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Flying in the Clouds with A360 Collaboration for Revit

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Learning Objectives

- Learn how to set up a project in the cloud.
- Learn how to use BIM 360 Team.
- Discover workflows for working in the cloud.
- Learn about communicating with your team.

Description

A360 Collaboration for Revit cloud service gives your team the ability to coordinate with live Revit software models that are always up to date. Previous workflows involved expensive IT setup and extensive project management to keep the project running smoothly. Come see how A360 Collaboration for Revit will make your next project flow easier by working in the cloud.

Your AU Expert(s)

Mike Massey graduated from Texas A&M University with a degree in architecture. He has 25-plus years of experience working in the architecture, engineering, and construction (AEC) industry. He has worked on various types of projects, including residential, commercial, retail, educational, and healthcare. Massey's roles in architectural firms have included drafter, designer, project architect, project manager, CADD manager, and director of IT. Since joining Applied Software Technology, Massey has been specializing in Building Information Modeling (BIM) implementation for architects and MEP (mechanical, electrical, and plumbing) engineers. In addition, Massey has been responsible for providing customer demonstrations, implementation, training, and support for the Autodesk, Inc., AEC products for architects, engineers, and contractors. Massey has spoken at various American Institute of Architects functions on the benefits of BIM, conducted regional CAD Camp seminars, and is a repeat speaker at Autodesk University. Massey is a contributing author for Autodesk Official Training Courseware.

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Introduction

Autodesk's A360 Collaboration for Revit, combined with A360 Team address historical challenges with collaboration and communication that were, for many years, major "pain points" for Revit users needing to collaborate with other users in the same model that were not on the same LAN (Local Area Network) or even the same WAN (Wide Area Network). For users needing to collaborate with other users in the same organization but in different offices, solutions like Revit Server and 3rd party WAN accelerators were developed, but they typically involved a significant hardware expense and IT resources to set up and manage. For users needing to collaborate with people outside of their organization (and therefore outside of their WAN), the issues were even more complex and expensive to resolve.

A360 Team and A360 Collaboration for Revit solve both issues, involve absolutely zero additional hardware expenses and minimal to no IT involvement. All that is necessary is a Revit license, a good broadband internet connection and entitlement to A360 Collaboration for Revit, which includes the entitlement to A360 Team. Both are easy to use and easy to set up, however the documentation is spotty and sometimes hard to find. This whitepaper will attempt to clarify what, specifically, A360 Collaboration for Revit is and what A360 Team is, how they work together, how they are obtained and installed, how to install and set them up and finally how to work with and manage A360 Collaboration for Revit (referred to from this point as "C4R") projects.

C4R and A360 Team – What Are They?

C4R and A360 Team are different, but complimentary. Both are cloud services. A360 Team can be utilized by itself, without C4R, and is accessed through a browser – currently Google Chrome seems to work best for this particular service. Using A360 Team, organizations can create any number of projects. Users can then be invited to collaborate in those projects. Documents of any type can be uploaded to a project and shared amongst the various project members. Autodesk formats like DWG, DWF and RVT files are viewable in A360 Team, which also includes basic markup capabilities. A360 Team, however, does not allow for direct editing of the documents. Using A360 Team alone, users must first download any document they want to edit, then upload the edited copy when finished.

C4R includes a plugin for Revit that allows users to initiate Revit worksharing in the cloud, utilizing the A360 Team Project as the repository of the Central file(s) that are created by C4R. For that reason, when a user is assigned (or granted entitlement to) the C4R service, they automatically get entitled to A360 Team. When C4R is purchased, A360 Team is included. Using C4R, users can perform normal Revit worksharing operations (synchronize, reload latest) to a Central File that is stored in the cloud, on the A360 Team site, allowing for real-time collaboration across a WAN and between users in different organizations and WANs.

Obtaining C4R and A360 Team

Typically, an organization has various Autodesk products under a subscription contract. There is a Contract Manager and a Software Coordinator, both employees of that organization, who manage users and software/cloud service access. The Contract Manager assigns employees their A360 account credentials. Usually the user name is the person's email address. Either the Contract Manager or Software Coordinator can then allocate appropriate products and services that the organization has purchased under their subscription to specific users. As mentioned above, if a user is assigned an entitlement to C4R, A360 Team is automatically also assigned to that user.

How Do I Set up C4R and Start a Project?

Setup is relatively straightforward. Typically, the first user assigned a C4R entitlement will also need to set up the organizations A360 Team "Hub", unless there is already one previously set up. Team Hubs can host any number of projects. Once the Team Hub is set up and at least one Project created, users can use C4R to begin uploading worksharing-enabled projects. It should be noted that everyone who has access to Team has their own Hub, but one of those Hubs should be designated as a company Hub and managed by one or two Hub administrators.

A360 Team Hub Setup

If you re setting up a Team Hub for your organization for the first time, the process is fairly simple:

1. Your Contract Manager of Software Coordinator must first assign an entitlement of A360 Collaboration for Revit to you. This will include an entitlement for A360 Team.
2. Go to https://accounts.autodesk.com and log in with your Autodesk subscription credentials. Click the "**Management**" link at the top of the page and you should see all of the products and services for which you are entitled.
3. Look for two services: "**A360 Collaboration for Revit**" and "**A360 Team**".
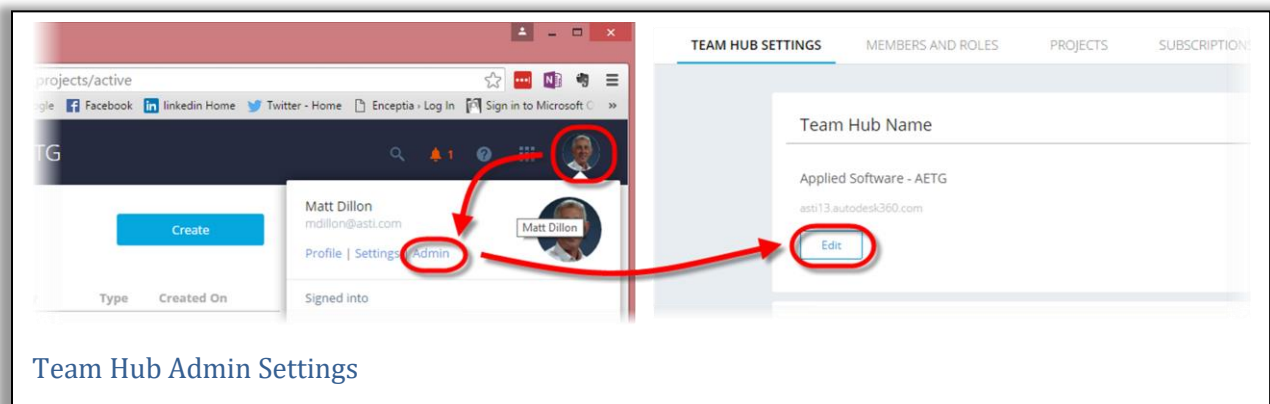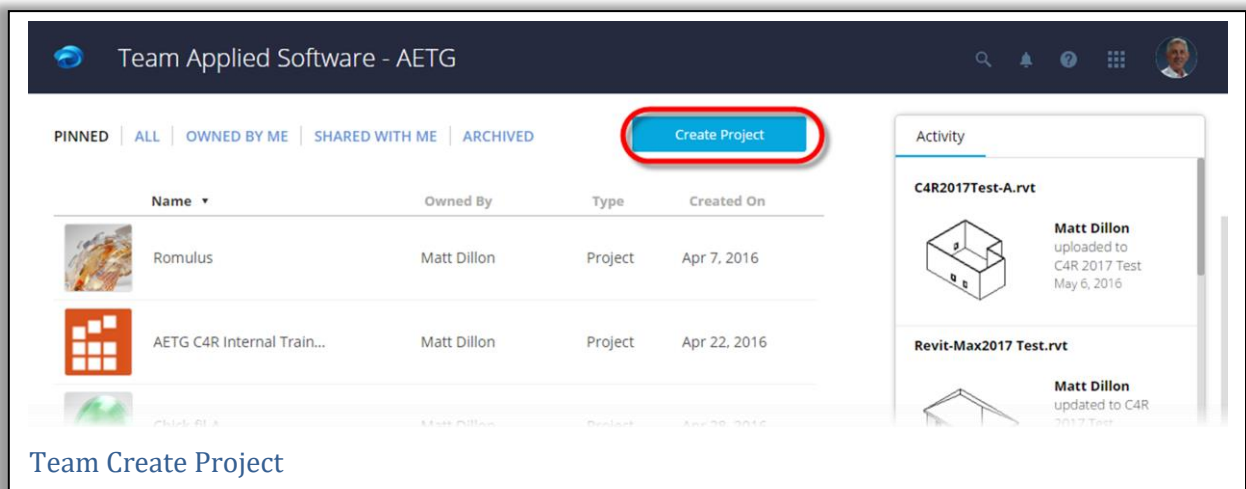

