

BIM 360 DESIGN: WHAT MEP CONTRACTORS NEED TO KNOW

MATT DILLON

**CORE SERVICES
DIRECTOR**

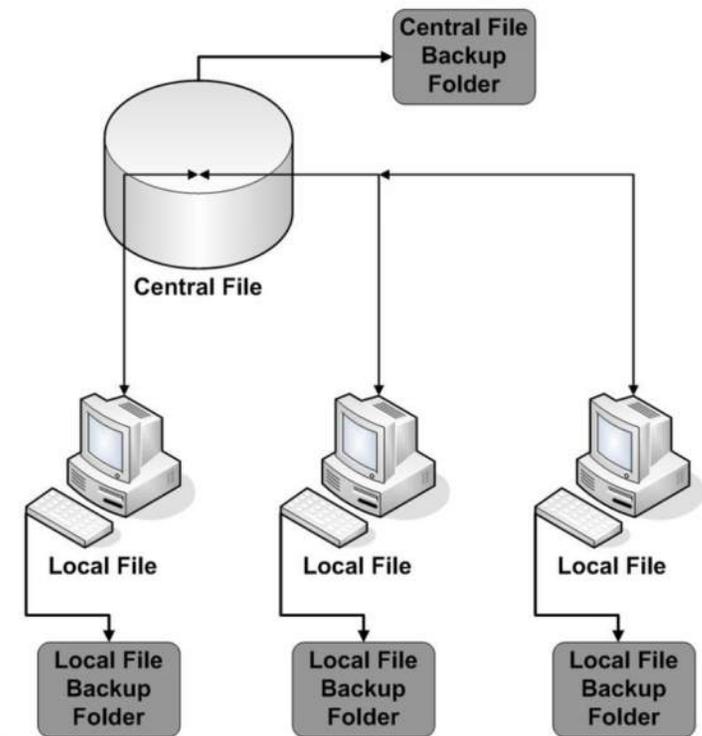
**APPLIED
SOFTWARE**

AGENDA

- Revit Worksharing Overview
- BIM 360 Design vs. BIM 360 Team/C4R
- BIM 360 Design Account/Project Setup
- Revit Cloud Collaboration
- BIM 360 Design Collaboration Workflow

REVIT PROJECT WORKSHARING

- Allows multiple users to work on a project simultaneously
- Project “Central File” resides on a file server
- Project “Local Files” reside on users’ workstations
- Work is “synchronized” between the Central File and Local Files (“Synchronize with Central”)



BIM 360 TEAM/C4R VS. BIM 360 DESIGN

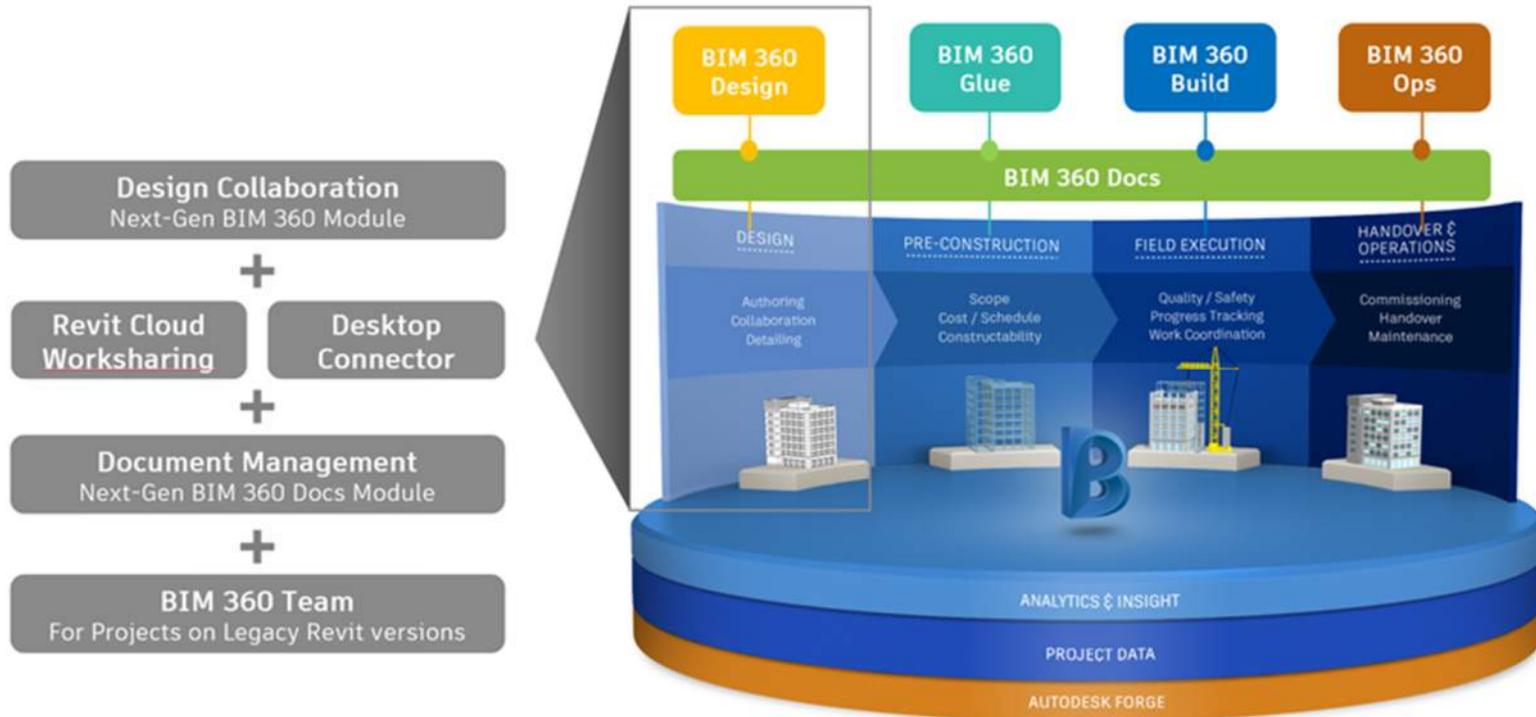
BIM 360 Team

- “High Trust” Environment
- Minimal notifications
- Stand alone – no connection to BIM 360 Docs
- Sharing of data is automatic

BIM 360 Design

- Configurable Permissions
- “Issues” with email notifications
- Includes BIM 360 Docs
- Data sharing and consumption is controlled through the Design Collaboration Workflow

