Version 1.26.4

LSEG Workspace | Desktop

Installation and Configuration Guide

LSEG DATA & ANALYTICS

Contents

About this document

This guide describes IT-managed installations to platforms running on the following environments[1]:

- Microsoft® Windows® directly

- Citrix® [2], specifically:

  - Windows application virtualization with Citrix Virtual Apps (formerly XenApp) (published app or published desktop)
  - Windows desktop OS virtualization with Citrix Virtual Desktop (formerly XenDesktop)

- VMware[3], specifically:

  - Horizon 8 Connection Server, Agent, and Client
  - Blast display protocol

This document also details the steps and any post-installation configuration and customization that is required to install the application.

A summary of all changes made in this document can also be found in the Version History.

Intended readership

The LSEG Workspace Installation and Configuration Guide is intended for IT specialists that are responsible for the installation and maintenance of Workspace and Messenger standalone.

Software releases and end of life

Refer to the Workspace Support Policy, which can be found in the documentation section of the LSEG Workspace page.

In this guide

The following text styles are used to provide important and additional information:

⚠ **Text**	Text with a grey background, preceded with the red warning sign is used to indicate highly important or critical information.
Footnotes[31]	Footnotes are used to provide additional information and are indicated with hyperlinked, superscript numbers attached to the keyword in a sentence to which they relate. When clicked, you are taken to the related information, at the bottom of the same page.

Further information

To:

- Request product assistance, contact Support.

- Access other LSEG Workspace technical content, see the Workspace technical documentation site.

- Provide feedback on Workspace technical content, contact DocFeedback@lseg.com.

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[1] Instructions for macOS installation are provided in the Workspace Basic Installation Guide.

[2] LSEG currently provides limited testing support and technical advice on Citrix Virtual Apps and Desktops (CVAD) solutions. However, customers deploying a CVAD solution should consider the following when deploying, updating, and running Workspace:
- The impact of network latency and equipment used.
- The potential for virtualization machines to adversely affect performance for end users.
- Legacy products such as Eikon will not work in parallel with Workspace

[3] As summarized for Citrix, above, LSEG currently provides limited testing support for VMware and the same considerations should be applied when deploying.

Pre-requisites

This section summarizes the information of which you should be aware prior to commencing the installation of Workspace.

In this section

- [Verifying system requirements](#)
- [Virtualized environments](#)

Verifying system requirements

Before installing Workspace, ensure that your hardware and software meet the [minimum requirements](#).

LSEG recommends the following:

- Create a Workspace test user ID to validate the installation. For further assistance, contact your account team or Customer Success Manager.
- 3D Graphics Processing Unit (GPU) acceleration is enabled. Workspace is based on Chromium, which uses the GPU for rendering environments.

System and network testing

The System Test[4] application helps you determine whether your computer meets the minimum hardware, software, and connectivity requirements to run Workspace. No personal information is sent to LSEG during this process.

For further information regarding the System Test applications, refer to the [System Test Guide](#).

Virtualized environments

When designing a deployed solution, individual utilization should be considered in the planning. If specific information is required, it is recommended that a selection of pilot users is monitored so benchmark testing can be performed by the relevant vendor support team.

⚠️ If you encounter an issue when running Workspace in a virtualized environment, LSEG cannot investigate or escalate unless the issue is reproducible on a standalone desktop, running Workspace in a non-virtualized, single instance environment.

VDI support

Support is included with your subscription, when Workspace is installed according to our system requirements on a standalone desktop PC for one user.

Due to the inherently complex and distributed nature of these solutions, we cannot offer the same unconditional support as a standard desktop for the following:

- Terminal/Citrix Server
- VMware Server
- Other multi-user or virtualized environments

Help with installing and/or operating our software in these environments is strictly limited to a commercially reasonable effort. While this document makes every attempt to highlight the issues you may encounter, we can make no guarantees regarding a successful outcome.

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[4]   In currently supported versions of Workspace, the test performed prior to installation no longer checks for the presence of the PowerShell app, as the 50 most used apps do not require this application. However, if you are using more niche applications, it may be a requirement.

Installing Workspace

Workspace can be installed on Windows, as a User or Machine Installation, and deployed to CVAD.

However, it is recognized that there is much innovation and change in our marketplace. As such, the content of this document is updated, as warranted by future changes in the marketplace, and the evolving needs of our software products.

In this section

- [PC installation](#)
- [Citrix installation](#)
- [VMware installation](#)
- [Running Workspace for Web](#)
- [Post installation testing](#)

PC installation

This section discusses the installation of Workspace onto personal computers.

⚠ Workspace installers require administrator rights to create their own registry path entries.

Process overview
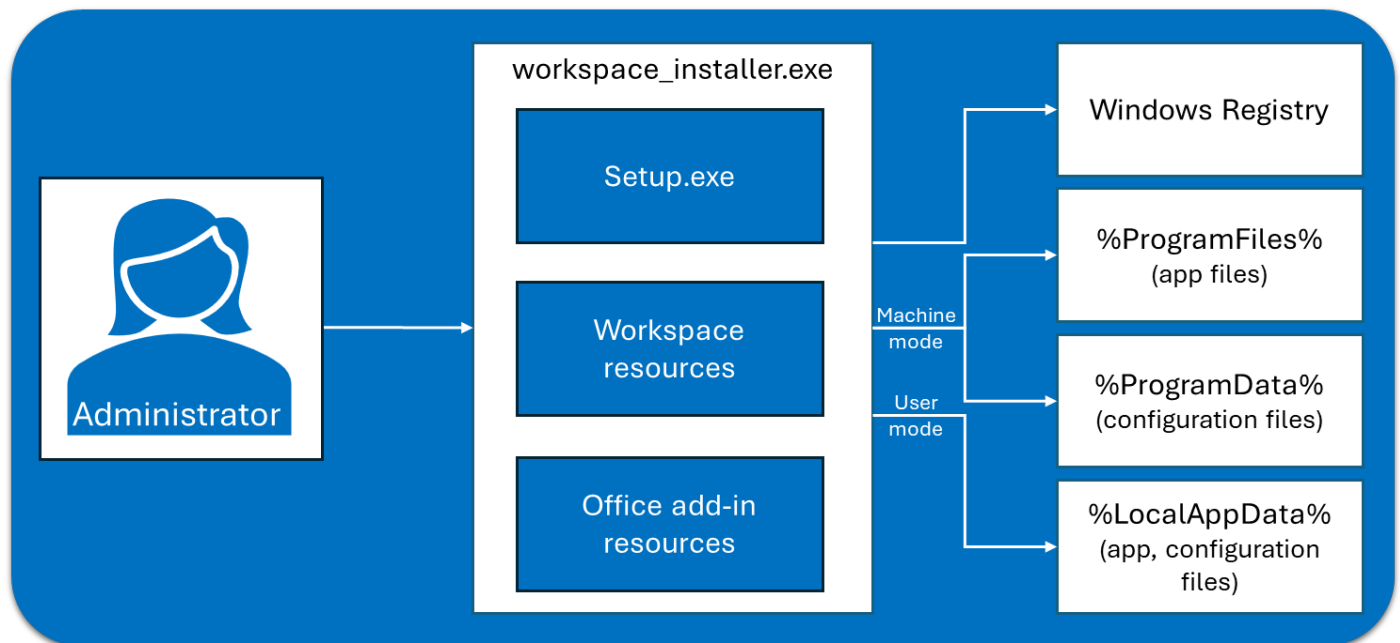
Installation method summary table

Detailed information about command line statements is provided in [Appendix C](#).

Parameter	Installation[5] location	Launch/Update location	Automatic update	Windows service required
--user	%LocalAppData%		Yes	No

---

[5] Default locations. These are customizable during installation.

Parameter	Installation[5] location	Launch/Update location	Automatic update	Windows service required
`--machine-autoupdate-service`	`%ProgramFiles%`	`%ProgramData%`	Yes	Yes
`--machine-autoupdate-no`	`%ProgramFiles%`	`%ProgramData%`	No	No
`--machine-autoupdate-peruser` [6]	`%ProgramFiles%`	`%LocalAppData%` [7]	Launch / Update location only	No

Workspace Help parameter options

When installing Workspace, you can use the `--help` parameter to list all parameters that are available.

The Command Prompt also lists all error codes that could be displayed during a Workspace installation. These codes are listed in the [Error codes](#) section.

Command line statements have the following structure, where one or more *<option>* parameters are non-mandatory:

`RefinitivWorkspace-installer_x.xx.xx.exe <operation> <option>`

For a full list of parameters, refer to the [Installer parameters](#) section.

Customizing paths

During the installation, you have the option of determining your own path for installation files, logs, cache files, and shortcuts. To do this, use one of the following commands:

Action	Command
Change install location	`RefinitivWorkspace-installer_x.xx.xx.exe --installpath="<folder_path>"`
Change log location	`RefinitivWorkspace-installer_x.xx.xx.exe --logpath="<folder_path>"`
Change cache location[8]	`RefinitivWorkspace-installer_x.xx.xx.exe --cachepath="<folder_path>"`
Change icon shortcut location	`RefinitivWorkspace-installer_x.xx.xx.exe --shortcuts="<folder_path>"`
Change installer log path	`RefinitivWorkspace-installer_x.xx.xx.exe --installerlogpath="<folder_path>"`

You can use multiple parameters in one command line. For example:

`RefinitivWorkspace-installer_x.xx.xx.exe --installpath="<folder path>" --cachepath="<folder_path>"`

Performing a User installation

When you perform a user installation, files are created in the `%LocalAppData%\Refinitiv\Refinitiv Workspace\` folder.

To install Workspace on a user basis:

1. Download the [Workspace package](#).

2. Run the `.exe` file or use the Workspace command lines using the command prompt app. In a user installation, administrator rights are not required[9].

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6   See Important note in [Uninstalling Workspace](#).
7   A copy of the Installation (master image) will be created for each user when they first log into the machine. If the version of the master image changes, the local version is refreshed when a user next logs in.
8   See [Cache path definition](#) in the [Known issues](#) section.
9   To review help for the `RefinitivWorkspace-installer_x.xx.xx.exe` command, add the parameter `--help`.

3. Follow the on-screen instructions to install Workspace[10]:
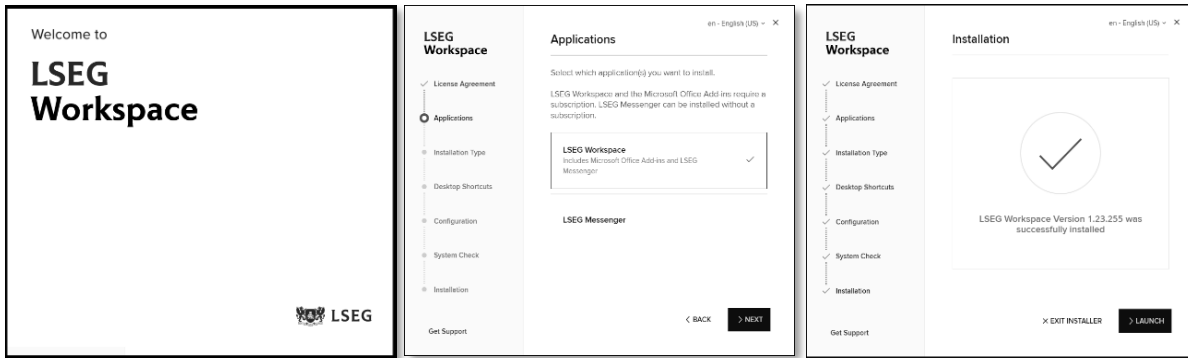
Performing a Machine installation

Note that to perform any per machine installation, you require administrator access rights.

With the auto-update Windows service

This is the recommended installation mode and is the preferred method for your organization, where:

- Users are not allowed to run programs from areas where they have no write permissions on `%ProgramFiles%`.

- Applications are reviewed before being approved across your organization, to ensure that they do not undermine application whitelisting. This is especially important for scripting languages, which have their own execution environment.

For this installation, files are created in the following folder:

Type of OS	Installation	Path
Windows	Default	`%ProgramFiles%\Refinitiv\Refinitiv Workspace\`

To install Workspace on a machine basis:

1. Download the Workspace package

2. Do either of the following:

    a) Run the executable, taking the Install for all users on this computer option[11]

    Or

    a) Click **Start > Windows System > Command Prompt**

    b) Run `RefinitivWorkspace-installer_x.xx.xx.exe --machine-autoupdate-service --sharedconfig="<file path>"` [15]

With auto-update per user

This installation mode [12] is the preferred method for your organization, where:

- Users are not allowed to run programs from areas where they have no write permissions on `%ProgramFiles%`.

- Applications are reviewed before being approved across your organization, to ensure that they do not undermine application whitelisting. This is especially important for scripting languages, which have their own execution environment.

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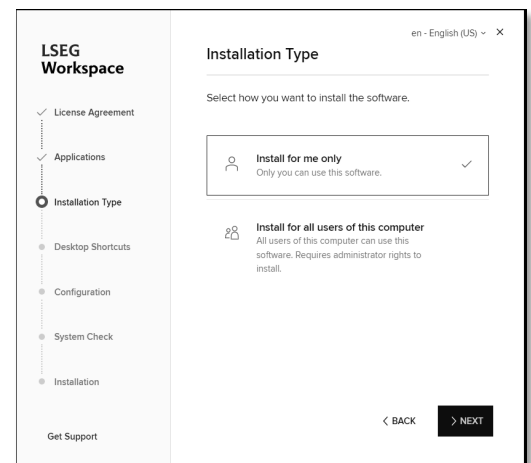
[10]   For further details, see the Workspace Basic Installation Guide.
[11]   For further information, see the Workspace Basic Installation Guide.
[12]   See Important note in Uninstalling Workspace.

For this installation, files are created in the following folders:

Type of OS	Installation	Path
Windows	Master image	`%ProgramFiles%\Refinitiv\Refinitiv Workspace\`
	Copy [13] [14]	`%LocalAppData%\Refinitiv\Refinitiv Workspace\`

⚠ The master image must be updated on a regular basis, in accordance with the Support Policy, to avoid the situation where a new user on a machine can install a version of Workspace into their profile that is no longer supported.

To install Workspace on a machine basis:

1. Download the Workspace package

2. Click **Start > Windows System > Command Prompt**

3. Run `RefinitivWorkspace-installer_x.xx.xx.exe --machine-autoupdate-peruser --sharedconfig="<file path>"` [15]

Without auto-updates

This installation mode is the preferred method for organization running hot-desking, gold images, non-Persistent VDIs, or Provisioning Services (PVS) with configuration to clear changes once user close their Windows sessions.

For this installation, files are created in the following folder:

Type of OS	Installation	Path
Windows	Default	`%ProgramFiles%\Refinitiv\Refinitiv Workspace\`

To install Workspace without auto-updates:

1. Download the Workspace package

2. Click **Start > Windows System > Command Prompt**

3. Run `RefinitivWorkspace-installer_x.xx.xx.exe --machine-autoupdate-no --sharedconfig="<file path>"` [15]

Performing an installation using your Single Sign On URL

Defining a shared configuration file (or files, for failover purposes) is optional but strongly recommended for mass configuration.

Using the command line

To install Workspace using your Single Sign On (SSO) URL[16], do the following:

1. Download the Workspace package

2. Click **Start > Windows System > Command Prompt**

3. Add the appropriate parameter from the table below[17], depending on your environment:

Environment	Additional installation parameters	Settings location
User	`--client-sso=<client SSO URL>`	user-settings.json
Machine	`--client-sso=<client SSO URL>`	machine-settings.json

---

[13] Copy installation location.
[14] Once the master image has been copied to the profile of the user, the user needs to restart their machine.
[15] Defining a shared configuration file (or files, for failover purposes) is optional but strongly recommended for mass configuration.
[16] You can also configure your SSO for authenticating into Workspace for Web. See Configuring Single Sign On (SSO) for Workspace Web.
[17] This parameter should be added to the installer executable, also in combination with additional parameters.

Citrix installation

This section addresses the currently supported scenarios for Workspace deployment to CVAD. However, it is also recognized that there is much innovation and change in our marketplace. As such, the content is updated, as warranted by future changes in the marketplace, and the evolving needs of our software products.

Installing Workspace for Citrix XenApp

1. Check that no previous Eikon registry keys are set.

2. Ensure that the following registry keys are applied, to disable Citrix API hooks for a single executable file[18]:

Version	CVAD 7 1912 LTSR	XenApp 7.6 LTSR	XenApp 7.15 LTSR [19]
Key(s)	No modification to registry keys is required	`HKLM\SOFTWARE\Citrix\CtxHook` `HKLM\SOFTWARE\Wow6432Node\Citrix\CtxHook`	`HKLM\SYSTEM\CurrentControlSet\servic es\CtxUvi`
Value name		`ExcludedImageNames`	`UviProcessExcludes`
Type		`REG_SZ`	`REG_SZ`
Value to add[20]		`RefinitivWorkspace.exe` [21]	`RefinitivWorkspace.exe`

3. To show the Workspace context menu when right-clicking the Windows taskbar, refer to the Citrix Support Knowledge Center article CTX131995, User Cannot Launch Application in Seamless Mode in a Provisioning Services Server when XenApp Optimization Best Practices are Applied.

4. On the Citrix server, to change to installation mode, use the command line:

```
Change user /install
```

5. To install Workspace, use the following command line, which includes the log and cache paths[22], which must point to the same location from where `RefinitivWorkspace.exe` is run:

```
RefinitivWorkspace-installer_x.xx.xx.exe --machine-autoupdate-no --logpath="<folder_path>" --cachepath="<folder_path>"
```

⚠ For mass deployment, it is recommended that you define a shared configuration file (or files, for failover purposes[23]).

6. Once the installation has finished, change back to execute mode, using the command line:

```
Change user /execute
```

Publishing Workspace applications for XenApp

To complete the installation, you must publish both Workspace and Refinitiv Workspace - Excel applications in Citrix XenApp.

To do this, use your usual configuration software, whether Citrix or third party, with the following parameter settings:

Product	Parameter	Setting
Workspace	Path to the executable file	`<installation_path>\RefinitivWorkspace.exe`
	Working directory	`<installation_path>`

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18 For further information, see https:\\support.citrix.com\article\CTX107825.
19 Reboot from the VDA required.
20 Process names have a 14-character limit. For example, to exclude `longappname.exe`, you add `longappname.ex`.
21 If you want to use the Session Sharing Chrome Extension, add `Refinitiv-host.exe`.
22 See Cache path definition in Appendix L: Known issues.
23 For further information about shared configuration files, see step 3 of Setting up Configuration Manager.

Product	Parameter	Setting
Workspace for Excel	Path to the executable file	`<installation_path>\RefinitivWorkspace.exe`
	Command line argument	`--excel`
	Working directory	`<installation_path>`

Installing Workspace for Citrix XenDesktop

If you use gold images, non-Persistent VDIs, or Provisioning Services (PVS) with configuration to clear changes after the user closes a session, you must install Workspace in *without auto-updates* mode using the following argument:

```
RefinitivWorkspace-installer_x.xx.xx.exe --machine-autoupdate-no --sharedconfig="<file path>"
```

In most cases, the Per-Machine and Per-User installation modes of Workspace are also supported in Citrix XenDesktop.

VMware installation

This section describes the installation of products that are required for Workspace deployment to VMware.

Installing Workspace for VMWare Horizon virtual app

1. Change to installation mode on the Horizon server, using the command line:

    ```
    change user /install
    ```

2. In a command-line interpreter, such as Command Prompt, type the following command line[24]:

    ```
    RefinitivWorkspace-installer_x.xx.xx.exe --machine-autoupdate-no --logpath="<folder_path>" --
    cachepath="<folder_path>"
    ```

    ⚠ For mass deployment, it is recommended that you <u>define a shared configuration file</u> (or files, for failover purposes[23]).

3. Once the installation has finished, change back to execute mode, using the following command line:

    ```
    change user /execute
    ```
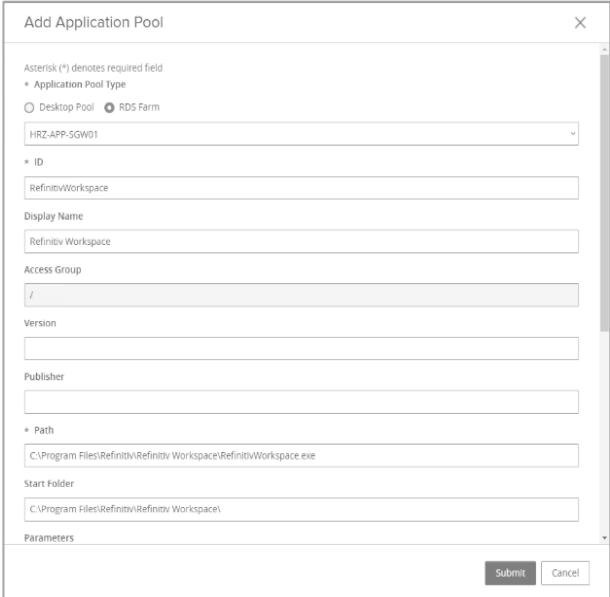
Configuring virtual applications on Windows Server

Installation is completed by publishing both Workspace and Refinitiv Workspace - Excel applications in the VMWare Horizon virtual app.

To publish the applications, perform the following steps using the Horizon Console:

1. In Horizon Console, select **Inventory > Applications**

2. In the Application Pools panel, select **Add > Add Manually**

3. For Workspace, in the Add Application Pool panel, shown opposite, complete the form using the following details:

In this field…	Type or select this …
ID	`RefinitivWorkspace`
Display Name	Refinitiv Workspace [25]
Path	`<install_path>Refinitiv\R efinitiv`

---

[24]   The command line is run from the folder where `RefinitivWorkspace.exe` file is located and contains paths to the log and cache file locations.
[25]   The Display Name value is a free text field. However, the structure of the ID, Path, and Start Folder entries are a requirement.

In this field…	Type or select this …
	`Workspace\RefinitivWorksp ace.exe`
Start Folder	`<install_path>\Refinitiv\ Refinitiv Workspace\`
Entitle Users after Adding Pool	Select this checkbox
Multi-Session Mode	Select **Disabled**
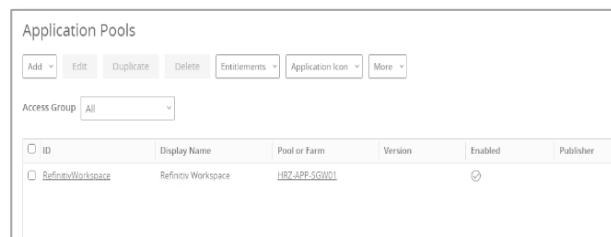
4. Click **Submit**

The application appears in the Application Pools panel

5. Select **Add > Add Manually**

6. For Refinitiv Workspace - Excel, complete the form using the following details:

In this field…	Type or select this…
ID	`RefinitivWorkspaceExcel`
Display Name	`Refinitiv Workspace - Excel` [25]
Path	`<install_path>\Refinitiv\Refinitiv Workspace\RefinitivWorkspace.exe`
Start Folder	`<install_path>\Refinitiv\Refinitiv Workspace\`
Parameter	`--excel`
Entitle Users after Adding Pool	Select this checkbox
Multi-Session Mode	Select **Disabled**

7. Click **Submit**

The application appears in the Application Pools panel

8. In the Application Pools panel, click **Entitlements**

9. In the Add Entitlements panel, click **Add**

The Find User or Group panel, opposite, is displayed

10. Use the fields in this panel – **Domain**, **Name/User Name**, and **Description** – search for existing VMware users and select the checkboxes next to their details

11. Click **OK**
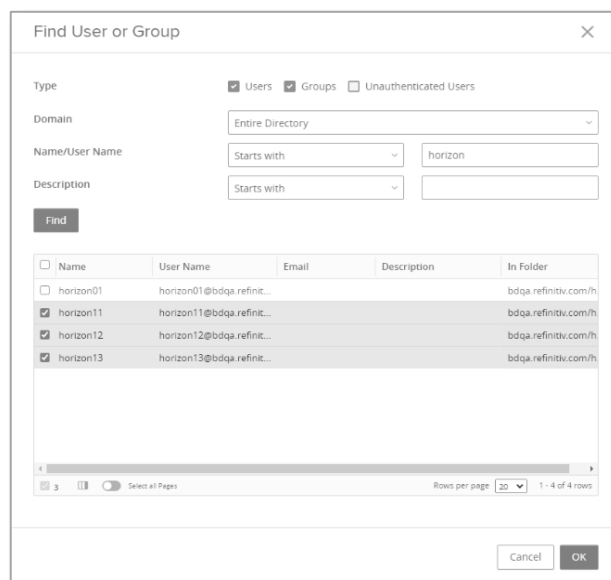
Installing Workspace for VMWare Horizon virtual desktop

If you use instant clone desktop pools (golden image), or automated full-clone desktop pools, configured to clear changes after the user closes a session, you must install Workspace using the no automatic update mode. To do so, use the following command line[26]:

`RefinitivWorkspace-installer_x.xx.xx.exe --machine-autoupdate-no --sharedconfig="<file_path>"`

In most cases, the Per-Machine and Per-User installation modes of Workspace are also supported for VMware Horizon virtual desktop.

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[26] Although not shown in this example, as for the virtual app, the command line should include the log and cache paths, which must point to the same location from where RefinitivWorkspace.exe is run.

Running Workspace for Web

Workspace is also accessible through the Internet or private network.

Accessing through the Internet

To access the Workspace sign-in page:

- Enter the following URL into your browser:

  [https:\\workspace.refinitiv.com\web](https:\\workspace.refinitiv.com\web)

Accessing through a private network

To access the Workspace sign-in page:

- Enter the following URL into your browser:

  [https:\\workspace.extranet.refinitiv.biz\web](https:\\workspace.extranet.refinitiv.biz\web)

Post installation testing

Once Workspace has been installed, you can test the data retrieval functions using the testing tool provided in Refinitiv Workspace - Excel.

