## Installation Instructions for XBRLReportBuilder 2.4.0.8.2014 (previously named 2.4.0.10)

## *For reference with Windows Server 2008 / Windows 7 service installations*

## The following instructions serve as a reference for system administrators and rendering service support personnel as they install the most recent XBRLReportBuilder application onto a Windows Server 2008/Windows 7 platform. Please note that there are slight differences between a “fresh” installation of the XBRLReportBuilder and an incremental installation, primarily focusing on the preservation of the application configuration files (\*.exe.config) before the update occurs.

## Note that the ReportBuilder .exe and .dll’s are version 2.4.0.8, while the distribution archive is called 2.4.0.8.2014. The difference is that the distribution archive contains new taxonomy related files for 2014 in configuration file taxonomymanager.xml and in subfolder Taxonomy, relative to the earlier 2.4.0.8 distribution archive from 2013.

## Please update the local XBRLReportBuilder application by following the steps below:

1. **Verify the Latest Release**: Verify with the SEC “RiskFin/OID” technical point-of-contact that you have the latest build of the XBRLReportBuilder application (example file name: renderingengineconfigurablebinary-V2.4.0.8.2014.zip).
2. **Verify that Installation User has the Appropriate System Privileges:** The simplest method of installation is to use a local “admin” user account to install the XBRLReportBuilder application. However, with security considerations, it is wise to establish a user on the local Windows Server 2008 / Windows 2007 machine that is specific to the rendering application and has installation and service privileges similar to the “admin” user.
   1. Login as the installation user (e.g., “sshxbrl”).
   2. Before installation begins, please reset the User Account Control for this user to “Never”. To do this, invoke the Control Panel and click the User Accounts icon. Select the “Change User Account Control Settings” option and set the sliding bar to “Never”. You may have to reboot as a result of this action.
   3. The installation user account (e.g., “sshxbrl”) on the destination Windows Server 2008 machine must be configured to support READ, WRITE and CLEAR permissions in order to install the XBRLReportBuilder application correctly. The user account must have privileges to WRITE (append) to the log files, especially the Security Log File. Optionally, the user account is established within the "Event Log Readers" group with Local Administrator privileges. The points below serve as a guide for creating an appropriate user account:
      * Login to the Windows Server 2008 as administrator account
      * Create the XBRL installation/service-start user if it doesn’t already exist
        1. Click Start → Administrative Tools → Server Manager
        2. Expand 'Configuration' → Local Users and Groups → right click on 'Users' → New User
        3. Provide user details and password
      * Update group membership:
        1. Click Start → Control Panel → User Accounts → Manage User Accounts
        2. Select specific user → click properties → click 'Group Membership' tab → click 'Others' → select 'Administrators' → Ok
      * Reboot the server and login as new user.

*[NOTE: With Windows Server 2008, you may need to launch a command prompt window with the “Run as Administrator” option chosen (right-click Command Prompt) to allow the MS-DOS Command Prompt Window to have sufficient privileges to perform a “Write to Security Log File”. User account inclusion within the “Event Log Readers” group is optional and not necessary]*

