

The Siemens logo, consisting of the word 'SIEMENS' in a bold, teal, sans-serif font, with the tagline 'Ingenuity for life' in a smaller, italicized, black script font below it.

Considerations for Working with Solid Edge from Home

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1 Overview

In this document we will attempt to provide a high-level overview on the considerations you need to be aware of when working with Solid Edge from your home location.

There are two topics to be considered when trying to work with Solid Edge from home:

- Running Solid Edge software
- Accessing Solid Edge data

By providing information on both these topics hopefully this will better educate you on the options available to working with Solid Edge from home and help guide you in to implementing a final, suitable solution.

1.1 Caveat

This document does not provide specific technical solutions nor recommendations. The expectation is that each employee will coordinate with their respective corporate IT department to provide the necessary technical solutions and software required to enable an employee to work from home.

2 Running Solid Edge Software

When it comes to running the Solid Edge software there are two solutions available to an employee:

- Running Solid Edge remotely from the office workstation/location
- Running Solid Edge locally on the employee's home computer

2.1 Running Solid Edge Remotely

By running a virtual private network (VPN) from the employee's home computer to the corporate network it is then possible for the user to run Solid Edge remotely from their office workstation.

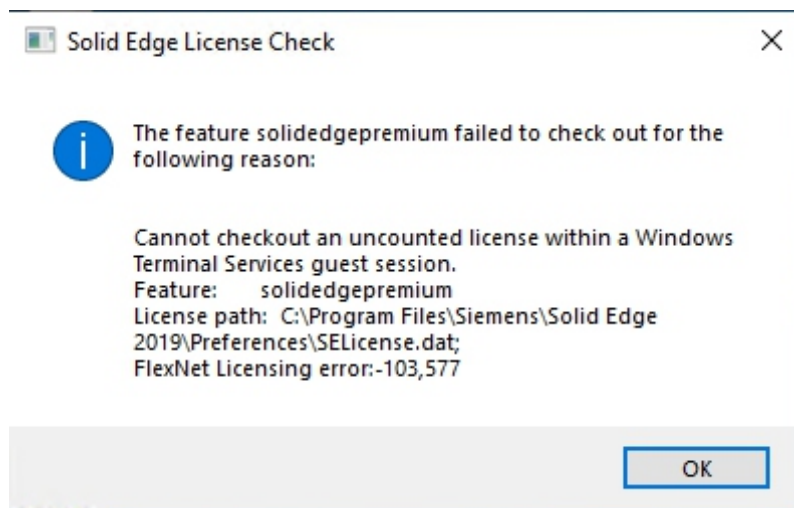
This VPN solution will be provided by the company's IT department and the employee will need to coordinate any questions and issues related to the VPN software and usage of with their IT support.

The benefit of running Solid Edge remotely is the minimal implementation required to run. There is only the VPN software to install on to the user's home computer. There is no Solid Edge installation and no alternate licensing method required to run Solid Edge.

2.1.1 Remote Desktop Connection

With the employee connected to the corporate network through VPN, then the user can connect to their office workstation and open a remote desktop connection (RDC). With this remote desktop session open it is then possible for the user to start Solid Edge on their office workstation and run Solid Edge remotely.

In order to be able to run Solid Edge remotely through RDC the Solid Edge license must be configured to allow for a terminal services connection (TS_OK). If the license file is not configured to allow for remote desktop access, then the user will see an error message similar to below when trying to run Solid Edge remotely from the office workstation:



This availability of this TS_OK option can also be confirmed by opening the Solid Edge license file into a text editor:

```
VENDOR ugslmd
INCREMENT solidedgeclassic ugslmd 220.0 28-dec-2020 uncounted \
  VENDOR_STRING="Solid Edge 2020 Temp License" HOSTID=DEMO \
  SUPERSEDE ISSUER="Siemens PLM, Inc." ISSUED=13-Aug-2019 \
  SN=57205685-b27f-4770-aalc-ac4919794269 TS_OK SIGN="0973 053A \
  1B7E 6C95 C43F F496 727D 2CCA 6EAF 3B81 305C 8C43 C714 6973 \
  3A1D 1641 6FF2 386C 6302 7EBA 10B2 03B4 380E 73DF 8327 A07D \
  A728 3D5D F14B A64C"
```

If the license file does not contain this TS_OK option, then it is possible to request a custom license file that has TS_OK enabled.

