GO-GlobalWindows applications, anywhere.

GO-Global Release Notes

Version 6.4.0.34940

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Notes:

- 1. Older GO-Global clients can connect to GO-Global 6.4 hosts, but some enhancements and fixes will only be supported with GO-Global 6.4 clients. Users should upgrade their clients to version 6.4.
- 2. Version 6.4 is not available via the Host Updates feature. To upgrade systems to version 6.4, download the version 6.4 GO-Global Host from the GraphOn Customer Portal and run the installer on the systems you want to upgrade
- 3. When upgrading version 6.2.6 relay environments to version 6.4, upgrade the Relay Load Balancer before upgrading any Dependent Hosts.
- 4. Upgrading version 6.0 systems using cloud trial licenses to version 6.4 is not supported.
- 5. GO-Global 6.4 cannot be used with a lower-version license (e.g., with a version 6.2 license). All cloud subscription licenses have been upgraded to version 6.4, but if you are upgrading to GO-Global 6.4 from an earlier version and you are using an on-premises license, you will need a new version 6.4 license file. You can request a new license file via the License Change Request (LCR) page on the Customer Portal.
- 6. GO-Global Host 6.4 does not support and will not install on Windows 7, Windows 8, Windows 8.1, Windows Server 2008 R2, Windows 10 Enterprise Long-Term Servicing Channel (LTSC) versions other than 1809, and Windows 10 Semi-Annual Channel (SAC) version 1909 and earlier.
- 7. GO-Global manages licenses from the Application Host Manager by default.

Supported Platforms

GO-Global Host

The GO-Global Host requires one of the following 64-bit Windows operating systems:

- Windows Server 2022 Standard and Datacenter
- Windows Server 2019 Standard and Datacenter
- Windows Server 2016 Standard and Datacenter
- Windows 11 Version 23H2 Professional and Enterprise
- Windows 10 (latest and prior SAC releases) Professional and Enterprise
- Windows 10 (latest and prior LTSC releases) Enterprise

The GO-Global Host is supported on computers that have the latest Windows Updates (released via the Windows Updates service) installed. GO-Global does not support out-of-band (OOB) Windows updates.

Users must be a member of the computer's Administrators group to install and administer the GO-Global Host.

GO-Global can be installed and run on guest operating systems that are managed by hypervisor products such as VMware ESXi, Microsoft Hyper-V, and Citrix Hypervisor.

The GO-Global Host does not support systems that have Virtualization-based security (VBS) enabled. When VBS is enabled, System Information reports that Virtual-based security is *Running*. If the GO-Global Host is installed on a system where VBS is running, the system will crash or the GO-Global System Extensions Driver will fail to load. For more information or to disable VBS, see <u>Tech Note 224</u>.

GO-Global Client

GO-Global supports the following client platforms:

- Windows 11 Professional and Enterprise (64-bit)
- Windows 10 Professional and Enterprise (32-bit/64-bit)
- macOS 13 and later
- Ubuntu 19 and 20 (64-bit)
- iOS 15 and later
- Android 12 and later on ARM processors, including Chromebooks manufactured in or after 2019

Browsers

For browsers running in GO-Global sessions, GO-Global supports the following:

- Mozilla Firefox (Latest Extended Service Release)
- Apple Safari 15 and later on macOS
- Google Chrome
- Microsoft Edge

Antivirus Software

The following antivirus products have been tested and verified to be compatible with GO-Global:

- Sophos Endpoint Protection
- 360 Total Security
- Adaware Antivirus 12
- Avira Security
- Bitdefender Agent Antivirus Free Edition
- eScan Anti-Virus (AV) Edition for Windows
- Eset Security
- McAfee Total Protection
- Norton 360
- TotalAV Antivirus 2023
- Vipre
- ZoneAlarm Next Gen
- F-Secure
- Acronis Cyber Protect Cloud (included with Acronis backup solutions)
- CrowdStrike Falcon
- Symantec Endpoint Protection

GO-Global and antivirus products use similar techniques to extend Windows functionality. This can result in incompatibilities between GO-Global and antivirus products. It is not sufficient to deactivate an incompatible antivirus product. Incompatible antivirus products must be completely removed from the system.

The following products are incompatible with GO-Global:

- AVG
- Avast
- Cortex XDR
- Panda Endpoint Agent and Panda Antivirus
- Akamai Guardicore
- Trend Micro See the workaround.
- Dynatrace OneAgent See the workaround.
- Kaspersky 32-bit applications fail to run. See the workaround.
- SentinelOne 32-bit applications fail to run. See the workaround.
- Webroot (*Note:* The Webroot uninstall may fail to fully remove Webroot from the computer. To fully remove Webroot, uninstall it, reboot in Safe Mode, and then delete all the files in C:\Program Files\Webroot\Core. Then delete C:\Windows\System32\drivers\dbcm.bin to re-enable GO-Global. Then reboot the computer.)