BIM 360 DESIGN



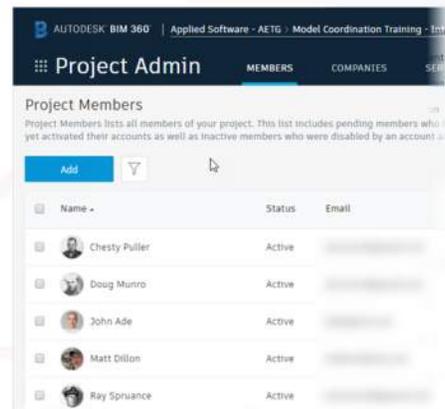
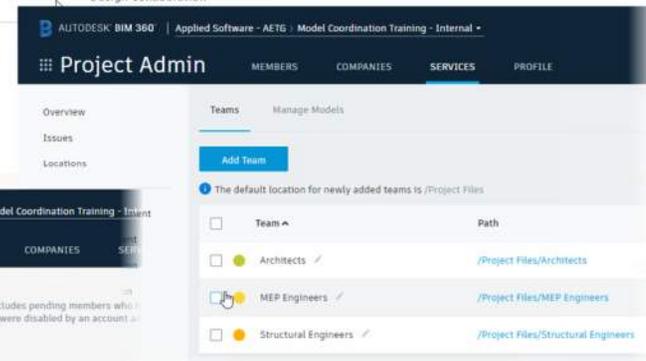
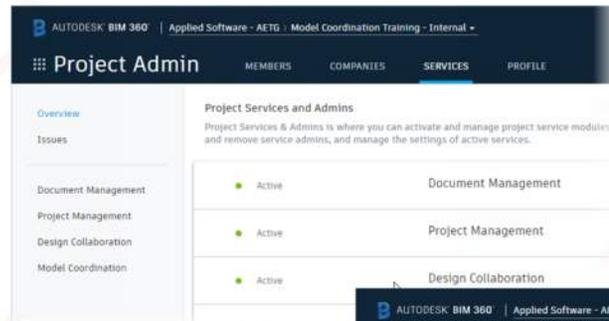
BIM 360 DESIGN - ACCOUNT ADMINISTRATION

- Add Administrators
- Add Companies
- Add Members

The image displays three overlapping screenshots of the Autodesk BIM 360 Account Admin interface. The top-left screenshot shows the 'Account Admin' page with the 'MEMBERS' tab selected. The 'Member Directory' section is visible, and the 'Add' button is highlighted with a red box. A dropdown menu is open, showing options: 'Add people to the member directory', 'Invite Account Admins' (highlighted with a red box), 'Invite Executives', 'Import members by spreadsheet', 'Invite Project Admins', and 'Add members to a project'. The top-right screenshot shows the 'Account Admin' page with the 'COMPANIES' tab selected. The 'Company Directory' section is visible, and the 'Add' button is highlighted with a red box. The bottom-right screenshot shows the 'Account Admin' page with the 'MEMBERS' tab selected. The 'Member Directory' section is visible, and the 'Add' button is highlighted with a red box. A dropdown menu is open, showing options: 'Add people to the member directory' (highlighted with a red box), 'Invite Account Admins', 'Invite Executives', 'Import members by spreadsheet' (highlighted with a red box), 'Invite Project Admins', and 'Add members to a project'.

BIM 360 DESIGN - PROJECT SETUP

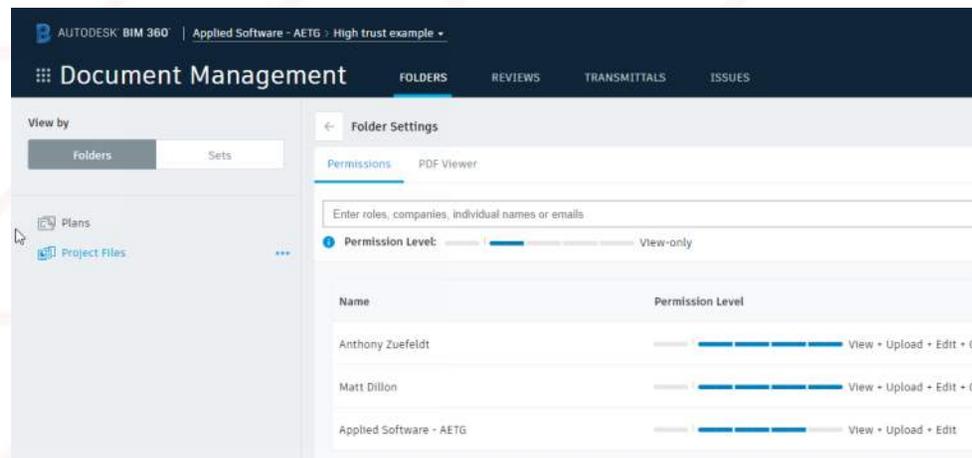
- Activate Services
- Add Members
- Add Teams (if in a “Low Trust” scenario)



ASTI.com

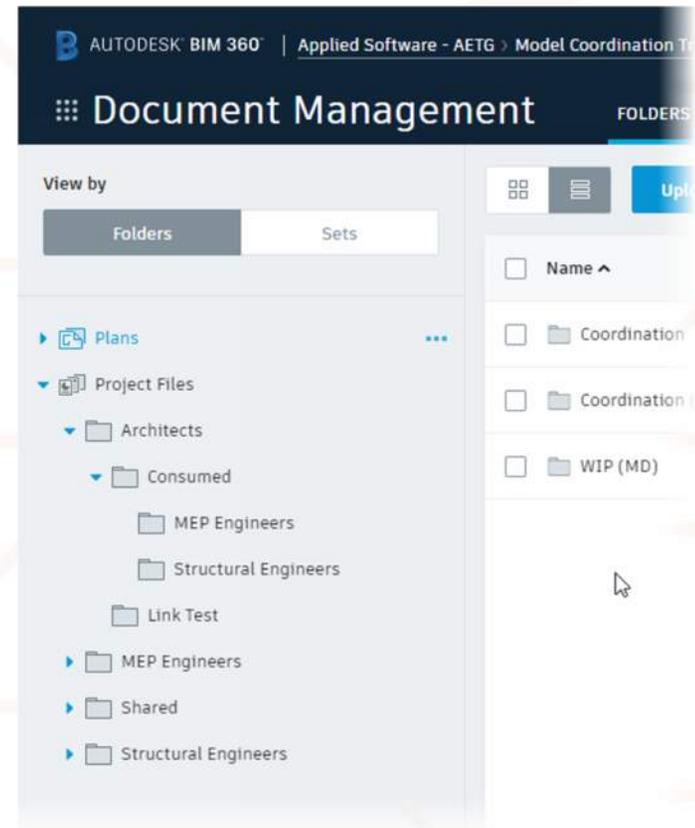
BIM 360 DESIGN - “HIGH TRUST” ENVIRONMENT SETUP

- Establish appropriate level of permissions for “Projects” folder
 - “Edit” recommended
 - Permissions will “trickle down” to subfolders by default
- Be careful of the “Plans” folder
 - Not for use with “live” Revit models and supporting files.
 - Intended for published reviews
 - Consider limiting permissions

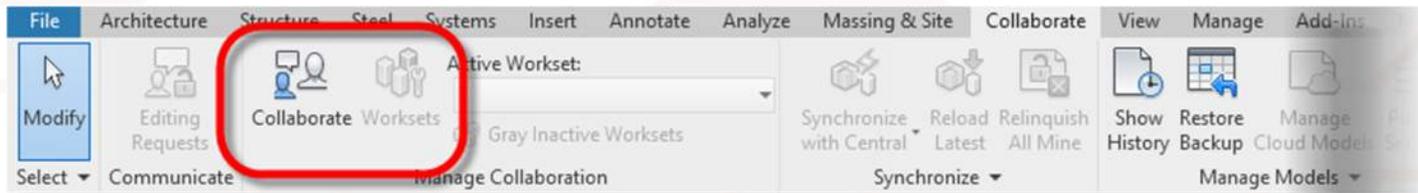


BIM 360 DESIGN - “LOW TRUST” ENVIRONMENT SETUP

- Design Collaboration Service
 - Create Teams
 - Streamline membership/permissions by using Companies and Roles
 - Suggestion: Let BIM 360 Design automate main folder creation and assignment of permissions for Teams
- Use the Design Collaboration Workflow to share and consume data



