



BIM 360 API Updates and Beyond

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Mikako provides API technical support for AEC products, such as Revit and BIM 360. Her interest is in the areas of interactive techniques, optimization and layout synthesis. More on her [blog: https://fieldofviewblog.wordpress.com/](https://fieldofviewblog.wordpress.com/)

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The presentations today may contain forward-looking statements about our strategies, products, future results, performance or achievements, financial, operational and otherwise, including statements about our strategic priorities, business model transition, and guidance for the fiscal year 2021 and beyond; our long term financial and operational goals; our M&A strategy; and our capital allocation initiatives. These statements reflect management's current expectations, estimates and assumptions based on the information currently available to us. These forward-looking statements are not guarantees of future performance and involve significant risks, uncertainties and other factors that may cause our actual results, performance or achievements to be materially different from results, performance or achievements expressed or implied by the forward-looking statements contained in these presentations, such as a failure to successfully integrate acquired businesses; developments in the COVID-19 pandemic and the resulting impact on our business and operations; general market, political, economic, and business conditions; complete transitions to new business model and markets; failure of the construction industry to grow as anticipated; failure to develop new products; failure to successfully expand adoption of our products; and failure of product changes to have the desired benefits.

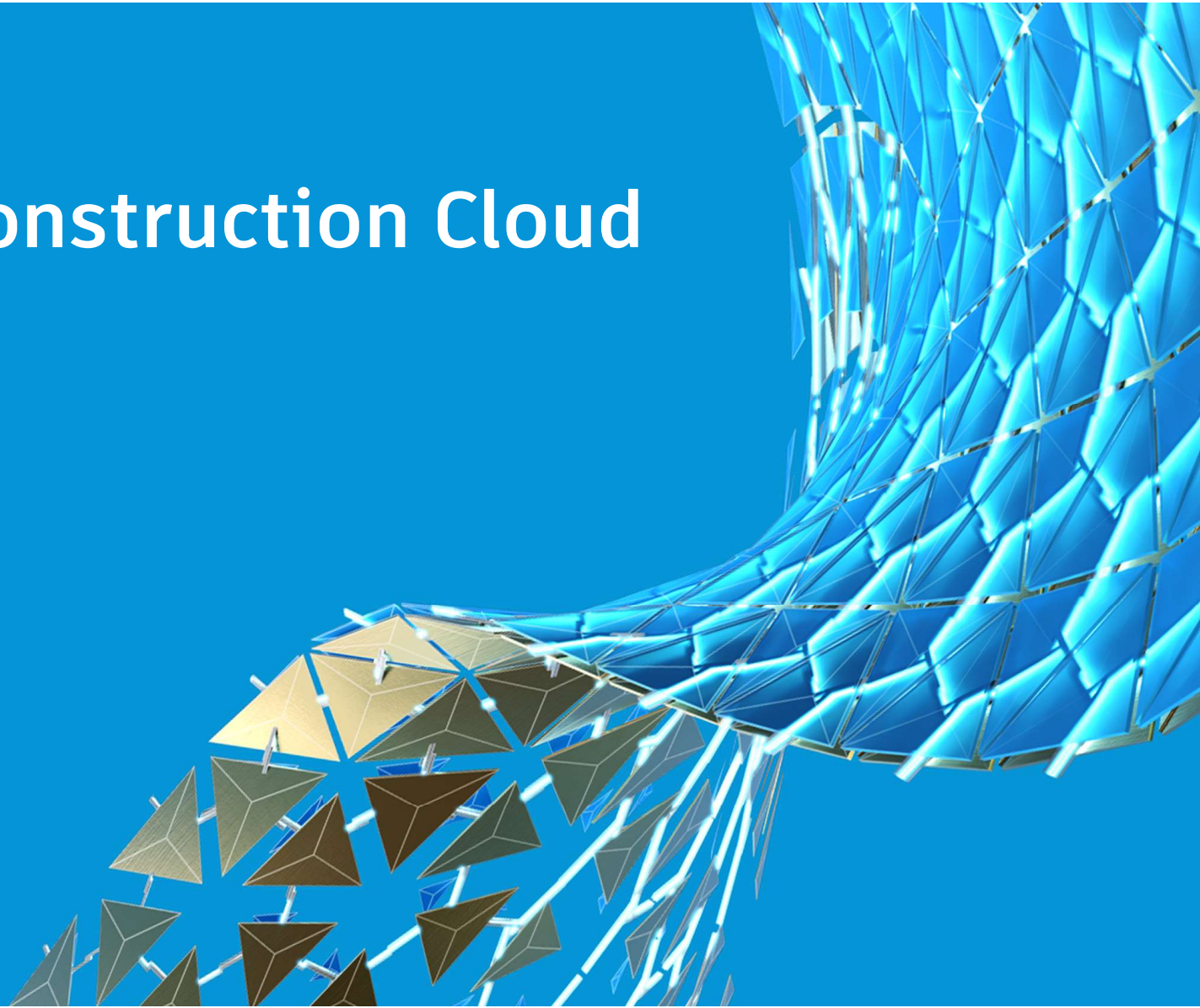
A discussion of factors that may affect future results is contained in our most recent Form 10-K and Form 10-Q filings available at www.sec.gov, including descriptions of the risk factors that may impact us and the forward-looking statements made in these presentations. The forward-looking statements made in these presentations are being made as of the time and date of their live presentation. If these presentations are reviewed after the time and date of their live presentation, even if subsequently made available by us, on our website or otherwise, these presentations may not contain current or accurate information. We disclaim any obligation to update or revise any forward-looking statement based on new information, future events or otherwise.

October 6, 2020

Agenda

- Autodesk Construction Cloud Overview
- BIM 360 & API Status and Updates
- Assets API
- Relationship API
- In Pipeline

Autodesk Construction Cloud





AUTODESK CONSTRUCTION CLOUD™



Assemble



BIM 360

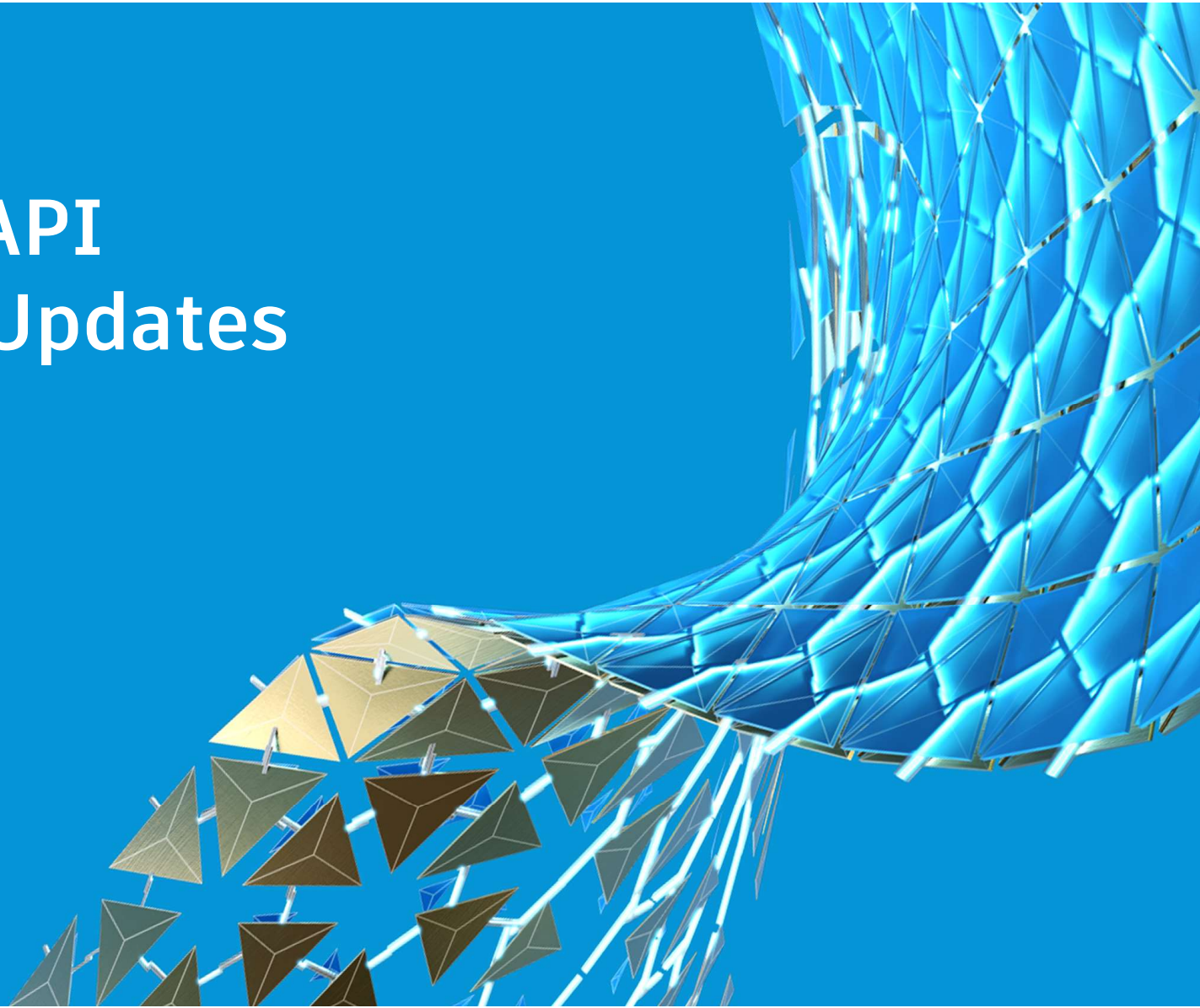


BuildingConnected



PlanGrid

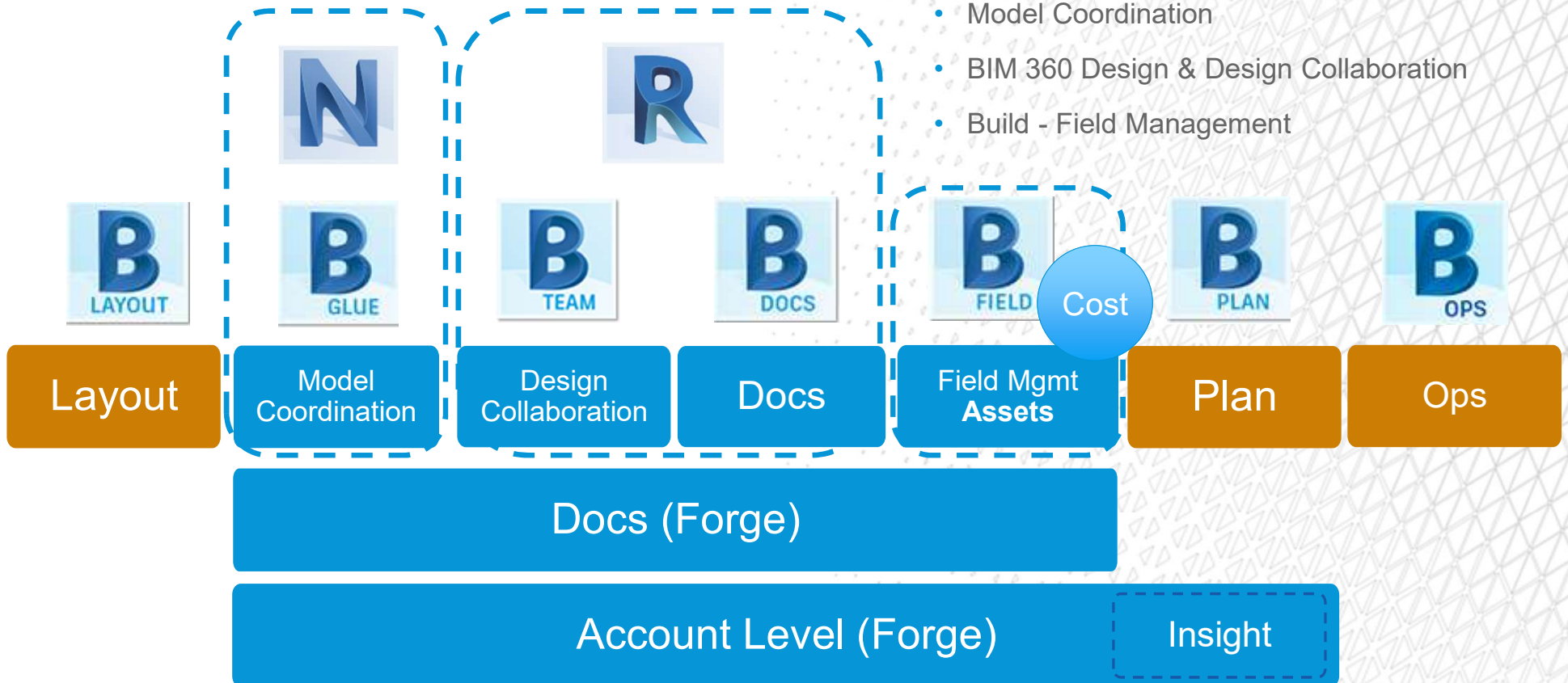
BIM 360 & API Status and Updates



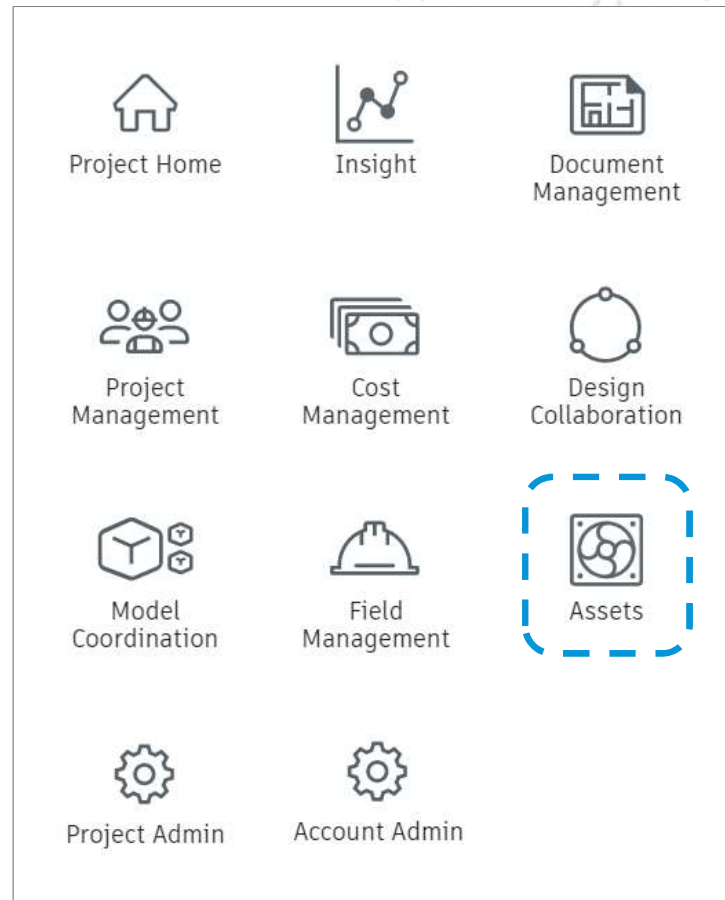
BIM 360 Family Products

Next generation modules

- Model Coordination
- BIM 360 Design & Design Collaboration
- Build - Field Management



