Autodesk University Round Table Summary

SESSION TITLE	The Real Impact of the Autodesk Yearly Release Cycle on Long Term BIM and IPD Projects
SESSION ID	BO1572-R & BO3999-R
SPEAKER	Brett Gatti
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MAIN DISCUSSION POINTS

- Identify reasons for and against migrating any specific project to the most current Revit version.
- Weigh the pros and cons as to whether or not to load and use the most current version of Revit on in-progress projects.
- Pinpoint common pitfalls that you might encounter as you upgrade/migrate your projects.
- Assemble lessons learned on upgrading projects based upon real-world feedback from others.

KEY TAKE-AWAYS

- Most organizations wait until Service Pack 1 is released before upgrading loading the software for the use of their project teams.
- Then entire project team (all Revit Disciplines) must be on board in regard to upgrading any specific project.
- Added functionality/Bug Fixes typically drive the upgrade decision.
- Documenting and publishing the appropriate upgrade steps is important.

SUGGESTED FOLLOW-UP

- Please see the session Q & A recap on the following pages:

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The information below is based upon the round table discussions "***The Real Impact of the Autodesk Yearly Release Cycle on Long Term BIM and IPD Projects***" (Session ID's **BO1572-R** & **BO3999-R**). I took the liberty of combining the notes from both sessions so that all participants, in either session, can have the benefit of a similar conversation from another group.

I have attempted to capture the main discussion points by utilizing the recording that I made during these sessions and the notes that were taken by our volunteer "scribes". Special thanks to Andria Lynch from Hinson Miller Kickirillo Architects for being the session "scribe" for the 8:00 session and to Melanie Mangione from Architects Alaska for being the session "scribe" for the 10:00 session. In addition, thanks go out to Darren Scheller from Frankfurt Short Bruza for also sharing his notes from the 8:00 session.

Don't hesitate to contact me if you'd like to add something to this document or for any other reason.

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Round Table Recap – Discussion Topics with commentary

Topic: **WHEN**
Determining whether or not to rollout the most current version of Revit to the users

1. Does your firm automatically move to the latest version each year when it is released? Why?
    a. Most firms stated that they wait until at least Service Pack 1/Web Update 1.
        i. It was stated that the current Beta cycle is too short and that is part of the reason some firms wait until the first Service Pack.
        ii. Early adopters of the newest version can be considered "Advanced Beta Testers" due to the short Beta cycles.
    b. Many organizations try to complete projects in the version in which they are started.
        i. That being said, the Contract/BIM Execution Plan (BEP) is "master" as to when/if a project is to be moved forward to the latest release.
    c. Long-term (ex: Hospital) and Campus type projects seem to be the best candidates for automatic upgrade to the newest release.
        i. A team discussion must occur to come to a consensus as to whether or not a specific project can/should be moved forward
    d. Sometimes, upgrades can happen as surprise. One or more project team members will upgrade their model without consulting other team members.
        i. At times this can force the entire project team to move forward to match.
        ii. Another school of thought is that "Company A" moved forward in violation of the Contract/BEP and without consulting other team members, so they must update their older version model with the changes that have occurred in the upgraded model – at their cost.
        iii. Rules and possible repercussions for this type of action must be discussed during the Project Kick-Off Meeting and must be part of the Contract/BEP.
    e. Recent releases of Revit have benefited the Engineering disciplines (MEP) more than Architecture. Due to this, quite often the Engineers have the strongest voice as to whether a specific project gets moved to the newest version. This is due to added functionality.

i. Typically the Engineering Disciplines (MEP / Stru) follow the Architects as to whether or not they move forward.

f. Some organizations mentioned that they "try" to move any project that is "pre-CD" to the newest version.

g. Most firms choose a specific pilot project and a handpicked project team (Revit expert/power user level) to be the first to work with the newest Revit version. This project team typically documents any issues that are encountered.
   i. Some companies create a test project that they use to vet the latest version.
   ii. Typically a current/active project is chosen for testing.
      1. This project is upgraded in the "sandbox/test" area (the original project is untouched).
      2. The tester(s) try to duplicate "real" project work in order to capture any problems/difficulties with the upgraded project.
      3. Once the testing is complete, the results are used to help determine which (if any) projects will be migrated to the new version.