Autodesk Account Management Page

4. Click the "**Access now**" option under "A360 Team". This will allow you to set up your Team Hub. Initially depending on whether this is the first Team Hub that has been established for your firm, it may be a trial hub, good for 30 days. In that case, in order to make it permanent you will need to contact your Contract Manager with the Hub URL so that they can associate it with the subscription contract that the C4R/A360 Team seats were purchased under. You can continue to work, invite users, publish files, etc. however, in the normal fashion while that is in progress.

Project Setup

Once you have established your Team Hub there will be an Admin project and a Demo project created. You should create your own projects in which to store your own data. You should also rename the Team Hub to reflect that it is a company wide Hub. This can be done by clicking on your profile avatar in the upper right corner of the screen as shown in the following image. From the menu that appears, click "**Admin**". In the next dialog, click the "**Edit**" button under the current Team Hub Name.
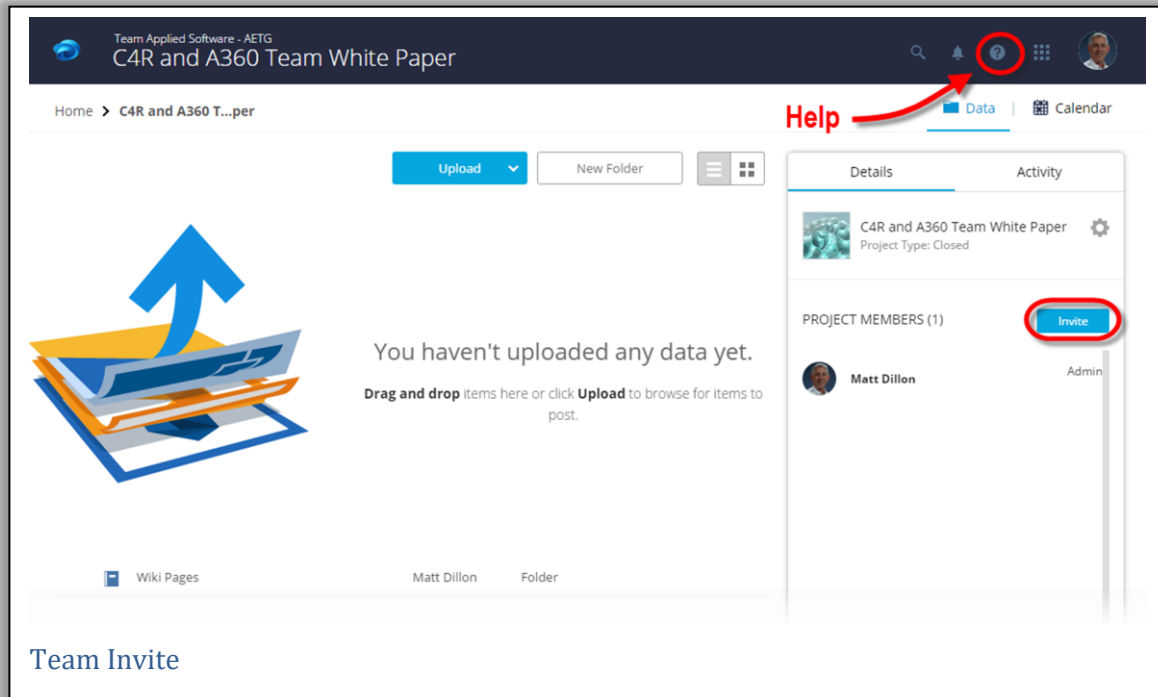

Team Hub Admin Settings

1. To start your first project, click the "**Create Project**" link shown below. After you fill in the basic project data, your project will be created and you will be placed in it.

Team Create Project

2. Initially there are no files in the project, although you can now create folders and upload files to it. **Do NOT upload any files that you intend to use with C4R yet, however.** That needs to be done a different way. You can upload other files – CAD drawings, PDFs, DWFs, etc. and other Revit files that you do not intend to use with C4R in any way whatsoever.

3. As the project creator, you are automatically a project Administrator. Invite other users by clicking the "**Invite**" button shown below. By default, when someone accepts the invitation and joins the project they are a Member. You can choose to make any Member an Administrator.
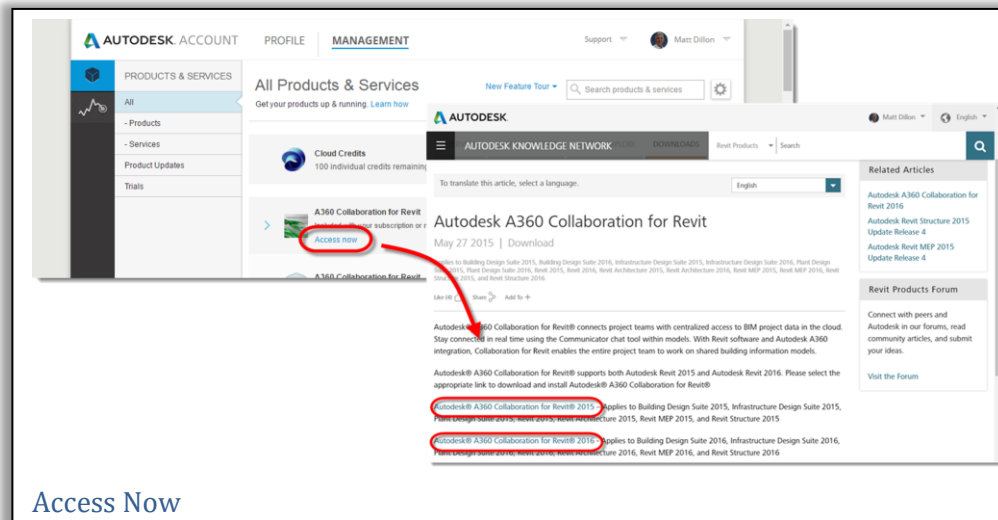
Team Invite

