

# IHS Markit Securities Finance Toolkit for Microsoft Excel<sup>®</sup>

Technical Guide | December 2018

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# 1 Introduction

### 1.1 Purpose

This document provides information for installing and troubleshooting the IHS Markit Securities Finance Toolkit for Microsoft Excel<sup>®</sup>. It covers:

- Detailed installation information
- Network communication
- Troubleshooting common issues.

# 2 Installation

#### 2.1 System requirements

| System           | Requirement   |
|------------------|---|
| Operating System | Microsoft Windows 7 or later, 32-bit and 64-bit versions        |
| Office Suite     | Microsoft Excel 2007, 32-bit version                            |
|                  | Microsoft Excel 2010, 2013 and 2016, 32-bit and 64-bit versions |

The following prerequisite is required:

| Prerequisite                            | Download Source  |
|---|--|
| Microsoft .NET Framework 4.6.1 or later | https://www.microsoft.com/en-<br>gb/download/details.aspx?id=49981 |

Administrative rights to the system are required to install the Toolkit. Once installed, administrative rights are not required to run the application.

### 2.2 Upgrading from a previous version

If you are upgrading from a previous version, uninstall the previous version first.

#### The steps below must be performed by a user with administrator rights.

#### Steps for upgrading from Toolkit version 9.8.0 or earlier:

- 1. Navigate to the "Markit Toolkit" folder in the Program Menu
- 2. Click "Uninstall Markit Toolkit" with Admin privileges
- 3. Click "Yes" to proceed with uninstallation
- 4. Wait for the uninstallation to complete.

#### Steps for upgrading from Toolkit version 9.9.0 or greater:

- 1. Navigate to the "IHS Markit Toolkit" folder in the Program Menu
- 2. Click "Uninstall IHS Markit Toolkit" with Admin privileges
- 3. Click "Yes" to proceed with uninstallation
- 4. Wait for the uninstallation to complete.

### 2.3 Setup installation procedure

The installation instructions are detailed below:

- 1. Ensure Excel is closed.
- 2. Go to <u>https://ihsmarkit.com/products/securities-finance.html</u> and scroll down to the Toolkit Installation section
- 3. Download the software:
  - i. Users of 32-bit Excel should click "IHSMarkitToolkitSetup.zip"
  - ii. Users of 64-bit Excel should click the "IHSMarkitToolkitSetup64.zip".

The IHSMarkitToolkitSetup folder consists of two files as shown below:

| 🛃 IHSMarkitRtdServerSetup.msi | 11/6/2018 5:44 AM | Windows Installer | 8,608 KB |
|-------------------------------|-------------------|-------------------|----------|
| 🔄 setup.exe                   | 11/6/2018 5:44 AM | Application       | 422 KB   |

Either file can be used to install the toolkit.

#### Installation must be performed by a user with administrator rights.

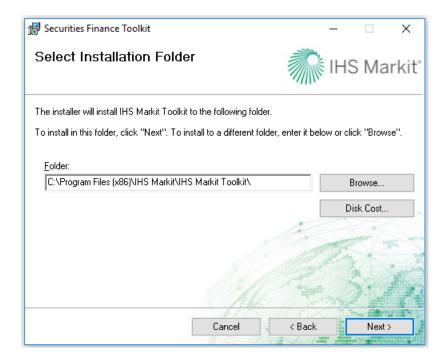
Click on the "Next" button in the IHS Markit Toolkit installation dialog,



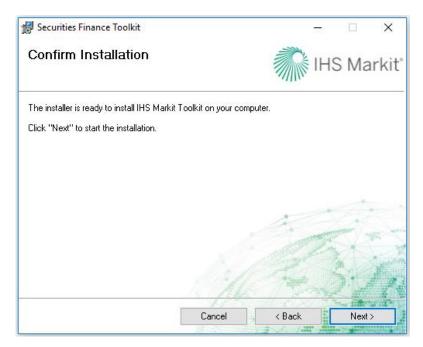
Read the disclaimer message and check the "Agree" option. Click "Next" to continue.

| 🔀 Securities Finance Toolkit   |  |   | —  |   | ×                            |
|--|--|---|--|---|------------------------------|
| Disclaimer   |  |   | IHS  | S Ma  | rkit°                        |
| Neither IHS Markit Limited, its affiliates no<br>as to the accuracy, timeliness or complete<br>by customer or others from the use of the<br>warranties of merchantability or fitness for<br>and data providers expressly disclaims any<br>title, non-infringement, merchantability or fi<br>acknowledges that it has not relied upon<br>Markit Limited, its affiliates or any data pro | eness of the data of<br>data or services, a<br>a particular purpo<br>y condition of qua<br>itness for a particu<br>any warranty, gua | or services or as t<br>and there are no (<br>se or use, IHS M<br>lity and any expre<br>llar purpose, Cust | o results<br>express o<br>arkit Limi<br>ess or imp<br>omer hei | to be atta<br>or implied<br>ted, its afi<br>blied warra<br>reby | ained<br>filiates<br>anty of |
| Neither IHS Markit Limited, its affiliates no<br>user of this data (or document) or any clie<br>regardless of cause, in the data available<br>indirect) resulting therefrom. under no circ<br>providers be liable for any indirect, incider<br>respect to the use of this data (or docume<br>whether such damages could have been<br>Agree   | nt of such user for<br>on this document<br>umstances will IH<br>tal, special, conse<br>nt or the information                         | any inaccuracie:<br>or for any damag<br>6 Markit Limited, i<br>equential or lost p<br>on available here   | s, errors<br>es (whet<br>ts affiliati<br>rofits dar            | or omissio<br>ther directes<br>and dates with<br>mages with     | ins,<br>tor<br>ata           |
|  | Cancel   | < Back  |  | Next  | >                            |
|  | State of   | 12 1. 14  |  | · / · · · · · · ·   |                              |

