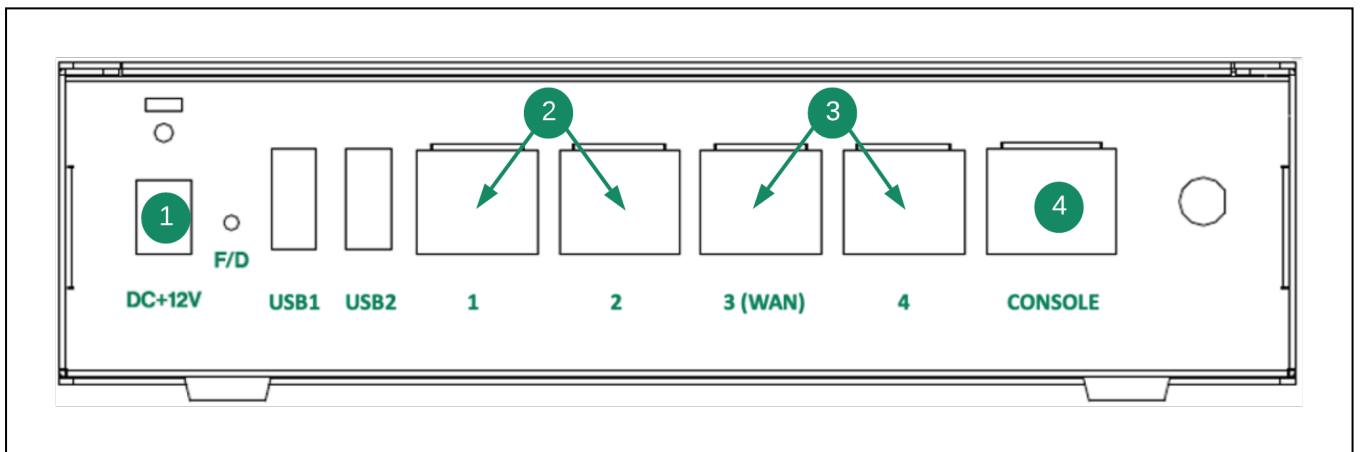
Note: Deploying a Socket temporarily interrupts Internet connectivity.

This section describes how to deploy the Cato Socket at your site:

- [Connecting the X1500 Socket to the Cato Cloud](#)
- [Assign a Static IP to the WAN \(Optional\)](#)
- [Connecting the Socket through PPPoE \(Optional\)](#)
- [Assigning Your Cato Socket to a Site](#)

Connecting the X1500 Socket to the Cato Cloud

The following diagram explains the rear panel of the X1500 Socket.



Item	Description
1	Power input
2	LAN ports (some X1500 Socket refer to these ports as LAN1 and LAN2)
3	WAN ports for Internet connectivity (some X1500 Socket refer to these ports as WAN1 and WAN2)
4	Serial console port (not shown in the Cato Management Application)

To connect the X1500 Socket to the Cato Cloud:

1. Take the Socket out of the box.
2. Connect the LAN:
 - If the Socket is replacing a firewall (as shown in [Section - Typical Topology](#)), disconnect the Ethernet cable from the firewall and connect the cable to the Socket LAN1 port.

- If the LAN is routed from a network device or existing firewall that is not being replaced, connect the Ethernet cable from the relevant port on that device to the Socket LAN1 port.
3. Connect the WAN:
- If the Socket is connected directly to the ISP device, connect the Ethernet cable from the ISP device to the Socket WAN1 port (or WAN1 and WAN2 ports if you have multiple ISP connections).
 - If the Socket is connected to the ISP via another device (such as a link aggregator), connect the Ethernet cable from that device to the Socket WAN1 port.

Note: The Socket requires that the WAN1 port is connected to the Cato Cloud to correctly update to new Socket versions. Otherwise, the new version doesn't install correctly and the Socket rolls back to an earlier version.

4. After the LAN and WAN networks are connected, connect the power supply.

Connecting a Cellular Modem

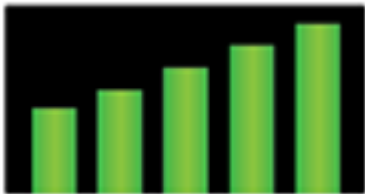
You can connect a socket to a cellular modem for internet connectivity. Make sure to use your cellular modem manual as a reference guide.