Enhancements in Version 6.4

Invoke-GGSendMessage PowerShell Function

The <u>Invoke-GGSendMessage</u> function allows administrators to send messages to connected users via PowerShell.

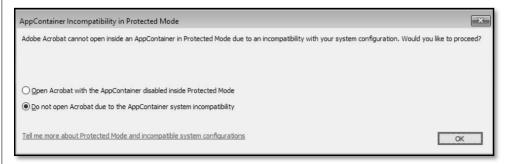
Bi-Directional Communication Between JavaScript and Remote Applications

Using the Browser Component SDK, administrators can enable two-way communication between applications running in a GO-Global session on the host and JavaScript in the browser.

Fixed Issues

Case ID	Bug ID	Description	
70744	GO-1622	OpenID Connect Authentication does not work with Ping Identity in version 6.3.2 or version 6.3.3.	
70626	GO-1583	Display and input problems occur in remote applications after the display configuration is changed on the client (e.g., when AppController is running on a laptop, and the laptop is removed from a docking station).	
70663	GO-1800	PDF preview does not work in Adobe Reader when Adobe Reader is started from an application running in a GO-Global session.	
70152	GO-1430	Issues occur when minimizing and restoring windows when AppController is running on MacOS 15.	
70028	GO-1365	AppController may hang or crash when a client drive is disconnected.	
69508 70445	GO-1228	Users are unable to delete files on client drives when using the GO-Global Client Drives feature.	
69244	GO-1154	It is not possible to change the "Starting session" text in the browser using GO-Global's localization feature.	
	GO-1107 GO-750	Miscellaneous issues with the PowerShell commands Invoke-GGPublishApplication and Invoke-GGUnpublishApplication.	
58060	GO-387	On Japanese hosts, predictive text does not work when server-side IME is enabled.	
70576	GO-1671	The APS may crash when GO-Global's Kerberos authentication extension is enabled in a process.	
71050	GO-1743	Security vulnerability when OpenID Connect Authentication is used.	
71135	GO-1795	Users can connect to other users' sessions after the maximum session ID is reached and reset.	

When launching Adobe Acrobat in a GO-Global session, users are presented with the following *AppContainer Incompatibility in Protected Mode* dialog:



To resolve this incompatibility, use the following code to create a logon script .bat file to allow Adobe Acrobat to launch for all users:

REG ADD "HKCU\Software\Adobe\Adobe Acrobat\DC\Privileged" /v bProtectedMode /t REG_DWORD /d 0 /f

REG ADD "HKCU\Software\Adobe\Adobe Acrobat\DC\Privileged" /v bEnableProtectedModeAppContainer /t REG_DWORD /d 0 /f

To run the global logon script

- 1. From the Admin Console, click Tools | Host Options.
- 2. Click Session Startup.
- 3. Select **Global** and specify the path of the logon script file created above. (For example, C:\Program Files\GraphOn\GO-Global\Programs\GGLogonScript.bat)
- 4. Click OK.

This logon script will set **bProtectedMode** and **bEnableProtectedModeAppContainer** values to 0 for all users. For more information, see https://www.adobe.com/devnet-docs/acrobatetk/tools/PrefRef/Windows/Privileged.html.

Users may encounter issues when upgrading to AppController version 6.4 when TCP connections are not available. To avoid this, provide the AppController installer with a URL to the installer files on the GO-Global Host.

To download the **Single User AppController** installer, append **Clients/AppController.exe** to your logon URL. For example: https://host1.example.com:491/**Clients/AppController.exe**

To download the **All User AppController** installer, append **Clients/AppController.AllUsers.exe** to your logon URL. For example, https://host1.example.com:491/**Clients/AppController.AllUsers.exe**

To download the **MacOS App** installer, append **Clients/AppController.dmg** to your logon URL. For example, https://host1.example.com:491/**Clients/AppController.dmg**

Known Issues

GO-Global sessions do not start on the latest feature release of Windows 11 version 24H2. Customers must downgrade to Windows 11 version 23H2 or 22H2.

The enhancement to the Universal Printer Driver that enables users to edit all the settings of their client printers from AppController for Windows does not work from within Google Chrome or Mozilla Firefox running in a GO-Global session. From within these browsers, users can only configure the standard settings of printers that are configured to use GO-Global's Universal Printer Driver.

