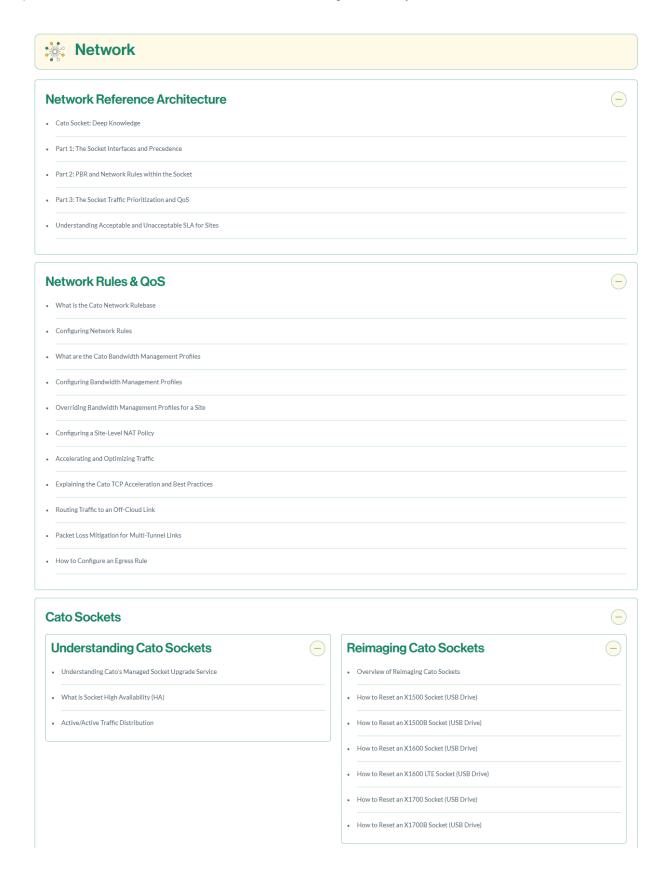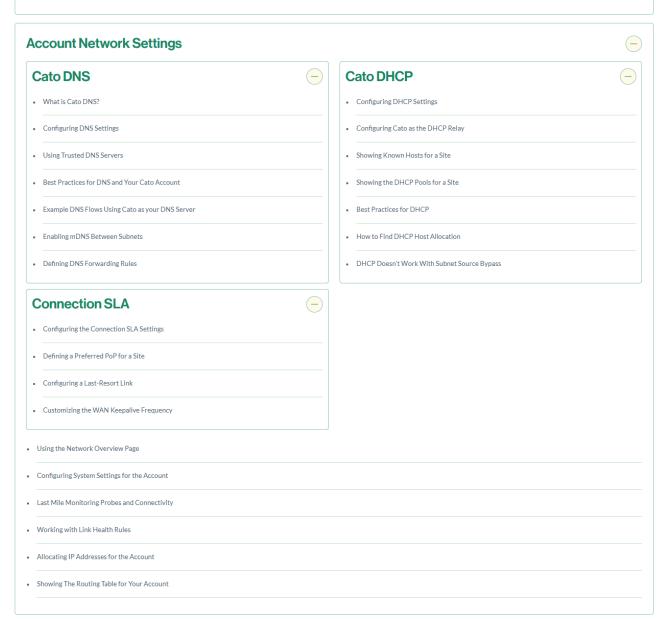# Network

Welcome! This guide provides those new to the Cato Management Application **(CMA)** with access to the latest **Network** section learning resources from the developer. Simply click on the main topic you wish to review to open the related resource section of the Cato Learning Center in your browser.

Network

Network Reference Architecture

- Cato Socket: Deep Knowledge
- Part 1: The Socket Interfaces and Precedence
- Part 2: PBR and Network Rules within the Socket
- Part 3: The Socket Traffic Prioritization and QoS
- Understanding Acceptable and Unacceptable SLA for Sites

Network Rules & QoS

- What is the Cato Network Rulebase
- Configuring Network Rules
- What are the Cato Bandwidth Management Profiles
- Configuring Bandwidth Management Profiles
- Overriding Bandwidth Management Profiles for a Site
- Configuring a Site-Level NAT Policy
- Accelerating and Optimizing Traffic
- Explaining the Cato TCP Acceleration and Best Practices
- Routing Traffic to an Off-Cloud Link
- Packet Loss Mitigation for Multi-Tunnel Links
- How to Configure an Egress Rule

Cato Sockets

Understanding Cato Sockets

- Understanding Cato's Managed Socket Upgrade Service
- What is Socket High Availability (HA)
- Active/Active Traffic Distribution

