FACTSET WORKSTATION: APP-V SEQUENCING GUIDE
Introduction

FactSet endeavors to support as many of its clients’ environments as possible. A number of FactSet clients use, or have expressed an interest in using application virtualization technology. To better support our clients, FactSet now provides sequencing instructions detailed in this document.

This document assumes the reader has advanced knowledge of Microsoft Application Virtualization.

Microsoft Technical Reference

Microsoft App-V for Windows 10 prerequisites.
https://docs.microsoft.com/en-us/windows/application-management/app-v/appv-prerequisites

Support

If you have any questions on how to install, package or deploy FactSet, please contact Technology Solutions Engineering.

Email: techsolutions@factset.com

If you have questions or require assistance using the FactSet application, please contact the FactSet Support Desk.

Email: support@factset.com

For a list of regional and country specific contact phone numbers, please visit:

https://www.factset.com/support-numbers
Sequencing FactSet

This guide was created running the following operating system and application versions.

- Windows 10
- Office 2016
- .NET 4.8
- Assessment and Development Kit (ADK) for Windows 10, version 1903 (The App-V Sequencer is included by default within the Windows 10 ADK)

1. Login to the App-V sequencer machine as an administrator.

2. Copy the required FactSet MSI to a local location on the sequencer machine.

3. Ensure no applications are running on the machine and deactivate the Windows Firewall.

4. Stop the Windows Defender service (WinDefend) and Windows Search service (WSearch) if they are running.

5. Add the following registry entry to enable the Primary Virtual Application Directory which is disabled by default in App-V 5.0 SP3 and above. (See https://technet.microsoft.com/en-us/library/67b5268b-edc1-4027-98b0-b3937dd70a6b#BKMK_pvad_hidden for more information)

   HKLM\Software\Microsoft\AppV\Sequencer\Compatibility
   EnablePVADControl DWORD 1


![Application Virtualization Sequencer](image)
7. Click Tools – Options…

- In the Options screen select the Exclusion Items tab and click New.

9. In the Exclusion Item window add \{Common AppData\} in the Exclude Path box and ensure the Mapping Type is set to VFS. Click OK.

10. Ensure the Exclusion Items tab contains the new path and click OK to exit the Options Window.
11. Click Create a New Virtual Application Package.

12. Select Create Package (default) and click Next.

13. At the Prepare Computer screen ensure any issues which may corrupt the package or add extraneous data are fixed before clicking Next. The screenshot below contains some example issues.
14. At the Type of Application screen select Standard Application (default) and click Next.

15. Select the locally copied FactSet installer using the Browse button and click Next.
16. Enter a package name of your choice and specify the Primary Virtual Application Directory as shown below.

17. The FactSet Installer will now launch. Complete the FactSet installation using file locations appropriate to your environment, do not select ‘Launch FactSet’.

18. If FactSet Add-ins are required for Word, PowerPoint, Outlook and OneNote, these shortcuts must be created manually at this stage. The shortcuts should be named to identify them as FactSet Add-in shortcuts and added to the Desktop or Start Menu as required.
19. When the FactSet installation has completed, select ‘I am finished installing’ and click Next.

20. At the Configure Software screen click Next. Do not run either of the FactSet applications.
21. Wait for App-V to collect all the system changes. The Installation report may contain the following warnings. Click Next.
   - `DCOM subsystem detected` will be addressed in the Dynamic Configuration section later in this guide.
   - `Files excluded from package` can be ignored. The excluded files warning is specific to FactSet's User Data and OnlineComponents folders, both of which are created when launching FactSet for the first time.

22. Select Customize and click Next.

23. In the Prepare for Stream screen, do not launch any of the applications. Click Next.
24. As no applications have been run during sequencing, the package will be stream faulted prior to launching on the client. Click Yes on the Launch Applications pop-up.

25. Select the appropriate target Operating Systems and Click Next.

26. Select ‘Continue to modify package without saving using the package editor’ and click Next.
27. When the package is complete Click Close.

28. Go to the Package Files tab and delete the following files:
   • Package\Root\VFS\ProgramFilesX86\Adobe\<version>\Reader\plug_ins\FdsAdobeBridgePlugin.api.
     Please note this step will prevent IRN from being used within Adobe Reader. If IRN is required functionality
     please contact techsolutions@factset.com
   • Package\Root\Installer\<version number>\<version number>.msi

29. Go to the Advanced tab and select the following options.
   • Allow all named objects to interact with the local system.
   • Allow all COM objects to interact with the local system (Do not select if sequencing with App-V 5.0 SP3)
   • Allow virtual applications full write permissions to the virtual file system.

30. Select File – Save. Save the sequence to the App-V Management Server’s content store.

Office Integration

FactSet Office integration is available in Excel, Word, PowerPoint, Outlook and OneNote. The FactSet installation will
automatically create a shortcut for the FactSet Excel Add-ins, and Step 18 of the sequencing instructions recommends
creating FactSet labelled shortcuts for all other Office applications that require the FactSet add-in.

It is also possible use App-V’s RunVirtual functionality to ensure all Office applications start within the FactSet App-V
bubble. Please see the linked Microsoft document below for more information:
https://docs.microsoft.com/en-us/microsoft-desktop-optimization-pack/appv-v5/running-a-locally-installed-application-
inside-a-virtual-environment-with-virtualized-applications

For clients deploying FactSet in App-V with a local Office 365 installation it is necessary to run an App-V client containing
the fixes in the Microsoft DesktopOptimization Pack March 2018 Servicing Release.
Dynamic Configuration

Please note, the dynamic configuration instructions are only required when sequencing with App-V 5.0 SP3.

FactSet requires the use of App-V’s Dynamic Configuration to implement COM settings to prevent a number of known issues. Please complete the steps below and ensure this Dynamic Configuration is applied when publishing FactSet to users.

1. Navigate to the FactSet sequence in your content store.

2. Copy and rename `<package name>_DeploymentConfig.xml` to `<package name>_DeploymentConfig-COM Integrated OOP Enabled.xml`.

3. Open `<package name>_DeploymentConfig-COM Integrated OOP Enabled.xml` in notepad.

4. Find the COM section and replace the COM settings highlighted in the screenshot with the text below:

```xml
<COM Mode="Integrated">
    <IntegratedCOMAttributes OutOfProcessEnabled="true" InProcessEnabled="false" />
</COM>
```

5. Save the xml file.

6. Ensure `<package name>_DeploymentConfig-COM Integrated OOP Enabled.xml` is correctly applied to the FactSet sequence prior to publishing the application.
Acknowledgments

- This product includes software developed by the OpenSSL Project for use in the OpenSSL Toolkit (http://www.openssl.org).
- This product includes cryptographic software written by Eric Young (eay@cryptsoft.com).
- This product includes software written by Tim Hudson (tjh@cryptsoft.com).