ActiveGraf Technical Whitepaper

IT checklist for ActiveGraf Installation

ActiveGraf v2.0

Last Updated on February 25, 2021

This document includes advanced technical information. If you are not sure how to accomplish the below-described steps, ask for the help of computer support professional or contact your IT department!

Installation

During the installation process ActiveGraf Installer installs the necessary system components and settings required for the smooth operation of ActiveGraf.

Please use the below checklist to ensure error free installation.

IT desktop support

1. Make sure to turn off all virus protection software for the duration of the ActiveGraf installation. Virus protection software can block some actions initiated by the ActiveGraf installer resulting in a miss-configured ActiveGraf installation.

2. Verify that the user account used for the installation is having sufficient authorization (local admin) to modify the Windows host file. ActiveGraf installer inserts an entry to the windows hosts file located here: C:\Windows\System32\drivers\etc
   The following entry allows ActiveGraf to communicate to the localhost-based server component (will be added by the ActiveGraf Installer):
   - `127.0.0.1 activegraf.localhost`

3. Verify that the user account used for the installation is having sufficient authorization (local admin) to run cmd.exe with elevated rights. The following command will be run by ActiveGraf Installer:

   ```
   CheckNetIsolation LoopbackExempt -a -n=”microsoft.win32webviewhost_cw5n1h2txyewy”
   ```

   Some Windows editions block the communication with Localhost based servers, therefore this block needs to be released. Office Add-ins use Microsoft Edge Web View Control, so the communication between this component and the ActiveGraf Server must be allowed.

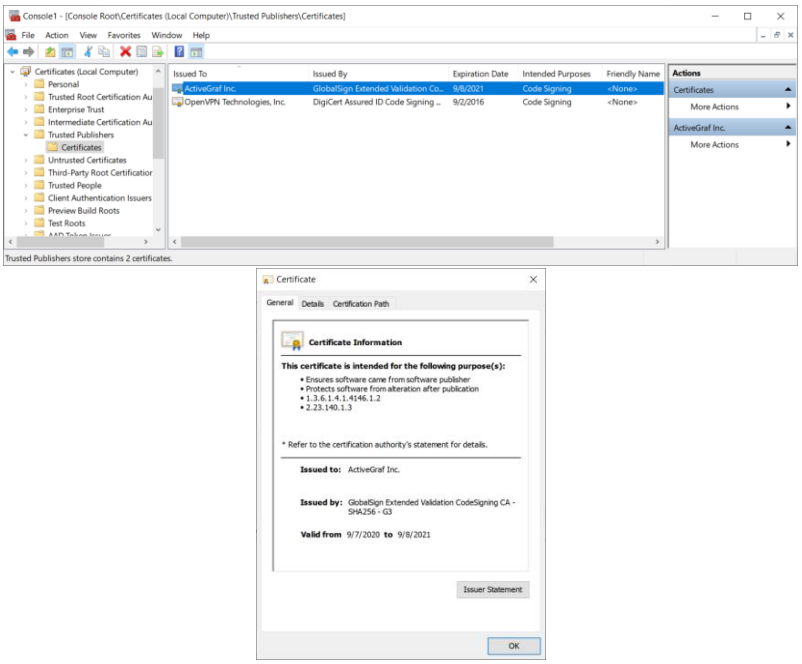
4. Verify, if Internet Options / Protected Mode is enabled for the Restricted Site Zone. This is typically enabled by default. If it is disabled, an error will occur when you try to launch ActiveGraf add-in. Steps to enable Protected Mode:
   - Open Internet Explorer
   - Click Tools
   - Click Internet Options
   - Click Security tab
   - Select Internet Sites zone
   - Select Enable Protected Mode
   - Click OK

- Restart Internet Explorer and all Office applications

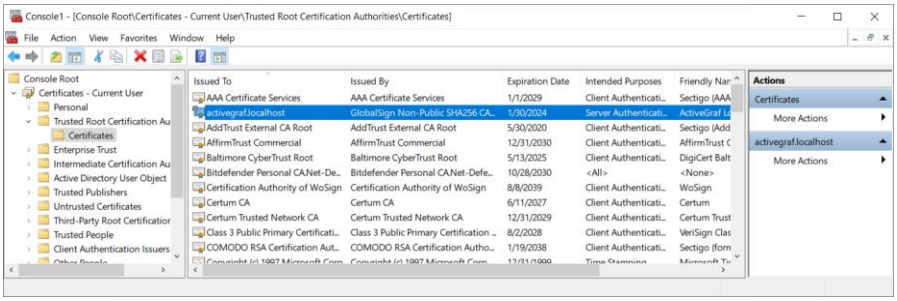
5. Verify that the user account used for the installation is having sufficient authorization (local admin) to install and configure MS Loopback adapter. This is required to ensure smooth operation, even when there is no internet connection. All ActiveGraf client-server communication is routed via this adapter.

6. Verify that the user account used for the installation is having sufficient authorization (local admin) to install an Extended Validation Code Signing Certificate issued by GlobalSign. The ActiveGraf code and installer are signed with this certificate, ensuring, that the installation file is not tempered and/or no virus infected. The location of the certificate is:

7.



