



Introduction to Autodesk Construction Cloud API

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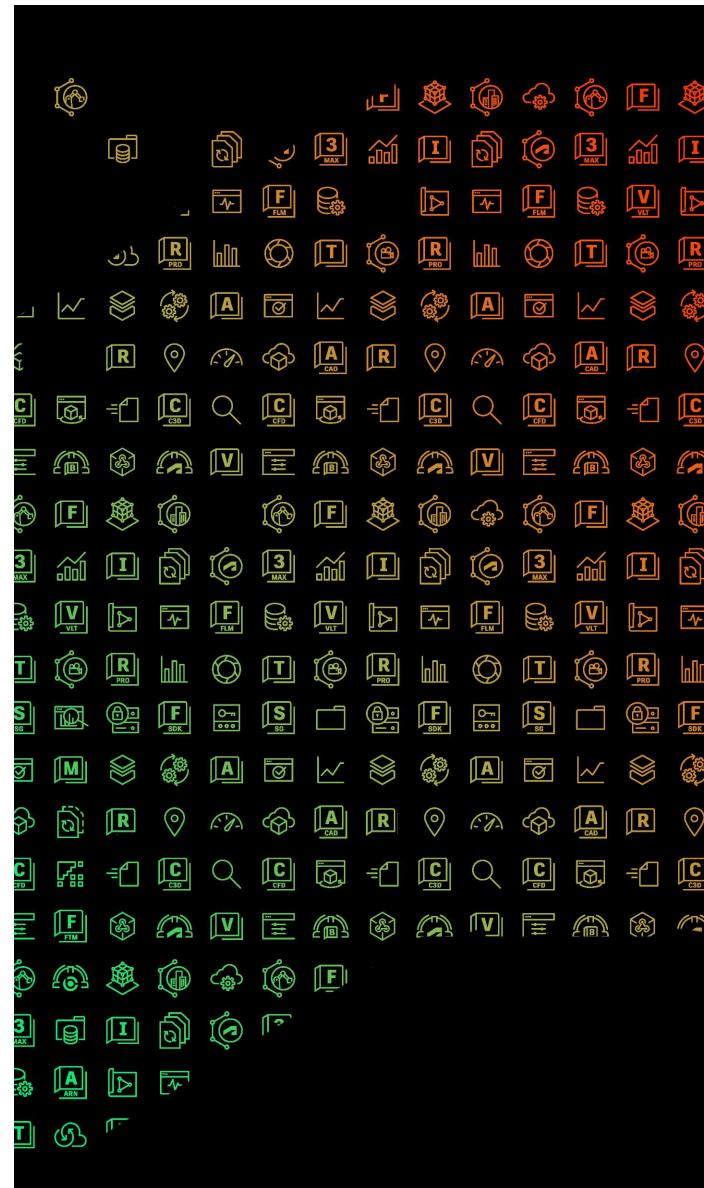
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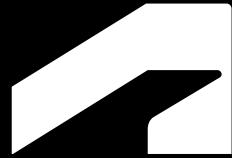
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Agenda

- 1 Autodesk Construction Cloud Family Products Overview
- 2 API Big Picture
- 3 Accessing Project Data – by Modules
- 4 Q&A
- 5 What's Next





Autodesk Construction Cloud Product Overview

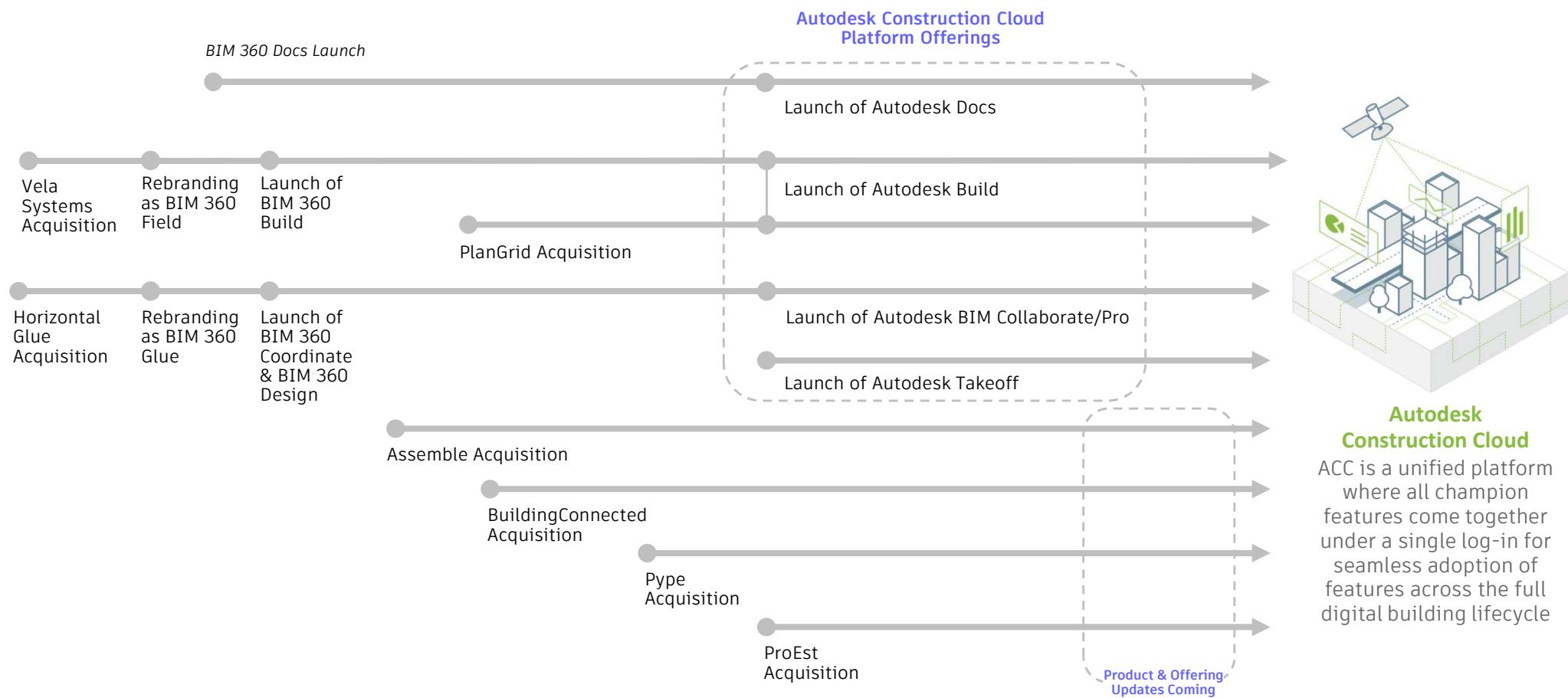
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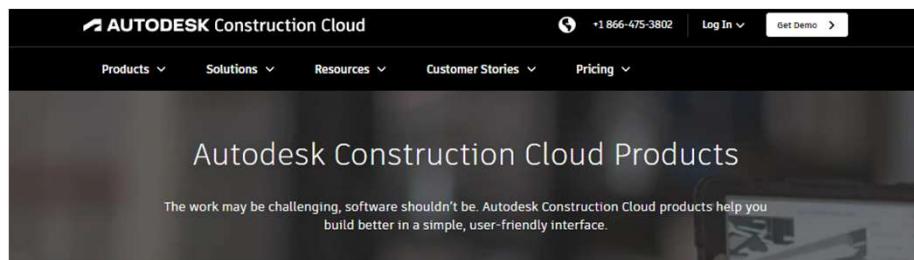
Construction Management @ Autodesk

High Level Product & Offering Evolution



Autodesk Construction Cloud Products

Latest product offering



The work may be challenging, software shouldn't be. Autodesk Construction Cloud products help you build better in a simple, user-friendly interface.

B Build



Comprehensive field and project management software that delivers a broad, deep and connected set of tools for builders.

[LEARN MORE](#) [TRY NOW >](#)

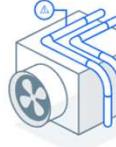
T Takeoff



Perform accurate 2D takeoffs and generate automated quantities from 3D models in a single online solution.

[LEARN MORE](#) [TRY NOW >](#)

C BIM Collaborate



Connect decision-makers and construction teams to manage design reviews and automate model coordination with trades. Improve design quality and constructability from the office to the field.

[LEARN MORE](#) [TRY NOW >](#)

D Docs



Centralized document management solution that acts as a single source of truth across the project lifecycle for all project teams.

[LEARN MORE](#) [TRY NOW >](#)



ADDITIONAL PRODUCTS

AUTODESK CONSTRUCTION CLOUD MOBILE



Mobile-first, field collaboration app, now part of Autodesk Build.

[LEARN MORE](#) [Contact Us >](#)

C BIM Collaborate Pro



Co-author designs, perform design reviews, and automate model coordination with trades. Collaborate in design tools anytime, from anywhere and improve design quality and constructibility from the office to the field.

[LEARN MORE](#) [TRY NOW >](#)

ASSEMBLE



Query and connect BIM data to design reviews, takeoffs, estimating, change management, and value engineering to reduce risk and improve efficiency.

[LEARN MORE](#) [Get a Demo >](#)

BUILDING CONNECTED



The largest real-time, construction network with an easy-to-use platform that streamlines the bid and risk management process.

[LEARN MORE](#) [Get a Demo >](#)

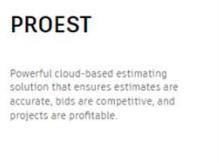
PYPE



Create and review submittal logs, collect closeout documentation and create dynamic document turnover packages while reducing risk and increasing accuracy.

[LEARN MORE](#) [Get a Demo >](#)

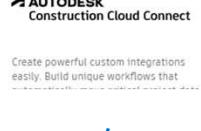
PROEST



Powerful cloud-based estimating solution that ensures estimates are accurate, bids are competitive, and projects are profitable.

[LEARN MORE](#) [Get a Demo >](#)

AUTODESK Construction Cloud Connect



Create powerful custom integrations easily. Build unique workflows that

<https://construction.autodesk.com/products/>

AUTODESK Construction Cloud

Unified Products

 **AUTODESK**
BIM Collaborate

 **AUTODESK**
BIM Collaborate
Pro

 **AUTODESK**
Takeoff

 **AUTODESK**
Build

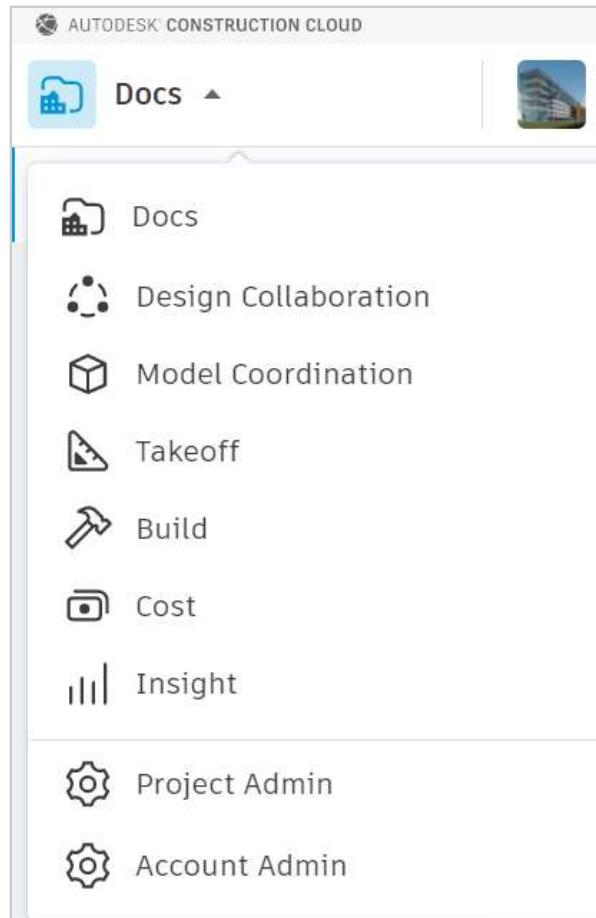
 **AUTODESK** Docs

INSIGHTS

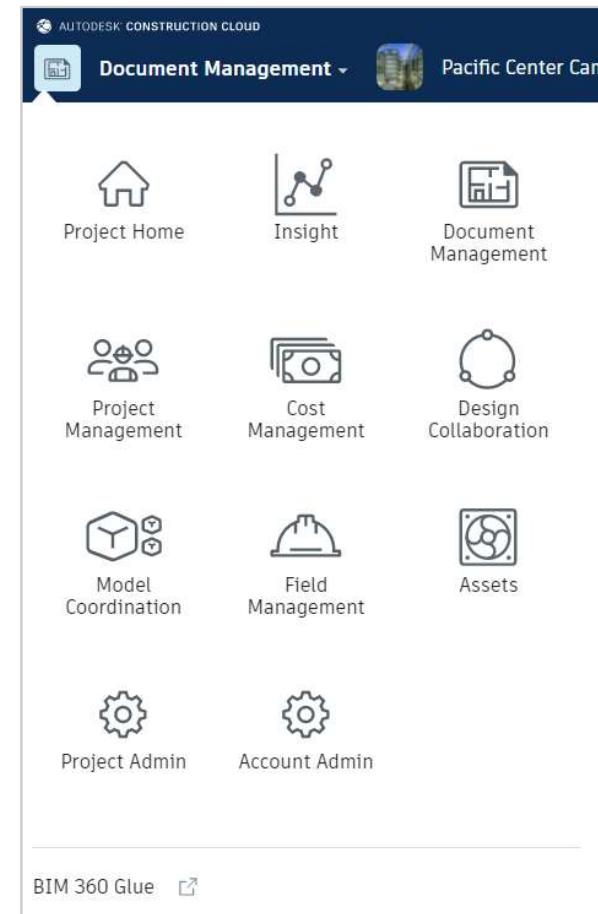
ADMINISTRATION

Products/Subscription & Modules

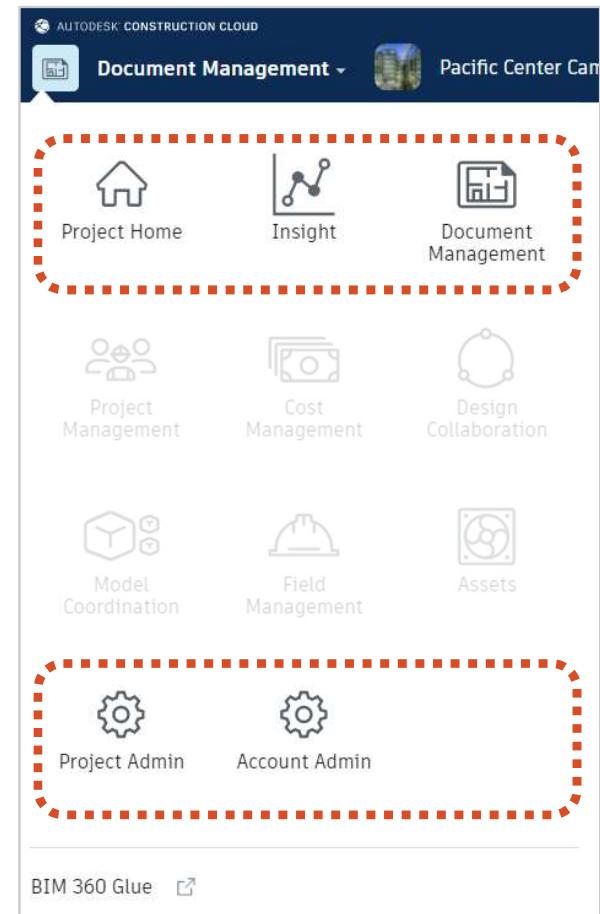
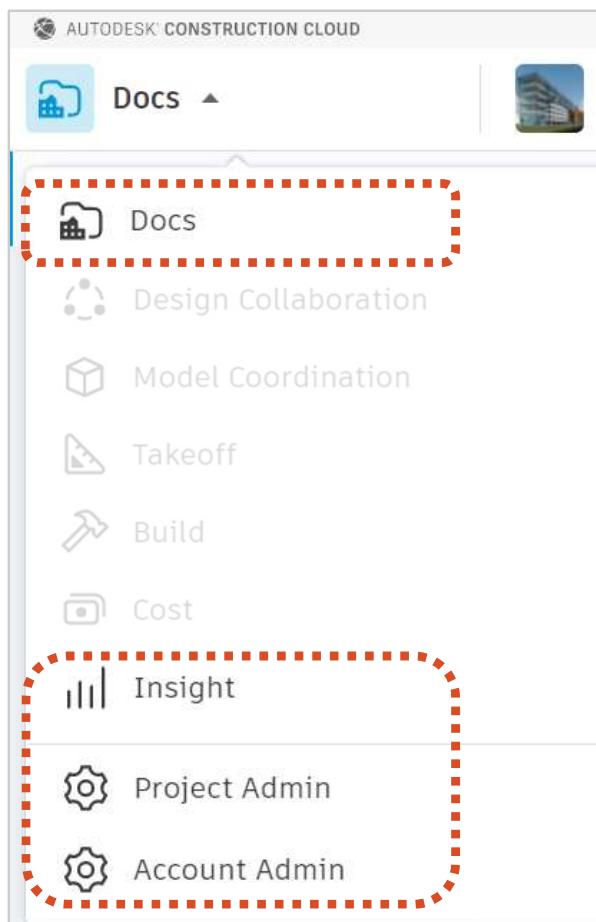
ACC



