

BIM 360 API アップデート と今後の予定

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Autodesk | @Mikako_harada



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AEC シニアマネージャー

デベロッパ テクニカル サービス

Autodesk

米国カーネギーメロン大学で博士号を習得。ゼネラル
モーターズ人工知能認知システムグループ、スイス連
邦工科大学研究員を経て、現在米国オートデスク
Forge AECマネージャーとして世界中のパートナーを
支援する役割に従事。詳細 [blog](https://fieldofviewblog.wordpress.com/):

<https://fieldofviewblog.wordpress.com/>

免責事項

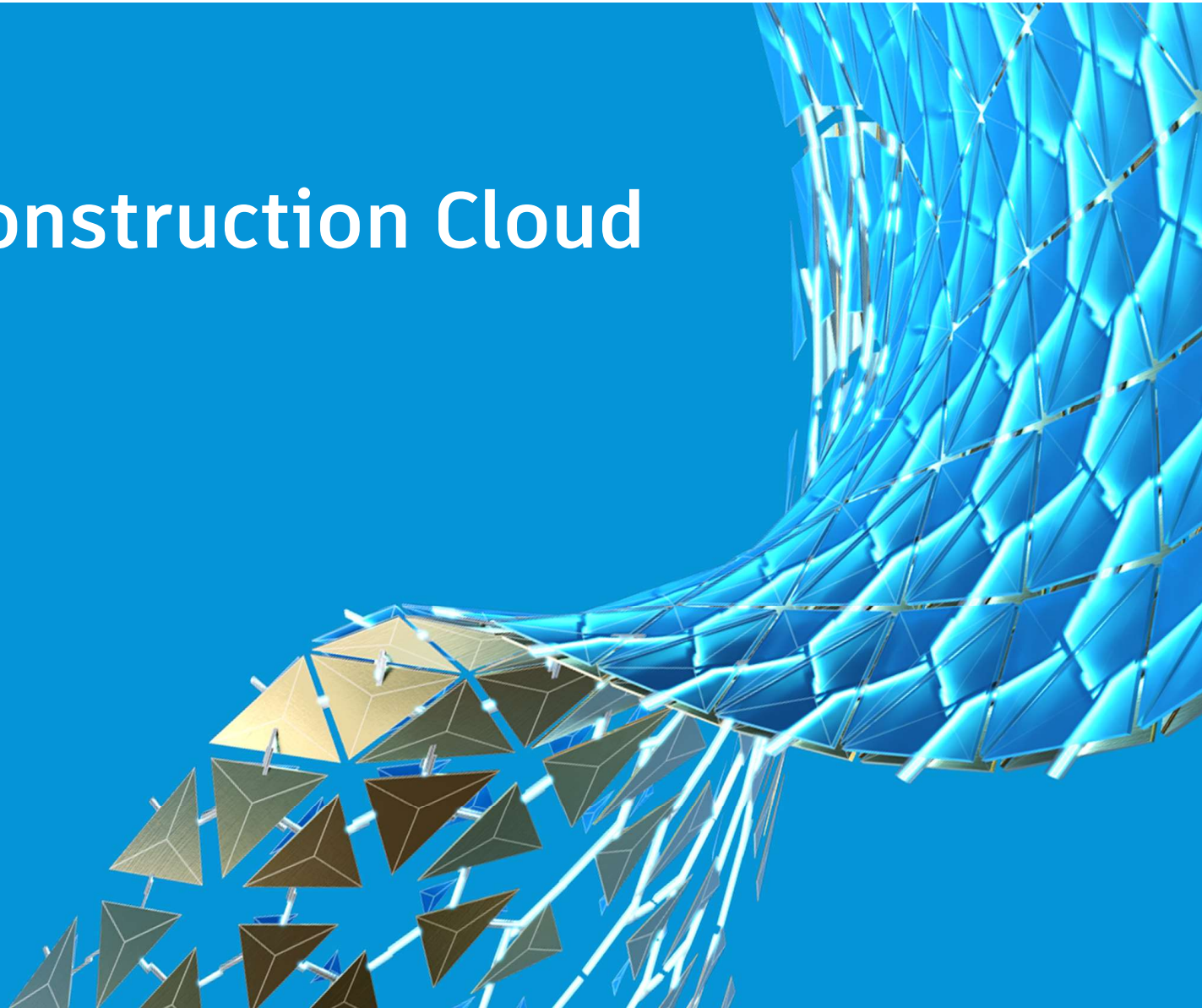
本セッションでは、当社の既存または新規の製品やサービスについて計画中、または今後の開発について述べる内容が含まれています。これらのステートメントは製品、サービス、または機能の将来の利用可能性について約束や保証を意図するものではありません。私たちに現時点で知らされている要因に基づいて、単に現在の計画を反映するものです。これらの計画的および今後の開発努力は、予告なしに変更されることがあります。購入に関する決定は、これらのステートメントに依存することがないようにお願い申し上げます。このレコーディングは2020年10月12日に行われており、発生した事象またはそれらが作成された日以降に変更される状況を反映しているため、将来予想される変更に関して記述を更新する義務はないものとします。このプレゼンテーションが同日以降にレビューされた場合、ステートメントには最新の情報や正確な情報が含まれない可能性があります。

2020年10月12日

Agenda

- Autodesk Construction Cloud 概要
- BIM 360 & API ステータスとアップデート
- アセット(Assets) API
- リレーションシップ(Relationships) API
- 今後の予定