8. Verify that the user account used for the installation is having sufficient authorization (local admin) to install an SSL certificate issued by GlobalSign. The communication between the ActiveGraf server component and the add-in components is secured by this SSL certificate. This certificate is required for the proper operation of the system, without it the https communication between the system components will not work. The location of the certificate is:


Console1 - [Console Root\Certificates - Current User\Trusted Root Certification Authorities\Certificates]
File Action View Favorites Window Help
Console Root
Certificates - Current User
Personal
Trusted Root Certification Au
Certificates
Enterprise Trust
Intermediate Certification Au
Active Directory User Object
Trusted Publishers
Untrusted Certificates
Third-Party Root Certificatior
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activegraf.localhost
GlobalSign Non-Public SHA256 CA...
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DigiCert Balt
Bitdefender Personal CA.Net-De...
Bitdefender Personal CA.Net-Defe...
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<All>
<None>
Certification Authority of WoSign
Certification Authority of WoSign
8/8/2039
Client Authenticati...
WoSign
Certum CA
Certum CA
6/11/2027
Client Authenticati...
Certum
Certum Trusted Network CA
Certum Trusted Network CA
12/31/2029
Client Authenticati...
Certum Trust
Class 3 Public Primary Certificati...
Class 3 Public Primary Certification ...
8/2/2028
Client Authenticati...
VeriSign Clas
COMODO RSA Certification Aut...
COMODO RSA Certification Autho...
1/19/2038
Client Authenticati...
Sectigo (form
Actions
Certificates
More Actions
activegraf.localhost
More Actions

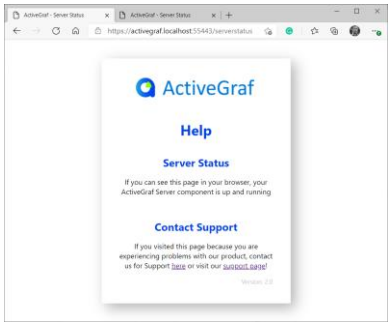

Certificate
General
Details
Certification Path
Certificate Information
This certificate is intended for the following purpose(s):
• Ensures software came from software publisher
• Protects software from alteration after publication
• 1.3.6.1.4.1.4146.1.2
• 2.23.140.1.3
* Refer to the certification authority's statement for details.
Issued to: ActiveGraf Inc.
Issued by: GlobalSign Extended Validation CodeSigning CA - SHA256 - G3
Valid from 9/7/2020 to 9/8/2021
Issuer Statement
OK

Network Support / Network Security

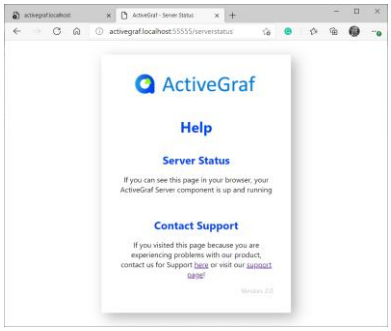
9. Verify that the following ports are open in the firewall configuration: ActiveGraf uses the following ports to communicate with the Localhost ActiveGraf Server Component:
   - 55443 (https)
   - 55555 (http)

   The above ports need to be opened towards localhost for the proper communication. For testing the connection to the localhost server, the following URLs can be used. Both should display the ActiveGraf Server Status page. If they work, the communication between the client and server-side should also work properly.

   - https://activegraf.localhost:55443/serverstatus



   - http://activegraf.localhost:55555/serverstatus



10. Verify that the following ports are open in the firewall towards the Cryptlex licensing engine web API:
    - 54.147.158.222
    - 54.147.163.93
    - 54.144.124.187
    - 54.144.46.201

    Alternatively, you can also whitelist Cryptlex web API URL: https://api.cryptlex.com:443

The ActiveGraf Licensing engine uses internet connection to validity of the ActiveGraf subscription. The licensing engine must be made available in from the computer running ActiveGraf, so the validation can take pace.

11. Verify that the VPN settings (if used) allow VPN split tunneling and no restrictions in place blocking the communication towards the localhost based ActiveGraf server component.

Appendix 1 - VPN client configuration options

- Cisco VPN Client and AnyConnect Client
  https://www.cisco.com/c/en/us/support/docs/security/asa-5500-x-series-next-generation-firewalls/70847-local-lan-pix-asa.html
  https://answers.uillinois.edu/illinois/page.php?id=81643

- FortiClient
  https://www.youtube.com/watch?v=BpexjgfsD34#t=589

- NordVPN Teams
  https://support.nordvpn.com/General-info/1596155872/Split-tunneling-What-it-is-and-how-you-can-use-it.htm

- Perimeter 81 Enterprise VPN
  https://support.perimeter81.com/docs/split-tunneling

- OpenVpn
  https://openvpn.net/cloud-docs/split-tunnel/

- SOPHOS VPN
  https://support.sophos.com/support/s/article/KB-000034338?language=en_US

- Pfsense VPN
  https://www.lawrencesystems.com/split-tunnel-routing-with-openvpn-and-pfsense/