When the GO-Global Host is upgraded to version 6.4 from version 6.3.2 and earlier, GO-Global will continue to use the Universal Printer Driver libraries from the earlier version. To enable the use of the new Universal Printer Driver libraries that were first released in version 6.3, change the values of the PDFConverter and PDFPrinter properties in HostProperties.xml from 1 to 2.

When a user connects to a GO-Global Host from a browser and a session fails to start, the browser may continue to display **Session starting...** and fail to report the reason the session failed to start. Users can press F5 to retry.

The Sign In dialog and its associated session remain running forever if the user does not sign in. By default, this is still the case, but administrators can limit the amount of time that users have to sign in by changing the value of the **SignInTimeLimit** property in HostProperties.xml from -1 (no limit) to the number of minutes users will have to sign in. When this limit is exceeded, the session will close after briefly displaying a message that informs the user why the session is closing.

Dynatrace OneAgent is not supported on GO-Global. The following workaround can be used to resolve this:

- 1. Stop the Application Publishing Service.
- 2. Install Dynatrace Windows OneAgent, if it's not already installed.
- 3. Navigate to Hosts Classic in the Dynatrace cloud console.
- 4. Select your GO-Global Host name.
- 5. Select **Settings**.
- 6. Select Host Monitoring.
- 7. Select Advanced Settings.
- 8. Disable ProcessAgent injection.
- 9. Click the **Save** button. Wait 5 minutes to be sure the new setting applies to the Dynatrace Windows OneAgent.
- 10. Reboot the GO-Global Host.

Perform these steps for **all** GO-Global Hosts. Do not apply this setting to computers that are not GO-Global Hosts. Do not apply this setting at the environment or group layer; only at the specific host's settings.

GO-Global Host is not supported on Windows Server 2025.

A change to Let's Encrypt's encryption service prevents GO-Global's Strong Encryption Certificate Wizard from performing DNS-01 validation. You can obtain certificates using publicly-available tools for Let's Encrypt, such as the PowerShell module and ACME client from Posh-ACME. For more information, see DNS Validation Failing in the Let's Encrypt Certificate Generator Wizard.

Google Chrome and Microsoft Edge fail to run or print in GO-Global sessions on most supported platforms.

The table below documents workarounds for these issues.

Host Operating System	Microsoft Edge	Google Chrome
Windows Server 2022	Workaround B to run and print	Workaround B to run and print
Windows Server 2019	Workaround A to run Workaround B to print	Supported Workaround B to print
Windows Server 2016	Supported	Supported
Windows 11	Incompatible	Workaround B to run and print
Windows 10	Workaround A to run Workaround B to print	Supported Workaround B to print

Workaround A

Add the RendererAppContainerEnabled registry variable as follows:

- 1. From the Registry Editor, expand the HKEY_LOCAL_MACHINE key.
- 2. Expand \SOFTWARE\Policies\Microsoft
- 3. Create a new key and name it Edge.
- 4. Create a DWORD (32-bit) Value and name it RendererAppContainerEnabled.
- 5. Set this value to hexadecimal 0.

Workaround B

Add the **--no-sandbox --allow-third-party-modules** command-line options to the browser's command line in the Admin Console, as follows:

- 1. In the Admin Console, click the **Applications** tab.
- 2. Select the appropriate application (e.g., Chrome or Edge) from the list of **Installed Applications**.
- 3. Click the **Properties** button.
- 4. In the Command-Line Options box, type: --no-sandbox --allow-third-party-modules
- 5. Click OK.

Known Issues

Windows Explorer (File Manager) does not run in GO-Global sessions on Windows 11 Version 21H2.

Client Sound does not work on Windows 11 or Windows Server 2022.

Type 4 printer drivers are not supported.

Task Manager crashes in console and RDS sessions on Windows 10, Windows 11, and Windows Server 2022 when the Performance tab is selected.

The GO-Global Host and AppController for Windows are digitally signed using a certificate issued by DigiCert. The root certificate of GraphOn's signing certificate is the "DigiCert Trusted Root G4" certificate. DigiCert's certificate is normally installed on Windows systems, but it may not be installed on systems where Windows has been freshly installed from an ISO or image. If the certificate is not installed on a computer running the GO-Global Host, GO-Global sessions will not start. If it is not installed on a Windows client computer, AppController may not run. If either occurs, you can resolve the issue by downloading the certificate from DigiCert's website and installing it on the affected computer.

32-bit Chrome is not supported as a published application. Only 64-bit Chrome can be run in GO-Global sessions.