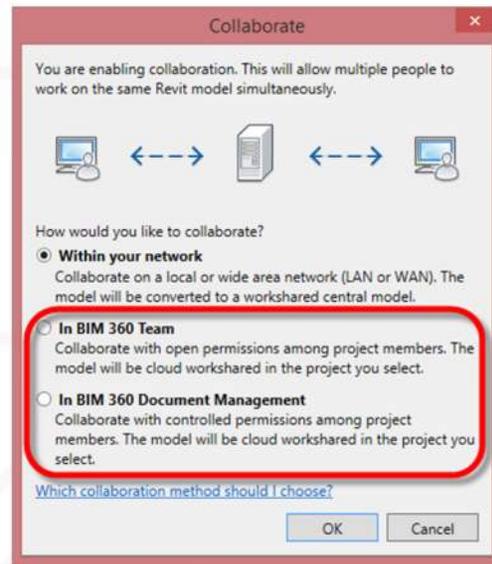
REVIT CLOUD COLLABORATION



Revit 2018.2 and Prior



Revit 2018.3



Revit 2019



CLOUD COLLABORATION - PUBLISH

The screenshot displays the Autodesk BIM 360 Document Management interface. The top navigation bar includes 'AUTODESK BIM 360' and 'ASTI - AETG Design Collaboration Only - VA Outpatient Surgical Center'. The main area is titled 'Document Management' and features a 'FOLDERS' tab with an 'Upload' button. A table lists files, with 'VA_SOC_Arch.rvt' highlighted and its version 'V2' circled in red. To the right, a 'VA_SOC_Arch.rvt V2' window shows a 'Sheets & Views' panel with '2D' and '3D' tabs, and a 3D isometric view of a building model. The 3D view includes a 'Top' view cube and a 'FRONT RIGHT' orientation indicator. A toolbar at the bottom of the 3D view contains various navigation and manipulation icons.

- Initial upload from Revit is “V2”
- Version does NOT increment with synchronizations
- Active Revit model is “hidden” from view in BIM 360 Design
- No views published other than default 3D view

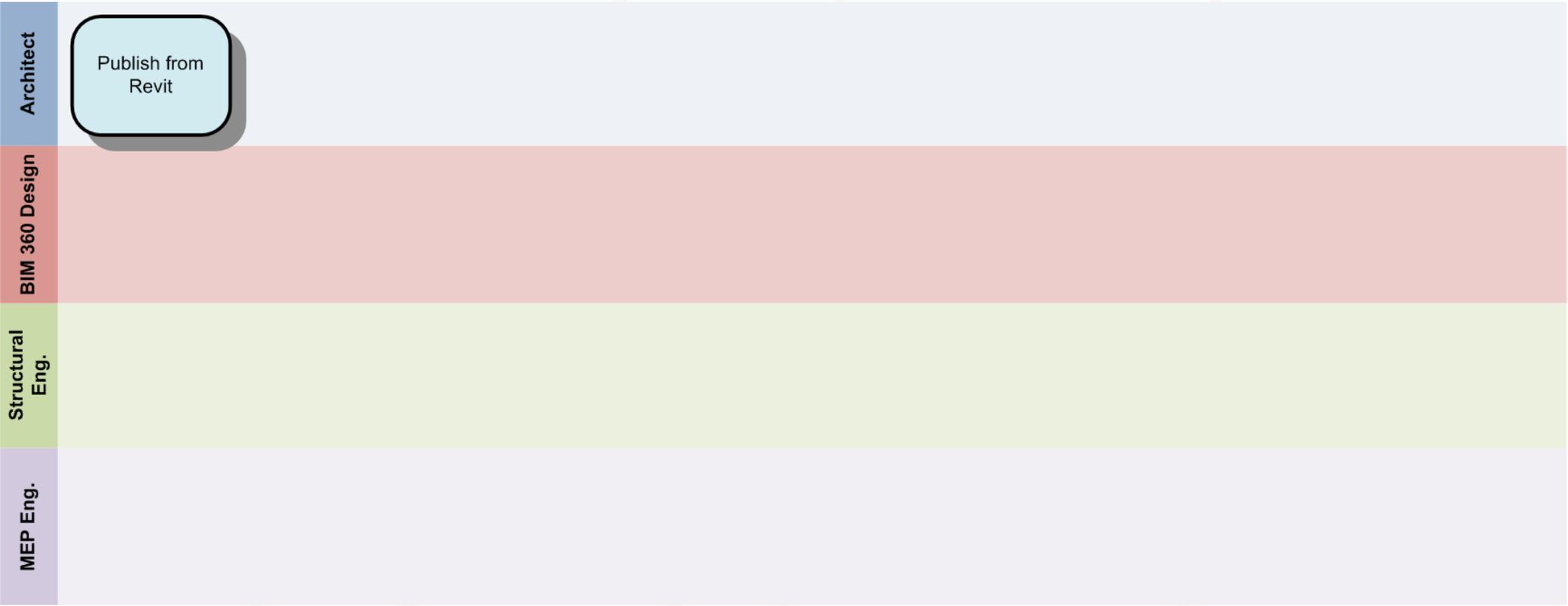
CLOUD COLLABORATION - PUBLISH

The screenshot displays the Autodesk BIM 360 Document Management interface. The top navigation bar includes 'AUTODESK BIM 360', 'ASTI - AETG Design Collaboration Only', and 'VA Outpatient Surgical Center'. The main area is titled 'Document Management' and features a 'FOLDERS' tab. A table lists documents with columns for Name, Description, Version, Last updated, Updated by, Markup, and Issues. The file 'VA_SOC_Arch.rvt' is highlighted, with its version 'V3' circled in red. To the right, a window titled 'VA_SOC_Arch.rvt V3' shows a Revit model viewer with a 'Sheets & Views' panel on the left listing 'A101 - GROUND FLOOR', 'A102 - SECOND FLOOR', 'A301 - ELEVATIONS', and 'A302 - ELEVATIONS'. The main view shows a detailed architectural floor plan of the second floor.

Name	Description	Version	Last updated	Updated by	Markup	Issues
Consumed	--	--	Jul 18, 2018 8:44 AM	Matt Dillon	--	--
VA_SOC_Arch.rvt	VA_SOC_Arch.rvt	V3				

- User-specified sheets and views published, available for viewing and marking up in browser
- Previous versions are still available for viewing and comparing
- Previous versions can serve as backups

DESIGN COLLABORATION - SHARING DATA



Publish from Revit

Architect

BIM 360 Design

Structural Eng.

MEP Eng.

DESIGN COLLABORATION – SHARING DATA

• Publish from Revit

- Define View Sets
- Synchronize with Central
- Publish

The screenshot shows the Revit software interface. The ribbon includes the following tabs: File, Architecture, Structure, Steel, Systems, Insert, Annotate, Analyze, Massing & Site, Collaborate, View Management, and Modify. The 'Publish Settings' and 'Manage Cloud Models' buttons are highlighted with a red box. Red arrows point from this box to the 'Manage Cloud Models' window and the 'Publish Settings' dialog box.

Manage Cloud Models

Projects > Sonterra Place

Sonterra Place

Only cloud models in this project are listed below. To access all files within this project, go to [Sonterra Place](#).