A detailed description of project roles and permissions, and project management functions and tasks is beyond the scope of this paper, however comprehensive instructions can be found by clicking the help icon in the upper right corner of the web page (shown in the previous image).
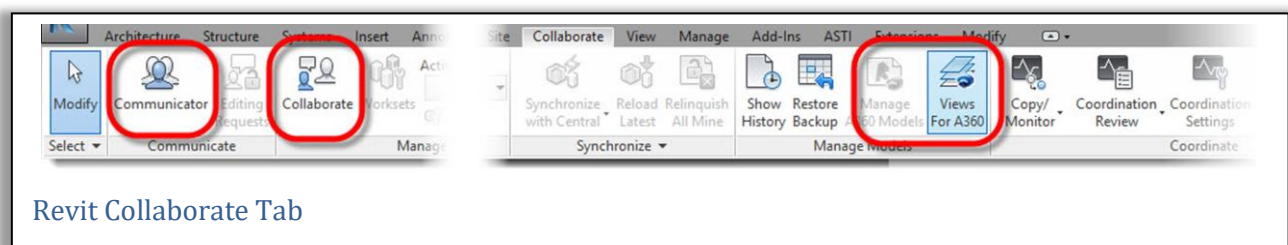
C4R Setup

Once the A360 Team Hub is established and a project created, you can begin working in C4R. If you are using Revit 2017, the plugin that is required to make C4R work should have been installed automatically.

If you are using Revit 2015 or Revit 2016, then you need to download and install the C4R plugin. You can find it by clicking the "**Access Now**" link under your C4R entitlement on Accounts.Autodesk.com as shown below. This will take you to a page where you can download the appropriate version of the plugin.

Access Now

To confirm that the plugin was installed, launch Revit. The "**Collaborate**" tab of the ribbon should have new buttons on it as shown in the following image.

Revit Collaborate Tab

Additionally, the C4R Communicator window may appear. If not, don't worry – that will be covered a bit later in this document.

Working in C4R

Once you have installed the C4R Plugin you will be able to initiate cloud-based worksharing and open projects that others have uploaded and invited you to participate in.
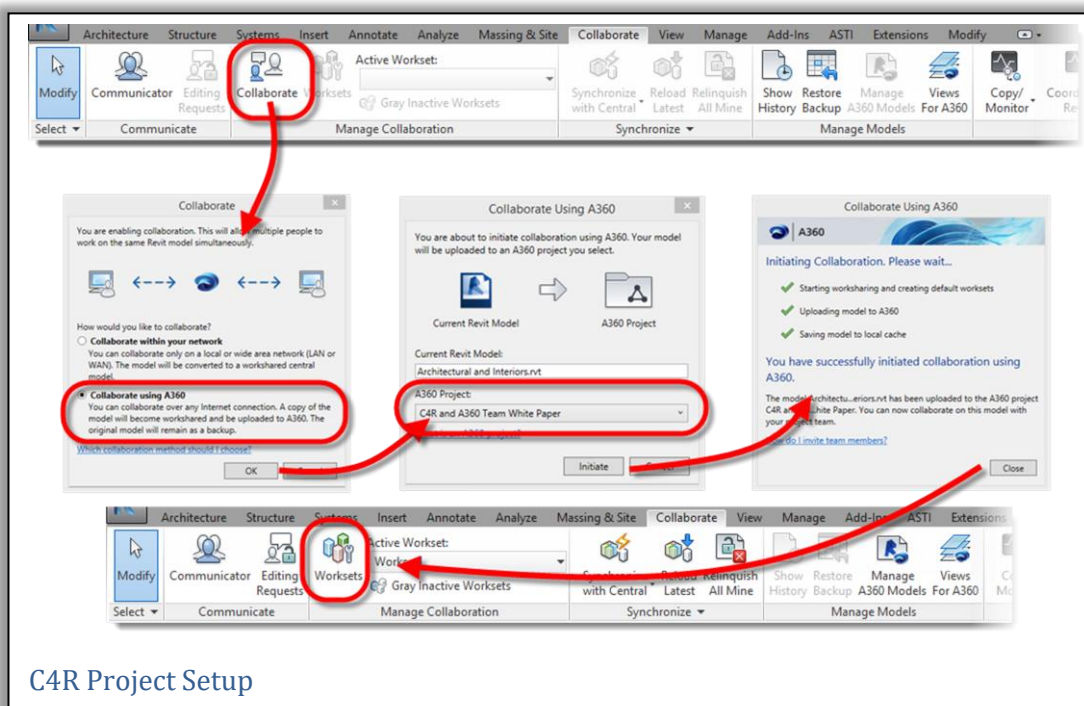
Initiating Cloud-Based Worksharing and Uploading a Project
You can iniate cloud-based Worksharing on a project already has Worksharing enabled or one that has not yet had it enabled.

Initiating Cloud-Based Worksharing on a non-Workshared Project
1. Save your file locally.
2. Click the "**Collaborate**" button on the "**Collaborate**" tab of the Ribbon.
3. Choose the option to "**Collaborate using A360**" and click "**OK**".
4. Choose the A360 Team project to upload the file to and if necessary, save to a different name (optional). Click "**Initiate**". A new dialog will appear that will show the progress.

Refer to the image below for a graphical representation of the workflow.