Confirm the installation folder location. Click "Next" to continue



A Confirm Installation dialog will appear. Click "Next" to install the Toolkit.



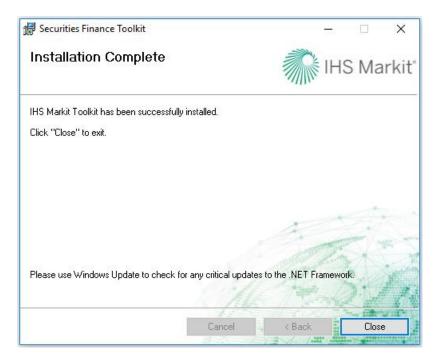
A window will appear showing the installation progress as shown below.

| 😸 Securities Finance Toolkit           |     |           | a di | ×       |
|--|-----|-----------|------|---------|
| Installing IHS Markit Toolk            | it  |           | HS I | Markit  |
| IHS Markit Toolkit is being installed. |     |           |      |         |
| Please wait                            |     |           |      |         |
|  |     |           |      |         |
|  |     |           |      |         |
|  |     | 1         | -    | There a |
|  |     | aut       |      | Sand    |
|  | 120 | - Annater | 1º4  | - Alton |
|  |     |           |      | 1       |

Users may see a User Account Control dialog as shown below. Click "Yes" to continue the installation.

|            |   | to allow the following program from an<br>blisher to make changes to this computer? |
|------------|---|---|
|            | Program name:<br>Publisher:<br>File origin: | C:\Users\<br>Unknown<br>Hard drive on this computer                                 |
| <b>v</b> s | show details                                | Yes No  |

When the installation is complete, the window below will appear. Click "Close" to complete the installation.



#### 2.4 Installation files and folders

During installation, the following will be created on the user's machine:

Installation folder

IHS Markit Toolkit folder

Add-in Express folder.

Refer to the Appendix for details of the location and contents of these folders and files.

#### 2.5 Registry changes

The following additions will be made to the destination machine's registry at installation time:

HKEY\_CURRENT\_USER\Software\IHS Markit\API\Password

HKEY\_CURRENT\_USER\Software\IHS Markit\API\UserName

Entries in the Password registry key are encrypted.

### 2.6 Toolkit installation checks

You should test your installation by downloading the Toolkit installation check spreadsheet on the installation page. When opened, you will be prompted to login with your IHS Markit Securities Finance credentials.

| IHS Markit Toolkit   |
|--|
| Please supply your login details to connect to the server. |
| Username   |
| Password   |
| Remember Me OK Cancel                                      |

A connection to the server is made if a valid username and password is entered. If the "Remember Me" box is ticked, these credentials will be saved to the IHS Markit Securities Finance registry keys detailed in section 2.5, Registry changes. Once logged in, data should update on the sheet. If it does not, or if you get an error message, perform the checks in the sections below.

**Note:** 'Remember Me' is set automatically for users of Excel 2016 and the checkbox is not displayed. If you wish to log out of the toolkit, click <u>Log out...</u> at the bottom of the IHS Markit Toolkit Navigator pane.

#### 2.6.1 Installation check 1: Navigator

Ensure the Navigator displays correctly (see section 2.7 for details of the Navigator). If it does not, refer to 2.6.2, Installation check 2: COM Add-in, below.

| 🏶 IHS Markit Toolkit                           | ××               |
|--|------------------|
| Query Search News Help                         |                  |
| Source: Securities Lending                     | ~                |
| Identifier: V 🗱 A                              | VI Instruments V |
| Field:   | es<br>nts        |
| Search:  | ×                |
| Advanced Options                               |                  |
| ✓ Include Field Names Option:<br>Query Options |                  |
| No options available<br>Get Results            |                  |
| ✓ Logged in: demo@lender Log out               | . ¢° ()          |

#### 2.6.2 Installation check 2: COM Add-in

Ensure IHSMarkitComAddin is showing under Active Applications, as displayed in the image below.