Current Project (3)

Model Name *	Updated By *	Last Updated Time †
Sonterra Place - Arch.rvt	mdillon@astl.com	2018-05-08 01:40PM
Sonterra Place - Plans Test.rvt	mdillon@astl.com	2018-05-06 06:07PM
Sonterra Place - Struct.rvt	mdillon@astl.com	2018-05-05 11:32AM

Publish Settings

Select Sets

Include: Name

- Set 1

Edit Set

Show in list: All views and sheets in the Set

Search:

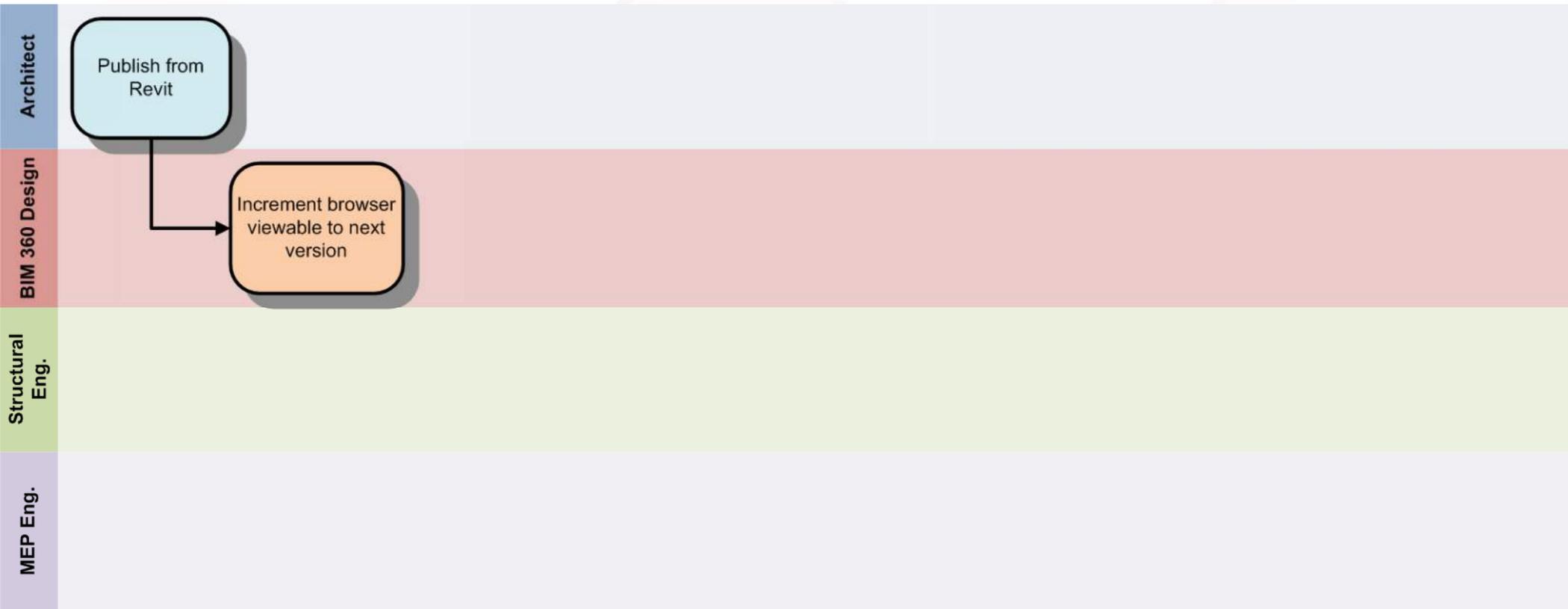
Select All Select None

Include Type	Name
<input checked="" type="checkbox"/>	Floor Plan: Level 1 Overall
<input checked="" type="checkbox"/>	3D View: _3D_
<input checked="" type="checkbox"/>	Sheet: A101 - Unnamed
<input checked="" type="checkbox"/>	Sheet: A102 - Unnamed
<input checked="" type="checkbox"/>	Drafting View: Structural C

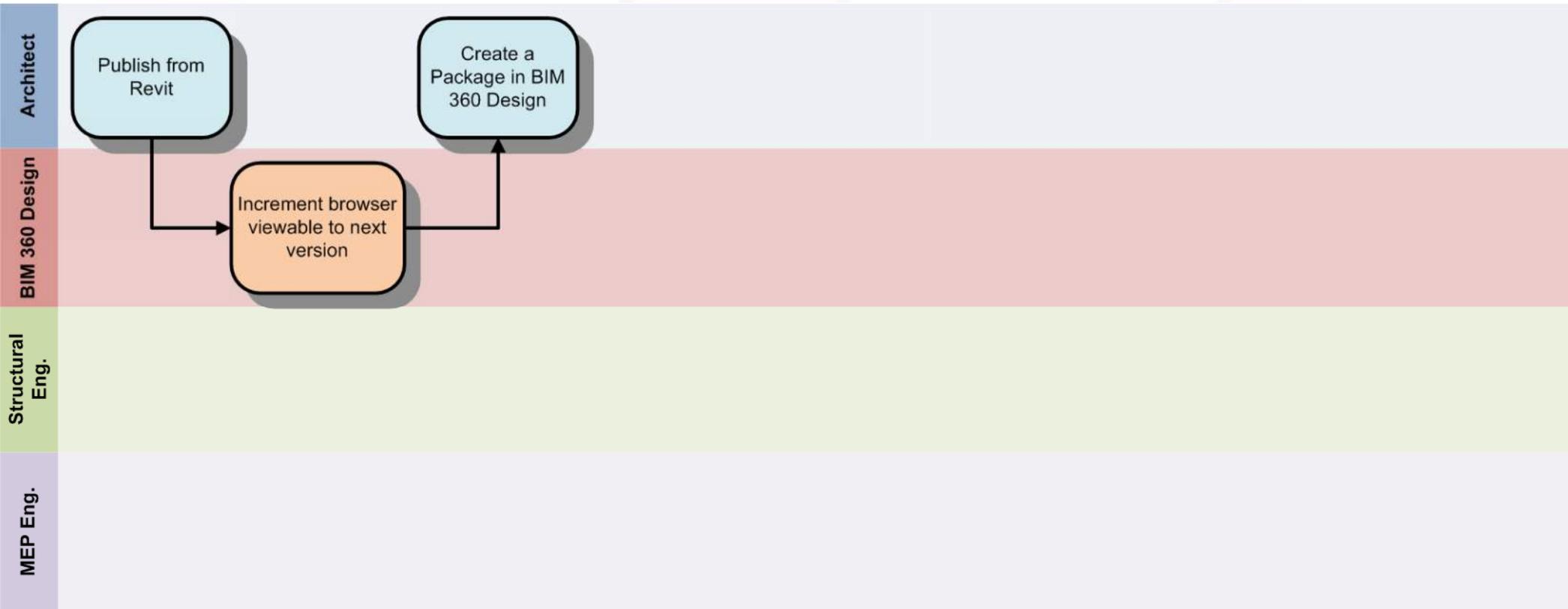
[How to select views/sheets to publish to the cloud](#)