C4R Project Setup

Once the file has been uploaded, you do not need to close and create a local file. Instead, Revit creates a local cache file. Normally you should not need to interact with this file except through the C4R interface, however it can be found in Windows Explorer in:

%LOCALAPPDATA%\Autodesk\Revit\Autodesk Revit <version number>\CollaborationCache
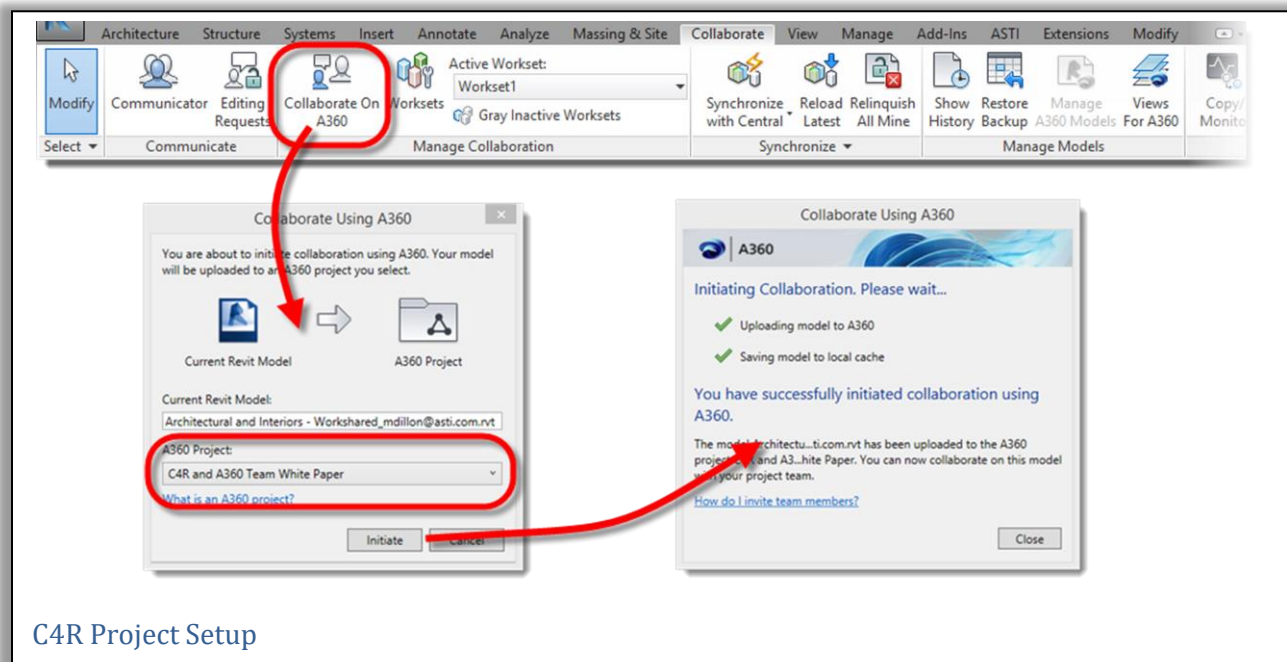
Once you have uploaded the file, you can begin working, or you can create your Worksets as you would normally do with traditional Worksharing.

Initiating Cloud-Based Worksharing on an Existing Workshared Project
If you have already been using Worksharing on a project on your local area network (LAN), you can also move that project up to your A360 Team project using C4R following the procedures below and illustrated in the image below:

1. From the "**Collaborate**" tab of the Ribbon, choose "**Collaborate on A360**".
2. In the dialog that appears, choose the A360 project to save to, change the file name if desired and click "**Initiate**".
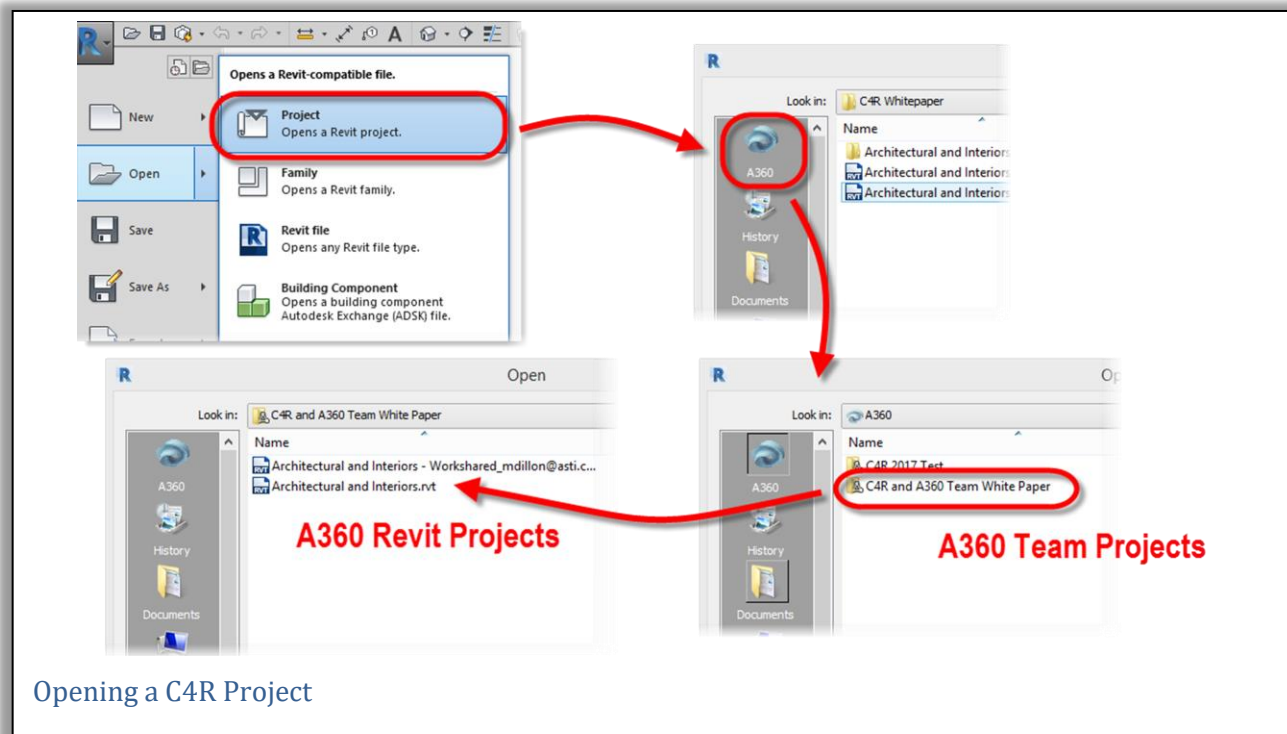

C4R Project Setup

As with the previous workflow once you have successfully initiated collaboration you can immediately work in your project. Any worksets that were established prior to initiating collaboration on A360 are preserved in your new C4R project.

Opening a C4R Project

To open a C4R project, use the "**Open**" tool as you normally would from inside Revit. In the File Dialog box, there will be an A360 shortcut in the left hand sidebar. Click on that and it will show all projects for which you have access to on any A360 Team Hub (you can be a member of multiple hubs). Double-Click the project that your file is located in and select the file, then click "**Open**". As explained above, Revit will open your local cache file for you to work in, and you can synchronize to the A360 Central File just as you would to any Central File.

Opening a C4R Project

C4R and File Linking

Linking Revit and CAD files requires a bit more care than when you are using traditional LAN-based Worksharing.

