UniFi - Troubleshooting STUN Communication Errors

Overview

This article is meant to help resolve errors concerning STUN connectivity between the UniFi managed devices and the UniFi Network application.

> **NOTES & REQUIREMENTS:**
>
> In order for STUN to work properly, the client devices need to be able to resolve to and communicate over UDP port 3478 with the UniFi Network application. UDP Port 3478 must be open inbound on the Network application's host.

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Introduction

A warning sign may be visible next to the Connected device as shown:

If you click on the device and expand the error at the top of the device properties pane you will see a "STUN Communication Failed" error.

This error indicates that the Network application is not able to properly connect via the STUN protocol with this particular device, which can prevent some of the features in UniFi Network like device Debug Terminal from working properly. This document will explain what these errors mean and how to troubleshoot and resolve them.

What is STUN?

STUN stands for Session Traversal Utilities for NAT and includes a set of protocols used in networking to better handle communication when going through network address translation (NAT). In simple terms, STUN provides a way for devices to securely communicate with other devices when they're located behind a router. This is necessary because the devices in your network have individual IP addresses that are used to communicate internally, but not known to servers/clients outside of your network. STUN when used by a particular application, will go and initiate a connection with a public STUN server and request to know what address will be used by the STUN server to communicate with the device through its router.

UniFi devices use STUN to properly communicate with the UniFi Network application. In this case, the application acts as the STUN server. In order for STUN communication to

work properly, the UniFi device must be able to resolve to the UniFi Network application via the inform URL and communicate with the address via port 3478.

UniFi requires STUN connectivity for a variety of functions, for example, locating devices through the application user interface, as well as to initiate contact and communicate details from the device to the application.

Why has this error suddenly appeared?

A number of UniFi administrators may have noticed the sudden appearance of this error after upgrading to UniFi Network versions 5.6.x+. This doesn't reflect an issue with STUN on these versions, rather it is bringing attention to a previously existing issue. It is only visible now because the error message itself was added to the application user interface in that software version.

How to Resolve this Error

If this issue is encountered immediately after initial device adoption, try refreshing the application page/giving this a few minutes for STUN to properly connect.

In cases where this persists for longer periods of time, this error message most often results from a connectivity issue with STUN from the device to the UniFi Network application. To resolve this, make sure to open UDP port 3478 on the firewall of the machine hosting the UniFi Network application, and ensure that your router is properly relaying STUN traffic to the UniFi Network application from the UniFi devices.

If you are using UniFi Network to manage devices that are not located behind the same router, you will need to set up a port forward similar to how you created one for the inform packets to be forwarded to the application using port 8080.

How to Add a STUN Port Forwarding Rule in UniFi

NOTE: The following directions require the presence of a UniFi Security Gateway to be effective. If you have another router, follow a similar method using the router's configuration method.

1. To do this with a USG, go to **Settings > Routing & Firewall > Port Forwarding**and click "Create New Port Forward Rule" to create a new rule.
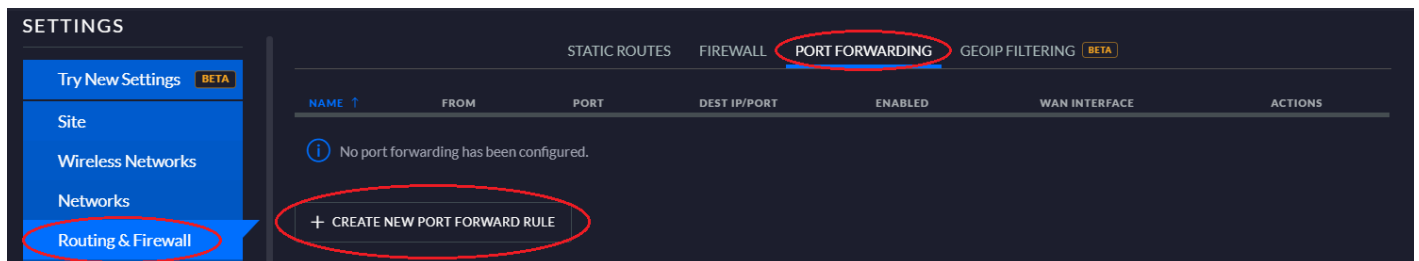
2. Fill out these fields similar to the following example, using the IP address of the machine / device hosting the UniFi Network application in the Forward IP field, and UDP ports 3478 in both port fields:

Name: give the new rule a name to be able to recognize it later.

Enabled: make sure to check the box to "enable this port forward rule" to make it active.

From: Anywhere

Port: 3478

Forward IP: the IP address of your UniFi Network application host.

Forward Port: 3478

Protocol: UDP

Logs: Enable logging if you wish to log activity which can be later retrieved as described in this article.

CREATE NEW PORT FORWARD RULE

Name	STUN
Enabled	☑ Enable this port forward rule
From	● Anywhere ○ Limited
Port	3478 ⓘ
Forward IP	192.168.100.5
Forward Port	3478
Protocol	○ Both ○ TCP ● UDP
Logs	☐ Enable logging

3. Click "Save" to apply these changes. After some time, or if you restart your device, the error message should no longer be visible.

All (5)	**Wireless (2)**	Wired (3)

☐	DEVICE NAME ↓	IP ADDRESS	STATUS	MODEL
☐	b4:fb:e4:80:c9:3d	192.168.100.8	CONNECTED (ELITE)	UniFi AP-nanoHD

Verify Proper UniFi Network Application Inform URL

If after verifying the application firewall is not blocking traffic, you may need to verify that the device hasn't been configured with an incorrect inform URL. This setting can be found in the Network application under **System Settings > Controller Configuration**:

If "Override Inform Host" is enabled, make sure the Network application's hostname/IP is publicly accessible to devices that are being managed outside of your application's local network, otherwise this will provide the wrong STUN URL to the UniFi devices. If the

hostname/IP would only be accessible locally to the device, uncheck this box and click "Apply Changes".

Note that 192.168.1.6 is only the IP in this example, yours will likely be a different hostname/IP address.

Related Articles

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UniFi - Advanced: Changing Default Ports

UniFi - Communication Protocol Between Network Application and UAP