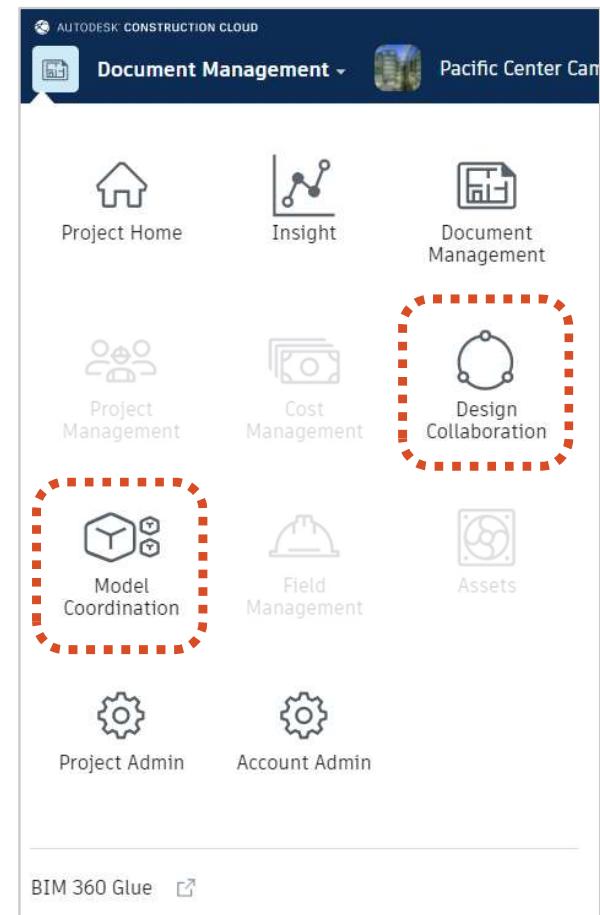
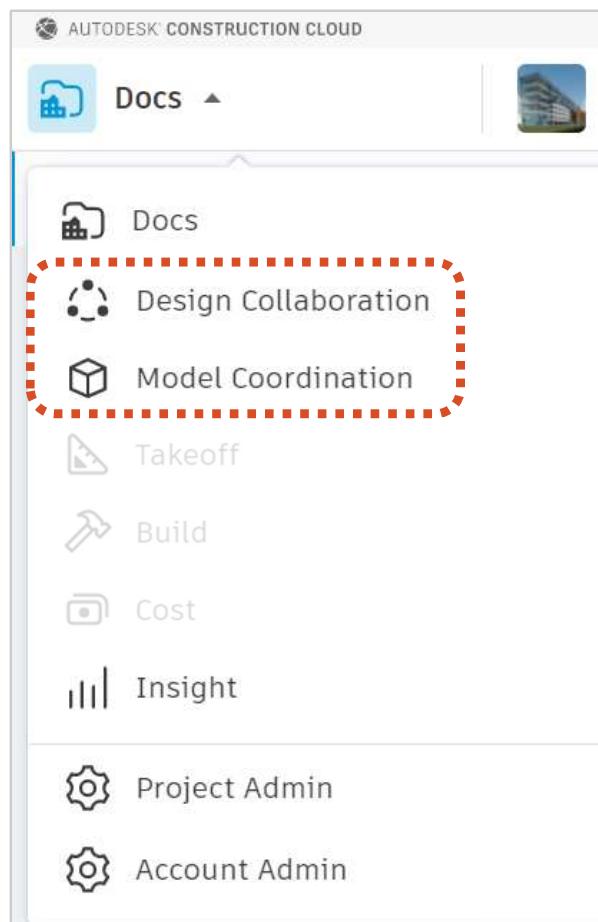
BIM 360



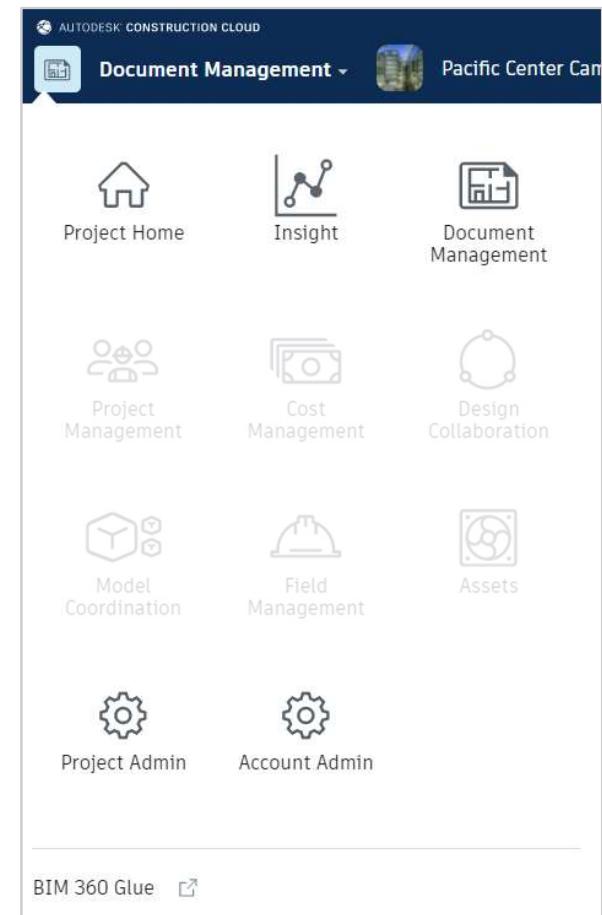
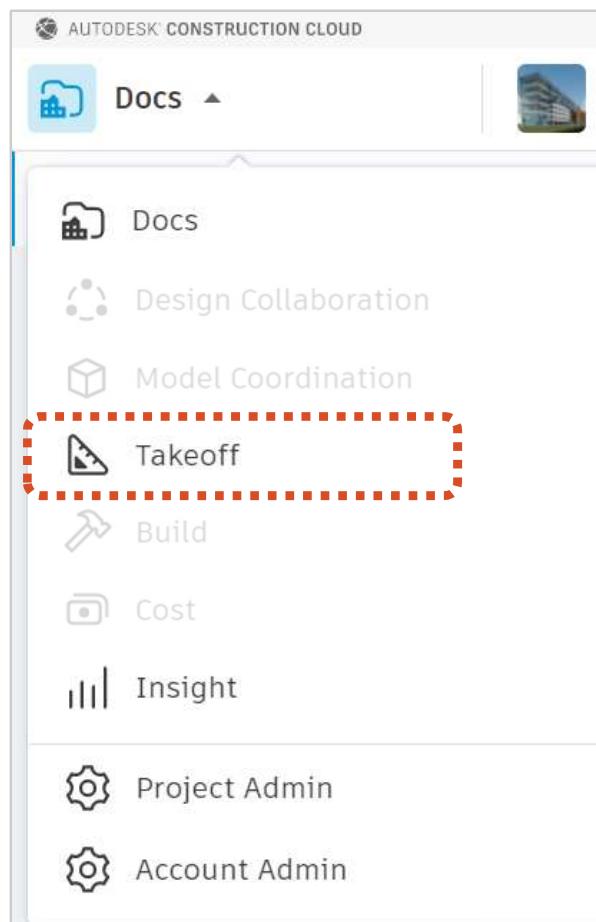
Products/Subscription & Modules



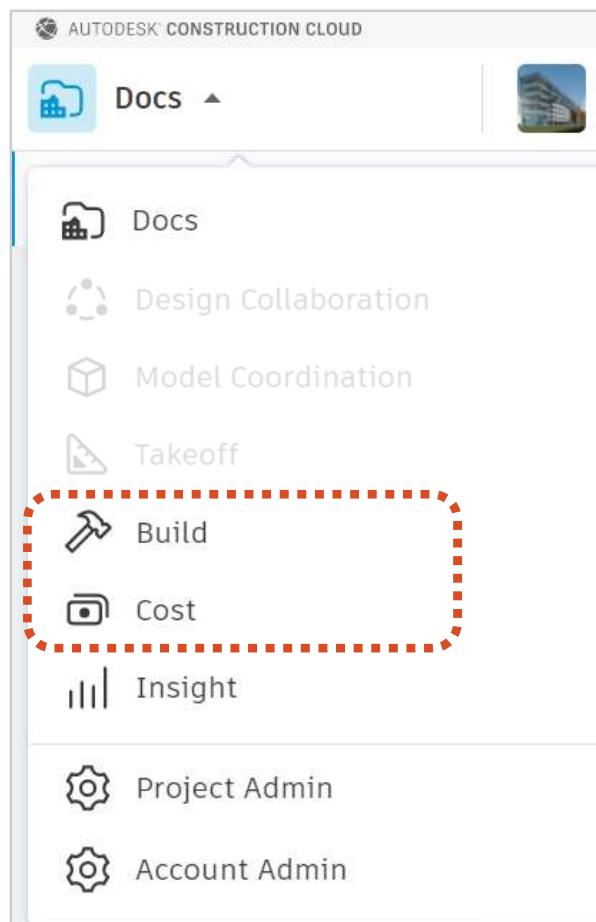
Products/Subscription & Modules



Products/Subscription & Modules



Products/Subscription & Modules



Products Access

New!

acc.autodesk.com, acc.autodesk.eu, acc.apac.autodesk.com

The screenshot shows the Autodesk Construction Cloud interface. At the top, there's a navigation bar with icons for back, forward, home, and search, followed by the URL 'acc.autodesk.com'. To the right of the URL are links for 'More Autodesk products', 'PlanGrid', 'BuildingConnected', 'TradeTapp', and 'Pype AutoSpecs', along with a user profile for 'Mikako Harada'. Below the navigation bar, the page title is 'AUTODESK Construction Cloud'. The main content area starts with a welcome message 'Welcome, Mikako' and a question 'What would you like to do today?'. There are three tabs: 'My Home', 'Projects' (which is underlined in blue), and 'Project Templates'. A blue button labeled '+ Create project' is visible. To the right of the tabs is a search bar with the placeholder 'Search projects by name...'. The main table displays three project entries:

Type	Name	Number	Quick access	Account	Created on
	MH Test		Docs ▾	Developer Advocacy Support	Jun 12, 2023
	BIM 360 APS Training			Riley Peterson	Apr 11, 2023
	MH Test ACC Proj		Project Admin ▾	Developer Advocacy Support	Feb 21, 2023

AUTODESK Construction Cloud

+1 866-475-3802 | LOG IN | GET DEMO

Products Solutions Resources Customer Stories Pricing

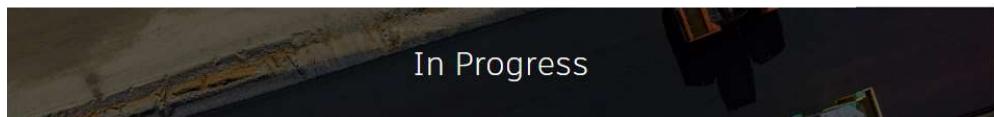
PRODUCT ROADMAP | IN PROGRESS | RECENT RELEASES

The information provided in this material, including all product roadmaps and schedules, are not promises and is subject to change. We're as excited as you to see new functionalities and improvements in our products, but their development, releases, and timing remain at our sole discretion. The information provided here should not be relied upon for purchasing, investment, or other decisions.

Autodesk Construction Cloud Product Roadmap

We are focused on delivering on our promise of a unified platform to help connect teams and project data from design to done—reducing risk, protecting profits, and increasing predictability.

New functionality is released across our Autodesk Construction Cloud products regularly. If you're a product user, you will receive in-product updates about recent releases or subscribe to our newsletter to have product updates dropped in your inbox.



Below is a select list of features we are actively developing. This is our global roadmap, please note that not all features will be available in all regions.

Administration and Project Standardization	+
Document Management	+
Construction Management	+
BIM/VDC	+
Preconstruction	+
Data and Intelligence	+



ACC Product Roadmap

[https://construction.autodesk.com/
products/product-roadmap/](https://construction.autodesk.com/products/product-roadmap/)

Construction Management

Our roadmap for Construction Management currently focuses on building tools that allow users to leverage models in construction, increase customization and control in cost and project management workflows including RFIs, Submittals and Correspondence and improve onsite scheduling.

Related Products:

AUTODESK Build

Coming Soon

Assets Statistics

Autodesk Build mobile users will get more insight into Assets with the ability to view the status of open assets and the number of open forms and issues associated with an asset.

Export/Import Templates into Assets

Autodesk Build users will be able to export existing Asset project settings from BIM 360 Assets and import into Project Templates in Autodesk Construction Cloud.

Change Order Required Field

Autodesk Build Cost Management users will be able to better understand the impact of change orders upfront by having specific information like schedule change and custom attributes required at submission. Project admins will define the required fields within Cost Management's settings.

Assign Roles and Companies to Submittals

Autodesk Build users will be able to assign specific Roles to

ACC/BIM 360 App Store

- apps.autodesk.com

- Visible to all users
- Custom Integration Tab to provision App

Welcome to Autodesk App Store for Autodesk® BIM 360™. Your portal to the Autodesk BIM 360 software ecosystem. Autodesk App Store provides access to Add-ins and web services that allow you to more efficiently collaborate with project data throughout the building construction lifecycle.