Autodesk Construction Cloud





AUTODESK CONSTRUCTION CLOUD™



Assemble



BIM 360

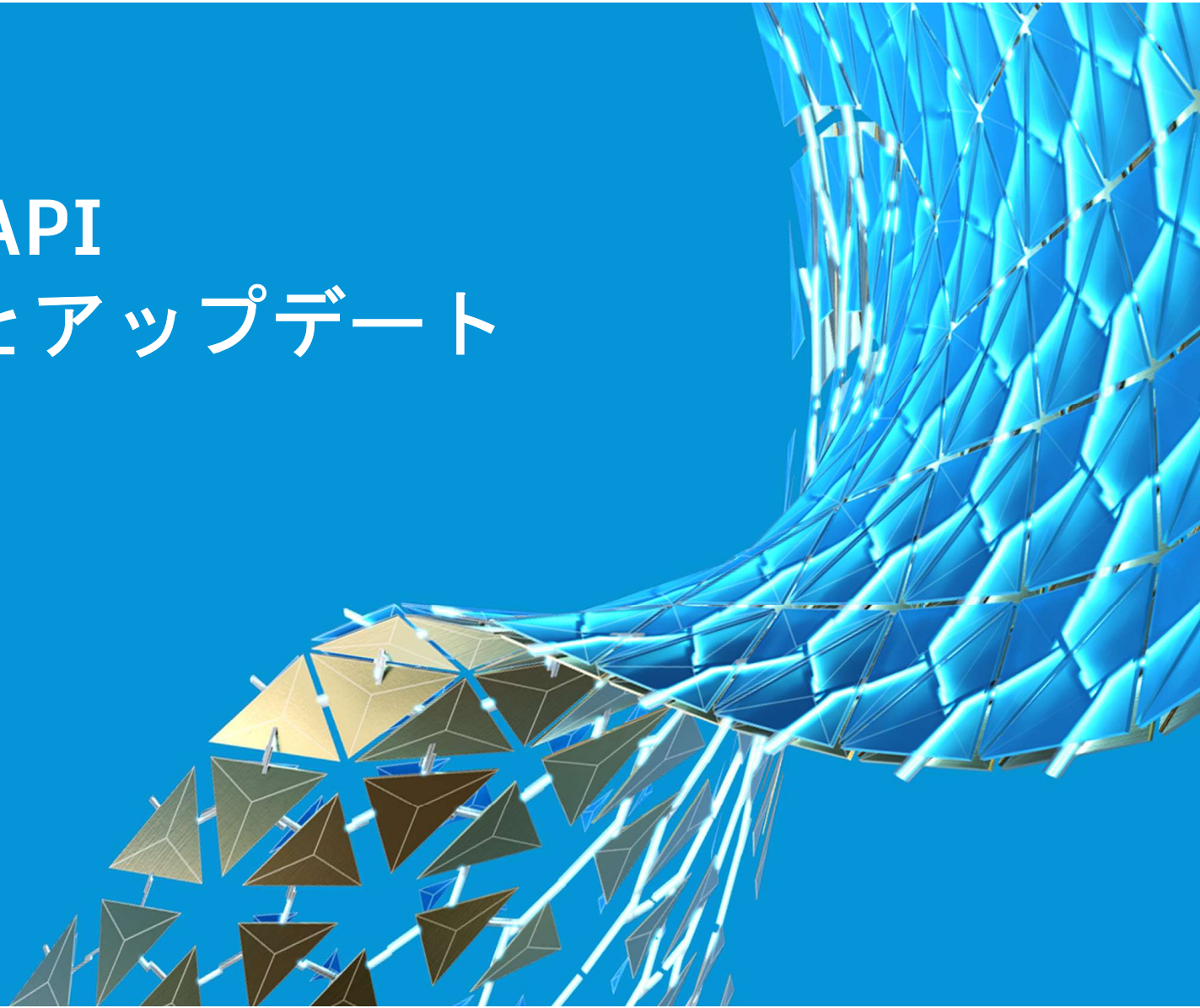


BuildingConnected



PlanGrid

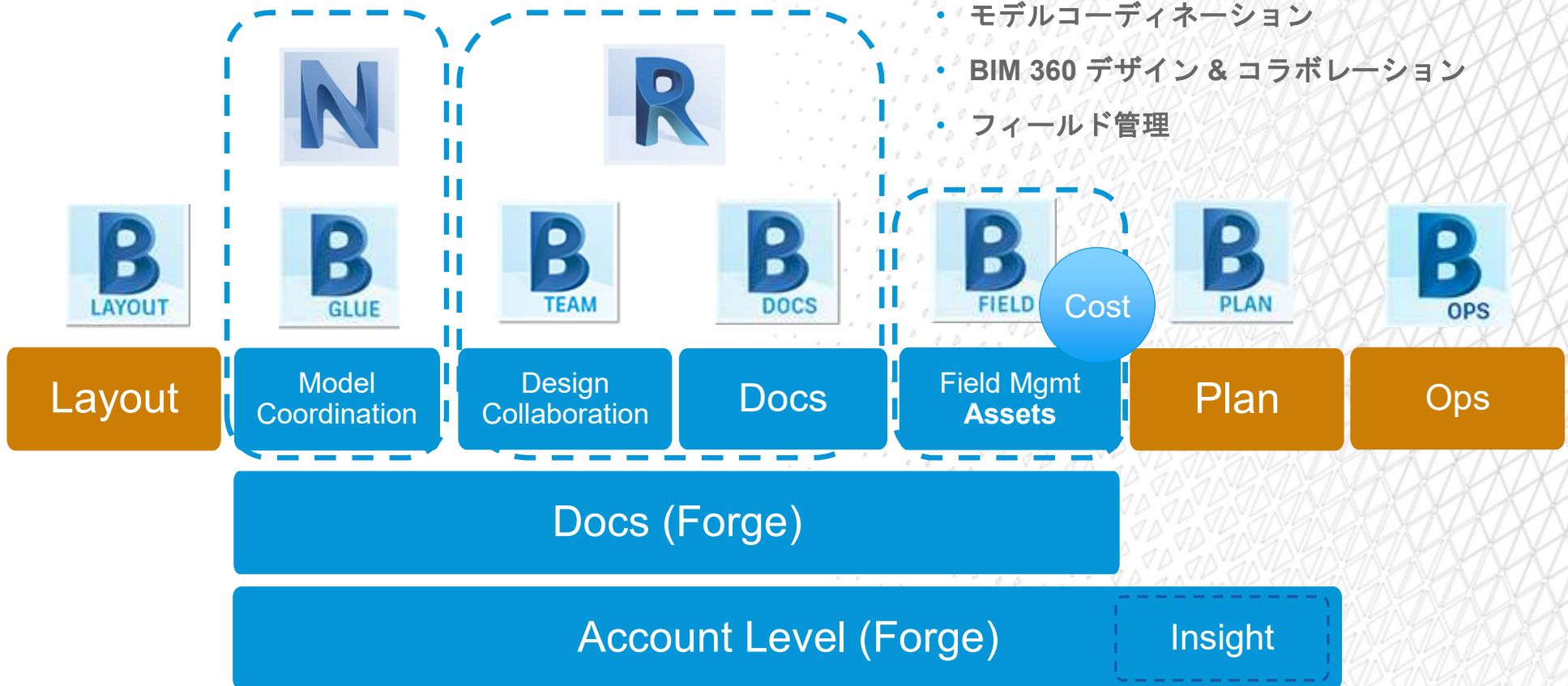
BIM 360 & API ステータスとアップデート