<< Preview Save & Close Cancel

DESIGN COLLABORATION - SHARING DATA



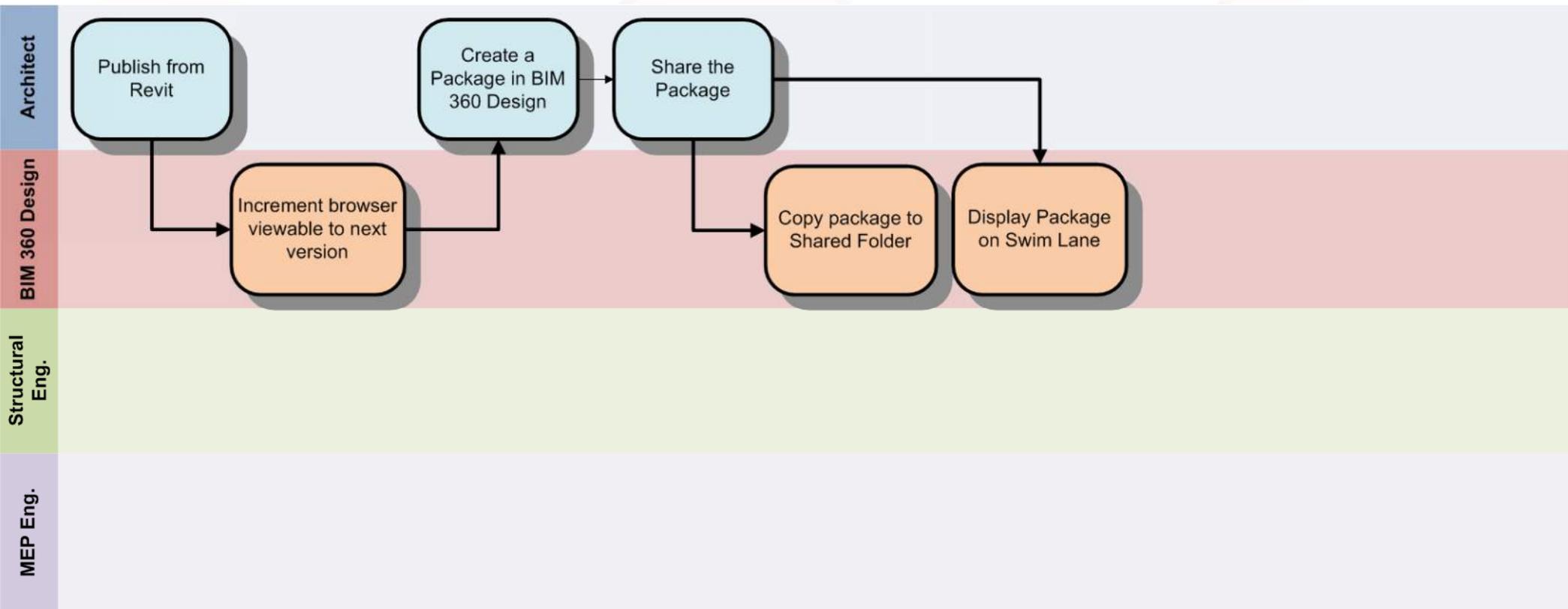
DESIGN COLLABORATION – SHARING DATA



DESIGN COLLABORATION - PACKAGES

The screenshot displays the Autodesk BIM 360 Design Collaboration interface. At the top, the breadcrumb navigation shows 'AUTODESK BIM 360 | ASTI - AETG Design Collaboration Only > VA Outpatient Surgical Center'. The main header is 'Design Collaboration'. Below this, there are tabs for 'Shared' and 'Architects'. A package for 'Architects' is highlighted, showing a loading spinner and the text 'a few seconds'. The package details include 'Architects, Doug Munro' and 'Updated on 07/18/2018'. It lists '1 Sets', '14 Sheets', and '5 3D views'. There are buttons for 'Delete', 'Show changes', and 'Share'. On the left, a 'Contents Browser' is open, showing a search bar and a list of sets under 'Set 1 (19)'. The list includes: '{3D}', 'A002 - SITE PLAN', 'A101 - GROUND FLOOR', 'A102 - SECOND FLOOR', and 'A201 - RCP- GROUND FLOOR'. The main view area shows a 3D model of a building on a green site. At the bottom, there is a toolbar with various navigation and editing tools.

DESIGN COLLABORATION - SHARING DATA

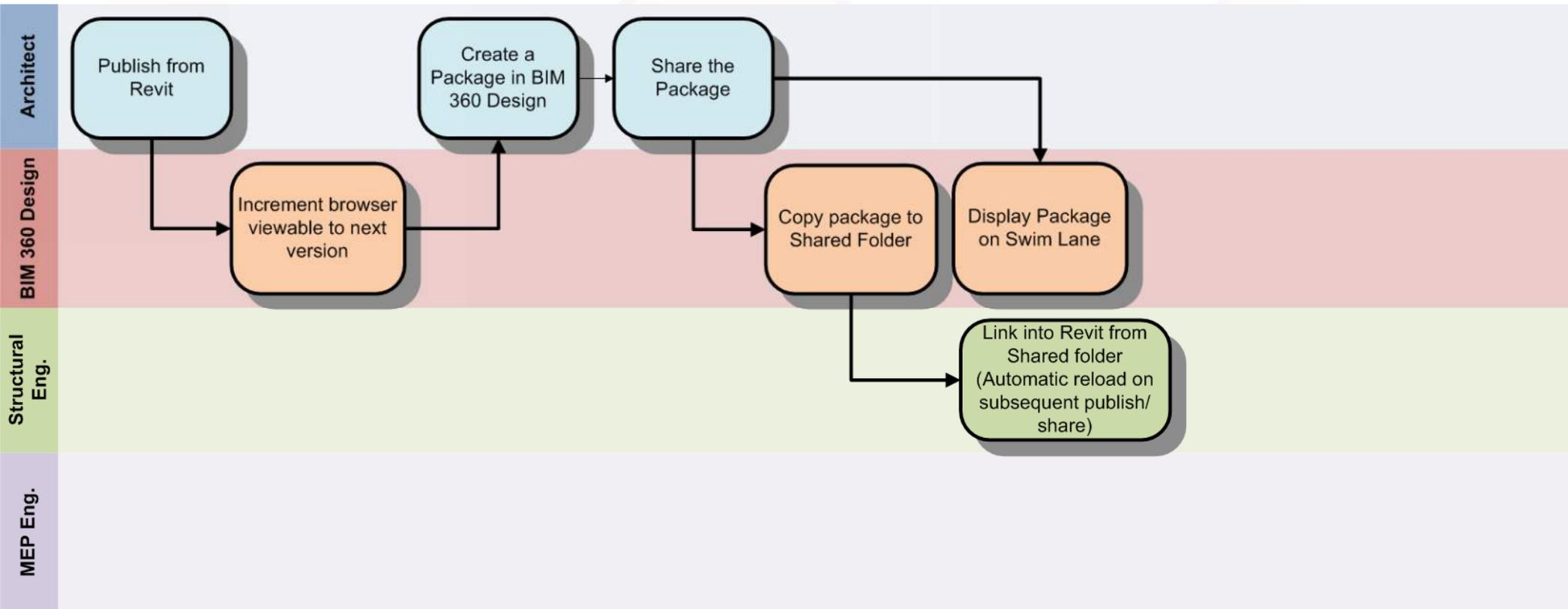


DESIGN COLLABORATION – SHARING PACKAGES

The screenshot shows the Autodesk BIM 360 Document Management interface. The breadcrumb path is "ASTI - AETG Design Collaboration Only > VA Outpatient Surgical Center". The main heading is "Document Management" with tabs for "FOLDERS" and "ISSUES". On the left sidebar, the "Shared" folder is expanded, and the "Architects" sub-folder is highlighted with a red circle. The main content area displays a table of files:

<input type="checkbox"/>	Name	Description	Version	Last updated	Updated by	Markup	Issue
<input type="checkbox"/>	VA_SOC_Arch.rvt	VA_SOC_Arch.rvt	V1	Jul 18, 2018 9:54 AM	Doug Munro		

DESIGN COLLABORATION - CONSUMING DATA



DESIGN COLLABORATION - "SHARED" FOLDER

AUTODESK BIM 360 | ASTI - AETG Design Collaboration Only > VA Outpatient Surgical Center

Design Collaboration

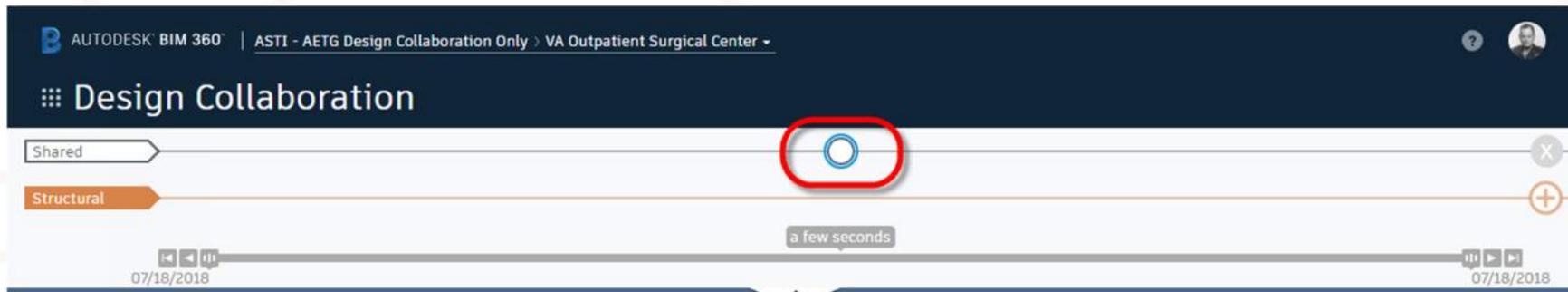
Shared

Structural

a few seconds

07/18/2018

07/18/2018



Initial Architectural Upload

Architects, Doug Munro
Shared on 07/18/2018

AUTODESK BIM 360 | ASTI - AETG Design Collaboration Only > VA Outpatient Surgical Center

Document Management

FOLDERS ISSUES

Shared

Architects

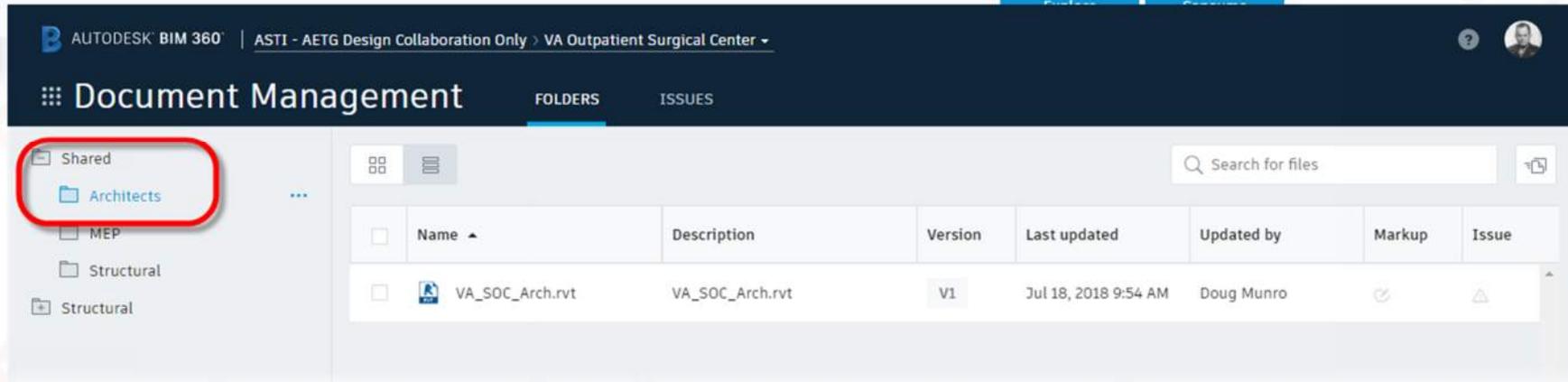
MEP

Structural

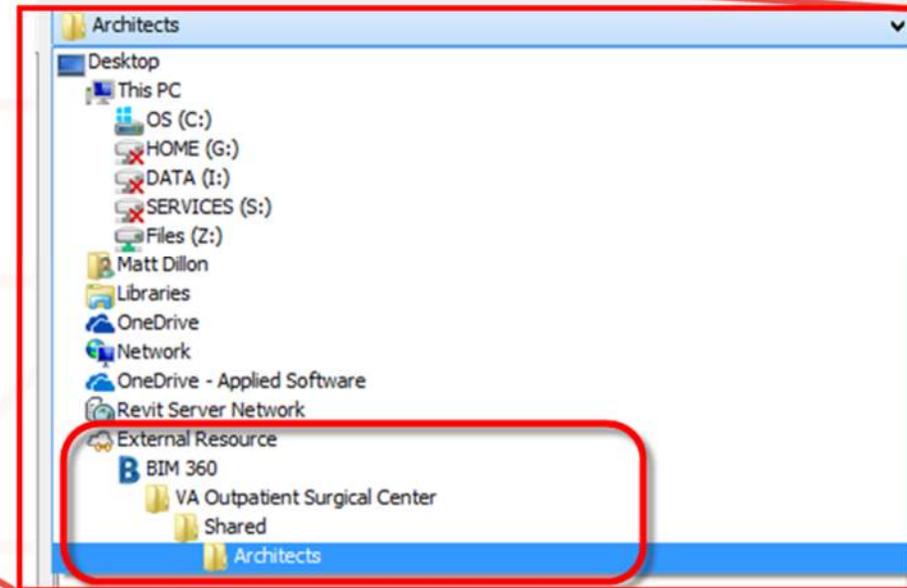
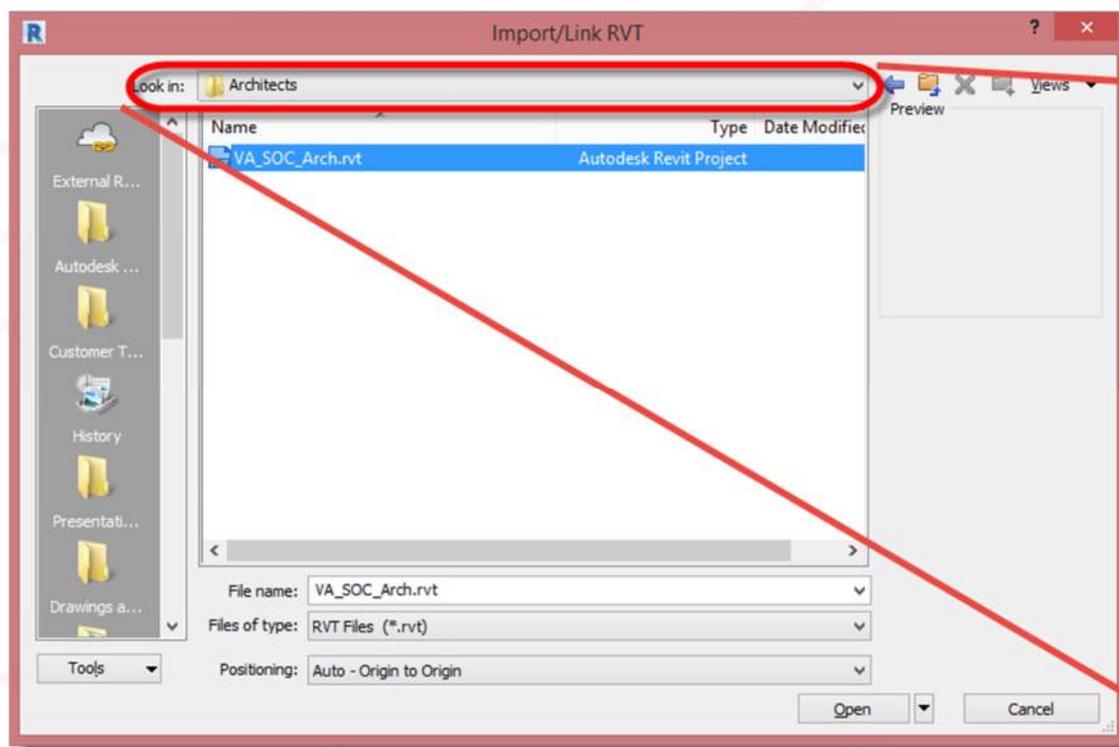
Structural