Search Apps ACC & BIM360 Show All

Featured Apps

- FME FME Seamlessly integrate your Autodesk® Docs® files and data into the FME ecosystem. Trial
- Bimmatch for Autodesk Construction Cloud® Bimmatch for Autodesk Construction Cloud® Automated a dynamic and smart Bill Of Materials with budget and carbon footprint calculations, directly from your Autodesk Construction Cloud® project. Free
- GoFormz Mobile Forms GoFormz Mobile Forms Digitize your forms for use on mobile devices – no code required. Import Images, GPS, Sketches & Signatures. Create/update BIM360 records with form. Free
- BIMLauncher BIMLauncher Unlock Team Collaboration – Connecting Information, BIM, and Data. Trial
- EC3 for Autodesk Construction Cloud® EC3 for Autodesk Construction Cloud® Import Autodesk® Takeoff packages and Autodesk® Project. Trial
- Observance Observance Observance platform works like a super-app; that is

same publishing process : <https://www.autodesk.com/developapp>

- In-product store

- Visible to Account Admin
- Simplified provisioning

Autodesk Construction Cloud Account Admin Developer Advocacy Support

PROJECTS MEMBERS COMPANIES ROLES ANALYTICS SETTINGS APPS

Featured Apps My Apps

Mikako Harada

App gallery

Tools Productivity

360Sync™ Scheduling & Productivity

AKULAR Connector Integration

360Sync™ Scheduling & Productivity

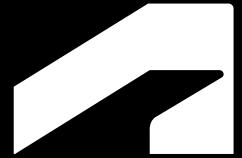
Agave API Data Extraction

Allied - Fabrication Center Plumbing Design

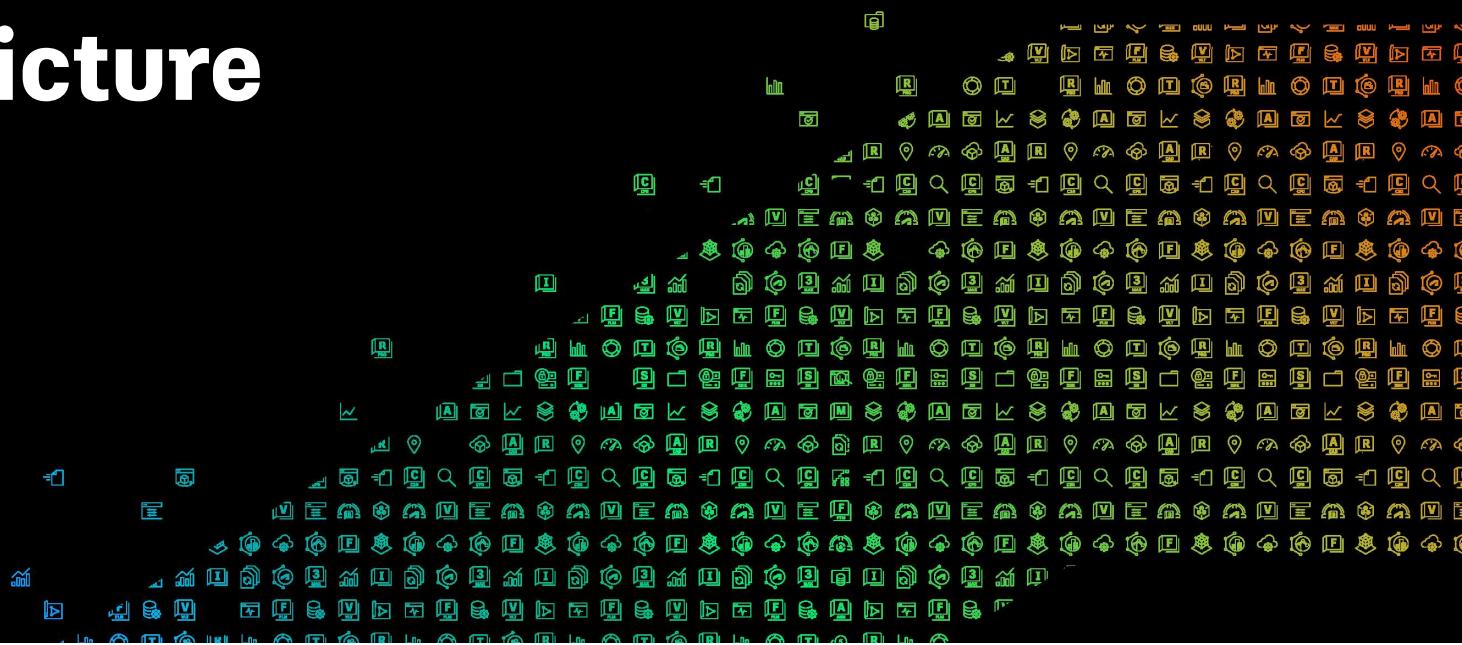
Allied - FabricationConnected Plumbing Design

Aptix™ Integration Platform Integration

ArcGIS GeoBIM Design Checking / Coordination

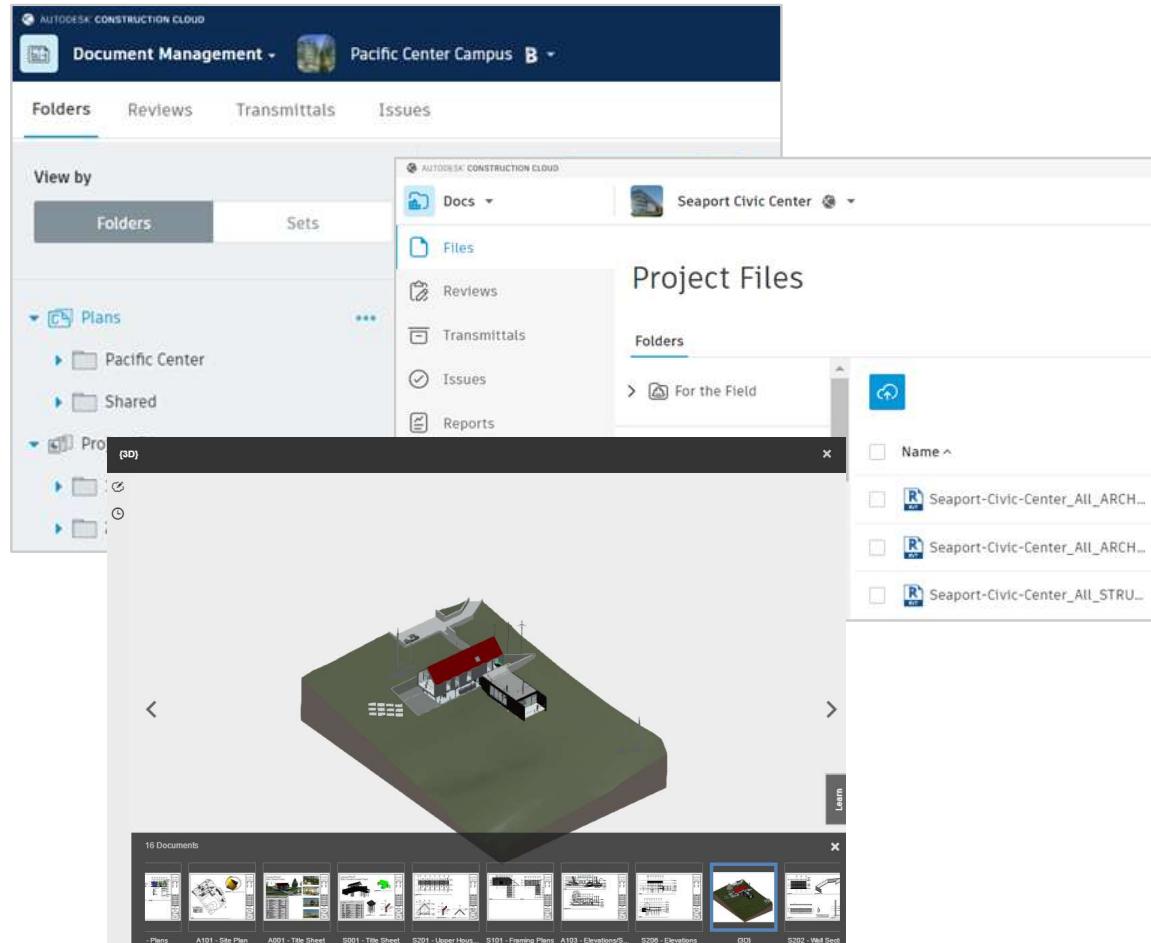


API - Big Picture



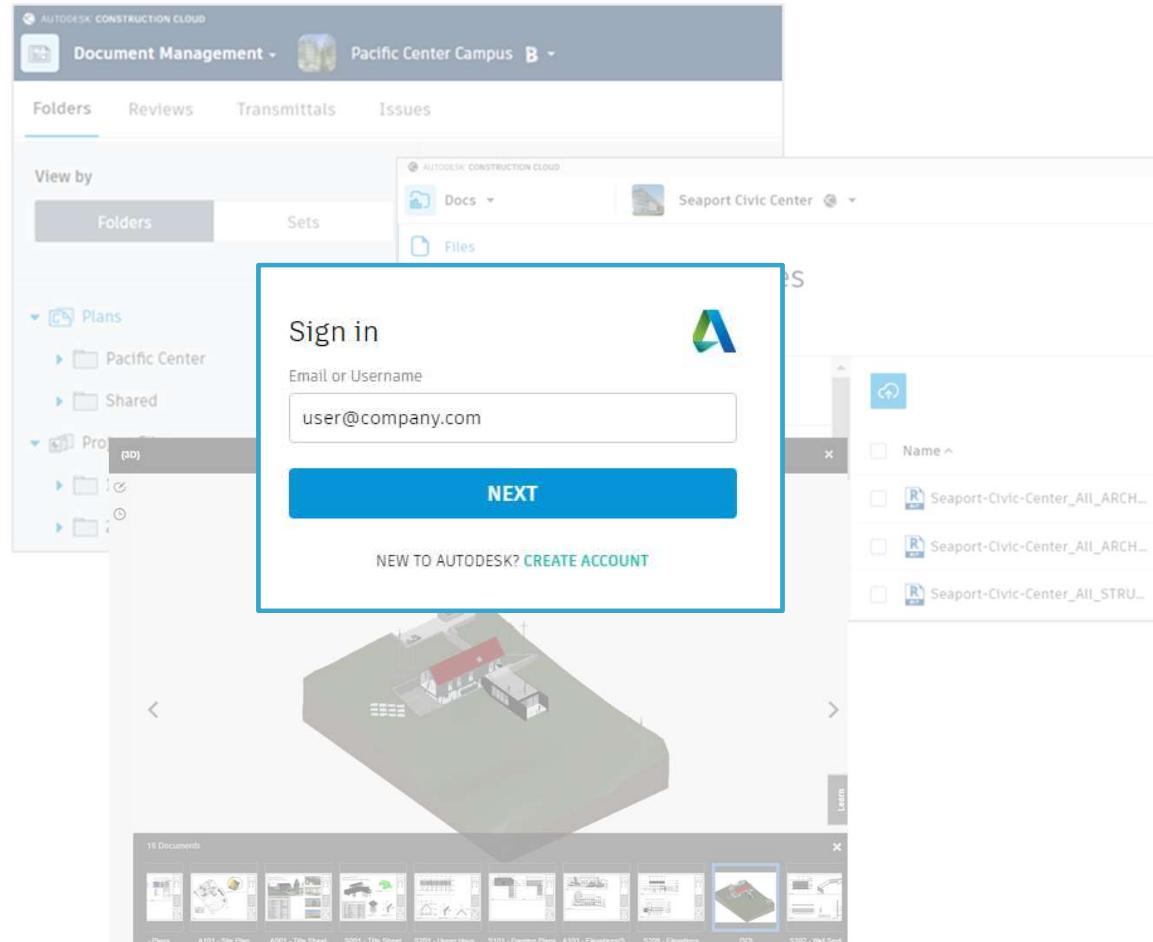
Autodesk/BIM 360 Docs – API Overview

- Authentication (OAuth)
- Data Management API
- Model Derivative API
- Viewer
- Admin API
- Issues API