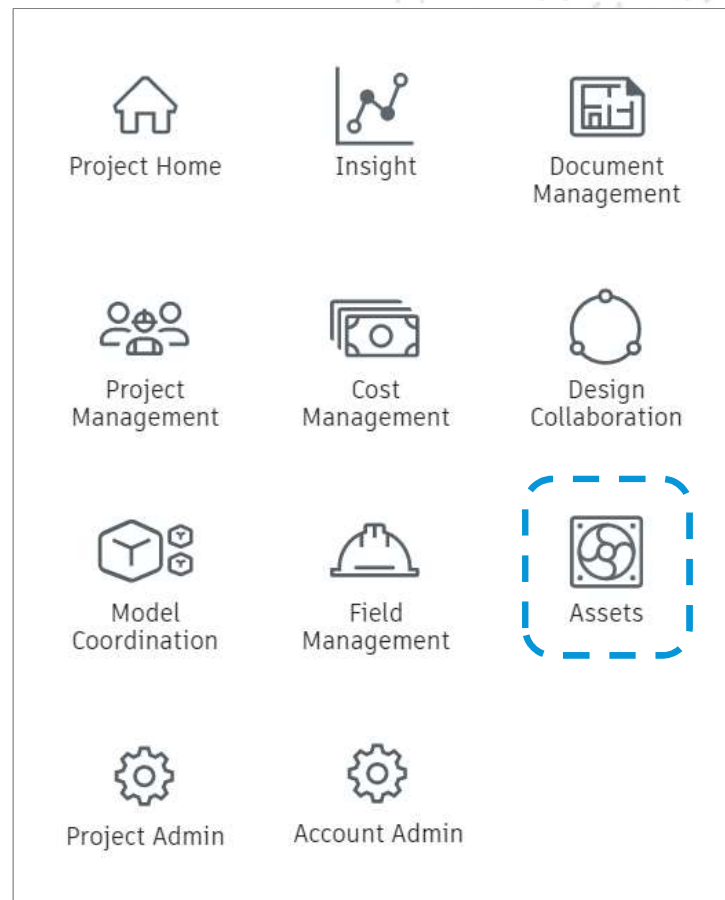
BIM 360ファミリー プロダクト

次世代モジュール

- モデルコーディネーション
- BIM 360 デザイン & コラボレーション
- フィールド管理



BIM 360 モジュール






ドキュメント管理

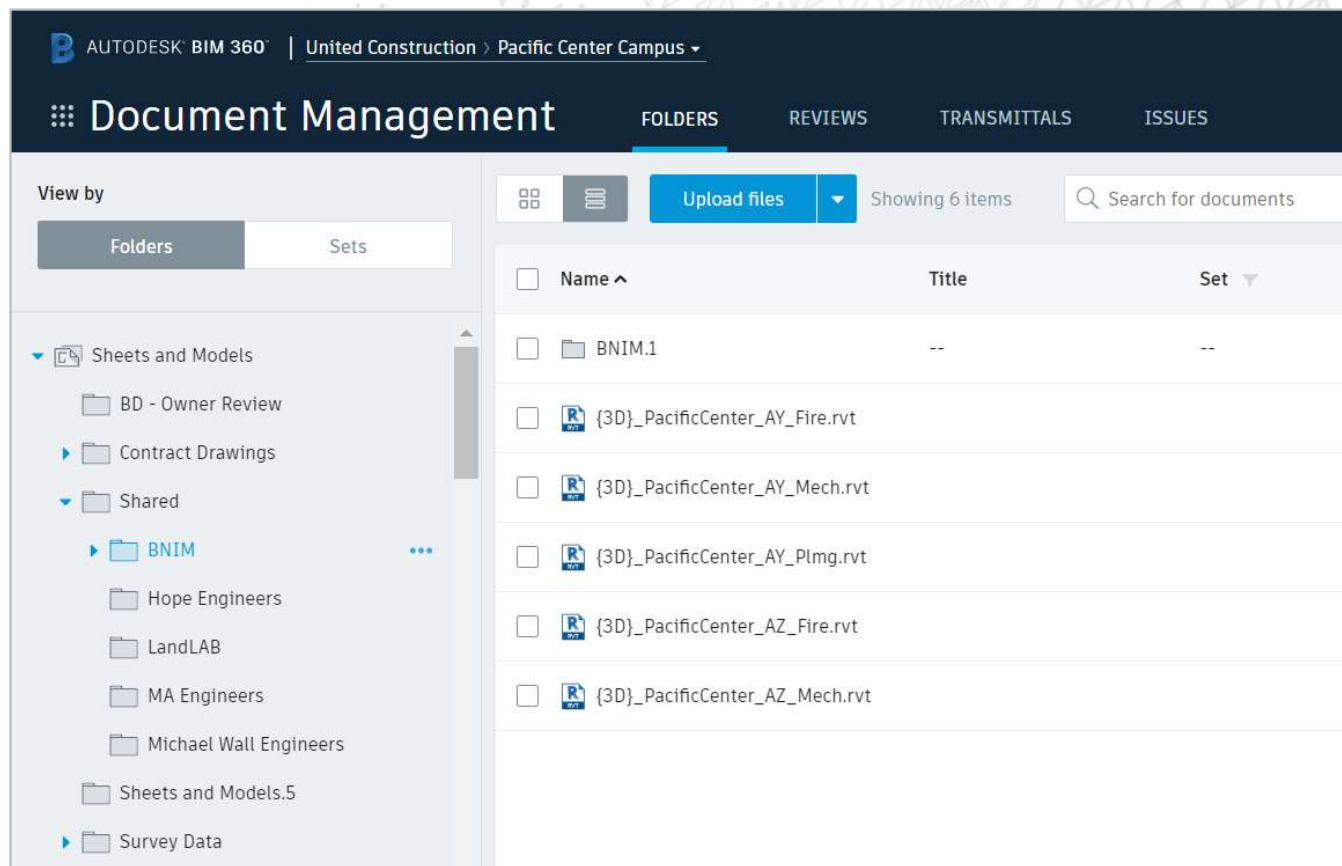
- Data Management API

- API 機能強化:

-  ○ フォルダーのアクセス許可 (r/w)

