Troubleshoot AnyConnect DNS Queries to mus.cisco.com

Contents

Introduction

This document describes the behavior of the Anyconnect VPN Core module when it queries the fully qualified domain name (FQDN) mus.cisco.com in specific scenarios. This query occurs when the AnyConnect client attempts to determine if the endpoint has internet access and there is no VPN in use.

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Prerequisites

Requirements

Cisco recommends that you have knowledge of these topics:

- AnyConnect module installation.
- AnyConnect Diagnostic and Reporting Tool (DART) Bundle creation.
- Wireshark sniffer captures.

Components Used

The information in this document is based on these software and hardware versions:

- Anyconnect core VPN module version 4.8.03052
- Windows 10 Enterprise 10.0.18363 Build 18363

The information in this document was created from the devices in a specific lab environment. All of the devices used in this document started with a cleared (default) configuration. If your network is live, ensure that you understand the potential impact of any command.

This document can also be used with these hardware and software versions:

- Any Operating system (MacOS, Windows, Linux).
- Any AnyConnect version prior to 4.10.

Background Information

AnyConnect queries to mus.cisco.com are expected by design.

> **Note**: There is an enhancement defect created for this behaviour. Cisco bug ID CSCvu39643. Queries to mus.cisco.com from the VPN core must not be performed if VPN module is not used.

Problem

When the AnyConnect VPN core module is not in use (no XML profile is configured for VPN connections), queries to mus.cisco.com are generated every 15 seconds.

Solution 1

Add a Domain Name System (DNS) entry on your DNS server, in order to resolve name queries to mus.cisco.com. If you do not manage a DNS server, forward such requests to a public DNS server.

Once mus.cisco.com FQDN is able to be resolved, AnyConnect stops the query attempt.

Solution 2

Add a DNS entry to your Operative System (OS) hosts file in order to resolve the FQDN mus.cisco.com.

Windows
1. Press the Windows key.
2. Type Notepad in the search **field**.
3. In the search results, right-click **Notepad** and select **Run as administrato**r.
4. From Notepad, open the file: "C:\Windows\System32\Drivers\etc\hosts".
5. Make the necessary changes to the file.
6. Select **File** > **Save** in order to save your changes.

Mac
1. Open a **Terminal** window.
2. Enter this command in order to open the **hosts** file with the **nano** text editor embedded in the OS: "sudo nano /etc/**hosts**".

3. Enter your domain user and password.
4. Make the necessary changes to the **file**.

Linux

1. Open a **Terminal** window.
2. Enter the this command in order to open the **hosts** file with the **nano** text editor embedded in the OS: "sudo nano /etc/**hosts**".
3. Enter your domain user and password.
4. Make the necessary changes to the **file**.

AnyConnect queries to mus.cisco.com

# Configure

The instalation of AnyConnect VPN core module.

Network Diagram
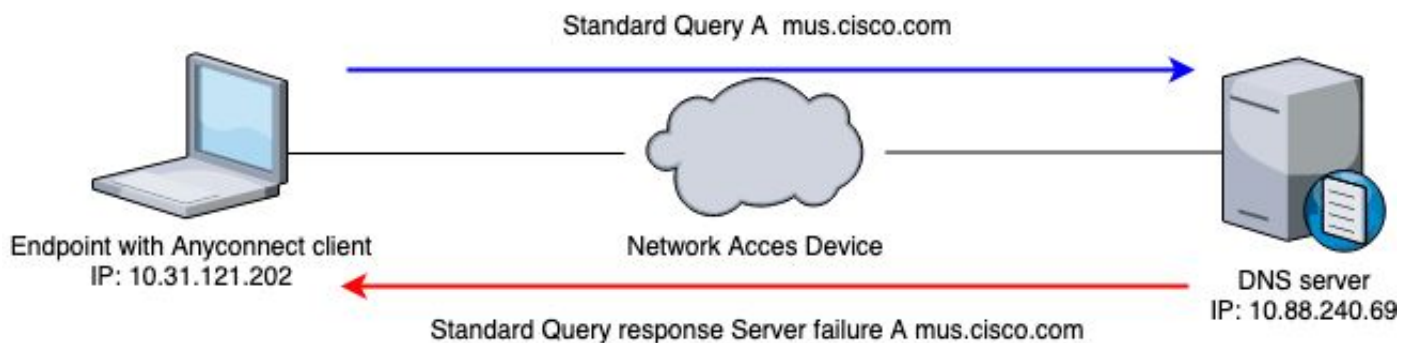

```
*****************************************
Date : 06/17/2020
Time : 20:21:57
Type : Warning
Source : acvpnagent
Description : Function : CDNSRequest::OnSocketReadComplete
File:
c:\temp\build\thehoff\negasonic_mr30.297045120452\negasonic_mr3\vpn\common\ip\dnsrequesct.cpp
Line: 1147
Timeout (per request) while trying to resolve [A] query mus.cisco.com via DNS server
10.88.240.69 (timeout interval = 10 sec)
*****************************************
```

Troubleshoot

In order to confirm the proper operation, you can enable a packet capture on the egress interface of the endpoint with the use of Wireshark.