BIM 360 Modules





Document Management

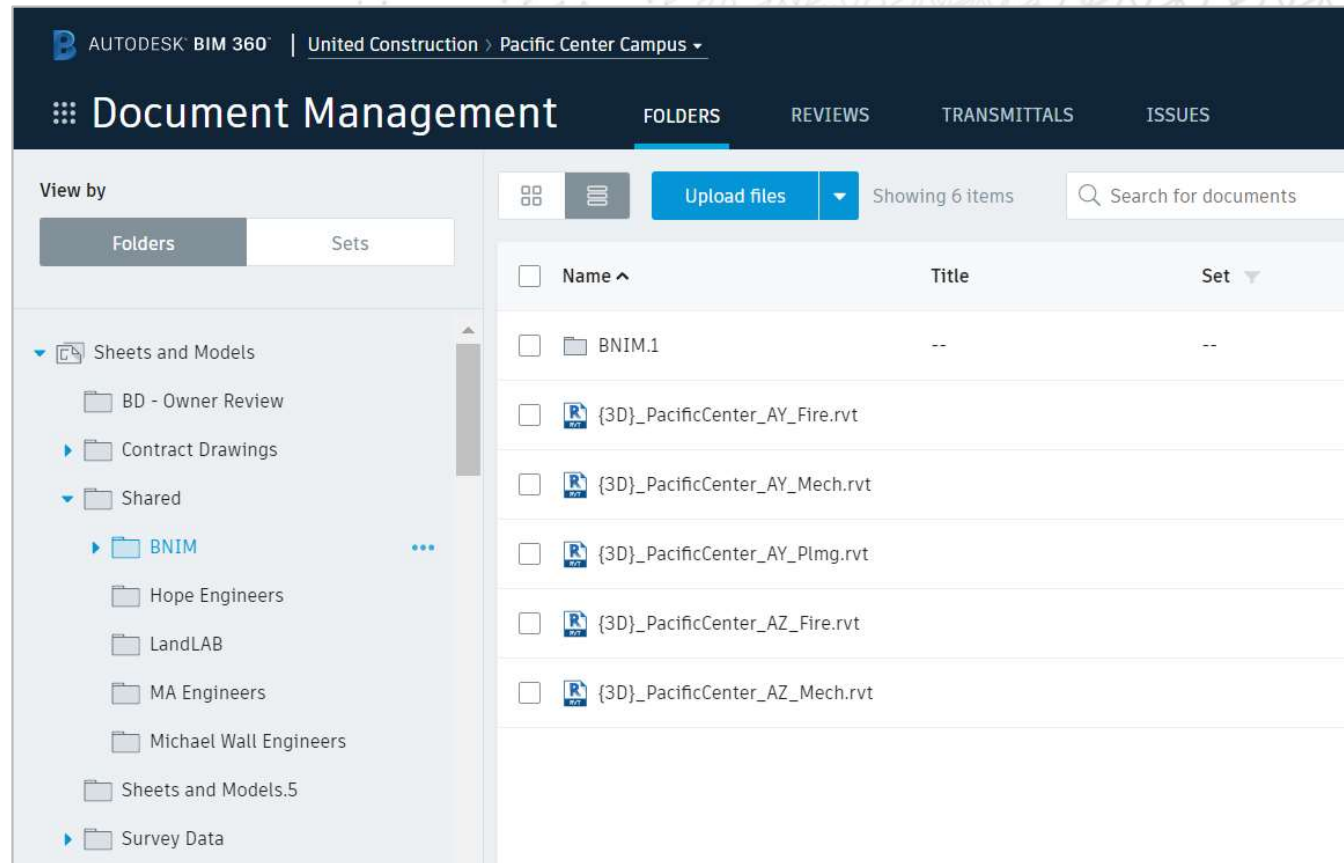
- Data Management API

- API Enhancements:



- Folder permissions (r/w)
- Custom attribute values (r/w)*1

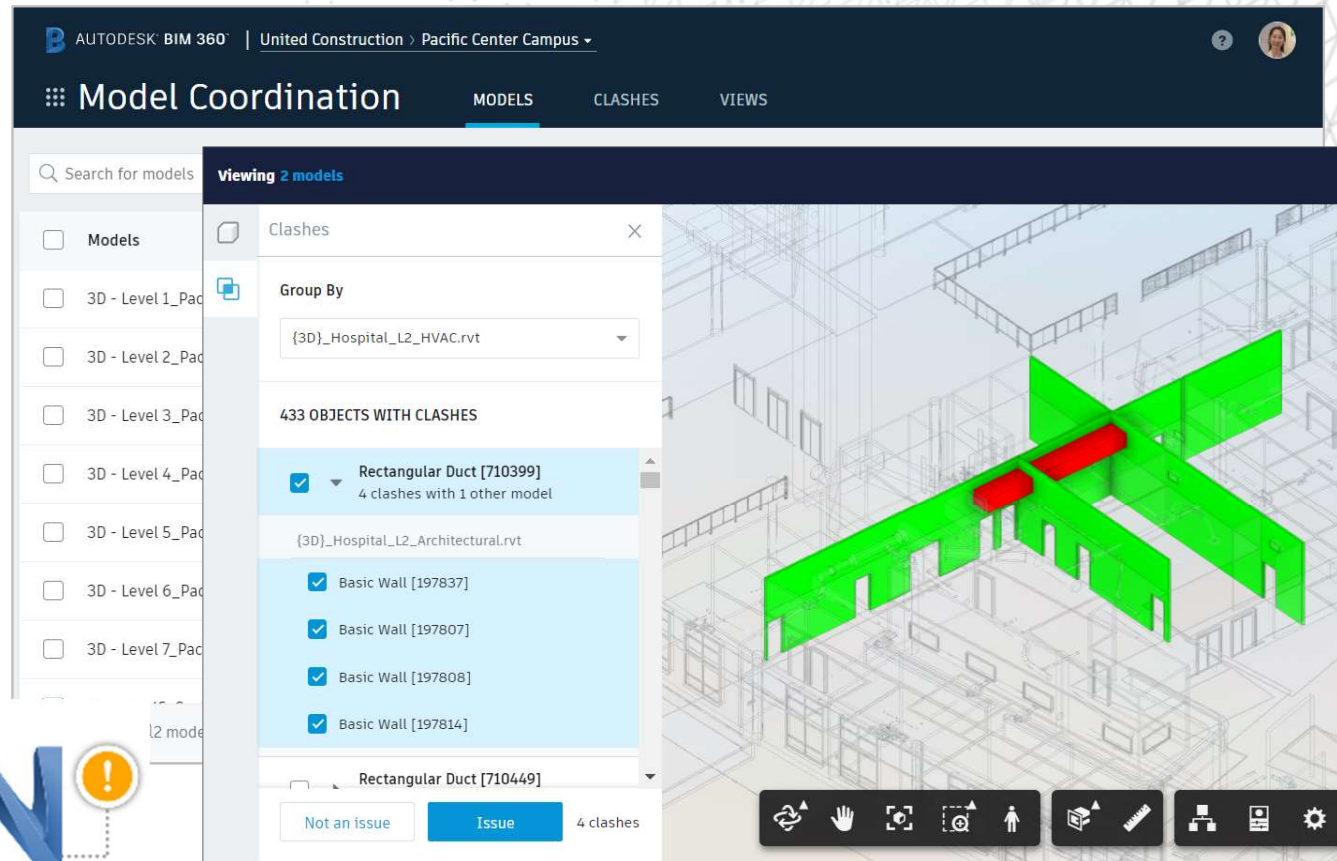
*1) Definition next





Model Coordination

- Navisworks + Model Coordination integration
- **API Enhancements**
 - *Officially out of beta!*
 - Project Files folder support
 - Relationship API





Cost Management

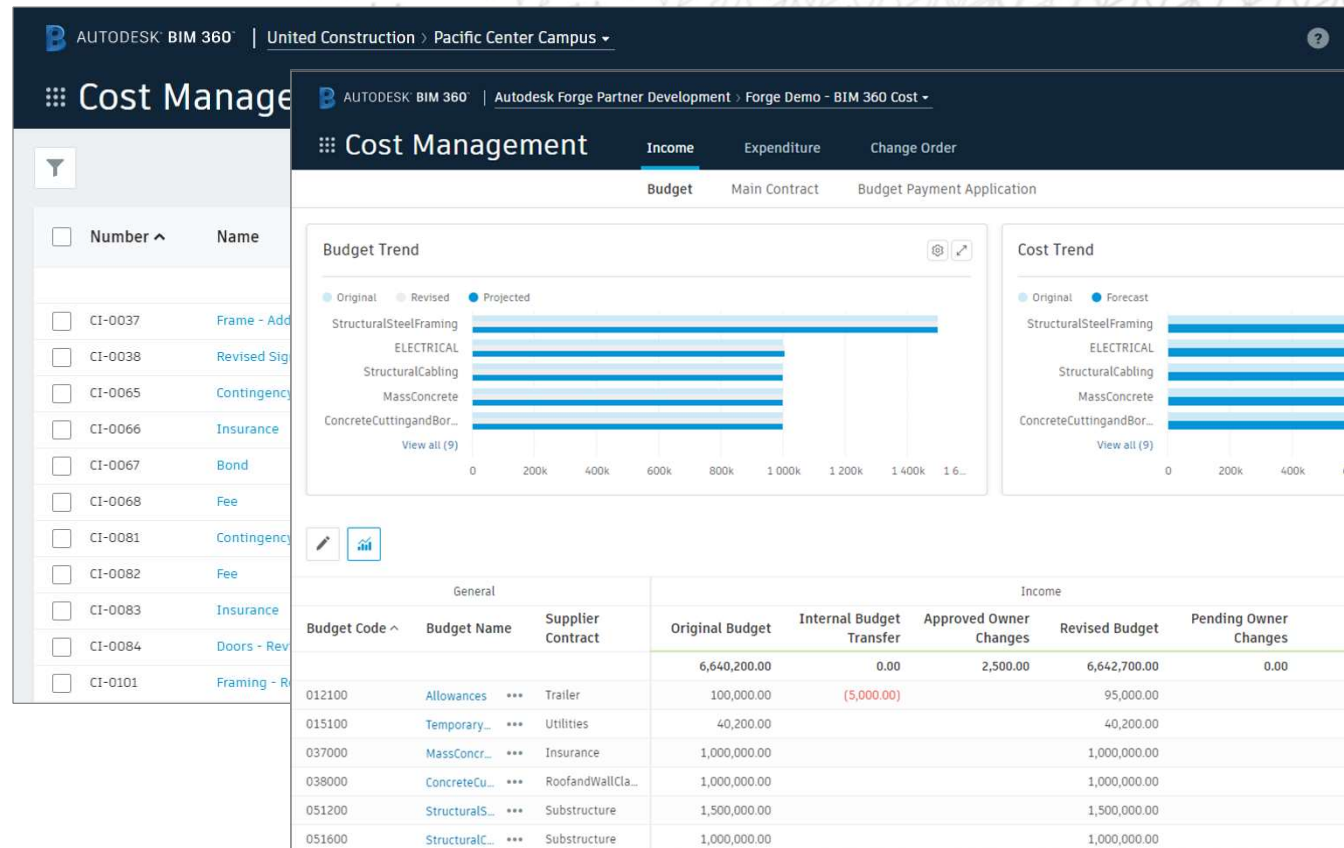
API Enhancement

- Budget code template
- Create/update/search external relationships*1



Both based on requests!