- カスタム属性値 (r/w)*1

*1) 定義は次の予定





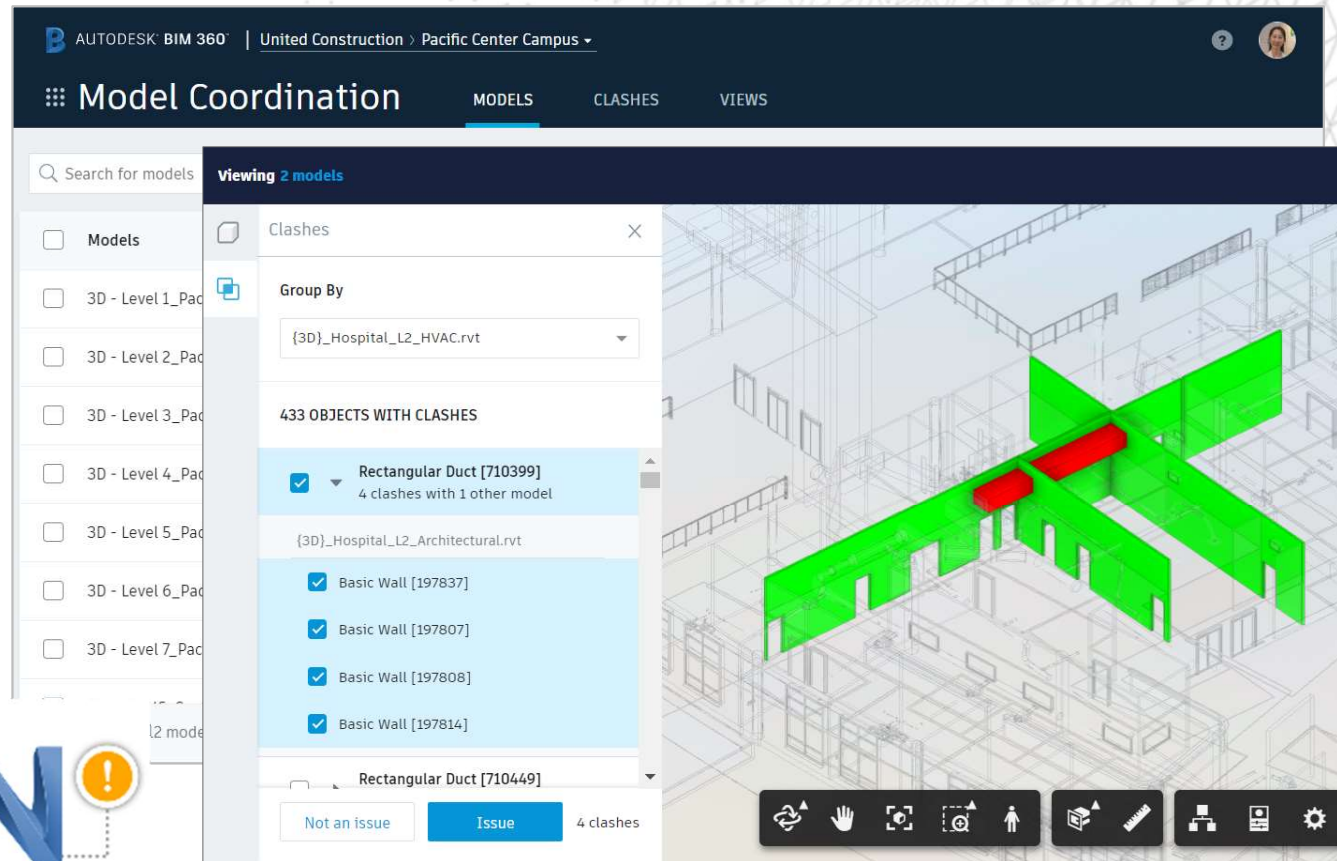
モデル コーディネーション

- Navisworks + Model Coordination の統合

- API機能強化



- オフィシャルにリリース！
- プロジェクトファイルフォルダのサポート
- リレーションシップ (Relationships) API





コスト管理

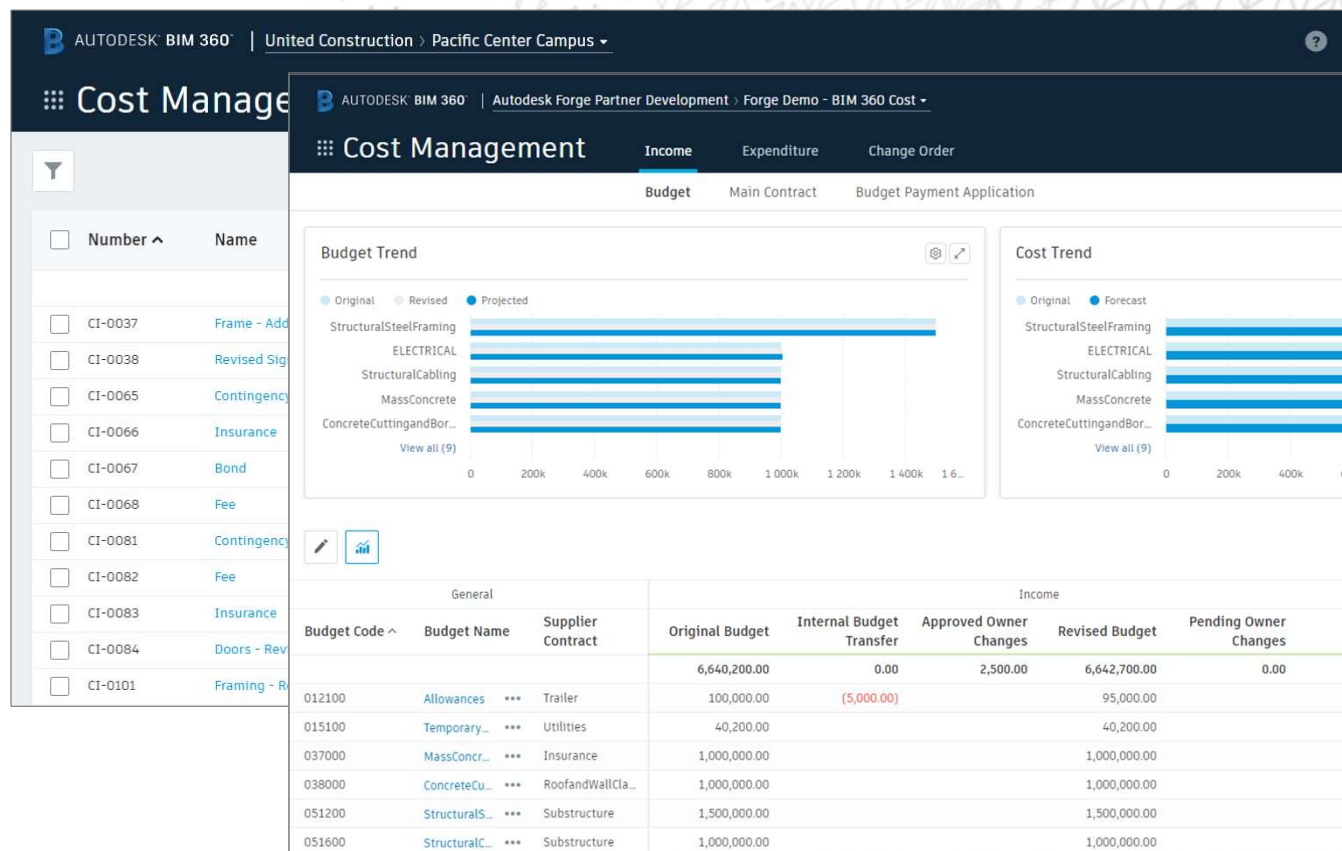
API 機能強化

- 予算コードのテンプレート
- 外部関係の作成/更新/検索*1



どちらもリクエストに基づいています！

*1) ドキュメントの更新待ち





デザイン コラボレーション

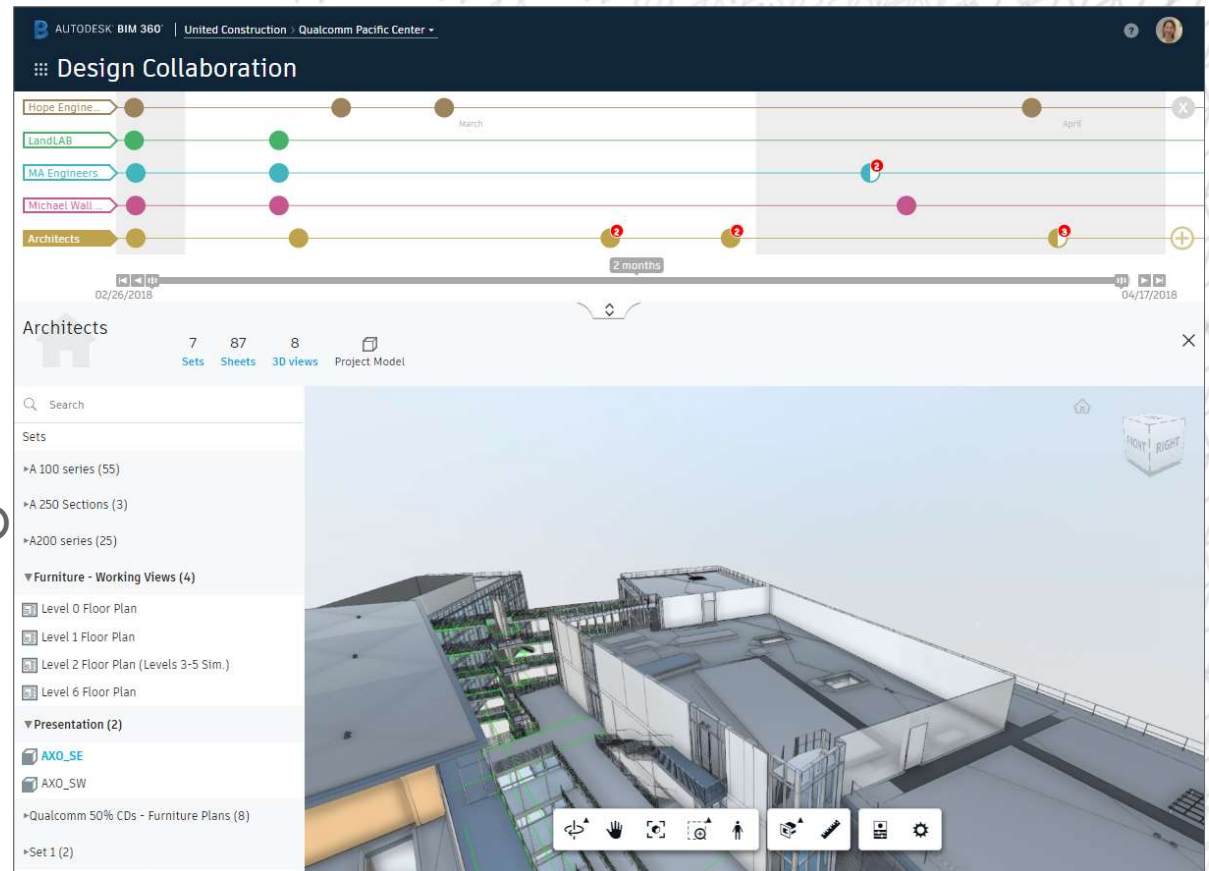
更新

- Revit Cloud Worksharing

Webhookイベントのサンプル :