On the Graphic User Interface (GUI) of the AnyConnect client, the message "**Network error. Unable to lookup host names**" is displayed (as shown in the image).
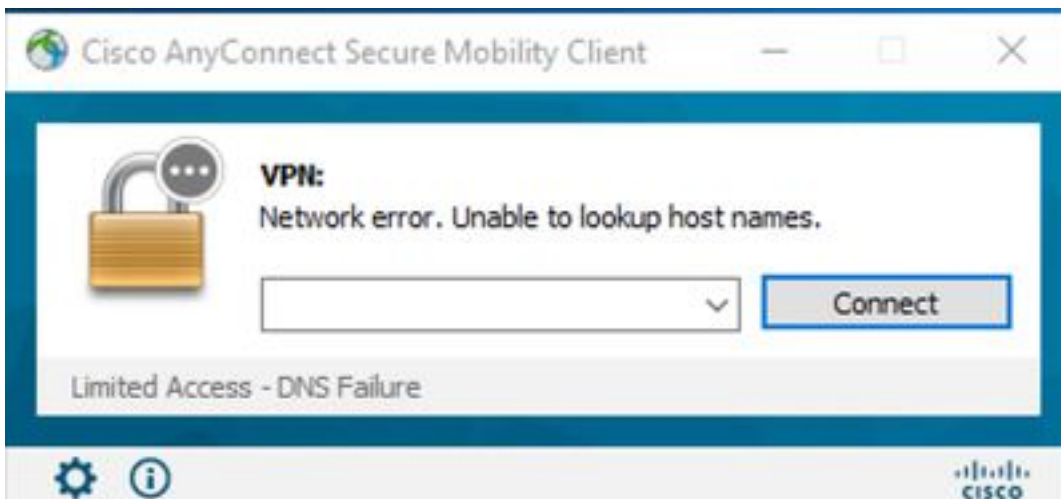
When any of the workarounds are applied you can also make a packet capture on Wireshark and use the DNS filter in order to confirm the constant queries to mus.cisco.com:

On the GUI interface of AnyConnect client, the message "**Ready to connect**" is displayed (as shown in the image).
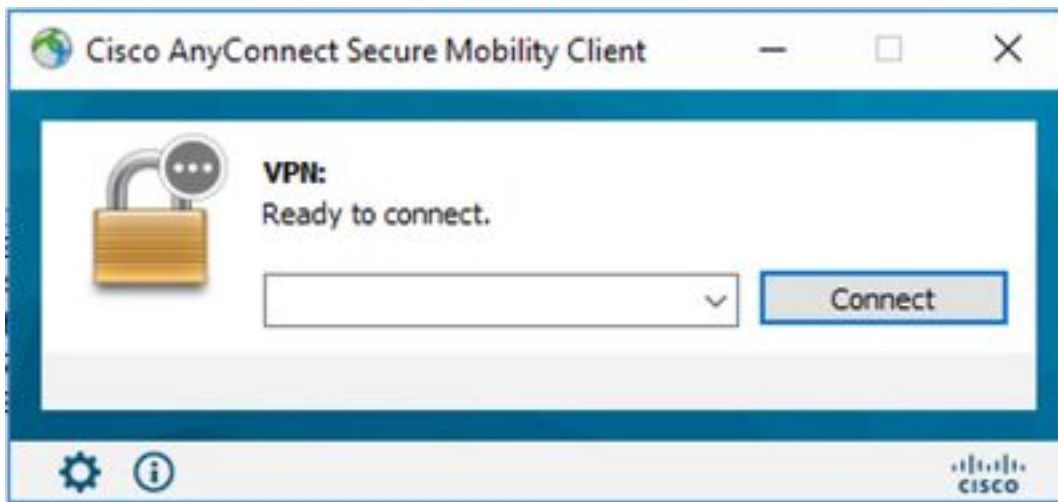
Tip: Even if you do not see the AnyConnect VPN core module on the GUI interface it does not mean the vpn core module is not in operation, search for the file VPNDisable_ServiceProfile.xml under the directory "C:\programdata\cisco on Windows", and "/opt/cisco/anyconnect/profile" on Apple devices. On Linux this is not supported.