*1) waiting for documentation updated

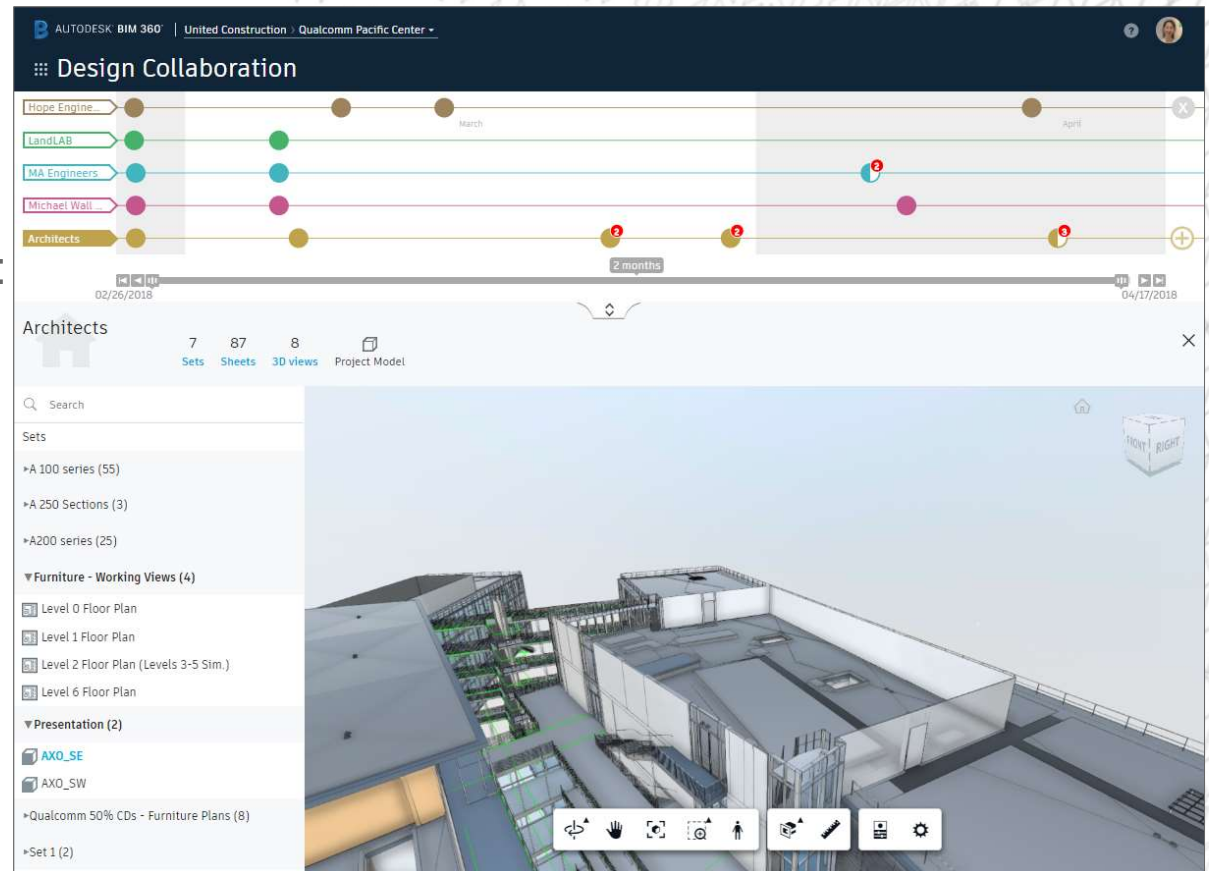




Design Collaboration

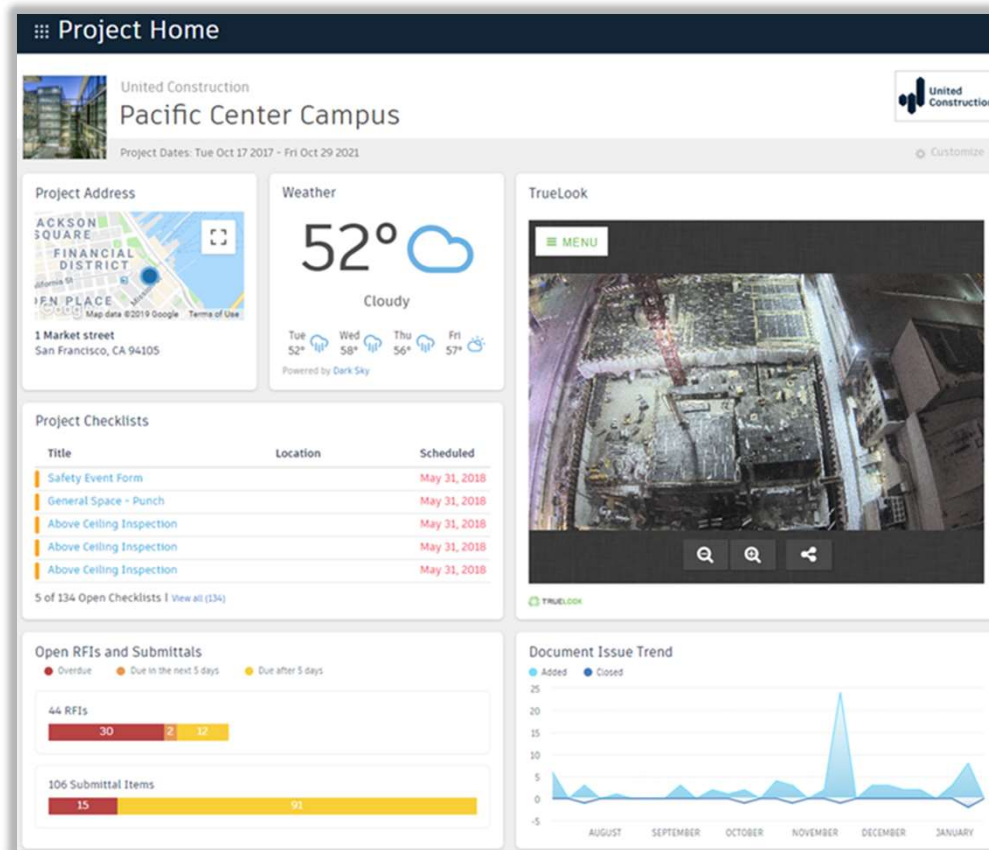
Update

- A sample with Revit Cloud Worksharing webhooks events:
<https://github.com/Autodesk-Forge/forge-bim360notifier>
- European data center support





Project Home



Partner Card

E-mail to:
bim360partnercard@autodesk.com



Insight

Insight

AUTODESK BIM 360 | United Construction | Pacific Center Campus

Insight RISK DESIGN PROJECT CONTROLS COST SCHEDULE QUALITY SAFETY REPORTS

United Construction
Pacific Center Campus
Project Dates: Tue Oct 17 2017 - Fri Oct 29 2021

Quality Risk Risk Today: Med Safety Risk Today

Quality Risk Factors

HIGH RISK CONTRACTORS	HIGH RISK ISSUES	WATER RISK ISSUES	CHECKLIST ACTIVITY
2	14	20	14

Preview Risk Factors

COMPLIANCE	CRITICAL COMPONENTS	DOCUMENTATION INCOMPLETE	OVERDUE ISSUES
4	11	13	99

Factors

H RISK RFIS	DESIGN COORDINATION	MEP AND STRUCTURAL RFIS	DOCUMENTATION ERRORS
12	20	116	21

AUTODESK BIM 360 | Autodesk Forge Partner Development

Insight RISK DESIGN QUALITY SAFETY DATA

Data Connector Preview Run

The data connector will automatically extract data from: Account projects, Companies, Users, Roles, and Business Units as well as Project Users, Project Companies (including archived projects), Project Roles, Issues, Checklists, Daily Logs, Locations, Submittals and Cost.

Generated files are only available for 30 days after creation

AVAILABLE EXTRACTIONS

Created	
May 7, 2020 3:54 PM	↓
May 7, 2020 2:38 PM	↓

Left sidebar (Data Connector):

- schemas
- admin_account_services.csv
- admin_accounts.csv
- admin_business_units.csv
- admin_companies.csv
- admin_project_companies.csv
- admin_project_services.csv
- admin_project_user_roles.csv
- admin_project_user_services.csv
- admin_projects.csv
- admin_roles.csv
- admin_users.csv
- checklists_checklist_assignees.csv
- checklists_checklist_items.csv
- checklists_checklist_items_answers.csv
- checklists_checklist_section_assignees.csv
- checklists_checklist_signatures.csv
- checklists_checklists.csv
- dailylogs_weather_logs.csv
- issues_attachments.csv
- issues_comments.csv
- issues_issue_subtypes.csv
- issues_issue_types.csv
- issues_issues.csv



Field Management

AUTODESK BIM 360 | United Construction > Pacific Center Campus

Field Management | TEMPLATES | CHECKLISTS | **ISSUES** | DAILY LOGS

Issues | Templates

Search

ID	Type
778	Commissioning
777	Coordination
776	Safety
775	Safety
774	Safety
773	Safety
772	Safety

Issue #750 [OPEN]

Field Management

Issues | Templates

Search

ID	Type	Sub-type
752	Design	Design
751	Punch List	Punch
750	Safety	Safety
749	Safety	Safety
748	Safety	Safety
747	Safety	Safety
746	Safety	Safety

Issue #750

elevator shaft

Created by Manu Demo (Autodesk) on Feb 13, 2020

Assigned to
Manu Demo

Due Date
Feb 13, 2020

Location
Level 3

Location Details
Unspecified

Linked document
Unspecified

Type
Safety > Safety Infraction

Owner
Manu Demo

Root Cause
Unspecified

Export | Create Issue

Linked document

ID	Type	Sub-type
752	Design	Design
751	Punch List	Punch
750	Safety	Safety
749	Safety	Safety
748	Safety	Safety
747	Safety	Safety
746	Safety	Safety



Project Management

API Update

- RFI v2

The screenshot displays the Autodesk BIM 360 Project Management interface for the 'United Construction > Pacific Center Campus' project. The main navigation bar includes 'Project Management', 'RFIs', 'SUBMITTALS', and 'MEETINGS'. The 'RFIs' tab is active, showing a list of RFIs with columns for Status, ID, and Title. The list includes several 'SUBMITTED' items and one 'DRAFT' item.

A modal window is open for an RFI titled '#Unspecified'. The modal has a purple header with the title and a 'SUBMITTED' button. Below the header, a light blue bar indicates 'Your action is required' with a 'Submit to Reviewer' button. The modal is divided into three tabs: 'DETAILS', 'ATTACHMENTS', and 'ACTIVITY'. The 'DETAILS' tab is selected, showing the following information:

- Assigned to:** Zohar Liran
- Due date:** Mar 31, 2020
- Cost impact:** Unspecified
- Schedule impact:** Unspecified
- Question:** Have you completed the work on this site?
- Suggested answer:** Yes



Assets

Autodesk BIM 360

Autodesk Forge Partner Development > Forge Sandbox MH

Assets

ASSETS

Asset Tree

All Categories

▶ Air Handling Units (AHU's)
▶ Electrical Equipment
▶ Lighting Devices
▶ Lighting Fixtures
▶ Mechanical Equipment
▶ Plumbing Fixtures
▶ Pumps

Details

Asset ID	Category	Location	Model
621642	Lighting Fixtures > Rece...	... > Rm 212	-
621643	Lighting Fixtures > Rece...	Tower 2 > 1 Floor	-
621644	Lighting Fixtures > Rece...	... > Rm 116	-
694117	Lighting Fixtures > Rece...	... > Rm 115	-
694251	Lighting Fixtures > Rece...	... > Security Of...	-
694268	Lighting Fixtures > Rece...	... > Elevator Lo...	-
694269	Lighting Fixtures > Rece...	... > Facility Offi...	-