1. **Determine Application Installation Location**: Determine the root folder location where the XBRLReportBuilder is to be installed. For installation instruction purposes, let the root folder be called {BIN}.
2. **Stop, Uninstall and Backup Any Previously Installed XBRLReportBuilder Version**: If you have a previous version of the XBRLReportBuilder application installed on your Windows machine, you will have three sub-folders within {BIN}, called /Dispatcher, /PreviewBuilder and /SECBuilder.
   1. Find the MS-DOS Command Prompt icon. Right-click the icon and open the MS-DOS Command Prompt window with the “Run as Administrator” option.
   2. Stop the previous version of XBRLReportBuilder by executing the following command: {BIN}\stopservices.bat
   3. Uninstall the previous version of XBRLReportBuilder by executing the following command: {BIN}\uninstallservices.bat
   4. Verify that the services 'ReportDispatcher', 'ReportBuilderSEC' and 'ReportBuilderPreview' have been removed from cache by inspecting the "Services" tab from within the Task Manager (Administrative Tools).
   5. If necessary, use the "sc" tool from the command line to force deletion of the services.
   6. In each of the three sub-folders within {BIN} (/Dispatcher, /PreviewBuilder and /SECBuilder), there is one \*.exe.config CONFIG file. Please copy these files to a safe location before installing the new software. You will replace the newly-installed \*.config files with these “legacy” files in step 6.a and edit them in steps 6.b - 6.d.
   7. In case the subsequent install of the updated XBRLReportBuilder is flawed and reversion is necessary, please backup/archive the {BIN} contents before installing the update.
3. **Install the New XBRLReportBuilder Application**: Unzip the [renderengineconfigurablebinary-V#\_Build#].zip file to the {BIN} root folder on the destination Windows server. Please refer to the how\_to\_extract.txt file, which emphasizes points a) & b) below:
   1. Note that when using Windows Server 2008 or later, the extracted files will all be "blocked" and will need to be individually unblocked, which is tedious.
   2. Alternatively, use a third party unzip utility to extract the files, and after unzipping, ensure that the local system user has "execute" privileges on all \*.dll and \*.exe files.
4. **[Incremental Install Only] Update the Existing \*.config Files**: In the folder {BIN}, you will see three sub-folders: /Dispatcher, /PreviewBuilder and /SECBuilder. There are two report builder engines: PreviewBuilder and SECBuilder. PreviewBuilder is for users who want to preview their filing before officially filing through EDGAR/SECBuilder. They have identical binaries, but are different in their \*.config files and in the content of the \*.rul files in the "Rule\_Files" sub-folder.

*[NOTE: Only perform the following steps if this is an incremental install, not a fresh install. If this is a fresh install (not an incremental install), skip to Step 7, where you will begin configuring both XBRLReportBuilder applications using Steps 7.a - 7.i & Steps 8.a – 8.i]*

* 1. Copy the backup \*.config files over the installed \*.config files in each of the three {BIN} sub-folders in order to preserve the original configuration.
  2. Verify first, then insert the following line in the {BIN}/Dispatcher/Aucent.FilingServices.Dispatcher.exe.config file before the </configuration> tag:

<startup><supportedRuntime version="v4.0" sku=".NETFramework,Version=v4.0"/></startup>

* 1. Verify first, then insert the following line in the {BIN}/PreviewBuilder/Aucent.XBRLReportBuilder.BuilderService.exe.config file immediately before the <runtime> tag:

<startup><supportedRuntime version="v4.0" sku=".NETFramework,Version=v4.0"/></startup>

* 1. Verify first, then insert the following line in the {BIN}/SECBuilder/Aucent.XBRLReportBuilder.BuilderService.exe.config file immediately before the <runtime> tag:

<startup><supportedRuntime version="v4.0" sku=".NETFramework,Version=v4.0"/></startup>

1. **[Fresh Install Only] Update the New SECBuilder \*.config Files**: Edit the file {BIN}\SECBuilder\Aucent.XBRLReportBuilder.BuilderService.exe.config using any editor.
   1. Modify the machine name on the "DispatcherUri" "add key" value. It should read:

<add key="DispatcherUri" value="tcp://{HOST}:9501/ReportDispatcherServer" />

where {HOST} is typically 'localhost'. *[NOTE: {HOST} can be the hostname, as is done at the SEC (for example: sp-ad-devrivet.ad.sec.gov)]*

* 1. Modify the "FilingsFolder" "add key" value with the folder of where filings that need to be processed will be placed. This path must exist on your system. We will call the root of these folders {QUEUE}, as for example QUEUE might be c:\ReportBuilder:

<add key="FilingsFolder" value="{QUEUE}\SECBuilder\Filings" /> *[NOTE: The “FilingsFolder” at the SEC was changed to (E:ReportBuilder\LiveFiling\Filings)]*