| cel Options                               |   |  |                                 | ?     |
|---|---|--|---------------------------------|-------|
| General<br>Formulas                       | View and manage Microsoft Office Add-ins.   |  |                                 |       |
| Data                                      | Add-ins   |  |                                 |       |
| Proofing                                  |   | In the second se | 1-                              |       |
| -   | Name A<br>Active Application Add-ins  | Location   | Туре                            |       |
| Save                                      | Foxit PDF Creator COM Add-in  | C:\FPC_ExcelAddin_x86.dll  | COM Add-in                      |       |
| Language                                  | IHSMarkitComAddin   | C:\kit Toolkit\adxloader.dll   |                                 |       |
| Ease of Access                            | ihsmarkitrtdserver<br>Team Foundation Add-in  | C:\Toolkit\MSFRtdShim.dll<br>C:\x86\TFSOfficeAdd-in.dll  |                                 |       |
| Advanced                                  | Visual Studio Tools for Office Design-Time Adaptor for Excel  |  |                                 |       |
| Customize Ribbon                          | Visual Studio Tools for Office Design-Time Adaptor for Excel  | -  |                                 |       |
|   | Inactive Application Add-ins  |  |                                 |       |
| Quick Access Toolbar                      | Adxloader.lhsmarkitcomaddin   | C:\IHSMarkitComAddin.dll   | Excel Add-in                    |       |
| Add-ins                                   | Analysis ToolPak  | C:\nalysis\ANALYS32.XLL  | Excel Add-in                    |       |
| Trust Center                              | Analysis ToolPak - VBA  | C:\lysis\ATPVBAEN.XLAM   | Excel Add-in                    | _     |
|   | Date (XML)<br>Euro Currency Tools   | C:\\Smart Tag\MOFL.DLL<br>C:\rary\EUROTOOL.XLAM  | Action<br>Excel Add-in          |       |
|   | Inquire   | C:\16\DCF\NativeShim.dll   | COM Add-in                      |       |
|   | Microsoft Actions Pane 3  |  | XML Expansion                   | Pack  |
|   | Microsoft Power Map for Excel   | C:\XCELPLUGINSHELL.DLL   | COM Add-in                      |       |
|   | Microsoft Power Pivot for Excel   | C:\ivotExcelClientAddIn.dll  |                                 |       |
|   | Publisher: <none><br/>Compatibility: No compatibility information available<br/>Location: C:\Program Files (x86)\IHS Markit\IHS Mar<br/>Description: AddinModule</none>   | kit Toolkit\adxloader.dll  |                                 |       |
|   | Compatibility: No compatibility information available<br>Location: C:\Program Files (x86)\IHS Markit\IHS Mar  | kit Toolkit\adxloader.dll  |                                 |       |
|   | Compatibility: No compatibility information available<br>Location: C:\Program Files (x86)\IHS Markit\IHS Mar<br>Description: AddinModule  | kit Toolkit\adxloader.dll  | ОК                              | Cance |
| cel version                               | Compatibility: No compatibility information available<br>Location: C:\Program Files (x86)\IHS Markit\IHS Mar<br>Description: AddinModule  | kit Toolkit\adxloader.dll  | ОК                              | Cance |
|   | Compatibility: No compatibility information available<br>Location: C:\Program Files (x86)\IHS Markit\IHS Mar<br>Description: AddinModule<br>  | kit Toolkit\adxloader.dll  | OK                              | Cance |
| cel 2010, 2013                            | Compatibility: No compatibility information available<br>Location: C:\Program Files (x86)\IHS Markit\IHS Mar<br>Description: AddinModule<br>Manage: Excel Add-ins T Go<br>Steps   | kit Toolkit\adxloader.dll  | OK                              | Cance |
| cel version<br>ccel 2010, 2013<br>cd 2016 | Compatibility: No compatibility information available<br>Location: C:\Program Files (x86)\IHS Markit\IHS Mar<br>Description: AddinModule<br>Manage: Excel Add-ins T Go<br>Steps<br>• Click File and select Options  | [  |                                 | Cance |
| cel 2010, 2013                            | Compatibility: No compatibility information available<br>Location: C:\Program Files (x86)\IHS Markit\IHS Mar<br>Description: AddinModule<br>Manage: Excel Add-ins  Go Steps Click File and select Options Select Add-Ins on the left hand pane  | Inder Active Application   | n Add-in                        | Cance |
| cel 2010, 2013                            | Compatibility:       No compatibility information available         Location:       C:\Program Files (x86)\IHS Markit\IHS Markit         Description:       AddinModule         Manage:       Excel Add-ins         Steps       Click File and select Options         Select Add-Ins on the left hand pane         Check that IHSMarkitComAddin is listed up  | Inder Active Application   | n Add-in                        | Cance |
| cel 2010, 2013                            | Compatibility:       No compatibility information available         Location:       C:\Program Files (x86)\IHS Markit\IHS Markit         Description:       AddinModule         Manage:       Excel Add-ins         Steps       Go         Click File and select Options         Select Add-Ins on the left hand pane         Check that IHSMarkitComAddin is listed u         If it is not, select COM Add-ins in the Mana   | Inder Active Application   | n Add-in                        | Cance |
| cel 2010, 2013                            | Compatibility:       No compatibility information available         Location:       C:\Program Files (x86)\IHS Markit\IHS Markit         Description:       AddinModule         Manage:       Excel Add-ins         Steps       Go         Steps       Click File and select Options         Select Add-Ins on the left hand pane       Check that IHSMarkitComAddin is listed u         If it is not, select COM Add-ins in the Mana       Click Add   | Inder Active Application<br>age drop-down list and   | n Add-in<br>d click Go          | Cance |
| cel 2010, 2013                            | Compatibility: No compatibility information available<br>Location: C:\Program Files (x86)\IHS Markit\IHS Mar<br>Description: AddinModule<br>Manage: Excel Add-ins  Go Steps Click File and select Options Select Add-Ins on the left hand pane Check that IHSMarkitComAddin is listed u If it is not, select COM Add-ins in the Mana Click Add Open C:\Program Files\IHS Markit\IHS Markit  | Inder Active Application<br>age drop-down list and<br>arkit Toolkit<br>doader64.dll for 64-bit   | n Add-in<br>d click Go<br>Excel | Cance |
| cel 2010, 2013                            | Compatibility:       No compatibility information available         Location:       C:\Program Files (x86)\IHS Markit\IHS Markit         Description:       AddinModule         Manage:       Excel Add-ins         Steps       Go         Steps       Click File and select Options         Select Add-Ins on the left hand pane       Check that IHSMarkitComAddin is listed u         If it is not, select COM Add-ins in the Mana       Click Add         Open C:\Program Files\IHS Markit\IHS Markit\IHS Markit         Select adxloader.dll for 32-bit Excel or adx | Inder Active Application<br>age drop-down list and<br>arkit Toolkit<br>doader64.dll for 64-bit   | n Add-in<br>d click Go<br>Excel | Cance |