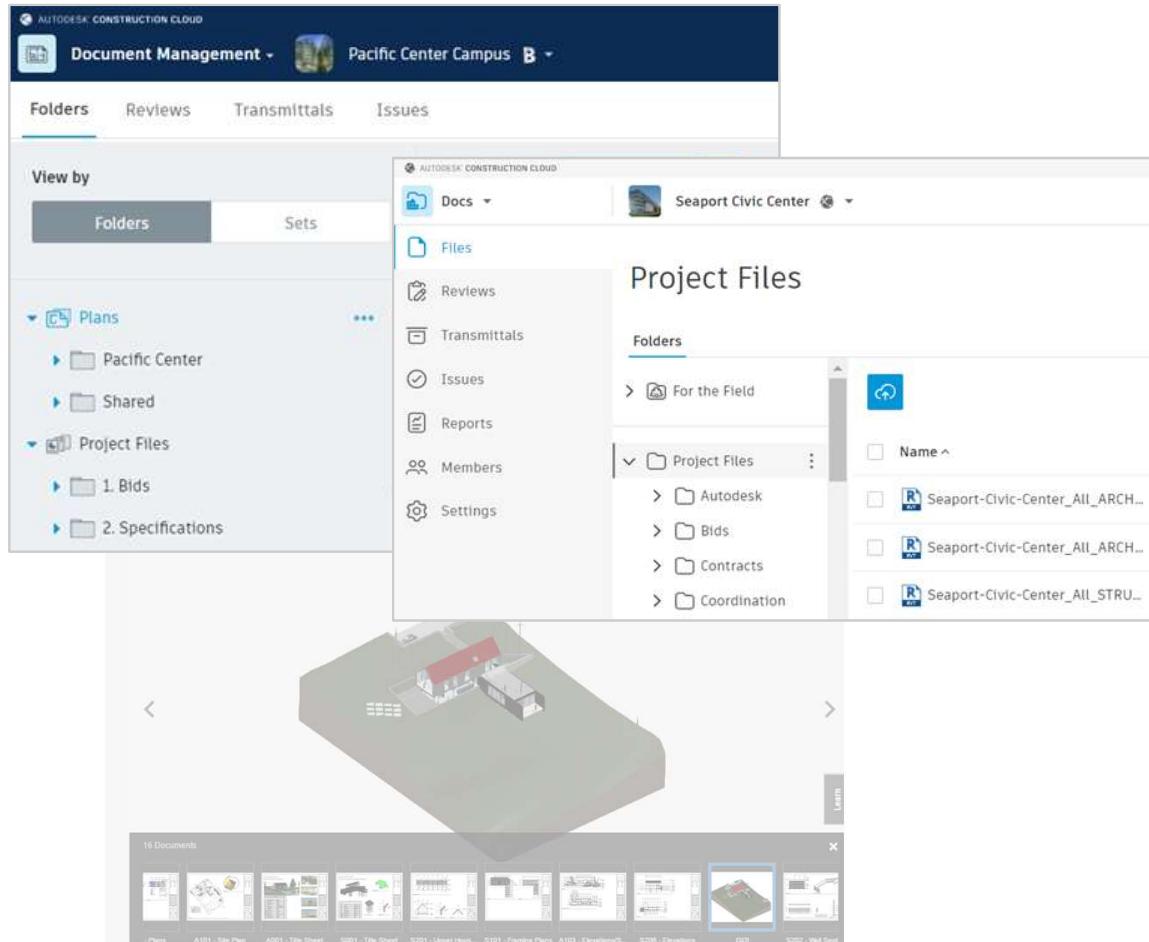
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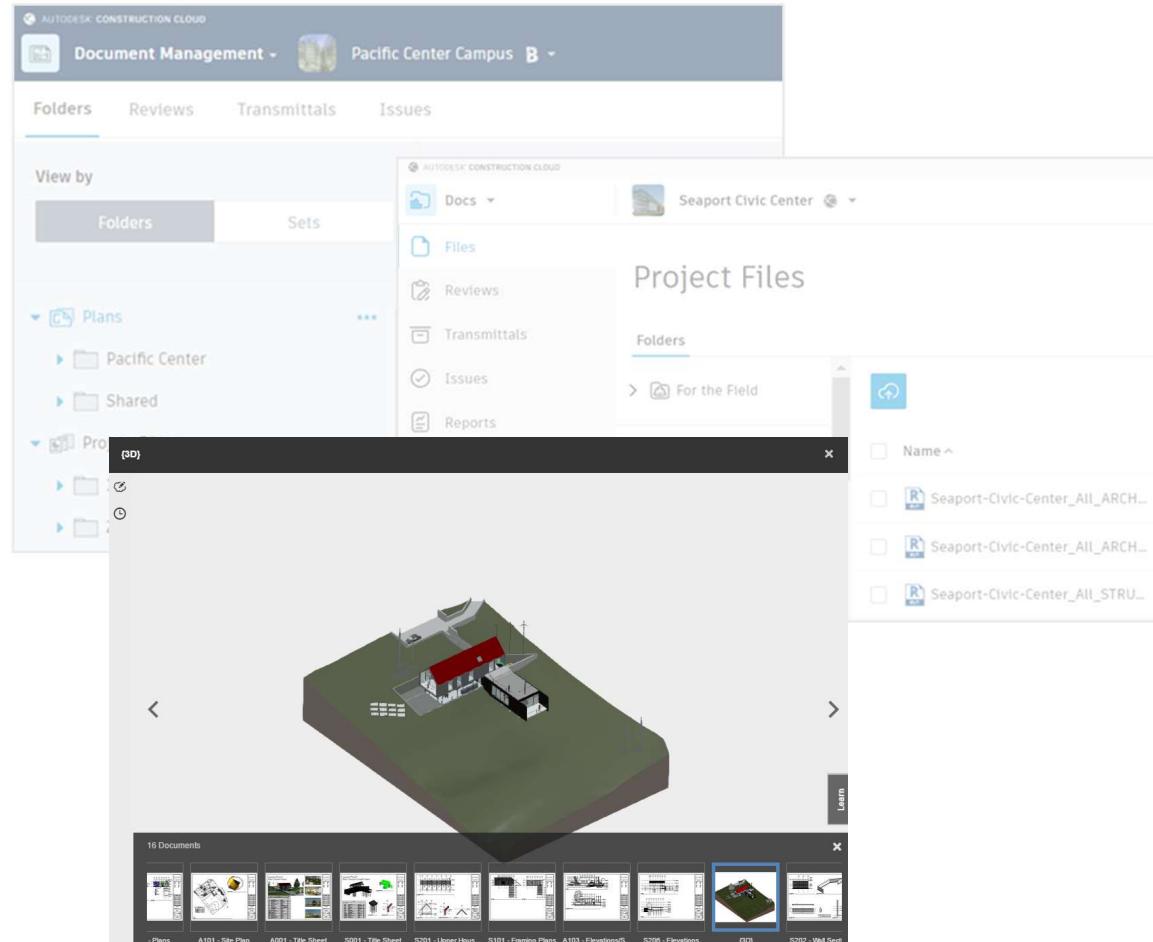
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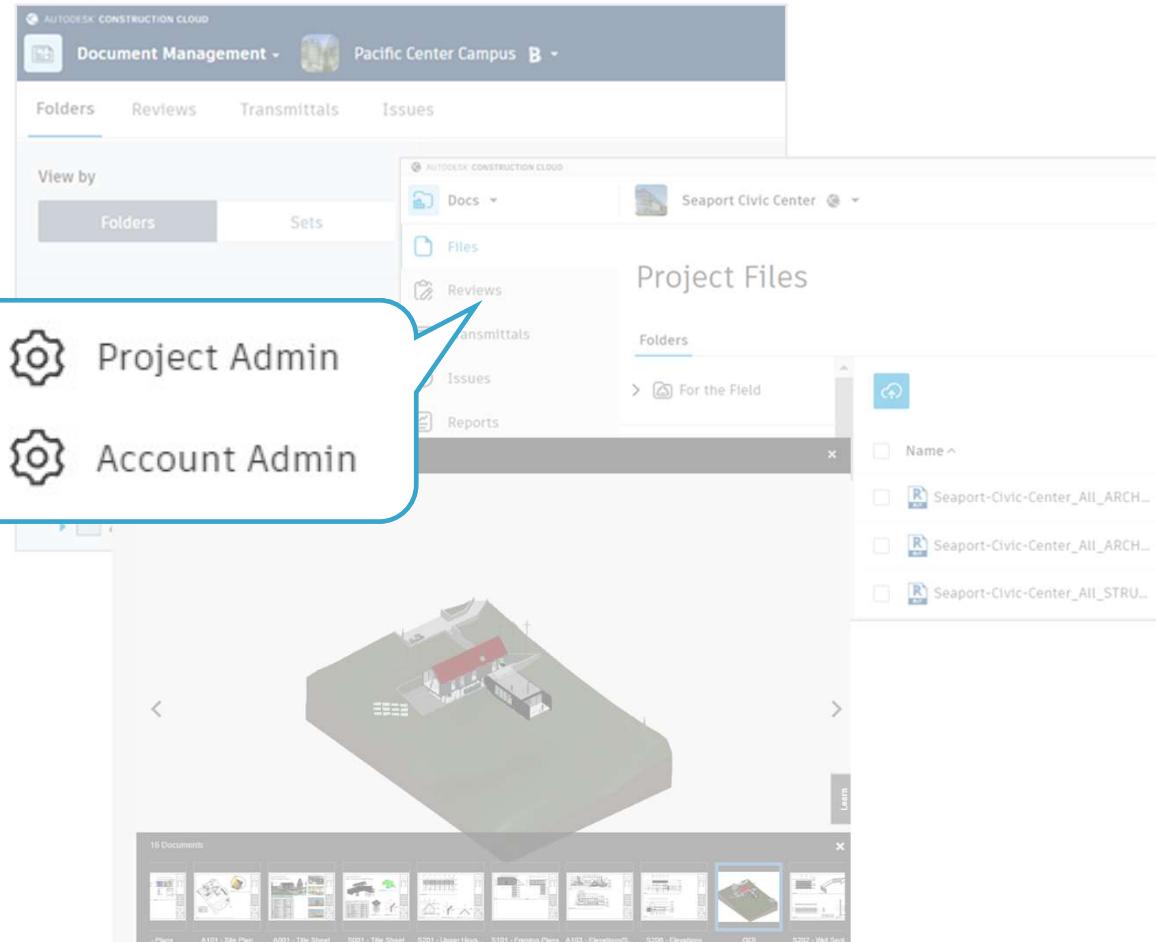
Autodesk/BIM 360 Docs – API Overview

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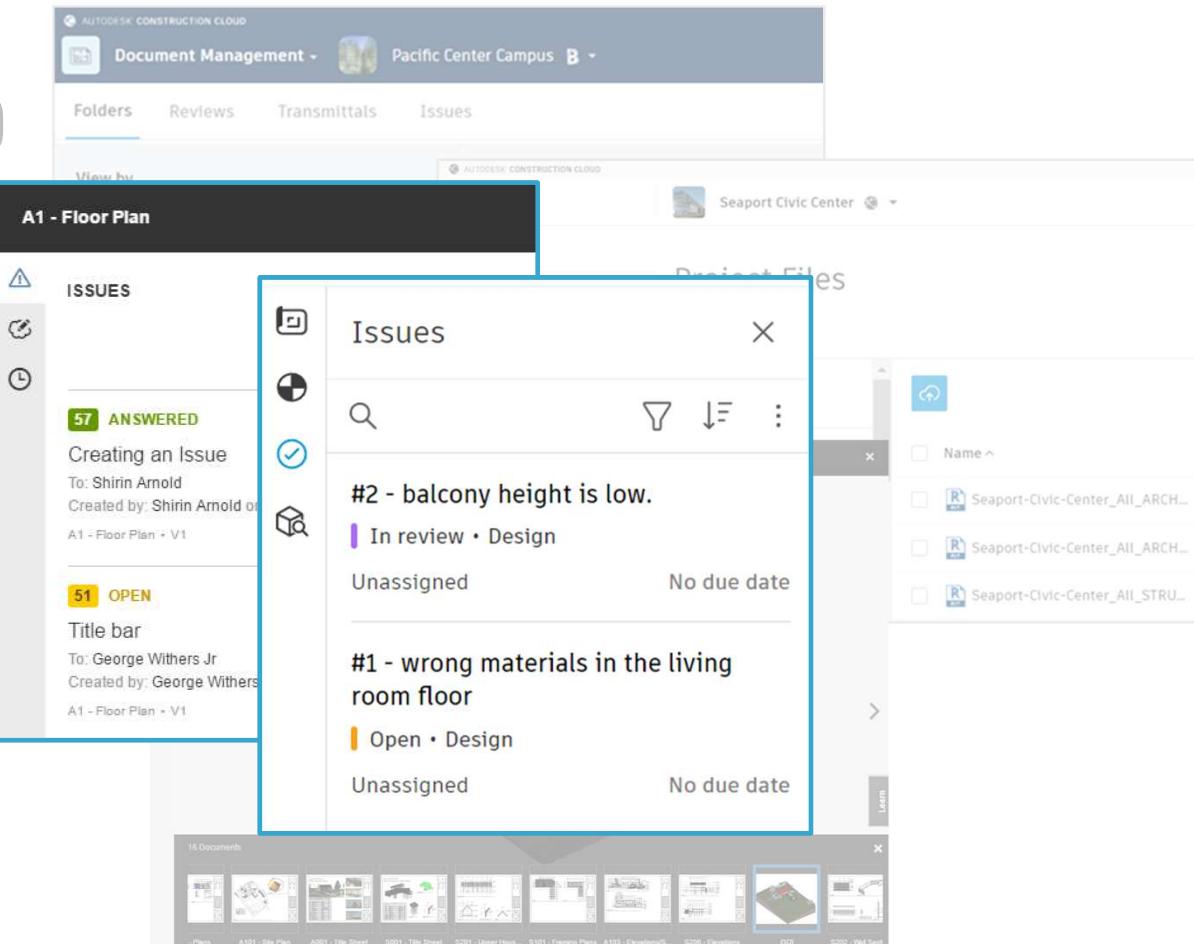
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Autodesk/BIM 360 Docs – API Overview

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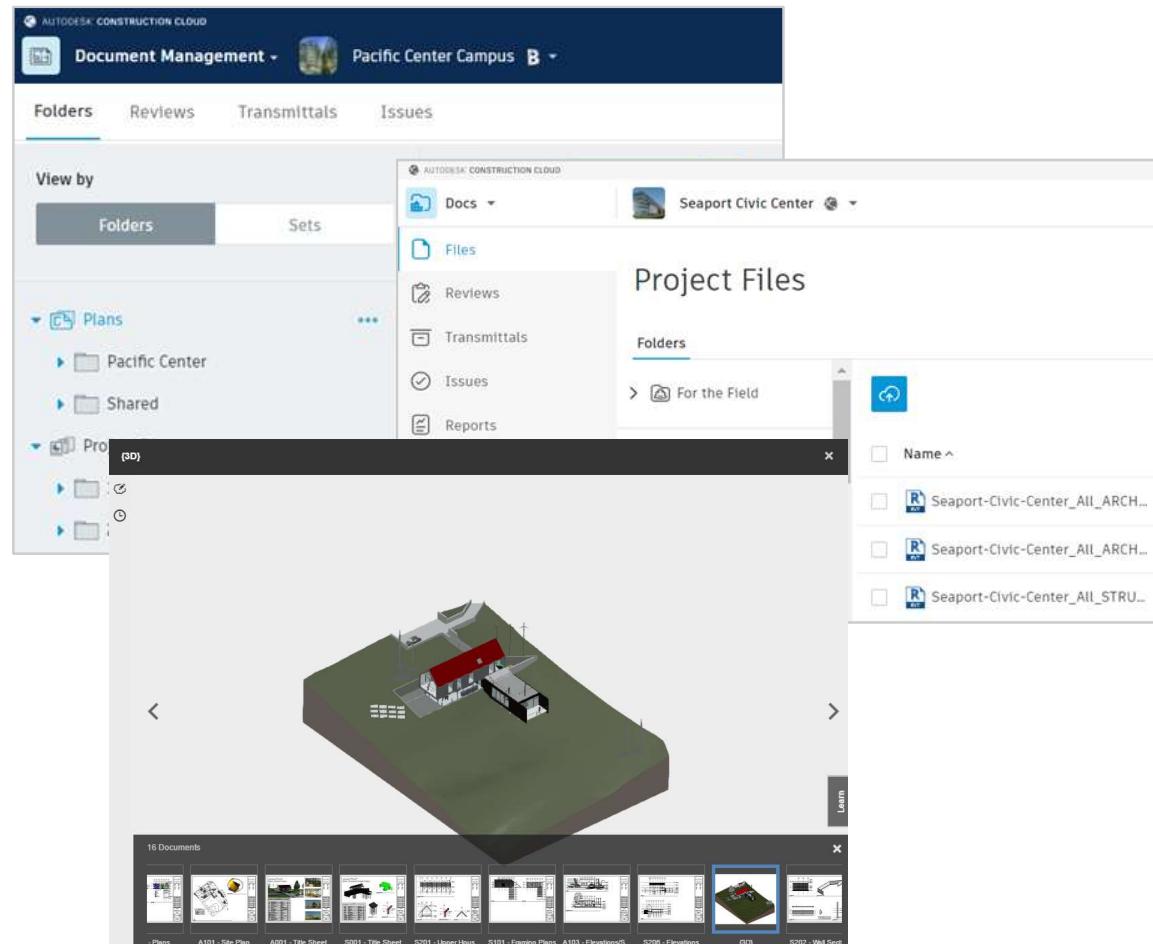
Autodesk/BIM 360 Docs – API Overview

- Authentication (OAuth)
- Data Management API
- Model Derivative API
- Viewer

Platform API

- Admin API
- Issues API

ACC/BIM 360 API



AUTODESK Construction Cloud

Unified Products and API



AUTODESK
BIM Collaborate



AUTODESK
BIM Collaborate
Pro



AUTODESK
Takeoff



AUTODESK
Build



AUTODESK Docs

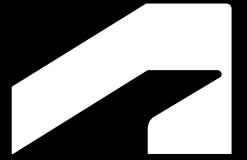
Docs Specific

Platform API

INSIGHTS

Shared Services within ACC/BIM 360

ADMINISTRATION



Autodesk Platform Services (APS)

APS (Autodesk Platform Services) API

- APS basics
 - Authentication (OAuth)
 - Data Management (DM) API
 - Model Derivatives API
 - Viewer
- Learning
 - aps.autodesk.com >> Getting Started
 - Setup
 - Tutorials
 - Link to Github

The screenshot shows the Autodesk Platform Services website. At the top, there is a navigation bar with links for Solutions, Getting Started (which is highlighted with a yellow circle), Documentation, Success Stories, Community, Support, and Price. Below the navigation bar, the main content area has a sidebar on the left with a "Getting Started" section containing links for Environment Setup, Tutorials (also highlighted with a yellow circle), Simple Viewer, Hubs Browser (marked with a yellow star), Dashboard, Design Automation, ACC Administrator (marked with a yellow star and labeled "New!"), and Learn More. The main content area features a "Getting Started" heading with a sub-section titled "Create an account". A "TIP" box at the bottom right suggests taking advantage of a trial subscription.