Asset

621642

INSTALLED

DETAILS

ISSUES

CHECKLISTS

ATTACHMENTS

Create Issue

Linked references

Issue

OPEN

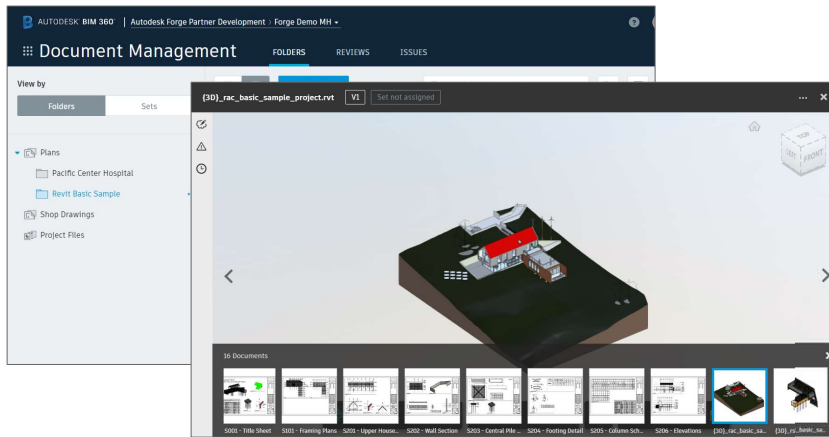
#35

air handler installation issue

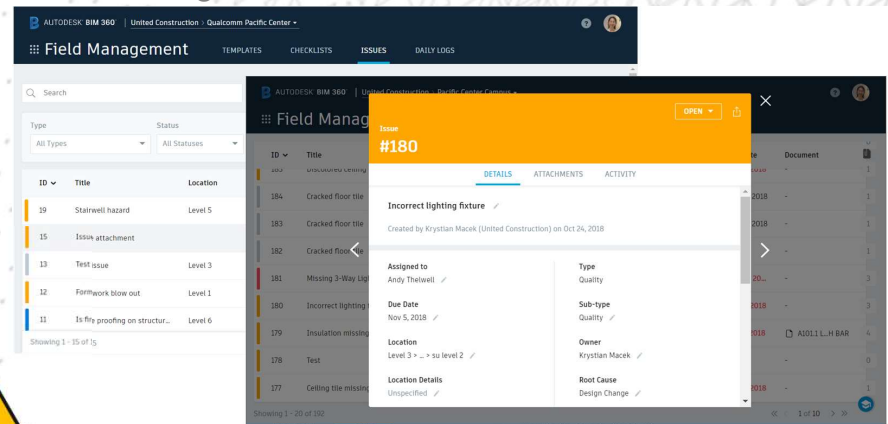
Add reference

Issues

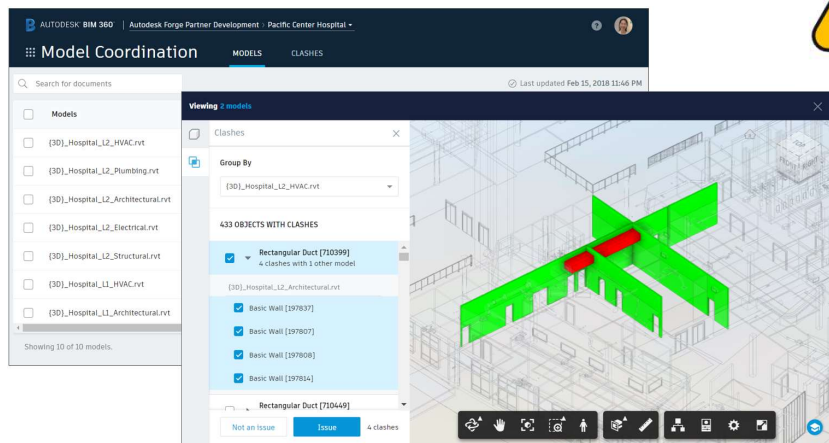
Document Management



Field Management



Model Coordination

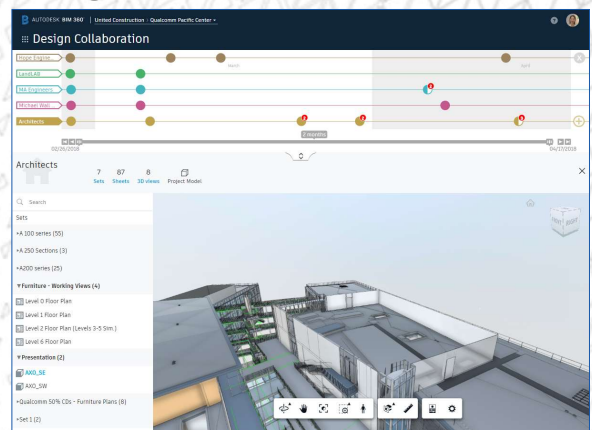


Navisworks BIM 360 Issues



Revit Issues Add-in

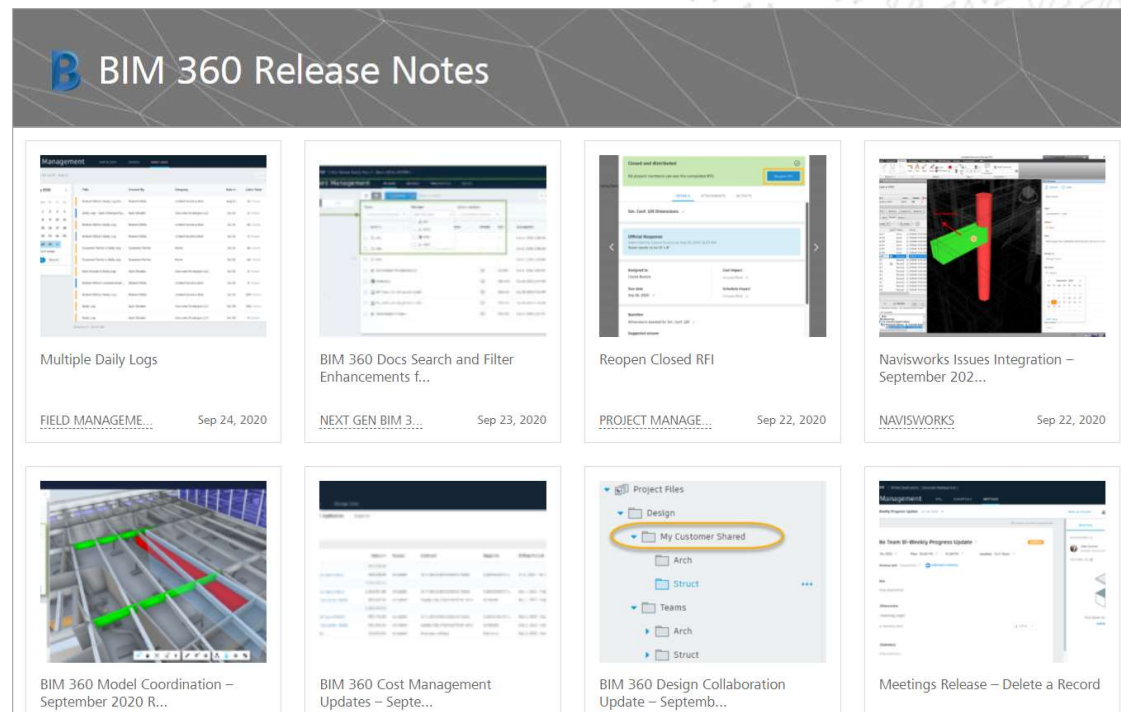
Design Collaboration



BIM 360 Release Notes

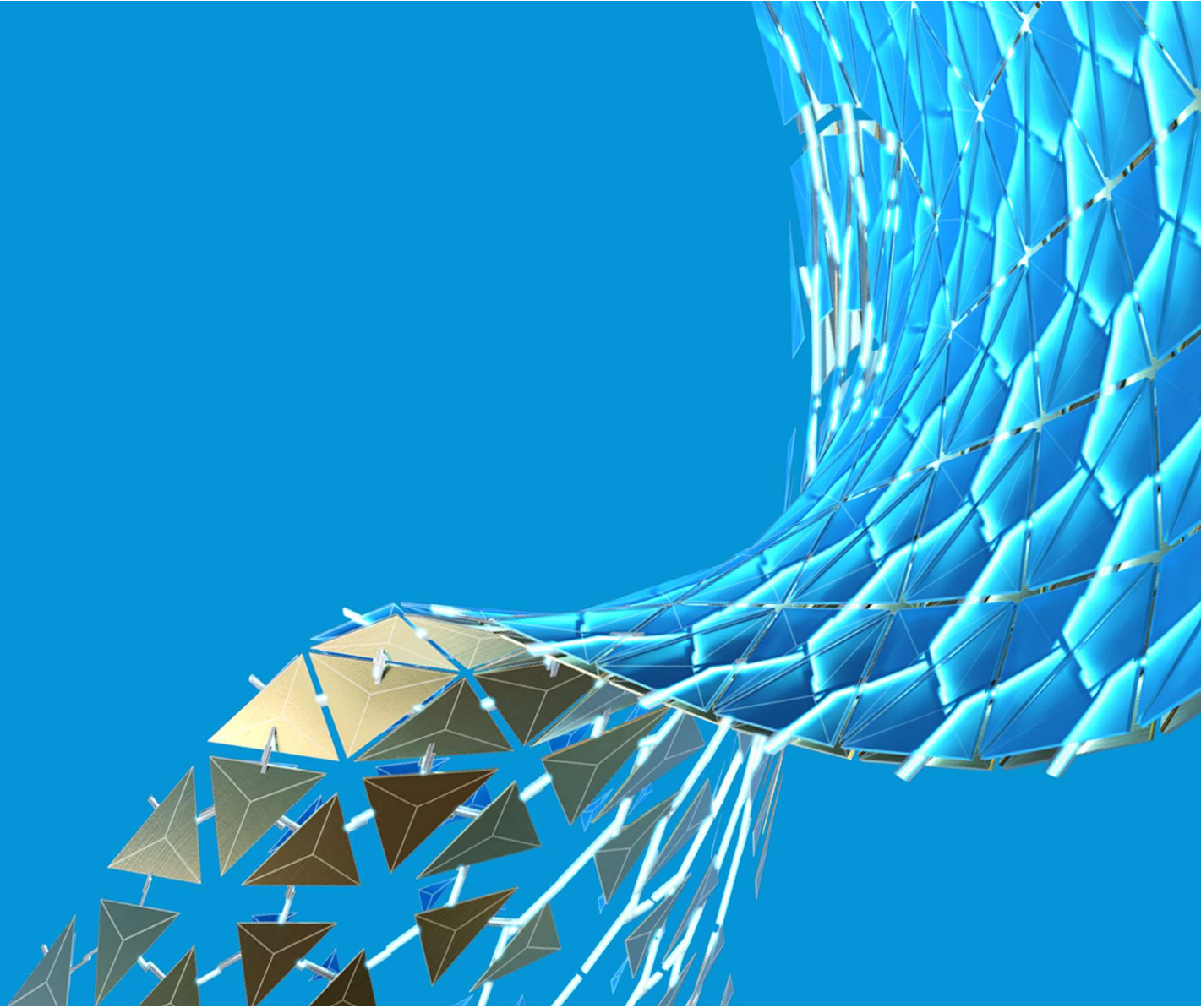
<https://blogs.autodesk.com/bim360-release-notes/2020>

<https://help.autodesk.com/view/BIM360D/ENU/>



Assets API

In Pipeline



Assets API

Private beta (read) current

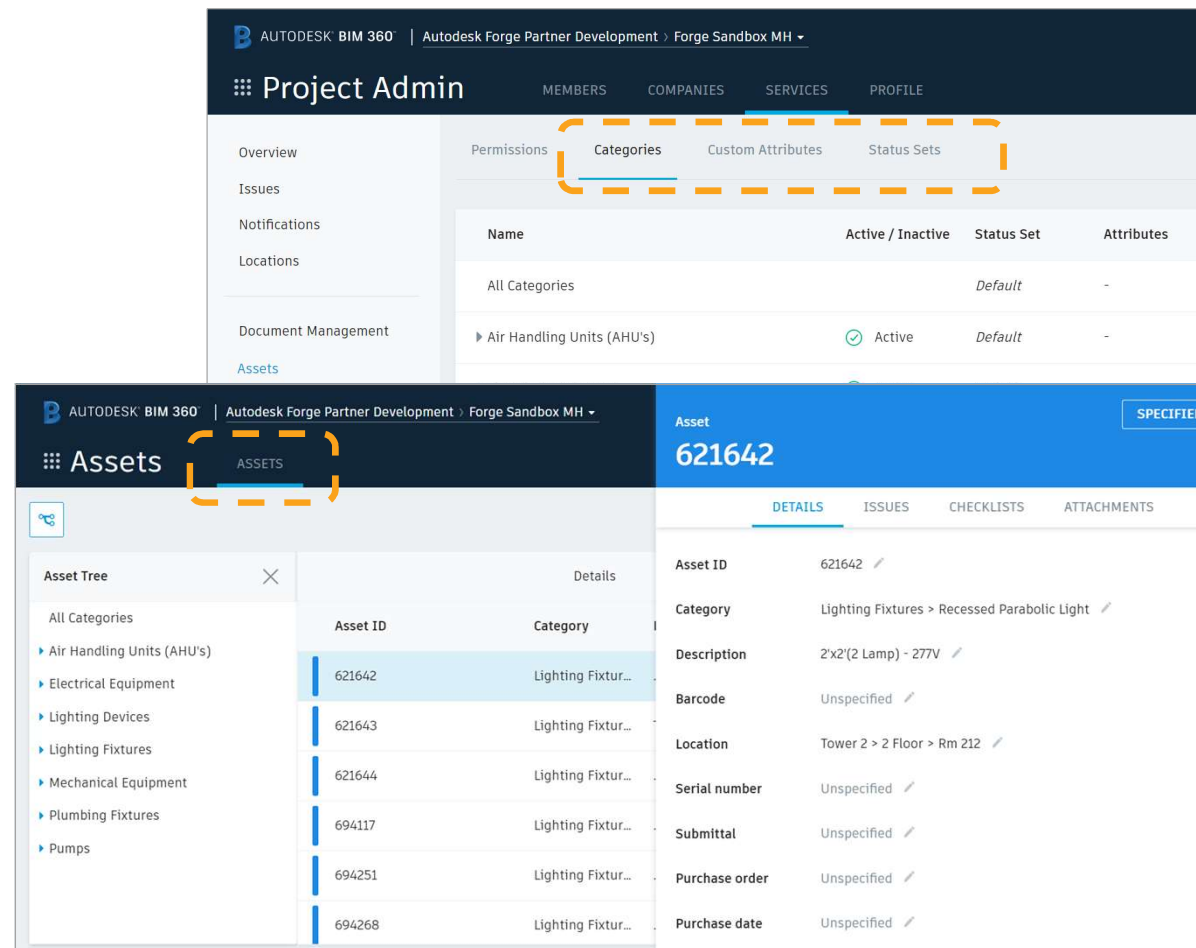
- asset items
- custom attributes
- categories
- status sets