Note: the general consensus was that, regardless of any other factors (completion of existing projects in their original version) once the newest version has been vetted and deployed to the users, all subsequent projects are started in the newest available version.

2. Has your organization ever skipped a release of Revit? If so, why?
   a. One organization mentioned that they typically roll out "every other release" of Revit to help accommodate their long term projects. That way they do not have to worry about potential issues during the upgrade process.
   b. Cost.
      i. During the depths of the recession, at least one organization skipped Revit 2010 because they did not feel that their project fees could absorb the cost of the learning curve for the newly introduced "Ribbon Interface".
      ii. There were differing comments as to whether the costs of the learning curve for a new version gets billed to the project itself or if it is an "overhead" process. Both methods are currently in use.
   c. Complexity of models and changing hardware requirements were also mentioned as to reasons that companies might skip specific Revit versions.

3. Do you remove older versions of Revit from the users' computers once the newest version is loaded?
   a. Most firms have multiple installed releases of Revit available for their users. This allows the completion of projects in an "older" version or Revit.
   b. Some organizations only load the relevant versions for their project team members. I.e., if you are working on a 2013 project – you only have 2013 loaded.
   c. Some firms have tried to have only the most current version available for their users but this has proven to be difficult due to the number of ongoing projects and the quick Revit version turnaround.

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4. Does the cost of subscription come into play when "selling" the users and/or the organization on moving forward to the newest version?
    a. If users/project teams balk at moving to the next version, it can be pointed out to them that the organization has a yearly commitment/cost involved with the Revit software and that management expects to see the most current version in service.

Topic: **WHY**
Identifying reasons for/against migrating specific projects to the most current version

1. What drives the decision to move forward with a specific Revit version?
    a. New Features
    b. Faster Platforms
    c. Bug fixes (problems that are fixed from the prior version).
        i. In recent years, there are typically only two Service Packs/Web Updates per release cycle, so the newest released version will quite often include fixes from earlier versions.
    d. Company financial investment in Autodesk Subscription

2. What criteria to you use to determine when/if to move specific projects forward to the newest version of Revit?
    a. Contractual Obligations/Client Requirements
        i. Some contracts specifically state that the project will be completed using the most currently available version of Revit ("latest and greatest"). Other contracts mention a specific Revit version (i.e. 2013 or 2014).
    b. Quite often team members (especially MEP in recent releases) need to move to the newest version to take advantage of new/improved functionality.
        i. New and/or improved functionality is available and can help in the completion of a Revit project for any/all disciplines.
    c. Updating with each new release helps users keep up-to-date with new/refined functionality. If a version(s) is skipped, they may have trouble "catching up" later.
    d. The project in question is very long term. Therefore, it will span multiple new releases and it only makes sense to keep moving it forward.

3. Pros of upgrading your projects
    a. Able to take advantage of new/improved functionality (recent releases, especially MEP).
    b. Any software glitches/problems that were not corrected in the previous release (due to the "orphaning" of that release 6 months after its release) should have been taken care of in this release.
    c. Project files are always "version current" in case scope changes or a newer addition/renovation is added to the in process project.
    d. Can put you in line with your AutoCAD backgrounds.
        i. Newer version AutoCAD data can be somewhat incompatible with older Revit versions - leading to data/proxy errors and "lost" AutoCAD links.