AUTODESK
Platform Services

Solutions ▾ Getting Started Documentation Success Stories Community ▾ Support ▾ Price

Getting Started

Environment Setup

Tutorials

Simple Viewer

Hubs Browser ★

Dashboard

Design Automation

ACC Administrator ★ New!

Learn More

Getting Started

Here's a couple of things you want to do before building your first Platform Services application.

Getting Started

Create an account

If you don't have an APS account yet, sign up for one on <https://aps.autodesk.com>.

TIP

You can take advantage of a trial subscription that is valid for

APS (Autodesk Platform Services) API

AUTODESK Platform Services Documentation / Viewer / Developer's Guide Sign in

Viewer Version 7

Developer's Guide

- Overview
- Interactive Examples

Controlling viewer State
Handling Viewer Events
Querying Model Properties
Customizing Viewer UI
Customizing Viewer Scene
Aggregated View

Viewer Essentials

1. Add Viewer to HTML
2. Initialize Viewer
3. Load a Model
4. Write an Extension
5. React to Events
6. Customize Toolbar
7. Allocate Memory for Large Models
8. glTF 2.0 loader
9. DiffTool

> Advanced Options

Customizing Viewer UI

This example illustrates adding a custom button to the Viewer toolbar. The event handler for the button's onClick event sets the light preset of the Viewer to Photo Booth (4).

HTML CSS JS

```
import {  
    initViewer,  
    listModels,  
    loadModel  
} from "https://aps-codepen.autodesk.io/utils.js";  
  
const viewer = await initViewer(document.getElementById("viewer"));  
const models = await listModels();  
const dropdown = document.getElementById("models");  
dropdown.innerHTML = models  
    .map((m) => '${m.name}'  
        .join("")  
);  
dropdown.onchange = () => dropdown.value && loadModel(viewer,  
dropdown.value);  
dropdown.onchange();  
  
viewer.addEventListener(Autodesk.Viewing.TOOLBAR_CREATED_EVENT,  
function () {  
    const button = new Autodesk.Viewing.UI.Button("my-button");  
    button.onClick = function (e) {  
        viewer.setLightPreset(16);  
    };  
    button.addClass("my-button");  
    button.setToolTip("Click here");  
    const group = new Autodesk.Viewing.UI.ControlGroup("my-group");  
    group.addControl(button);  
    viewer.toolbar.addControl(group);  
});
```

Result

EDIT ON CODEPEN

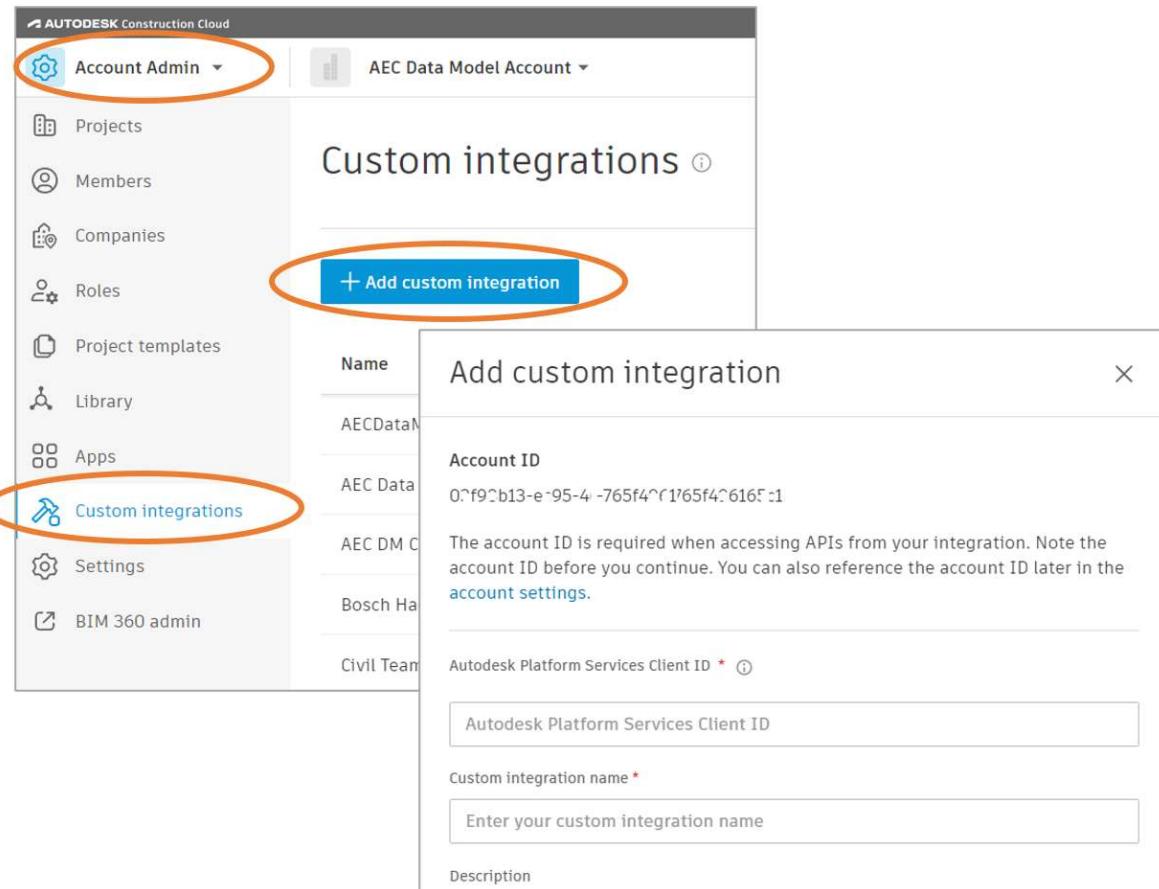


Activating API Access – before you code ...

- Account Admin needs to activate API access:
 - ACC: Account Admin >> **Custom Integration**
 - BIM 360: Account Admin>> **Settings >> Custom Integration**
- “Provisioning”

New!

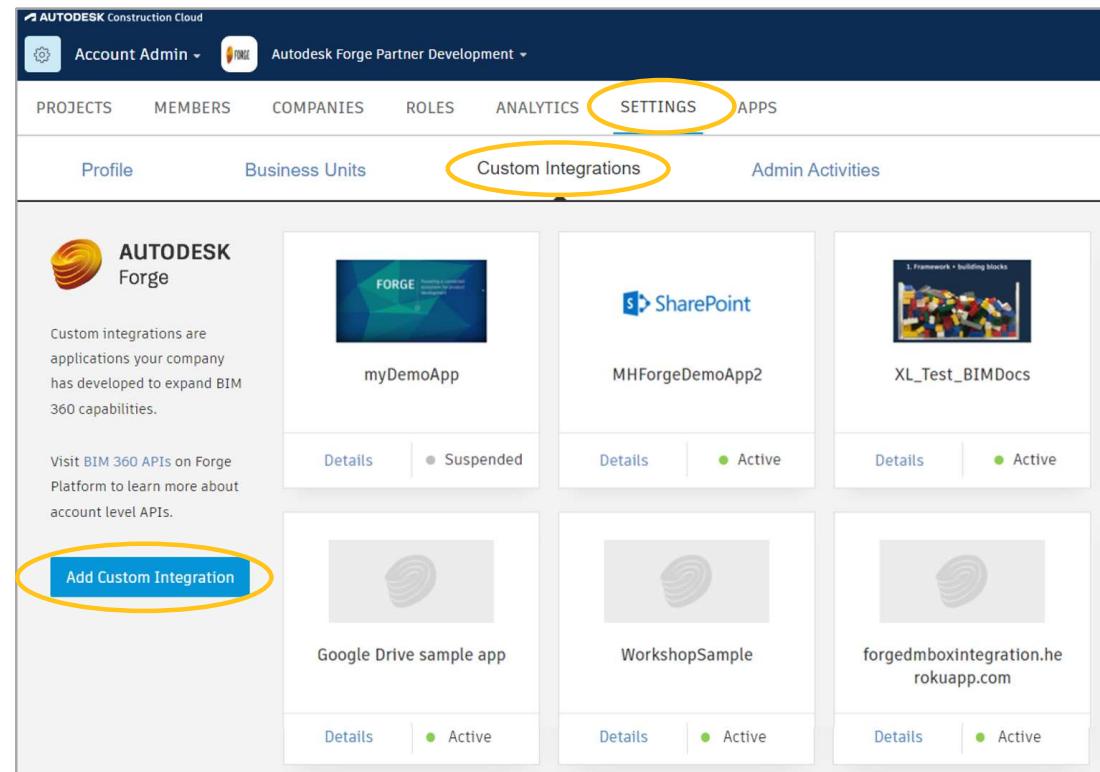
ACC UI →



Activating API Access – before you code ...

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 - ACC: Account Admin >> **Custom Integration**
 - BIM 360: Account Admin>> **Settings >> Custom Integration**
- “Provisioning”

BIM 360 UI →



Activating API Access

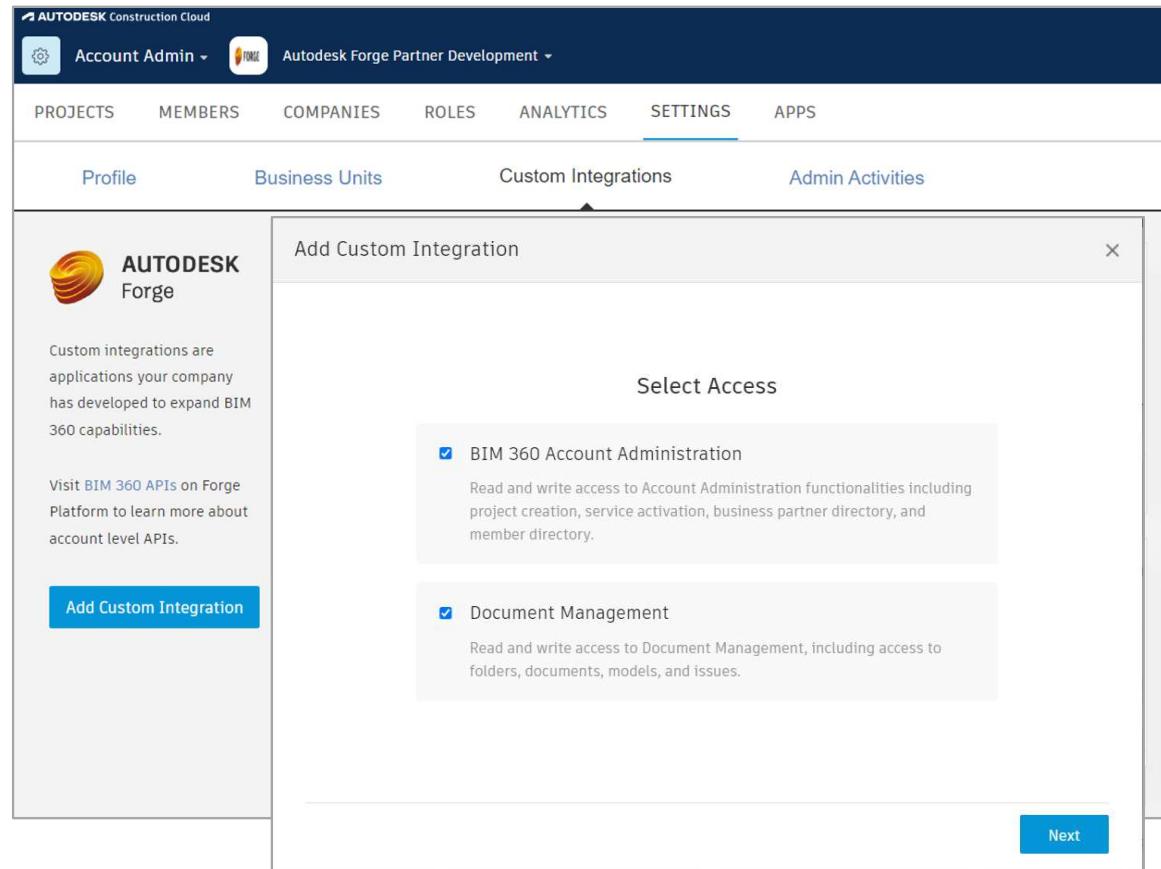
- ACC – if you have access to BIM 360 ...
- Account Admin
>> BIM 360 Admin >> Settings
- **⚠ Activate all at account level!**
- Wish: BIMAPI-96: granular controls giving access to 3rd party apps.
- Secure Service Account in roadmap

The image consists of four screenshots illustrating the process of activating API access:

- Screenshot 1: Autodesk Construction Cloud - Project List**
 - The left sidebar shows "Account Admin" highlighted with an orange circle.
 - A green arrow points from this screen down to the next one.
- Screenshot 2: BIM 360 admin**
 - The left sidebar shows "BIM 360 admin" highlighted with an orange circle.
 - A green arrow points from the previous screen down to this one.
 - The top navigation bar shows "Account Admin" and "Sample Account".
 - The main area shows "Analytics", "Apps", "Companies", "Roles", and "Settings". "Settings" is highlighted with an orange circle.
- Screenshot 3: Autodesk Construction Cloud - Account Admin**
 - The top navigation bar shows "Account Admin" and "Sample Account".
 - The main menu bar shows "PROJECTS", "MEMBERS", "COMPANIES", "ROLES", "ANALYTICS", "SETTINGS" (highlighted with an orange circle), and "APPS".
 - A green arrow points from the previous screen down to this one.
 - The "Custom Integrations" section is highlighted with an orange circle.
- Screenshot 4: Autodesk Construction Cloud - Custom Integrations**
 - The "Custom Integrations" section displays three items: "AutoSpecs Test (Pype)", "AutoSpecs Dev (Pype)", and "AutoSpecs Test".
 - "AutoSpecs Test (Pype)" is shown as active.