Downloading the tool

To download the testing tool, do the following:

1. Run Refinitiv Workspace - Excel

2. Under the Workspace menu:

   a) Sign in, if necessary

   b) Click **Templates**

   c) In **Search for templates…**, type `test` and press **Enter**

   d) In the first search result panel, Refinitiv Workspace – Microsoft Excel Functions Test, click the **Download** button
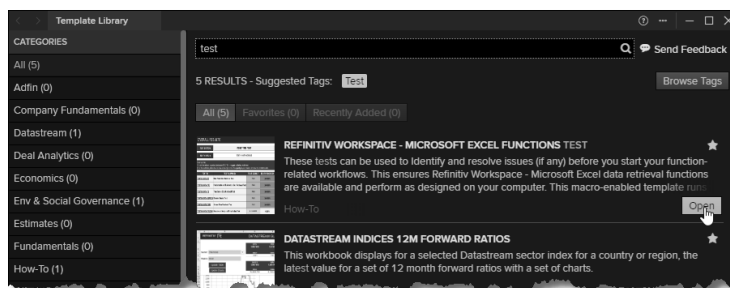
Once downloaded, the tool template opens automatically:
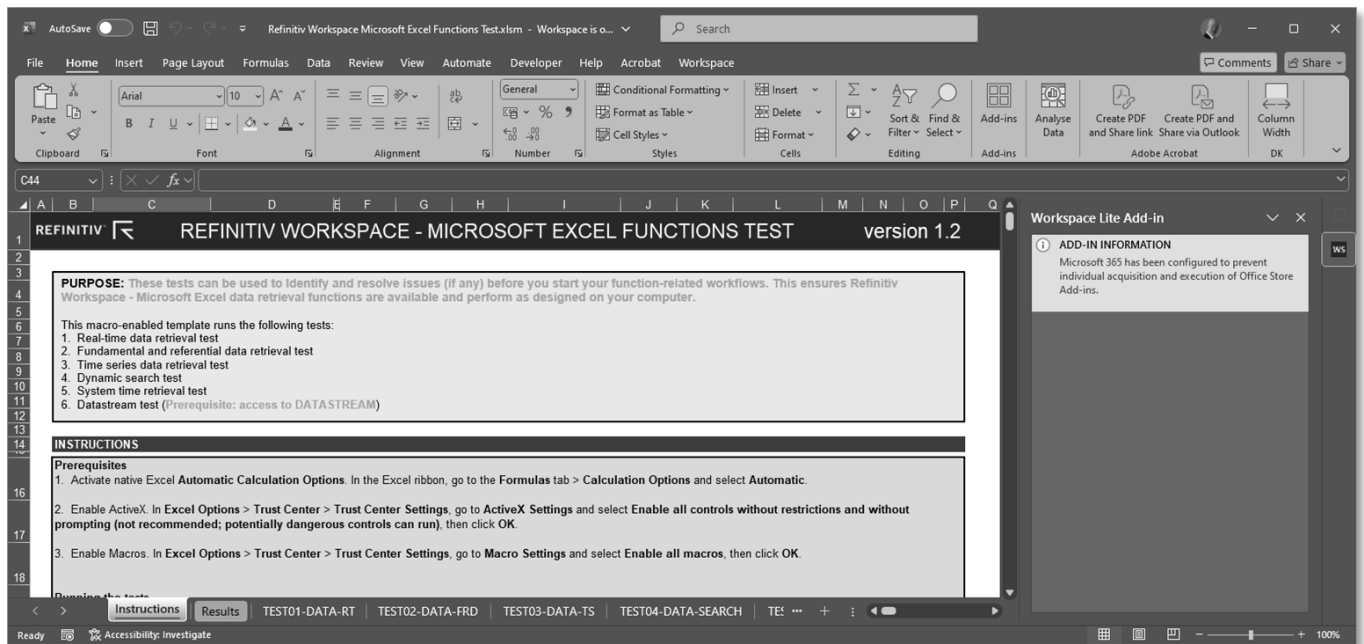
Running the tool

After checking the Prerequisites, listed in the Instructions section, do the following:

1. Click the **Results worksheet** tab

2. Click the **START THE TEST** button

   The tests usually take less than a minute to run and, should an error occur, you are presented with diagnostic data under the relevant tab.

Uninstalling Workspace

You can uninstall Workspace, by:

- Using the installer user interface, or

- Using a [command](#)

Using the installer user interface

You can uninstall Workspace using the standard add and remove functions in Windows and macOS [27]. For example:

1. In Windows, under **Settings > Apps & features**, select **Refinitiv Workspace** and click **Uninstall**

2. In the confirmation prompt, click **Uninstall** again to open the installer UI, opposite

3. Click **Uninstall**

4. Once the uninstallation is complete, click **Exit**

Using a command

You can uninstall Workspace using the following command line:

```
RefinitivWorkspace.exe --uninstall
```
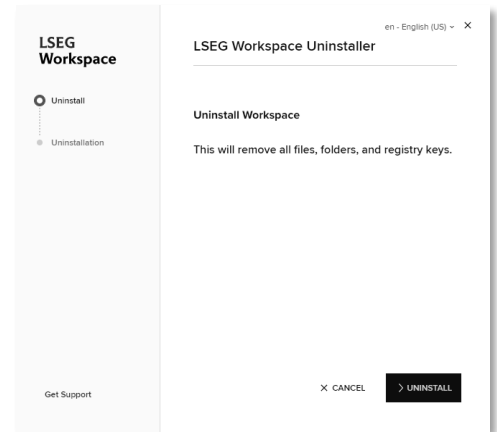
⚠ When the `--machine-autoupdate-peruser` installation method is used, running the uninstallation command removes the Workspace instance in the profile under which it is run. So, for instance, if the master image is removed, all clone images will remain installed.

Log file location

The uninstallation log file is stored in the `%Temp%\Refinitiv Workspace Uninstall Logs\` folder.

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[27]   The app removal function in macOS deletes the application folder without displaying the Workspace-specific UI.

Configuring Workspace

You can configure Workspace using the Configuration Manager, which is accessed by running the Workspace executable with the `--config-manager` parameter in a Command Prompt window or by selecting the **Help > Configuration Manager** option in Workspace.

See also:

- [Configuration Manager parameters](#)

- [Customer managed over Internet](#)

In this section

- [Configuration Manager command lines](#)

- [Setting up Configuration Manager](#)

- [Converting and modifying an Eikon configuration file](#)

- [Creating a new configuration file manually](#)

- [Configuring Single Sign On (SSO) for Workspace for Web](#)
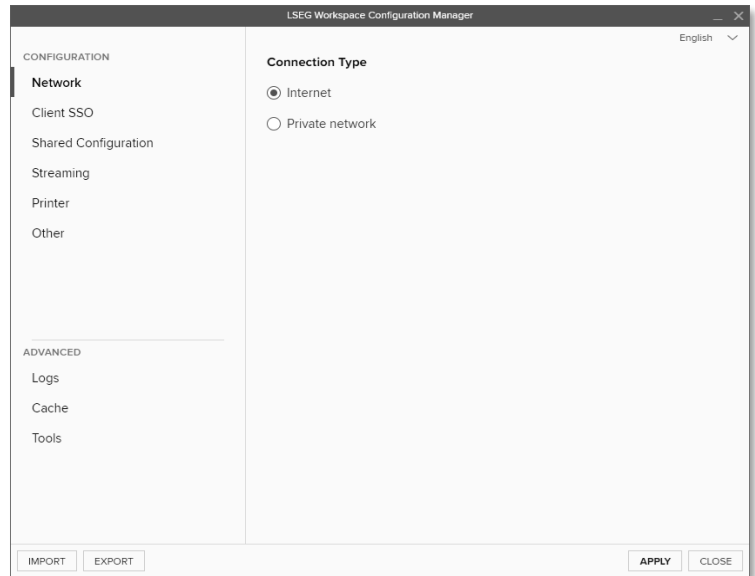
Configuration Manager command lines

The command line you use depends on the installation type:

- For User installations, use the command:

  `"<InstallDir>\Refinitiv\Refinitiv Workspace\RefinitivWorkspace.exe" --config-manager`

- For Machine installations, use the command:

  `"<InstallDir>\Refinitiv\Refinitiv Workspace\RefinitivWorkspace.exe" --config-manager --machine`

Setting up Configuration Manager

In the Configuration Manager, choose your settings for the following panels:

1. In the Network panel, set the connection type in your environment to either Internet (the default value) or private network.

2. In the Client SSO panel, if you have SAML 2.0 set up, enter the URL in the **Client Single Sign On (SSO)** field.

3. In the Shared Configuration panel, select whether you are using a shared configuration, which overrides other settings.

   ⚠ Defining a shared configuration file (or files, for failover purposes) is optional but strongly recommended for mass configuration, as it allows you to define configuration parameters for all users from a single location.

Workspace uses different `settings.json` files [28] based on the type of installation:

- For User installations, the file stores user-specific settings that are controlled by the user and can be found in the following location:

  `%AppData%\Refinitiv\Refinitiv Workspace\Config\user-settings.json`

- For Machine or Hot-Desking installations, the file stores machine-specific settings that are controlled by elevated computer administrator rights and can be found in the following location:

  `%ProgramData%\Refinitiv\Refinitiv Workspace\Config\machine-settings.json`

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[28] A shared `<override_settings>.json` configuration file takes priority over local `user-settings.json` or `machine-settings.json` configuration files. When using the `--sharedconfig` parameter, Workspace reads the configuration from the specified location every time it is launched.

You can specify one or, for failover purposes, more configuration files that can be used across multiple desktops by putting these files on a shared drive or Web server (formerly Configuration Proxy concept).

To do this:

a)   Click **Export** and navigate to the configuration file, `<override_settings>.json`, from the Configuration Manager.

b)   Place this file on a shared drive or a Web server.

c)   Enter the URL or UNC path of the file into the installation command line or add this path into the Configuration Manager directly. For example:

```
\\myserver\config\refinitiv\override-settings.json
```

4.   In the Streaming panel, shown opposite, you can choose streaming sources and whether to activate streaming conflation.

📌 If you select the **From a local LSEG Real-Time Advanced Distribution Server (ADS)** radio button, the settings summarised in steps 5-7 become available.

The **Streaming Conflation** rate[29] is used for desktop performance management by reducing CPU usage in downloading streaming data. In effect, it reduces data refresh rate from the default (300ms) to every 1.5, 3, or 6 seconds.

Also, in the Streaming panel, choose your **Streaming Data Retrieval** source. Data can be streamed from either a Delivery Platform (formerly RDP) or by defining one or more local LSEG Real-Time Advanced Distribution Servers[30] (formerly ADS).

Additional customer-managed sites use this connectivity to create a connection to the local LSEG Real-Time Advanced Distribution Server.

5.   In the Streaming > Servers panel, shown opposite, enter the LSEG Real-Time Advanced Distribution Server IP address or **Hostname**, together with the **Port**[31]. You can also configure the WebSocket[32] protocol to enable encrypted or unencrypted connections to the Workspace platform for streaming services.

Click **+** to add additional servers to which connections are made simultaneously. These are used if you have data feeds from different servers.

For fallback configuration, you need to add server entries in the same tab (Primary, Additional 1, and so on) as the server to be supported.

For further information on WebSocket and Refinitiv Wire Format (RWF), refer to the [Streaming protocols](#) section.

6.   In the Streaming > Feeds panel, shown opposite, configure feeds provided by your local LSEG Real-Time Advanced Distribution Server. In Workspace, key letters[33] can be used as single-character shortcuts to identify different real-time feeds. Aliases, which perform a similar function for Office add-ins, can be up to 32 characters.

---
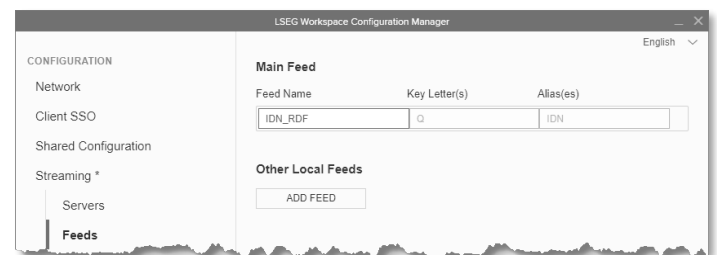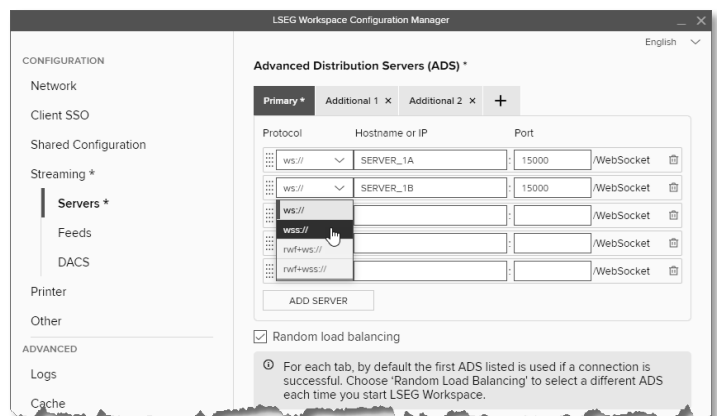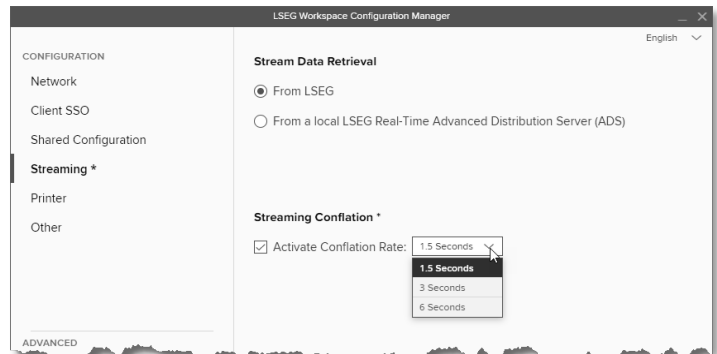
[29]   Currently, this capability is for Workspace desktop only and will not affect the conflation settings of the Workspace add-in running under Microsoft Office.
On Workspace desktop, the highest generally supported conflation rate is 300ms. However, certain exceptions, such as news and chart apps, can run at higher update rates.

[30]   For further information about configuring Real-Time data, refer to [Appendix G: Configuring Real-Time Data products](#).

[31]   Only one server or DNS can be entered for each line.

[32]   The WebSocket(ws) protocol provides full-duplex communication channels over a single TCP connection. For further information, see [RFC 6455: The WebSocket Protocol (rfc-editor.org)](#).

[33]   For key letters and aliases, Workspace supports only a subset of ASCII printable characters. That is, the values a-to-z, A-to-Z, and 0-to-9.

📌 While you can assign any of the supported letters or digits to your feeds, the **Q** key letter must be used to identify a feed that provides trade-safe Elektron Real-Time data.

7. In the Streaming > DACS panel, enter the LSEG Real-Time Data Access Control System[34] username and position.
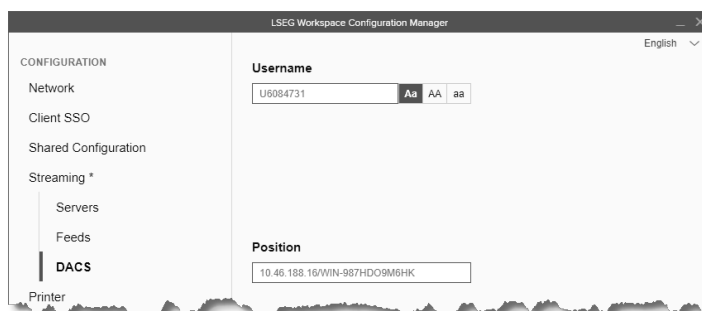
8. In the Printer panel, opposite, select the default printer or output mechanism that is to be used to print trading tickets silently. That is, without the need to select the printer each time.
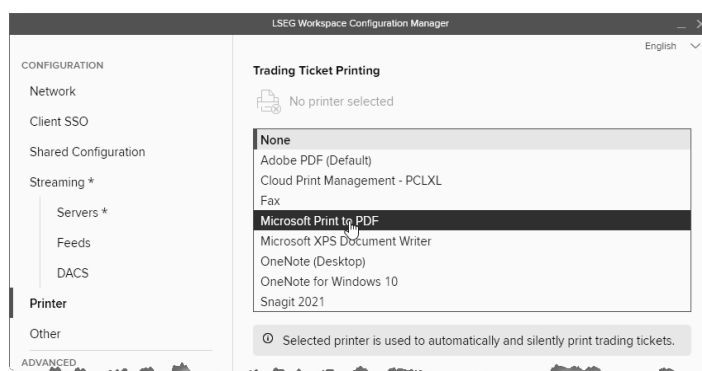
9. In the Other panel, you can choose whether Workspace is to run at above normal priority[35] by selecting the **Run At the highest Available Process Priority Level** checkbox[36].

   You can also select whether links from LSEG apps open in Workspace or Eikon[37].

   Finally, the **Select trading keypad mode** applies your chosen keypad lighting scheme to the LSEG FX trading keypad.

---
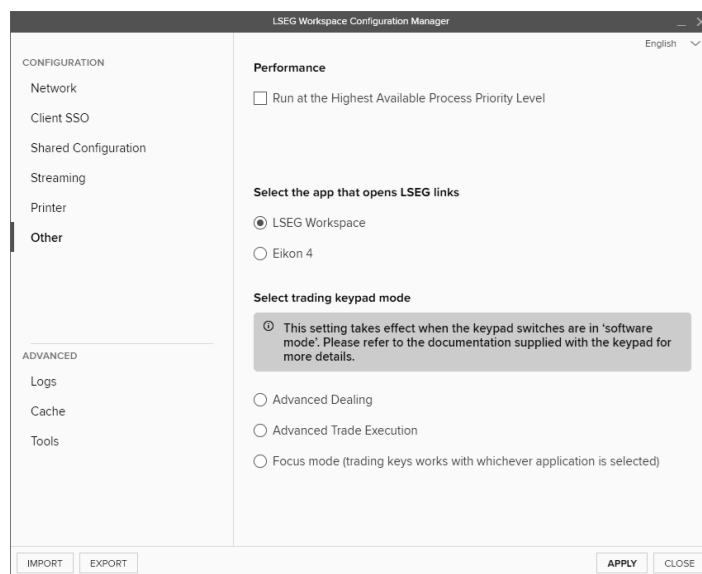
[34] For further information about configuring Real-Time data, refer to Appendix G: Configuring Real-Time Data products.
[35] Currently, this capability is for Workspace running on Windows only and will not affect the process priority of Workspace on macOS or the add-in running under Microsoft Office.
[36] This can also be achieved by using the command line parameter `--run-above-normal-priority`. For more information, see Workspace executable statements.
[37] You are unable to switch between Eikon 4.0 and Workspace where there was a Citrix installation of Workspace. In Citrix we do not support multiple applications to be installed concurrently (Jira ref: EFO-9593).

10. In the Logs panel, opposite, you can modify the default path for log files, changing from the folder path chosen during installation.

    You can also:

    - Choose the depth of logging required.
    - Activate the web logger to troubleshoot [networking issues](#).
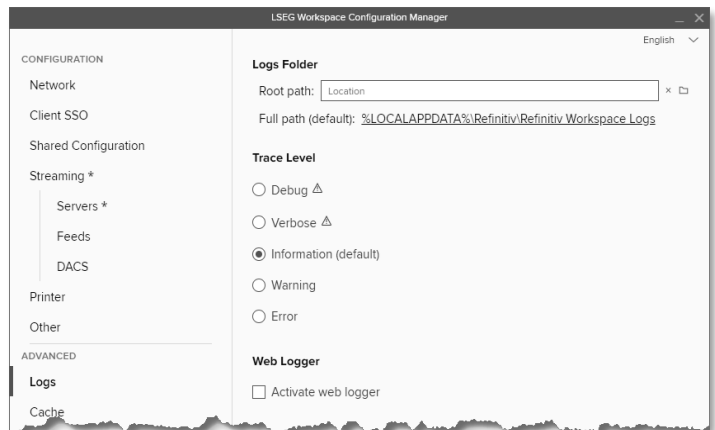
11. In the Cache panel, opposite, you can define a new folder location for cache files, changing from the folder path chosen during installation.

    You can also choose to clear all cache folders or only those folders of [Electron](#) or your Workspace apps.
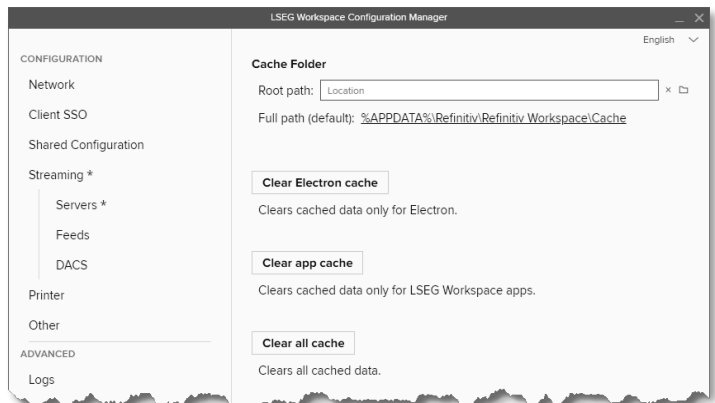
12. Finally, in the Tools panel, use the Eikon 4 configuration converter tool to convert an existing Eikon configuration file to Workspace-compatible `.json` format.

    For further information, see the section below.
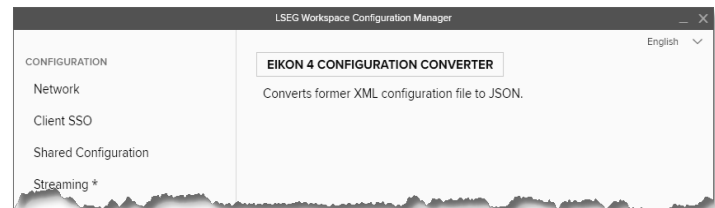
Converting and modifying an Eikon configuration file

For test purposes, in the **Tools** panel of the Configuration Manager, you can use the **Eikon 4 configuration converter** to convert an existing `OverrideConfiguration.xml` file to `.json` format.

To convert and modify an existing file:

1. Click the **Eikon 4 Configuration Converter** button.

2. Select your saved `.xml` file. For example:

   `\\myserver\config\refinitiv\OverrideConfiguration.xml`

3. Click **Open**.

   The file is converted, and the converted configuration file is then displayed.

4. Click **OK**.

5. [Optional] Change your Network and SSO configuration.

6. Check that the Streaming settings are correct and make any necessary changes.

7. Click **Export** to create a new file with a `.json` extension.

⚠ The converted `.json` file still contains legacy configuration settings from Eikon, which could potentially raise issues.

Creating a new configuration file manually

To create a clean Workspace configuration file:

1. Delete your currently loaded configuration file.

2. Copy specific parameters from the Eikon Configuration Manager to the Workspace Configuration Manager.

Parameters in the Eikon Configuration Manager largely share the same names as their counterparts in Workspace. However, the following table lists the exceptions (parameter and location):

	In Eikon…	In Workspace…
Parameter	Distributors	Hostname or IP
Location	Configuration: Customer Managed (Local Configuration Files) > Real-Time tab > ADS Connection – RSSL protocol	Streaming > Servers
Parameter	User Name	Username
Location	Configuration: Customer Managed (Local Configuration Files) > Permissions tab > DACS Identification	Streaming > DACS

For more complex environments and further support, contact Workspace technical support, who can assist in converting the content of the `OverrideConfiguration.xml` and RFA.RFA-configuration-files.

Configuring Single Sign On for Workspace for Web

Required configuration for when LSEG is the Service Provider (SP):

- Embed the Workspace Web access URL within the Identity Provider (IDP) initiated login URL. This redirects to Workspace after a successful login.

  For example:

  `https:\\id-abc.com\abc-sso\eikonweb?RelayState=https:\\workspace.refinitiv.com\web`

  The appropriate attribute name must be used, as indicated by the IDP software, for example, `RelayState` or `TargetResource`.

Appendix A: Folders and files

This appendix largely focuses on file locations and sizes, and their authentication and verification.

In this section

Packages

The information below can be used by IT when creating an installation package and providing documentation for future updates to the application.

Download locations

You can download the latest version of the installation file, `RefinitivWorkspace-installer_x.xx.xx.exe`, from the locations listed in the table below.

Location	Link
Internet	https://www.lseg.com/en/data-analytics/products/workspace/download-workspace
Private network	https://workspace.extranet.refinitiv.biz/Apps/ProductDownloadPage/

Installer file sizes

The installer executable size is operating system dependent:

Operating System	Size (Megabits)
Microsoft Windows	~100
Apple macOS	~200

Executable files

The core installation of Workspace has the following executables:

Process Name	Service
`RefinitivWorkspace.exe`	LSEG Workspace (the main Workspace process)
`Refinitiv-host.exe`	Session Sharing Chrome Extension

Process Name	Service
`RWupdaterService.exe`	Software update installation service[38]
`Refinitiv.Workspace.BatchService.UserInteraction.exe`	(Optional) Batch print service [39]
`Setup.exe`	Called by the main processes to perform various sub-processes

Workspace uses `.zip` for updates. This may change in future releases, when smaller (delta) installation packages are introduced.

Digital signatures

The executable (`.exe`) and dynamic link library (`.dll`) files are digitally signed.

From Workspace version 1.24, these files will be signed using new digital certificates. This code signing certificate retains the same **Issuer** value but has different **Subject** and **Thumbprint** values. The new certificates do not impact builds of Workspace released prior to version 1.24.

For further information, refer to PCN208112 - LSEG Workspace 1.24 - New digital certificate.

Digital certificates

LSEG uses the following digital certificates for verification purposes.

Workspace 1.24 or higher

LSEG signature	
Publisher	London Stock Exchange Group PLC
Subject	C=GB/S=London, City of/O=London Stock Exchange Group plc/CN=London Stock Exchange Group plc
Issuer	C=GB/O=Sectigo Limited/CN=Sectigo Public Code Signing CA R36
Thumbprint	5E56E4978E9D9F19C1298C55E1E6373DFAF44A6F
Expiration	Friday, April 24, 2026, 11:59:59 PM

macOS signature	
Publisher	REFINITIV US LLC
Subject	C=US/O=REFINITIV US LLC/OU=YHNVBQZ486/CN=Developer ID Application: Refinitiv US LLC (YHNVBQZ486)/UID=YHNVBQZ486
Issuer	C=US/O=Apple Inc./OU= Apple Certification Authority/CN=Developer ID Certification Authority
Thumbprint	148A8BC109B61AB34D6688249545B40983E3DD44
Expiration	Friday, September 8, 2028, 03:17:30 GMT

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[38] The update installation Windows service is used to manage machine mode updates.
[39] The Batch Print service is an optional download, used to print or save documents from the search results grid.
The service can be downloaded using the following URL:
https:\\cdn.refinitiv.com\public\packages\batchsaveinstall\RefinitivWorkspaceBatchService.msi

Workspace 1.23 or earlier

All Desktop and native apps files stamped with the previous or expired certificates are not affected by this change and will remain validly signed without any time limit.

