Code Blue, Dr. Revit! - How to Resuscitate Corrupt Revit Models

Nauman Mysorewala
Architect, LEED AP, Associate, BIM Manager
GBBN Architects

Matt Wunch
BIM / Technology Manager
AI Engineers, Inc.
About Nauman “BIMologist” Mysorewala

- BIM Manager, GBBN Architects (OH / KY / PA / BEIJING)
- B. Arch from Univ. of Cincinnati DAAP, Registered Architect
- Autodesk Certified Professional
  - Revit Architecture
  - AutoCAD
  - AutoCAD Architecture
- Member Steering Committee Cincinnati BIM Users Group.
- Presenter and Moderator for Autodesk’s Webinar series
  - Build your Revit IQ webinar series
  - Build your AutoCAD IQ webinar series
- Adj. Faculty University of Cincinnati Construction Management program
- Approved Provider on the Autodesk Services Marketplace

https://twitter.com/bimologist
https://www.linkedin.com/in/mysorewalanauman
About Matt Wunch

- BIM / Technology Manager, AI Engineers, Inc. (CT / MA / NY / RI / VA)
  - ENR Top 25 Design Firms in New England
- Revit Certified Professional
  - Structure
  - Architecture
  - MEP: Mechanical
  - MEP: Electrical
- Member of the Planning Committee of the Construction Institute’s BIM Council
- Navisworks Certification
- Autodesk Building Performance Analysis Certification
- Licensed Remote Pilot in Command (sUAS, I.E. drones)
- Author of 3 AUGIWorld articles
  - February ‘17 – InfraWorks 360 – A Brief Overview for Beginners
  - March ‘17 – InfraWorks 360 – Tips for Increasing Efficiency
  - August ‘17 – Autodesk AEC Collection – Collaboration (and More) in 5 Simple Steps

Autodesk Market Place
http://servicesmarketplace.autodesk.com

Approved Provider
on the Autodesk Services Marketplace
BIMologist

servicesmarketplace.autodesk.com/provider/public/bimologist
About our Experience

- Directly
  - Piloted Expert Users Autodesk Support Program
  - Support provided by Experts in field “directly” to Autodesk Support Customers
  - Answering Revit, AutoCAD, and other products support questions
  - High CSAT Score, Low response and resolution times
  - Autodesk Community Forums

Help with Autodesk Revit: "Model Corrupt, unable to repair"

Don asked: "Case Sub Origin : Form: Technical Product Support

A model that was hosted on a Revit server became corrupt and we can open the model, but once we start working in it, it throws the corrupt message. I can't do a repair central since its Revit server. I tried recovering the model back but its not working. Was hoping you could take a look and let me know if its a specific element or if you are able to repair the model."

Help Don
Learning Objectives

- Learn how to triage a corrupt Revit model
- Learn how to parse the journal and slog files for diagnosis
- Learn how to resuscitate a corrupt Revit model
- Learn best practices to minimize file corruption
Code Blue!

Revit File Corrupted
Data in file (filename).rvt is corrupt and needs to be manually recovered.

Revit - Cannot Open Model
The model is missing many elements, and it cannot be opened.

Autodesk Revit has stopped working
A problem caused the program to stop working correctly. Windows will close the program and notify you if a replacement is available.

How can the problem be resolved?
A serious error has occurred. It is strongly recommended that you use Save to save your work in a new file before continuing.

Would you like to save a recovery file?
Signs of trauma

- Inability to sync or crash when syncing
- Inability to save or crash when saving
- Crash on editing an object
- Fails or crashes when opening a view
- Crash when purging
- Crash when auditing
- Cannot open the model. PERIOD!
Don’t Panic

- Triage the model and check for vital signs: Figure out what the problem is or what could be causing the ailment
- Resuscitate the model: The actions you can take to fix the problem
- Be proactive: Diet and exercise can go a long way to prevent future ailments
Why the model gets corrupted

- Read Write error to the storage media
- Hard drive out of space
- Connection interrupted while syncing
- Program crash during a write event and other operations where the model is in the process of being modified
- Bugs in the application
- Add-in modifying Revit database incorrectly
- AKN has a great article on this topic titled: What causes data corruption? [http://autode.sk/2zqNQaQ](http://autode.sk/2zqNQaQ)
Steps

- Assess the basics
- Audit
- Purge
- Read Journals and identify cause
  
  ....... and if all else fails...
- Contact Autodesk Support
Assess the basics
Model Vitals

- Can you open the model?
- Can you open the model with ‘audit’ toggled on?
- Can you open the model closing or opening all worksets using the specify option?
- Can you open the Local model from a user and create a new central?
- Can you open the model isolating it from network?
- Can you rename the model and open it?
Assess the basics
System Vitals

- Do I have the most recent updates for Revit installed?
- Do I have the latest video card driver installed?
- Were there any recent Windows updates?
- Do I have enough free space on my computer?
- Is the issue isolated to a user / model / computer?