Public beta near future

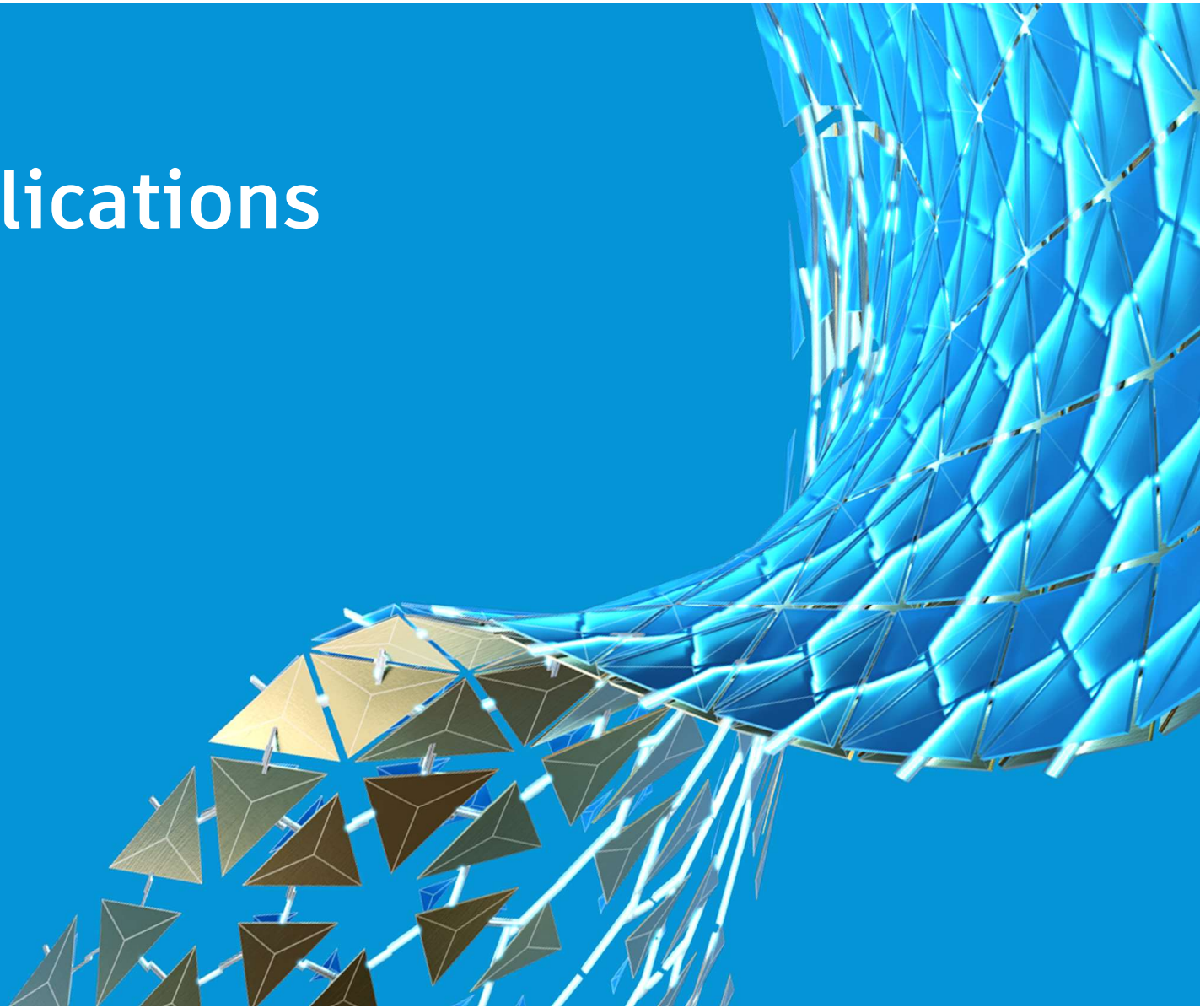
- Read + write items, batch, import*1

Priority feedback welcome!

*1) prioritize based on feedbacks

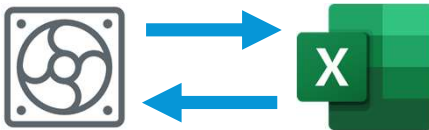


Sample Applications



Export/Import to/from Excel

- **What it does:** Export all the Assets data in BIM 360 Assets module to a custom web page with links, then to Excel sheet. Modification in Excel is import back to Assets. This sample is to demonstrate the basic read/write access with Assets module.
- **Code:** GitHub Sample (TBD)
- **Author:** Xiaodong Liang, Autodesk



BIM 360 Asset Data Exchange

BIM360 Project List

Autodesk Forge Partner Development

- BIM360 AU Asset Test Project(Zhong)
- Daimler POC Project
- Delete Test Sample 4 by Zhong
- Flow Test
- Forge Concert Hall
- Forge Demo EK
- Forge Demo ZW DA
- Forge Demo Zhong
- Forge InfraWorks
- Pacific Center Hospital v2
- Xiaodong Test & Patch
- Xiaodong-test-MC
- Zhong Revit File Upgrader Project
- xiaodong-test-asset
- FPD EMEA

clientAssetId	version	description	isActive	category	status	barcode	serialNumber	installationDate	installedBy	warrantyStartDate	warrantyEndDate
AHU-999	3937	Performance Climate Changer Air Handler Floor 1	true	Air Cooled Chiller	Installed	barcode-12345	SN-7890456	2020-09-02	company-B	2020-09-09	2021-09-09
AHU-998	3938	Performance Climate Changer Air Handler Floor 2	true	Air Cooled Chiller	Functional Performance Tests	barcode-45789	SN-7890456	2020-09-02	company-C	2020-09-09	2021-09-09
AHU-997	3939	Performance Climate Changer Air Handler Floor 3	true	Air Cooled Chiller	Acceptance	barcode-34896	SN-674456	2020-09-02	company-R	2020-09-09	2021-09-09
VAV-996	3940	Base Mounted	true	Primary Water Pump	Installed	barcode-33556	SN-490874	2020-09-02	company-F	2020-09-09	2021-09-09
VAV-995	3941	Base Mounted	true	Primary Water Pump	Functional Performance Tests	barcode-33556	SN-490874	2020-09-02	company-F	2020-09-09	2021-09-09

Autodesk BIM 360 | Autodesk Forge Partner Development | xiaodong-test-asset

Assets

Asset Tree

- All Categories
- Air Handling Units (AHU's)
- Air Terminal
- Electrical
- Mechanical
- Pumps
- xiaodongtest

Asset ID	Category	Location	Barcode
AHU-999	Air Handling U...	CH/PH Stock 1 [...]	barcode-12345
AHU-998	Air Handling U...	... Stock 3 [...]	barcode-45678
AHU-997	Air Handling U...	... Workshop 4 [...]	barcode-34567
VAV-996	Pumps > Prima...	... Leader 8 [...]	barcode-33556
VAV-995	Pumps > Prima...	CH/PH 1 2 [...]	barcode-22334
AHU-767	Air Handling U...	CH/PH Stock 1 [...]	barcode-99887
PIPE-111	Air Handling U...	... Stock 3 [...]	-
PIPE-222	Air Handling U...	CH/PH Stock 1 [...]	-
MECH-876	Pumps > Prima...	... Leader 8 [...]	-
DUCT-995	Pumps > Prima...	... Workshop 4 [...]	-

Office Update To keep up-to-date with security updates, fixes, and improvements, choose Check for Updates.

id	clientAssetId	category	status	description	barcode	serialNumber	specSection	purchaseOrder	purchaseDate	installedBy	installationDate
1	b5d387AHU-999	4	Air Cooled	1d66d77 Installed	Performance Climate Changer Air Handler Floor 1	barcode-12345	SN-7890456	mechanical	PO3678056	2020-09-09	company-B
2	ba83d5AHU-998	4	Air Cooled	86b0de1 Function	Performance Climate Changer Air Handler Floor 2	barcode-45789	SN-7890456	electrical	PO3678056	2020-09-09	company-C
3	ea4b7dAHU-997	4	Air Cooled	Scao00f1 Acceptan	Performance Climate Changer Air Handler Floor 3	barcode-34567	SN-674456	pipe	PO3678056	2020-09-09	company-R
4	366fefVAV-996	5	Primary V	1d66d77 Installed	Base Mounted	barcode-33556	SN-490874	duct	PO3678056	2020-09-09	company-F
5	752cb6VAV-995	5	Primary V	86b0de1 Function	Base Mounted	barcode-22334	SN-98745	internet	PO3678056	2020-09-09	company-D
6	f8e593AHU-767	4	Air Cooled	1d66d77 Installed	Performance Climate Changer Air Handler Floor 1	barcode-99887	SN-34879	floor5	PO888888	2020-09-09	Company-R
7	f1e9aePIPE-111	4	Air Cooled	86b0de1 Function	Performance Climate Changer Air Handler Floor 2	-	-	-	-	-	-
8	f814e6PIPE-222	4	Air Cooled	Scao00f1 Acceptan	Performance Climate Changer Air Handler Floor 3	-	-	-	-	-	-
9	781545MECH-876	5	Primary V	1d66d77 Installed	Base Mounted	-	-	-	-	-	-
10	ef2898DUCT-995	5	Primary V	86b0de1 Functional	Performance Tests	-	-	-	-	-	-

BIM 360 Assets

New Tab

assets.b360.autodesk.com/projects/3ab9d062-ed91-46a4-aa97-b40407b02a75/assets

AppsBIM360MC APIChinaAU2018awsLive DemosVideo Demosquick-demosDevDays 20163DWebFestAutodeskPrototypeCustomerTechInfomeetupSydneytravelOther Bookmarks

AUTODESK BIM 360Autodesk Forge Partner Development > xiaodong-test-asset

AssetsASSETS

Asset Tree

All Categories

Air Handling Units (AHU's)

Air Terminal

Electrical

Mechanical

Pumps

xiaodongtest

Details

Asset ID	Category	Location	Barcode	Created by	Spec section	Purchase order	Purchase date	Manufacturer	Model	vendor	count	maintai engineer
AHU-999	Air Handling U...	CH/PH Stock 1 [...]	barcode-12345	Xiaodong Liang	mechanical	P03678056	Sep 9	Schneider Elect...	Basic-MEP	Daikin	20	David,N
AHU-998	Air Handling U...	... > Stock 3 [57...	barcode-45789	Xiaodong Liang	electrical	P03678056	Sep 9	ABB Electric	Basic-MEP	Daikin	20	David,N
AHU-997	Air Handling U...	... > Workshop 4...	barcode-34896	Xiaodong Liang	pipe	P03678056	Sep 9	IBM	Basic-MEP	Daikin	20	David,N
VAV-996	Pumps > Prima...	... > Leader 8 [5...	barcode-33556	Xiaodong Liang	duct	P03678056	Sep 9	Intel	Basic-MEP	Daikin	20	David,N
VAV-995	Pumps > Prima...	CH/PH I 2 [5737...	barcode-22390	Xiaodong Liang	internet	P03678056	Sep 9	JE	Basic-MEP	Daikin	20	David,N
AHU-767	Air Handling U...	CH/PH Stock 1 [...]	barcode-999	Devtech China	floor5	P0888888	Sep 9	ABB	Mechanical	ABB	30	Michael
PIPE-111	Air Handling U...	... > Stock 3 [57...	-	Devtech China	-	-	-	-	-	-	-	-
PIPE-222	Air Handling U...	CH/PH Stock 1 [...]	-	Devtech China	-	-	-	-	-	-	-	Peter,Ji
MECH-876	Pumps > Prima...	... > Leader 8 [5...	-	Devtech China	-	-	-	-	-	-	-	-
DUCT-995	Pumps > Prima...	... > Workshop 4...	-	Devtech China	-	-	-	-	-	-	-	-

Export

Import

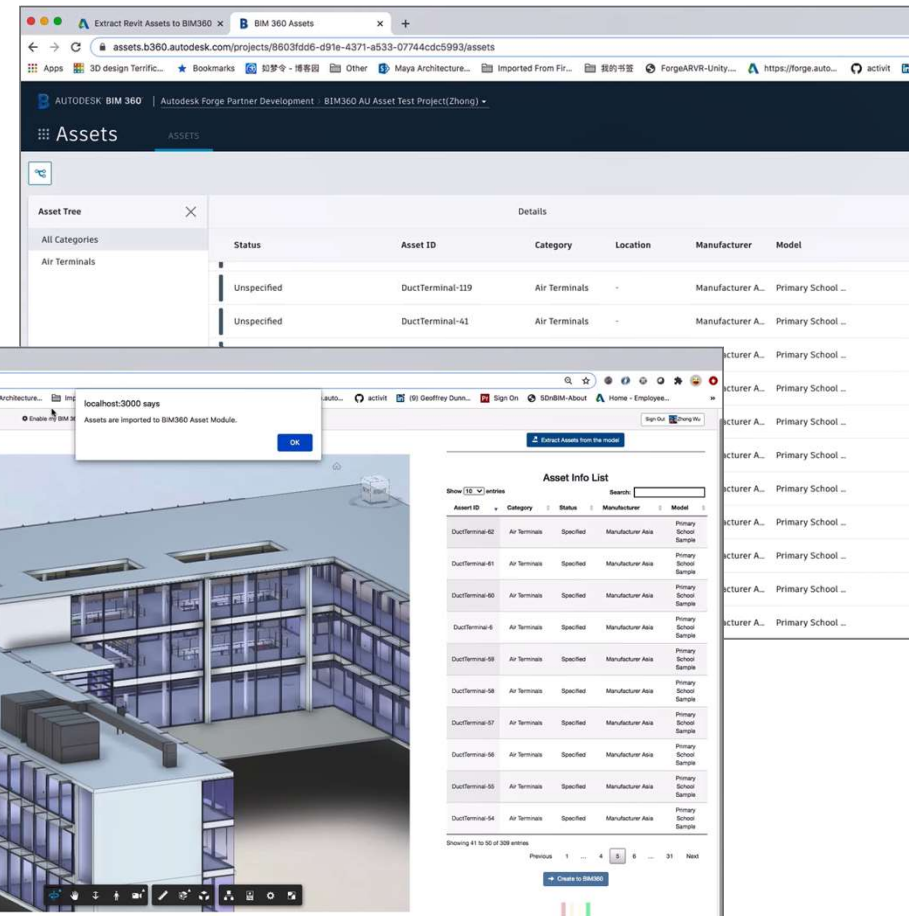
Create

Set up Assets from a Design Model

What it does: Extract assets from a design model in BIM 360 Docs, using **Design Automation for Revit**, and import to Assets module. Optionally filter/verify assets before importing to Assets module. (We save Revit unique element ids as custom attributes to keep the association between assets to elements in Revit.)