If the customer has node locked licenses or does not wish to request a custom license with TS_OK enabled, it is still possible to work around this remote desktop restriction. Please see the following Solution Center article on how to work around Solid Edge being blocked on a remote desktop session:

<https://solutions.industrysoftware.automation.siemens.com/docs/newsletter/SE-Launch-KeyShot-Remote-Desktop.docx>

2.1.2 Performance

Most typical home internet connections will have a high download speed but a low upload speed along with higher latencies. This trait can be problematic for remotely using highly graphical applications such as Solid Edge to run smoothly and performantly across a VPN connection. Although Solid Edge will work, the user may find the delay in the graphics display and the UI interaction to not be usable for extended periods of working with Solid Edge.

2.2 Running Solid Edge Locally

By installing and licensing the Solid Edge software on to the employee's home computer it is then possible for the user to run Solid Edge on their home computer.

Installing Solid Edge locally will provide for a more performant solution than trying to run Solid Edge remotely.

This solution will require providing a copy of the software install media to the employee and possibly configuring some form of alternate licensing for the user's home computer.

2.2.1 Licensing

With Solid Edge installed on to the local home computer, there are several ways that the user can then license their local system to run Solid Edge locally.

2.2.1.1 Floating Licenses

If the customer's Solid Edge product is configured with a floating license server, it is possible for a user at home to use the corporate VPN to connect to the corporate network and to then access a Solid Edge license through the VPN connection.

Please be aware that because of latency issues with VPN connections that when attempting to connect to the corporate floating license server the licensing connection may time out. This can be overcome by increasing the timeout value on the user's home computer. For instructions on how to configure the licensing connection timeout setting on a user computer, please see the following Solution Center article:

<http://solutions.industrysoftware.automation.siemens.com/view.php?si=001-7611687>

2.2.1.2 Cloud Enabled License

If a customer has Solid Edge node locked licensing it is possible for the customer to convert these licenses over to being cloud enabled. With cloud enabled licensing the user can run Solid Edge from any computer with an internet connection that has Solid Edge installed on it, including a home computer. Please see the following Solution Center article on how to configure cloud enabled licensing:

<http://solutions.industrysoftware.automation.siemens.com/view.php?si=002-7008649>

2.2.1.3 Home Use/Travel License

Depending on your Solid Edge software configuration, country of location, and other factors, you may also have available to your company sold-to id the option to be able to generate home and/or travel licenses. You can determine if home use and/or travel licenses are available to your sold -to id by visiting the License Management web page:

<https://www2.industrysoftware.automation.siemens.com/LicenseManagement/Application>

In License Management under “Passwords and License Files” you will see the following options if you have Home Use or Travel licenses available to you:

Passwords and License Files

Select the product and release for which you want to generate a password or retrieve a license file. If you have more than one product on the installation, choose the product most frequently used.

Product: Solid Edge ▼

Version: 220.0 ▼

220.0 at home license

220.0 travel license

220.0

219.0 at home license

219.0 travel license

219.0

Continue Cancel

For details on how to register a Solid Edge home use license please see the following Solution Center article:

<http://solutions.industrysoftware.automation.siemens.com/view.php?si=001-8894103>

For more details on Solid Edge travel licenses please see the following Solution Center article:

<http://solutions.industrysoftware.automation.siemens.com/view.php?si=001-7609366>

3 Accessing Solid Edge Data

3.1 Remote Access

If the user can run VPN from the home to connect to the company's network, then it is possible for the user to then access the Solid Edge data through the corporate network.

