ProjectWise and Revit Advanced Integration

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What makes Revit / ProjectWise Integration Desirable?

• Real Security
  Federation of credentials with Organization’s AD or SSO
• Document Control
  Models, Links, Standards and Published content
• Global Work-sharing
  Revit files accessible by Geographically dispersed teams
• Accountability
  Audit Trail logs of Revit project content interactions.
• Content Anywhere
  Revit WIP “Best of Breed” support – Store Central Model anywhere and Collaborate, Publish and Manage Deliverables in ProjectWise
Revit Integration - Classic

Supports Revit 2014, 2015, 2016, 2017 with PWDI update 2.0+

• Revit integration Module
  – Revit supported content in PWDI
    • Revit Stand alone models .RVT
    • Revit Central Models .RVT .DAT
    • Families .RFA
    • Templates .RFE
  – Element borrowing
    • Worksets borrowing
    • Selection Set borrowing
    • Dynamic element borrowing (Not recommended in WAN)
    • Borrowing Request support
  – Links supported for RVT, CAD and Raster
    • Revit Resolve Links tool for imported content
  – Decal support
  – Background Images stored in PWDI
  – Publishing
    • Rendering
    • .DWG
  – i-Model Publishing
Revit **Advanced** integration

- Supports Revit 2016, 2017 with PWDI update 2.0+
- All existing features of Revit integration Module **PLUS**
- Publishing
- Coordination
- Revit Links
- Deliverables
- Standards
- Revit WIP (Work In Progress) **Anywhere**
Revit **Advanced** Integration Cont’d

- Publishing Content standards via:
  - E-transmit
  - Detach from Central
  - PDF (Adobe and BlueBeam PDF Driver support)
  - DWG
  - Reports
  - renderings
  - Revit Families
  - i-models

- Published content controls
  - Versioning at time of Publishing
  - Workflows (BS1192 Compliance)

- Revit standards
  - Publishing Families W/ Properties
  - Families Source from multiple PWDI DS

- Backups
- Links
  - Content stored in ProjectWise
  - Links cached to LAN/WAN
  - Link dependency Mapping (BS1192 Compliance)
Revit Attribute Mapping
Revit Attribute Mapping

- Naming can be concatenated
- Project and Sheet mapping
Revit Advanced Integration

- Revit Project Standards File:
  - Working file location
    - ProjectWise repository
    - LAN / WAN Drives
    - Revit server
    - A360 C4R
    - Panzura
  - Drawing property integration
    - ProjectWise Project Properties to Revit Model Property mappings
    - Revit properties to ProjectWise Property Mapping on publish
    - Revit Family properties to ProjectWise Property Mapping on publish
    - Parametrization of file Naming on Publish from Revit properties to PW Names
PW Advanced Integration – New Options

- Central Model can be stored on a LAN
  - Publish to ProjectWise
    - Content
    - Backups / Milestones
    - Metadata from the central model
  - Access / retrieve from ProjectWise
    - Reference content
    - Standard content
    - Imagery
  - Securely manage RFA content
    - Apply approval workflow
  - Supports versioning and workflow
PW Advanced Integration– New Options

Support for Multiple LANs

LAN
- Montreal Network File Server
  - Central Files
- New York Network File Server
  - Central Files
- Madrid Network File Server
  - Central Files
PW Advanced Integration – New Options

Support for Global Workshare
ProjectWise Revit Advanced Integration Features

• Distributed Work Sharing
  – Share and access all aspects of a project
  – Support diverse and robust ecosystems

• Publish, Manage and Access Project Content
  – Link to reference content created via applications whose format is supported by Revit
  – Map Revit metadata to ProjectWise metadata
  – Collaborate by sharing the latest Revit data with dispersed teams and other application users (IE: Autocad, Civil 3D, MicroStation, etc.)
  – E-transmit Revit deliverables into ProjectWise automatically creating sets for delivery
  – Manage and control access to project standards and company standards
  – Version and Access control
  – Securely maintain your content as a competitive advantage
  – Know who changed what (Audit trail)

• Leverage Workflows
  – Can support BS1192 workflows or organizationally defined workflows
  – Reduce/Eliminate:
    • Design conflicts between CAD and Revit users
    • Email\DVD\FTP file transfers
    • Accidentally using “stale” data
    • Missing deadlines for deliverables due to communication problems
    • Support for Issues Resolution

• Mobility
  – Creating an i-Model (free plug-in) allows the Revit Team to quickly share the Revit file and all data