Code: GitHub Sample (TBD)

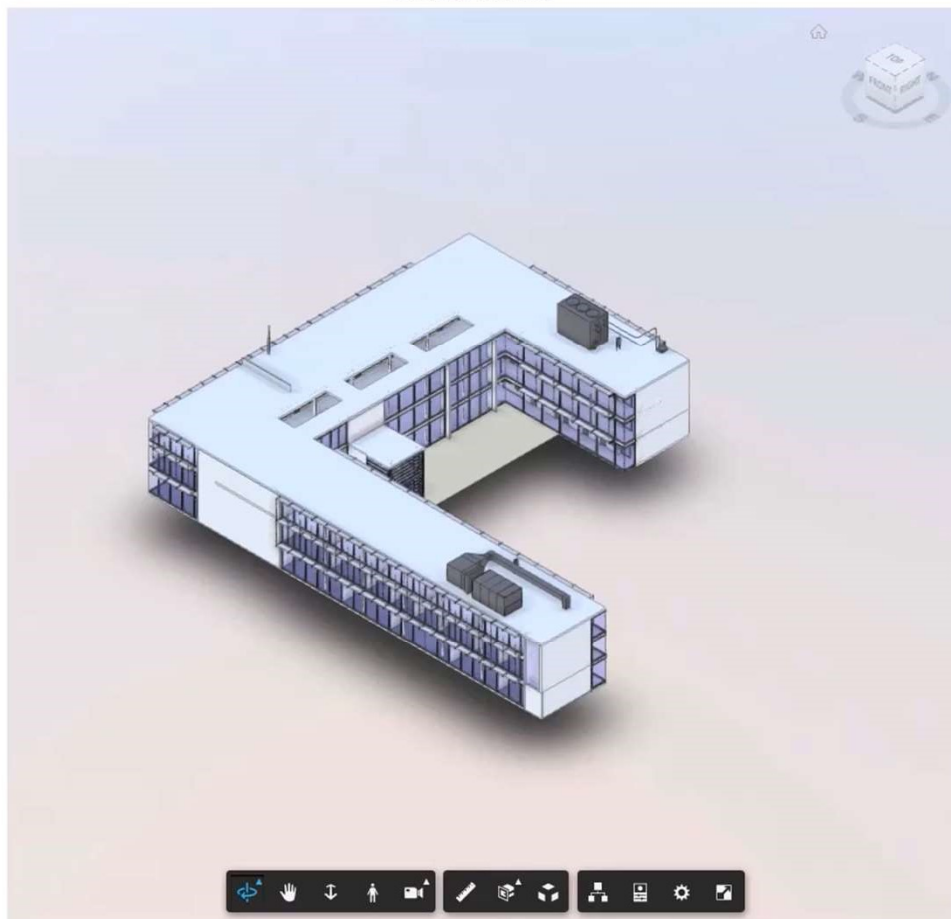
Author: Zhong Wu, Autodesk



Select Revit File

- Autodesk Forge Partner Development
 - Accelerator Shanghai
 - BIM 360 Cost Sample Project (Zhong)
 - BIM360 AU Asset Test Project(Zhong)
 - Plans
 - Project Files
 - rac_basic_sample_project.rvt
 - v1: 2020-9-16 10:00:32 by Zhong Wu
 - rme_school_project.rvt
 - v1: 2020-9-17 11:56:47 by Mikako Harada
 - v2: 2020-9-17 22:16:30 by Zhong Wu
 - Cost Test Sample by Zhong
 - Daimier POC Project
 - DeleteMeSoon
 - Forge Concert Hall
 - Forge Demo - BIM 360 Cost
 - Forge Demo ZW DA
 - Forge Demo Zhong
 - Infraworks
 - Sample for Phil by Zhong2
 - Sample for Phil by Zhong4
 - Xiaodong-test-MC
 - Zhong Revit File Upgrader Project

Model Viewer



Extract Assets from the model

Asset Info List

Show 10 entries Search:

Asset ID	Category	Status	Manufacturer	Model
No data available in table				

Showing 0 to 0 of 0 entries Previous Next

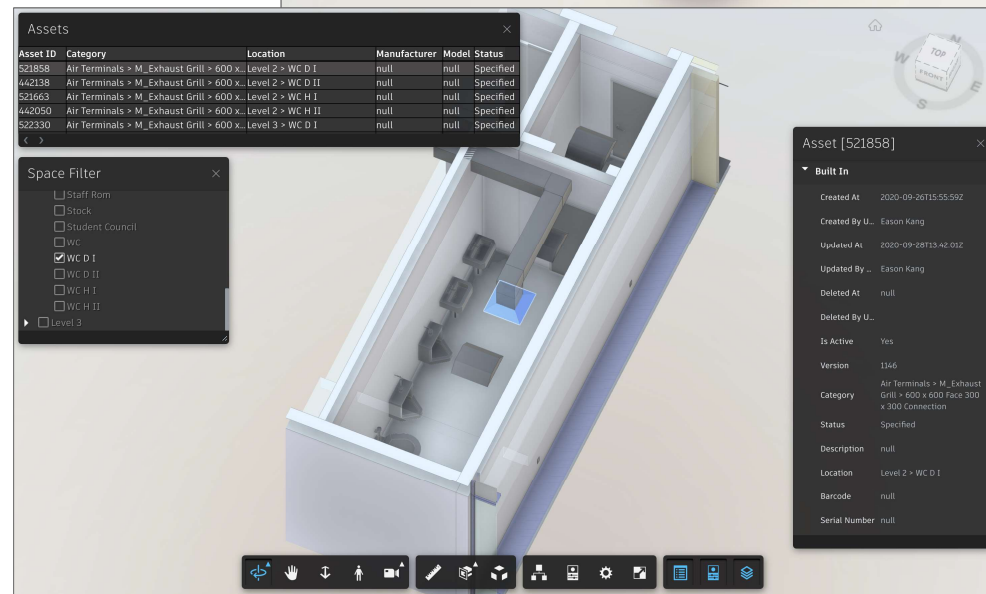
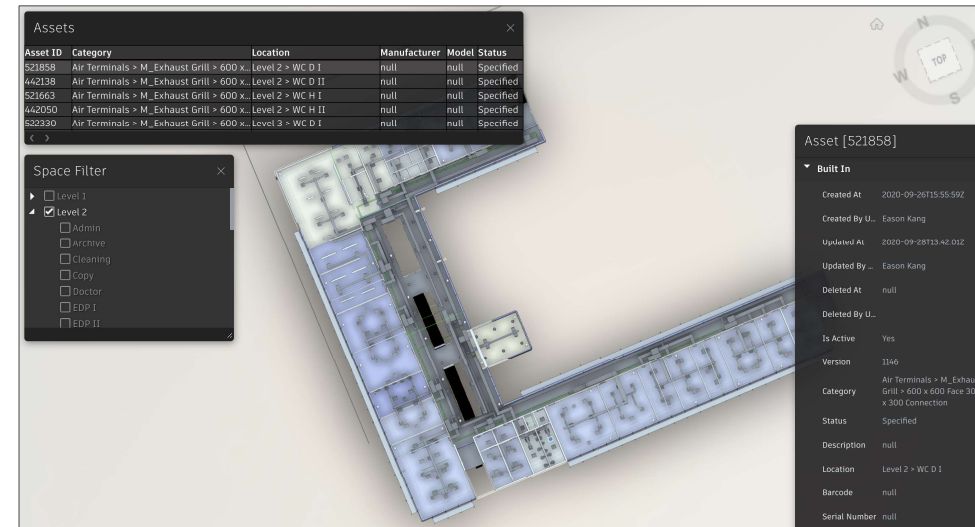
Create to BIM360

View Assets in Design Model

What it does: View asset data in the model viewer. You can filter assets by level and room. (We use Revit unique element ids saved as custom attributes to keep the association between assets to elements in Revit.)

Code: GitHub Sample (TBD)

Author: Eason Kang, Autodesk



Assets

ASSETS



Asset Tree

All Categories

▶ Air Terminals

▶ Electrical Equipment

▶ Electrical Fixtures

▶ Lighting Devices

▶ Lighting Fixtures

▶ Mechanical Equipment

Details

Asset ID	Category	Location
521858	Air Terminals > M_Exhaust Grill > 600 x 600 Face 300 x 30...	Level 2 > WC D I
442138	Air Terminals > M_Exhaust Grill > 600 x 600 Face 300 x 30...	Level 2 > WC D II
521663	Air Terminals > M_Exhaust Grill > 600 x 600 Face 300 x 30...	Level 2 > WC H I
442050	Air Terminals > M_Exhaust Grill > 600 x 600 Face 300 x 30...	Level 2 > WC H II
522330	Air Terminals > M_Exhaust Grill > 600 x 600 Face 300 x 30...	Level 3 > WC D I
522312	Air Terminals > M_Exhaust Grill > 600 x 600 Face 300 x 30...	Level 3 > WC H I
431155	Air Terminals > M_Return Diffuser > 600 x 600 Face 300 x ...	Level 2 > Admin
430655	Air Terminals > M_Return Diffuser > 600 x 600 Face 300 x ...	Level 2 > Archive
431276	Air Terminals > M_Return Diffuser > 600 x 600 Face 300 x ...	Level 2 > Cleaning
430663	Air Terminals > M_Return Diffuser > 600 x 600 Face 300 x ...	Level 2 > Copy
431304	Air Terminals > M_Return Diffuser > 600 x 600 Face 300 x ...	Level 2 > EDP I
431365	Air Terminals > M_Return Diffuser > 600 x 600 Face 300 x ...	Level 2 > EDP I
430875	Air Terminals > M_Return Diffuser > 600 x 600 Face 300 x ...	Level 2 > EDP II
430885	Air Terminals > M_Return Diffuser > 600 x 600 Face 300 x ...	Level 2 > EDP II

Asset

521858

SPECIFIED



DETAILS

ISSUES

CHECKLISTS

ATTACHMENTS

Asset ID	521858
Category	Air Terminals > ... > 600 x 600 Face 300 x 300 Connection
Description	Unspecified
Barcode	Unspecified
Location	Level 2 > WC D I
Serial number	Unspecified
Submittal	Unspecified
Purchase order	Unspecified
Purchase date	Unspecified
Installation date	Unspecified
Warranty start date	Unspecified
Warranty end date	Unspecified
Expected life (years)	Unspecified
Installed by	Unspecified
Spec section	Unspecified
Manufacturer	Unspecified
Model	Unspecified
External Id	f056ea9d-8fba-434e-80ce-46b4df0ea740-0007f682



Developer Resources

- Documentation
- Code samples on GitHub
- Postman collection

The screenshot shows the Autodesk Forge API Reference page. The left sidebar lists the API Reference structure, including HTTP Specification, Admin, Assets, Asset-Statuses, Categories, Custom-Attributes, and Status-Step-Sets. The main content area displays the 'GET assets' endpoint. It includes the method and URI, authentication context, required OAuth scopes, and data format. The endpoint is described as 'Get all Assets paginated'.

AUTODESK FORGE Success Stories Solutions ▾ Getting Started Documentation Community ▾ Support ▾ Pricing

API Reference

- HTTP Specification
 - Admin
 - Assets
 - GET assets**
 - POST assets:batch-get
 - Asset-Statuses
 - GET asset-statuses
 - POST asset-statuses:batch-get
 - Categories
 - GET categories
 - POST categories:batch-get
 - Custom-Attributes
 - GET custom-attributes
 - POST custom-attributes:batch-get
 - GET categories/{categoryId}/custom-attributes
 - Status-Step-Sets
 - GET status-step-sets
 - GET categories/{categoryId}/status-step-set