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4. Cons/Pitfalls of upgrading your projects
    a. The yearly cost in bringing project teams up to speed with the new version. The new release learning curve (ex: Revit 2009 to Revit 2010 i.e. the introduction of the Ribbon Interface).
    b. The yearly cost (overhead or billed to a specific project) of testing the new version prior to deploying it to the masses.
    c. Not all projects can absorb the cost involved in bringing the project team up to speed with a significantly changed release.
    d. Problems when upgrading specific projects.
        i. Sometimes Revit will delete and/or relocate elements.
        ii. Some larger projects cannot be upgraded by the end users and have to be sent to Autodesk for migration.
        iii. Reviewing all Revit Warnings and making corrections was noted as a method to perform prior to attempting upgrades. This can significantly improve the chances of a successful upgrade.
        iv. Newer Revit versions (2013-2014) seem to handle the upgrade process more effectively than older versions leading to fewer errors/problems.
    e. There is no backwards compatibility in Revit.
        i. All project team members using Revit have to commit to upgrade at the same time. If one team member is unable to upgrade their project, the entire project team will have to "stay behind".
        ii. Beware of "accidental upgrades".
    f. Customization programs (via the API) will need to be reworked with each new release.
    g. Templates should be updated each release.
        i. Some participants stated that they start from scratch with their template file(s) for each Revit release. It is a time consuming process but they noted that it helps to eliminate some potential "pesky" issues related to old data being present.
        ii. Others noted that they upgrade their template file(s) simply by opening them in each new release. They only do a "from scratch" rebuild if they experience issues with the upgraded file.

Topic: **PROBLEMS**
Pinpoint common pitfalls that you might encounter as you upgrade your projects

1. Accidental upgrades are always a possibility.
    a. Revit version name being present in the project file name can help to avoid this.
    b. A Local Copy Program can also help avoid this problem. AUGI Discussion Thread / Google Sites Download
    c. Encourage users to NOT double click on any Revit files from within Windows Explorer.

2. What problems have you run into when attempting to upgrade Revit projects?
    a. All project team members might not be on the same version of Revit (including Service Packs/Web Updates). Revit version must be discussed during the project kickoff meeting and should be entered into the Contract and/or BEP.
        i. Some organizations may not be on Subscription.

   ii. Some companies only upgrade when they feel that the added functionality of the software justifies the associated costs or when "forced" to - based upon a specific project or the rest of the project team.
- b. MEP and Structural models seem to result in more upgrade complications.
- c. Some firms have run into circumstances where they have had to help consultants through their upgrade process.
- d. Errors that occur can keep a model from upgrading or can make it so that an upgraded project file is not usable.
   i. A project file that has been upgraded from 2008 to 2012 in which Worksharing cannot be established. Whenever Worksharing is enabled, the file crashes.
   ii. A couple of people in the session mentioned that they have had curtain wall systems in their Revit projects that would not upgrade properly.
   iii. Ambiguous error messages about deleted/removed/relocated elements.
- e. Project size and complexity can inhibit a "clean" upgrade.
   i. Some larger project files cannot be upgraded by the end users. These files must be sent to Autodesk for upgrading.
   ii. Waiting for Autodesk to successfully upgrade a project file can be impractical when working on a "fast track" project. I have seen this process take well over a week to complete.
   iii. Can lead to problems if you have more than one active project for a specific client (i.e. same Campus) and one or more projects cannot be upgraded.
- f. Miscellaneous items "disappearing" from the Revit model with no errors or warning messages.
- g. Having multiple versions of Revit and AutoCAD loaded for users can lead to artificial license shortages. Each user can consume multiple licenses at any given time.

3. When moving more than one version forward (ex: 2009 to 2014) do you "jump" directly to the newest version or do you "step through" the intermediate releases? Do you see more or less errors with each method?
   a. Most participants said that they simply move from whichever version the project exists in now to the newest version (jump).
   b. Incremental upgrades (stepping through) worked better than the "jump method" in earlier releases of Revit. Recent versions have handled this step more effectively.
   c. Some firms said that if they run into a large number of errors that they will attempt to upgrade one version at a time in an effort to minimize or eliminate problems with the upgraded model.
   d. Civil 3D users in the discussion stated that in their software, attempting to "jump" versions always results in problems/issue. This shows that the yearly release cycle affects more than just Revit users and Revit projects.

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Topic: **STEP-by-STEP**
Documenting the proper steps for bring a project forward to the newest version.