To connect a cellular modem to the Socket:

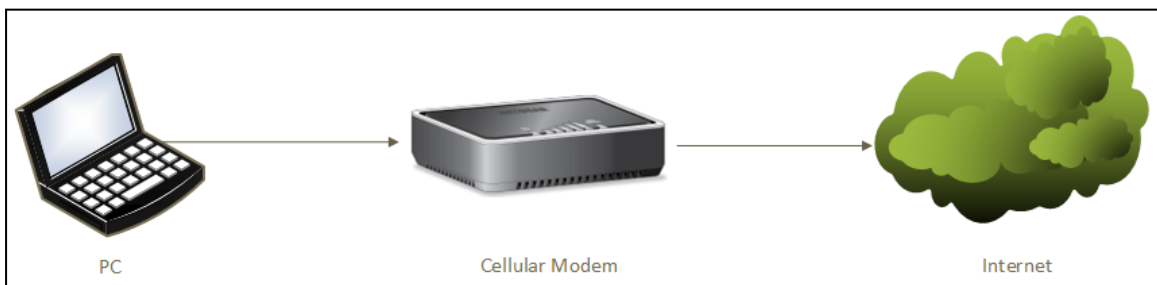
1. Obtain one of the cellular modems listed in [Cato Approved Cellular Modems](#).
2. Unpack the cellular modem.



3. Install the SIM card.
4. Connect the cellular modem to a power supply and verify that the cellular signal strength LEDs indicate network connectivity.



5. Using a network cable, connect your PC to the cellular modem LAN port.



6. On your PC, open a command prompt and run the following command:

```
ping google.com
```

- If the ping is successful (see the following example), you are connected to the internet.

```
ping google.com
```

```
Pinging google.com [172.217.22.78] with 32 bytes of data:
```

```
Reply from 172.217.22.78: bytes=32 time=81ms TTL=90
```

```
Reply from 172.217.22.78: bytes=32 time=79ms TTL=90
```

```
Reply from 172.217.22.78: bytes=32 time=79ms TTL=90
```

```
Reply from 172.217.22.78: bytes=32 time=87ms TTL=90
```

```
Ping statistics for 172.217.22.78:
```

```
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
```

```
Approximate round trip times in milli-seconds:
```

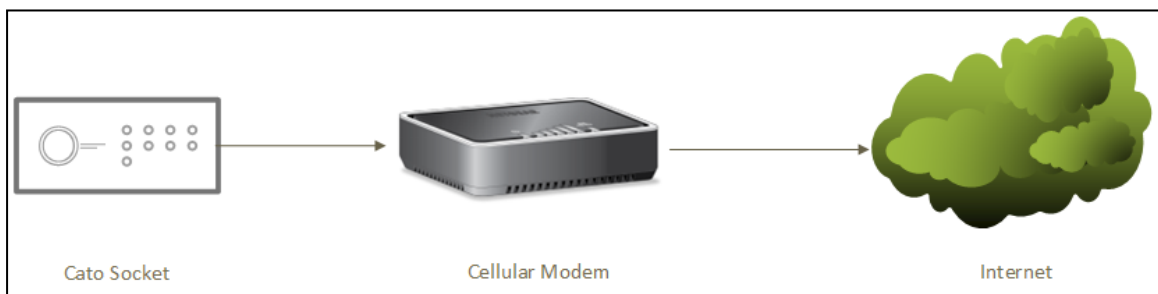
```
Minimum = 79ms, Maximum = 87ms, Average = 81ms
```

- If the ping fails (see the following example), contact your cellular modem vendor/distributor for support.

```
ping google.com
```

```
Ping request could not find host google.com....
```

7. If the ping was successful: using a network cable, connect the Cato Socket to the cellular modem LAN port.



8. Configure and monitor the connection as required using the Cato Management Application.

This article explains how to use a computer to connect to an X1500 Socket and configure a static IP address for the WAN1 port.

Assigning a Static IP to the X1500 Socket (Optional)

Use the Socket WebUI to configure a static IP address for a WAN interface. This article explains how to physically connect to a Socket for the first time with the default IP address for the LAN2 interface, 169.254.100.1.

For Sockets that are configured already, use the IP address for the WAN interface.

For more information about connecting to the Socket WebUI, see [Using the Socket WebUI](#).