- Only Revit projects that have been uploaded to the A360 Team project utilizing C4R can be linked into a C4R project.
- CAD files cannot be linked utilizing the C4R shortcut, since it currently only shows Revit files. Therefore, you can only link a CAD file from your LAN or WAN. This will cause the links to not be found by other consultants and team members from other organizations who are not on your network. A workaround to this limitation is to import CAD files into a separate Revit project, then link the Revit project. In that way, the CAD file link paths are not an issue. However if one of the CAD files needs to be updated, it will need to be re-imported manually into the Revit project that it was originally imported into.
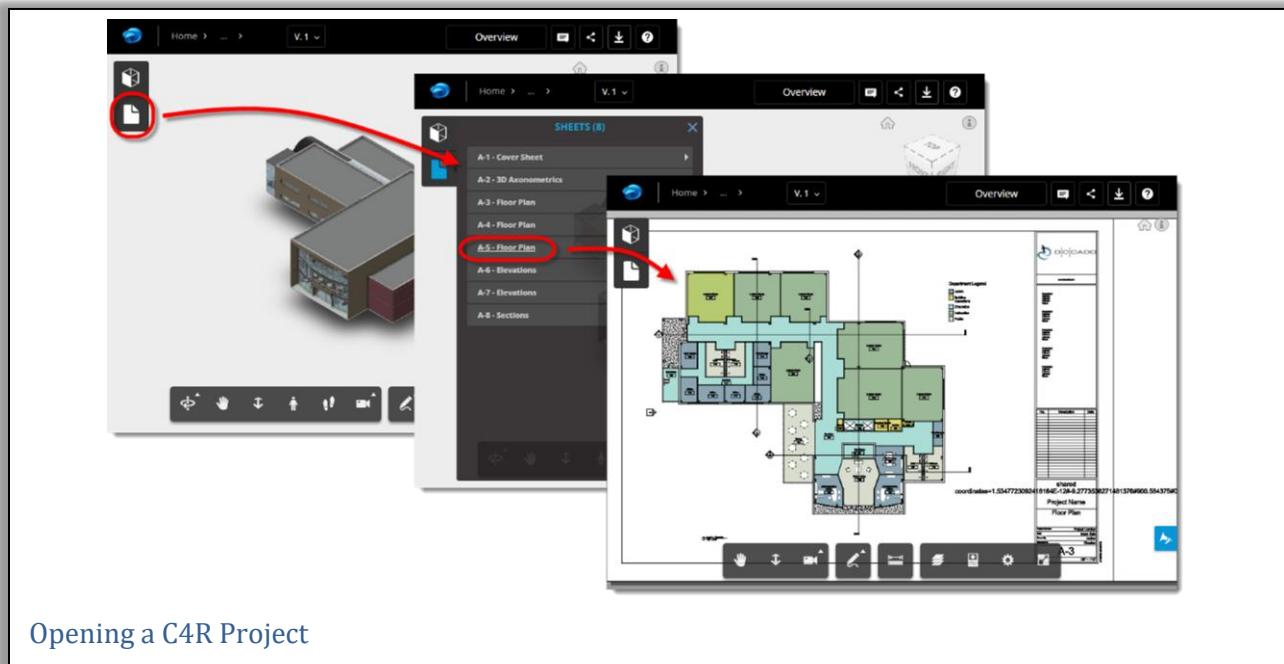
C4R and Project Folders

Using the A360 Team Interface, you can create any number of folders and sub-folders in your A360 Team project. When you navigate to the project using the C4R shortcut in Revit, however, you cannot see the subfolders – you will only see actual Revit projects. Fortunately, you can store C4R projects in subfolders on A360 Team and still gain access to them through C4R even though you cannot see the actual folder they are stored in:

1. Initiate Collaboration using one of the methods described previously. It will be saved to the project's root folder on the A360 Team project web site.
2. Close the project (this is important if you are going to do the steps that follow).
3. Create a new folder on the A360 Team project web site.
4. Make sure that all team members are out of the project, then from the A360 Team project web site, move the recently created C4R project into the folder in which you want to store it.
5. Open the project again in C4R – you will still see the project as before, even though it is actually in a sub-folder. You can open it, work on it, synchronize, etc. with no ill effects.
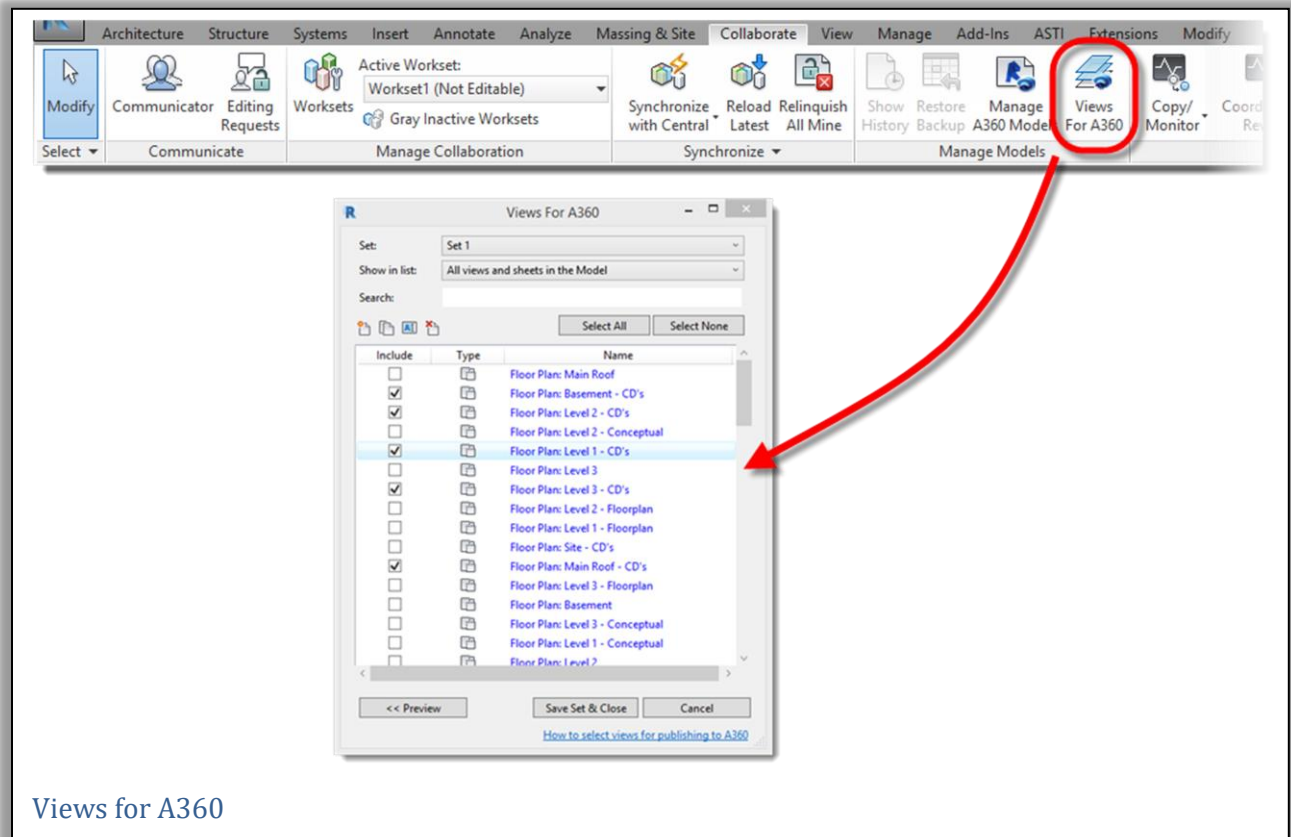
Model Management

When collaboration is first initiated, A360 Team generates a 3D view of the Revit model, and also generates views for any sheets that exist at the time that collaboration is initiated.