3.1.1 Performance

Although accessing Solid Edge data through VPN facilitates easy management of that data, the performance of trying to work with Solid Edge files across the VPN can be a concern, especially for large or massive assembly datasets. A typical home internet connection will have a high download speed but a low upload speed. Although the performance of opening of the Solid Edge files (download) may be acceptable then subsequent saves of the Solid Edge files (upload) can be non-performant. If the user will be working with large datasets, then it may be more beneficial to pursue a different method of accessing the Solid Edge data e.g. cloud storage or local storage.

3.1.2 Internet Stability

If the home internet connection is not stable, then when trying to work with the Solid Edge data remotely may throw the network disconnect error when saving files then requiring the user to save the files locally.

Additionally, network instability when working in a team environment may potentially also lead to "File Save Conflict" errors to be thrown. For more on file save conflict errors please see the following Solution Center article:

<http://solutions.industrysoftware.automation.siemens.com/view.php?si=002-8016337>

3.2 Cloud File Syncing and Storage

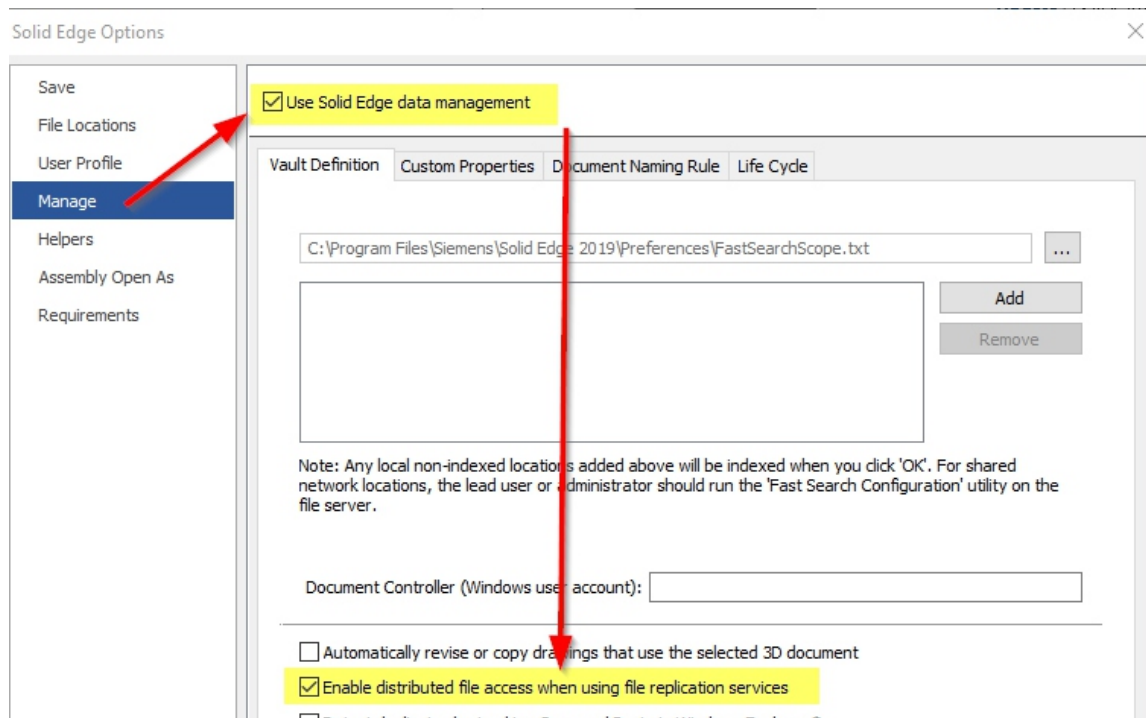
Cloud file syncing or cloud storage is an application or solution that keeps files in different locations up to date through the cloud. For cloud file syncing, a user sets up a cloud-based folder, to which the desired files are copied.