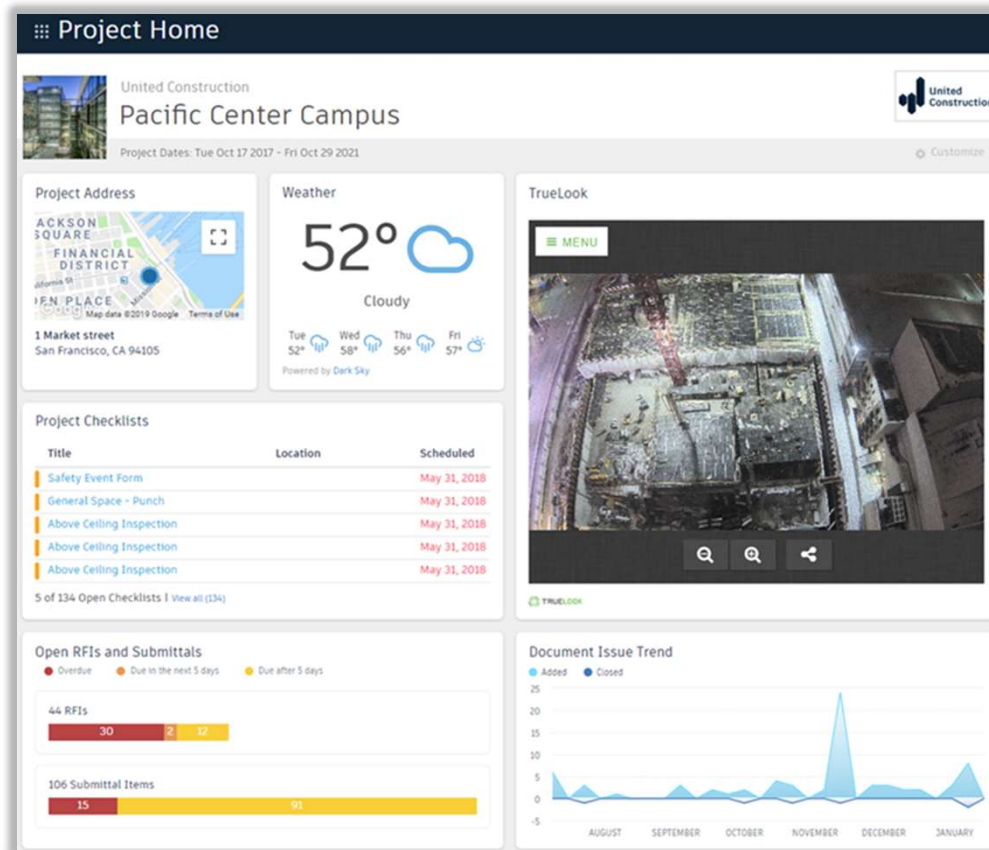
<https://github.com/Autodesk-Forge/forge-bim360notifier>

- ヨーロッパのデータセンターのサポート





プロジェクト ホーム



パートナー カード

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.

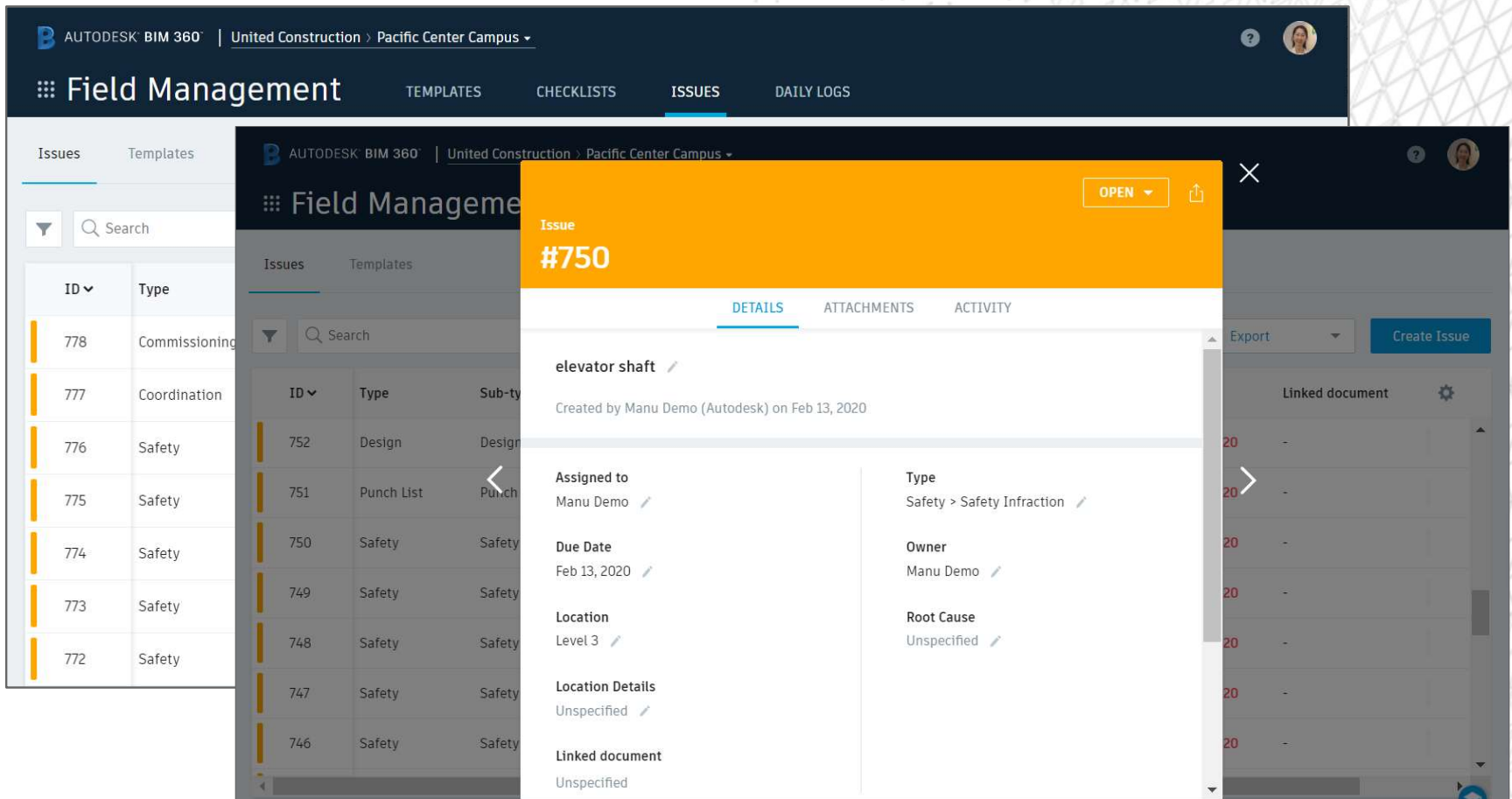
Generated files are only available for 30 days after creation

AVAILABLE EXTRACTIONS

| Created | |
|---------------------|----------|
| May 7, 2020 3:54 PM | Download |
| May 7, 2020 2:38 PM | Download |

Left sidebar content:

- 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





プロジェクト管理

API 更新

- RFI v2

The screenshot displays the Autodesk BIM 360 Project Management interface for the 'United Construction > Pacific Center Campus' project. The 'RFIs' tab is active, showing a list of RFIs with columns for Status, ID, and Title. A modal window is open for an RFI titled '#Unspecified'. The modal includes a 'SUBMITTED' status dropdown, a 'Your action is required' message with a 'Submit to Reviewer' button, and tabs for DETAILS, ATTACHMENTS, and ACTIVITY. The DETAILS tab is selected, showing the RFI details: 'Have you completed the work on this site?', 'Assigned to: Zohar Liran', 'Due date: Mar 31, 2020', 'Cost impact: Unspecified', 'Schedule impact: Unspecified', 'Question: Have you completed the work on this site?', and 'Suggested answer: Yes'.