The steps documented below were discussed as one valid process for upgrading Revit models:

1. Communicate the intent to upgrade with the rest of the project team.
    a. You must receive buy-in on the upgrade from all Revit team members.
    b. Some organizations have a single person upgrade all of their Revit projects, others have specific team members (BIM Captains, Model Managers, etc…) perform the upgrades on a project by project basis.
2. Archive a copy of the project (just in case you need to roll back and for reference purposes)
3. Open each of the files in its original Revit version
    a. Check the box for Audit
    b. Do not load the Revit Links Workset(s). Use Specify as the Open "option".
        i. Note: This step assumes that each Revit link is on a separate Workset or that all Revit links are on the same Workset that does not contain any other items. If this is not the case, **Unload** (*not Remove*) all Revit Links after opening the Revit file in its original version. Performing this step will help speed up the upgrade process.
    c. Review and correct any Warnings prior to the upgrade
    d. Save each of the files
4. Open each of the files in the latest version of Revit
    a. Check the box for Audit
    b. Do not load the Revit Links Workset(s). Use Specify as the Open "option".
        iii. Note: This step assumes that each Revit link is on a separate Workset or that all Revit links are on the same Workset that does not contain any other items. If this is not the case, **Unload** (*not Remove*) all Revit Links after opening the Revit file in its original version. Performing this step will help speed up the upgrade process.
    c. Review and correct any Warnings *after* the upgrade
    d. Visually inspect your model to ensure that it is intact (especially if you receive messages about deleted or "unhosted" items)
    e. Save each of the files
5. After all related/linked models have been upgraded, reopen each of the Revit models again – this time load all the Workset(s) that contain the Revit links and/or Reload the Unloaded links.
6. Once the Revit links are reloaded in the file, visually inspect your model (once again) to ensure that it is intact (especially if you receive messages about deleted or "unhosted" items).
7. Save your project

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Topic: **HISTORY**
Put together a "Lessons Learned" list on upgraded projects based upon real world experiences, including feedback from others in this discussion – in other words, what NOT to do/what to watch out for…

1. Do's:
    a. Keep track of common error messages and actions taken/resolution.
    b. Always make a backup copy of your project file prior to upgrading.
    c. Communicate with the rest of the project team (especially those not within your organization) as to when/if the project will be upgraded. No surprises.
    d. Perform your due diligence on the newest version of Revit prior to upgrading any project files. Remember, you cannot save back to a prior version in Revit.
    e. Review and correct any/all Warnings in the Revit model prior to upgrading it.

2. Don'ts:
    a. Do not attempt to upgrade your Revit project file when it is loading other Revit links. This will dramatically increase the time it takes to open/migrate your file (it has to temporarily upgrade each Revit link) and you will still have to upgrade the other Revit files individually.
    b. Don't upgrade your model without speaking to the rest of the project team to make sure that everyone is on the same page.
    c. Don't assume that everyone who needs access to your Revit model is running the most current version. Don't be the team member who surprises the rest or the team by moving forward to the next version without any type of notification. **Communicate**.

3. Common error messages and how to resolve them.
    a. Elements have been deleted
        i. Use your Revit journal file to determine which Element ID's have been deleted. You should be able to open a "local" version of your file in its original Revit version to track down which element(s) have been deleted.
    b. Can't keep elements joined.
        i. You have no choice except to choose Unjoin Elements or Delete Checked.
        ii. Choose Unjoin and note the revealed Element ID's.
        iii. Investigate why/where these items have been "unjoined".
    c. There is a circular chain of references among the highlighted elements.
        i. Your only options are to Cancel (this will stop the opening of the file) or to select one or more of the elements and choose Delete Selected.
        ii. Pick one or more of the listed elements.
        iii. Choose Delete Selected and note the revealed Element ID's.
        iv. Investigate where these items are located so that they can be replaced (if necessary).
        Note: With this specific error message, you may have to open the original version of the file (in the older version of Revit) to identify the "bad" elements so that you can delete them there prior to attempting the upgrade.