Search for files

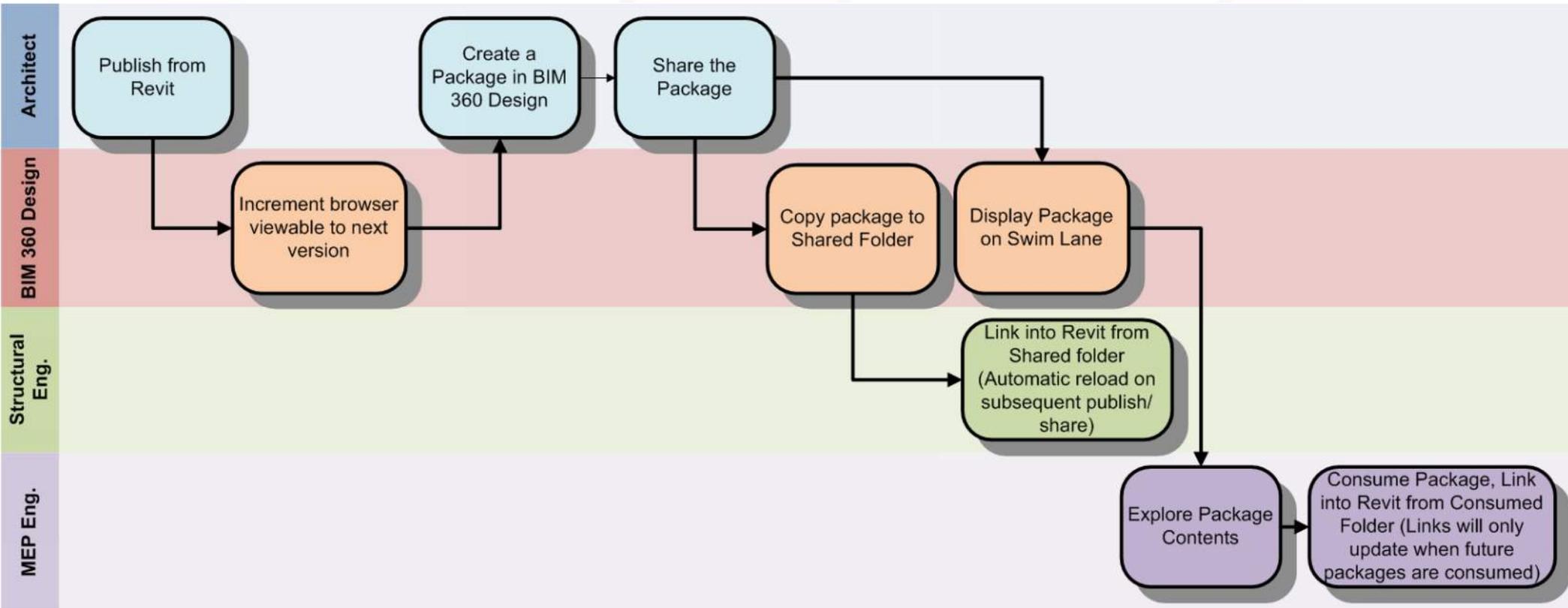
Name	Description	Version	Last updated	Updated by	Markup	Issue
VA_SOC_Arch.rvt	VA_SOC_Arch.rvt	V1	Jul 18, 2018 9:54 AM	Doug Munro		



DESIGN COLLABORATION - "SHARED" FOLDER



DESIGN COLLABORATION - CONSUMING DATA



DESIGN COLLABORATION - EXPLORE PACKAGES

The screenshot displays the Autodesk BIM 360 Design Collaboration interface. At the top, the breadcrumb navigation reads "AUTODESK BIM 360 | ASTI - AETG Design Collaboration Only > VA Outpatient Surgical Center". The main header is "Design Collaboration".

On the left, a "Contents Browser" is open, showing a tree structure under "Set 1 (19)":

- {3D}
- A002 - SITE PLAN
- A101 - GROUND FLOOR**
- A102 - SECOND FLOOR
- A201 - RCP - GROUND FLOOR
- A202 - RCP - SECOND FLOOR
- A301 - ELEVATIONS
- A302 - ELEVATIONS
- A303 - INTERIOR ELEVATIONS

The central view shows a detailed architectural floor plan of the ground floor. A blue vertical dimension line is drawn across the plan, with a callout indicating a height of "8.9'". The plan includes various rooms such as "EXAM 1-4", "CONSULT 1", "LABORATORY", "PHARMACY", and "WAITING".

At the bottom of the interface, there is a toolbar with icons for navigation and editing, and a "Done" button. On the right side, there are "Show changes" and "Consume" buttons. A red circle highlights a "Consume" button in the bottom right corner of the interface.

DESIGN COLLABORATION – CONSUME PACKAGES

AUTODESK BIM 360 | ASTI - AETG Design Collaboration Only > VA Outpatient Surgical Center

Design Collaboration

Architects 10 11 12 13

Structural

MEP

4 hours

07/18/2018 07/18/2018

Initial Architectural Upload

Architects, Doug Munro
Shared on 07/18/2018

Explore Consume

AUTODESK BIM 360 | ASTI - AETG Design Collaboration Only > VA Outpatient Surgical Center