AUTODESK BIM 360 | United Construction > Pacific Center Campus

Project Management RFI SUBMITTALS MEETINGS

Search RFI

Status ID

SUBMITTED -

SUBMITTED -

SUBMITTED -

SUBMITTED -

DRAFT -

SUBMITTED -

SUBMITTED -

SUBMITTED -

AUTODESK BIM 360 | United Construction > Pacific Center Campus

Project Management

Search RFI

Status ID Title

SUBMITTED - Hav

SUBMITTED - Dro

SUBMITTED - Dro

SUBMITTED - test

DRAFT - Pair

SUBMITTED - Flo

SUBMITTED - Pan

SUBMITTED - Ope

RFI #Unspecified

SUBMITTED

Your action is required Submit to Reviewer

DETAILS ATTACHMENTS ACTIVITY

Have you completed the work on this site?

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



アセット(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

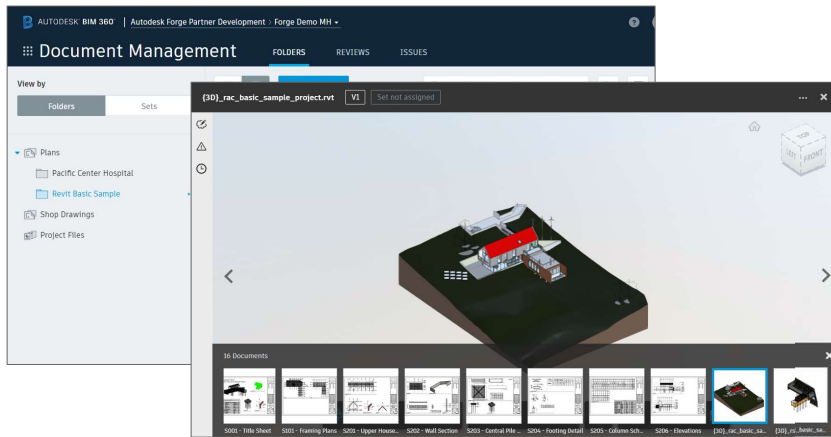
Linked references

Add reference

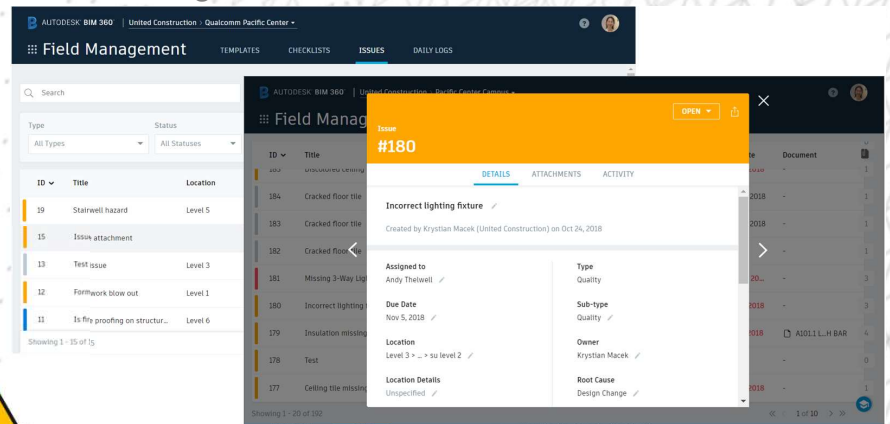
Issue OPEN #35 air handler installation issue