Opening a C4R Project

As you continue to work in the project and synchronize your changes to the Central File on the A360 site, the model that is visible on the A360 Team web site *is not updated automatically*. Your synchronized changes cannot be viewed by anybody looking at it on A360 Team. Only those who are working on the project in C4R will be able to see the changes being saved to the Central File, until a new version is published to the A360 Team site.
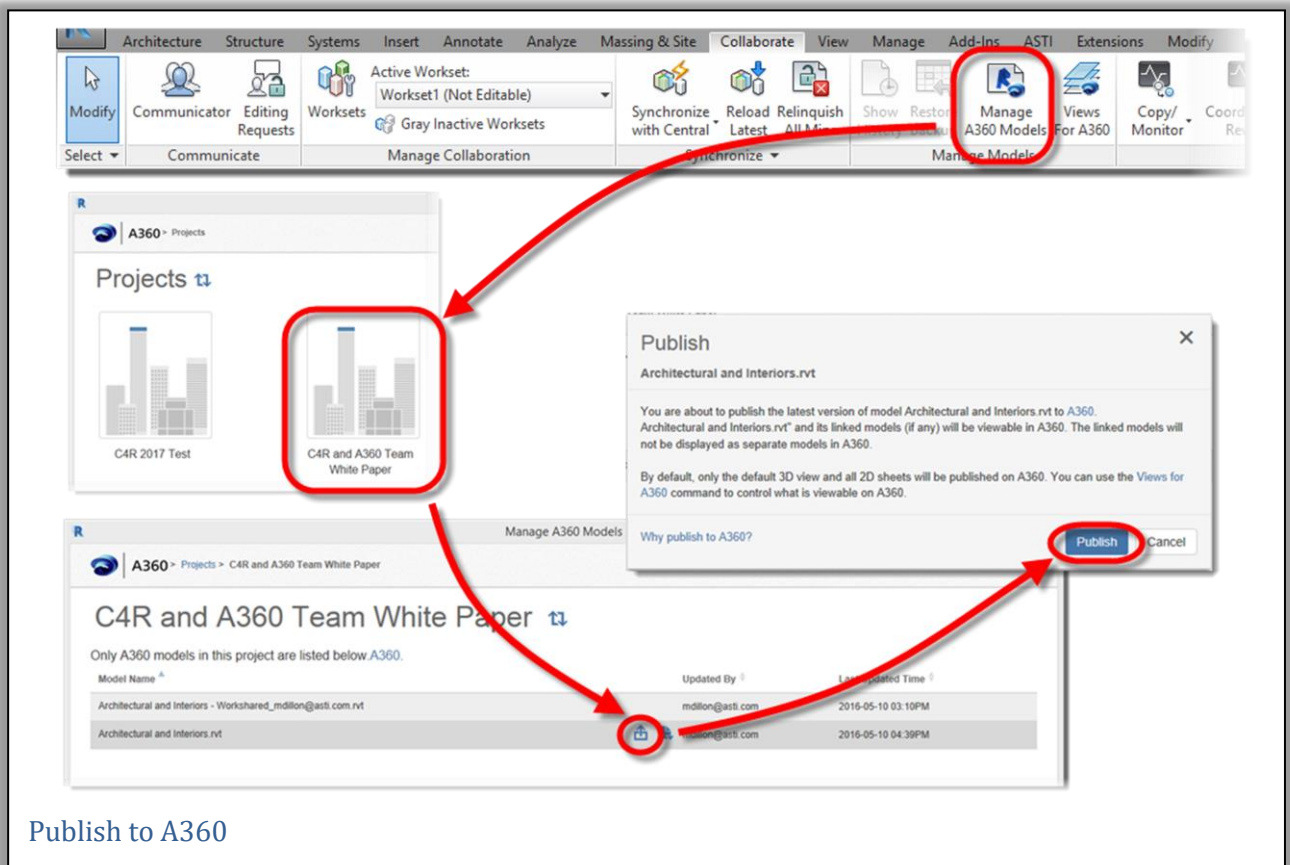
Versions can be published to A360 Team from within Revit using the tools on the "**Manage Models**" panel of the "**Collaborate**" tab of the Ribbon. Use the "**Views for A360**" button to specify the actual views and sheets that you want to be visible on A360 Team. *Make sure to specify at least one 3D view, otherwise no 3D views will be included in the next published version.*
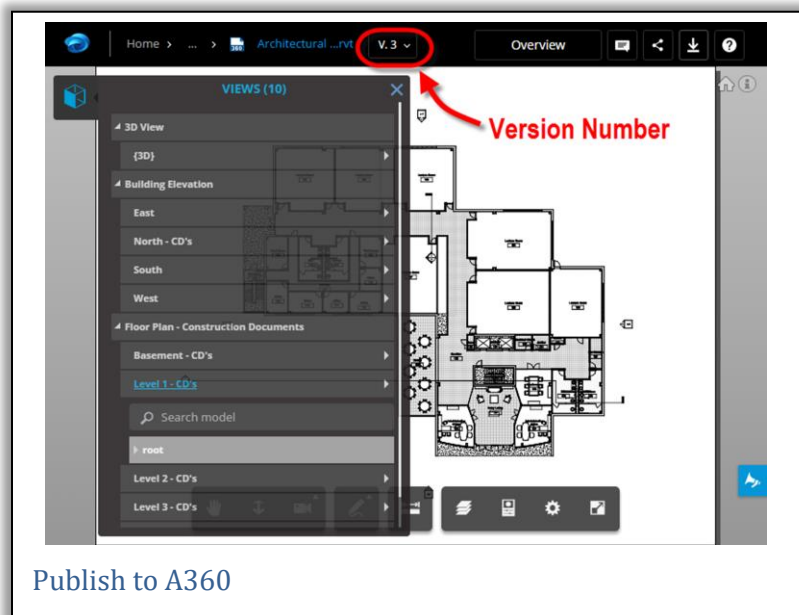

Views for A360

Once you have specified the views and sheets that you want to be included with the next published version, you need to synchronize to the Central File. The specified views and sheets will not be included if you do not synchronize. Once you have finished synchronizing to Central, you can use the "**Manage A360 Models**" tool to publish the next version to the A360 Team web site as shown in the image on the following page:

1. Click "**Manage A360 Models**" from the "**Collaborate**" tab of the Ribbon.
2. In the next dialog box, choose the project you are publishing to.
3. In the next screen, choose the "**Publish**" icon next to the C4R project that you want to publish (you will only see C4R projects in this window).
4. Acknowledge the informational dialog that appears by clicking the "**Publish**" button.
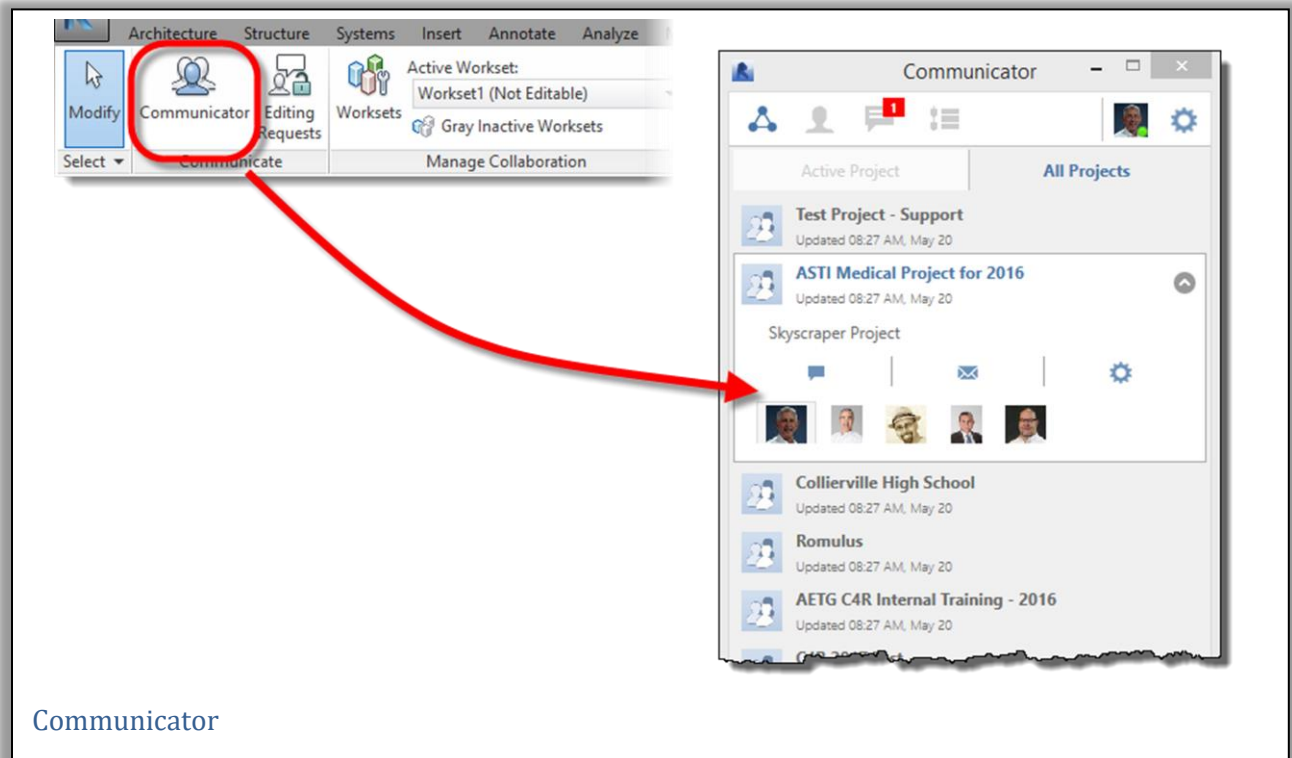
Publish to A360

Once you have published your new version, the views will be updated, processed and will be made visible on the A360 Team project web site. You will also notice that the version number of the project has been incremented.

Publish to A360

Using Communicator

Communicator is a component of C4R that allows you to see when others are synchronizing to the Central File as well as open chat sessions, make comments and share images, markups

Communicator

and files in an instant-messaging environment that is tied specifically to your project or model. By default, the Communicator panel should appear whenever you open a C4R project. You can also turn it on or off using the "**Communicator**" tool on the "**Collaborate**" ribbon.
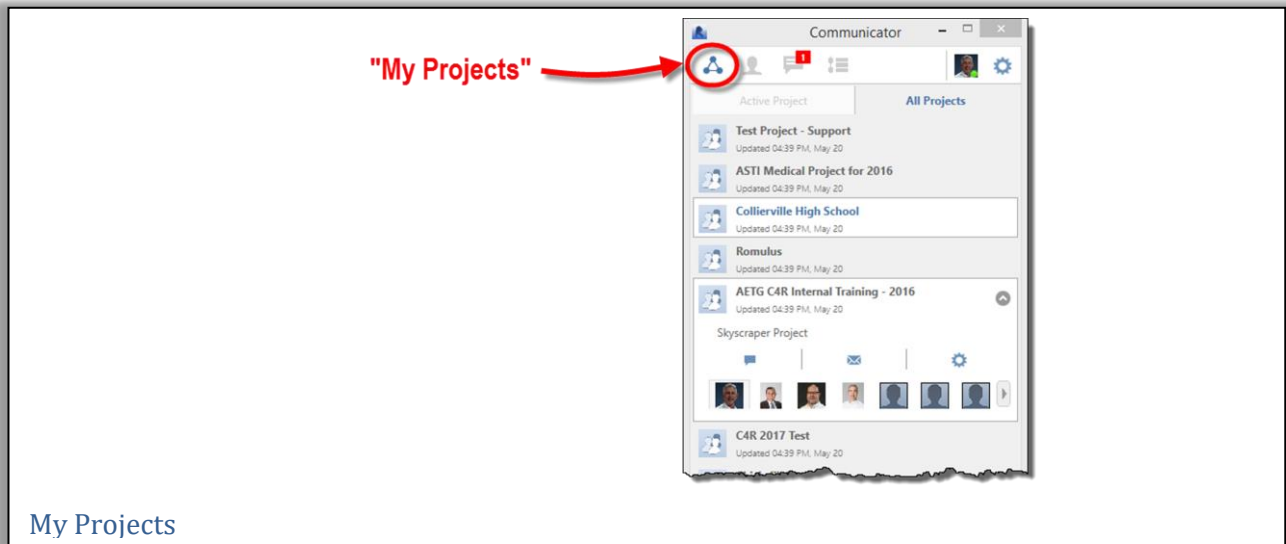
Communicator Components

There are several components to the C4R Communicator panel, depending upon whether you are dealing with your current model or your current project. An in depth discussion of each of them is outside the scope of this document, however some of the high points are worthwhile reviewing. First, the toolbar along the top of the Communicator Panel toggles you through several modes, and also gives you access to your Communicator settings.
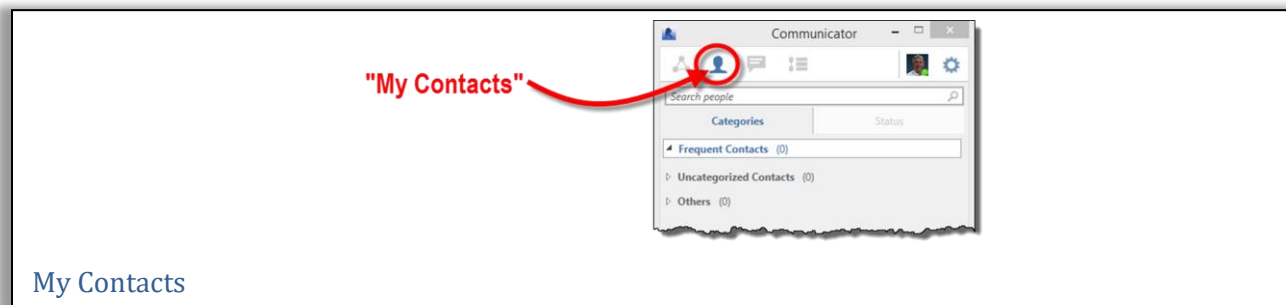
My Projects