Document Management

FOLDERS ISSUES

MEP

- Consumed
- Architects

Shared

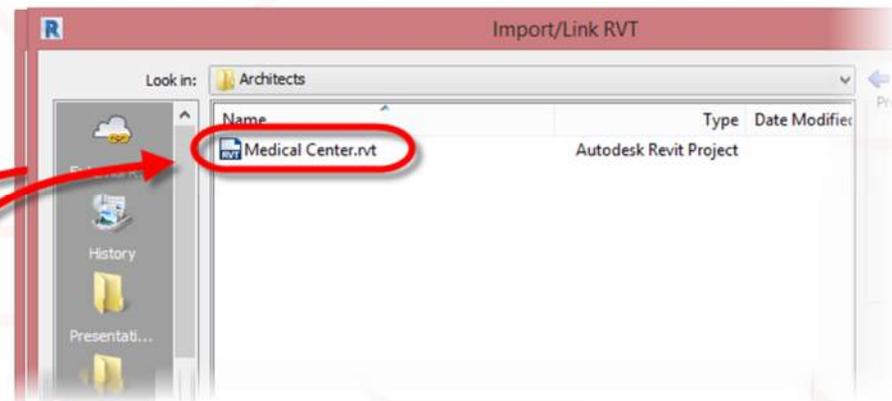
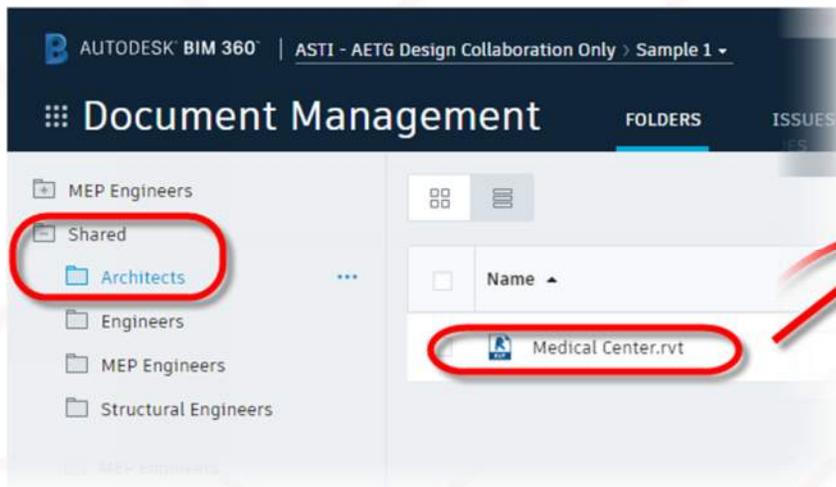
Upload

Search for files

Name	Description	Version	Last updated	Updated by	Markup	Issue
VA_SOC_Arch.rvt	VA_SOC_Arch.rvt	V1	Jul 18, 2018 4:17 PM	Ray Spruance		

DESIGN COLLABORATION - REVIT LINKS

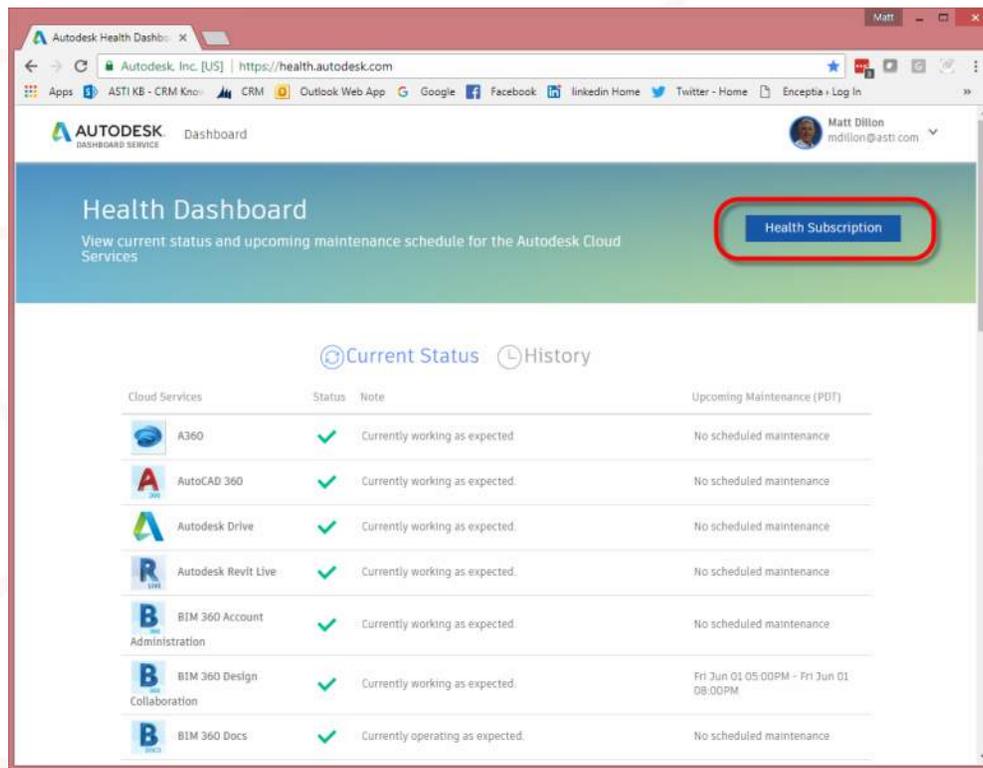
- Automatic Link Updates vs. Controlled Link Updates
 - Link from “Shared” folder
 - Link will be updated every time a package is shared
 - Link from “Consumed” folder
 - Link will only be updated when a package is consumed



TROUBLESHOOTING

- No access to BIM 360
 - Make sure a BIM 360 Design entitlement has been assigned to users
- No access to any projects or a specific project
 - Has the user been invited? Can the user go to the project in a web browser?
 - What version of Revit is the project set up for vs. the version being used?
- Access to project, but not to the correct (or any) files or folders
 - Check permissions

TROUBLESHOOTING



The screenshot shows the Autodesk Health Dashboard in a web browser. The browser's address bar displays "Autodesk, Inc. [US] | https://health.autodesk.com". The page header includes the Autodesk logo and the text "Dashboard" next to a user profile for "Matt Dillon" with the email "mdillon@astt.com". The main heading is "Health Dashboard" with a sub-heading "View current status and upcoming maintenance schedule for the Autodesk Cloud Services". A blue button labeled "Health Subscription" is circled in red. Below this, there are tabs for "Current Status" and "History". A table lists various cloud services with their status and upcoming maintenance schedules.

Cloud Services	Status	Note	Upcoming Maintenance (PDT)
A360	✓	Currently working as expected.	No scheduled maintenance
AutoCAD 360	✓	Currently working as expected.	No scheduled maintenance
Autodesk Drive	✓	Currently working as expected.	No scheduled maintenance
Autodesk Revit Live	✓	Currently working as expected.	No scheduled maintenance
BIM 360 Account Administration	✓	Currently working as expected.	No scheduled maintenance
BIM 360 Design Collaboration	✓	Currently working as expected.	Fri Jun 01 05:00PM - Fri Jun 01 08:00PM
BIM 360 Docs	✓	Currently operating as expected.	No scheduled maintenance

health.autodesk.com

REVIEW KEY POINTS

- BIM 360 Design vs. BIM 360 Team/C4R
- BIM 360 Design
 - Design Collaboration + Docs + Revit Cloud Collaboration + Desktop Connector + BIM 360 Team
- BIM 360 Design Account Administration and Project Setup
- Revit Cloud Collaboration
- Design Collaboration Workflows
 - Packages
 - Sharing and Consuming
- Troubleshooting – Common causes of problems

THANK YOU FOR ATTENDING OUR CLASS!

PLEASE FILL OUT THE SURVEY FOR THIS SESSION IN THE APP.

GO TO “MY SCHEDULE” → SELECT THIS SESSION → SCROLL DOWN TO “SESSION SURVEY”