* 1. Modify the "ProcessingFolder" "add key" value with the folder of where the reports that need to be processed will be saved. This path must exist on your system. It should read:

<!-- The root folder where the service will save the reports that it generates from a filing. -->   
<add key="ProcessingFolder" value="{QUEUE}\SECBuilder\Processing"/> *[NOTE: The “ProcessingFolder” at the SEC was changed to (E:ReportBuilder\LiveFiling\Processing)]*

* 1. Modify the "ReportsFolder" "add key" value with the folder of where the processed reports will be saved:

<add key="ReportsFolder" value="{QUEUE}\SECBuilder\Reports"/> *[NOTE: The “ReportsFolder” at the SEC was changed to (E:ReportBuilder\LiveFiling\Reports)]*

* 1. Modify the "ProcessingFrequency" "add key" value with number of seconds the service will wait between checks of the filing folder:

<add key="ProcessingFrequency" value="60"/> *[NOTE: The SEC has set this value at “5” for Production Platforms]*

* 1. Review the "MaxBuilderThreads" “add key” value. The default value is “3” but it should correspond to the number of Cores available on your server. *[NOTE: The SEC has set this value to "7"]*
  2. Review the "DeleteProcessedFilings" "add key" value. This controls whether filings get deleted from the processing folder. If set to "true", filings get deleted from the processing folder after output is sent to the reports folder.

*[NOTE: There are other temporary files generated in the local system user folder %TEMP%, of the form tmp????.tmp.html, that should be deleted from time to time]*

* 1. Review the "FinancialRuleFile" "add key" value. These keys allow financial and risk return filings to be controlled by different sets of rules. The default value for financial is "ReportBuilder".

*[NOTE: Earlier versions of the engine had keys "RiskReturnRuleFile" and "RiskReturnURI" which are now obsolete, and can be deleted from the configuration file if they appear]*

* 1. Review the "ReportFormat" "add key" value. The rendering engine produces intermediate XML format files before these are transformed to their final form in HTML. Normally, there is no reason to save these intermediate files, so that the usual value is:

<add key="ReportFormat" value="Html"/>

*[NOTE: If you configure the rendering service to produce only "Xml" output, then copy the content of folder {BIN}\SECBuilder\Resources to the corresponding folder on any web server used to convert the output XML files of the rendering engine ("R-Files") into HTML. The content of the "Resources" folders are XSL and CSS style sheets and a Javascript file; these files are identical for the viewer and previewer]*

* 1. Save the file with your changes.

1. **[Fresh Install Only] Update the New PreviewBuilder \*.config Files**: Edit the config file {BIN}\PreviewBuilder\Aucent.XBRLReportBuilder.BuilderService.exe.config using any editor.

*[NOTE: The PreviewBuilder’s queues must be in a different location than the SECBuilder’s queues, such as {QUEUE}\PreviewBuilder\Filings, {QUEUE}\PreviewBuilder\Reports, etc.]*

* 1. Modify the machine name on the "DispatcherUri" "add key" value. It should read:

<add key="DispatcherUri" value="tcp://{HOST}:9501/ReportDispatcherServer" />

where {HOST} is typically 'localhost'. *[NOTE: {HOST} can be the hostname, as is done at the SEC (for example: sp-ad-devrivet.ad.sec.gov)]*

* 1. Modify the "FilingsFolder" "add key" value with the folder of where filings that need to be processed will be placed. This path must exist on your system. We will call the root of these folders {QUEUE}, as for example QUEUE might be c:\ReportBuilder:

<add key="FilingsFolder" value="{QUEUE}\PreviewBuilder\Filings" /> *[NOTE: The “FilingsFolder” at the SEC was changed to (E:ReportBuilder\Previewer\Filings)]*

* 1. Modify the "ProcessingFolder" "add key" value with the folder of where the reports that need to be processed will be saved. This path must exist on your system. It should read:

<!-- The root folder where the service will save the reports that it generates from a filing. -->   
<add key="ProcessingFolder" value="{QUEUE}\PreviewBuilder\Processing"/> *[NOTE: The “ProcessingFolder” at the SEC was changed to (E:ReportBuilder\Previewer\Processing)]*

* 1. Modify the "ReportsFolder" "add key" value with the folder of where the processed reports will be saved:

<add key="ReportsFolder" value="{QUEUE}\PreviewBuilder\Reports"/> *[NOTE: The “ReportsFolder” at the SEC was changed to (E:ReportBuilder\Previewer\Reports)]*

* 1. Modify the "ProcessingFrequency" "add key" value with number of seconds the service will wait between checks of the filing folder:

<add key="ProcessingFrequency" value="60"/> *[NOTE: The SEC has set this value at “5” for Production Platforms]*

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  2. Review the "DeleteProcessedFilings" "add key" value. This controls whether filings get deleted from the processing folder. If set to "true", filings get deleted from the processing folder after output is sent to the reports folder.

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*[NOTE: If you configure the rendering service to produce only "Xml" output, then copy the content of folder {BIN}\PreviewBuilder\Resources to the corresponding folder on any web server used to convert the output XML files of the rendering engine ("R-Files") into HTML. The content of the "Resources" folders are XSL and CSS style sheets and a Javascript file; these files are identical for the viewer and previewer]*

* 1. Save the file with your changes.

1. **Verify .NET Framework 4.0 Installation**: Ensure that Microsoft.NET Framework v4 is installed on your machine by trying this command: C:\Windows\Microsoft.NET\Framework\V4.0.30319\Installutil /?
2. **Install the XBRLReportBuilder Service into Cache**: *[WARNING: Make sure the services window is NOT open when executing this step]* Run {BIN}\InstallServices.bat to execute the install process.
   1. If this fails, most likely it is due to one or more of the \*.dll or \*.exe files have not been "unblocked".
   2. Please ensure that you have the appropriate privileges as described in Step 2 then return to Step 5, where you first unzipped the files.
3. **Start the XBRLReportBuilder Service in Cache**: Run {BIN}\StartServices.bat to start the dispatcher and report builder services.
   1. If this fails, examine the Event Viewer log under 'Application' 'ReportBuilder'. There are entries in the log each time the Dispatcher is started or stopped, each time a reportbuilder starts or stops, and each time a report builder processes a file. Diagnostic messages appear in the log as well.
   2. A common failure reported in the log is that the \*.config file for the service contains a file/folder path for “FilingsFolder”, “ProcessingFolder” and “ReportsFolder” that does not exist or is not accessible by the XBRLReportBuilder. Check the {BIN}\PreviewBuilder\Aucent.XBRLReportBuilder.BuilderService.exe.config and {BIN}\SECBuilder\Aucent.XBRLReportBuilder.BuilderService.exe.config files again and verify the folder paths exist.
   3. Other reasons for failure include: the {HOST} might not exist or be unreachable, the ports chosen may be blocked or otherwise used, or the service is already installed and running. On Windows 2008 Server / Windows 7, the system will ask whether you want to allow the application access through the firewall; say yes, but then restart the service.
4. **Verify Services Are Operational**: Open the services monitor screen (within the Task Manager) to verify services are running.
5. **Test the Operation of the XBRLReportBuilder**: To test operation of the engine, copy one or more XBRL filings (\*.zip files) into either folder {QUEUE}\PreviewBuilder\Filings or {QUEUE}\SECBuilder\Filings.
6. **Verify Successful Operation of the XBRLReportBuilder**: Once a report builder sees the reports in its filings directory, it will move them to its “ProcessingFolder.” Once they are processed, the resulting files will be located in the “ReportsFolder”.
7. **Stopping the XBRLReportBuilder Services**: If the XBRLReportBuilder services need to be stopped for any reason, use {BIN}\StopServices.bat.