Refinitiv signature[40]	Build date	
	Before 06 March 2022	06 March 2022 - Expiration
Publisher	REFINITIV US LLC	REFINITIV US LLC
Subject	C=US/PostalCode=10036/S=New York/L=New York/STREET=3 Times Square/O=REFINITIV US LLC/CN=REFINITIV US LLC	C=US/S=New York/O=REFINITIV US LLC/CN=REFINITIV US LLC
Issuer	C=GB/S=Greater Manchester/L=Salford/O=Sectigo Limited/CN=Sectigo RSA Code Signing CA	C=GB/O=Sectigo Limited/CN=Sectigo Public Code Signing CA R36
Thumbprint	9b0690d65bdd567afb4ccfd5e3e704abe88a8ffd	faeb75e9e11605257a0c9b32c8c1f4aa61245276
Expiration	05 March 2022, 23:59:59	24 November 2023, 23:59:59

Microsoft signature	
Publisher	Microsoft Corporation
Subject	C=US/S=Washington/L=Redmond/O=Microsoft Corporation/CN=Microsoft Corporation
Issuer	C=US/S=Washington/L=Redmond/O=Microsoft Corporation/CN=Microsoft Code Signing PCA 2010

macOS signature	
Publisher	REFINITIV US LLC
Subject	C=US/O=REFINITIV US LLC/OU=YHNVBQZ486/CN=Developer ID Application: Refinitiv US LLC (YHNVBQZ486)/UID=YHNVBQZ486
Issuer	C=US/O=Apple Inc./OU= Apple Certification Authority/CN=Developer ID Certification Authority
Thumbprint	B69FD35BFD9D7FFE877DCF570A4EFC7D4E8ADCFA
Expiration	Wednesday, October 16, 2024, 14:47:34 GMT

Registry files

Installation mode	Description	Registry key	User
User	The registry is deployed only once, at installation time	HKCU[41]	Current user
Machine with an auto-update per user	The registry is deployed multiple times, as it depends on Active Setup	HKCU, HKLM	Every user (Separate user profile)
Machine with auto-update service or no auto-updates	The registry is deployed only once, at installation time.	HKLM[42]	Every user

---

[40]   For further information, refer to PCN 13469.
[41]   HKEY_CURRENT_USER
[42]   HKEY_LOCAL_MACHINE

Configuration file settings

The following settings are customizable in your `.json` configuration file.

Setting	Customization
EIKON.STREAMING.API.LOCAL.ALLOWHOSTEDFALLBACK	Defining this setting as `false`, indicates that you do not want Workspace to fall back to the Common Platform hosted streaming servers. In this case, if the connection to all configured local server URLs fails, Workspace is unable to retrieve streaming data. By default, Workspace systematically attempts to connect to the Common Platform hosted streaming servers, if no local connection can be made.
EIKON.STREAMING.API.LOCAL.DACS.APPLICATIONID	This setting allows you to customize the DACS application ID, for Workspace it is 56 by default.
CLIENTSSO_URL.ENABLED CLIENTSSO_URL	Support Client SSO service to allow the user to use company credentials to login.

Shortcuts

There are two shortcuts created under the **Refinitiv** folder, found under the Windows **Start** menu:

- Refinitiv Workspace
- Refinitiv Workspace - Excel

Default folder and file structures

The following table contains the default folder structures for User and Machine installations, and includes the location under which the structures are created:

Service	Location	Structure
User installation		

n/a	%LocalAppData%	**Refinitiv for Office**
		└── 1.20.68
		      └── config
		            └── addin.config.json
		      └── Office_x64
		            └── refinitiv-shim.dll
		      └── Office_x86
		            └── refinitiv-shim.dll
		Refinitiv Workspace
		└── com.refinitiv.workspace.sessionsharing.json
		└── install-settings.json
		└── installInfo.json
		└── Refinitiv-host.exe
		└── RefinitivWorkspace.exe
		└── locales
		└── resources
		└── swiftshader
		Refinitiv Workspace Install Logs
		Refinitiv Workspace Logs
		Refinitiv Workspace.versions
		└── 1.21.344
		Refinitiv Workspace.ToInstall
		└── RFVWWindows_Core_1_21_276.zip
		└── Extract

Service	Location	Structure
	%AppData%	**Refinitiv Workspace** └── Local State └── Cache
Machine Installation		

With auto-update service	%ProgramFiles%	**Refinitiv for Office**
		└── 1.20.68
		    └── config
		        └── addin.config.json
		    └── Office_x64
		        └── refinitiv-shim.dll
		    └── Office_x86
		        └── refinitiv-shim.dll
		Refinitiv Workspace
		└── install-settings.json
		└── RefinitivWorkspace.exe
		└── 1.21.344
		    └── com.refinitiv.workspace.sessionsharing.json
		    └── installInfo.json
		    └── Refinitiv-host.exe
		    └── RefinitivWorkspace.exe
		    └── RWupdaterService.exe
		    └── locales
		    └── resources
		    └── swiftshader

	%ProgramData%	**Refinitiv Workspace** └── pmInstallInfo.json └── userInfo.json **Refinitiv Workspace Install Logs** **Refinitiv Workspace.versions** └── 1.21.344 **Refinitiv Workspace.ToInstall** └── RFVWWindows_Core_1_21_276.zip └── Extract
	%LocalAppData%	**Refinitiv Workspace Logs**
	%AppData%	**Refinitiv Workspace** └── Local State └── Cache

With auto-update per user	%ProgramFiles%\Refinitiv	**Refinitiv for Office**
		└── 1.20.68
		    └── config
		        └── addin.config.json
		    └── Office_x64
		        └── refinitiv-shim.dll
		    └── Office_x86
		        └── refinitiv-shim.dll
		Refinitiv Workspace
		└── com.refinitiv.workspace.sessionsharing.json
		└── install-settings.json
		└── installInfo.json
		└── Refinitiv-host.exe
		└── RefinitivWorkspace.exe
		└── locales
		└── resources
		└── swiftshader

Service	Location	Structure
	`%ProgramData%\Refinitiv`	**Refinitiv Workspace** └── `pmInstallInfo.json` └── `userInfo.json` **Refinitiv Workspace Install Logs** **Refinitiv Workspace.versions** └── `1.21.344`

	`%LocalAppData%\Refinitiv`	**Refinitiv for Office**
		└── `1.20.68`
		    └── `config`
		        └── `addin.config.json`
		    └── `Office_x64`
		        └── `refinitiv-shim.dll`
		    └── `Office_x86`
		        └── `refinitiv-shim.dll`
		Refinitiv Workspace
		└── `com.refinitiv.workspace.sessionsharing.json`
		└── `install-settings.json`
		└── `installInfo.json`
		└── `Refinitiv-host.exe`
		└── `RefinitivWorkspace.exe`
		└── `locales`
		└── `resources`
		    └── `app.asar`
		    └── `deployment.asar`
		    └── `package.zip`
		    └── `REFINITIVEXCEL.ico`
		    └── `REFINITIVMESSENGER.ico`
		    └── `REFINITIVWORKSPACE.ico`
		    └── `versionInfo.json`
		    └── `app.asar.unpacked`
		└── `swiftshader`
		Refinitiv Workspace Logs
		Refinitiv Workspace.ToInstall
		└── `RFVWWindows_Core_1_21_276.zip`
		└── `Extract`

	`%AppData%\Refinitiv`	**Refinitiv Workspace** └── `Local State` └── `Cache`
	`%Temp%`	**Refinitiv Workspace Uninstall Logs**

Without auto-update service	`%ProgramFiles%\Refinitiv`	**Refinitiv for Office**
		└── `1.20.68`
		    └── `config`
		        └── `addin.config.json`
		    └── `Office_x64`
		        └── `refinitiv-shim.dll`
		    └── `Office_x86`
		        └── `refinitiv-shim.dll`
		Refinitiv Workspace
		└── `com.refinitiv.workspace.sessionsharing.json`
		└── `install-settings.json`
		└── `installInfo.json`
		└── `Refinitiv-host.exe`
		└── `RefinitivWorkspace.exe`
		└── `locales`
		└── `resources`

Service	Location	Structure
		└── swiftshader
	%ProgramData%\Refinitiv	**Refinitiv Workspace** └── pmInstallInfo.json └── userInfo.json **Refinitiv Workspace Install Logs** **Refinitiv Workspace.versions** └── 1.21.344
	%LocalAppData%\Refinitiv	**Refinitiv Workspace Logs**
	%AppData%\Refinitiv	**Refinitiv Workspace** └── Local State └── Cache
	%temp%	**Refinitiv Workspace Uninstall Logs**

Qualified proxy methods

Workspace is qualified with the following authenticated proxy methods:

Proxy	Authentication Method
Squid 2.7	• No authentication • Basic • Digest • NTLM • Kerberos
Squid 3.5.28	• Basic • Digest

HTTP/1.1+ compliant proxy

As a minimum, Workspace requires HTTP/1.1. Workspace can attempt to use HTTP/2 but falls back to HTTP 1.1 if it is not viable.

As such, to have the best connection between the Workspace key station and the LSEG Platform on the head end, it is vital that you use an HTTP/1.1+ Compliant Proxy.

⚠ The Streaming Service requires an HTTP *keep alive* or *persistent* connection, which is supported in the HTTP/1.1 specification.

Appendix B: Software information and support

In this appendix, links to additional and related information are provided, including relevant documentation locations and an overview of the information contained in the About LSEG Workspace dialog, for example.

In this section

- [Documentation locations](#)
- [Export control classification](#)
- [Hosted connection item limits](#)
- [About LSEG Workspace dialog](#)
- [Data dictionary support](#)
- [Local mode support](#)

Documentation locations

Workspace technical content can generally be found in two locations:

- The [documentation](#) section of the LSEG Workspace page. These documents are searchable using all popular search engines (such as Google or Bing).
- Under the [Workspace section](#) of MyAccount (formerly MyRefinitiv), the authenticated website.

Where documents are to be found in other locations, these are provided in the table below:

Documentation	Location(s)
Workspace Administration Panel Configuration	A description of the functions (layouts, version control, and so on) of the Workspace Administration Panel can be found in the [Configuration Guide](#).
Workspace Administration Tools Configuration	A description of the functions (group, configuration management, and so on) handled by the Client Administration Tools app can be found in [Administration Tools Guide](#).
Workspace System Requirements	The system requirements documentation can be found in the [System Requirements](#) document.
LSEG Real-Time Data Access Control System (formerly DACS)[43]	The DACS permission synchronization requirements can be found in the [DACS Permission Synchronization Configuration Guide](#), under the [DACS section](#) of MyAccount.
LSEG Real-Time Advanced Distribution Server[44] (formerly ADS)	An overview of the ADS WebSocket connection configuration can be found in the ADS Software Installation Manual, under the [Advanced Distribution Server (ADS) section](#) of MyAccount.
LSEG Real-Time Advanced Distribution Hub (formerly ADH)	Content covering the installation and configuration of the LSEG Real-Time Advanced Distribution Hub can be found in the [Advanced Distribution Hub section](#) of MyAccount.
Financial Community Network (FCN) and Delivery Direct	For further information about FCN and Delivery Direct, see the [Private Network Overview](#) section of MyAccount.

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[43] DACS Permission Synchronization for Workspace is recommended – rather than the DPRM service - to prevent misconfiguration or permission issues between the Delivery Platform (formerly RDP) and local LSEG Real-Time Distribution System.
While we recommend DACS, for information regarding the configuration of the DPRM service, refer to [Appendix E: Settings](#).

[44] For further information about configuring Real-Time data, refer to [Appendix G: Configuring Real-Time Data products](#).

Documentation	Location(s)
Chrome Extension	For further information about the Google Chrome extension, see the Chrome Extension Installation Guide.
Release Notes	A summary of the features in the latest release of Workspace can be found in the Release Notes document.
Service Description	The Workspace Service Description document can be found in the Service Description document.
Workspace Vendor Subservice Definitions	A list of the Products, Exchanges, and Specialist Data definitions can be found in the Vendor subservice definitions document. These are managed using the LSEG Real-Time Data Access Control System (DACS).
Technical Roadmap	A tabular summary of known significant changes to upcoming releases of Workspace can be found in the Technical roadmap document.

Export control classification

The following table contains export control classification details for Workspace:

Program Name	Refinitiv Workspace
ICOS Reference	6420
Program Version	1.x
Sub-Products	6413 for Windows & 6414 for macOS

ECCN (United States)	EAR99
ECCN (European Union)	None
Refinitiv Export Code	NL
Export Note	This export code means 'Not Licensable' and is applied to items that can be exported 'no license required', under both EU and US regulations. Exports of NL items can be made to all countries except embargoed countries (Iran, Syria, North Korea, Cuba, or Crimea).
US Commerce, BIS CCATS number	self-classified

Hosted connection item limits

For the deployed desktop hosted connection, the Item limit is 2500. This can be extended to 5000, with a fee-liable Product Line Item (PLI) add-on.

📌 For Workspace for Web, the item limit is 1000 and cannot be extended for performance reasons.

Once the limit is reached, a message is displayed in the **About LSEG Workspace > Streaming** panel.

About LSEG Workspace dialog

The About LSEG Workspace dialog box provides information about the viewed Workspace installation and environment.

To open the About LSEG Workspace dialog, In Workspace:

• Click **Help > About Refinitiv Workspace**

The dialog box divides information over five panels:

- **System status** contains Workspace version and variant information, together with service connection details and an overview of the computer on which this iteration of Workspace is running.

- **Streaming** contains information about real-time data sources, including the primary feed used, RICs used[45] (subscriptions), and any other feeds provided through a local LSEG Real-Time Distribution System.

- **User details** contains information about the currently logged in user, including their email address, their user unique identifier (UUID), job role, and location information.

- Along with the proxy URL and version, the **Data API proxy** panel also contains information about the status of the proxy, indicating whether it is available for external connections.

- **Component versions** contains version information about services and apps that have been made available to the user.
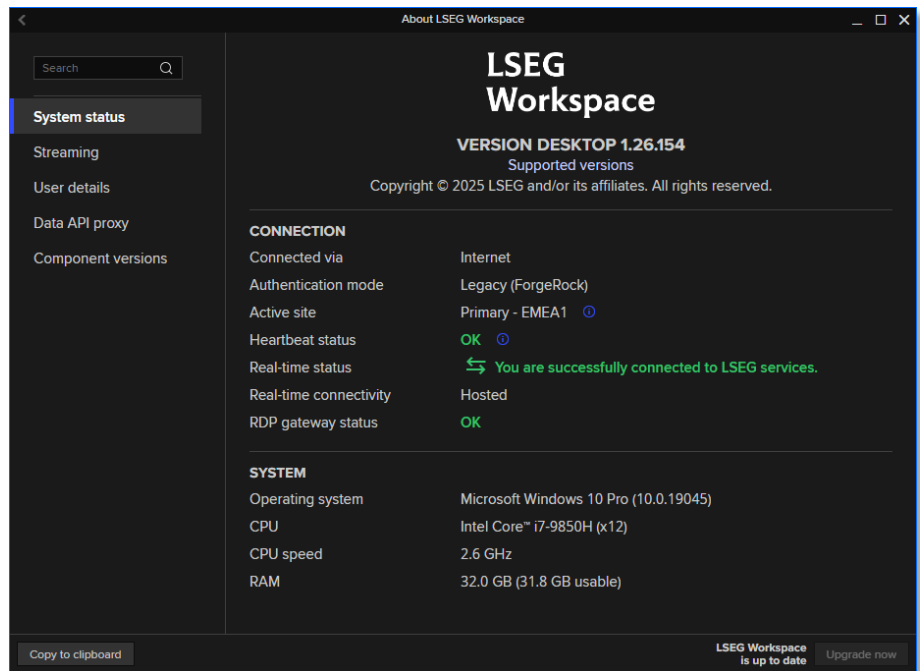
Data Dictionary support

Access to a Data Dictionary is dependent on your connection support. For:

- Hosted streaming connections, the data dictionary is provided and managed by LSEG.

- Local Real-Time Distribution System[46] connections, Workspace downloads the data dictionary from the primary Real-Time Advanced Distribution Server.

Local Mode support

The Local Mode feature, as found in Eikon, is not supported.

---

[45]   See the Hosted connection item limits section.
[46]   For further information about configuring Real-Time data, refer to Appendix F: Configuring Real-Time Data products.

Appendix C: Command line statements

In this appendix, the command line statements that can be used to install, uninstall and configure LSEG Workspace, in different scenarios, are provided.

In this section

- [Installation statements](#)
- [Uninstallation statements](#)
- [Configuration Manager parameters](#)
- [Workspace executable statements](#)

Installation statements

The table below list command line statements that can be used to install Workspace:

Installation mode	Command
Base commands	
User [47]	`RefinitivWorkspace-installer_x.xx.xx.exe --user`
Machine	`RefinitivWorkspace-installer_x.xx.xx.exe --machine-autoupdate-peruser`
Machine without Auto-Update	`RefinitivWorkspace-installer_x.xx.xx.exe --machine-autoupdate-no`
Machine with Update Service	`RefinitivWorkspace-installer_x.xx.xx.exe --machine-autoupdate-service`
SSO	`RefinitivWorkspace-installer_x.xx.xx.exe --client-sso=<client SSO URL>`
Installation help page	`RefinitivWorkspace-installer_x.xx.xx.exe --help`
Run Messenger only	`RefinitivWorkspace-installer_x.xx.xx.exe --messengeronly`
Shared configuration [48] [49]	
Additional parameter	`--sharedconfig="<file path>"`
Failover	`--sharedconfig="<file path-1>";"<file path-2>";"<file path-3>"`

Related information can be found in the [Performing an installation using your Single Sign On URL](#) section.

Uninstallation statement

The following command line statement can be used to uninstall Workspace:

```
RefinitivWorkspace.exe --uninstall
```

---

[47] This is the default method of installing Workspace. As such, the `--user` parameter is not a requirement.

[48] For example, `RefinitivWorkspace-installer_x.xx.xx.exe --machine-autoupdate-peruser --sharedconfig="<file path>"` is the command line for a machine installation with a shared configuration.

[49] The content of the file(s), identified by the `--sharedconfig` parameter, could change from version-to-version. So, refer to the appropriate documentation for amendments to this parameter when there is a new release.

Configuration Manager parameters

The table below list command line statements that can be used to configure Workspace:

Installation mode	Command
User	`"<InstallDir>\Refinitiv\Refinitiv Workspace\RefinitivWorkspace.exe" --config-manager`
Machine or Hot-Desking	`"<InstallDir>\Refinitiv\Refinitiv Workspace\RefinitivWorkspace.exe" --config-manager --machine`

Executable statements

There are various parameters you can add to the Workspace installer and desktop executable, which are covered in the following two sections.

Desktop executable parameters

The following command line structures are used for the desktop executable[50], where all parameters are optional:

- Windows: `RefinitivWorkspace.exe <parameter 1> <parameter n>`

- macOS: `open /Applications/"Refinitiv Workspace.app" --args <parameter 1> <parameter n>`

The optional parameters that can be used in conjunction with these commands are described below:

Parameter	Purpose
`--clearCache` `--clearElectronCache`	Clear the Electron cache of Workspace (`<install path>\Refinitiv\Refinitiv Workspace\Cache\Electron`)
`--clearLogs`	Clear the application logs folder of Workspace
`--clearRememberMe`	Delete the automatic login cookie
`--client-sso=<url>`	Set the URL for your SSO
`--config-manager`	Open the Workspace Configuration Manager (see the Configuring Workspace section)
`--connection=internet`	Force the use of Internet connection
`--disable-active-setup`	Active Setup[51] is disabled. This parameter is supported in `machine-autoupdate-no` mode only, as Active Setup is required when the auto-update service[52] is used.
`--dumpApps`	Dump available Apps of Workspace into the **logs** folder
`--dumpConfig`[53]	Dump the configuration of Workspace into the **logs** folder
`--excel`	Start Excel with the Workspace ribbon add-in
`--help`	Display available command line options.

---

[50] The desktop executable is, by default, found in the `%ProgramFiles%\Refinitiv\Refinitiv Workspace\<version>\` folder.

[51] Windows Active Setup is a mechanism for executing commands once per user during login.

[52] If Workspace is in use when it is being updated automatically, the previous `<Version>` folders under **Refinitiv Workspace** and **Refinitiv for Office** are preserved. Once all users have logged out of their devices and logged in again, access to the new Workspace version is facilitated using Active Setup.

[53] For further information regarding settings that are added to the logs folder, see the Additional dumpConfig statements section.

Parameter	Purpose
`--language=<xx>`	Forces the user interface language for Workspace. Where `<xx-XX>` is: • `en` English • `ja` Japanese • `zh` Traditional Chinese • `de` German
`--log-level=<level>`	Set the level of detail for log files, where `<level>` is: • `error` • `warn` • `info` • `verbose` • `debug`
`--nofile`	Start system tray icon only.
`--resetCache`	Reset the product cache of Workspace to its default state (as after a fresh installation)
`--rollback`	See the Rolling back section, in Appendix M: Known issues.
`--rollforward`	See the Rolling forward command support section, in Appendix M: Known issues.
`--run-above-normal-priority`	Dependent on user rights, in Windows only, raise the priority of Workspace processes.
`--systemtest`	Run the embedded System Test[54].
`--uninstall`	Uninstall Workspace.
`--update-office-registry=<value>`	Used to update the office registry key, where `<value>` is either `HKLM` or `HKCU`. For additional information, see Excel add-in loading issues.
`--upload-logs`	Upload log files.
`--version`	Show the version of Workspace[55].
`--versions`	Display the version of underlying components of Workspace, for example: `--versions=electron, node` (or simply `--versions`).
`--web-logger`	For network troubleshooting purposes, this is used in capturing Web calls when running Workspace. See the Networking issues section, in Appendix L: Troubleshooting.

Installer parameters

The following parameters can be found in the help file for Workspace installer, `RefinitivWorkspace-installer_x.xx.xx.exe`:

Parameter	Purpose
Installation types	
`--machine-autoupdate-no`	Machine installation, with no automatic updates

---

[54]   For further information regarding the System Test applications, refer to the Workspace System Test Guide.
[55]   On macOS, for this command to work as intended, go to the `/Applications/Refinitiv Workspace.app/Contents/MacOS` folder and run the command, `./RefinitivWorkspace --args --version`.

Parameter	Purpose
`--machine-autoupdate-peruser`	Machine installation, with an automatic update per user
`--machine-autoupdate-service`	Machine installation, with an automatic update service
`--uninstall`	Uninstall operation
`--permachine`	This command has been replaced by the machine parameters and is no longer valid.
`--rollback`	Restore the previous, automatically-installed version. See the Rolling back section, in Appendix M: Known issues.
`--update`	This command has been replaced by the other parameters and is no longer valid.
`--updateInstallationConfiguration`	Repair the Workspace deployment configuration file.
`--user`	User installation (default)
`--vdi`	VDI installation mode
Options	
`--adminprivilege`	No longer valid.
`--cachepath=<Your CachePath>`	Allows you to customise the cache location, where *<Your CachePath>* is the path to the **cache** folder.
`--client-sso=<Your ClientSSO URL>`	Allows the installer to set up SSO, once Workspace installation is complete. Where, depending on the installation mode of Workspace, SSO settings are stored under `user-settings.json` or `machine-settings.json`.
`--disable-active-setup`	Active Setup[56] is disabled. This parameter is supported in `machine-autoupdate-no` mode only, as Active Setup is required when the auto-update service[57] is used. It is also recommended that it is combined with `--office-registry=HKLM`, as the Office Registry is not required to synchronise with HKCU. See also the Excel add-in loading issues section, found in Appendix M: Known issues.
`--disable-pi`	Disable sending usage tracking information to LSEG.
`--execute=<execute>`	To identify the process that the update will wait until this process closed properly and perform the update.
`--forceInstall`[58]	Bypasses the system pre-requisites check.
`--help`	Display external help on the new command line
`--installerlogpath=<Your InstallerLogPath>`	Allows you to customise the Workspace installation log location, where *<Your InstallerLogPath>* is the path to the **Refinitiv Workspace Install Logs** folder.

---

[56] Windows Active Setup is a mechanism for executing commands once per user during login.

[57] If Workspace is in use when it is being updated automatically, the previous **<Version>** folders under **Refinitiv Workspace** and **Refinitiv for Office** are preserved. Once all users have logged out of their devices and logged in again, access to the new Workspace version is facilitated using Active Setup.

[58] Do not use this flag without a clear purpose and understanding of the impacts, as it may result in degraded product experience.

Parameter	Purpose
`--installpath=<Your InstallPath>`	Allows you to customise the installation folder location, where *<Your InstallPath>* is the path to the **Refinitiv\Refinitiv Workspace** folder.
`--lang="<lang>"`	To specify the installation language. Where <lang> is: `en` English `ja` Japanese `zh` Chinese `ko` Korean
`--logpath=<Your LogPath>`	Allows you to customise the Workspace log location, where *<Your LogPath>* is the path to the **Refinitiv Workspace Logs** folder.
`--messengeronly`	Installs Workspace Messenger only. This installation mode will not share the login session with Workspace.
`--noshortcut`	Install the product without shortcuts. This mode will be used by the REDI[59] installer and Workspace will be able to start from REDI only.
`--office-registry=<HKLM|HKCU>`	Install with office registry HKLM or HKCU. This parameter is supported in `machine-autoupdate-no` mode only.
`--sharedconfig=<Your SharedConfigPath>`	Allows you to specify a custom path to your shared configuration file.
`--shortcuts=<Your ShortCutPath>`	Allows you to customise the shortcuts folder location. Where *<Your ShortCutPath>* is the path to the Refinitiv Workspace shortcuts directly. If this option is defined as `NONE`, shortcuts are not installed.
`--shortcut-excel=<FALSE / TRUE>`	This parameter determines whether the **Refinitiv Workspace - Excel** shortcut is added to the Start menu, where: `FALSE` Shortcut is not added `TRUE` [Default] Shortcut is added
`--shortcut-workspace=<FALSE / TRUE>`	This parameter determines whether the **Refinitiv Workspace** shortcut is added to the Start menu, where: `FALSE` Shortcut is not added `TRUE` [Default] Shortcut is added
`--silent`[60]	Run the installation in silent mode.
`--startApp`	Automatically start Workspace, once the installation is complete.
`--remote-debugging-port=<port>`	Support remote debugging port for automate test.

---

[59]   For further information about REDI, refer to the LSEG product page.
[60]   Silent mode is enabled when installing, updating, or uninstalling Workspace, using the command line.

Appendix D: Automatic update workflow

The content in this appendix applies to the following installation types:

- `--user`
- `--machine-autoupdate-peruser` [61]
- `--machine-autoupdate-service`

The `--machine-autoupdate-no` installation mode is not discussed, as automatic update functionality is disabled for that mode.