This button will show you the team members of your current active project. You can also toggle to all projects that you have access to and from the resulting panel, send an email to all members of a given project, send an instant message to the project, or launch the A360 Team web page for the project. Double-clicking on the project places you in the chat stream of the project. Double-clicking on a team member will place you in a chat window with that team member.
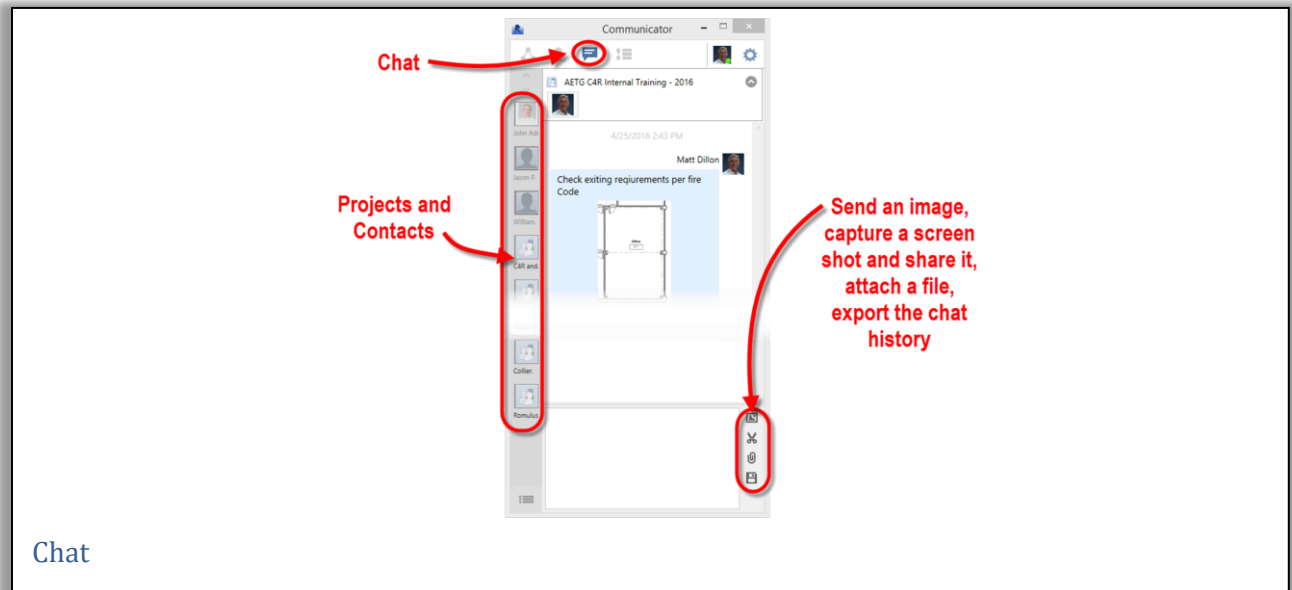

My Projects

My Contacts

This button will show you a list of all contacts that have the same project, goal or interests.
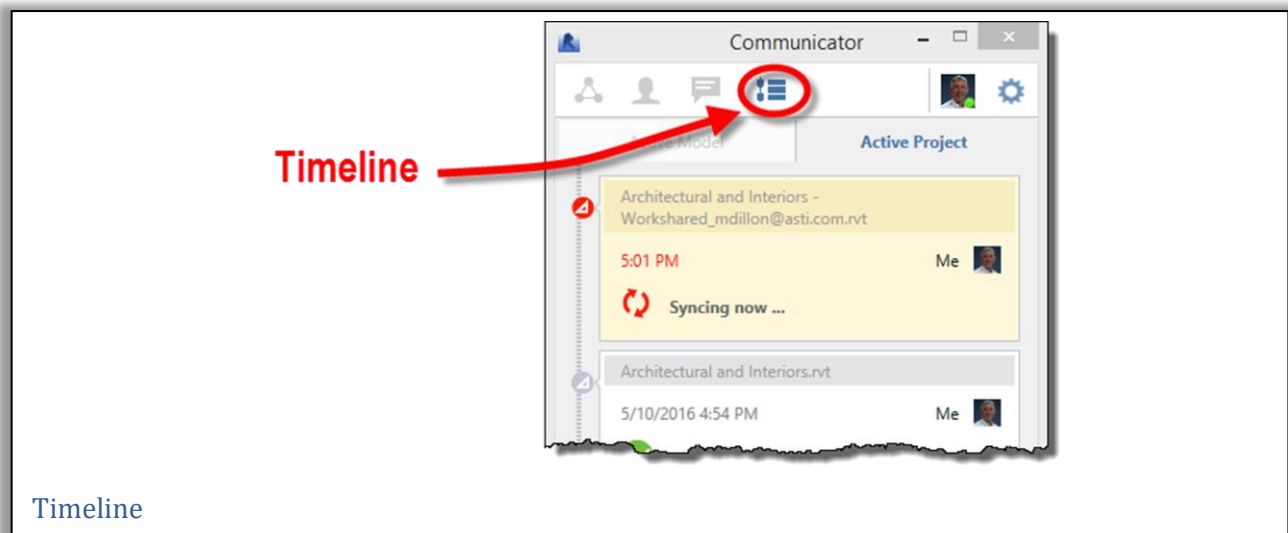

My Contacts

Chat

This is probably the most useful feature of Communicator. Here you can send instant messages to the entire project team or specific individuals, as well as attach files, send images, capture and send screenshots as well as save the chat history to a file.

Chat

Timeline

This panel will show when a synchronization is taking place, when past synchronizations have occurred and who has or is synchronizing.

Timeline

Summary

Hopefully this short guide will be sufficient to get you started working with A360 Collaboration for Revit and A360 Team. If you require more information, you can find it at the following locations:

Uploading a C4R Project to a Team Hub:
https://knowledge.autodesk.com/support/revit-products/learn-explore/caas/CloudHelp/cloudhelp/2017/ENU/Revit-CAR/files/GUID-9C74D6BC-2FBD-40B0-A27B-CDC766D35675-htm.html

Working with Communicator
https://knowledge.autodesk.com/support/revit-products/learn-explore/caas/CloudHelp/cloudhelp/2016/ENU/Revit-CAR/files/GUID-36BC2739-D565-46DE-8750-B0396CFD0376-htm.html