Activating API Access

- BIM 360 UI has options:
 - Account Admin and Docs
 - In-house development or invite 3rd party developer



Activating API Access

AUTODESK Construction Cloud

Account Admin Add Custom Integration

PROJECTS M

Profile

AUTO Forge

Custom integration applications you developed to expand capabilities.

Visit BIM 360 API Platform to learn about account level APIs

Add Custom Int

BIM 360 info you need

When accessing BIM 360 APIs from your app, you need to specify the BIM 360 Account ID. Before proceeding, please make sure to save the BIM360 Account ID info for your records.

BIM 360 Account ID
70826065-e117-4d4d-bbd2-00c7ac73d0a2 I have saved the Account ID information

Fill in App Information

* Forge Client ID
057oA9BMeJlmbqxQLo6TvVARurZc9U6

App Logo

Select image to upload
JPEG, GIF, PNG, or BMP file(400*200px, 4MB max)

AUTODESK Platform Services

Back to Applications

ApsIntroApp

Created on May 29, 2017

Client Credentials

The Client ID and Client Secret are used to obtain access tokens, which you must use to authenticate API calls.

Client ID: 057oA9BMeJlmbqxQLo6TvVARurZc9U6

Client Secret:

Regenerate

<https://aps.autodesk.com/myapps/>

API Products to Choose

- When you create a Client ID for your Application
- <https://aps.autodesk.com> >> Sign in >> Applications

Product(s) to Support	Proxy to Use
BIM 360	BIM 360 API
BIM 360/ACC Use compatible API's only	BIM 360 API
BIM 360/ACC. Use full range of API's	BIM 360 API & ACC API
ACC Use ACC Specific API's and backward compatible API's *1	ACC API

*1) ACC project Admin GET endpoints

API Access
These are the APIs your app is allowed to access. It can be changed anytime.

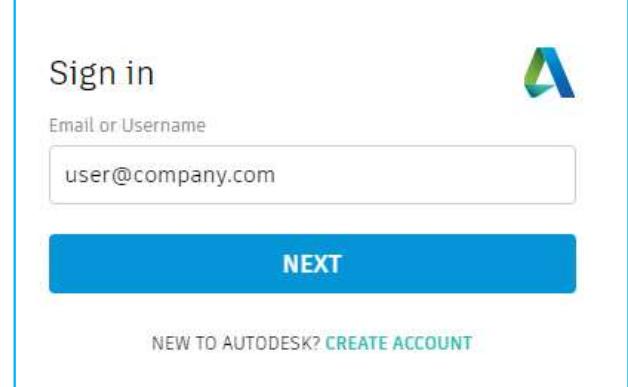
2 APIs selected

<input checked="" type="checkbox"/> Autodesk Construction Cloud API
<input checked="" type="checkbox"/> BIM 360 API
<input type="checkbox"/> BuildingConnected API
<input type="checkbox"/> Data Exchange API
<input type="checkbox"/> Data Management API
<input type="checkbox"/> Design Automation API
<input type="checkbox"/> Fusion Data API
<input type="checkbox"/> Model Derivative API
<input type="checkbox"/> Parameters API
<input type="checkbox"/> Premium Reporting API
<input type="checkbox"/> Reality Capture API
<input type="checkbox"/> Token Flex Usage Data API
<input type="checkbox"/> Webhooks API

<https://aps.autodesk.com/myapps/>

Authentication Methods

- OAuth2
 - 2-legged
 - Application context
 - 2-legged w/ user impersonation (x-user-id)
 - User context
 - 3-legged
 - User context
 - Re-direct to authorization server



The image shows a screenshot of an Autodesk sign-in page. At the top right is the Autodesk A logo. Below it is the text "Sign in". Underneath is a text input field labeled "Email or Username" containing "user@company.com". Below the input field is a large blue button with the word "NEXT" in white. At the bottom right of the form area is the text "NEW TO AUTODESK? [CREATE ACCOUNT](#)".

	BIM 360 Team/ Fusion Team	Autodesk/BIM 360 Docs	ACC/BIM 360 Admin	ACC unified Prod/BIM 360 “vertical” modules
2-legged	X	0	0	X
3-legged	0	0	△*1	0

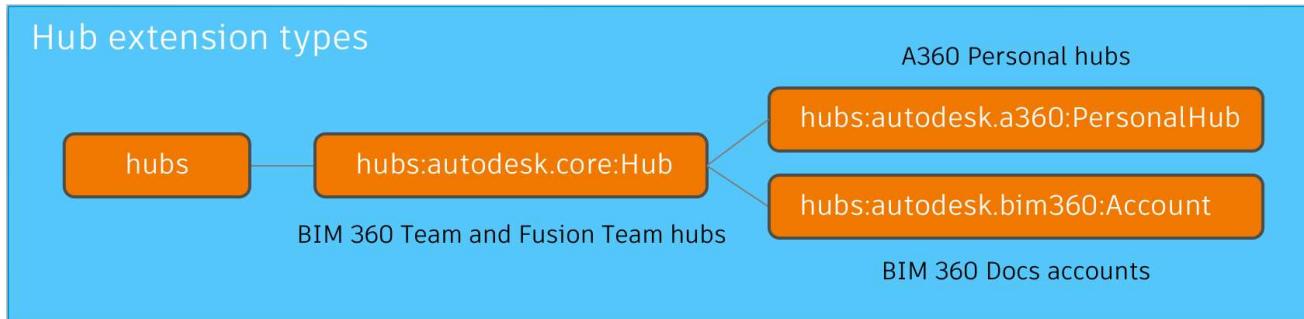
*1) currently mixed; endpoints with /admin/, /hq/v2/ supports 3LO

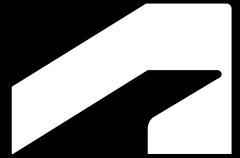
- **2-legged authentication gives you power user privilege. Use 3-legged where possible.**
- https://aps.autodesk.com/en/docs/oauth/v2/developers_guide/overview/



Tips: Data Management API with Docs

- Basic workflow is same across the products
- A few differences:
 - Docs support 2-legged and 3-legged.
 - “Hubs” is equivalent of “Accounts” in Autodesk/BIM 360 Docs.
 - Docs requires an additional step for activating API access in Account Admin Page.
 - Id's in Team start with **a**.xxx, Docs with **b**.xxx
 - Look for the use of extension types, such as ***:autodesk.bim360:*** instead of ***:autodesk.core:***
- Details: https://aps.autodesk.com/en/docs/data/v2/developers_guide/basics/





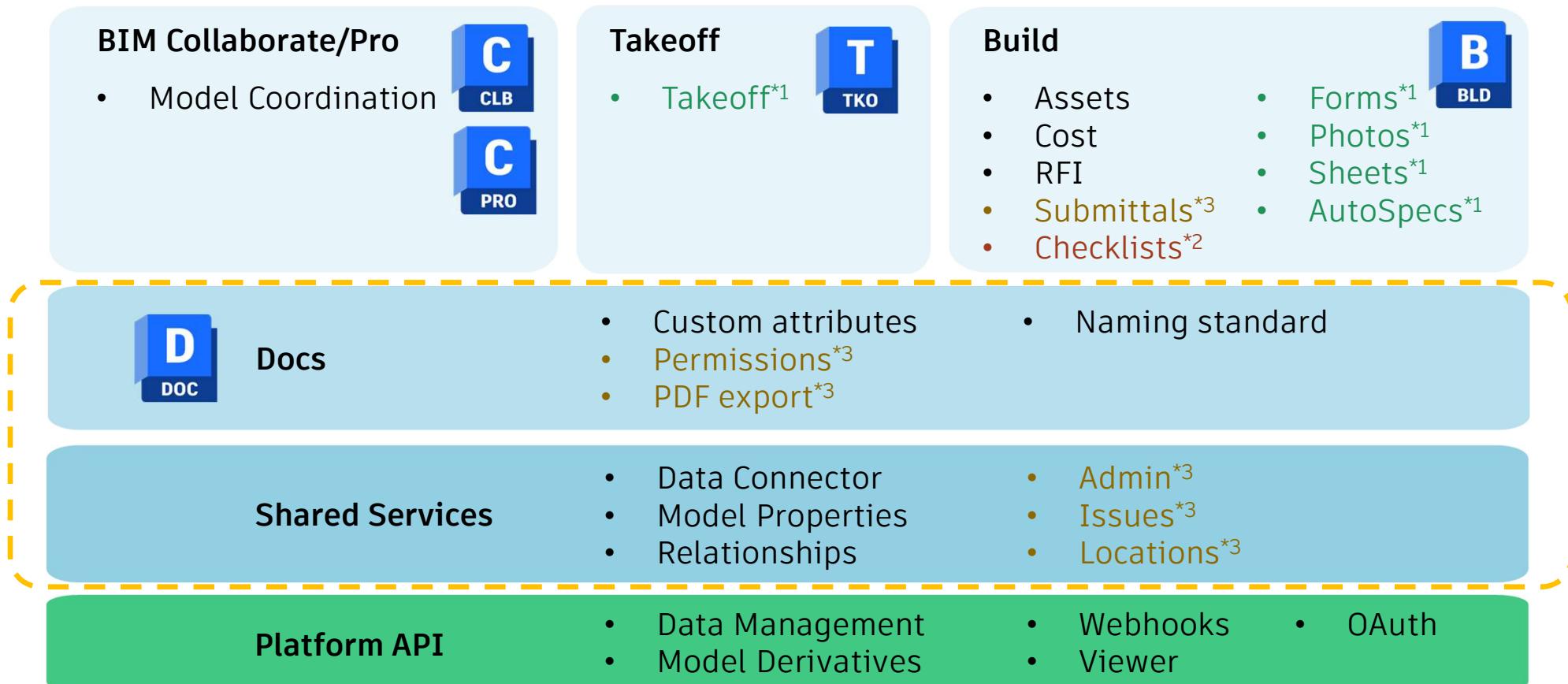
ACC/BIM 360 API

ACC/BIM 360 API Component Services & Structure

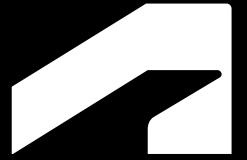
BIM Collaborate/Pro <ul style="list-style-type: none">Model Coordination 	Takeoff <ul style="list-style-type: none">Takeoff^{*1} 	Build <ul style="list-style-type: none">AssetsCostRFISubmittals^{*3}Checklists^{*2} 
 Docs <ul style="list-style-type: none">Custom attributesPermissions^{*3}PDF export^{*3}		<ul style="list-style-type: none">Naming standard
Shared Services <ul style="list-style-type: none">Data ConnectorModel PropertiesRelationships		<ul style="list-style-type: none">Admin^{*3}Issues^{*3}Locations^{*3}
Platform API <ul style="list-style-type: none">Data ManagementModel Derivatives		<ul style="list-style-type: none">WebhooksViewer <ul style="list-style-type: none">OAuth

*1) ACC only, *2) BIM 360 only, *3) Not compatible or partially compatible

ACC/BIM 360 API Component Services & Structure



*1) ACC only, *2) BIM 360 only, *3) Not compatible or partially compatible



ACC/BIM 360 API - Shared Services

Docs/Document Management



- Data Management API + Docs specific API (Viewer + Model Derivative)

- Feature differences

- no “Plans” folder in ACC
 - Single page pdf (pdf export)
 - “For the Field” in ACC



- **Permissions**



- **Custom attribute** behavior change projects after March 23, 2021~ (API TBD)

- GET projects >> data[n].attributes.extension.data.
projectType = “ACC” | “BIM360”

- Naming convention read API – Oct. 2021

- Export PDF w/ markups and hyperlinks in ACC – Nov., 2022

The screenshot shows the Autodesk Construction Cloud Document Management interface. At the top, it says "AUTODESK CONSTRUCTION CLOUD" and "Document Management - Pacific Center Campus". Below that is a navigation bar with tabs for "Folders", "Reviews", "Transmittals", and "Issues".
The main area has a "View by" dropdown set to "Folders" (which is highlighted in blue). There are two tabs: "Folders" and "Sets".
On the left, there's a sidebar with "AUTODESK CONSTRUCTION CLOUD" and "Docs" dropdowns, and a "Project Files" section with "Files", "Reviews", "Transmittals", "Issues", "Reports", "Members", and "Settings".
The main content area shows a tree view:

- Plans
 - Pacific Center
 - Shared
- Project Files
 - 1. Bids
 - 2. Specifica
- For the Field
 - Autodesk
 - Bids
 - Contracts
 - Coordination

On the right, there's a search bar with "Name ^" and "Set" dropdowns, and a "Upload files" button.

Admin



API

- Partially compatible
 - GET projects/project users – compatible
 - POST projects/projects users – NOT compatible
 - Project creation from template - ACC only
- No method to distinguish hub type
- For more info.
 - <https://aps.autodesk.com/blog/acc-project-admin-api-project-creation-and-user-management> (recording, presentation, postman collection)
 - Getting started >> Tutorials >> “ACC Administrator”



The screenshot shows the Autodesk Construction Cloud (ACC) Project Directory. The top navigation bar includes 'Account Admin' and 'Autodesk Forge Partner Development'. Below the bar are tabs for 'PROJECTS', 'MEMBERS', 'COMPANIES', 'ROLES', 'ANALYTICS', 'SETTINGS', and 'APPS'. The 'PROJECTS' tab is selected. A sub-header 'Project Directory' is followed by the text 'The Project Directory lists all projects in your account.' A blue 'Add' button is at the top left of the project list. To its right is a search bar with the placeholder 'Search project by name'. The main area displays a table titled '185 Current Projects | View Archived'. The columns are 'Name', 'Members', 'Companies', and 'Project S'. The first few rows show projects like '00 Design Files' (0 members, 1 company, Active), 'Accelerator Shanghai' (2 members, 3 companies, Active), and 'AC J' (ADN) (0 members, 0 companies, Active). On the left side, there's a sidebar with links for 'Projects', 'Members', 'Templates', 'Library', 'Settings', and 'Apps'. At the bottom of the sidebar, it says 'BIM 360 admin'. The right side of the screenshot shows a separate 'Projects' section with tabs for 'Active' and 'Archived'. A blue '+ Create project' button is visible. Below it is a table listing projects: '000Woods' (Number 000, Type BIM 360, Active), '001_CDE_ITALY' (Number 001_2021, Type BIM 360, Active), '003_CDE_ITALY' (Number 1003, Type BIM 360, Active), and '00-ADSK Docs' (Number 567483, Type BIM 360, Active). A watermark 'BIM 360 admin (Nov 20, 2023)' is overlaid on the bottom right.

Issues



- Used in Docs, Build, Design Collaboration, Model Coordination + Desktops: Revit, Navisworks

- API

- ⚠ NOT compatible**
- ACC Issues (Sept, 2022)
- BIM 360 Issues v2**
- Gap - High priority area
 - Add Pushpin**
- References
 - use **Relationships API** for ACC
 - use Issues specific API for BIM 360

The image displays two screenshots of the Autodesk Construction Cloud interface, specifically the Field Management and Build modules.