Process overview
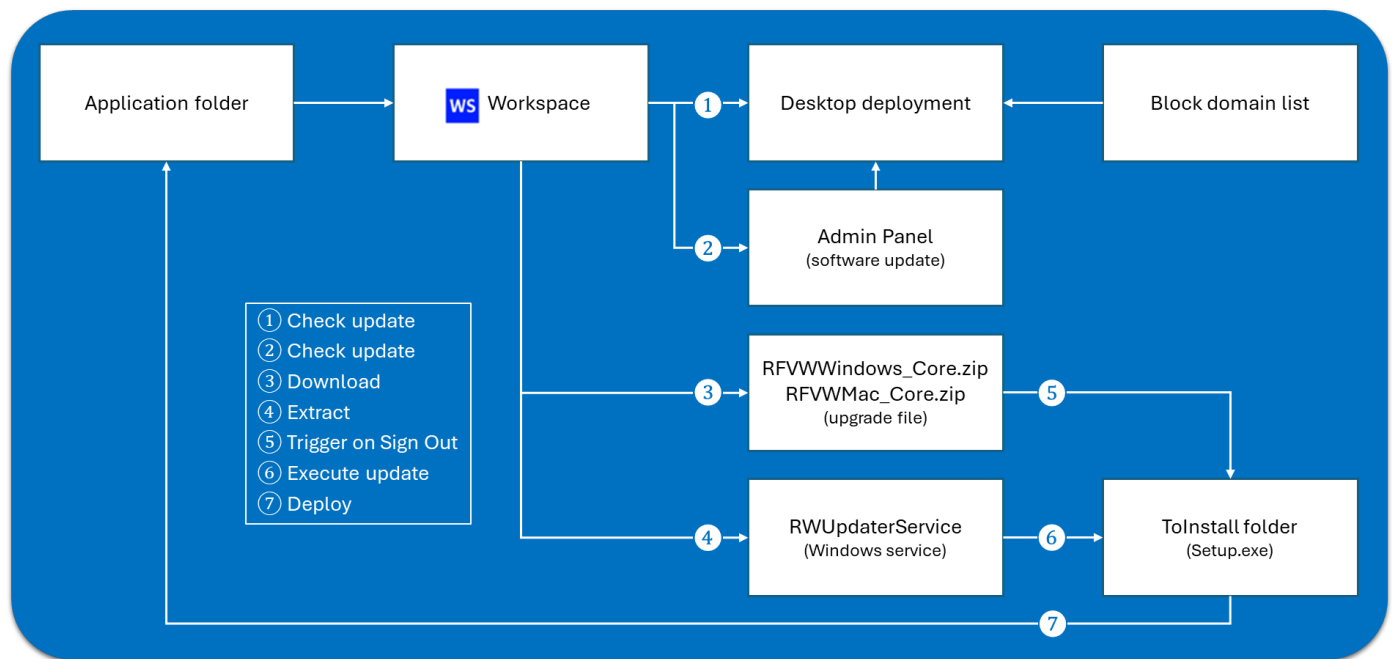
Device and installation registration

1. Login into Workspace

2. During the first minute after login, `RefinitivWorkspace.exe` retrieves installationGUID from `installinfo.json`.

   - If installationGUID is not found in `installinfo.json`, it is created using `guid.json` [62]
   - If `installinfo.json` does not exist, it is created automatically

   Depending on the installation method, `installinfo.json` is in one of the following locations:

Method	Location
User	`C:\Users\%Username%\AppData\Roaming\Refinitiv\Refinitiv Workspace\`
Machine with auto update per user	`<install path>\Refinitiv\Refinitiv Workspace\`
Machine with auto update service	`%programdata%\Refinitiv\Refinitiv Workspace\`

---

[61] For `--machine-autoupdate-peruser` mode only: To update the master installation automatically (bulk autoupdate), the administrator should get the latest version and reinstall Workspace. All users, that have a lower version than the master installation, are updated to the new version of master installation automatically, with the active setup, once they log off from Windows, and log in again.

[62] Guid.json is located under `C:\Users\%Username%\AppData\Roaming\Refinitiv\Refinitiv Workspace\`

3. `RefinitivWorkspace.exe` sends a request to Desktop Deployment Portal to do the following:

   a) Check whether the device is registered on Desktop Deployment Portal and, if not, add the new device

   b) Add a login history record

Checking new version availability

Randomly, between 5-60 minutes after login, `RefinitivWorkspace.exe` checks[63] for the availability of the new target version for the current user. Version checks are then scheduled daily, at 00:*<randomMinutes>*.

1. Checks the new version with Admin Panel[64]

2. Checks the new version with Desktop Deployment Portal

Changing the update time

To change update time after login, use the command `--checkupdateTime=<n>`, where:

- `--checkupdateTime=0` – Checks for a new version instantly after login

- No parameter set – Checks for a new version randomly between 5-60 minutes after login

Setting up a custom scheduler

To set up a custom scheduler to check for new versions, use the command:

`--autocheckupdatetime=<a> <b> <c> <d> <e>`

Where:

<a>	Day of week (0 – 7, where `7` is Sunday). You can also use names, that is, `Monday`, and so on.
<b>	Month (1 - 12)
<c>	Day of month (1 - 31)
<d>	Hour (0 - 23)
<e>	Minute (0 - 59)

For example, for an update check to be performed every Sunday, at 5:30 PM, use the command:

`--autocheckupdatetime=7 * * 17 30`

Downloading a version and preparing for upgrade

If a new version is detected, the following steps are performed:

1. Workspace receives the target version information (including URL) and automatically downloads the zipped package.

Calling process	`RefinitivWorkspace.exe`
URL	`https:\\cdn.refinitiv.net\public\packages\RFVWWindows\RFVWWindows_Core_x_xx_xxx.zip`

Installation type	Download location
`--user` `--machine-autoupdate-peruser`	`%AppData%\Local\Refinitiv\Refinitiv Workspace.ToInstall`
`--machine-autoupdate-service`	`%programdata%\Refinitiv\Refinitiv Workspace\Refinitiv Workspace.ToInstall`

---

[63] This check can also be triggered by opening the **About** box.
[64] For further information, see the [Administration Panel Configuration Guide](#).

2. Workspace extracts the files from the zipped file to a newly created `Extract` folder

Calling process	`RefinitivWorkspace.exe`
Unzip tool	yauzl node_module (https:\\www.npmjs.com\package\yauzl)
Extract location	`<Download location>\Extract`

Checking new package with Desktop Deployment Portal

3. Checks whether the content in the `Extract\checkUpdateInfo.json` matches the content received from the Desktop Deployment Portal (by checking the file hash code):

If…	Then…
Yes	Skip downloading the new package and wait for the upgrade initiation
No	Delete the downloaded package and `Extract` folder

4. Download the new package, with the updated `Extract\CheckUpdateInfo.json` content (see Downloading a version and preparing for upgrade)

Initiating an update

The persons required to perform this step depend on the installation type:

Installation type	Performed by
`--user`	The user of the machine where Workspace was installed
`--machine-autoupdate-peruser`	Each Workspace user on the machine where the application was installed
`--machine-autoupdate-service`	Any user of the machine(s) where Workspace was installed

To begin the upgrade:

1. Select the Help menu

2. Choose **About LSEG Workspace**

3. Click the **Upgrade now** button

`RefinitivWorkspace.exe` runs an `Extract\setup.exe` command, with arguments based on `setupArgs`, defined in `CheckUpdateInfo.json`.

Installation type	Example command
`--user` `--machine-autoupdate-peruser`	`setup.exe --update --rerun --silent --forceInstall --calledByCheckupdate --execute=RefinitivWorkspace.exe --appLocation= C:\\Users\\%Username%\\AppData\\Local\\Refinitiv\Refinitiv Workspace`
`--machine-autoupdate-service`	`setup.exe --update --rerun --silent --forceInstall --calledByCheckupdate --execute=RefinitivWorkspace.exe --appLocation=C:\\Program Files\\Refinitiv\Refinitiv Workspace\\1.19.447`

Upgrade workflow

The following actions are performed by `Extract\Setup.exe`:

1. Waits for several seconds until `RefinitivWorkspace.exe` is terminated [65]

2. Performs a backup of installation folders, based on the information in the `files` section of `InstallInfo.json`

    a) `--machine-autoupdate-service` only: Checks whether Workspace is in use by another user:

If…	Then…
Yes	Go to step 2.iii
No	Go to step 2.ii

    b) Backs up the Workspace installation folder:

Installation type	Installation folder	Backup location
`--user` `--machine-autoupdate-peruser`	`Refinitiv Workspace`	`<install_path>\Refinitiv Workspace.Backup`
`--machine-autoupdate-service`	`Workspace <Version>`	`<install_path>\Refinitiv\Refinitiv Workspace\<Version>.Backup`

    c) `--machine-autoupdate-service` mode only: Checks whether Microsoft Office is in use by another user on the same machine:

If…	Then…
Yes	Go to step 2.v
No	Go to step 2.iv

    d) Backs up the Refinitiv for Office installation folder:

Installation type	Installation folder	Backup location
`--user` `--machine-autoupdate-peruser`	`Refinitiv for Office`	`<install_path>\Refinitiv for Office.Backup`
`--machine-autoupdate-service`	`Office <Version>`	`<install_path>\Refinitiv for Office\<Version>.Backup`

    e) `--machine-autoupdate-service` mode only: Performs a backup of the Update Service installation folder:

Installation type	Installation folder	Backup location
`--machine-autoupdate-service`	`Update Service <Version>`	`<install_path>\Refinitiv Workspace Update Service\<Version>.Backup`

3. Backs up the `shortcuts` folder, based on the information in the `shortcutsFolder` section of `InstallInfo.json`:

Installation type	Backup location
`--user` `--machine-autoupdate-peruser`	`%appdata%\Refinitiv\Refinitiv Workspace\Backup\<randomname>-backupShortcut\`

---

[65] If `RefinitivWorkspace.exe` has not been terminated, `Setup.exe` force-kills the process.
For `--machine-autoupdate-service` mode: Only the instigating user is required to terminate their Workspace session.

Installation type	Backup location
`--machine-autoupdate-service`	`%programdata%\Refinitiv\Refinitiv Workspace\Backup\<randomname>-backupShortcut\`

4. Creates new folders and installs files:

Installation type	Workspace location	Office location	Update Service location
`--user` `--machine-autoupdate-peruser`	`<install_path>\Refinitiv Workspace`	`<install_path>\Refinitiv for Office`	n\a
`--machine-autoupdate-service`	`<install_path>\Refinitiv Workspace\<Version>`	`<install_path>\Refinitiv for Office\<Version>`	`<install_path>\Refinitiv Workspace Update Service\<Version>`

5. Installs shortcuts:

Installation Type	File location
`--user`	`%AppData%\Microsoft\Windows\Start Menu\Programs\Refinitiv`
`--machine-autoupdate-peruser`	`%AppData%\Microsoft\Windows\Start Menu\Programs\Refinitiv` `%ProgramData%\Microsoft\Windows\Start Menu\Programs\Refinitiv`
`--machine-autoupdate-service`	`%ProgramData%\Microsoft\Windows\Start Menu\Programs\Refinitiv`

6. Installs Add/Remove Programs (ARP) registry entries for Workspace.

7. Checks whether Workspace was installed with `–messengeronly` parameter:

If…	Then…
Yes	Go to step 9
No	Go to step 8

8. Installs Office Registry and Office Add-ins

9. Creates `install-settings.json`, containing settings for Microsoft Office, and providing the location for Workspace and Office add-ins:

Installation Type	File location
`--user` `--machine-autoupdate-peruser`	`<install_path>\Refinitiv\Refinitiv Workspace\`
`--machine-autoupdate-service`	`<install_path>\Refinitiv\Refinitiv Workspace\<version>`

10. Creates `com.refinitiv.workspace.sessionsharing.json`, providing Chrome extension settings and the location of the `Refinitiv-host.exe` file:

Installation Type	File location
`--user` `--machine-autoupdate-peruser`	`<install_path>\Refinitiv\Refinitiv Workspace\`
`--machine-autoupdate-service`	`<install_path>\Refinitiv\Refinitiv Workspace\<version>`

11. Checks whether the installation was completed successfully:

If…	Then…
Yes	Removes backup folders [66]
No	Removes all newly installed files and restores backup folders. Ends the installation with an error message.

12. Creates `InstallInfo.json`, in a mode-specific location, and writes new installation information, such as installation paths, shortcut paths, and so on:

Installation Type	File location
`--user` `--machine-autoupdate-peruser`	`<install_path>\Refinitiv\Refinitiv Workspace\`
`--machine-autoupdate-service`	`<install_path>\Refinitiv\Refinitiv Workspace\<version>`

13. If the update was triggered by signing out, it relaunches Workspace with `--startApp`

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[66] For the `machine-autoupdate-service` only: If Workspace is in use at the time of update, the previous `<Version>` folders under `Refinitiv Workspace` and `Refinitiv for Office` are preserved. Once all users have logged out of their devices and logged in again, access to the new Workspace version is facilitated using Active Setup.

Appendix E: Settings

This appendix focuses mainly on communications settings and parameters.

In this section

- [Ports](#)
- [Communication protocols](#)
- [Server software](#)
- [Services](#)
- [Content filtering domains](#)
- [Trusted root certification](#)
- [Customer managed over Internet](#)
- [User Agent](#)
- [FIPS](#)

Ports

Workspace uses the following connections:

API [67]	Connection	Port [68]
Desktop Data API	`http:\\localhost:9000\api\`	9000
Side by Side API [69]	`http:\\localhost:9000\sxs\`	9000
Refinitiv Workspace Bus	`http:\\localhost:49152\`	49152

Communication protocols

Protocol	Port Number	Workspace Services	Required For
TCP	1024+ → 443 1024+ ← 443	LSEG Workspace Platform	Administration Services View Service Search & Navigation Service Time Series Service Workspace Messenger Service Trading Service Update Service Thomson Reuters Remote Support (TRRS) Datastream Service Newscasts (internet only) FXall Flextrade Spark Real-Time Data

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[67] You can find further information regarding APIs on the [Developer Community](#) website.
[68] 9000 and 49152 are internal ports. If the port is already in use, Workspace increments until a free port number is found:
- for Desktop Data and Side by Side, from 9000, and
- for Workspace Bus, from 49152
[69] For further information, see [Workspace Web Side by Side API](#) on the Developer Community website.

Protocol	Port Number	Workspace Services	Required For
TCP	1024+ → 15000 1024+ ← 15000	Real-Time Data	LSEG Real-Time Advanced Distribution Server[70] (formerly ADS)
TCP\UDP	1024+ → 53 1024+ ← 53	DNS Server	Domain Name Resolution from Domain Name Server

Server software

For users with a local Real-Time Distribution System infrastructure, including a Real-Time Data Access Control System server, DACS Permission Synchronization for Workspace is recommended – rather than the Deployed Permissions Reconciliation Manager (DPRM) service. This is to prevent misconfiguration or permission issues between the Delivery Platform (formerly RDP) and your local LSEG Real-Time Distribution System.

While we recommend DACS, for information regarding the configuration of the DPRM service, refer to the DPRM configuration section.

Creating an internal connection

To create a connection to the LSEG Real-Time Distribution System, you must download the Data Dictionary from a LSEG Real-Time Connector (RTC) or LSEG Real-Time Advanced Distribution Server.

For additional information, see the Data Dictionary support section.

Services

This section summarizes services and features related to connectivity and provides links to further information.

Financial Community Network and Delivery Direct

To access new AWS service endpoints, customers using a private network must whitelist the following new IP addresses, which impact Delivery Direct, Financial Community Network (FCN), and Customer Managed Connectivity (CMC) users:

- 159.43.192.0/23 (AMERS)
- 159.43.200.0/23 (EMEA)
- 159.43.208.0/23 (APAC)

For further information about Financial Community Network and Delivery Direct, see the Private Network Overview section of MyAccount (formerly MyRefinitiv), containing the following documents:

- Customer Connectivity DNS Migration Guide
- FCN Customer Connectivity Guide

Internet

LSEG will not divulge IP address information under any circumstances. Doing so prevents us from changing IP addresses, as and when needed, without a notification period. These IP addresses may not always be under our direct control.

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[70]   For further information about configuring Real-Time data, refer to Appendix F: Configuring Real-Time Data products.

Transport Layer Security protocol

From 01 June 2023, to continue to use LSEG Real-Time services[70], you must ensure that use of TLS version 1.2 is enabled for all Workspace users.

To enable TLS 1.2:

1. In Windows, open the **Start** menu

2. Select **Windows System > Control Panel**

3. Choose **Network and Internet**

4. In the Network and Internet panel, choose **Internet Options**

5. In the Internet Properties dialog, shown opposite, select the **Advanced** tab

6. Scroll to the Security section (at the end of the settings list) and select **Use TLS 1.2**

For further information, refer to PCN205244-Change in supported TLS protocols for Eikon and Workspace.
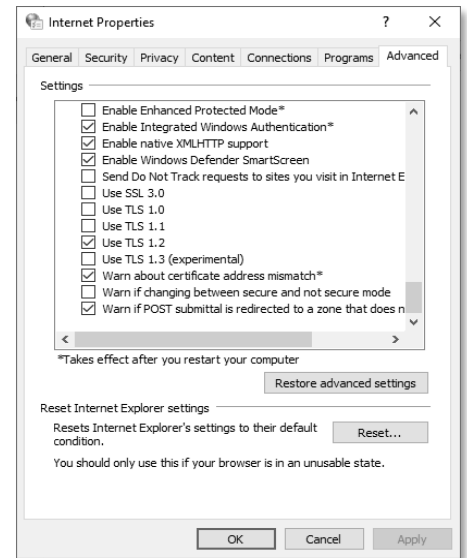
Web hosted services

The following services and features are accessed through the Internet and not reached through a private network:

MyAccount (myaccount.lseg.com)	The authenticated documentation repository.
Contact Us	For raising questions, issues, and other topics.
Desktop crash dump upload utility	Sends data to the LSEG support platform. This is in case a user has a session crash. The crash data is sent from the user session to Refinitiv, so we can investigate the crash.
GetSupport or interactive Chat	Where feedback / support issues are logged, and you can establish a chat dialogue with an agent.
Messenger Traffic	All traffic will be over internet, by default[71].
Portal SDK starter kit (cdn.refinitiv.com)	Software Development Kit (SDK) is a toolkit that you can use to interact with the app and our platform. This is hosted on CloudFront.
Chrome Extension	This is accessed from an external web site, either by the user going to the Google store, or through enterprise set-up.

Content filtering domains

You need to whitelist the domains for content that can be accessed through Workspace.

📌 Third Party apps in Workspace may require access to specific domains. For information about specific access requirements, it is advisable to contact the app developer directly.

Example domain list

The following list of domains[72] is not exhaustive and is for illustrative purposes only.

DNS	Workspace services
`autex.com` `autexnow.com`	Autex

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[71] This is not the case when private line connectivity is enabled for Messenger. For further information, see Appendix I: Workspace Messenger.

[72] Many of the domains listed in the table below are wildcard values, where a subdomain may prepend and/or append the listed domain.

DNS	Workspace services
`authenticator.pingone.com` `idpxnyl3m.pingidentity.com`	Multi-factor Ping Authenticator app

`bit.ly`
`reut.rs`
`tmsnrt.rs`
	Bit.ly Integration Information

`trmcs-documents.s3.amazonaws.com`	Central Bank Polls
`session.rservices.com`	Contribution address, News documents

`cnbc.com`
`ft.com`
`moodys.com`
	Miscellaneous external content

`googleapis.com`	Google
`chrome.google.com`	Workspace Chrome Extension
`virtualearth.net` `thomsonreuters.wdtinc.com`	Interactive Map
`lipperweb.com`	Lipper Market Insight
`loanconnector.com`	Loan Connector
`loanpricing.com`	Loan Pricing
`depth.finance`	Market Depth
`cdn.mathjax.org`	MathJax JavaScript display engine
`storage.tr.191.itws.platts.com`	News Documents
`reuters.com` `breakingviews.com`	News URL link
`pi.refinitiv.com`	Workspace auto-update workflow[73]

`refinitiv.com`
`refinitiv.net`
`refinitiv.biz`
`thomsonreuters.com`
`thomsonreuters.net`
`thomsonreuters.biz`
	LSEG

`globalrelay.com`	Workspace Messenger Compliance
`salesforce.com` `webtrendslive.com`	Refinitiv Migration Tools

`kaltura.com`
`reuters.tv`
`vmnd.tv`
	Newscasts (formerly Reuters Insider)

[73] Whitelisting of this domain is required by all customers using Workspace through Internet and Private Network connections.

DNS	Workspace services
`cxvid-livecapture.s3.amazonaws.com`	Newscasts (formerly Reuters Insider): Recording Video and Images
`thomson.112.2o7.net`	Newscasts (formerly Reuters Insider): Analytics and user interaction reporting

`gstatic.com`
`apis.google.com`
`bv-predictions2021.com`
`cloudfront.net`
`google-analytics.com`
`googletagservices.com`
`product.datastream.com`
`themes.googleusercontent.com`
`trust.org`
`views.rkd.reured.com`
	Reuters Interactive graphics

`bing.com`	Search engine
`media-server.com`	Street Event content
`comodo.com`	TLS/SSL Client Certificate (HTTPS)
`tradeweb.com`	Tradeweb
`fxall.com`[74]	Trading Service
`pbs.twimg.com` `twitter.com`	Twitter integration
`wom.finance`	Wealth Order Management
`awsglobalaccelerator.com`	
`avatars.stocktwits.com`	Social Media Monitor
`img.en25.com` `eloqua.com`	LSEG Training
`salesforceliveagent.com`	Support
`oneaccess.io`	OneAccess
`dtn.com`	Weather layers in InteractiveMap app

Advanced Dealing FQDNs

For Advanced Dealing[75] customers, the following Fully Qualified Domain Names may need to be configured:

- app.rad.refinitiv.com (primary and secondary)
- app.rad.refinitiv.biz (primary and secondary DDN)

---

[74] Currently, in Workspace, FXall supports Internet connectivity only.
[75] Port 443 is a requirement. For additional information, see the Communication protocols section.

Trusted root certification

You can download and verify certificates from the appropriate location, defined in the table below:

Internet	https:\\cipher-test.refinitiv.com\
Private network	https:\\cipher-test.extranet.refinitiv.biz\

Certificate details:

Workspace version	Issued by		CN	O	C
1.23 and earlier	COMODO	COMODO RSA Certification Authority	COMODO RSA Certification Authority	COMODO CA Limited	GB
1.24 and later	Sectigo	Sectigo Public Code Signing CA R36	Sectigo Public Code Signing CA R36	Sectigo Limited	GB

Customer managed over Internet

Customer managed over Internet mode is a sub deployment, where Workspace connects the real time data on a user's own local LSEG Real-Time Distribution System (formerly TREP) infrastructure, while other content is sourced from the Delivery Platform (formerly RDP), through the Internet.

To configure this:

1. In Workspace, select **Help > Configuration Manager**.

2. In the Network panel, under Connection Type, select **Internet**.

3. In the Streaming panel, under Streaming Data Retrieval, select **From a local LSEG Real-Time Advanced Distribution Server (ADS)**[76].

4. This opens three separate panels – Servers, Feeds, and DACS – where you can add your server and feed information.
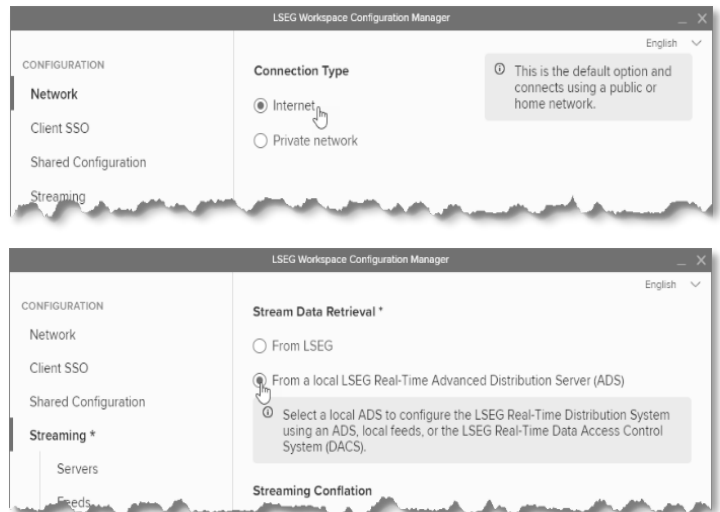
User Agent

A User Agent is an application that retrieves and presents Web content for users or is implemented using Web technologies.

Workspace identifies connections to the ADS User Agent. For example, this could contain the following string and version:

```
RFV-Workspace\<version>
```

Where the `<version>` is updated to match the Workspace executable version.

FIPS

Workspace is not supported in a 140 series Federal Information Processing Standards (FIPS) environment.

---

[76]   For further information about configuring Real-Time data, refer to Appendix G: Configuring Real-Time Data products.

Appendix F: Microsoft Office add-ins

Further information related to the Workspace add-ins for Microsoft Office can be found in the following documents:

- Workspace Add-Ins – System Requirements, which contains Microsoft 365/Office version requirements, browser compatibility, and tools supported by each add-in.
- Workspace Add-Ins - Workspace Installation Guide and Workspace Add-Ins – Workspace Lite Installation Guide, which contains prerequisites, installation, and deployment instructions for the required add-in.
- Workspace Add-In – Release Notes, which contains a summary of the new features and fixes introduced under each release.

Workspace for Excel VSTO add-in

For the Microsoft Excel Visual Studio Tools for Office (VSTO) add-in, Workspace installs a single DLL file under the Windows operating system, `refinitiv-shim.dll`. This supports the core features of the Refinitiv Workspace - Excel (Workspace ribbon) add-in.

MS Office	File location
32-bit	`<Install_path>\Refinitiv\Refinitiv for Office\x.x.x\Office_x86`
64-bit	`<Install_path>\Refinitiv\Refinitiv for Office\x.x.x\Office_x64`

There is no linking, presentation tools, or deal analytics package.

Workspace add-in

The Refinitiv Workspace - Excel (**Workspace** ribbon) add-in changes are listed in the table below:

Version	Add-ins
1.22	No changes
1.21	=RDP.FxSwpToSwp() =RDP.FxDepToSwp() =RDP.FxSwpToDep() =RDP.FxSpot() =RDP.FxInfo() =RDP.FxZcToFra() =RDP.DateAdjToWD() =RDP.DateCountPeriods() =RDP.DateFindDate() =RDP.DateIsWD() =RDP.DateLastWD() =RDP.DateListHolidays() =RDP.Adinterp()
1.20	No changes
1.19	No changes
1.18	No changes
1.17	No changes
1.16	=RDP.Publish()

Version	Add-ins
	=RtContribute()[77] =RDP.PublishChain() =RtContributeChain() =DSCHART()
1.15	No changes
1.14	No changes
1.13	No changes
1.12	=TRAggregate() =RDP.Aggregate() =RDP.Analytics() =RDP.Data() =RDP.HistoricalPricing() =RDP.Price()
1.11	=RDP.Today() =RDP.Now()
1.10	=RtToday() =RtNow()
1.9	Refinitiv.EmbeddedApplication (financial chart) =DSGRID() =Thomson.Reuters.AFOSpreadSheetFormulas.DSGRID() =RDP.Search()
1.8	=RHistory() =RtGet() =TR()

---

[77]   See Contributions (RtContribute) in the Appendix L: Known issues section.