Issues/指摘事項

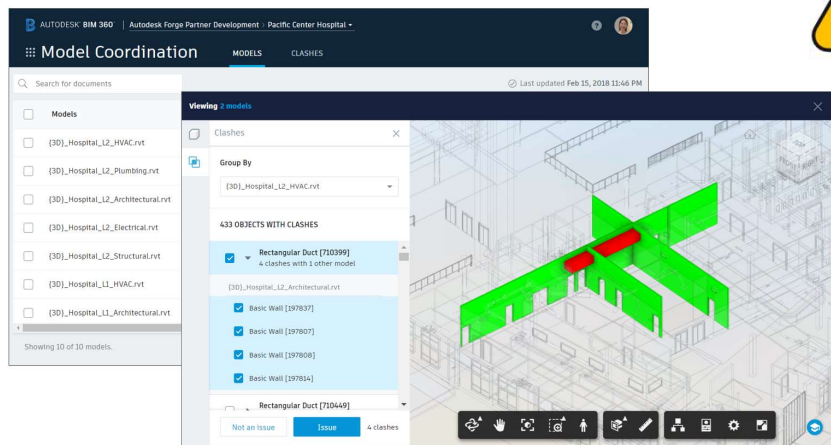
Document Management



Field Management



Model Coordination

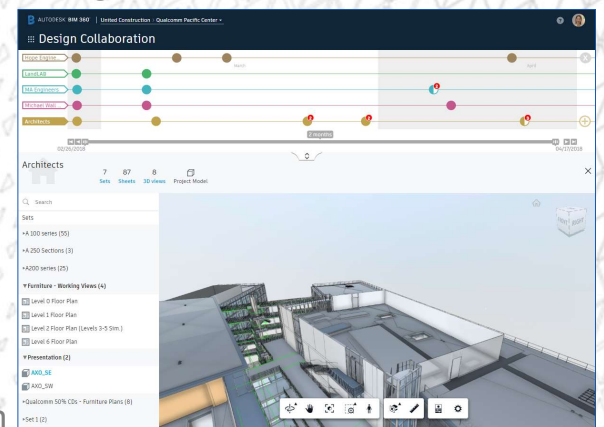


Navisworks BIM 360 Issues



Revit Issues Add-in

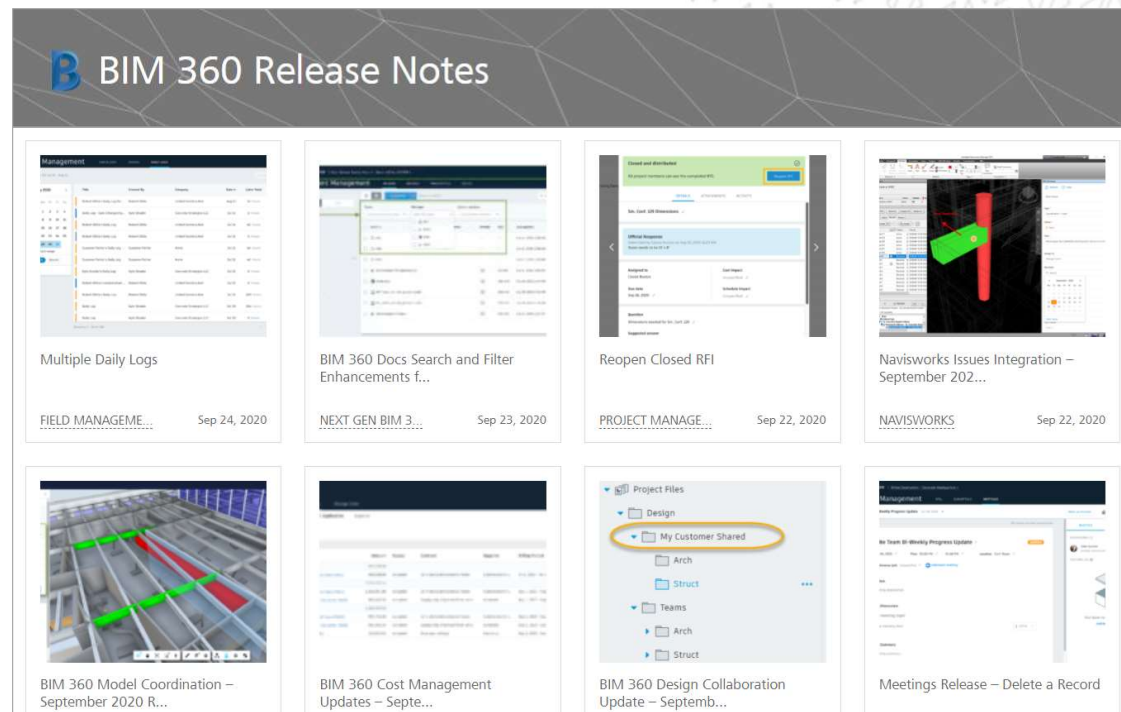
Design Collaboration



BIM 360リリースノート

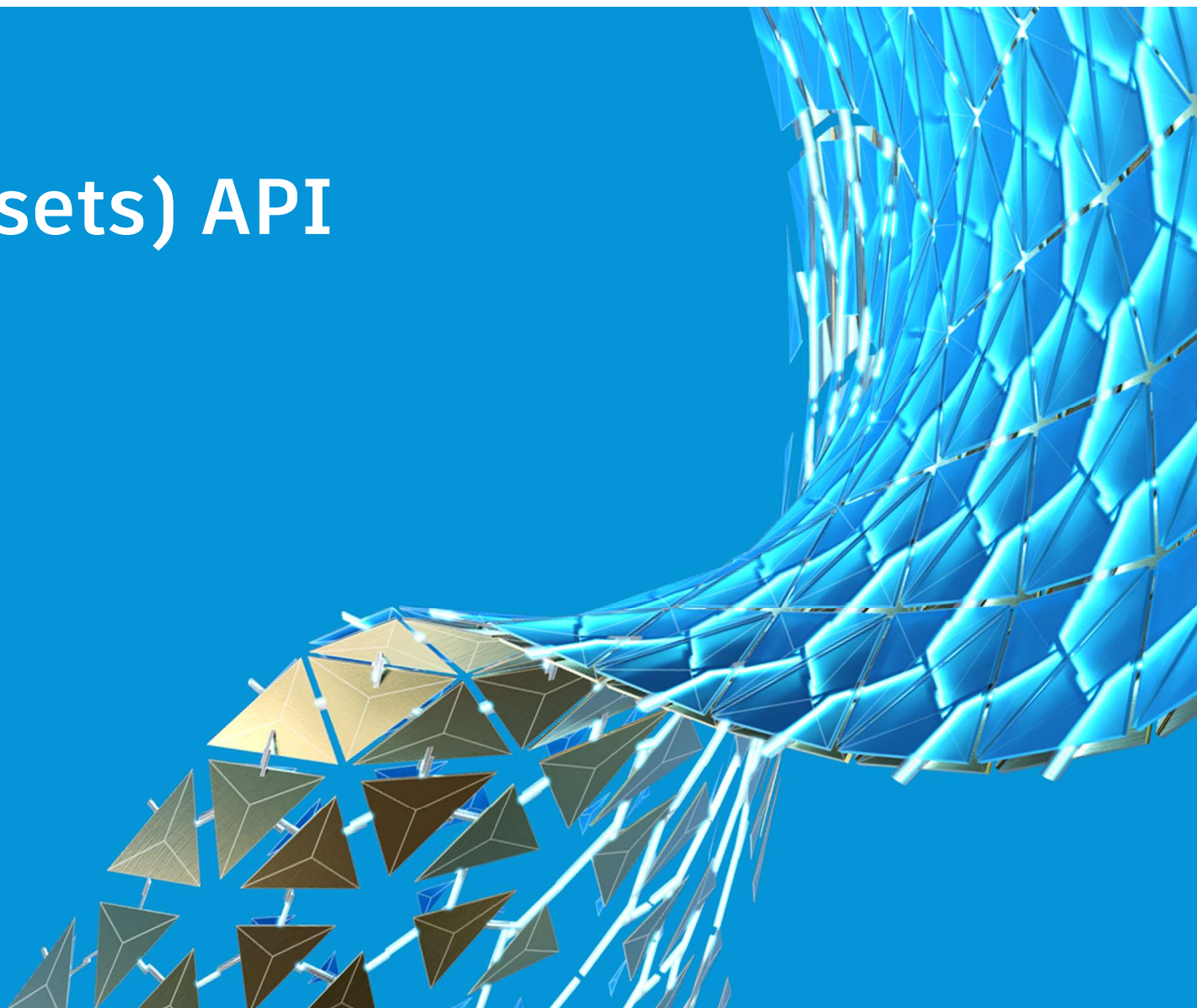
<https://blogs.autodesk.com/bim360-release-notes/2020>