Field Management - Pacific Center Campus:

- ISSUES Tab:** Shows a list of issues with columns: ID, Type, Sub-type, and Title. Issues listed include:

ID	Type	Sub-type	Title
1509	Design	Building Code	wrong door
1508	Installation Def...	Installation Def...	Roy - test - B
1507	Design	Design	test
1506	Installation Def...	Installation Def...	dasdas
1505	Installation Def...	Installation Def...	Door hardware
1504	Commissioning	Commissioning	Have issues f
- Issue #1505 Details:** Shows the details for a specific issue titled "Door hardware installation defect". It includes fields for Assigned to (Unspecified), Due Date (Unspecified), Location (Level 2 > Office 237), and Location Details (Unspecified).

Build - Seaport Civic Center:

- Issues Tab:** Shows a list of issues with columns: Title, ID, Status, Type, Assigned to, and more. Issues listed include:

Title	ID	Status	Type	Assigned to
Drawing Discrepancy: Floor Finish	#230	Pending	Design	Leah Ho
Installation	#228	Open	Quality	-
Safety	#227	Open	Safety	Christine Acker
Loader backing up in the array withi...	#226	Open	Safety	Bill Kagan
Forklift operator backed up in the ar...	#225	Open	Safety	Bill Kagan
Worker standing on mid rail of sciss...	#224	Open	Safety	Bill Kagan
Near miss getting injured	#223	Open	Safety	Bill Kagan
- Issue #226 Details:** Shows the details for a safety issue titled "Loader backing up in the array withi...". It includes fields for Status (Open), Type (Safety > Safety), Description (Loader backing up in the array withi...), Assigned to (Bill Kagan), and Location (Bill Kagan (United Construction)).

Insight/Data Connector



• Data Connector API

- API itself is **compatible**. Data may vary
- Project level support (July 2022)
- Tip: “Executive Overview” for account level.
- Schemas in http/json. **Public url's:**
 - <https://developer.api.autodesk.com/data-connector/v1/doc>
 - <https://developer.api.autodesk.com/data-connector/v1/doc/changes>

New!

schemas
admin_account_services.csv
admin_accounts.csv
admin_business_units.csv
admin_companies.csv
admin_project_companies.csv
admin_project_roles.csv
admin_project_services.csv

assets_asset_custom_attribute_values.csv
assets_asset_permissions.csv
assets_asset_statuses.csv
assets_assets.csv
assets_categories.csv
assets_category_custom_attribute_assignments.csv
assets_category_status_set_assignments.csv
assets_custom_attribute_default_values.csv

The screenshots show the Autodesk Construction Cloud Insight interface with the "Data Connector" section highlighted. The top two screenshots are from the "My Dashboard" and "Executive Overview" pages, while the bottom one is from the "Project Controls" page. Each screenshot shows a "Run extraction" button and a "Schedule" button.

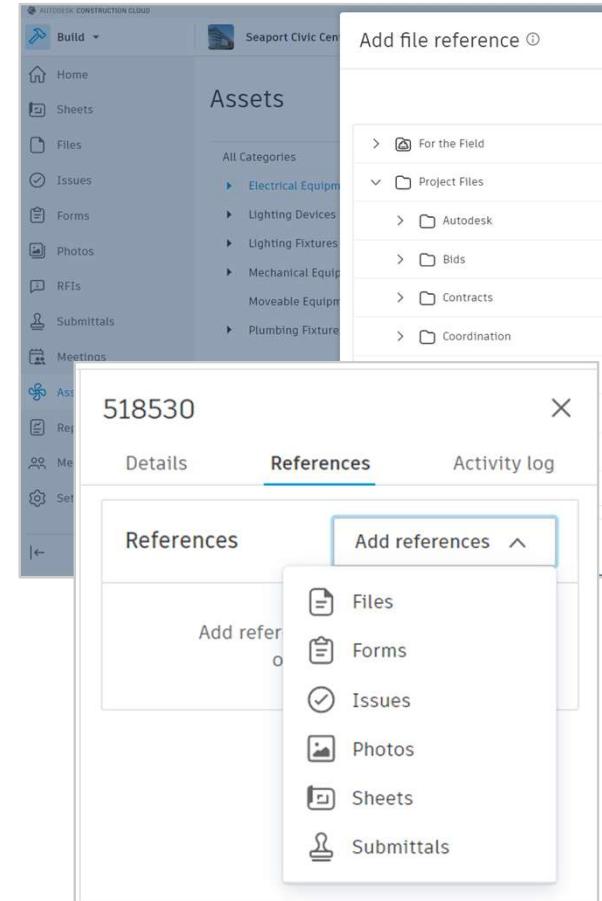
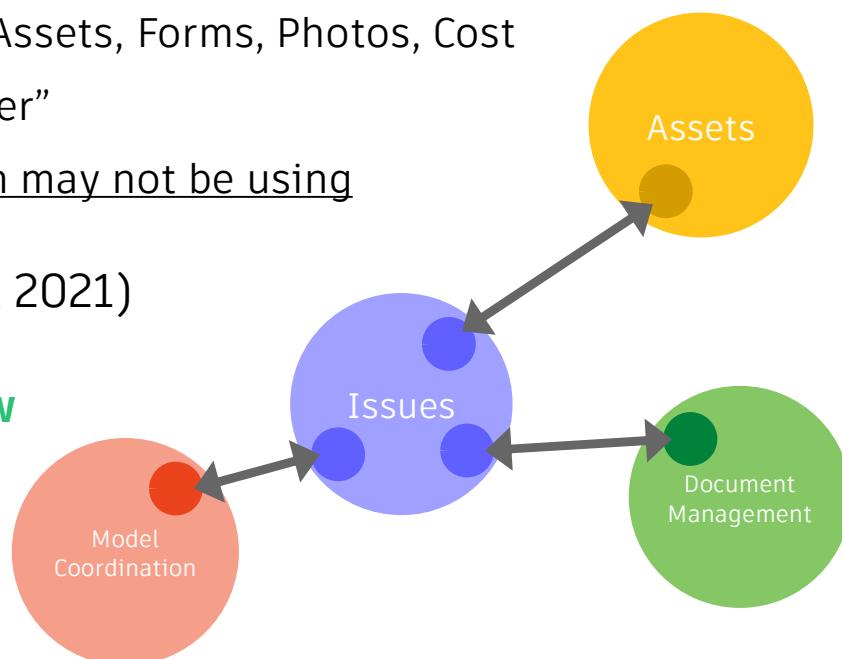
Locations

- Hierarchy of physical locations in a project
- Set in Project Admin
- Referenced from Issues, Assets, and other Build features (e.g., RFI, Forms).
- Read API for ACC & B360 (July, 2021)
- Write API for ACC only (Aug. 2022)

Add	Delete	Export	Import	Download Template
Name	Linked Documents	Area		
<input checked="" type="checkbox"/>	Project			
<input type="checkbox"/>	Basement	1		
<input type="checkbox"/>	Room 1	1		
<input type="checkbox"/>	Room 2	1		
<input type="checkbox"/>	apartment 1	1		
<input type="checkbox"/>	bathroom	2		
<input type="checkbox"/>	Room 3	2		
<input type="checkbox"/>	Level 1	1		
<input type="checkbox"/>	Level 2	4		
<input type="checkbox"/>	Office 237	5		
<input type="checkbox"/>	Office 306	4		
<input type="checkbox"/>	Office 271	4		
Total locations: 190				

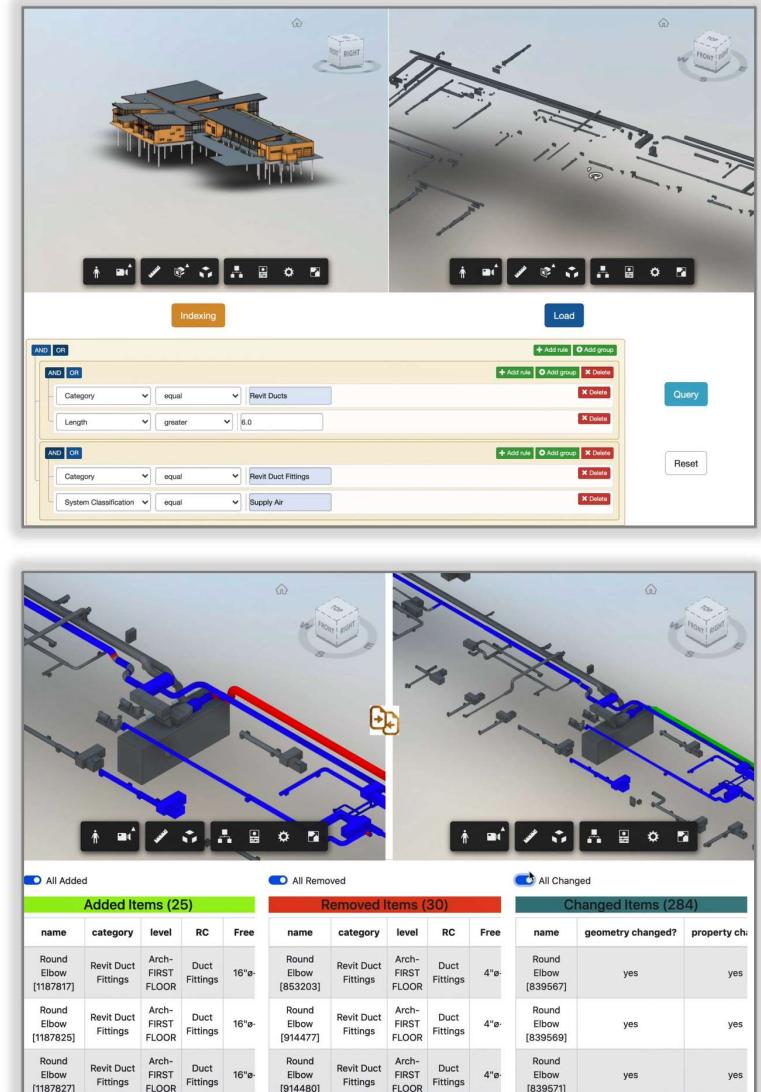
Relationships API

- Represent links between items (Entity) that reside in different functional components (Domain)
- Used in BIM 360 and ACC by various modules: e.g.,
 - Model Coordination, Assets, Forms, Photos, Cost
 - a.k.a. “Reference Picker”
 - Older implementation may not be using
- Read & Write (2020 & 2021)
- **Learn more tomorrow**

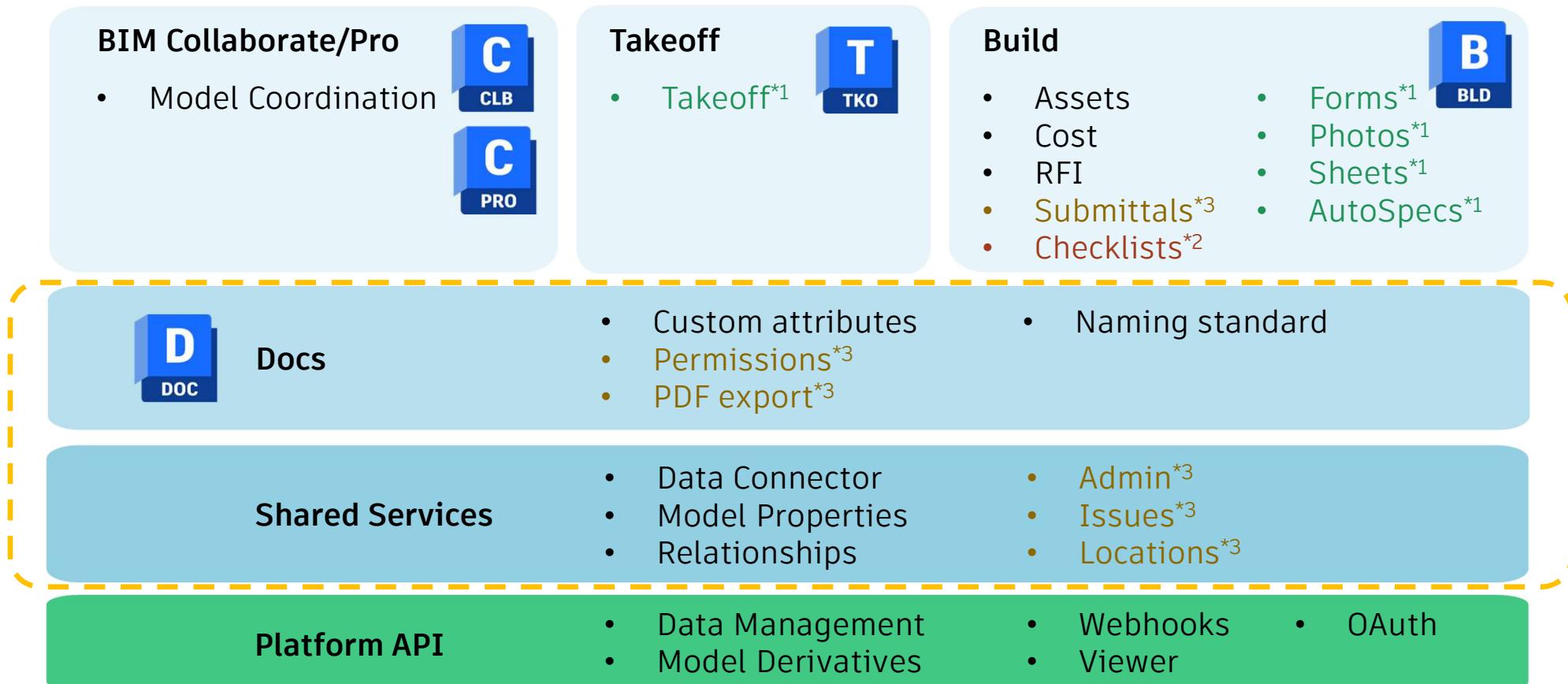


Model Properties API

- Built on Derivative Services (svf2), extends properties data for analysis of a BIM model
 - **Index** – query, filter properties of a model
 - **Diff** - compare two versions
- Use in products
 - Change analysis in Design Collaboration
 - Clash analysis in Model Coordination
 - Model based workflow in Assets
- Provides granular control on search/query
 - Works with models in Autodesk/BIM 360 Docs
- **Learn more tomorrow**