When Open File Redirection is enabled for a given document type (e.g., a Microsoft Word document), the document's normal icon will be replaced with a generic icon when files of the document type are viewed within Windows Explorer or a File Open dialog in a GO-Global session. Also, if a Microsoft Office application is run in a GO-Global session, it will display a message to the user indicating that the application (e.g., Microsoft Word) is not the default application for viewing and editing documents. Therefore, if users need to run Microsoft Office applications on the host, the Open File Redirection feature should be disabled for Microsoft Office document types.

Users running Microsoft Office applications in GO-Global sessions cannot save files to MyWorkDrives mapped on their local computer.

In some configurations on Windows 11, GO-Global sessions do not start until the host is restarted.

The Video Replay option:

- Is only supported by AppController for Windows
- Requires that Window Media Foundation be installed on Windows Server 2012 R2 hosts
- Consumes more memory and CPU than the standard RapidX Protocol
- Is slower when the screen size of the video is larger

Regardless of whether the video option is enabled:

- Videos do not play when Chrome version 80 is run in a GO-Global session
- Videos do not play in Internet Explorer unless the Windows Audio Service is enabled
- Videos are not displayed when Windows Media Player is run in a GO-Global session

To work around the Windows Media Player issue, customers can use a different media player.

The File Open Redirection feature is only supported by AppController for Windows and AppController for macOS.

DPI Scaling may not work in the GO-Global Web App.

Clients may bypass third-party load balancers and connect to Farm Hosts indirectly via Farm Managers. Similarly, clients may connect directly to Dependent Hosts.

When a user connects to a Farm Host, the Admin Console does not list the IP address of the client device.

When **Notify users when connections are secure is** enabled, the *secure connection* notifications can interfere with automatic reconnect.

When a host is configured to use a cloud license, the **Seats in use** value in the Admin Console displays the number of License Seats that are in use on the selected host. If more than one host is configured to use the same cloud license, **Seats in use** will not display the total number of the license's seats that are in use.

If AppController has been uninstalled from a client system, browsers do not subsequently prompt users to re-install it.

The GO-Global Host installer does not support downgrades or repairs. To downgrade or repair a GO-Global Host installation, use the <u>GO-Global migration utility</u> (migrate.exe).

Firefox 64 as a published application might hang after browsing web pages.

When the Web App is used by itself (without AppController), the Cut, Copy, and Paste menu options of applications running in GO-Global sessions cannot be used to transfer data between local and remote applications. To cut, copy, or paste data between local and remote applications, users must use the respective keyboard shortcuts, Ctrl+X, Ctrl+C, and Ctrl+V.

Copy and paste does not work in some scenarios in the GO-Global Web App.

The Microsoft Remote Desktop Client is not supported in GO-Global sessions.

When a file is saved to a directory on a client computer from a Microsoft Office application running in a GO-Global session on a Windows 10 host, an additional temporary (.tmp) file is stored in the client directory along with the saved file.

AppController may not start automatically after it is installed. If this happens, click the **Reload** link.

The Client Sound feature is not supported on Apple Safari 15 when using the GO-Global Web App.

JPG, PNG, BMP, and JPEG files fail to open in GO-Global sessions. To work around this issue, specify the editor for these file types for all users via Group Policy

(https://techcommunity.microsoft.com/t5/ask-the-performance-team/how-to-configure-file-associations-for-it-pros/ba-p/1313151).

When F-Secure Antivirus is installed together with the GO-Global Host on Windows 10, sessions take more than two minutes to start. To work around this issue:

- 1. Open F-Secure.
- 2. Select the AntiVirus tab on the right pane.
- 3. Click Settings.
- 4. Select DeepGuard.
- 5. Click View excluded files.
- 6. Click Add new.
- 7. Add C:\Windows\System32.
- 8. Add C:\Program Files\GraphOn\GO-Global\Programs.
- 9. Close all F-Secure windows.
- 10. Restart the computer.

When Enhanced Client-Side IME is enabled, the IME composition might appear in the wrong location initially when the user starts typing in some applications.

32-bit applications fail to launch in a GO-Global session when ZoneAlarm Extreme Security is installed on the GO-Global Host. To allow 32-bit applications to launch, turn off Enable behavioral scanning under ZoneAlarm's Advanced Settings.

Client printing is not supported on GO-Global Hosts running Remote Desktop Services. Printing to redirected printers in the RDS session does not work if GO-Global is installed.

Display problems may occur in multi-monitor configurations when a monitor that is scaled has monitors that abut it on both its left or right and its top or bottom.