- Check that IHSMarkitComAddin is listed under Active Application Add-ins
- If it is not, select COM Add-ins in the Manage drop-down list and click Go
- Click Add
- Open C:\Program Files\IHS Markit\IHS Markit Toolkit
- Select adxloader.dll
- Click OK to add it to the list then OK to close the COM Add-ins window

#### 2.6.3 Installation Check 3: Proxy Server

Ensure your proxy details are entered correctly if required (refer to section 4.2,RTD / Proxy tab). You may need to speak to your network administrator to get these settings.

#### 2.6.4 Installation Check 4: Mail Server

Ensure your mail server details are entered correctly (refer to section 4.1, Preferences). You may need to speak to your network administrator to get these settings.

#### 2.7 Navigator

The Navigator is a GUI for the IHS Markit Securities Finance Toolkit. A IHS Markit icon or menu item will be added to the Excel menu when the Toolkit is installed. Click on this to either show or hide the Navigator. Click the two chevrons at the top of the Navigator to minimise or maximise the panel.

The Navigator allows you to construct Toolkit formulae easily via the Query tab. It also includes a Search tab to help you find instrument details, a Documents tab with template and data dictionary files, a News tab which displays current articles from IHS Markit Securities Finance and a Help tab that allows you to access real-time online support.

Please refer to the Toolkit Navigator User Guide for more detailed information on the Navigator. This is available under Help and Guides in the Documents tab.

| Formulas | Data | Review | View | Developer | Add-ins | Help | IHS Markit Toolkit   | Foxit PDF | Team       | $ {\cal P} $ Tell me what you want to do  | 占 Sha                    |
|----------|------|--------|------|-----------|---------|------|--|-----------|------------|---|--------------------------|
|          |      |        |      |           |         |      |  |           |            |   |                          |
| E        | F    | G      | H    |           |         | K    | L N  |           | Que<br>Sou | IHS Markit Toolkit  y Search News Help  urce: Securities Lending  ntifier:  B C C C C C C C C C C C C C C C C C C | ~                        |
|          |      |        |      |           |         |      | Image: Constraint of the sector of |           |            | Search:   |                          |
|          |      |        |      | : 4       |         |      |  |           |            | Get Results Logged in: demo@lender Log out  | @ <sup>®</sup> (<br>+ 10 |

#### 2.7.1 Detailed Status Information Button

The Detailed Status Information button at the bottom of the Navigator displays a popup containing support information for the user who is currently logged in to the application.

| ~ | Logged in: demo@lender | Log out | \$ (i | ) |
|---|------------------------|---------|-------|---|

| Status          |   | × |
|-----------------|---|---|
| User:           | demo@lender   |   |
| Server:         | https://msf.markit.com  |   |
| Session Start:  | 11/19/2018 7:41:21 AM   |   |
| Client Version: | 9.9.0   |   |
| Client Currency | GBP   |   |
| Permissions:    | IM     A       SF     Public       Account     IntradayPublishGroup       PendingClient     PendingGroup       Pividend     Y |   |
| Send Email      | Close   |   |

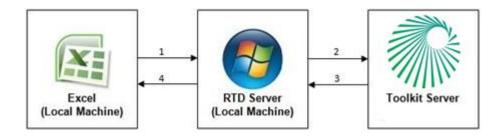
The following information is available:

| Item           | Description   |
|----------------|---|
| User           | The current logged-in username  |
| Server         | The URL of the server that the application is using   |
| Session Start  | The time that the current user session began (date and time they logged in)   |
| Client Version | The application version   |
| Permissions    | Data sets that the user has permission to access  |
| Send Email     | Send an email to the support team at IHS Markit Securities Finance. <b>Note:</b> your email address and mail server are required. This can also be set up in the IHS Markit Admin Tool, see section 4.4 |

### 3 Network Communication

The IHS Markit Securities Finance Toolkit uses Microsoft RTD (Real Time Data) technology in Excel to download data from the IHS Markit Securities Finance Toolkit server.