Appendix G: Configuring Real-Time Data products

This appendix provides an overview of the configuration requirements to establish a connection between Workspace and a local LSEG Real-Time Advanced Distribution Server (formerly ADS).

In this section

- [Network requirements](#)
- [Real-Time product version compatibility](#)
- [Connection configuration](#)
- [Workspace configuration](#)
- [Managing hosted connections](#)
- [Subscription limits](#)
- [Conflation management](#)
- [Connection information in About LSEG Workspace](#)
- [Contributions](#)
- [Specific use cases](#)

Network requirements

Bandwidth	Workspace Desktop: 175 kb/s Workspace Web: 100 kb/s
Firewall	*.refinitiv.com *.refinitiv.biz *.refinitiv.net
Ports	15000[78] 443

The Bandwidth figures were calculated based on the bandwidth used over a several-week period using typical Investment Banking and Wealth Advisor watchlists. Actual bandwidth utilization will vary based on the actual number of symbols in your environment and the frequency at which those instruments update.

Real-Time product version compatibility

For LSEG Workspace, the following Real-Time product versions are recommended:

Product	Version
Real-Time Advanced Distribution Server[79]	3.6 or higher (3.7 or higher for [RWF](#) data)
LSEG Real-Time Data Access Control System (formerly DACS)	7.2 or higher

---

[78] For streaming Local Real-Tine Distribution System connections only, using the default port.
[79] For additional information regarding the Real-Time Advanced Distribution Server encryption capabilities offered by version 3.8, see the [Local connection security parameters](#) section.

Connection configuration

WebSocket is an industry-standard, bidirectional communication protocol that sends data between client and server by reusing the established connection channel. The connection is kept alive until terminated by either the client or the server.

⚠ Raw TCP IP (for example, RSSL) connections are not supported by LSEG Workspace.

Protocol support

LSEG supports[80] the following protocols for use with LSEG Workspace. However, we recommend RWF[81] over secure WebSocket.

Option	Data format	Scheme	ANSI page support	Price formatting support[82]	RTDS or ADS 3.7 or higher	Reduced CPU use	OpenFin compatible
RWF over secure WebSocket[83]	RWF	rwf+wss://	Yes	Yes	Yes	Yes	Yes
RWF over WebSocket	RWF	rwf+ws://	Yes	Yes	Yes	Yes	No
JSON over secure WebSocket	JSON	wss://	No	No	No	No	Yes
JSON over WebSocket	JSON	ws://	No	No	No	No	No

Local connection security parameters

Real-Time Advanced Distribution Server version 3.8 supports the use of simultaneous encrypted and unencrypted connections, without impact to the performance or resource usage of Workspace, to the same server.

That is, it supports connection through multiple ports, where one or more ports are configured as encrypted, and one or more ports are configured as unencrypted.

For further information about WebSocket configuration options, including the configuration parameters in the sections below, refer to the **WebSocket Connection** chapter of the Real-Time Advanced Distribution Server System Administration Guide. This can be found in the Real-Time Advanced Distribution Server section on MyAccount.

Connections secured with certificates

Certificates are used to encrypt data sent between the Real-Time Advanced Distribution Server and the end user.

Certificates require the following parameters[84] (highlighted in bold) to be added to the Real-Time Advanced Distribution Server configuration (.cnf) file:

```
*ads*allowWSConnections : true
*ads*${port}*connectionType : 1
*ads*${port}*serverCert : <certificate path>
*ads*${port}*serverPrivateKey : <private key path>
```

At a high level, to secure your Real-Time Advanced Distribution Server to Workspace connections using a certificate, you need to do the following:

1. Create or add a signed certificate on your Real-Time Advanced Distribution Server and configure its location in your distribution.cnf file. For example:

   ```
   ads*${port}*serverCert : /opt/refinitiv/home/radmin/Certs/Certificate.crt
   ads*${port}*serverPrivateKey : /opt/refinitiv/home/radmin/Certs/id_rsa.key.pem
   ```

---

[80] Currently, the LSEG Real Time Managed Distribution System does not support secured and encrypted connections.
[81] A binary protocol, similar to RSSL in Eikon 4.0. See also Refinitiv Wire Format, in the Glossary appendix.
[82] Fractions and trailing zeroes for price values.
[83] For requests to LSEG, the Hosted Market Data System (HMDS) connection uses rwf+wss:// protocol.
[84] Refer to the **WebSocket Connection** > **Advanced configuration** section in the Real-Time Advanced Distribution Server System Administration Guide

2. In the Real-Time Advanced Distribution Server configuration (.cnf) file, enable WebSocket encryption by amending the `connectionType`[85] parameter. For example:

```
ads*${port}*connectionType : 1
```

3. To commit the changes, restart the Real-Time Advanced Distribution Server daemon.

4. Using the Workspace Administration Tools app, change the protocol from `ws` to `wss`.

    For further information, see the Administration Tools Configuration Guide.

Self-signed certificates

While not recommended as an approach, self-signed certificates can be used to establish secured connection between the Real-Time Advanced Distribution Server and the end user. To do this, the certificate should be installed on every user machine under Root certificates.

Non-secured connections

For no-secured connections, the following settings are required:

```
*ads* allowWSConnections : true
*ads*${port}*connectionType : 0
```

Data compression

The RWF and JSON WebSocket protocols support ZLib compression only. However, for compression to be used, in the Real-Time Advanced Distribution Server configuration, the following parameter must be set:

```
*ads*${port}*forceRsslCompression : True
```

📌 LZ4 compression is not supported by WebSocket.

For further information about compression, see the **Compression parameters** and sections of the Real-Time Advanced Distribution Server System Administration Guide.

Port configuration

You can customise ports in Real-Time Advanced Distribution Server[86].

Connection	Port[87]
Non-secured	15000
Secured (ADS)	15000
Secured (LSEG)	443

Additional configuration parameters

Real-Time Advanced Distribution Server LAN and Host devices running on the Real-Time Distribution System require a centralized Real-Time Advanced Distribution Server configuration (.cnf) file that you generate using the tconfig utilities. For further information, see the **Configuring the LAN and Host Servers** chapter of the Real-Time Advanced Distribution Server System Administration Guide.

---

[85] Determined by the `connectionType` parameter, where:
- **1** indicates the connection is encrypted and certificates are required.
- **0** indicates the connection is unencrypted.

Additional information can be found in the **WebSocket Connection** > **Advanced configuration** section of the Real-Time Advanced Distribution Server System Administration Guide.

[86] For further information, refer to the **WebSocket Connection > Basic Configuration** section of the Real-Time Advanced Distribution Server System Administration Guide.

[87] Ports can be customised in Real-Time Advanced Distribution Server.

Configuring additional servers

To allow access to different data feeds simultaneously, Workspace can be enabled to connect to additional servers. Up to 24 additional LSEG Real-Time Advanced Distribution Servers can be added to a custom configuration.

This is done by using the Streaming > Servers panel of the Configuration Manager or by using the following statement, where:

- *<n>* is a number between 1 and 24

- *<server 1>*, *<server 2>* and *<server n>* are the servers defined for initial connection and failover purposes (see the example, below)

```
"EIKON.STREAMING.API.LOCAL.ADDITIONAL.SESSIONS.<n>": "[\"<server 1>",\"<server 2>",\"<server n>"]"
```

📌 Additional servers work only if the main (primary) server connects to one of the defined servers successfully.

For example:

```
/*
Each connection can have more than one URL, where each subsequent URL acts as a failover for
the specific server
*/
// Main server
//
"EIKON.STREAMING.API.LOCAL.SESSIONS":
"[\"ws://ads01:15000/WebSocket\",\"ws://ads02:15000/WebSocket\",\"ws://ads02:15001/WebSocket\
"]",
//
// Additional server
//
"EIKON.STREAMING.API.LOCAL.ADDITIONAL.SESSIONS.1":
"[\"ws://example01:15000/WebSocket\",\"ws://example02:15000/WebSocket\",\"ws://example03:1500
1/WebSocket\"]"
```

License requirements

To establish a successful connection between the Real-Time Advanced Distribution Server and the end user, the Snapshot batch and dynamic view requests (SNAP_AND_DYNAMIC_VIEW) capability license is required.

For further information regarding this license, contact your LSEG Account Team.
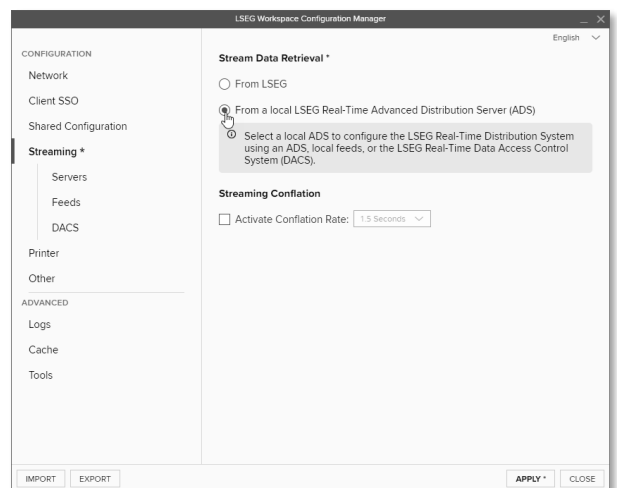
Workspace configuration

By default, LSEG Workspace retrieves streaming data from the Common Platform hosted streaming servers (HMDS). However, for users wanting to connect Workspace to retrieve data from their own streaming sources the following settings can be defined in a shared settings JSON file. This allows administrators to share these settings between users.

The settings discussed in this section can also be managed at an individual Workspace Desktop level, using the Configuration Manager.

For further information on:

- Workspace settings, refer to the Settings section of Appendix G: Shared configuration in this guide.

- Configuration Manager, refer to the Configuring Workspace section of this guide.

⚠ To avoid syntax errors, it is recommended to generate the configuration using the Configuration Manager.

The following is an example of a Workspace configuration file where the parameters are discussed in the cross-referenced sections:

```
{
```

- Falling back to delayed RICs

```
    "EIKON.STREAMING.API.__CORE__.PLUGINS.FALLBACK.DELAYED.ENABLED": "true",
```

- [Local Real-Time Advanced Distribution Server configuration](#)

```
    "EIKON.STREAMING.API.LOCAL.ENABLE": "true",
    "EIKON.STREAMING.API.LOCAL.SESSIONS":
"[\"rssl://ads01.example.com:14002\",\"ws://ads01.example.com:15000/WebSocket\",\"rssl://ad
s02.example.com:14002\",\"rwf+wss://ads02.example.com:443/WebSocket\"]",
```

- [Failover to hosted connection](#)

```
    "EIKON.STREAMING.API.LOCAL.ALLOWHOSTEDFALLBACK": "false",
```

- [Load balancing](#)

```
    "EIKON.STREAMING.API.LOCAL.LOADBALANCING": "random",
```

- [Real-Time Data Access Control System configuration settings](#)

```
    "EIKON.STREAMING.API.LOCAL.DACS.USERNAME": "my-dacs-username",
    "EIKON.STREAMING.API.LOCAL.DACS.POSITION": "localhost/127.0.0.1",
    "EIKON.STREAMING.API.LOCAL.DACS.FORCECASE": "uppercase",
    "EIKON.STREAMING.API.LOCAL.DACS.APPLICATIONID": "56",
```

- [DPRM configuration](#)

```
    "EIKON.STREAMING.API.LOCAL.DACS.DPRM.DELAY": "20000",
    "EIKON.STREAMING.API.LOCAL.DACS.DPRM.INTERVAL": "43200000",
    "EIKON.STREAMING.API.LOCAL.DACS.DPRM.PORT": "8302",
    "EIKON.STREAMING.API.LOCAL.DACS.DPRM.SERVERS": "[\"dacs01\",\"dacs02\",\"dacs03\"]",
```

- [Streaming sources](#)

```
    "EIKON.STREAMING.API.LOCAL.DEFAULTSOURCE": "ELEKTRON",
    "EIKON.STREAMING.API.LOCAL.DESKTOP.ALIASES":
"{\"ATS_GLOBAL_1\":[\"A\",\"T\",\"S\"],\"IDN_SELECTFEED\":[\"I\"]}",
    "EIKON.STREAMING.API.LOCAL.OFFICE.ALIASES":
"{\"ATS_GLOBAL_1\":[\"ATS\",\"A\"],\"IDN_SELECTFEED\":[\"I\"]}",
```

- [Disabling contribution](#)

```
    "EIKON.STREAMING.API.LOCAL.DISABLEDCONTRIBUTIONSOURCES":
"[\"ATS_GLOBAL_1\",\"NO_CONTRIB_ALLOWED\"]",
```

- [Server connection strings](#)

```
    "EIKON.STREAMING.API.LOCAL.ADDITIONAL.SESSIONS.1":
"[\"rssl://add01.example.com:14002\",\"ws://add01.example.com:15000/WebSocket\"]",
    "EIKON.STREAMING.API.LOCAL.ADDITIONAL.SESSIONS.2":
"[\"ws://add02.example.com:15000/WebSocket\"]",
    "EIKON.STREAMING.API.LOCAL.ADDITIONAL.SESSIONS.3":
"[\"rwf+ws://add03.example.com:15000/WebSocket\",\"rwf+ws://add03-
2.example.com:15000/WebSocket\"]"
  }
```

Falling back to delayed RICs

If users are not entitled to Real-Time RIC information, this setting can be defined in the Workspace shared configuration (.json) file using the default value, `true` [88]. In this case, Workspace will automatically request data from the corresponding delayed RIC.

Setting	EIKON.STREAMING.API.__CORE__.PLUGINS.FALLBACK.DELAYED.ENABLED
Default value	true

This can also be activated through the **Settings** option. To do so:

---

[88]   In this circumstance, if set to `disabled`, Workspace will not show any data.

1. Select **WS > Settings**, to open the Settings app.

2. From the side menu panel, select **Workspace**.

3. In the Workspace Settings panel, select the Automatically show delayed data if real-time data is not available checkbox.

Local Real-Time Advanced Distribution Server configuration

By defining this setting as `true`, you instruct LSEG Workspace to try to connect to any configured local Real-Time Advanced Distribution Server.

Setting	EIKON.STREAMING.API.LOCAL.ENABLE
Default value	false

Failover to hosted connection

By defining this setting as `true`, when Workspace fails to connect to the first Real-Time Advanced Distribution Server connection, it attempts to connect to the next configured connection, if one is available. If none of the Real-Time Advanced Distribution Server connections manage to connect successfully, Workspace attempts to connect to LSEG hosted servers.

Setting	EIKON.STREAMING.API.LOCAL.ALLOWHOSTEDFALLBACK
Default value	true

This behaviour can be disabled by setting the value to `false`. In which case, Workspace shows no data.

After connecting to a hosted server, Workspace will not attempt to reconnect to a local Real-Time Advanced Distribution Server unless it gets restarted manually.

Load balancing

The load balancing setting allows you to disable the default priority order of Real-Time Advanced Distribution Server connections and randomly connect to one of the connections when Workspace starts. This is used to distribute the load on Real-Time Advanced Distribution Server connections equally.

For example: There are four server configurations and a total of 100 users. If the value is set to `random`, on average, each server will have 25 connected users.

Setting	EIKON.STREAMING.API.LOCAL.LOADBALANCING
Default value	ordered

Server connection strings

To establish a WebSocket connection with Real-Time Advanced Distribution Server, Workspace requires a connection string comprised of Protocol, Hostname/IP, and Port number. The value is a comma separated list of ordered connection strings.

Workspace supports up to eight (8) additional simultaneous Real-Time Advanced Distribution Server connections, together with the primary connection. However, it requires the primary connection to connect successfully beforehand.

Both the primary and additional connections can have unlimited fallback connection strings. For further information about configuring these settings, see the Configuring additional servers section.

Primary connection

Setting	EIKON.STREAMING.API.LOCAL.SESSIONS
Value (array)	["ws://ads01.example.com:15000/WebSocket","wss://ads02.example.com:14002/WebSocket","rwf+wss://ads02.example.com:443/WebSocket"]

Additional connections

Setting	EIKON.STREAMING.API.LOCAL.ADDITIONAL.SESSIONS.1
Value (array)	For example: `["ws://ads01.example.com:15000/WebSocket","wss://ads02.example.com:14002/WebSocket","rwf+wss://ads02.example.com:443/WebSocket"]`

Streaming performance improvements

If you have experienced issues (such as disconnections) when opening large workbooks in Excel, depending on the source of your streaming data, we recommend adding one of the following local or hosted data settings to your configuration.

By default, Workspace requests only the fields that are currently needed, which reduces bandwidth demands. However, these settings cause Workspace to behave in a similar manner to Eikon, forcing subscription to all fields for each MarketPrice request.

Streaming LSEG hosted data

This setting impacts hosted connections only.

Setting	EIKON.STREAMING.API.HOSTED.REQUESTALLFIELDS
Value	`true`

Primarily streaming local data

This setting impacts both local and hosted connections, should Workspace need to fallback to a hosted connection.

Setting	EIKON.STREAMING.API.LOCAL.REQUESTALLFIELDS
Value	`true`

Streaming sources

You can use the following settings to define primary and secondary streaming sources for Workspace applications and add-ins.

Primary or default source

The primary streaming source setting allows you to customize the default streaming source used in LSEG Workspace applications. The primary source should be trade-safe[89] and sourced from LSEG Elektron real-time data:

Setting	EIKON.STREAMING.API.LOCAL.DEFAULTSOURCE
Default value	`IDN_RDF`

This source is available in:

- LSEG Workspace, as the **Q** key letter. and
- Microsoft365, as the **IDN** alias.
- By default, LSEG Workspace assumes that the default source is named `IDN_RDF`. As such, by customizing this setting, you can change the default streaming source to use.

Desktop key-letter aliases

By customizing this setting, you can define additional key-letters for sources provided by the local LSEG Real-Time Distribution System. These key-letters will only be visible in LSEG Workspace applications (Quote, Monitor, and so on).

Setting	EIKON.STREAMING.API.LOCAL.DESKTOP.ALIASES

---

[89]   For further information, refer to the [Trade-safe requirements](#) section.

Value (array)	`{"ATS_GLOBAL_1":["A","T","S"],"IDN_SELECTFEED":["I"]}`

📌 LSEG Workspace Desktop will only display single letter aliases, known as key-letters. Multi-letter aliases are used in the Microsoft Office Workspace add-ins.

This setting should be defined to a JSON-encoded object. These object properties are real source names, and their values are a JSON-encoded array of key-letters.

Office aliases

By customizing this setting, the user can define additional aliases for sources provided by the local LSEG Real-Time Distribution System. These aliases will only be visible in the Microsoft365 Workspace add-ins.

Setting	EIKON.STREAMING.API.LOCAL.OFFICE.ALIASES
Value (array)	{"ATS_GLOBAL_1":["ATS","A"],"IDN_SELECTFEED":["I"]}

Disabling contribution

Using this setting, you can list sources on your local LSEG Real-Time Distribution System (formerly TREP) to which they are not allowed to contribute. As such, any attempt at contributing data on the sources listed under this setting will be rejected.

By default, contribution is allowed on all sources.

Setting	`EIKON.STREAMING.API.LOCAL.DISABLEDCONTRIBUTIONSOURCES`
Value	`["ATS_GLOBAL_1","NO_CONTRIB_ALLOWED"]`

Real-Time Data Access Control System configuration settings

The following settings are used to define the authentication settings for local streaming servers.

Username and letter case

The USERNAME setting allows you to customize the Real-Time Data Access Control System (formerly DACS) username that is used to authenticate to your local streaming servers. For example, `"my-dacs-username"`.

If this is not set, LSEG Workspace will use the local operating system username.

Setting	`EIKON.STREAMING.API.LOCAL.DACS.USERNAME`
Default value	Username taken from the operating system

The FORCECASE setting allows you to override the letter case of the defined Real-Time Data Access Control System username to be:

- Upper case (ABC123), using the string "`uppercase`", or

- Lower case (abc123), using the string "`lowercase`"

⚠️ Authentication in the Real-Time Data Access Control System is case-sensitive. So, caution is advised should you intend to use this setting, as any mixed case usernames will be overridden and will no longer match.

Setting	`EIKON.STREAMING.API.LOCAL.DACS.FORCECASE`
Default value	The case of the username that is entered using the `USERNAME` setting (discussed above) is not changed.

Position

This setting allows you to customise the Real-Time Data Access Control System position that is used to authenticate to local streaming servers. For example, `"localhost/127.0.0.1"`.

Setting	`EIKON.STREAMING.API.LOCAL.DACS.POSITION`

Default value	If not set, to authenticate, Workspace uses the local hostname followed by a local IP address. If no such address is found, `127.0.0.1` is used.

Application ID

This setting allows you to customise the Real-Time Data Access Control System application ID that is used to authenticate to local streaming servers. LSEG Workspace uses the value of `"56"`.

Setting	`EIKON.STREAMING.API.LOCAL.DACS.APPLICATIONID`
Default value	`56`

DPRM configuration[90]

For those Workspace desktop customers who want to use the optional DPRM service in their local LSEG Real-Time Distribution System, the settings in the following sections can be added to the `<override_settings>.json` file.

It is highly recommended to use DACS Permission Synchronization for Workspace is recommended – rather than the DPRM service - to prevent misconfiguration or permission issues between the Delivery Platform (formerly RDP) and local LSEG Real-Time Distribution System.

⚠ **Warning**: DPRM is supported on Workspace Desktop only and is not supported on LSEG Workspace for OpenFin.

The following is an example of DPRM configuration settings. The parameters are discussed over the following sections:

```
"EIKON.STREAMING.API.LOCAL.DACS.DPRM.PORT": "8261",
"EIKON.STREAMING.API.LOCAL.DACS.DPRM.INTERVAL": "43200000",
"EIKON.STREAMING.API.LOCAL.DACS.DPRM.DELAY": "50000",
"EIKON.STREAMING.API.LOCAL.DACS.DPRM.SERVERS": "[\"dacs01\",\"dacs02\",\"dacs03\"]"
```

Entitlement retrieval

The PORT setting allows you to specify the port, through which the entitlements used for DPRM are retrieved:

Setting	`EIKON.STREAMING.API.LOCAL.DACS.DPRM.PORT` [91]
Mode	In general, the port should be set to either of the following modes[92]: • `8261` - Permission proxy mode, or • `8302` - Permission service mode[93]

The INTERVAL allows you to set the interval, in milliseconds, between each reconciliation of DACS entitlements with the DPRM service:

Setting	`EIKON.STREAMING.API.LOCAL.DACS.DPRM.INTERVAL`
Default value	`86400000` (24 hours)

The DELAY setting allows you to set the delay, in milliseconds, between Workspace initialization after login and the reconciliation of DACS entitlements with the DPRM service.

Setting	`EIKON.STREAMING.API.LOCAL.DACS.DPRM.DELAY`
Default value	`60000` (60 seconds)

---

[90] In Workspace 1.23, there is a known issue with the DPRM service that affects a small minority of installations. This has been fixed in versions from Workspace 1.24.
[91] The `EIKON.STREAMING.API.LOCAL.DACS.DPRM.PORT` parameter is mandatory.
[92] If not set to one of these values, DACS synchronization is not performed.
[93] In permission proxy mode, the list of servers in the `EIKON.STREAMING.API.LOCAL.SESSIONS` setting is used.

Permission service mode server list

This allows you to specify a list of servers to use for DPRM, when running permission service mode only. This setting is defined as a JSON-encoded array of permission service hostnames. For example: `"[\"dacs01\",\"dacs02\",\"dacs03\"]"`

Setting	`EIKON.STREAMING.API.LOCAL.DACS.DPRM.SERVERS`
Port	Set for permission service mode only (port `8302`). [94]

Additional dumpConfig statements

When using the `–dumpConfig` parameter with the Workspace executable, the following additional parameters are added to the logs folder.

`"EIKON.INTRANET_OVERRIDE.FALLBACKFILE": "",`	
`"EIKON.LOG.REDIRECTCONSOLE": "true",`	Using this statement, you can capture all messages from the console and add them to Workspace logs. All captured console messages are prefixed by `[console]`. However, if capturing these messages impacts performance, you can disable this capability using the `false` value.
`"EIKON.PLATFORM.ENVIRONMENT": "prod",`	The platform server environment. Possible values: • `alpha` • `beta` • `prod`(uction)
`"EIKON.STREAMING.API.LOCAL.DESKTOP.EXTENDED.ALIASES` `.ENABLE": "false",`	
`"kobra.objects.news.newsapp_showdebuginfo": "false",`	
`"WORKSPACE.LOGIN.CIAM": "false"`	

Workspace for OpenFin

Workspace for OpenFin has the same capabilities in terms of real-time configuration as Workspace Desktop. However, the differences between the products are summarized below.

Workspace for OpenFin:

- Can only be configured using Workspace Admin Tools, where configurations are hosted at LSEG side.

- Does not support DPRM, as only Secured WebSocket protocols will be supported, including rwf+wss:// and wss://

For further information, refer to the OpenFin Installation and Configuration Guide.

Managing hosted connections

By default, Workspace is configured to connect to LSEG hosted servers to retrieve real-time data.

Setting	`EIKON.STREAMING.API.LOCAL.ENABLE`
Default value	`False`

---

[94]   If not set, the list of servers defined in the `EIKON.STREAMING.API.LOCAL.SESSIONS` setting is used.

Subscription limits

For hosted users, the default subscription limit for RICs on Workspace Desktop is 2500[95] and 1000 for Workspace Web.

The limit applies at user level, across all devices, platforms, and apps. This means that for a single app, such as Monitor, it may not be possible to achieve the maximum number of RICs, as some will be used by other apps or services.

There is no limit to subscriptions on Real-Time Advanced Distribution Server connections, unless defined by local administrators.