Microsoft Office 365 applications cannot be activated in GO-Global sessions. The following workarounds can be used to resolve this:

- Use versions of Office that can be activated using a product key/volume licensing (e.g., Microsoft Office 2021) on GO-Global Hosts.
- Provide a way for users to activate Office applications outside of GO-Global (e.g., in a console or RDS session) on a one-time or periodic basis. By using *licensing token roaming*, user activation can be propagated across different hosts, enabling seamless transition. This process could be automated for larger deployments.

Publish Office 365 web apps via a supported browser, as these do not require activation. If users only need access to Microsoft Office applications to open files (e.g., spreadsheets, Word documents, etc.), enable GO-Global's **Open Files on Client** feature to allow users to open Microsoft Office files directly on their local device (rather than in the GO-Global session).

An application (e.g., Windows File Explorer) or an application's features only work for members of the Administrators group when Integrated Windows Authentication or OpenID Connect Authentication are used.

Root Cause: By default, Windows does not grant *Launch and Activation* COM rights to standard users who have not signed in to Windows interactively by entering a username and password.

To resolve this, grant users Launch and Activation rights as follows:

- 1. Run dcomcnfg.
- 2. Navigate to Component Services | Computers | My Computer.
- 3. Right-click My Computer and click Properties.
- 4. Select the COM Security tab.
- 5. Under Launch and Activation Permissions, click the Edit Default... button.
- 6. Click the **Add** button. (*Note*: The default permissions grant full rights to the INTERACTIVE and Administrators groups. This is why this works for all users authenticated via a username and password (INTERACTIVE users) and members of the Administrators group when Integrated Windows Authentication or OpenID Connect Authentication is used.
- 7. Add the **Domain Users Group** or the **AD Group** that needs access.
- 8. Click the Allow checkboxes next to Local Launch and Local Activation.
- 9. Click OK.
- 10. Click **OK**.

Known Issues

GO-Global provides limited support for client-attached USB devices. Specifically, it supports client-attached USB printers, drives, and some smart cards. It does not support general-purpose USB-redirection of other types of USB devices.

Windows 10 N and Windows 11 N are not supported platforms for the GO-Global Host. In addition, when AppController for Windows is run on Windows 10 N or Windows 11 N without the Media Feature Pack, sessions will fail to start and the AppController.exe process will exit soon after it starts. Users can work around this issue by installing the Windows 10 or Windows 11 Media Feature Pack.

On Chinese GO-Global Hosts that have server-side IME enabled, the IME composition window does not appear the first time a user signs in. When this occurs, the user can work around the issue by signing out and signing back in.

To use client-side IME on an Arabic OS, the **KeyReportingMethod** property in the HostProperties.xml file must be set to 0. For instructions, see **Key Reporting Method**.

Microsoft Edge WebView2 controls do not work on Windows 11 22H2.

When the GO-Global Host installer is run on Windows Server 2019 or Server 2022, clicking the installer's **Restart** button will not restart the computer. When this occurs, restart the computer from the Start menu. Alternatively, run the host installer as Administrator.

An image of a rectangular blue bar is displayed instead of the Sign In dialog. To resolve this issue, upgrade the version of the Visual C++ Redistributables on the GO-Global Host by following the instructions at https://learn.microsoft.com/en-us/cpp/windows/latest-supported-vc-redist?view=msvc-170.

32-bit applications fail to run when **SentinelOne** is installed on the GO-Global Host. Add an Interoperability exclusion for any 32-bit processes that will run in GO-Global sessions, as follows:

- 1. Log in to the SentinelOne web portal.
- 2. Select your site or group.
- 3. Select Sentinels, then Exclusions.
- 4. Select New Exclusion and/or Create Exclusion.
- 5. Select **Path** as the Exclusion Type.
- 6. Type the full path of the 32-bit application's executable file (e.g., C:\Windows\System32\notepad.exe).
- 7. Select As File.
- 8. Enable Exclude path for alerts and mitigation.
- 9. Select Interoperability as the Exclusions Mode.
- 10. Click Save.

Trend Micro is incompatible with GO-Global. Use the following workaround: Add logon.exe, pw.exe, and any other programs that need to run in GO-Global sessions under Trend Micro's Protection Settings | Exception Lists | Programs/folders.

32-bit applications fail to run when Kaspersky is installed on the GO-Global Host. Use the following workaround:

- 1. Edit the appropriate security profile settings.
- 2. Go to Security settings | Behavior Detection.
- 3. Disable Behavior Detection, Exploit Prevention, and Remediation Engine.
- 4. Click Save.

The User Sandbox feature does not support blocking access to a user's Desktop folder.

GO-Global Web App users must use the 3-finger tap to activate the keyboard.

GraphOn Corporation

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