WAN1 → CATO

DHCP Static Address PPPoE Update

IP Address

Mask

Gateway

Primary DNS

Secondary DNS

Configured MTU (optional)

Configured VLAN tag (optional, 0 stays for no VLAN)

Current Speed 1000 Mbps / Full Duplex / Auto Negotiate

Speed Configuration

To set a static IP for the WAN interface:

1. If necessary, prepare to connect to the Socket with a computer.
 - a. Use an Ethernet cable to connect an interface on the computer to port 2 (LAN2) on the Socket.
 - b. Configure the interface with a static IP address that is on the same subnet as the LAN2 interface:
 - IP address: 169.254.1.2
 - Mask: 255.255.0.0
2. From an Internet browser, go to **https://169.254.100.1**.
3. Enter the initial login credentials.
 - Username: admin
 - Password: admin
4. Change the password for the Socket WebUI, in the new window, enter the current password **admin**, and then enter a new password.
5. Click the **Network Settings** tab.
6. Select the **Static Address** option.

7. Enter the settings for the WAN1 IP address. The following screenshot shows a sample static IP address for the WAN1 interface:

The example above shows these settings:

- IP address: 88.0.0.1
- Mask: 255.255.255.248
- Gateway: 8.0.0.6
- Primary DNS: 8.8.8.8
- Secondary DNS: 8.8.4.4

8. Click **Update**.

Connecting the Socket through PPPoE (Optional)

If required by your Internet Service Provider, you can define a PPPoE connection for the WAN interface.

To define a PPPoE connection for the WAN interface:

1. In your browser, type the URL `https://[your Cato Socket's IP address]`.

For example:

`https://10.0.0.15`

If this is a new socket that has never been connected, connect your computer to LAN2 (not LAN1), then in your browser type the following URL:

`https://169.254.100.1`

2. Enter your login credentials.
 - If this is the first time that you are logging in to the window, use the following credentials:
username = admin
password = admin
You will then need to change these credentials to your own.
 - After six consecutive failed login attempts, you will be locked out of your account for at least 30 minutes.

3. In the Cato Socket Configuration window, click **Network Settings** and click **PPPoE**.

WAN1

WAN 01

DHCP Static Address PPPoE Update

IP Address
172.16.1.104

Primary DNS
8.8.8.8

Secondary DNS
8.8.8.8

PPP account (user) name
mysocket

PPP account secret (password)

Confirm password

Service name (optional)

Configured IP address (optional)
1.1.91.11

Configured primary DNS server address (optional)
8.8.8.8

Configured secondary DNS server (optional)
8.8.8.4

Configured MTU (optional)
1491

4. In **PPP account (user) name**, **PPP account secret (password)** and **Confirm password** fields, type the information provided by your ISP. If required, modify any other PPPoE fields as instructed by your ISP.
5. Click **Update**.

Assigning Your Cato Socket to a Site

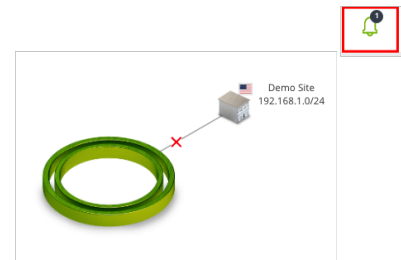
Once a Cato Socket is up and running, it automatically connects to the optimal Cato Networks PoP (Point of Presence) and checks if a new version of the Cato Socket firmware is available.

Note: If the Cato Socket detects that a new version of the firmware is available, it automatically performs an upgrade and the Cato Management Application Notification list displays the **New Socket Detected** notification.

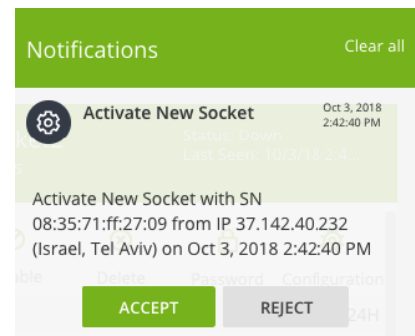
When the Cato Socket has the latest firmware, the Cato Management Application Notification list displays the **Activate New Socket** notification and sends an email to the **Activate New Socket** mailing list (see **System Alerts** in the Cato Management Application). You can then activate and assign the Cato Socket to the relevant site.

