



SOLIDWORKS PDM – VPN Considerations for IT, PDM Administrators, and PDM Users

We have been experiencing an influx of SOLIDWORKS PDM support cases concerning inability to connect to PDM servers through VPN. These are some considerations to take when working from home using VPN connection. This article is based on the trend of questions and calls regarding server connections during COVID-19 “Stay at home” directives.

IT personnel are encouraged to also read the “VPN Considerations for End User and Administrators” section of this document.

VPN CONSIDERATIONS FOR IT

Netbios names

Ensure that your VPN setup allows accessing the PDM servers using host names. If this is not possible, you can update client’s Windows host file accordingly. Just ensure server IP is static.

ICMP

Turning off ICMP for server hardening is OK. We just ask to inform users or our support team if we are troubleshooting a connection. A ping test is always one of the first things we test in support for connections and may confound troubleshooting efforts if unaware of ICMP being disabled.

Network Appliances & Ports

Ensure that the following ports are open in network from a client connected through VPN. We have encountered situations where required ports were not opened in firewall appliances and/or routers used to allow a new VPN setup for PDM. Please ensure that the ports are open in all applicable network appliances used for VPN connection.

Server ports

- Licensing Server: TCP/IP inbound: 25734 and outbound:25735.
- SOLIDWORKS PDM Archive Server Service: 3030 TCP/IP inbound.
- Microsoft SQL Server: Typical TCP/IP inbound ports: 1433 (default SQL instance) or 1434 (named SQL instance).
- For SOLIDWORKS PDM Standard, dynamic ports may be turned on for Microsoft SQL Express. Please follow this document to change to static ports prior to making VPN connection available: <http://kb.goengineer.com/go/default.aspx?kbID=15099>



RJ45

To optimize connection reliability and PDM performance while using VPN, ensure that the PDM client has a direct connection to their home router. Provide an CAT5e RJ45 cable if possible or instruct end user to acquire one. Wi-Fi reliability is very dynamic and varies depending on many factors. If end users are working through VPN and Wi-Fi simultaneously, expect issues like the ones described in the “considerations for end user” section of this document.

SOLIDWORKS Corp. Connectivity Tool for PDM

SOLIDWORKS Corp. has created a tool to test for connectivity from a PDM client to the servers. This tool facilitates ping and telnet tests to Microsoft SQL, PDM Archive Server Service, and Licensing Server. You can download the tool via [SOLIDWORKS Customer Portal](#) Knowledge Base article S-069274. An active maintenance subscription is required.

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For a limited time, due to the COVID-19 “Stay at home” directive from many Local and State Authorities, we have taken the initiative to provide this tool to anyone that needs it (access to SOLIDWORKS Customer Portal or not). This link will be removed at our discretion and without notification when the COVID-19 situation ends, and things returns to normalcy:

<https://goengineer.sharefile.com/d-s0c5c091211a4a2d9>

VPN CONSIDERATIONS FOR END USER AND ADMINISTRATORS

Consider this to help performance

First, note that VPN connections will not have the same bandwidth, consistent connection/reliability, and low latency that the local area network (LAN) back at your office has. You will see a slowdown in performance while working through VPN. This means you will need to keep some things in mind to help your working-from-home experience.

If you can, try not to use Wi-Fi

Wi-Fi is simply not reliable enough for PDM. There are many factors that affect a Wi-Fi connection - which are outside the scope of this document. If you are mixing VPN and Wi-Fi, expect issues such as licensing issues, incomplete move of files, messages saying *Not responding*, PDM Vault View hangs during simple tasks, SOLIDWORKS freezes or closes, etc. PDM is by nature a “chatty” application. It is designed around the use of a wired LAN. Therefore, it needs consistent, low latency, high bandwidth connection to the server. If you have an ethernet cable, and your router is easily accessible, connect straight through and turn off your computer’s Wi-Fi. You will be glad you did.



Avoid Large Tasks through VPN

Expanding from above, avoid performing large tasks that require a consistent and reliable connection for a prolonged period of time. For example, refrain from moving large folders or file sets with references, mass-check in/out of files, deleting a large file set, etc.

If you MUST perform large tasks, do so through a remote connection to a workstation at the office. This way, the task is performed through the LAN. Ask your IT if you need this.

Consider this if VPN is simply not connecting you right

Working off-line

Recall that you can work off-line if you check out your files prior to disconnecting from your company's local area network. There is a bit of an unmentioned "etiquette" when working offline to avoid losing work.

Please read through this article for avoiding losing work:

[SOLIDWORKS PDM – Avoid losing work](#)

No Sync for PDM

Do not link your PDM Vault View to any sync software such as Drop Box, One Drive, etc. SOLIDWORKS PDM is not intended for, nor designed to handle the methods in which sync applications handle cached files. Reported cases that have come through our queues regarding this sync setup include but not limited to:

- File corruption
- Broken SOLIDWORKS CAD file references
- Strange, never-before reported error messages
- Unable to save work in memory
- SOLIDWORKS CAD closes unexpectedly