Excel generates requests for IHS Markit Securities Finance data and passes it to the local RTD server, which compiles the request and passes it to the IHS Markit Securities Finance Toolkit Server. A connection attempt is made to https:/msf.markit.com across the network. If successful, a TLS (v1) connection is made for the transmission of data. This will stay active until the spreadsheet containing the call is closed. If the spreadsheet is left open, a call to the server is made periodically to check the connection to the server.



### 3.1 Logon process

When clicking the Log In button on the Navigator, the Toolkit client will attempt connection to the Toolkit server. If this succeeds, a prompt for the IHS Markit Securities Finance Toolkit Login details will appear (refer to section 2.6, Toolkit installation checks).

If this fails, it is likely that a proxy server is blocking access (refer to section 3.2, Proxy processing).

#### 3.2 Proxy processing

The IHS Markit Securities Finance Toolkit provides the below support for Proxy servers. These options are configured via the IHS Markit Toolkit Admin Tool.

If the default credentials are not accepted by the proxy server, a pop-up window will appear requesting proxy credentials. You can specify one of the manual override options detailed below to bypass this prompt.

| Please sup | ply your login details to connect to the proxy server.  |
|------------|---|
| password b | he server is requesting that your username and<br>be sent in an insecure manner (basic authentication<br>acure connection). |
| Username   | XBBKHYI   |
|            | [ ]   |
| Password   |   |

See section 4, IHS Markit Toolkit Admin Tool, for setup details in the IHS Markit Toolkit Admin Tool.

#### 3.2.1 Default: Use LAN settings

The toolkit will use your default Local Area Network (LAN) settings to connect to the Toolkit server.

#### 3.2.2 Manual override 1: No proxy

You can force no proxy / direct connection to the Toolkit server.

#### 3.2.3 Manual override 2: Proxy config

You can manually specify a proxy server in the format ServerName:Port or IPAddress:Port.

#### 3.2.4 Manual override 3: Proxy PAC

You can manually specify a proxy PAC in the format http://ServerName/pacfile

Note: If none of the above attempts work, or there are unrecoverable errors, the logon will fail.

# 4 IHS Markit Toolkit Admin Tool

#### 4.1 Preferences

A standalone tool, IHSMarkitAdminTool.exe (located in the Installation folder and accessible from Start -> All Programs -> IHS Markit Toolkit -> IHS Markit Toolkit Admin), is provided to allow users to modify Toolkit behaviour. Settings changed on the Preferences tab will update the file "Preferences.xml" stored in the Log Directory.

**Note**: Settings on this tab does not need Administrator rights to save settings using IHSMarkitAdminTool.exe.

| 🌑 IHS Markit Toolkit Admin T | ool [Toolkit v9.9.0]                                 |   |  | _ |      | $\times$ |
|------------------------------|--|---|--|---|------|----------|
| Preferences                  | Preference:<br>Use this form to make                 | S<br>ie changes to the Preferences.xml file |  |   |      |          |
| RTD / Proxy                  | Preferences<br>Client Currency:<br>Query Batch Size: | USD<br>0                                    | <ul> <li>↓ 0 = Use server default</li> </ul> |   |      |          |
| Support Email                | Query Timeout:<br>Mail Server:                       | 0   | 0 = Use server default                       |   |      |          |
| Live Help                    |  |   |  |   | Save |          |
|                              |  |   |  |   |      |          |
|                              |  |   |  |   |      |          |
|                              |  |   |  |   |      |          |
|                              |  |   |  |   |      |          |
|                              |  |   |  |   |      |          |
|                              |  |   |  |   |      |          |
|                              |  |   |  |   |      |          |
| <u>Toolkit Online</u>        |  |   |  |   |      |          |

| Item             | Description  |
|------------------|--|
| Client Currency  | Results will be returned in the specified currency   |
| Query Batch Size | Maximum number of requests sent to the server in one batch (default: 0 - use server configuration)           |
| Query Timeout    | Duration in milliseconds of maximum query time before timeout occurs (default: 0 - use server configuration) |
| Mail Server      | Local email server used to send support emails. This should be specified in the format smtp.mailhost.com     |

### 4.2 RTD / Proxy tab

Settings changed on the RTD / Proxy tab will update the file "rtdlocal\_config.xml" stored in the Installation folder.