The **Streaming** panel of the About LSEG Workspace dialog box, opposite, contains information about real-time data sources, RICs used (subscriptions), and any other feeds provided through a local LSEG Real-Time Distribution System.
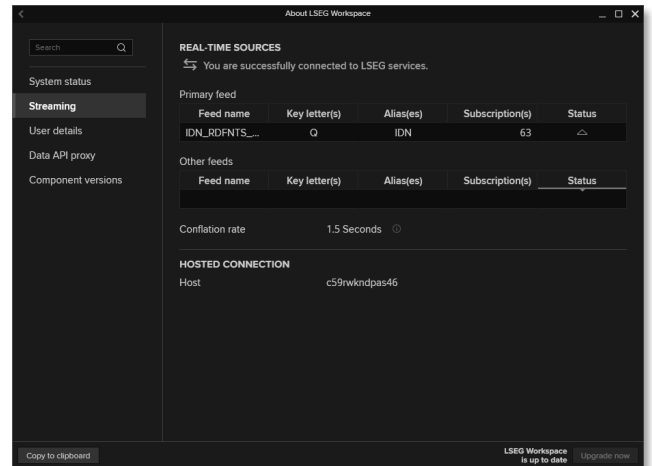
Conflation management

This section covers the definition of conflation settings on Real-Time products and on Workspace Desktop.

Depending on the use case, conflation can be applied both on your Real-Time Advanced Distribution Server and Workspace Desktop, to achieve minimum bandwidth and resources usage.

Real-Time conflation settings

Conflation at Real-Time Advanced Distribution Server level is preferred to reduce the conflation processing on user machines. This will also reduce the bandwidth between a Real-Time Advanced Distribution Server and the end user.

For Real-Time Managed Distribution Services, data is conflated to 300ms on the server side.

For further information, refer to the **Conflation** > **Configuration** section in the Real-Time Advanced Distribution Server System Administration Guide.

Workspace conflation settings

For feeds that use a more frequent conflation rate than 300ms, by default, Workspace Desktop will change the rate to 300ms. However, this does not apply to all apps, as certain apps use custom conflation or trade safe data.

While conflating, only the latest record is displayed from the conflation timeframe.

The conflation can be increased to 1500ms, 3000ms, or 6000ms to have less frequent updates on Workspace. It is, however, recommended to configure conflation on your Real-Time Advanced Distribution Server, considering all users require the same conflation level.

Trade-safe requirements

In Workspace, Time Series requires trade-safe data. That is, when trade-safe conflation is enabled, the Real-Time Advanced Distribution Server does not conflate trade-type updates. So, any pending updates for the item are sent, followed by the non-conflatable update.

For further information, refer to the **Trade-safe conflation** section of the **Conflation** chapter in the Real-Time Advanced Distribution Server System Administration Guide.

Configuration manager

The Workspace Configuration Manager facility provides the flexibility to apply conflation at single user and machine level, or to many users through a shared configuration file.

Administration panel

The Administration Panel app can be used to apply conflation configuration at company level.

The app also supports an option to manage Conflation for the Blended Order Books app.

---

[95] This can be extended to 5000 or 10000 by obtaining additional licenses or products from LSEG.

Connection information

The **About LSEG Workspace** option provides information about the status of connections at an individual user level. To access this option:

- Select **Help > About LSEG Workspace**

For further information about this option, refer to the [About LSEG Workspace dialog](#) section of this guide.

Contributions

The Contributions Channel allows data to be contributed to a Real-Time Advanced Distribution Server or LSEG directly. This data can then be consumed across Workspace products.

LSEG Elektron contribution feeds

By default, contribution to LSEG[96] is not enabled and approval from LSEG is required to contribute data. Additionally, you will require assistance from LSEG to setup and configure your systems.

The feeds used to contribute data to LSEG include the following:

- DDS_TRCE
- ELEKTRON_CON
- TRC

Contributions to a local Real-Time Advanced Distribution Server

Contribution to your local Real-Time Advanced Distribution Server uses the pre-configured protocol for requests. However, contribution can be disabled for specific feeds using the following array setting:

Settings	EIKON.STREAMING.API.LOCAL.DISABLEDCONTRIBUTIONSOURCES
Value	[\"ATS_GLOBAL_1\",\"NO_CONTRIB_ALLOWED\"]

Dictionary requirements

When using the JSON protocol, Workspace uses field names in contribution messages. As a requirement, the dictionary that is used by your local Real-Time Advanced Distribution Server must contain a definition (see below) for the `X_RIC_NAME` field, otherwise the following error is returned when attempting to decode messages:

```
JSON Unexpected FID. Received 'X_RIC_NAME' for key 'Fields' :
```

X_RIC_NAME field definition

```
!ACRONYM     DDE ACRONYM     FID     RIPPLES TO     FIELD TYPE     LENGTH     RWF TYPE     RWF LEN
!-------     -----------     ---     ----------     ----------     ------     --------     -------
X_RIC_NAME   "RIC NAME"      -1      NULL           ALPHANUMERIC       32     RMTES_STRING      32
```
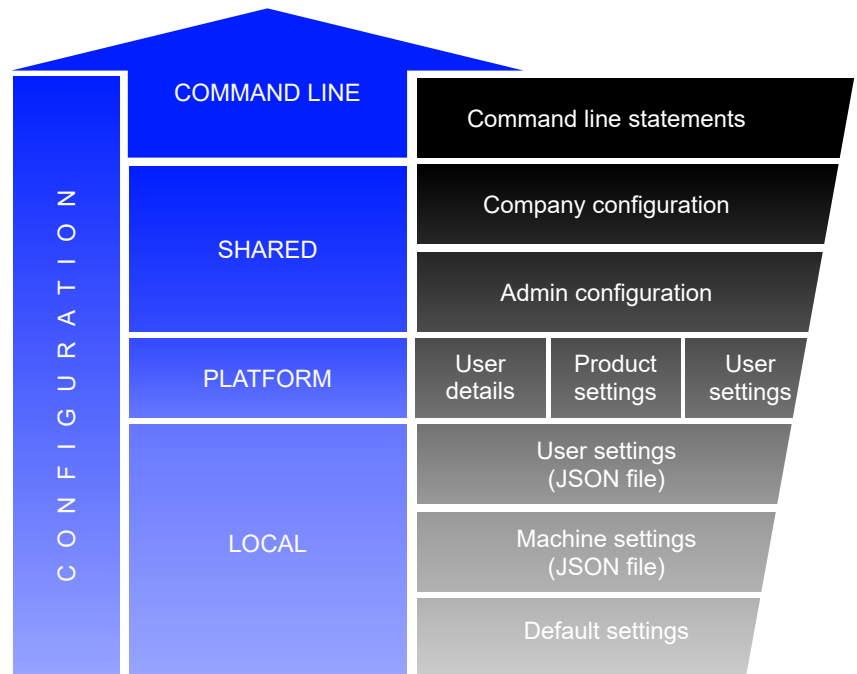
---

[96] Contribution to LSEG uses the rwf+wss:// protocol.

Appendix H: Shared configuration

This appendix covers the creation and definition of a shared configuration file, and introduces the priority order applied to all types of configuration files.

Configuration override order

The illustration below shows the override order for configuration settings[97], where commands issued using the command line have the highest level of priority:

| CONFIGURATION | COMMAND LINE | Command line statements |
	SHARED	Company configuration
		Admin configuration
	PLATFORM	User details / Product settings / User settings
	LOCAL	User settings (JSON file)
		Machine settings (JSON file)
		Default settings

Creating a shared configuration file

Once you have made your settings using the Configuration Manager dialog, do the following:

1. click **Export**
2. Use the Save As dialog to define a file name and location

LSEG Workspace Configuration Manager

English

CONFIGURATION
Network *
Client SSO
Shared Configuration *

Stream Data Retrieval *
○ From LSEG
◉ From a local LSEG Real-Time Advanced Distribution Server (ADS)

IMPORT   EXPORT   APPLY *   CLOSE

Settings

The following table contains a shared configuration file example, showing where the setting is found, and the selection or entry that was made in the example:
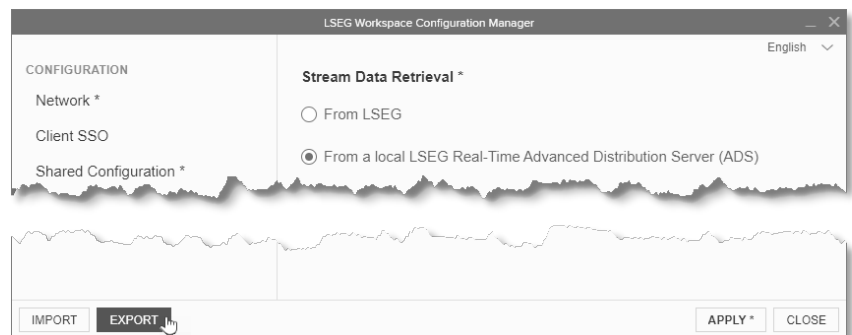
Setting example	Description\Source
{	
Configuration Manager > Network menu	
"EIKON.CONNECTION.MODE": "private",	Options: • Internet • Private network

---

[97] The Admin level shared configuration file is created using the Administration Panel tool. For further information, refer to the Administration Panel Configuration Guide.

Setting example	Description\Source
Configuration Manager > Advanced menu	
`"REFINITIV.WORKSPACE.RUN_ABOVE_NORMAL_PRIORITY": "true",`	Option: • Run at the Highest Available Process Priority Level
Configuration Manager > Printer menu	
`"REFINITIV.WORKSPACE.TRADING.PRINTER_NAME": "Microsoft Print to PDF",`	Options: • Configured printers[98] • Fax • Microsoft Print to PDF • Microsoft XPS Document Writer • OneNote (Desktop) • OneNote for Windows
Configuration Manager > Shared Configuration menu	
`"EIKON.INTRANET_OVERRIDE.ENABLED": "true",`	Options: • Use a shared configuration
`"EIKON.INTRANET_OVERRIDE.URL": "C:\\RWTest\\Shared config\\MAIN.json",`	• Location path or URL (defined as `C:\\RWTest\\Shared config\\MAIN.json`) • This can be multiple location paths or URLs, delimited using a semi-colon (;)
Configuration Manager > Client SSO menu	
`"CLIENTSSO_URL.ENABLED": "true",`	Options: • Use a client SSO
`"CLIENTSSO_URL": "https:\\myapps.testsso.com",`	• Thomson Reuters (defined as `https:\\myapps.testsso.com`)
`"CLIENTSSO_REFINITIV_URL": "https:\\myapps.testsso.com",`	• Refinitiv (defined as `https:\\myapps.testsso.com`)
Configuration Manager > Streaming menu	
`"EIKON.STREAMING.API.LOCAL.ENABLE": "true",`	Stream Data Retrieval options: • From Refinitiv • From a local LSEG Real-Time Advanced Distribution Server [99]
`"EIKON.STREAMING.JETQUOTES.DESKTOP.CONFLATION.ENABLE": "true",`	Streaming Conflation option: • Activate Conflation Rate
`"EIKON.STREAMING.JETQUOTES.DESKTOP.CONFLATION": "3000",`	• Conflation rate value drop down (3 seconds selected)

---

[98] Network or connected directly
[99] For further information about configuring Real-Time data, refer to Appendix F: Configuring Real-Time Data products.

Setting example	Description\Source
Configuration Manager > Streaming > Servers menu[100]	
`"EIKON.STREAMING.API.LOCAL.SESSIONS":` `"[\"wss:\\test-ads-` `sharedconfig.com:15000\WebSocket\"]",`	LSEG Real-Time Advanced Distribution Server options: • Protocol (selected `wss:\\`) • Hostname or IP (defined as `test-ads-` `sharedconfig.com`) • Port (defined as `15000`) For additional servers that may be configured in the shared configuration file only, see the Streaming protocols section.
Configuration Manager > Streaming > DACS menu	
`"EIKON.STREAMING.API.LOCAL.DACS.USERNAME":` `"permit_all_exchanges",`	Options: • Username (defined as `permit_all_exchanges`)
`"EIKON.STREAMING.API.LOCAL.DACS.POSITION":` `"%USERDETAILS.LASTNAME%_%USERDETAILS.UUID",`	• Position (defined as `%USERDETAILS.LASTNAME%_%USERDETAILS.UUID`)
Configuration Manager > Streaming > Feeds menu	
`"EIKON.STREAMING.API.LOCAL.DEFAULTSOURCE":` `"IDN_RDF_2",`	Main Feed options: • Feed Name (defined as `IDN_RDF_2`) • Key Letter(s) (set automatically to `Q`) • Alias(es) (set automatically to `IDN`)
`"EIKON.STREAMING.API.LOCAL.DESKTOP.ALIASES":` `"{\"Test Internal feed 1\":[\"Z\"]}",`	Other Local Feeds options: • Feed Name (defined as `Test Internal feed 1`) • Key Letter(s) (defined as `Z`)
`"EIKON.STREAMING.API.LOCAL.DESKTOP.ALIASES":` `"{\"Test Internal feed 1\":[\"INF_1\"]}",`	• Feed Name (defined as `Test Internal feed 1`) • Alias(es) (defined as `INF_1`)
`"EIKON.STREAMING.API.LOCAL.DISABLEDCONTRIBUTIONSOUR` `CES": "[\"ATS_GLOBAL_1\",\"NO_CONTRIB_ALLOWED\"]"`	By default, contribution is allowed on all sources. This setting is used to list sources on your local LSEG Real-Time Advanced Distribution Server[101] where contributions are not allowed. Any subsequent attempt to contribute data to one of the listed sources is then rejected. This setting should be defined to a JSON-encoded array, where each array entry is a real source name. For example: `["ATS_GLOBAL_1","NO_CONTRIB_ALLOWED"]`
Configuration Manager > Other menu	
`"EIKONPROTOCOL.ISDEFAULTAPPLICATION": "true"`	Select the app that is used to open LSEG links: • LSEG Workspace • Eikon 4
`}`	

For further information on the creation of a shared configuration file, refer to the Configuring Workspace section.

---

[100] Up to eight additional servers can be configured. For further information, refer to the Configuring multiple servers section.
[101] For further information about configuring Real-Time data, refer to Appendix F: Configuring Real-Time Data products.

Streaming protocols

In all supported versions of Workspace[102], additional Refinitiv Wire Format protocols for LSEG Real-Time Advanced Distribution Server[101] may be configured. This is done by using Configuration Manager or, manually, in your shared configuration JSON file:

Protocol	Transport	Example
rwf+ws:\\	WebSocket	`rwf+ws:\\ads01.example.com:15000\WebSocket`
rwf+wss:\\	Secure WebSocket	`rwf+wss:\\ads01.example.com:443\WebSocket`

For example:

```
["ws:\\ads01.example.com:15000\WebSocket","rwf+wss:\\ads02.example.com:443\WebSocket"]
```

📌 The default LSEG Real-Time Distribution System port for WebSocket is 15000.

Some proxy servers may not support (or have disabled support for) the WebSocket protocol, which may cause Workspace streaming-related features not to work.

You must do the following:

- For Internet, allow WebSocket connectivity `*.refinitiv.com` and `*.refinitiv.net`

- For Delivery Direct, allow WebSocket connectivity to `*.refinitiv.biz` and `*.refinitiv.net`

---

[102]   Workspace version 1.22 was the first release to support the new protocols.

Appendix I: Running a mass deployment

You can deploy LSEG Workspace with your own mass deployment tool. To do so, follow the instructions, below:

1. Download the Workspace Installer from the [LSEG Workspace download page](#). The file has the following naming structure, where `x.xx.xx` is the version number:

   `RefinitivWorkspace-installer_x.xx.xx.exe`

2. Create a `config.json` file

   For example:

   ```
   {
     "EIKON.CONNECTION.MODE": "private",
     "EIKON.LOG.TRACELEVEL": "warn",
     "REFINITIV.WORKSPACE.RUN_ABOVE_NORMAL_PRIORITY": "true",
     "REFINITIV.WORKSPACE.TRADING.PRINTER_NAME": "Microsoft Print to PDF",
     "EIKON.INTRANET_OVERRIDE.URL": "C:\\Workspace\\config.json",
     "CLIENTSSO_URL.ENABLED": "true",
     "CLIENTSSO_URL": "https:\\myapps.testsso.com",
     "CLIENTSSO_REFINITIV_URL": "https:\\myapps.testsso.com",
     "EIKON.STREAMING.API.LOCAL.ENABLE": "true",
     "EIKON.STREAMING.API.LOCAL.SESSIONS": "[\"wss:\\test-ads-
   sharedconfig.com:15000\WebSocket\"]",
     "EIKON.STREAMING.API.LOCAL.DACS.USERNAME": "permit_all_exchanges",
     "EIKON.STREAMING.API.LOCAL.DACS.POSITION": "%USERDETAILS.LASTNAME%_%USERDETAILS.UUID",
     "EIKON.STREAMING.API.LOCAL.DEFAULTSOURCE": "IDN_RDF_2",
     "EIKON.STREAMING.JETQUOTES.DESKTOP.CONFLATION.ENABLE": "true",
     "EIKON.STREAMING.JETQUOTES.DESKTOP.CONFLATION": "3000",
     "EIKONPROTOCOL.ISDEFAULTAPPLICATION": "true"
   }
   ```

3. Prepare the installation command line. For further information about installation command line parameters, refer to [Appendix C: Command line statements](#).

4. Create an install script. For an example of an install script (`install.cmd`), see the [Script examples](#) section, below.

5. Prepare a group of users and the configuration using the Workspace Client Administration Tools app.

   The Client Administration Tools app is a centralized administration portal. In a customer-managed environment, you can use it to manage configurations – such as connection type, streaming configuration, log level, and so on – and assign them to individual and groups of users within your organisation. This can also be done before installing Workspace.

   For more detailed information, refer to the [Workspace Administration Tools Configuration Guide](#).

6. Ensure all necessary files are in a shared location

   The following files must be in a common location:

   - `RefinitivWorkspace-installer_x.xx.xx.exe`
   - `config.json`
   - `config_fallback.json` (optional)
   - `install.cmd`

7. Run the installation script using your deployment tool.

📌 After installation, when users first log in, Workspace checks whether a configuration was assigned using the Client Administration Tools app and, if found, applies it. The user is then prompted to restart Workspace to apply the configuration.

Script examples

This section contains examples of the following scripts for LSEG Workspace:

- [Installation](#)

- [Update](#)

- [Rollback](#)

- [Uninstallation](#)

Install (`install.cmd`) script example:

```
@echo off
:------ Identify the command's parameters to install the software
SET VERSION=1.20.38
SET REFINITIV_WORKSPACE_INSTALLER=C:\Workspace\RefinitivWorkspace-installer %VERSION%.exe
SET REFINITIV_WORKSPACE_SHARED_CONFIG_FILE=C:\Workspace\config.json
SET REFINITIV_WORKSPACE_SHARED_CONFIG_FALLBACK_FILE=C:\Workspace\config_fallback.json
SET DEPLOYMENT_MODE=--machine-autoupdate-service
SET REFINITIV_WORKSPACE_INSTALL_PATH=C:\rw\installpath
SET REFINITIV_WORKSPACE_LOG_PATH=C:\rw_custpath\log
SET REFINITIV_WORKSPACE_CACHE_PATH=C:\rw_custpath\cache
SET REFINITIV_WORKSPACE_SHORTCUTS_PATH=C:\rw_custpath\shortcuts
:: ----- Workspace Installation ------
"%REFINITIV_WORKSPACE_INSTALLER%" %DEPLOYMENT_MODE% --
sharedconfig="%REFINITIV_WORKSPACE_SHARED_CONFIG_FILE%;%REFINITIV_WORKSPACE_SHARED_CONFIG_FAL
LBACK_FILE%" --silent;
:: "%REFINITIV_WORKSPACE_INSTALLER%" %DEPLOYMENT_MODE% --
sharedconfig="%REFINITIV_WORKSPACE_SHARED_CONFIG_FILE%;%REFINITIV_WORKSPACE_SHARED_CONFIG_FAL
LBACK_FILE% --installpath="%REFINITIV_WORKSPACE_INSTALL_PATH%" --
cachepath="%REFINITIV_WORKSPACE_CACHE_PATH%" --logpath="%REFINITIV_WORKSPACE_LOG_PATH%" --
shortcuts="%REFINITIV_WORKSPACE_SHORTCUTS_PATH%" ;
```

Workspace update (`update.cmd`) script example:

```
@echo off
:------ Identify the command's parameters to install the software
SET VERSION=1.21.365
SET REFINITIV_WORKSPACE_INSTALLER=C:\Workspace\RefinitivWorkspace-installer %VERSION%.exe
SET DEPLOYMENT_MODE=--machine-autoupdate-service
:: ----- Workspace Software Update ------
"%REFINITIV_WORKSPACE_INSTALLER%" %DEPLOYMENT_MODE% --silent;
:: "%REFINITIV_WORKSPACE_INSTALLER%" %DEPLOYMENT_MODE% --
sharedconfig="%REFINITIV_WORKSPACE_SHARED_CONFIG_FILE%;%REFINITIV_WORKSPACE_SHARED_CONFIG_FAL
LBACK_FILE% --installpath="%REFINITIV_WORKSPACE_INSTALL_PATH%" --
cachepath="%REFINITIV_WORKSPACE_CACHE_PATH%" --logpath="%REFINITIV_WORKSPACE_LOG_PATH%" --
shortcuts="%REFINITIV_WORKSPACE_SHORTCUTS_PATH%" ;
```

Rollback (`rollback.cmd`) script example:

```
@echo off
:------ Identify the command's parameters to rollback the software
SET REFINITIV_WORKSPACE_INSTALL_PATH=C:\Program Files\Refinitiv\Refinitiv Workspace
:: ----- Workspace Uninstallation ------
"%REFINITIV_WORKSPACE_INSTALL_PATH%\RefinitivWorkspace.exe" –rollback --silent;
```

Uninstallation (`uninstall.cmd`) script example:

```
@echo off
:------ Identify the command's parameters to uninstall the software
SET REFINITIV_WORKSPACE_INSTALL_PATH=C:\Program Files\Refinitiv\Refinitiv Workspace
:: ----- Workspace Uninstallation ------
"%REFINITIV_WORKSPACE_INSTALL_PATH%\RefinitivWorkspace.exe" –uninstall --silent;
```

Appendix J: Workspace Messenger

This appendix discusses the configuration of standalone and embedded Workspace Messenger for private line and private network connectivity.

Standalone Messenger private line connectivity

You can use Workspace Messenger to send and receive text messages, photos, and stock prices.

Once you have installed Workspace Messenger, if you require connectivity through a Private Line, do the following:

1. Navigate to the `Refinitiv Workspace` shortcut:

    a) Click **Start**

    b) Scroll to **Refinitiv > Refinitiv Workspace**

    c) Right-click **Refinitiv Workspace** and select **More > Open file location**

2. In File Explorer, right-click the `Refinitiv Workspace` shortcut and select **Properties**

3. Add the following parameters to the end of the **Target** field:

    `--messenger-url=" https://collab.platform.refinitiv.biz/eikonmessenger" --connection=private`

Embedded Messenger private network connectivity

To allow Workspace Messenger to route traffic through a private delivery network, you need to request that Workspace is permissioned for Messenger Private Delivery, using the following values:

Product code	100464
Permission Object name	COLLRMPRIVATE

Appendix K: Unsupported packaging methods

⚠ This section describes packaging methods that are neither recommended nor supported by LSEG.

Supported methods

LSEG supports the installation of Workspace, using the downloadable executable file:

- On an individual basis. For further information, see the [Basic Installation Guide](#).

- Using a command line statement. See [Installing Workspace](#), in this document.

Unsupported methods

Customers may choose to deploy Workspace using the methods summarized below. While we neither recommend nor, on an ongoing basis, support[103] these approaches, the steps outlined below are understood to work.

Packaging support

Customers are entitled to a session of up to two hours of free packaging support, provided by one of our Technical Implementation Specialists (TIS). During this time, our specialist focuses on providing guidance and offers expert advice on packaging Workspace.

Packaging support beyond this session will be chargeable. Should you require further assistance from LSEG, contact your Implementation Relationship Manager (IRM).

Installing using an MSI installer

You may choose to use the MSI installer method in situations where you are blocked from downloading and/or installing executable files, due to:

- A policy that is enforced on your computer, for example, by an antivirus product, or

- Your corporate firewall preventing access through their network

To do this:

1. Convert the `RefinitivWorkspace-installer_x.xx.xx.exe` file to an MSI installer. This can be done using tools such as MSI Wrapper or Advanced Installer.

2. Open PowerShell[104], with admin privileges, and navigate to the folder containing the `.msi` file.

3. To install Workspace using the quiet install method, use the command[105]:

   `Start-Process RefinitivWorkspace-installer_x.xx.xx.msi -ArgumentList "/quiet"`

   A system test is performed and LSEG Workspace is installed.

---
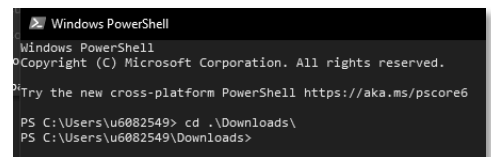
[103] Refer to the [Packaging support](#) section. LSEG does not maintain test environments for these methods.
[104] For further information, refer to the online [Microsoft PowerShell documentation](#).
[105] This command line instruction is used to install Workspace on one machine. For mass deployment, add the command to your deployment portal (Microsoft System Center Configuration Manager, for instance).

Deploying using Microsoft Intune

Using Microsoft Intune, you may be able to deploy Workspace to users in your organization.

Pre-requisites

The following are the pre-requisites for machines on which Microsoft Intune is used and applies to the machines to which Workspace is to be deployed.

These requirements may not align with those of LSEG Workspace[106]:

- Use Windows 10 version 1607 or later (Enterprise, Pro, or Education editions)[107]

- Machines (or devices) to which Workspace is to be deployed must be enrolled in Intune, and one of the following[108]:
  - An Azure AD registered device
  - An Azure AD joined device
  - A hybrid Azure AD joined device

- The installation file size must not be greater than 8GB.

Deployment overview

The Workspace installer file, `RefinitivWorkspace-installer_x.xx.xx.exe`, must be converted to a file with an `.intunewin` extension. The tool used to do this can be found on the [Prepare Win32 app content for upload](#) page.

Creating the temporary folders

1. Download the Content Prep Tool zip file and extract the tool (`IntuneWinAppUtil.exe`).

2. In the Windows `%temp%` folder, create the following folders:
   - `1-LSEG_Workspace`
   - `2-IntuneAppsLSEG_Workspace` [109]
   - `3-IntuneWinAppUtil`

3. In the `LSEG_Workspace` folder, add the following files:
   - `RefinitivWorkspace-installer_x.xx.xx`
   - `install.cmd`
   - `uninstall.cmd`

   Sample `install.cmd` script:

   ```
   START %temp%\1-LSEG Workspace\RefinitivWorkspace-installer_x.xx.xxx.exe --user --silent --
   installpath="%localappdata%\Refinitiv\Refinitiv Workspace" --
   cachepath="%localappdata%\Refinitiv\Refinitiv Workspace\cachepath" --
   installerlogpath="%localappdata%\Refinitiv\Refinitiv Workspace\installerlogpath" --
   logpath="%localappdata%\Refinitiv\Refinitiv Workspace\logpath" --
   shortcuts="%localappdata%\Refinitiv\Refinitiv Workspace\shortcuts"
   ```

   Sample `uninstall.cmd` script:

   ```
   START %temp%\1-LSEG_Workspace\RefinitivWorkspace-installer_1.22.303.exe --uninstall --silent
   ```

4. In the `3-IntuneWinAppUtil` folder, save the `IntuneWinAppUtil.exe` tool.

Running the conversion tool

Once the folders have been created, use the `IntuneWinAppUtil.exe` tool to create the Intune file.