• Leverage Delta File Transfer (DFT)
  – ProjectWise specific technologies that help with latency issues on WAN projects
Interactive Discussion

Q & A?
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ProjectWise Revit Integration - Classic
**ProjectWise Explorer Revit File Integration**

**Step 1**
- Copy Central File DAT files & Links
- R: Drive = ProjectWise WorkDir
- Link PWIS.

**Step 2**
- Revit.
- RVT.
- PWE.
- Servers Central File.
- Local Central File.
- Link PWIS.

**Step 3**
- Actionable Events:
  - File Open
  - Synchronize
  - Take Ownership of a Workset
  - Borrow one or more Object
  - Modify a Borrowed Object with Dependencies
  - Add information with dependencies
  - Release ownership of objects or worksets

**Performing Actionable event**
- ProjectWise DFT
- R: Drive = PW WorkDir
Central File Organization with ProjectWise

R Drive

Central & DAT Files

Linked Files

Files

Links

Central & DAT Files

Linked Files

Revit Application

Central File

ProjectWise

RVT Files

DAT Files and General files

Central Models, DAT Files and General files

RVT Files

DAT Files

Workstation

Central File in User File Location

Central File Organization with ProjectWise
Central file Coordination for Worksharing

Actionable Event Occurs

ProjectWise Server Exton, PA

Gateway and Temp Cache Server Seattle, WA

Object Borrowing Request

Object Borrowing Request

Files are locked
Request Refused
Revit – Creating a Central file

• Move the Revit Central file to ProjectWise
• Resave the Central file
• Resolve Links to ProjectWise
  – Manage Links in Revit
  – New dialog on Open in ProjectWise V8i SS4
Revit – Integration Improvements

• You can now export a rendered image to ProjectWise
• An option to disable ProjectWise Integration (temporarily) with Revit without having to uninstall the feature
• Manage RFA-type catalogs as sets
• Ensure type catalog set is not broken by move or rename
• Scan Ref discovers and builds RFA-type catalog sets
• You can now use an image stored in ProjectWise when creating a decal type
• You can now use an image stored in ProjectWise as the background image when rendering the open project in Revit
Revit – Integration Improvements

• The .dat files are no longer locked when a user has the Worksets dialog open.
• Revit files remain unlocked during the file open process.
• Enhanced Notification messages now include the user name that has locked the file.
• Support for ProjectWise-managed Revit, AutoCAD, DGN, and image files linked to Revit 2013 models.
• New Resolve Links dialog - This dialog opens automatically when you open a Revit file from ProjectWise Explorer that either contains broken links, or links that are pointing to local documents. Use the controls in the dialog to fix any or all of the links as needed.
Revit – Best Practices Worksharing

• Rule of thumb you should have 1-2 worksets per user on the project.

• Do not treat worksets as if they are layers in a CAD program. A workset is a collection of building elements like doors, walls, floors, etc.

• The Size of the project should dictate how you divide up the workload in the Revit Central file.

• Worksets should be planned out in advanced to optimize the size of the Project and number of team members. Look at the project as a whole rather than isolating individual components.

• When dividing up worksets consider the building elements and the number of people working on each of those elements.
Revit – Best Practices Worksharing

• Determine Team Member Roles. Revit Team Members will usually work on a specific discipline or a specific role within that discipline.

• The Project should be subdivided into Worksets that are based on the discipline or role within that discipline.

• Control Workset Visibility. Once Worksharing has been enabled, you will be able to control when a Workset is visible in a view.

• Turn off visibility of a Workset in a view if they are not necessary to improve performance.
Revit – Performance considerations

• In general, when working on a Central file it is suggested that when you have 6-8 people working on the same Central file, performance will begin to slow down.

• If the Central file is large enough to warrant more than 6-8 people concurrently in one Central file then you should consider breaking up the Central file into multiple Central files.

• You should consider breaking up a large Central file into multiple files if the Central file is greater than 200 MB in size. This is based on a 64-bit version of Revit; with the 32-bit version of Revit they suggest 160 MB in size for each Central file.
Revit – Performance considerations

- The 200 MB suggested file size is directly related to the amount of RAM on the 64-bit workstation. The amount of local workstation RAM required for a Revit file is approximately 20 times the size of your compacted Revit file. So the more RAM your workstation has the larger your Revit file can be, before you need to break the file up into multiple files.

- When using Groups use them sparingly. The more Groups a Revit file has the slower the file becomes. If you are using Groups make sure you avoid having different parts of an object in multiple Worksets.

- It is a good practice to have all the objects in a Group within one Workset.
Managing Revit Standards