**Note**: You must have Administrator rights to save settings using IHSMarkitAdminTool.exe.

| IHS Markit Toolkit Admin Tool   | [Toolkit v9.9.0] —  | $\Box$ $\times$       |
|---|---|-----------------------|
|   | TD Local Configuration<br>se this form to make changes to the rtdlocal_config.xml file  |                       |
| KID / Proxy      Addin Config      Q     Support Email      Live Help      Live Exp | i URL: https://msf.markit.com able Http Compression:  ovy  Override Local Area Network (LAN) settings  No proxy Manual proxy config: (HTTP proxy) Manual PAC support: (PAC uri) ogging vent Log Enabled:  Log Event Log Level: Exception og File Enabled:  Log File Level: Info |                       |
|   | NNECTION TEST: Run the connection test using settings above.  | Clear<br>Copy<br>Save |
| Toolkit Online  | Quick Test  | Full Test             |

| Item                                       | Description  |
|--|--|
| Api URL                                    | The URL of the server that the Toolkit connects to for data retrieval. This value should not be changed (https://msf.markit.com) |
| Enable Http Compression                    | Checkbox to enable Http compression. Checked by default  |
| Override Local Area Network (LAN) settings | Checkbox to manually specify proxy settings (default: false)   |
| No proxy                                   | Forces the Toolkit to use no proxy server when connecting to the Toolkit server (default: true)                                  |
| Manual proxy config: (HTTP proxy)          | You can manually specify a proxy server in the format<br>ServerName:Port or IPAddress:Port (default: false)                      |
| Manual PAC support (PAC uri)               | You can manually specify a proxy PAC in the format http://ServerName/pacfile (default: false)                                    |
| Event Log Enabled                          | Indicates whether or not logging to the Windows Event Log is enabled (default: False)  |
| Log Event Log Level                        | Indicates the level of logging to perform to the Windows Event Log (default: Exception)  |
| Log File Enabled                           | Indicates whether or not logging to the Toolkit log file is enabled (default: True)  |
| Log File Level                             | Indicates the level of logging to perform to the Toolkit log file (default: Info)  |

**Note**: If using a proxy it must support compression with the **Enable Http Compression** property set to true, otherwise the Toolkit will revert to uncompressed communications.

#### 4.2.1 Proxy test

A Connection Test is included in the IHS Markit Toolkit Admin Tool which allows for the testing of different proxy configurations used by the Toolkit and Navigator. To test your connection to the Toolkit server via your proxy server, type in your proxy details then click a test option. Once the test is completed, a summary will be displayed. This will highlight any problems that may have occurred in connecting via the specified proxy.

| Test Type  | Description   |
|------------|---|
| Quick Test | This will test the ability to access the Toolkit server through the current network configuration. A successful Quick Test does not necessarily indicate the Toolkit will work correctly  |
| Full Test  | Performs a full connectivity test against the Toolkit server, including authentication and initialisation as per Toolkit functionality. This also covers network configuration implicitly. If this test is successful the Toolkit should function correctly |

### 4.3 Addin Config tab

Settings changed on the Addin Config tab will update the file "addin\_config.xml" stored in the Installation folder. This in turn will change the settings on the Navigator.

Note: You must have Administrator rights to save settings using IHSMarkitAdminTool.exe.

| IHS Markit Toolkit Admin   | Tool [Toolkit v9.9.0]                        |                      |   | -                  |                  | ×         |
|--|--|----------------------|---|--------------------|------------------|-----------|
| Preferences  | Add-In Configura                             |                      | ig xmi file   |                    |                  |           |
| Preferences   RTD / Proxy   Addin Config   Support Email   Live Help |  |                      | g.xml file<br>UH<br>http://fieedis.feedburner.com/Markit.Se | curtles Finance RS | S<br>Delete Fees |           |
|  | Help URL:                                    | https://ihsmarkit.se | cure force.com/customers/LiveChatButto                      | m1                 |                  |           |
|  | Support Email:<br>Loader Log Directory Name: | Add-in Express       |   |                    |                  | $\exists$ |
|  | Log Directory Name:                          | IHS Markit Toolkit   |   |                    |                  |           |
|  |  |                      |   |                    | Save             |           |
| Tookt Onine  |  |                      |   |                    |                  |           |

For URLs please refer to Appendix.

| Item          | Description  |  |  |
|---------------|--|--|--|
| Feed Items    | The URL and display name of the Feed on the News tab in the Navigator.<br>Add or Delete feeds using the buttons provided   |  |  |
| Help URL      | The URL for Live Chat in the Help tab in the Navigator   |  |  |
| Support Email | The email address that support emails will be sent to when clicking the Send Email button, accessed within the Detailed Status Information button on the Navigator (default: <u>MSF-support@markit.com</u> ) |  |  |

| Loader Log Directory Name | The folder name that Navigator logs will be written to (default: Add-in Express)   |
|---------------------------|--|
| Log Directory Name        | The folder name that Toolkit logs will be written to (default: IHS Markit Toolkit) |

### 4.4 Support Email tab

This tab can be used to send an email to IHS Markit Securities Finance Support. You can also access this feature from the Navigator (refer to section 2.7.1).

You need to complete the From and Mail Server fields to be able to send an email. Type in any additional notes or messages in the Details box.

Selecting "Send log files" will automatically attach Toolkit logs which are useful for troubleshooting. You can also add additional attachments by clicking the paperclip button.