Cloud file syncing makes the files accessible for multiple users. When a user updates a file, the changes are automatically synchronized with the corresponding folders on other user devices. This is especially useful when designing in Solid Edge with multiple users each working from home in a collaborative design environment.

Examples of commercial cloud storage solutions are [Dropbox](#), [Google Drive](#), [Microsoft OneDrive](#), et. al.

3.2.1 WAN Locking

If using Solid Edge with a cloud storage solution, then it is advisable to set the "Enable distributed file access when using file replication services" option within the Solid Edge Options to enforce explicit Solid Edge file locking:



This option prevents other users who share the cloud storage from being able to edit the same Solid Edge file at the same time.

3.2.2 Collaboratively Editing Files

Some cloud solutions allow for multiple users to all collaboratively edit the same file at the same time. Solid Edge does not support collaborative edits to the same file at the same time

Even with the WAN locking setting mentioned above enabled in the Solid Edge options, some cloud solutions will still try to implement collaborative editing of the files stored within the cloud. It is imperative that for these cloud solutions that collaborative editing is turned off. One such example of this collaborative editing feature is OneDrive. For more details on turning off collaborative editing in OneDrive please see the following Solution Center article:

<http://solutions.industrysoftware.automation.siemens.com/view.php?si=002-8014932>

3.2.3 Privacy Concerns

Scope of this document does not include any data security, data privacy, and data confidentiality concerns should your IT department raise concerns.

In that case please advise your IT department that there are solutions available to allow you to set up your own corporate cloud storage within and using your own company infrastructure. One such example of an internal cloud solution is the open source [ownCloud](#) solution.

3.3 Local Storage

If it is not possible for the user to connect to the corporate VPN nor to use cloud storage solutions, then the user must physically copy the Solid Edge data to a physical portable storage device e.g. USB drive and then carry that physical storage in to the user's home for use with Solid Edge.

3.3.1 Data Collisions

Although local storage is practical for a single user working alone, in a team collaborative design environment this method may introduce file management issues. Once the users return to the office there

must be an activity to copy the files modified at home back to the corporate storage. If multiple users work with multiple copies of the data, there is the potential for data collision and potential data loss. Using syncing utilities such as [Microsoft SyncToy](#) or [FreeFileSync](#) may help with automating resolving collision issues when copying the data back to the server.

3.4 Teamcenter Data

If working with the Teamcenter Integration for Solid Edge, then accessing the data through Teamcenter will factor into your decisions on how to work with your Teamcenter managed data from home.

Using VPN for remote access from the home computer to the Teamcenter server will provide the most seamless solution and is the recommended method for working with the Teamcenter managed data. However, as indicated above performance should be factored in and tested.

Once the Solid Edge data has been downloaded to the user's cache, it may then be beneficial to turn on the "Work Offline" mode. For more on "Work Offline" please see the following Solid Edge documentation:

http://docs.plm.automation.siemens.com/tdoc/se/2020/se_help#uid:xid1129777:xid1329553:index_managing_documents:xid280050

If the employee cannot access the Solid Edge data through Teamcenter via a VPN connection, then the employee will need to make a local copy of the managed data while still in the office and then carry that copy of the data to their home computer. This can be accomplished by turning on the Solid Edge "Create Package" command within the Teamcenter options. For more on using "Create Package" please see the following Solid Edge documentation:

http://docs.plm.automation.siemens.com/tdoc/se/2020/se_help#uid:xid1129777:xid1329553:index_managing_documents:xid280054:xid1175763

4 Summary

In this document we have reviewed the considerations for how a user can both run the Solid Edge software from home and how the user can access the Solid Edge data from home.

It is advisable that where possible a customer reviews, implements, and most importantly, tests any desired solution ahead of when it is needed.

Although it is not the remit of GTAC to provide nor recommend technical solutions for an employee to work from home, we are happy to answer any questions that you may have regarding this subject.

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