Reimaging Cato Sockets

- Overview of Reimaging Cato Sockets
- How to Reset an X1500 Socket (USB Drive)
- How to Reset an X1500B Socket (USB Drive)
- How to Reset an X1600 Socket (USB Drive)
- How to Reset an X1600 LTE Socket (USB Drive)
- How to Reset an X1700 Socket (USB Drive)
- How to Reset an X1700B Socket (USB Drive)

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Socket Release Notes ⊖

- Socket Version 23 Release Notes
- Socket Version 22.0 Release Notes
- Socket version 21.1 Release Notes
- Socket version 21.0 Release Notes
- Socket Version 20.0 Release Notes
- Socket Version 19.0 Release Notes
- Socket Version 18.0 Release Notes
- Socket Version 17.0 Release Notes
- Socket Version 16.0 Release Notes
- Socket Version 15.0 Release Notes
- Socket Version 14.0 Release Notes
- Socket Version 13.0 Release Notes
- Socket Version 11.0 Release Notes
- Socket Version 10.0 Release Notes
- Socket Version 8.0 Release Notes
- Socket Version 7.1 Release Notes
- Socket Version 7.0 Release Notes

Working with Socket Hardware ⊖

- Cato Socket Deployment Guides and Data Sheets
- Supported Socket Transceivers and USB Ethernet Adapters
- Socket X1500 | Status LEDs for Ethernet Ports
- X1500 Socket Electrical Specifications
- X1600 Socket Electrical Specifications
- X1700 Socket Electrical Specifications
- Using PPPoE with Cato Sockets
- How to run an X1500 Socket using a USB Flash Drive
- Using Cellular Modems with a Socket

- Manually Upgrading a Socket
- Connectivity Requirements for Socket Upgrades
- Accessing the Socket WebUI
- Using the Socket WebUI Tools
- Setting a Different Port to Connect to the Cato PoP
- Assigning a Static IP to a Socket
- Performance Troubleshooting: Socket Behind a Third-Party Firewall
- Remotely Pinging the Socket Interface
- Updating the Socket WAN Interface Bandwidth
- How to Reconnect the Socket Tunnel
- Cato Socket RMA (Return Merchandise Authorization) Process
- Handling Stolen or Compromised Sockets

Network

Network Deployment

Cato and AWS Transit Gateway

- Connecting the Cato Cloud to an AWS Transit Gateway

- Setting up a Cato-Initiated IPsec to Your AWS Transit Gateway

- How to Implement Cato vSocket in AWS Multiple VPCs Environment

- Redundant VPN Connection to AWS Using BGP

- Connect your AWS assets to Cato Cloud with Amazon Virtual Private Gateway

- Aruba Wireless Access Point Traffic Not Traversing Cato

- How to Use a vSocket in Azure Multiple VNets Environment

- How to Integrate RingCentral with Cato Networks

- Redundant VPN Connection to Oracle Cloud using BGP

- Setting Up Redundant VPN Tunnels to Google Cloud Platform (GCP)

- Socket Best Practice: VLANs vs. Routed Ranges

- Connecting a Socket to a switch with VLANs (802.1q)

- Cato Socket Connection Prerequisites and Known Limitations

- Setting Up Redundant VPN Tunnels to Amazon Web Services (AWS)

- Cato Socket vs IPsec Sites and Tunnels

Account Network Settings

Cato DNS

- What is Cato DNS?

- Configuring DNS Settings

- Using Trusted DNS Servers

- Best Practices for DNS and Your Cato Account

- Example DNS Flows Using Cato as your DNS Server

- Enabling mDNS Between Subnets

- Defining DNS Forwarding Rules

Cato DHCP

- Configuring DHCP Settings

- Configuring Cato as the DHCP Relay

- Showing Known Hosts for a Site

- Showing the DHCP Pools for a Site

- Best Practices for DHCP

- How to Find DHCP Host Allocation

- DHCP Doesn't Work With Subnet Source Bypass

Connection SLA

- Configuring the Connection SLA Settings

- Defining a Preferred PoP for a Site

- Configuring a Last-Resort Link

- Customizing the WAN Keepalive Frequency

- Using the Network Overview Page

- Configuring System Settings for the Account

- Last Mile Monitoring Probes and Connectivity

- Working with Link Health Rules

- Allocating IP Addresses for the Account

- Showing The Routing Table for Your Account

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Cato Intelligent Last-Mile Monitoring (ILMM) ⊖

- What is Cato ILMM
- Managing ILMM for Your Account
- Working with ILMM License for Sites