Clicking Send will submit the email to the Support Team at IHS Markit Securities Finance.

| IHS Markit Toolkit Admin Tool [Toolkit v                        | 9.9.0]  | - |               | ×  |
|---|---|---|---------------|----|
| Preferences Suppor  | t Email<br>to submit a support enquiry to IHS Markit. |   |               | ٦  |
| RTD / Proxy   Addin Config   Support Email   Live Help   Status | sdfsdfsdf   |   |               |    |
| Attachment  | Send Log Files  |   | ) Cle<br>Send | ar |

### 4.5 Live Help tab

This tab can be used to chat directly to IHS Markit Securities Finance Support. You can also access this feature from the Navigator (refer to section 2.7, Navigator).

Fill in your name and email address details then click "Submit" to start.

| IHS Markit Toolkit Admin 1 | Tool [Toolkit v9.9.0] - 🗆 🗙  |
|----------------------------|--|
| Preferences                | Live Help<br>Chat online to IHS Markit using Live Chat   |
| RTD / Proxy                | IHS Markit   |
| Support Email              | Chat with us   |
| Live Help                  | Welcome to IHS Markit's Live Chat Support. Please enter your details to engage with one of our analysts. |
|                            | First Name *   |
|                            | Last Name *  |
|                            | Email *  |
|                            | Product *<br>Securities Finance Excel Toolkit ✔  |
|                            | Submit   |
|                            |  |
|                            |  |
|                            |  |

# 5 Toolkit Configuration Files

### 5.1 RtdLocal\_Config.xml

**Description** Provides client-specific configuration for manipulating target server, logging levels, compression and proxy settings

| Location | Installation folder  |
|----------|--|
| Used By  | Toolkit, Navigator, IHS Markit Toolkit Admin Tool  |
| Details  | Refer to section 4.2, RTD / Proxy tab, for how to update this file via the IHS Markit Toolkit Admin Tool |

### 5.2 Addin\_Config.xml

| Description | Provides client-specific configuration for manipulating the Navigator including the Feed tab, Help tab, Email settings and Logging levels |
|-------------|---|
| Location    | Installation folder   |
| Used By     | Navigator, IHS Markit Toolkit Admin Tool  |
| Details     | Refer to section 4.3, Addin Config tab, for how to update this file via the IHS Markit Toolkit Admin Tool                                 |

### 5.3 ApplicationLog.txt

| Description | If enabled, the Toolkit will log a configurable level of details to the ApplicationLog file  |  |
|-------------|--|--|
| Location    | IHS Markit Toolkit folder in My Documents  |  |
| Used By     | Toolkit, Navigator, IHS Markit Toolkit Admin Tool  |  |
| Details     | Refer to section 4.2, RTD / Proxy tab, for how to activate and modify logging level in this file. This is useful for troubleshooting Toolkit issues. |  |
|             | An ApplicationLog filename will take the following format:   |  |
|             | ApplicationLog_[year][weekOfYear].txt  |  |
|             | The level of detail logged to the file is dependent upon the Log File Level property. Examples of the types of information logged are:               |  |
|             | • Errors   |  |
|             | Proxy connection information   |  |
|             | Log-in attempts  |  |
|             | Usage activity   |  |
|             | Navigator start and stop events  |  |
|             | Navigator errors   |  |

# 6 Error Messages

#### 6.1 Application errors

#### 6.1.1 An error occurred while connecting to the server/you are offline

| IHS Markit Toolkit  | ×  |
|---|----|
| An error occurred while connecting to the IHS Markit server.  | -  |
| ОК  |    |
| IHS Markit Toolkit  |    |
| You are offline. Any changes made whilst offline may be lost.   |    |
| For further information, please call +44-808-120-2344 (London<br>861-6171 (New York) or +852-800-964-146 (Hong Kong) or en<br>support@markit.com. |    |
| Don't show me this again  | OK |

**Description**: Connection to the IHS Markit Securities Finance toolkit server cannot be established. This is normally due to a proxy server blocking the connection. Refer to the section 4.2.1, Proxy test, for how to troubleshoot proxy connections.

#### 6.1.2 Incorrect Login details supplied

| IHS Markit Toolkit               | $\times$ |
|----------------------------------|----------|
|                                  |          |
| Incorrect login details supplied |          |
|                                  | _        |
| ОК                               |          |

**Description**: Incorrect username or password supplied. Check credentials and retry. Usernames and passwords are case sensitive.

#### 6.1.3 An unrecoverable failure has occurred. Please check your installation

|   | IHS Markit Toolkit  |
|---|---|
| 1 | An unrecoverable failure has occured. Please check your installation. |
|   |   |
|   | ОК  |
| 1 |   |

**Description**: This indicates that Excel's RTD service is not registered correctly. Contact IHS Markit Securities Finance support for assistance.