- Check for updates
- .NET 4.7 & Windows Creator roll back .NET
- Clear %TMP% and Revit journal folder locations. Run Disk Cleanup
- Can I open another model?
- Can someone log onto my PC?
Check the Revit Build version installed

- Build Version can be found under Help>About, in Journal file, or SLOG file
- Verify Build Version / Build Number at http://autode.sk/2fZS8Nt

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How to tie the Build number with the Revit update

- [http://autode.sk/2fZS8Nt](http://autode.sk/2fZS8Nt)

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Submit the Customer Error Reports

- Autodesk proactively monitors
- Assists when submitting Support
  - Specify your CER number with the case
- Add your email address
- Checks if your application has the current update and provides a download link.
- Notifies of a future update if the issue has been fixed
Resuscitate Revit - Demo

- Turn off Hardware Acceleration
- Reset Revit application settings
- Repair Revit Installation
- Launching Revit without Add-ins
Resuscitate Revit - Demo

Navigate to the following directory and delete the Revit.INI file to reset it
C:\Users\<username>\AppData\Roaming\Autodesk\Revit\Autodesk Revit 2018

Rename the UIState.dat file located in the following folder to UIState.old:
C:\Users\<username>\AppData\Roaming\Autodesk\Revit\Autodesk Revit 2018\ENU

Navigate to and rename the following directories:
OLD NAME: C:\Users\<username>\AppData\Local\Autodesk\Revit\Autodesk Revit 2018
NEW NAME: C:\Users\<username>\AppData\Local\Autodesk\Revit\Autodesk Revit 2018_backup

OLD NAME: C:\Users\<username>\AppData\Roaming\Autodesk\Revit\Autodesk Revit 2018
NEW NAME: C:\Users\<username>\AppData\Roaming\Autodesk\Revit\Autodesk Revit 2018_backup

Open the registry editor (Start > Type REGEDIT hit enter)
Rename the following registry key:
OLD NAME: HKEY_CURRENT_USER\SOFTWARE\Autodesk\Revit\<Product Name>*\Workspace
NEW NAME: HKEY_CURRENT_USER\SOFTWARE\Autodesk\Revit\<Product Name>*\Workspace_backup
Corrupt Families

1. Open the model detached and Save
2. Save all families. When Revit finds one that's corrupt, it will crash.
3. Make note of the family that crashed Revit (the last family will be visible on the status bar in the lower-left corner)
4. Close / Reopen Revit
5. Open the central model from step 1.
6. Delete the corrupt family from step 3.
7. Save the model
8. Repeat steps 2-7
9. Repeat until Revit doesn't crash while saving the families.
10. Get clean copies of the original families and reload them into the model.
Identifying Corrupt Families
BIMologist's & BIMAvenger’s Toolchest

- Analyse Plugin
- Batch Files
  - SLOG Check User-Build-Session.bat
  - SLOG Check User-Build.bat
  - ParseRevitJournalSLOGSTCCheck.bat
  - ParseRevitJournal.bat
BIMologist's & BIMAvenger’s Toolchest

- Revit Plugins
- pyRevit
- Family Size Reporter
- Project Sweeper
Understanding Journal Files

- DEMO TIME
Understanding SLOG Files

- DEMO TIME
Other Diagnostic Tools

- Dynamo
Diagnosis and Surgery
Resuscitating Corrupt Revit Models

- Identify corrupt families
- pyRevit Demo
- Family Size Reporter
- Video
If all else fails

- Create a Support case with Autodesk.
- Do Prep work. Autodesk Support will always ask for
  - Last 3-5 Journal files for the user
  - Corrupt Revit project file
  - Revit central file_backup folder. This contains the SLOG file as well.
  - Revit Local files from the user(s).
  - You may also need the local file_backup folder
  - All Revit/IFC Linked files.
  - Any critical linked CAD DWG files
  - MSINFO file.
Diet and Exercise
Computer Maintenance

- Apply the latest updates to ALL team members simultaneously
- Monitor available disk space
  - Empty %TMP% and Journal folders regularly
  - Run Disk Cleanup
- Update graphics card driver
Diet and Exercise
Model Maintenance

- Increase the number of backups
  - Snapshots of central files are better
- Audit and purge linked files periodically. Preferably at least once a week
- Selective purge
- Compact when saving (Twice)
- Create new locals
  - “A local file a day, keeps support away.” – Harlan Brumm, 2009
- Review warnings and keep them to a minimum
Diet and Exercise
Prevention

- Vet the families from other sources, manufacturers, consultants
- Periodically check your model for corrupt families
- CAD files
  - Avoid importing
  - Avoid importing CAD and explode CAD in project or families. Always use an interim file to convert CAD linework into Revit files.
  - Linked CAD files should be cleaned up (especially Civil 3D files), purged, audited, and PROXYGRAPHICS set to 1
- Unload/remove any unnecessary CAD files
Preventative Care – Be Proactive

- Monitor your Vitals – Weekly checkup
- Proactively monitor Journals and SLOG files
- Some larger companies are investing in scripts and routines to proactively monitor user Journals and identify issues, crashes, etc.
- If your company does not use a managed software system, review SLOG files to ensure all team members are on the same Revit build.
- Examples of proactively monitoring model vitals
  - The Great Dynamo Dig: Mine Your Revit Model with Computation
  - Dynamo and the Zen of Data Flow was presented at AU 2016.
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Please Fill out the Surveys!

- Business Card for Book Giveaway
  - Special thanks SDC Publications and Dan Stine
QUESTIONS?