Other Network Articles ⊖

- Production PoP Guide
- PoP Locations Supporting 10Gbps
- FAQ - Limited Availability PoPs
- Cato IPsec Guide: IKEv1 vs IKEv2
- QoS Policies Explained
- Working with the Cato System Range
- Best Practices for IPsec Connections
- Understanding Cato Networking in China
- Explaining How Cato Classifies Network Applications
- Network Segmentation - Best Practices
- Socket Site Resiliency with WAN Recovery
- Best Practices to Measure Last-Mile Performance
- Using Cato Networks' Internet Recovery
- Integrating Cato with Alternative WAN Network
- Implementing QoS using Microsoft Teams and Cato
- Recovering Connectivity with Alt. WAN Links
- How to Reduce the Citrix Recovery Time
- Asymmetric Routing over Cato and MPLS
- Configuring Your Account to Support IP Overlapping

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Sites

Site Configuration

Socket Sites

- Managing Sockets
- Working with Socket Sites
- Exchanging Socket Ports
- Configuring Link Aggregation for a Socket
- Using Sockets in an HA Deployment
- Understanding Socket Connectivity Event Message Fields
- How to Capture Traffic on a Socket
- How to Change the Socket Model for a Site
- Decommissioning a Socket Site

vSocket Sites

AWS vSocket Sites

- Deploying a vSocket Site from the AWS Marketplace
- Deploying an AWS vSocket Site Manually
- Configuring HA for AWS vSockets
- Unregistering and Redeploying AWS vSockets

GCP vSocket Sites

- Configuring a Cato vSocket in GCP Using Terraform

ESXi vSocket Sites

- Unregistering and Redeploying ESXi vSockets
- Configuring an ESXi vSocket Site

Azure vSocket Sites

- Understanding the Azure Protection Mechanism Related to Azure Sites
- Deploying Azure vSockets from the Marketplace
- Deploying an Azure vSocket Site Manually
- Configuring HA for Azure vSockets
- Integrating Cato with Azure vWAN
- Unregistering and Redeploying Azure vSockets
- Copying the Azure vSocket VHD Image with SAS
- Migrating Azure vSockets to a 2-NIC Solution
- Changing Azure vSockets to a Different VM Size

Site Monitoring

- Monitoring a Site with a Snapshot
- Analyzing QoS and Bandwidth Management for a Site (Priority Analyzer)
- Showing the Site Network Analytics
- Connectivity Statuses for Cato Sites
- Analyzing Data for a Site in Real Time
- Analyzing Traffic for all Account Sites

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IPsec Sites ⊖

- Configuring Sites with IPsec Connections
- Configuring IPsec IKEv2 Sites
- Configuring IPsec IKEv1 Sites
- Configure IPsec IKEv2 with Multiple Active Tunnels
- Troubleshooting IPsec Connectivity
- Cato Cloud to Cisco IOS/IOS-XE via HA IPSec Tunnels
- Cato Cloud to VMware Edge via HA IPsec Tunnels
- Cato Cloud to FortiGate via HA IPSec Tunnels

Cloud Interconnect Sites ⊖

- Getting Started with Cloud Interconnect Sites
- Cloud Interconnect for AWS Public Cloud
- Cloud Interconnect for Azure Public Cloud
- Cloud Interconnect for GCP Public Cloud
- Cloud Interconnect for Oracle Public Cloud
- Cloud Interconnect Availability

Site Routing ⊖

Internet Traffic Backhauling ⊖

- Configuring Internet Traffic Backhauling
- Hairpinning Traffic to the Same Site
- Backhauling Traffic to a LAN Device behind a Socket
- Backhauling Traffic via a Socket's WAN Interface IP Address
- Backhauling Traffic via an IPsec Site

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BGP ⊖

- Using BGP in the Cato Cloud
- Cato Reserved BGP Communities
- Defining BGP Neighbors
- Configuring BGP Neighbors for a Cato Socket
- Configuring BGP Neighbors for an IPsec Connection
- Working with BGP Filtering
- Working with BGP Summary Routes
- Configuring BFD for BGP Neighbors

- Configuring the Socket LAN Firewall Policy
- Local Routing at the Socket
- Upgrading the Local Routing Policy to the LAN Firewall

- Working with Sites
- Using the Cato Management Application to Add Sites
- Configuring Network Ranges for a Site
- Adding Microsegmentation Zero-Trust Security to Sites
- Bypassing the Cato Cloud
- Defining Hosts for a Site
- Configuring LAN Monitoring for a Site
- Configuring Local Port Forwarding for a Site
- Advanced Configurations for a Site

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