1. Open the `3-IntuneWinAppUtil` folder and double-click the `IntuneWinAppUtil.exe` tool.

2. At the **Please specify the source folder** prompt, type the path to the first temporary folder and press **Enter**.

---

[106] For further information, refer to the [Workspace System Requirements](#).
[107] This requirement applies to all machines that are to be managed by Intune.
[108] For further information about Azure device categories, refer to the Concept section under [Azure AD device identity documentation](#).
[109] The 2-IntuneAppsLSEG_Workspace folder acts as the repository for the converted installation file.

For example:

```
C:\temp\1-LSEG_Workspace
```

3. At the **Please specify the setup file** prompt, type the name of the Workspace installation file and press **Enter**.

   For example:

   ```
   RefinitivWorkspace-installer-win32-x64_1.23.269.exe
   ```
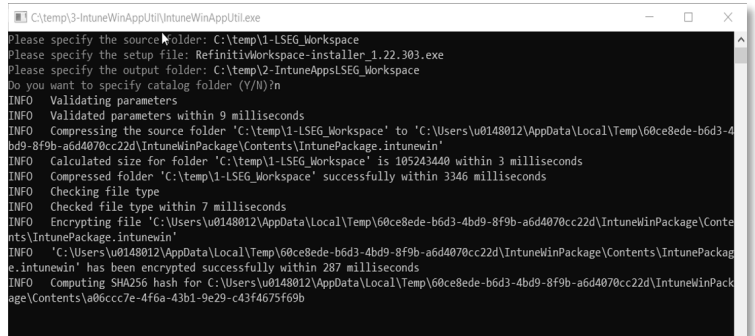
4. At the **Please specify the output folder** prompt, type the path to the second temporary folder and press **Enter**.

   For example:

   ```
   C:\temp\2-IntuneAppsLSEG_Workspace
   ```

5. For the **Do you want to specify catalog folder** prompt, type **N** and press **Enter**.

   The conversion tool starts converting the installation file to `.intunewin` format.

Installing through Intune

Once the `.intunewin` file has been created in the `2-IntuneAppsLSEG_Workspace` folder, follow the instructions in the Add, assign, and monitor a Win32 app in Microsoft Intune page.

Use the information in the following table as a reference when configuring Intune:

Intune Name	Mode	Command
Refinitiv Workspace - user mode	`--user`	`RefinitivWorkspace-installer-win32-x64_1.19.448.exe --user --silent`
Refinitiv Workspace - machine-autoupdate-peruser mode	`--machine-autoupdate-peruser`	`RefinitivWorkspace-installer-win32-x64_1.19.448.exe --machine-autoupdate-peruser`
Refinitiv Workspace - machine-autoupdate-service mode	`--machine-autoupdate-service`	`RefinitivWorkspace-installer-win32-x64_1.19.448.exe --machine-autoupdate-service`
Refinitiv Workspace - machine-autoupdate-no mode	`--machine-autoupdate-no`	`RefinitivWorkspace-installer-win32-x64_1.19.448.exe --machine-autoupdate-no`

Appendix L: Troubleshooting

In this section

- [Microsoft Managed Desktop installation issue](#)
- [Crash information uploads](#)
- [JSON coding changes](#)
- [Error codes](#)
- [Logging](#)
- [Networking issues](#)
- [Using the Video Recorder tool](#)
- [Using the Logs Viewer](#)

Unexpected FID error

If the dictionary that is used by your local Real-Time Advanced Distribution Server does not contain a definition[110] for the `X_RIC_NAME` field, the following error may occur when decoding contribution messages:

```
JSON Unexpected FID. Received 'X_RIC_NAME' for key 'Fields' :
```

Microsoft Managed Desktop installation issue

Customers who are doing the following, may encounter the error message, opposite, in their installation log file (under **%temp%**).:

- Hosted on full Microsoft Managed Desktop (MMD) environments
- Installing or uninstalling Workspace 1.22 or higher, and
- Using a command line script


```
Deployment] Cannot get pmInstallinfo.json
1008:0524/093420.906:ERROR:gpu_process_host.cc(962)] GPU process launch failed: error_code=18
1008:0524/093420.954:ERROR:gpu_process_host.cc(962)] GPU process launch failed: error_code=18
1008:0524/093420.985:ERROR:gpu_process_host.cc(962)] GPU process launch failed: error_code=18
1008:0524/093421.011:ERROR:gpu_process_host.cc(962)] GPU process launch failed: error_code=18
1008:0524/093421.041:ERROR:gpu_process_host.cc(962)] GPU process launch failed: error_code=18
1008:0524/093421.076:ERROR:gpu_process_host.cc(962)] GPU process launch failed: error_code=18
1008:0524/093421.121:ERROR:gpu_process_host.cc(962)] GPU process launch failed: error_code=18
1008:0524/093421.179:ERROR:gpu_process_host.cc(962)] GPU process launch failed: error_code=18
1008:0524/093421.223:ERROR:gpu_process_host.cc(962)] GPU process launch failed: error_code=18
1008:0524/093421.223:FATAL:gpu_data_manager_impl_private.cc(417)] GPU process isn't usable. Goodbye.
```

This error stems from the introduction of sandboxed processes[111] in Electron version 20, as a local policy or process is preventing Electron from executing the rendering process. This, in turn, prevents the Workspace installer from starting properly.

Any workaround will need to be investigated and reviewed on a case-by-case basis. Contact LSEG Support who will investigate the issue further. Support will require your installer logs and information related to the installation.

---

[110]   For details, see [X_RIC_NAME field definition](#).
[111]   For further information, see [Process Sandboxing | Electron](#).

Crash information uploads

If a crash occurs, Workspace sends the dump file to the internal Support platform.

Whenever possible, Workspace also uploads session logs to provide more information to the support teams.

Crash and log files are sent to the following internal Support platform:

https:\\dst.platform.refinitiv.com\

JSON coding changes

The following additional, advanced syntax changes have been made to the coding of JSON files:

- Add single line comments, using `//` at the beginning of the line

- Multiple line comments, using `/* text text text */`

- Empty lines are permitted

- Indentation errors are skipped and do not cause interruptions

- The last line of the file is not required to end with a comma

Error codes

The following error codes may be reported during an installation failure:

Error reported	Code	Summary
`UNSUPPORT_PLATFORM`	100	Unsupported Platform.
`FAILED_TO_INSTALL`	101	Failed to install Workspace
`FAILED_TO_COPY_FILES`	102	Failed to copy files to `%AppData%\Refinitiv`
`CANNOT_GET_FOLDER_SIZE`	103	Cannot get folder size for stamping to Add/Remove program
`FAILED_TO_INSTALL_ADD_REMOVE_PROGRAM`	104	Failed to install Add/Remove program
`FAILED_TO_INSTALL_WINDOWS_REGISTRY`	105	Failed to install Windows registry
`FAILED_TO_CONFIG_PRODUCT`	107	Failed to create/update config product
`FAILED_PREREQUISITE_CHECK`	108	Failed prerequisites check
`ALREADY_INSTALLED`	109	Already installed
`NO_INSTALLATION_FOUND`	110	No installation found
`FAILED_TO_UNINSTALL`	201	Failed to uninstall
`FAILED_TO_UNINSTALL_CANNOT_REMOVE`	202	Failed during uninstall process. Cannot remove `Refinitiv Workspace` folder
`UNSUPPORT_PLATFORM`	300	Unsupported operating system
`INVALID_COMMAND_ARGUMENT`	301	Invalid parameter used in installation command line [112]
`INVALID_ARGUMENT_VALUE`	302	Invalid parameter used in installation command line

---

[112] See Workspace Help parameter options.

Error reported	Code	Summary
`CUSTOM_PATH_NOT_ALLOW`	303	Make sure that the path(s) entered in parameter(s) are compatible with the chosen installation mode
`ALREADY_INSTALL`	310	Workspace is already installed
`ALREADY_INSTALL_DIFFERENT_MODE`	311	You cannot proceed with the installation, as Workspace is already installed with a different installation mode
`OFFICE_REGISTRY_CLI_NOT_SUPPORT`	321	You must update Workspace to version 1.21 or higher to use the `--office-registry` command
`UPDATE_OFFICE_REGISTRY_CLI_NOT_SUPPORT`	322	You must update Workspace to version 1.21 or higher to use the `--update-office-registry` command.
`UPDATE_BLOCKED_BY_OFFICE_REGISTRY`	323	Update is blocked because your office registry is set to HKCU. Reset using `--update-office-registry=HKLM` before performing the update again
`NOT_ALLOW_ROLLBACK_BY_OFFICE_REGISTRY`	324	Rollback is blocked because your office registry is set to HKCU. Reset using `--update-office-registry=HKLM` before performing the update again
`SYSTEM_CHECK_FAILED`	350	The installer was unable to run the system test successfully
`SYSTEM_CHECK_UNKNOWN_RESULT`	353	The installer was unable to run the system test successfully
`NOT_ENOUGH_DISKSPACE`	351	Insufficient disk space on which to install Workspace
`NO_ADMIN_RIGHT`	352	Workspace installation requires Administrator privileges
`FILE_IS_LOCKED`	400	Process stopped as Workspace file(s) in use
`FILE_IS_MISSING`	401	Workspace installation executable does not contain all required files
`INSTALLER_FILE_CORRUPT`	451	Workspace installation executable is corrupt
`NO_INSTALLATION_FOUND`	500	Workspace installation file was not found
`MS_OFFICE_PROCESS_IS_RUNNING`	501	Installation stopped as Microsoft Office applications are running
`FAILED_TO_HANDLE_FILE`	801	Unable to access Workspace installation files
`FAILED_TO_CONFIG_PRODUCT`	802	Unable to configure product [113]
`FAILED_TO_ADD_REMOVE_PROGRAM`	810	Unable to update Add/Remove Programs
`FAILED_TO_ADD_WINDOWS_REGISTRY`	811	Unable to update Windows registry
`UNKNOWN_ERROR`	999	Unknown error

---

[113] In this event, contact Support. You will also be asked to provide your installation log file.
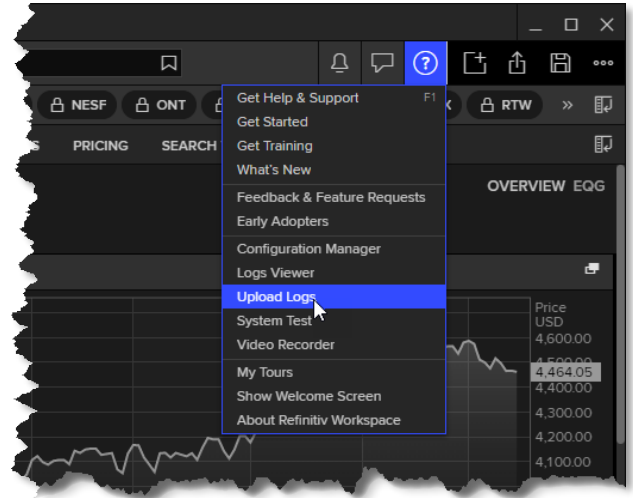
Logging

Uploading Workspace logs

You can upload Workspace logs by using:

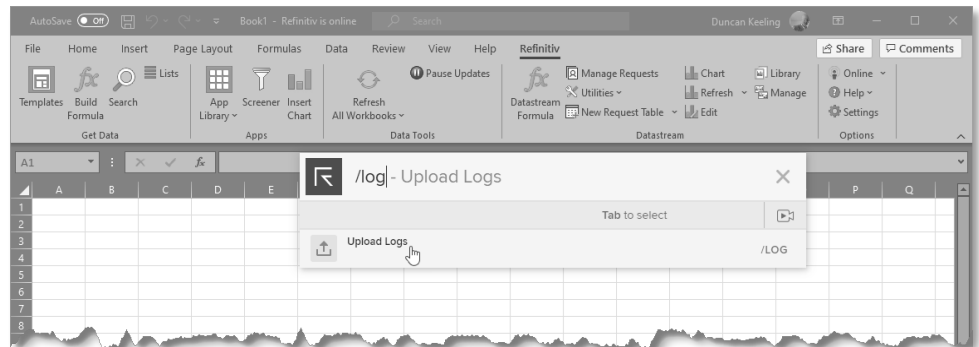- A menu option
- Excel launcher

Menu option

- From the **Help** menu, select **Upload logs**.

Excel launcher

If you are logged into Excel:

1. Press **Shift+Ctrl+Space**.
2. In the Search window, type `/log`.
3. Click **Upload Logs**.

Log upload workflow

By user request or if a crash occurs, Workspace sends the contents of the application logs folder to the internal Support platform:

https:\\dst.platform.refinitiv.com\

To save bandwidth, log uploads are sent in chunks of no more than 5Mb. Additionally, logs that have already been uploaded are not uploaded again.

You can also upload log files to the desktop support site using the following command line:

```
RefinitivWorkspace.exe --upload-logs
```
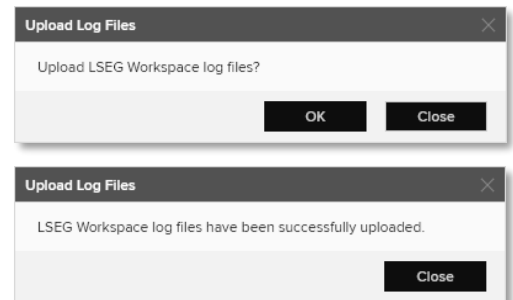
Log upload troubleshooting

For troubleshooting purposes, the settings[114] shown in the table below can be written to the `user-settings.json` or `machine-settings.json` file:

| Setting	Purpose
EIKON.LOGSUPLOAD.VERBOSEOUTPUT	Set to true to have some output generated in the console.
EIKON.LOGSUPLOAD.DEACTIVATEENCRYPTION	Set to true to send the logs without encryption.

---

[114] By default, all these settings are set to `FALSE`.

Setting	Purpose
EIKON.LOGSUPLOAD.WRITETEMPFILESONDISK	Set to true to write the original and the crypted zips in the %TEMP% folder.
EIKON.LOGSUPLOAD.TESTDECRYPTIONLOCALLY	Set to true to test that decryption works locally (useful with VERBOSEOUTPUT and/or WRITETEMPFILESONDISK).

Networking issues

After installing Workspace, you have the option of using the web logger command to troubleshoot networking issues. To do this:

- Use the command RefinitivWorkspace.exe --web-logger, or

- Activate it using the Web Logger checkbox under **Configuration Manager > Logs**:
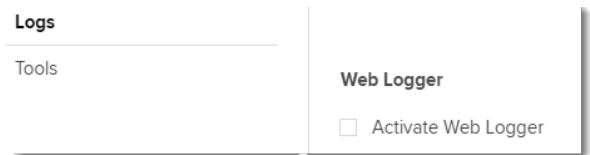
To troubleshoot networking issues:

1. Launch Workspace with the --web-logger parameter, using the Command Prompt, or through the Configuration Manager.

2. Enter your credentials and login.

3. Navigate to the log folder location.

4. Open the most recently created desktop log file (web-requests.log) [115]. This file is created and available with all captured web calls from Workspace.

Resetting Electron application data

You can use the following parameters to delete application data – configuration files, caches, preferences, and settings – resetting Electron.

⚠ Close all Workspace applications before running these commands.

To do this, depending on your requirements:

- Run RefinitivWorkspace.exe with a parameter, or

- Select a cache clearing function under **Configuration Manager > Cache**

Depending on the option chosen, resetting the cache has the following effect:

Configuration Manager function	Parameter	Effect
Clear all cache	--resetCache	Resets the **product** cache of Workspace to its default state. That is, as it would be after a fresh installation.
Clear Electron cache	--resetElectronCache	Reset the **Electron** cache of Workspace to its default state

---

[115] When Workspace shuts down, it generates both the web-requests.log file and a HAR-based topology log file.

Using the Video Recorder tool

The Video Recorder tool allows you to capture and save video footage of your entire desktop or a particular screen. This is particularly useful for capturing issues you are experiencing with your environment to provide additional information to Support.

You can start the tool from the Help menu or by using a parameter.

Starting the tool from the Help menu

To do this:

1. Open the Help menu by clicking the **?** icon.

2. Select **Video Recorder** from the menu.

Starting the tool using a parameter

Run Workspace with the `--video-recorder` parameter. This can be done either by:

- adding the parameter to the application shortcut by editing its properties, or

- using the appropriate command line statement:

| Windows	`"%LOCALAPPDATA%\Refinitiv\Refinitiv Workspace\RefinitivWorkspace.exe" --video-recorder`
macOS	`"/Applications/Refinitiv Workspace.app/Contents/MacOS/RefinitivWorkspace" --args --video-recorder`

The following dialog is displayed:
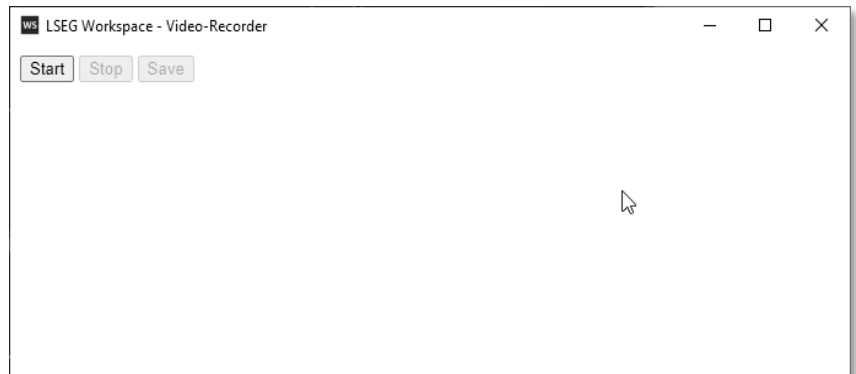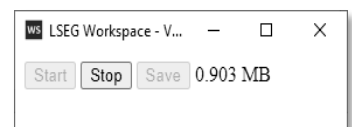
Capturing a video

To capture a video, do the following:

1. Click **Start**.

2. In the dialog that is displayed, choose whether to capture video of your whole desktop or of a specific screen.

    While the video is recording, a dialog is displayed which shows the current size of the video file, as it is recording.
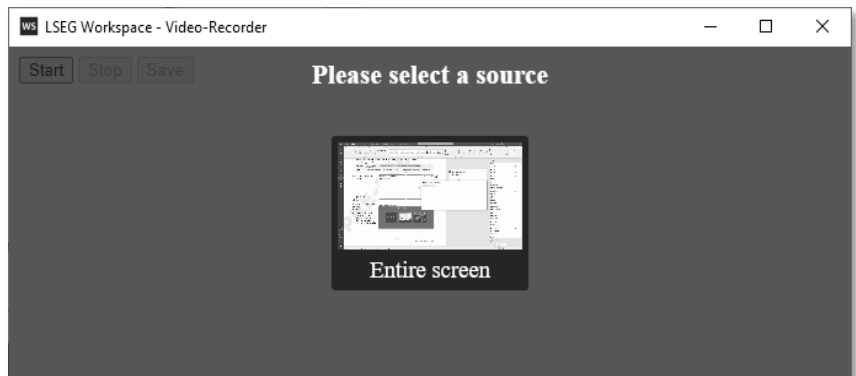
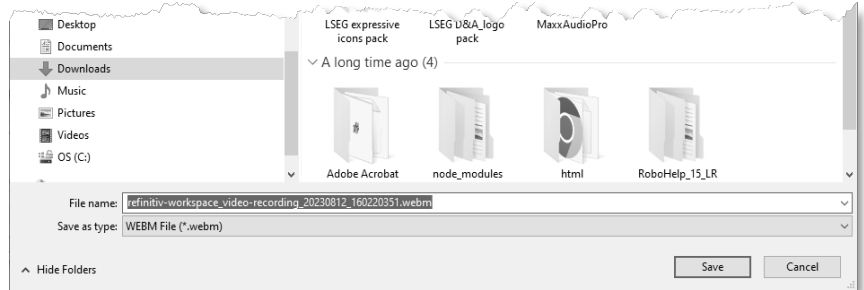3. Once you have captured the content you require, click **Stop**.

4. Then, in the main dialog, click **Save**.

A Windows Explorer dialog is displayed, with the `Downloads` folder open, by default.

5. Optionally, navigate to a different download folder.

6. Click **Save**.

7. Contact Support, who will guide you regarding the submission of this file.

Using the Logs Viewer

The Logs Viewer facility allows you to view a comprehensive and filterable list of log entries that were captured in the main and other files.

You can start the facility from the Help menu or by using a parameter.
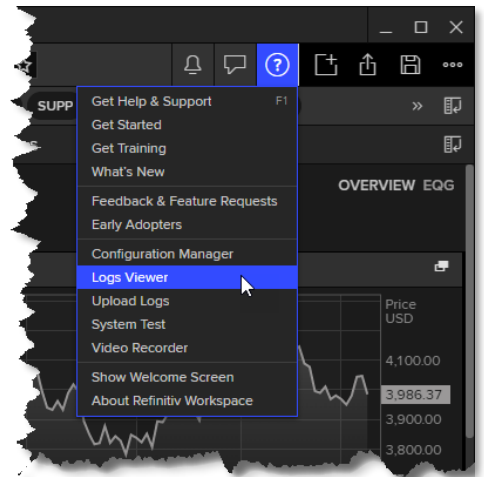
Opening the facility from the Help menu

To do this:

1. Open the **Help** menu by clicking the **?** icon.

2. Select **Logs Viewer** from the menu.

Opening the facility using a parameter

Run Workspace with the `--logs-viewer` parameter. This can be done either by:

*   adding the parameter to the application shortcut by editing its properties, or

*   using the appropriate command line statement:

Windows	`"%LOCALAPPDATA%\Refinitiv\Refinitiv Workspace\RefinitivWorkspace.exe" --logs-viewer`
macOS	`"/Applications/Refinitiv Workspace.app/Contents/MacOS/RefinitivWorkspace" --args --logs-viewer`

Logs Viewer parameters

The table below lists valid parameters for the `--logs-viewer` command line statement:

Parameter	Description
`--logs-viewer`	Select the *main* file, which is the log of the current Workspace session, in the current log folder
`--logs-viewer=*`	Select all files in the current log folder
`--logs-viewer=<prefix>`	Select the files in the log folder that have the defined <prefix>. Where <prefix> is one of the following: `main` – Workspace desktop log `excel` – Workspace for Excel log `renderer` – Workspace window rendering log `node` – Node.js log

Parameter	Description
`--logs-viewer=<file>`	Select the specified log file. For example: `--log-viewer="%LOCALAPPDATA%\Refinitiv\Refinitiv Workspace Logs\Desktop.20230104.151635.p8956\renderer-1-r6.20230104.p22728.log"`
`--logs-viewer="<folder path>"`	Select the main log file from the specified <folder>. For example: `--log-viewer="%LOCALAPPDATA%\Refinitiv\Refinitiv Workspace Logs"`
`--logs-viewer="<folder path>\*"`	Select all files from the specified <folder>. For example: `--log-viewer="%LOCALAPPDATA%\Refinitiv\Refinitiv Workspace Logs\*"`
`--logs-viewer="<folder path>\<prefix>"`	Select files with the specified <prefix> from the specified <folder>. For example: `--log-viewer="%LOCALAPPDATA%\Refinitiv\Refinitiv Workspace Logs\renderer"`

Overview of the Logs Viewer panel

What – the type of file. That is, main, excel, renderer, and so on.

Where – file name, if more than one of that type, and line number

When – date and time stamp (local or UTC)

Shift – time variance from first log entry

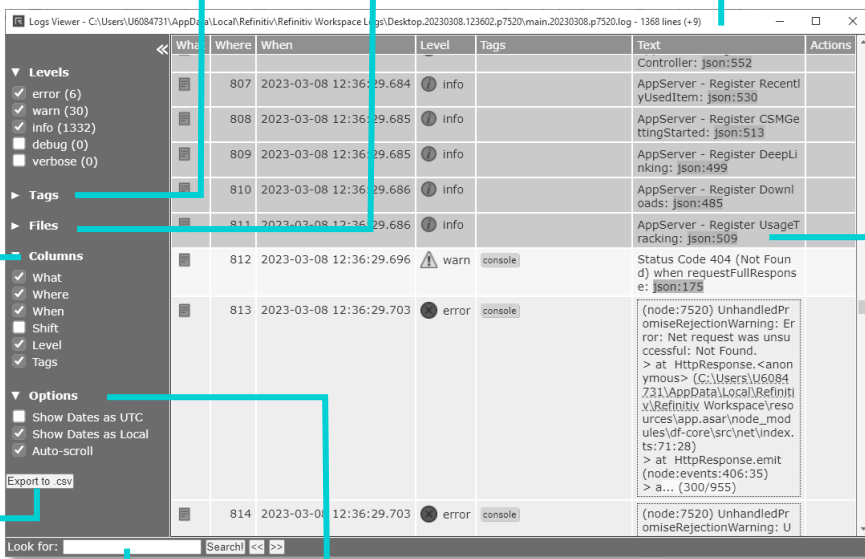**Level** – error, warning, info, debug, or verbose

Tags – [XYZ] markers found in the log entry

The contents of the selected files are saved to a .csv file in `%LOCALAPPDATA%\Temp\Refinitiv`

Tags are extracted from the log text when there is an info, error, warn, and so on, prefix

Select from a list of all log files, then click GO to confirm your selections

Header – Containing file name and length

Log entry list, where the background color indicates the type of entry:
- Error
- Warn
- Info
- Debug
- Verbose

Textual search of all filtered log records

Show dates as UTC – date and time is converted to UTC time zone.

Show Dates as Local – Default. Date and time shown in local time zone.

Auto-scroll – Updates to a single selected file are tracked and the new data is added. Select this to scroll automatically to the bottom when an update occurs.

Importing files

Under the **Files** filter, log files held in folders that are not listed in the Logs Viewer can be imported into the viewer.