Get all Assets paginated

GET assets

Get all Assets paginated

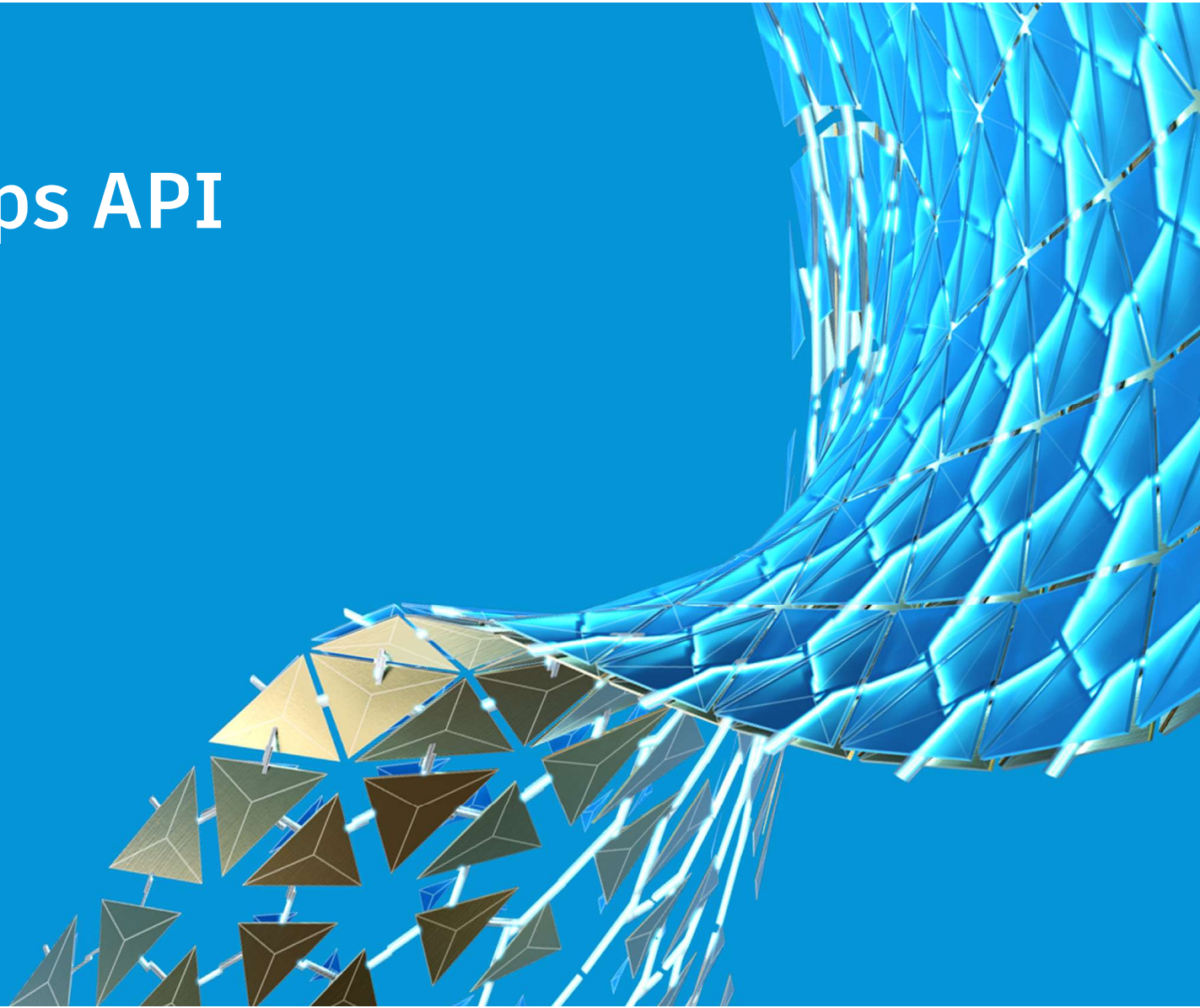
Resource Information

Method and URI	GET https://developer.api.autodesk.com/bim360/assets/v1/projects/{projectId}/assets
Authentication Context	user context required
Required OAuth Scopes	data:read
Data Format	JSON

Request

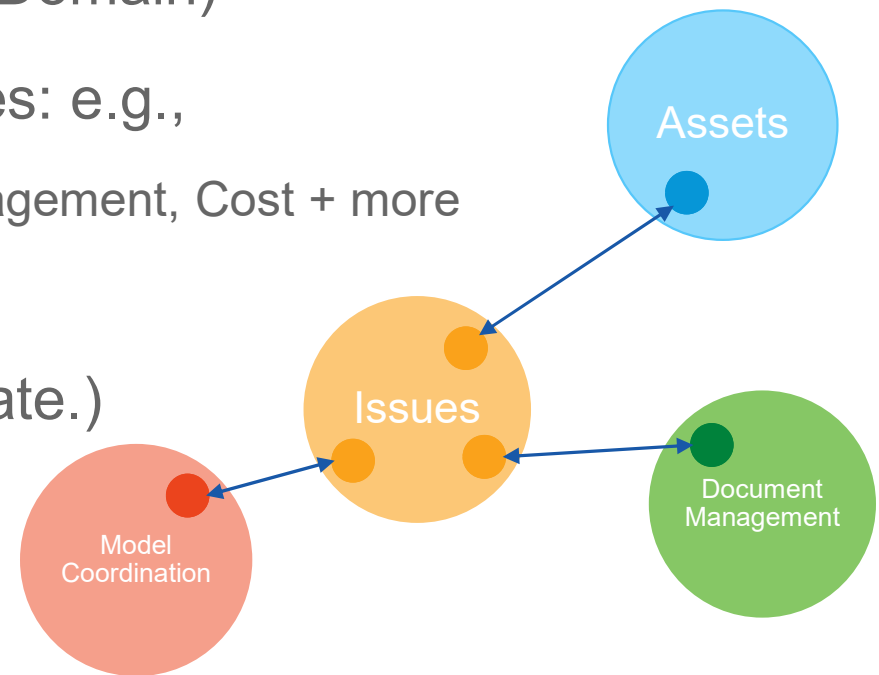
Headers

Relationships API



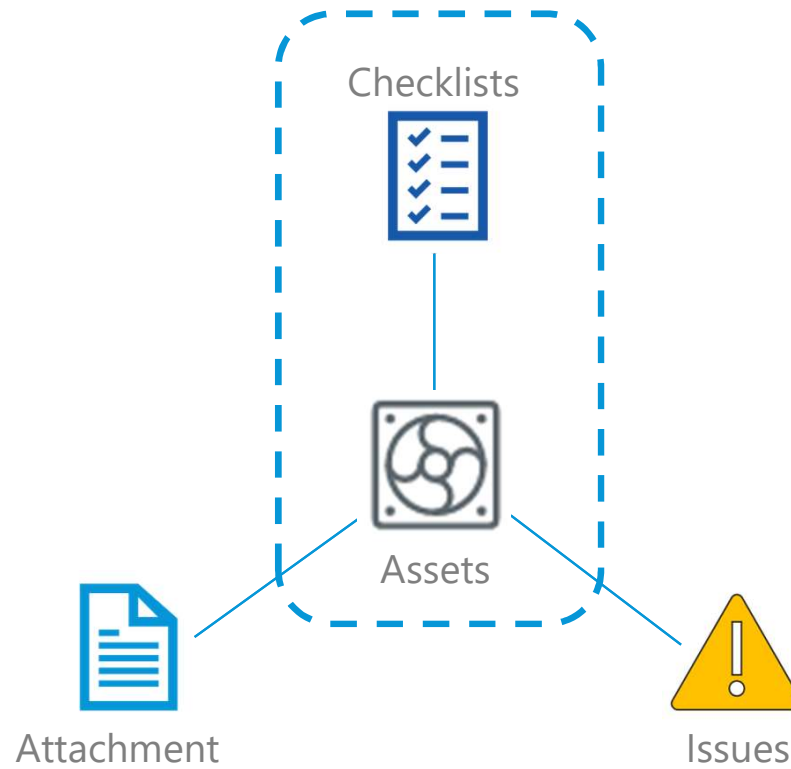
Relationships API

- Represent links between items (Entity) that reside in different functional components (Domain)
- Used in BIM 360 by various modules: e.g.,
 - Model Coordination, Assets, Field Management, Cost + more
 - Older implementation may not
- Read-only. (Domain function to create.)
- Publicly available today

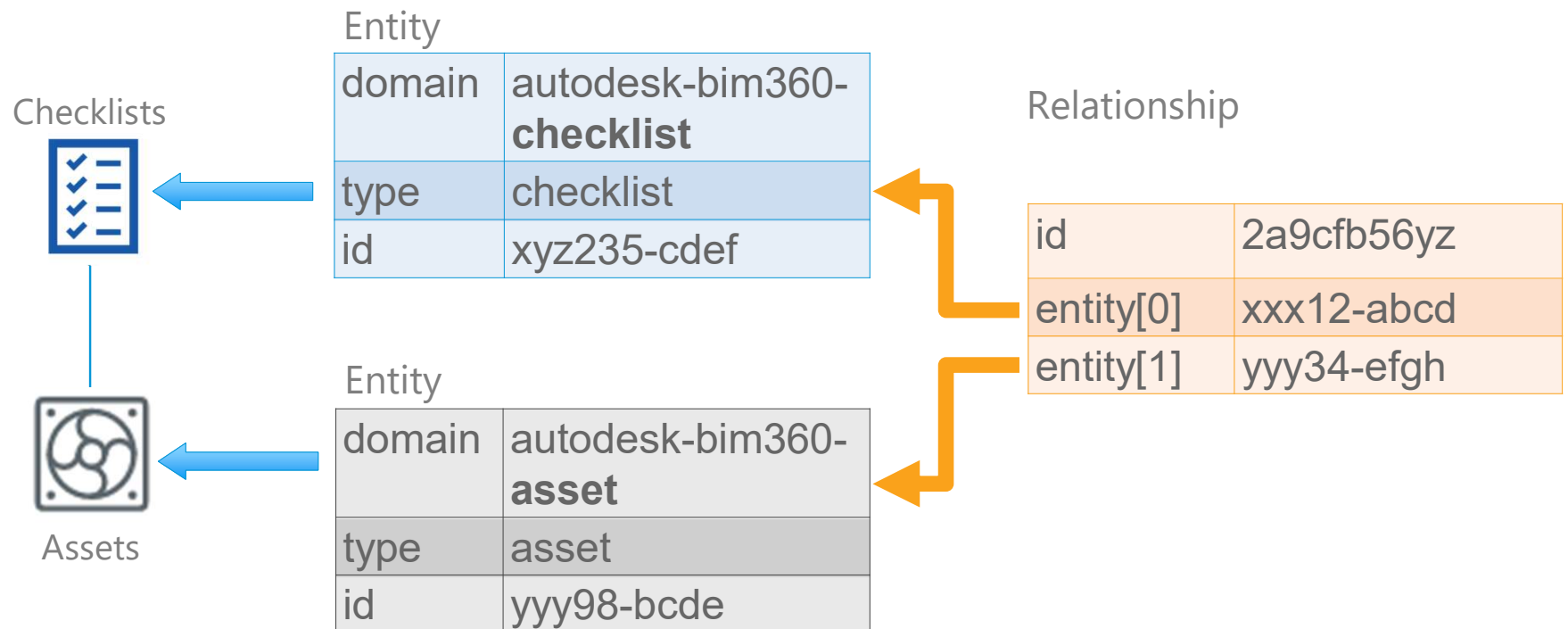


Relationships API

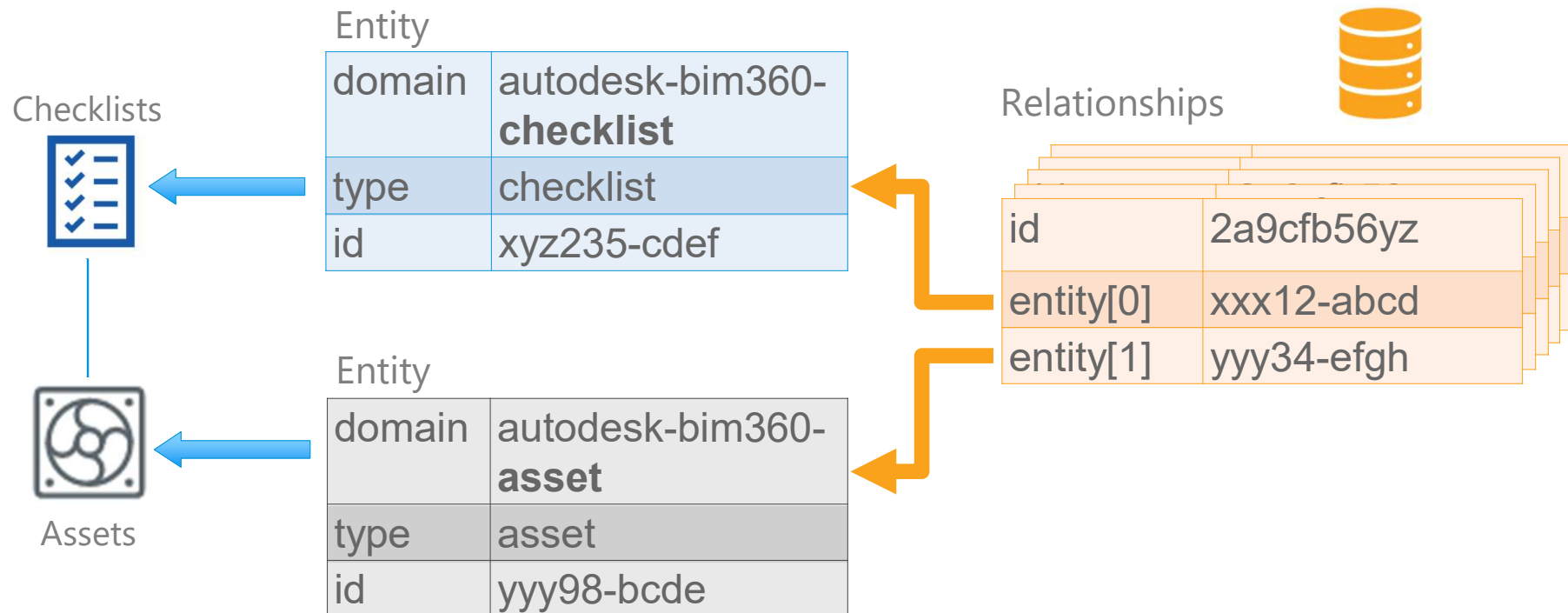
Example



Relationships API



Relationships API



Relationships API

Category	Endpoints
Search	GET relationships/: relationshipId
	POST relationships: batch
	GET relationships: search
	POST relationships: intersect
Sync	POST relationships: sync
	POST relationships: syncStatus

Relationships API

Category	Endpoints
Search	GET relationships/: relationshipId
	POST relationships: batch
	GET relationships: search
	POST relationships: intersect
Sync	POST relationships: sync
	POST relationships: syncStatus

Get relationship(s) from id(s)