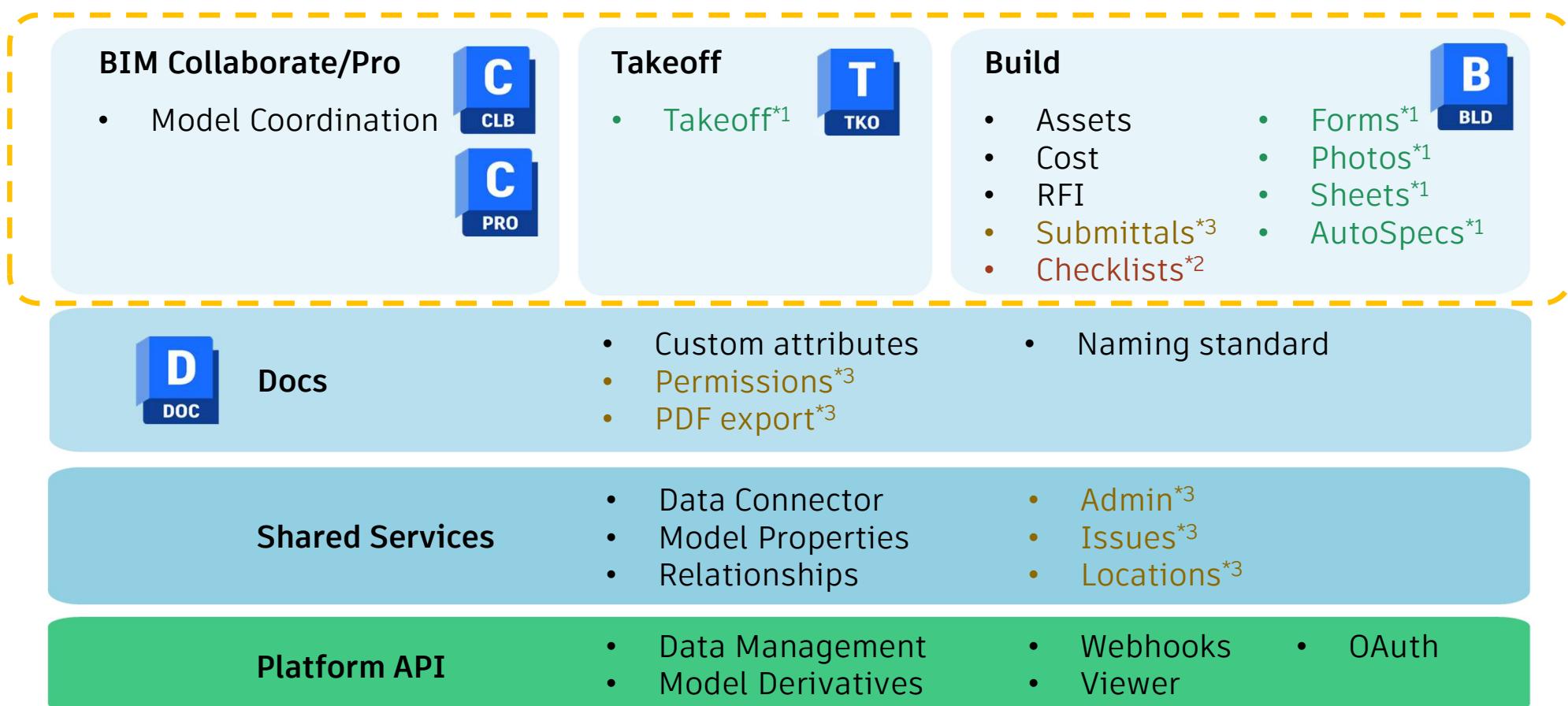


ACC/BIM 360 API Component Services & Structure

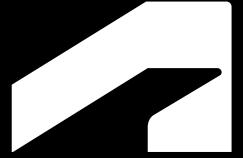


*1) ACC only, *2) BIM 360 only, *3) Not compatible or partially compatible

ACC/BIM 360 API Component Services & Structure



*1) ACC only, *2) BIM 360 only, *3) Not compatible or partially compatible



ACC/BIM 360 API – BIM Collaborate, Takeoff & Build



Model Coordination



- Detect clashes between 3D models
 - rvt, dwg, ifc, nwc
- API
 - Compatible ACC & BIM 360
 - There are related API:
Model Properties API (Feb. 2022)
expands to all ACC Unified products.

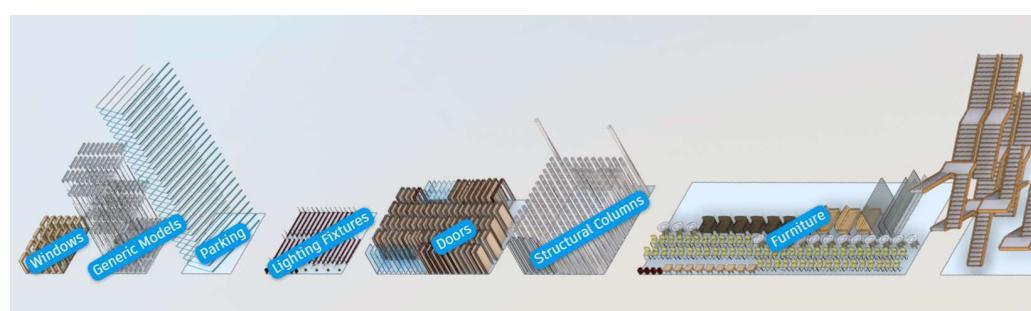
The screenshot displays the Autodesk Construction Cloud Model Coordination interface. At the top, there are two tabs: 'Models' and 'Clashes'. The 'Clashes' tab is active, showing a list of detected clashes. One item in the list is expanded, revealing a 'Primary model' section. Below this, there are filters for 'Clash with' and 'Group by'. A large button indicates '77 CLASHES (18 Selected)'. A specific clash entry for a 'Basic Wall [1741199]' is highlighted, stating '18 clashes with 1 other model'. At the bottom of the list are buttons for 'Not an issue' and '+ Create issue'. To the right of the list, a 3D view shows a building model with red and green highlights indicating clash areas. The interface includes various navigation and settings icons at the bottom right.



Takeoff

- Quantification in 2D and 3D. ACC only
- API
 - Read inventory data (Oct 2021)
 - Project setting (classifications, setting) write (Feb. 2022)
 - Form Cluster tool
viewer.loadExtension("Autodesk.VisualClusters")

The screenshot shows the Autodesk Takeoff software interface. On the left, there's a sidebar with 'Takeoff' selected. Below it are sections for 'Home', 'Packages', 'Sheets & Models', 'Files', 'Members', and 'Settings'. The main area is titled 'Packages' and shows a table of packages with columns for 'Title', 'Doors', 'Electrical', and 'Exterior Windows'. It also shows a 'Last updated' column with dates like 'Aug 22, 2021 10:48:23 PM' and 'May 26, 2021 9:42:51 AM'. Below this is a 'Takeoff Types' section with a search bar and a table for 'Concrete' items. To the right is a 'Minimap' showing a floor plan with various rooms and dimensions. At the bottom, there's an 'Inventory' table with columns for 'Name', 'Count', 'Quantity', 'Unit', 'Classification', and 'Open Header'. The table lists items like 'Metals', 'Metal Joists', 'Steel Joist Framing', 'Open Web Steel...', and 'Open Header'. On the far right, there's another table for 'Doors and Frames' with columns for 'Takeoff Name', 'Quantity', 'Unit', and 'Document'. The table lists items like 'Door-Curtain-Wall...', 'Door-Curtain-Wall...', and 'Door-Curtain-Wall...'. The overall interface is modern and integrates with other Autodesk tools.





Build



- **Assets API (Feb, 2021)**

- Compatible
 - Provide /construction/ and /bim360/ endpoints with ACC and BIM360 proxy. Same backend.
- References - use Relationships API.

- **RFI API**



- Compatible, except attachments



- /construction/ endpoints deprecated
Use /bim360/ endpoints

The screenshot displays the Autodesk Construction Cloud interface with two main panels. The left panel shows the 'Assets' section with a search bar, filters for categories like HVAC Units, Plant and Equipment, Water Pumps, and other filters for status and location. It lists assets such as 'WLT-ST-2110' and 'CPM-005'. The right panel shows the 'RFIs' section with a search bar, listing RFIs by status (OPEN), ID, and title. One RFI is highlighted: '#19 Open' with the note 'Door Opening Width'. Below this is a detailed view of asset '518530' with tabs for Details, References, and Activity log. The activity log shows an entry from Leah Ho on Oct 9, 2020, regarding the RFI. The bottom right corner shows an 'Activity log' section with a comment from Mikako Harada.



Build



- **Forms – ACC**

- pdf & web forms. checklists, reports
- Forms/template read API (March, 2021)
- Forms write API (April, 2023)

- **Photos – ACC**

- Read API (June, 2021)
 - POST photos:filter
 - GET photos/:photoId

- **Checklists – BIM 360**

- Read API
- Not compatible.



- **Sheets - ACC**

- Multi-page PDF to individual page
- PDF only (rvt not supported)
- Read/Write API (Aug., 2022)
- Workflow similar to DM API
+ additional steps.



The screenshot shows the Build software interface with the title bar "Build" and "Xiaodong-Test-Project". The left sidebar has links for Home, Sheets (which is selected and highlighted in blue), Files, Issues, and Forms. The main area is titled "Sheets" and contains a button "+ Add sheets" and a "Number" input field.

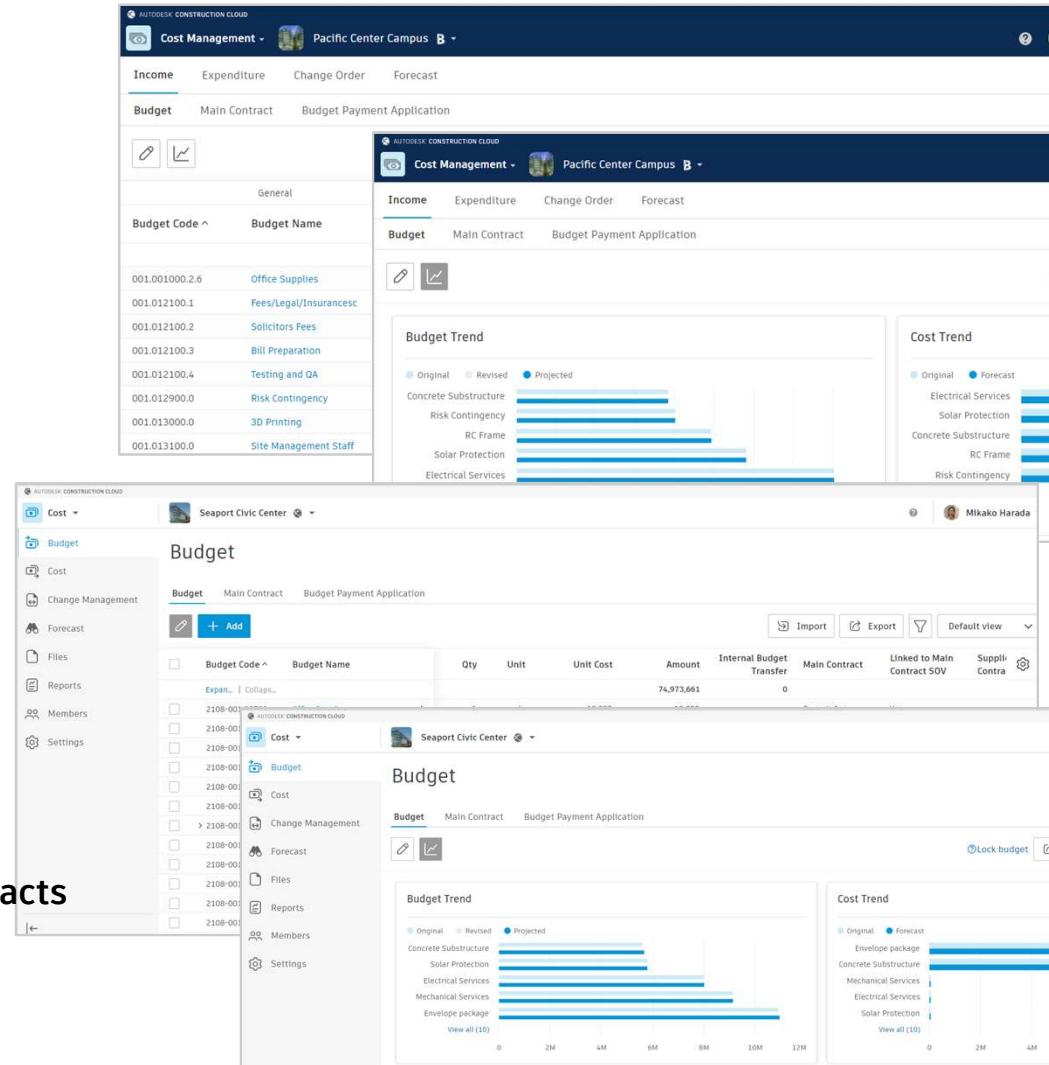
- **AutoSpecs – ACC**

- Intelligently create submittal logs
- New feature since March 2023
- Read API
- North America only

The screenshot shows the AutoSpecs software interface with the title bar "AutoSpecs" and "400 Beale". The left sidebar has links for Home, Smart Register (which is selected and highlighted in blue), Spec View, Product Data, Files, Members, and Settings. The main area is titled "Smart Register" and "Version: IFC". It shows applied filters: ACTION AND INFORMATIONAL, CLOSEOUT SUBMITTALS, and MOCKUPS. Below the filters is a toolbar with buttons for Division, Section, Submittal type, Submittal group (3), and a Reset filters button. A table below lists submittals with columns for PDF, Submittal number, Section number, Section name, and Sub section. One row is visible with values: 1, 02 21 00, MONUMENTS, and 14-A.



- Manage, track cost, such as budgets and change orders.
- Many feature enhancements with customization capability
- API
 - Compatible
 - Comprehensive coverage
 - Webhooks
- New!**
 - POST budgets-contracts:link
 - Deprecating “budgets” field in POST/PATCH contracts
 - Request welcome



Learn More

- Documentation on aps.autodesk.com
 - Field Guide
 - Tutorials
 - Reference guide
- github.com/autodesk-platform-services
 - Postman collections
 - A range of code samples from basic to advanced integration
- Blog: aps.autodesk.com/blog
 - Announcement and tips

The screenshot shows the Autodesk Platform Services website with the 'Autodesk Construction Cloud APIs' section selected. The page includes a sidebar with links like 'Developer's Guide' and 'Step-by-Step Tutorials'. The main content area displays the 'ACC Account Admin API Field Guide', which describes the automation of project setup and management. It lists several features:

- Retrieve information about ACC projects (beta). Note that the project endpoints support both 2-legged (with user ID) and 3-legged authentication.
- Retrieve information about ACC project users (beta). Note that the project user endpoints support both 2-legged (with user ID) and 3-legged authentication.
- Manage your business partner companies across products.
- Create a master member directory to manage account users and project users across products.
- Manage a business units structure that can be used to create regional offices

Below the text, there is a 'BIM 360 Model Coordination Clash Issues' interface showing a matrix view of clashes between different Autodesk files. A pie chart at the bottom right illustrates the distribution of clashes by category: Parts, Walls, and Structural. A 3D rendering of a building model is also visible on the right side of the interface.

Analyzing clashes

ACC API Roadmap



Added '24

- Submittals read GA
- Docs file description read
- Automatic region routing for all ACC specific API
- Data Connector schema
- Cost batch budgets-contracts link
- BuildingConnected write
- TradeTapp read



Currently Active

- Submittals write
- Optional region header change from APAC to AUS
- Parameters sharing collections
- BuildingConnected (BC) Webhooks for opportunities and bids
- BC opportunity comments
- BC adding bidders to bid packages



Near Future

- Review public (currently private beta)
- Markup a.k.a. Issues pushpin
- Model Aggregate
- Project level custom attributes
- Data Connector-multi projects
- Cost - cost item sub items, tax, workflow



Beyond

- Secure Service Account
- Alignment
- Design Collaboration packages/settings
- Cost – budget transfers, documents, payment, activities

Summary

- 1 Autodesk Construction Cloud Family Products Overview
- 2 API Big Picture
- 3 Accessing Project Data – by Modules
- 4 Q&A
- 5 What's Next





Make Anything

<https://aps.autodesk.com/get-help>
aps.help@autodesk.com

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