To do so:

1. In Windows Explorer, open the folder containing the file(s) to import.

2. Select the file(s).

3. Drag the files into the Logs Viewer panel [116].

   When you release your pointing device, the files are added to the viewer under the folder in which they were located.
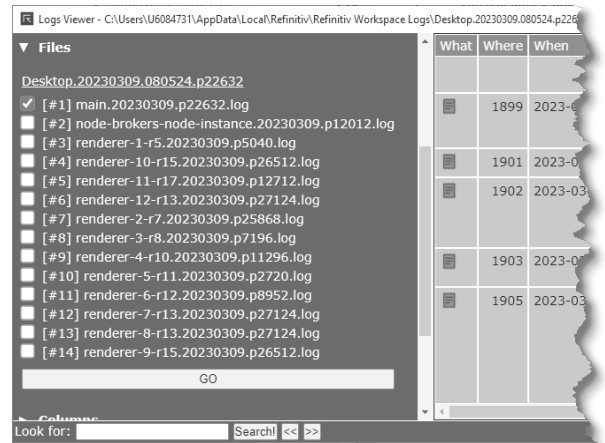
Using the Actions menu

The **Actions** menu, an ellipsis found under the Actions column, can be used to copy the contents of specific log file entries.

To open the **Actions** menu:

1. Hover your cursor over the Actions column of the entry to copy.

   An ellipsis appears.

2. Click the column to display the menu.

3. Choose from the following options:

Copy raw line	Copy the original data from the log file to the clipboard. This copies the entire contents of the line, including date, time, and so on.
Copy Text Column	Copy the content of the **Text** column to the clipboard.

---
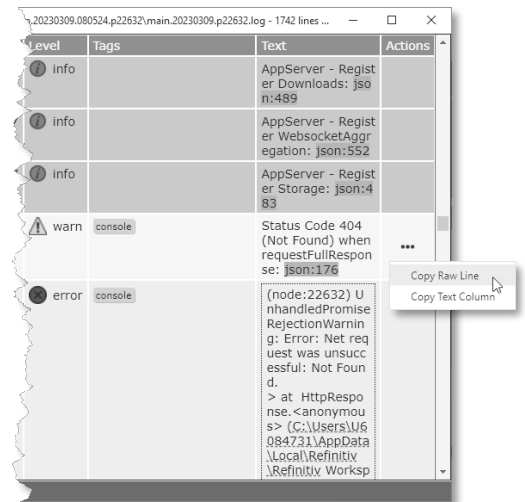
116 You can copy the files into the existing folder by holding the **Ctrl** key before releasing your pointing device.

Appendix M: Known issues

This appendix summarises any outstanding issues in Workspace, identifies the version(s) impacted, where appropriate, and provides workaround instructions, if known.

In this section

- [Datastream for Office issues](#)
- [DPRM connection issue](#)
- [Excel add-in loading issues](#)
- [Installing standalone Workspace Messenger](#)
- [Contributions (RtContribute)](#)
- [Virtualized environment issues](#)
- [SSL inspection support](#)

Datastream for Office issues

The following issues have been identified that would impact DFO users only:

- When the **Autorefresh** parameter is set to **Off** in a DSGRID formula, the refresh of the formula may hang and will display Retrieving data indefinitely.
- The copying and pasting of a DSGRID formula should use cached data but currently does not.
- When the **Compile** option is selected in Excel, a VBA alert is displayed when opening a new Request table.
- When cell referencing in the formula builder, the cell to return the formula is moved to the cell reference location, causing an error.

DPRM connection issue[117]

If DPRM-related settings are read incorrectly, it may result in DPRM failing. In this case, the `No working server available for DPRM` log file error message.

As a workaround, the following settings should be added to your configuration file:

```
{
"EIKON.STREAMING.API.__CORE__.PLUGINS.ADDITIONAL.LOCAL": "%.7%,%.8%",
"EIKON.STREAMING.API.LOCAL.ADDITIONAL.SESSIONS.1":
"%EIKON.STREAMING.API.LOCAL.DACS.DPRM.SERVERS%",
"EIKON.STREAMING.API.LOCAL.ADDITIONAL.SESSIONS.2":
"%EIKON.STREAMING.API.LOCAL.DACS.DPRM.PORT%",
"EIKON.STREAMING.API.LOCAL.ADDITIONAL.SESSIONS.3":
"%EIKON.STREAMING.API.LOCAL.DACS.USERNAME%",
"EIKON.STREAMING.API.LOCAL.ADDITIONAL.SESSIONS.4":
"%EIKON.STREAMING.API.LOCAL.DACS.FORCECASE%",
"EIKON.STREAMING.API.LOCAL.ADDITIONAL.SESSIONS.5": "%USERDETAILS.UUID%",
"EIKON.STREAMING.API.LOCAL.ADDITIONAL.SESSIONS.6":
"%EIKON.STREAMING.API.LOCAL.DACS.DPRM.INTERVAL%"
}
```

---

[117] The workaround is only required for installations of Workspace 1.23. Therefore, if you have upgraded, these settings will need to be removed.

Retrieving permissions

If you use this workaround, the default for retrieving permissions from the LSEG Real-Time Advanced Distribution Server[118], to which you are currently connected, will not work.

As such, you need to specify a value for the following setting:

```
EIKON.STREAMING.API.LOCAL.DACS.DPRM.SERVERS
```

Limitations

There are several impacts of these additional settings that are described below.

Defining additional local connections

If you use additional local connections, you will be limited to two. These are the connections configured using the following settings:

```
EIKON.STREAMING.API.LOCAL.ADDITIONAL.SESSIONS.7
EIKON.STREAMING.API.LOCAL.ADDITIONAL.SESSIONS.8
```

Using Configuration Manager

This workaround will severely impact use of Configuration Manager.

Certain components of Configuration Manager – Streaming feeds, for instance – will not initialized properly. As such, any changes made in Configuration Manager will not persist and, therefore, will have no effect on Workspace.

Excel add-in loading issues

Trust Center policies

If the Group and/or Microsoft 365 Trust Center policies are set to deny the use of Web add-ins, certain **Workspace** add-in menu ribbon items, such as Deals BI, may not load.

To resolve this issue, do the following:

1. Open a Microsoft 365 file (Word document, Excel spreadsheet, …)

2. Open the **File** menu

3. Select **Options**

4. In the Options dialog, select **Trust Center**

5. Click the **Trust Center Settings…** button

6. Select **Trusted Add-in Catalogs** ❶

7. Uncheck the **Don't allow any web add-ins to start** checkbox ❷
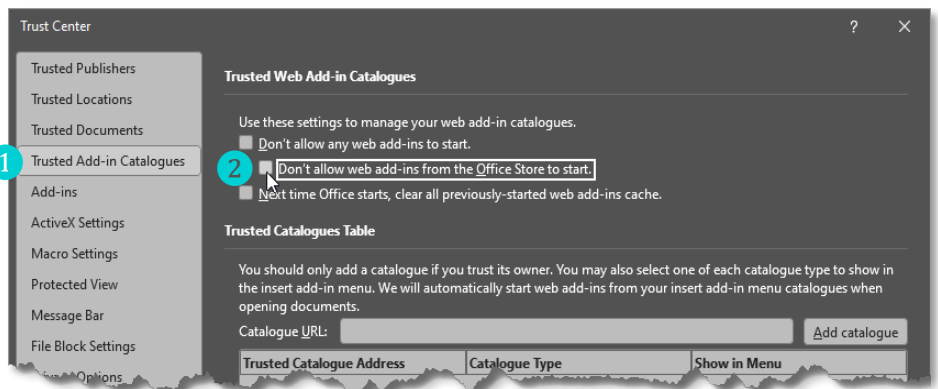
Workspace installations without automatic update[119]

For users installing Workspace using `--machine-autoupdate-no`, the Excel add-in does not load correctly on non-virtual machines. This is because the default location of the Office registry key is registered at HKLM.

To correct the registry key location, use the command:

```
<install path>\RefinitivWorkspace.exe --update-office-registry=HKCU
```

---

[118] For further information about configuring Real-Time data, refer to Appendix G: Configuring Real-Time Data products.
[119] PCN206237 provides more information about this fix.

Contributions (RtContribute)

The Refinitiv Workspace - Excel (**Workspace** ribbon) add-in was added in Workspace version 1.16. The following list summarizes the known issues and their solutions or when they are to be addressed.

Issue	Solution/To be addressed in
LSEG Real-Time Advanced Distribution Server[120] (formerly ADS) version 3.5.2 L1 does not support the contribution from Workspace Excel.	Install version 3.5.2 L3[121] or higher.
POS and LANGUAGE parameters are not supported. Requires sending data in RMTES encoding.	Only UTF-8 is supported by the API

LSEG Real-Time Advanced Distribution Server version issues

Further issues concerning WebSocket connections were addressed in the 3.5.2 L3 release, together with minor changes to the default settings, which improved the handling of larger messages.

Virtualized environment issues

If you encounter an issue when running Workspace in a virtualized environment, LSEG requests that you confirm the issue has been reproduced in a non-virtualized environment.

CVAD environments

This section lists all known issues when running Workspace on a CVAD environment:

Subject	Jira reference	XenApp pub. app	XenApp pub. d'top	Xen Desktop
RTGet template which has 10k functions is not responding on applying "save as val- agreeues-Workbook"	EFO-8412			
Refinitiv Workspace - Excel is not automatically sign in and retrieve the data when Open saved Functional template + native excel via command line	EFO-8579		Yes	Yes
HelpApi request doesn't work	HELP-5828	Yes		
All menus are displayed as separate entry in taskbar	SAP-9231	Yes		
Toast UI is displaying as separate entry in taskbar	SAP-9233	Yes		
Notification Centre: Toast still appears when user activate Focus Assist on local machine	SAP-9617	Yes		
There is a small black area around toasts	SAP-9620	Yes		
Shortcut (ALT + S) doesn't work	SAP-10009			Yes
RW in XenApp does not support custom protocols	SAP-10157	Yes		
Black areas are shown near guidelines and snapping lines	SAP-10399	Yes		
Snapping/grouping features breaks after moving a tile (moving frame)	SAP-10368	Yes		

---

[120] For further information about configuring Real-Time data, refer to Appendix G: Configuring Real-Time Data products.
[121] See also Creating an internal connection.

Subject	Jira reference	XenApp pub. app	XenApp pub. d'top	Xen Desktop
Black screen is displayed around opened window for area and full screen screenshot	SAP-10785	Yes		
Messenger on Citrix XenApp environment intermittently freeze while typing in the text box	SAP-11267	Yes		
File type is not added into save dialogue	SAP-14187			
Unknown container type and app-name into UsTracking evet for Tile, Modal window	SAP-18302			
If the 'Position of Toast' sets as 'Bottom - Right or Left', it's not working as expected	SAP-24424	Yes		
Three horizontal dots (ellipsis) option is not appearing in the toast notification	SAP-24438	Yes		
Not able to close the popped-out conversation in the system task bar	SAP-24439	Yes		
Deep links are not opened on virtual desktop machines	SAP-25517			
[Widely:] Palo Alto Networks TS Agent can raise problems - whitelisting	---			

VMware environments

This section lists all known issues for running Workspace on a VMware Horizon 8 environment:

Subject	Jira reference	Horizon virtual apps
There's only 'Close window' in the task bar	SAP-10823	Yes
Published Apps - Do not disturb option is activated on Published Apps when Focus assist is OFF in OS settings	SAP-10972	Yes
Published Apps - Impossible to copy screenshot to clipboard for Virtual App	SAP-11011	Yes
Tiles - Snapping line and guideline are visible only after dropping a tile	SAP-11025	Yes
Tiles - Group movement is not working properly	SAP -11026	Yes
Tiles - Single tile resizing works for snapped or grouped tiles	SAP-11027	Yes
Impossible to open deep link	SAP-11955	Yes
Published Apps - RW desktop 1.19 is not resized	SAP-22571	Yes
Tiles - Pinned tile manager can be moved	SAP-22620	Yes

SSL inspection support

LSEG does not support or enforce SSL inspection, sometimes referred to as TLS/HTTPS Interception.

If clients use SSL inspection, they must configure URL filtering profiles **not** to enforce SSL inspection on LSEG domains, such as *.refinitiv.com, *.refinitiv.net, *.refinitiv.biz.

Cache path definition

An alternative cache path can be defined for Workspace during its installation, using the parameter:

```
RefinitivWorkspace-installer_x.xx.xx.exe --cachepath="<folder_path>"
```

However, currently, this does not re-route the entire content of the `Refinitiv Workspace` folder in the cache. That is, while the `electron` folder is moved to the new location, the following subfolders are not:

- Config

- Dictionaries

- Data API Proxy

- File Links

Signing in automatically

When users first log into Workspace, they have the option of choosing to sign in automatically in future, which creates a cookie in the electron cache for the user.

However, if electron is upgraded to a higher version, the cache is cleared, and users are expected to sign in again.

📌 As this may occur many months later, users may have lost their credentials.

Rolling back

The following Rollback command allows you to revert to the automatically installed version of Workspace application that is immediately prior to your current version:

```
"<Install Path>\Refinitiv\Refinitiv Workspace\RefinitivWorkspace.exe" –rollback
```

However, following a rollback, the version from which rollback was performed can no longer be updated automatically.

For example:

1. You install Workspace version 1.24.163.

2. Workspace updates automatically to version 1.25.180.

3. Using the rollback command, you revert to version 1.24.163.

   As a result, version 1.25.180 is flagged[122] and can no longer be updated automatically.

4. When a new version is released – for example, version 1.25.198 – Workspace updates automatically to the new version.

Rolling forward command support

Due to changes to the Workspace architecture, the `--rollforward` command line parameter is only valid for version 1.19 or higher. Also, this command can only be used after a `--rollback` operation has been performed.

---
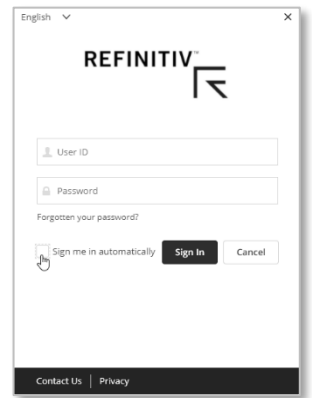
[122] Version flagging is done using a machine-specific `VersionControl.json` file to record that a rollback has been performed on the respective machine and to block an automatic update to the rolled-back version.

Appendix N: Glossary

This appendix is divided into two sections, providing:

- A list of acronyms.

- Description of Workspace-related terminology.

📌 This appendix is a work in progress and will be expanded upon in future releases. Should you encounter acronyms or terms that you would like added to this section, you can reach us through the docfeedback@lseg.com channel.

Acronyms

The following acronyms are used throughout this document:

Acronym	Definition
ADH	Advanced Distribution Hub (see rebranded term)
ADS	Advanced Distribution Server (see rebranded term)
AMERS	Americas region
APAC	Asia-Pacific region
API	Application Programming Interface
ARP	Add/Remove Programs (registry entries)
ATS	Advanced Transformation Server (see rebranded term)
AWS	Amazon Web Services
CMC	Customer Managed Connectivity (see term)
CPU	Central Processing Unit
CVAD	Citrix Virtual Apps and Desktops
DACS	Data Access Control System (see rebranded term)
DFO	Datastream for Office
DLL	Dynamic Link Library
DNS	Domain Name Service (see term)
DPRM	Data Protection and Risk Mitigation
ECCN	Export Control Classification Number
EMEA	Europe, Middle East, and Africa region
FCN	Financial Community Network (see term)
FIPS	Federal Information Processing Standards
FQDN	Fully Qualified Domain Name
GPU	Graphics Processing Unit
GUID	Globally Unique Identifier
HMDS	Hosted Market Data System

Acronym	Definition
HTTP	Hyper Text Transfer Protocol (see term)
HTTPS	Hyper Text Transfer Protocol Secure (see term)
IDN	Integrated Data Network
IP	Internet Protocol (see term)
IRM	Implementation Relationship Manager
JSON	JavaScript Object Notation
JWKS	JSON Web Key Set
LAN	Local Area Network
LCC	LSEG Contribution Channel
LSEG	London Stock Exchange Group
MMD	Microsoft Managed Desktop
MSI	Microsoft Software Installer
NTLM	NT LAN Manager (see proxy authentication)
OS	Operating System
PCN	Product Change Notification
PLI	Product Line Item
PVS	(Citrix) Provisioning Services
RCC	Refinitiv Customer Connect / Refinitiv Contribution Channel (see LCC)
RDP	Refinitiv Data Platform (see rebranded term)
RHEL	Red Hat Enterprise Linux
RIC	Refinitiv Instrument Code (see term)
RSSL	Reuters Source Sink Library (see term)
RTC	Real-Time Connector
RWF	Refinitiv Wire Format (see term)
SDK	Software Development Kit
SSL	Secure Socket Layer (see term)
SSO	Secure Sign On
TCP	Transmission Control Protocol
TIS	Technical Implementation Specialist
TLS	Transport Layer Security (see term)
TREP	Thomson Reuters Enterprise Platform (see rebranded term)
URL	Universal Resource Locator (see term)

Acronym	Definition
UTC	Coordinated Universal Time
UUID	Unique User Identifier
VBA	Visual Basic for Applications
VDI	Virtual Desktop Infrastructure
VSTO	Visual Studio Tools for Office (see term)
WS	• Workspace, in menu icon form, or • WebSocket (see term).
WSS	WebSocket Secure

Terminology

The following terms are used in this document, focusing primarily on those that are LSEG and Workspace-specific:

Term	Description
Common Platform	Provides the central services for Trading, Research, and Asset Management products, allowing services to be offered in a more consistent manner to our customers.
Conflation rate	The frequency with which data is updated. For example, in Workspace, a conflation rate setting of 3000ms would result in displayed data updating every three (3) seconds.
Contributions Channel	Allows data to be contributed to a Real-Time Advanced Distribution Server or LSEG directly. This data can then be consumed across Workspace products.
Customer Managed Connectivity	Enables customers to provide their own access circuit or cross-connect to the CMC access ports presented in Delivery Direct N-POPs which are located in key financial centres globally.
Delivery Direct	A customer connectivity service that uses high performance network capacity to deliver Refinitiv products and services to customers.
Delivery Platform	A unified open platform that allows clients to integrate the great depth and breadth of LSEG's data into their workflows. The platform delivers streaming and non-streaming content, across content sets, such as tick history, real-time pricing, reference, fundamentals, news, and so on. Formerly known as Refinitiv Data Platform (RDP).
Desktop Deployment Portal	A feature that allows an IRM or client to control the distribution of Workspace desktop packages. It can be used to verify and troubleshoot issues related to the automatic updating of Workspace Desktop.
Digital signature	An electronic stamp that is used to validate the integrity and authenticity of digital material, such as executables and dynamic link library files.
Domain Name Service	Technology that translates Internet domain names that are meaningful to users into IP addresses, which are usable by computers.
Electron	Electron is the underlying container on which LSEG Workspace is based. It is a framework for building desktop applications using JavaScript, HTML, and CSS. By embedding Chromium and Node.js into its binary. For further information, see What is Electron?

Term	Description
Failover	The capability to switch automatically to a reliable backup system. For Workspace, if it fails to connect to the first Real-Time Advanced Distribution Server connection, it attempts to connect to the next configured connection, if available. If none of these server connection attempts are successful, Workspace attempts to connect to LSEG hosted servers.
Financial Community Network	A data network that operates separately from the public internet, for financial services operators such as investors, banks, and currency exchanges.
Fully Qualified Domain Name	A domain name that specifies its exact location in the tree hierarchy of the Domain Name System. It specifies all domain levels, in hostname.domain.TLD format, where TLD is the top-level domain.
HTTP persistent connection	Rather than opening a new connection for each request/response pair, HTTP persistent connections use the same TCP connection to send and receive multiple HTTP requests and responses. Indeed, the HTTP/2 protocol takes this a stage further and allows multiple concurrent request/response pairs to be multiplexed over a single connection.
Hypertext Transfer Protocol	The data processing rules for transferring files, such as text, graphic images, sound, video, and other content on the Web.
Hypertext Transfer Protocol Secure	A set of procedures used by Web servers and Web browsers to encrypt content before it is sent across the Internet.
Internet Protocol	A set of rules that defines how data should be delivered over the public Internet. Often referred to alongside the Transmission Control Protocol (TCP).
Keep alive connection	See HTTP persistent connection.
Load balancing	Distributing users equally across multiple active servers. In the Workspace configuration file, this is activated using a LOADBALANCING setting.
Local Area Network	A collection of devices connected together in one physical location. Generally, they are structured in one of two ways: • client/server • peer-to-peer
Log Viewer	A facility, called from the Workspace Help menu, that allows you to view a comprehensive and filterable list of log entries that were captured in the main and other files.
LSEG Workspace	A cross-platform solution - on desktop, Web, and mobile - that gives you access to the broadest and deepest coverage of financial data, news, analytics and productivity tools in a highly customized experience.
Permission Synchronisation	Connects a customer's local deployed Real-Time Data Access Control System directly to the LSEG Workspace infrastructure. Any changes made to DACS permissions are not only pushed out to the local Real-Time Distribution System but also uploaded simultaneously to the Workspace infrastructure. Also referred to as Perm Sync.
Provisioning Services	A streaming technology, offered by Citrix, that delivers software patches, updates, and other configuration data to multiple virtual desktops through a single, shared desktop image.
Proxy authentication	Enables the configuration of the authentication method used by the proxy, which determine how client machines are validated when accessing the Internet. For a list of the methods for which Workspace is qualified, see Qualified Proxy.

Term	Description
Real-Time Advanced Distribution Hub	The horizontally scalable service component within Real-Time Distribution System, providing high availability for publication and contribution messaging, subscription management with optional persistence, conflation and delay capabilities. Formerly known as ADH.
Real-Time Advanced Distribution Server	The component of the Real-Time Distribution System that distributes data and updates to consuming applications. Formerly known as ADS.
Real-Time Advanced Transformation Server	A multifunctional server that brings real-time data together from multiple sources, allowing users to create synthetic records and models that define custom calculations, rules, and logic. Real-Time Advanced Transformation Server transforms, calculates, and publishes resulting data onto the platform for further distribution and consumption. Formerly known as ATS.
Real-time Connector	Provides a consolidated point-to-point fan-out distribution solution for LSEG, value-added, third-party data for trading room systems and cloud deployments. Real-Time Connector distributes data using proprietary LSEG protocols built on top of TCP/IP. Real-Time Connector also supports distributing data in JSON over WebSocket connections.
Real-Time Data Access Control System	A set of tools for managing access to services and data for Real-Time Distribution System customers. It controls user access to data consuming and publishing applications, including content from LSEG, third parties, or proprietary feeds. Formerly known as DACS.
Real-Time Distribution System	A distribution architecture that controls the flow of real-time data to display and analytical applications, for use by humans or machines. Formerly known as TREP.
Real-Time Managed Distribution Service	Enables customers to access cloud-based capabilities for market data integration, distribution, publication, analytics and more. LSEG operates and oversees all the equipment, feeds, platforms and connectivity that a firm might need, with 23 globally distributed Points of Presence.
Refinitiv Instrument Code	A market-level identifier for instruments and pricing sources, issued by LSEG.
Refinitiv Wire Format	RWF is a binary protocol, almost identical to the RSSL protocol used in Eikon 4.0. The key difference between the two protocols is that RWF is carried over a WebSocket connection, while RSSL uses a raw TCP/IP connection.
Reuters Source Sink Library	A suite of software components for applications that distribute real-time data from multiple sources.
Roll back	Reverting to the automatically installed version of LSEG Workspace that was installed prior to your current version.
Roll forward	Allows you to return to the version of LSEG Workspace from which you rolled back (see above).
Secure Socket Layer	An encryption technology for making a secure link between a server and a client, such as a web server and a browser.
tconfig utility	Used to extract configuration parameters from the component parameter definition (component.cpd) files, present them to the administrator to assign site and/or component specific values, and integrate them into a temporary copy of the configuration database.

Term	Description
Transmission Control Protocol	A set of rules, used alongside the Internet Protocol, to make sure data packets are delivered reliably. It includes mechanisms to deal with packets that are lost, in the wrong order, duplicated, or corrupted.
Transport Layer Security	A cryptographic protocol that provides privacy and data security for information sent between applications over the Internet.
Universal Resource Locator	Commonly thought of as a Web address. Technically, it specifies a protocol, such as HTTP, a domain name or IP address, and additional path information.
User Agent	An application that retrieves and presents Web content for users or is implemented using Web technologies.
Visual Studio Tools for Office	A Visual Studio add-in and a runtime that allows Microsoft Office (2003 or higher) applications to run through .NET.
WebSocket	WebSocket is a standard communication protocol built on top of TCP connection. The WebSocket protocol enables streams of messages between Real-Time Advanced Distribution Server and WebSocket-based client applications over the Internet. It also allows Real-Time Advanced Distribution Server to communicate with WebSocket-based client applications, regardless of platforms and programming languages.
Wide Area Network	In its simplest form, a collection of local-area networks (LANs), or other networks that communicate with each other. Essentially, it is a network of networks.

Version History

Workspace	Document	Summary
1.26 / 1.26.1 / 1.26.2 / 1.26.3 / 1.26.4	1264.01	• Added process maps to the Installation and Automatic Updates sections. • Fixed link in footnote on page 17. • Added footnote regarding FxAll support added to the Example domain list section.
	1263.02	• Removed references to Thomson One
	1263.01	• Corrected the log-level parameter values • Minor updates to Appendix N: Glossary • Dictionary requirements for contributions • Streaming performance improvements
	1261.01	The document was moved into the new common template and, following user feedback, changes were made throughout the guide, including: • New Appendix M: Glossary • Expanded Desktop executable parameters section • New Installer parameters section • Updated and moved Mass deployment section
1.25/1.25.1	125.08	• Correction to the script example in the Connections secured with certificates section.
	125.07	• Correction to the Messenger parameter.
	125.06	• Updated the Rolling back section, to clarify the impact.
	125.05	• Additional information added for RWupdater service. • Fixed link in footnotes. • Footnote added regarding potential PowerShell issue.
	125.04	• Updated the Private Network link in the Download locations section.
	125.03	• Updated the Content filtering domains section to include pi.refinitiv.com in the whitelisting list.
	125.02	• Updated the trusted root certification section
	125.01	• New appendix covering Real-Time Data configuration requirements
1.24/1.24.1	124.08	• Fixed minor internal linking issues • Fixed incorrect use of backslash in Workspace Messenger section
	124.07	• Update to the Troubleshooting appendix regarding the MMD installation issue • Minor update to Protocol support • Renaming RDP to Delivery Platform (corporate rebranding) • Updated Server software > Versions section
	124.06	• Table rendering issues • Internal document links
	124.05	• Further clarification of Protocol support
	124.04	• Minor change to Streaming protocols • Minor change to Protocol support
	124.03	• A minor change to the Configuring multiple servers section. • A known issue affecting Datastream for Office (DFO) users only.
	124.02	• Updating links to point to new LSEG site.
	124.01	• New digital certificates • The DPRM connection issue, affecting Workspace 1.23 only, has been fixed.

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