JSON
id : "79835e9e-ab4c-4c43-b480-a7ba54196e6e"
createdOn : "2020-10-03T20:53:14.268952+00:00"
isReadOnly : true
isService : true
isDeleted : false
entities
0
createdOn : "2020-10-03T20:53:14.175205+00:00"
domain : "autodesk-bim360-checklist"
type : "checklist"
id : "569859"
1
createdOn : "2020-10-03T20:49:21.651508+00:00"
domain : "autodesk-bim360-asset"
type : "asset"
id : "f972c095-d6b2-4fd3-ae1c-70ef6061c8af"

Relationships API

Category	Endpoints
Search	GET relationships/: relationshipId
	POST relationships: batch
	GET relationships: search
	POST relationships: intersect
Sync	POST relationships: sync
	POST relationships: syncStatus

Search rel's that match the given criteria (domain, type, ids, date). e.g.,

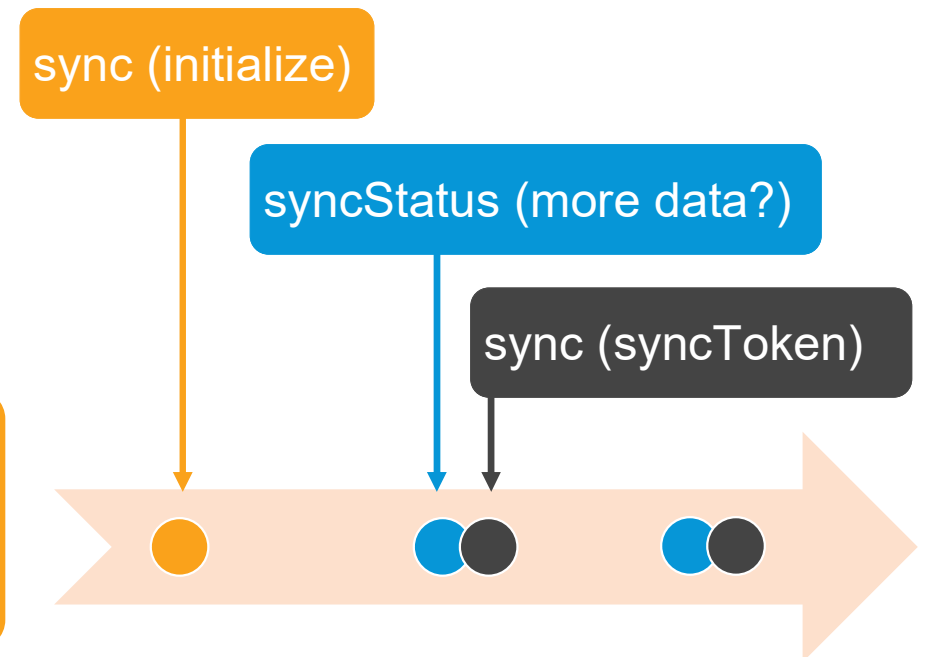
"Give me all the relationships between assets and checklists"

```
GET relationships:/search?  
domain=autodesk-bim360-asset  
&withDomain=autodesk-bim360-  
checklist
```

Relationships API

Category	Endpoints
Search	GET relationships/:relationshipId
	POST relationships:batch
	GET relationships:search
	POST relationships:intersect
Sync	POST relationships:sync
	POST relationships:syncStatus

Used to sync rel. data and external repository.



Relationships API: Developer Resources

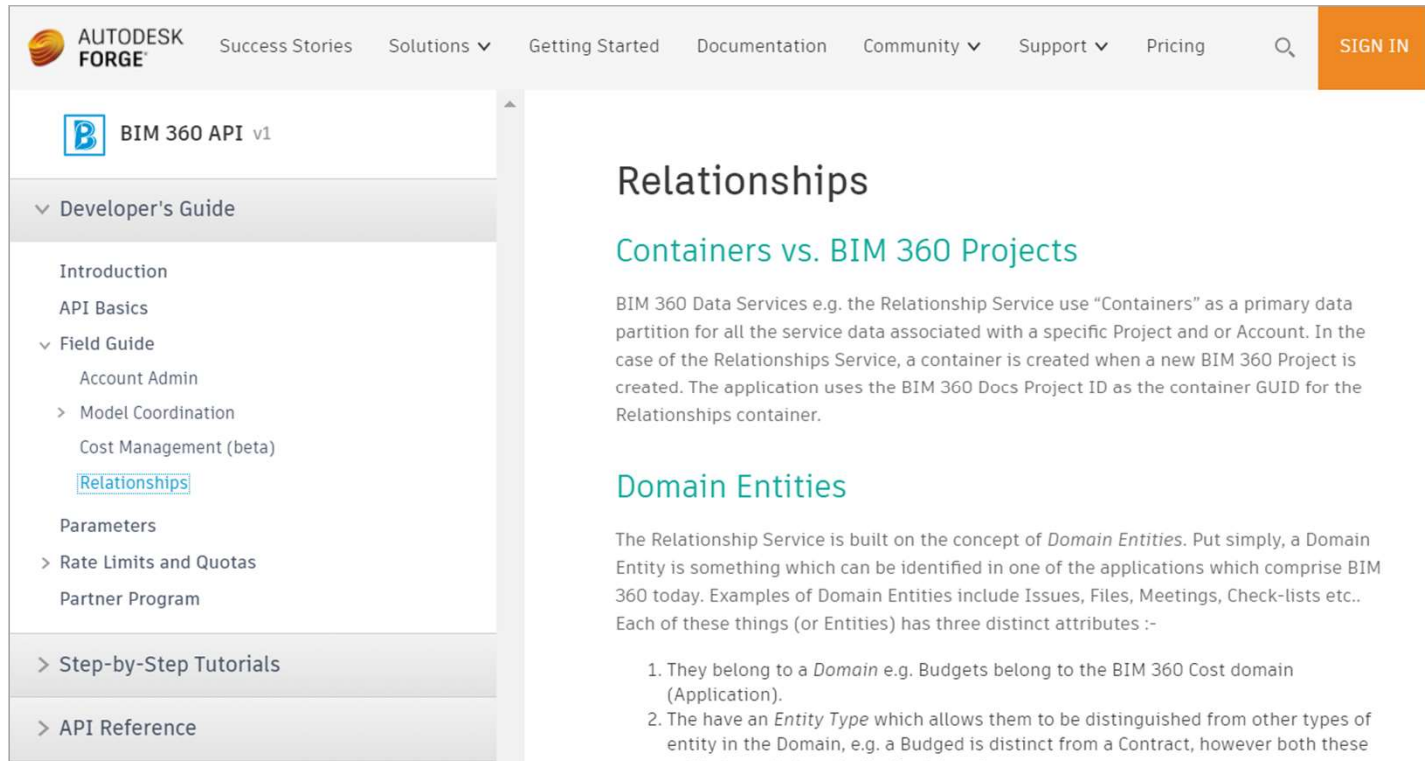
SDK

- .NET Core nuget packages
- JavaScript and Node.js



Relationships API: Developer Resources

Documentation



The screenshot shows the Autodesk Forge BIM 360 API v1 documentation page. The top navigation bar includes links for Success Stories, Solutions, Getting Started, Documentation, Community, Support, Pricing, and a SIGN IN button. The left sidebar contains a table of contents with sections like Developer's Guide, Field Guide, Parameters, and Step-by-Step Tutorials. The 'Relationships' link under Field Guide is highlighted. The main content area is titled 'Relationships' and contains two sections: 'Containers vs. BIM 360 Projects' and 'Domain Entities'.

AUTODESK FORGE Success Stories Solutions ▼ Getting Started Documentation Community ▼ Support ▼ Pricing [SIGN IN](#)

BIM 360 API v1

- ▼ Developer's Guide
 - Introduction
 - API Basics
 - ▼ Field Guide
 - Account Admin
 - > Model Coordination
 - Cost Management (beta)
 - Relationships**
 - Parameters
 - > Rate Limits and Quotas
 - Partner Program
- > Step-by-Step Tutorials
- > API Reference

Relationships

Containers vs. BIM 360 Projects

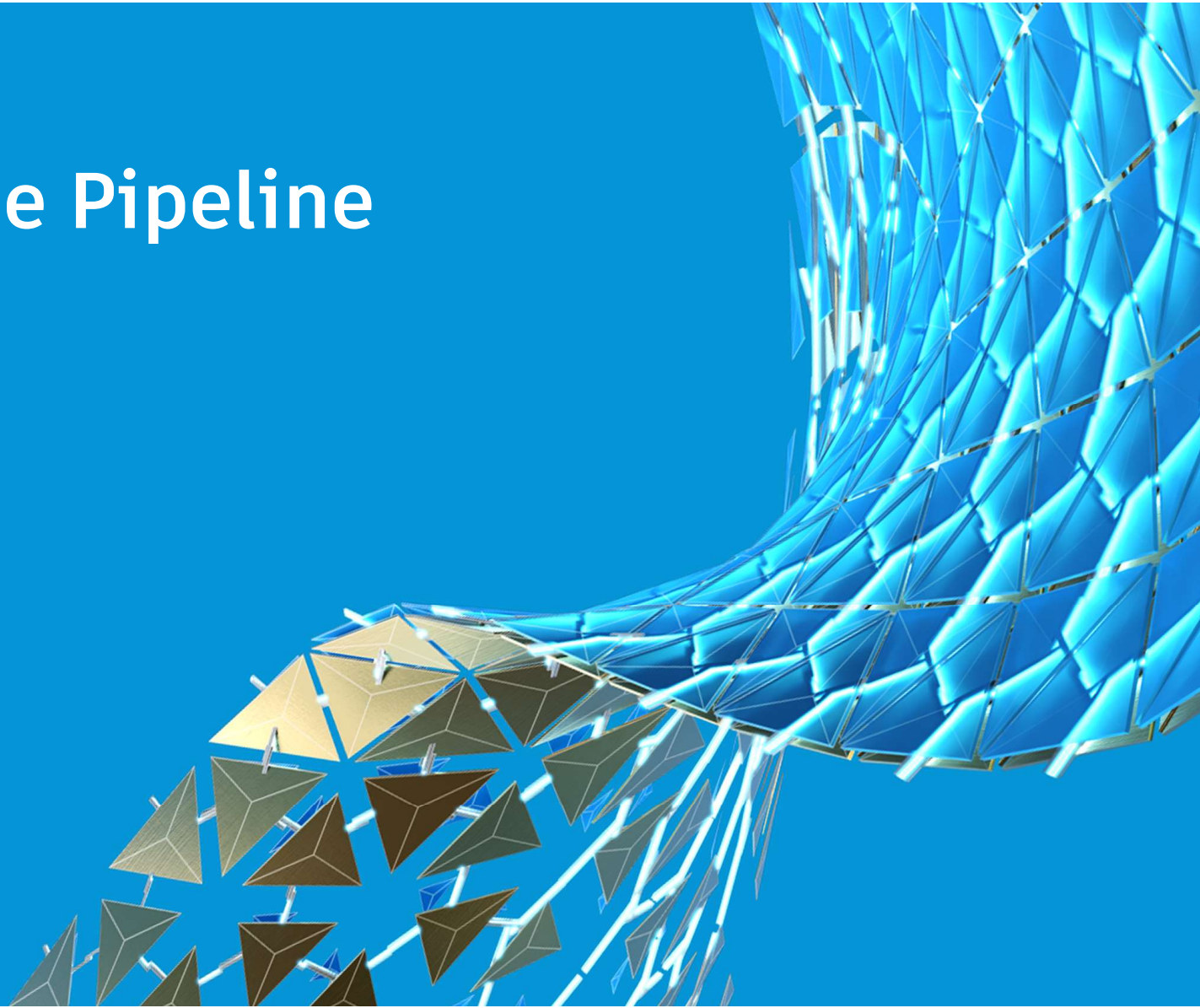
BIM 360 Data Services e.g. the Relationship Service use "Containers" as a primary data partition for all the service data associated with a specific Project and or Account. In the case of the Relationships Service, a container is created when a new BIM 360 Project is created. The application uses the BIM 360 Docs Project ID as the container GUID for the Relationships container.

Domain Entities

The Relationship Service is built on the concept of *Domain Entities*. Put simply, a Domain Entity is something which can be identified in one of the applications which comprise BIM 360 today. Examples of Domain Entities include Issues, Files, Meetings, Check-lists etc.. Each of these things (or Entities) has three distinct attributes :-

1. They belong to a *Domain* e.g. Budgets belong to the BIM 360 Cost domain (Application).
2. They have an *Entity Type* which allows them to be distinguished from other types of entity in the Domain, e.g. a Budget is distinct from a Contract, however both these entity types belong to the Cost domain.

What's in the Pipeline



What's in the Pipeline

Document Management

- Custom attributes definition, review, controls on translation/viewables

Assets

- Initial API release!

Cost Management

- Payments, billing period, main contracts, schedule of values, expenses^{*1}

Admin

- Project API: fill gaps, add users, update companies
- Activities

Model Coordination

- Alignments, aggregation, indexing enhancements^{*1}
- 2LO, webhooks

Field/Project Managements

- Fill gaps: checklists, RFI, issues

^{*1}) prioritize based on feedbacks

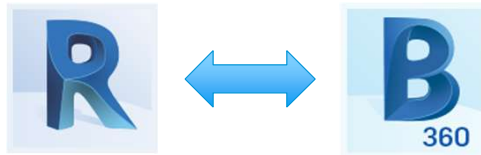
What's in the Pipeline

Insight

- Data Connector

Design

- cloud model/
worksharing^{*2}



*2) Revit API

Summary

- Autodesk Construction Cloud
- BIM 360 & API Status and Updates
- Assets API
- Relationship API
- In Pipeline

Questions?

Join me at
Class Q&A session (SD468487)
Forge Answer Bar

Thank you!

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