#### 6.2 Data unavailable errors

| Error                  | Description  |
|------------------------|--|
| #NAME? or #NUM!        | This is a built-in Excel error message.  |
|                        | It can occur because the Addin has not been registered. Refer to section 2.6, Toolkit installation checks, for more details.               |
|                        | It can also occur if a cell contains a calculation using the results of a toolkit formula, where the toolkit formula has returned an error |
| #DX: NO DATA#          | Data is not available for the specified date or field  |
| #DX: NOT FOUND#        | The identifier specified could not be found  |
| #DX: NO PERMISSION#    | User does not have permission to view the requested data   |
| #DX: INVALID DATE#     | The requested date is outside the range of dates available for the field specified   |
| #DX: LATEST DATE ONLY# | Historical data has been requested for a field that is only available for the latest date  |
| #DX: LATEST DATA ONLY# | Historical data has been requested for a field that is only available for the latest data  |
| #DX: NOT AVAILABLE#    | The identifier specified is not found  |
| #DX: SINGLE DATE ONLY# | Historical data has been requested for a field that is only available for a single date  |
|                        |  |

#### 6.3 Formula errors

| Error                         | Description  |
|-------------------------------|--|
| #NAME? or #NUM!               | This is a built-in Excel error message.  |
|                               | It can occur because the Addin has not been registered. Refer to section 2.6, Toolkit installation checks, for more details.               |
|                               | It can also occur if a cell contains a calculation using the results of a toolkit formula, where the toolkit formula has returned an error |
| #DX: NO FIELDNAME SPECIFIED#  | No field name is included in the formula   |
| #DX: NO IDENTIFIER SPECIFIED# | No identifier is included in the formula   |

| Error                              | Description   |
|------------------------------------|---|
| #DX: INVALID DATE SPECIFIED #      | Displayed if the format of the date is incorrect  |
| #DX: INVALID IDENTIFIER TYPE#      | The specified identifier type is not recognised   |
| #DX: AMBIGUOUS IDENTIFIER VALUE#   | The identifier part of the formula is incomplete  |
| #DX: INAPPLICABLE FIELD#           | A field has been requested for an instrument that does not support it                   |
| #DX: INVALID FIELD MODIFIER#       | The field modifier is either not recognised or is not applicable to the field specified |
| #DX: INVALID FIELD#                | The field specified is not valid  |
| #DX: INVALID FILTER#               | The filter selected is invalid  |
| #DX: INVALID FIELD MODIFIER INDEX# | The specific field modifier index has not been recognised                               |
| #DX: INVALID ORDER TYPE#           | The order type has not been recognised  |
| #DX: INVALID RANK#                 | The rank type is invalid  |
| #DX: INVALID FILTER VALUE#         | The filter value is invalid   |
| #DX: INAPPLICABLE METHOD#          | A method has been selected that is not supported  |
| #DX: INAPPLICABLE ID VALUE#        | An ID Value has been requested that is not supported                                    |
| #DX: DUPLICATE FILTER#             | Duplicate filter information has been entered   |
| #DX: DUPLICATE IDENTIFIER TYPE#    | Duplicate identifier types have been entered  |
| #DX: UNKNOWN ERROR#                | Unknown error   |

# 7 Appendix

# 7.1 Glossary

| Term      | Meaning   |
|-----------|---|
| Toolkit   | IHS Markit Securities Finance Toolkit is the component that allows Excel to communicate with the Toolkit server via queries                             |
| Navigator | IHS Markit Securities Finance Toolkit Navigator is the component that allows users to visually interact with the Toolkit in the form of an Excel add-in |

\_\_\_\_\_

| Term                      | Meaning  |
|---------------------------|--|
| Installation folder       | The location where the software has been installed. By default this is "C:\Program Files\IHS Markit\IHS Markit Toolkit" and contains all the application DLL and Configuration files |
| Documents folder          | The user's default folder  |
| Markit Toolkit folder     | The IHS Markit Toolkit folder under the user's Documents folder. Application logs are stored in this folder  |
| Add-in Express folder     | The Add-in Express folder under the user's Documents. Navigator logs are stored in this folder   |
| RTD Server                | Real Time Data Server. This acts as a translator between Microsoft Excel and the IHS Markit Securities Finance Toolkit Server  |
| Toolkit formula structure | =dxd(Identifier,Field Namespace,Date,Modifiers,Filters). Refer to the Data Dictionary for more details   |
| GUI                       | Graphical User Interface   |
| The Application           | Toolkit, Navigator or IHS Markit Toolkit Admin Tool depending on context   |
| User's Temp folder        | Temporary folder for the logged on user. This can be found by clicking Start then Run, typing %TEMP% and pressing Enter  |

### 7.2 URLs

| ltem          | URL   |
|---------------|---|
| Feed Items    | http://feeds.feedburner.com/MarkitSecuritiesFinanceRSS    |
| Help URL      | https://markit.secure.force.com/customers/LiveChatButton1 |
| Support Email | MSF-support@markit.com                                    |

# 8 Support

A dedicated team of IHS Markit support specialists are available to answer any queries you have regarding the IHS Markit Securities Finance Toolkit. The team can be contacted via live chat from the Live Help tab in the IHS Markit Toolkit Admin Tool and the Help tab in the Navigator, and via email and telephone:

Email: MSF-support@markit.com

Phone: Europe: +800 6275 4800

North America: +1 877 762 7548 APAC, Japan: +81 3 6262 1887

APAC, Singapore: +65 6922 4210

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