To activate and assign the Cato Socket to a site:

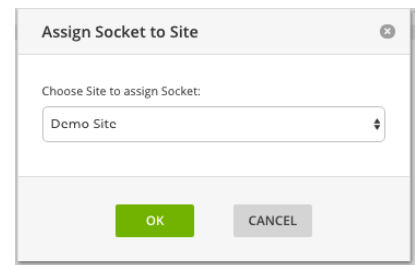
1. Click  (Notifications).



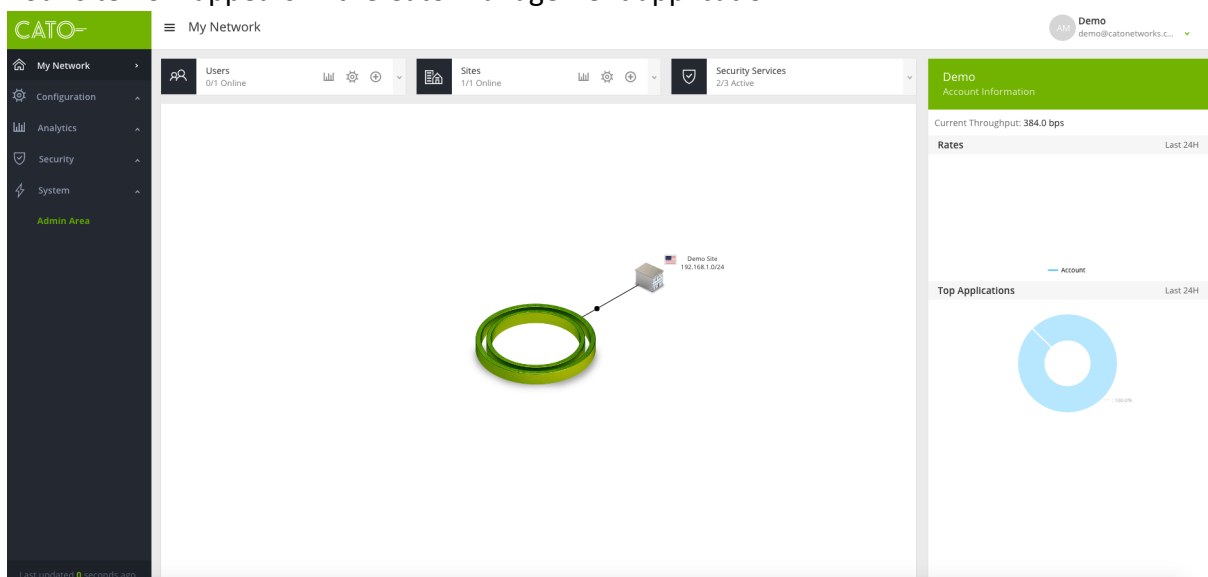
2. In the Notification list, locate the **Activate New Socket** notification and click **ACCEPT**.



3. In the **Assign Cato Socket to Site** window, in the **Choose Site to assign Socket** box, click the required site and click **OK**.



4. Your site now appears in the Cato Management application.



Additional Resources

Online documentation

Online documentation is available through the Cato Management Application.

Contact Support

Following are the channels for contacting Cato Networks Support:

- Cato Networks Support Portal: A self-service support web site that offers a full range of customer support features, such as: Opening, updating and tracking technical support incidents quickly and conveniently. Finding technical documents, FAQs, using the new and robust Knowledge Base. Downloading documentation, full products guides, product updates, notifications etc. Sharing best practices and troubleshoot problems with others via an interactive community. Access Cato Networks Online Support, by browsing <https://support.catonetworks.com> and register your support account.
- Email: Email services, allowing you to create technical tickets in our system easily, by sending email to support@catonetworks.com.
- Chat: Chat services are part of Cato Management Application, after login you have the option to chat with a Technical Support Engineer representatives based on an available free seat.
- Phone: Talk Services, 24x7x365, allowing you to call directly to Cato Support. All calls are recorded to further improve our services and for quality assurance purposes.
USA: +1 (505) 333-4070
United Kingdom: +44 114 303 3899
Israel: +972 3 720 7171
- Text message: To create support tickets with Cato Networks, text your inquiry to the following text message numbers:
USA: +1 (201) 890-7666
United Kingdom: +44 1606 800066
Israel: +972 52 628 5630

Cato Approved Cellular Modems

Cato Networks does not assume any responsibility for the following devices and does not provide any support for them.

Manufacturer	Model
Netgear	LB1110
Netgear	LB1120
Netgear	LB2120