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



アセット(Assets) API

リリース予定



アセット(Assets) API

プライベートベータ（読み取り）現在

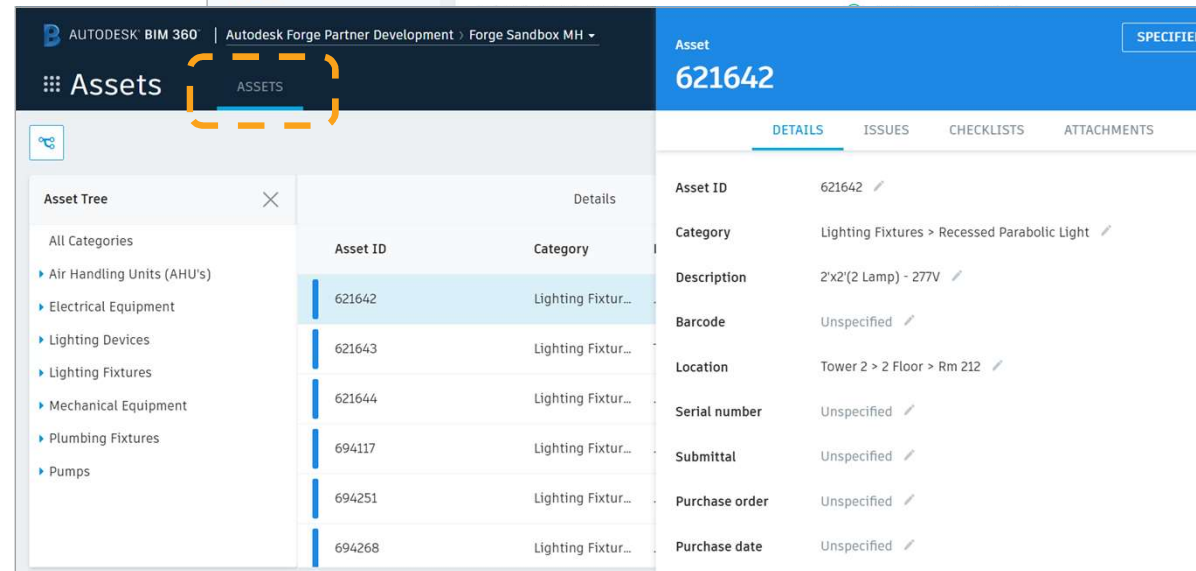
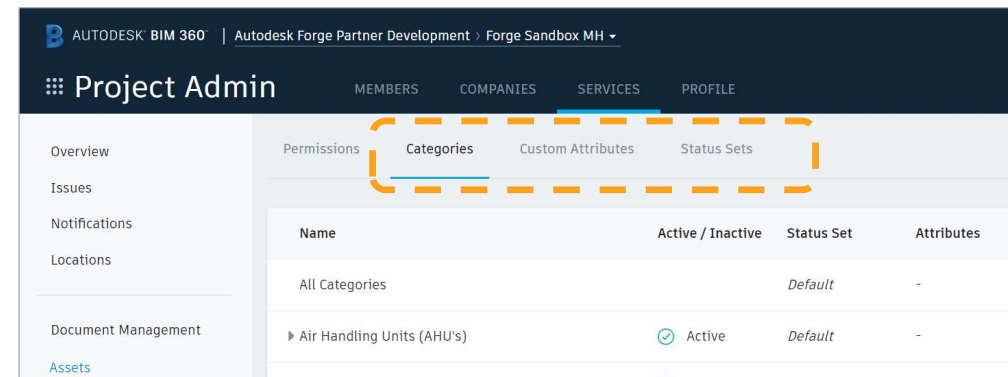
- アセットアイテム
- カスタム属性
- カテゴリ
- ステータスセット

パブリックベータ 近い将来

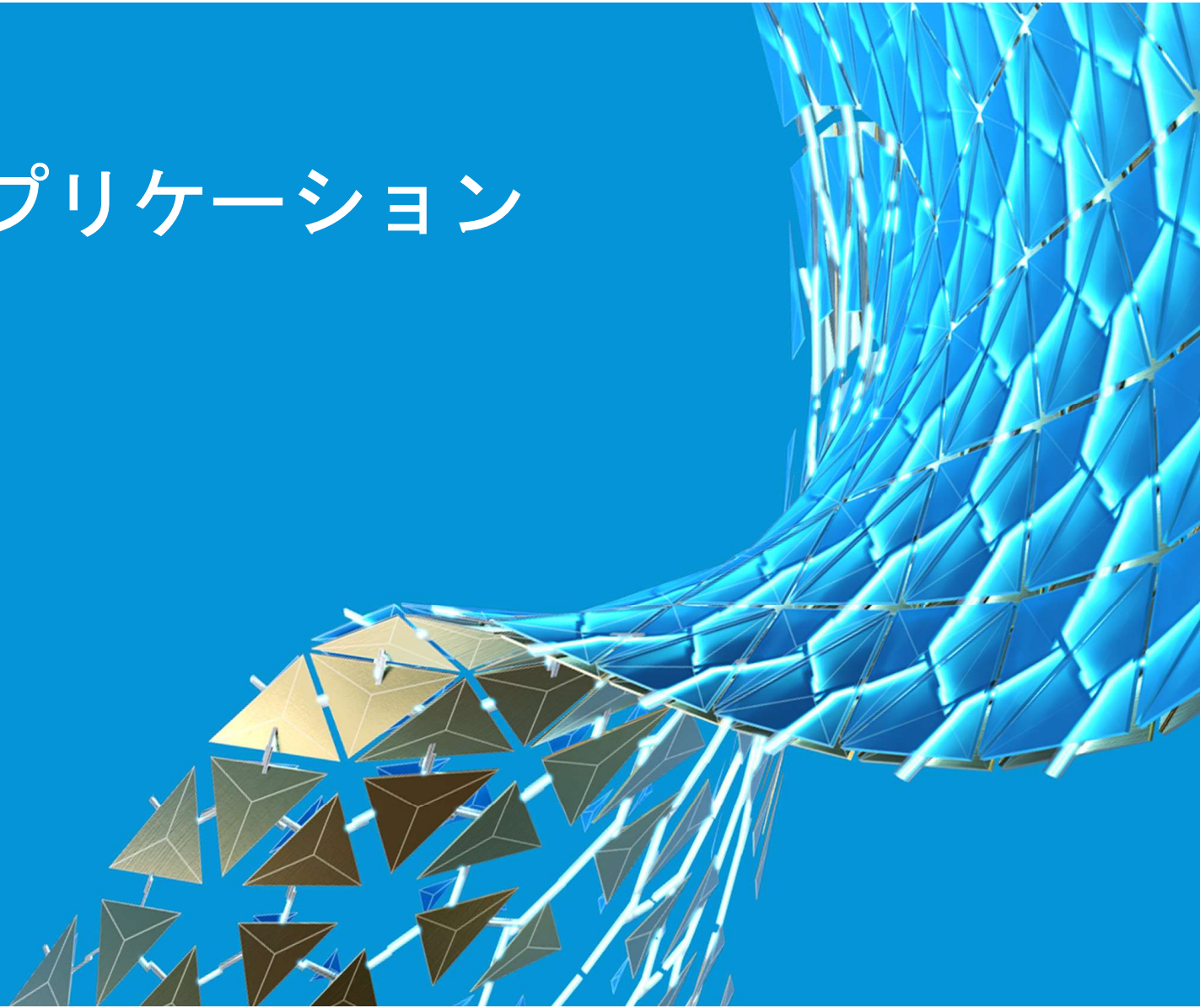
- アイテムの読み取り+書き込み、バッチ、インポート *1

優先順位のフィードバックを！

*1) フィードバックに基づいて優先順位を付けます



サンプル アプリケーション

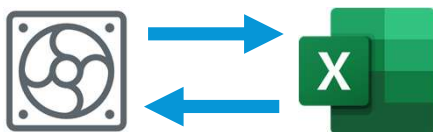


Excel エクスポート/インポート

機能：BIM 360 Assets モジュールのすべてのアセットデータをカスタムWebページにエクスポートし、さらにExcelシートにエクスポートします。Excelで変更し、アセットにインポートします。このサンプルは、Assetsモジュールを使用した基本的な読み取り/書き込みアクセスを示すためのものです。

ソースコード: GitHub サンプル (予定)

作者：Xiaodong Liang, Autodesk



BIM 360 Asset Assets

BIM 360 Asset Data Export & X

+

localhost:3000

Apps

BIM360

MC API

China

AU2018

aws

Live Demos

Video Demos

quick-demos

DevDays 2016

3DWebFest

Autodesk

Prototype

Customer

Tech

AUTODESK
FORGE

BIM 360 Asset Data Exchange

Enable my BIM

BIM360 Project List

ASSETS

CATEGORIES

CUSTOM ATTRIBUTES

STATUSES

Autodesk Forge Partner Development

BIM360 AU Asset Test Project(Zhong)

Damier 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 Tes & Patch

Xiaodong-test-MC

Zhong Revit File Upgrader Project

xiaodong-test-asset

B FPD EMEA

Search

| client | AssetId | 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 | 2021-01-08 |
| 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 | 2021-01-08 |
| 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 | 2021-01-08 |

[illegible]

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

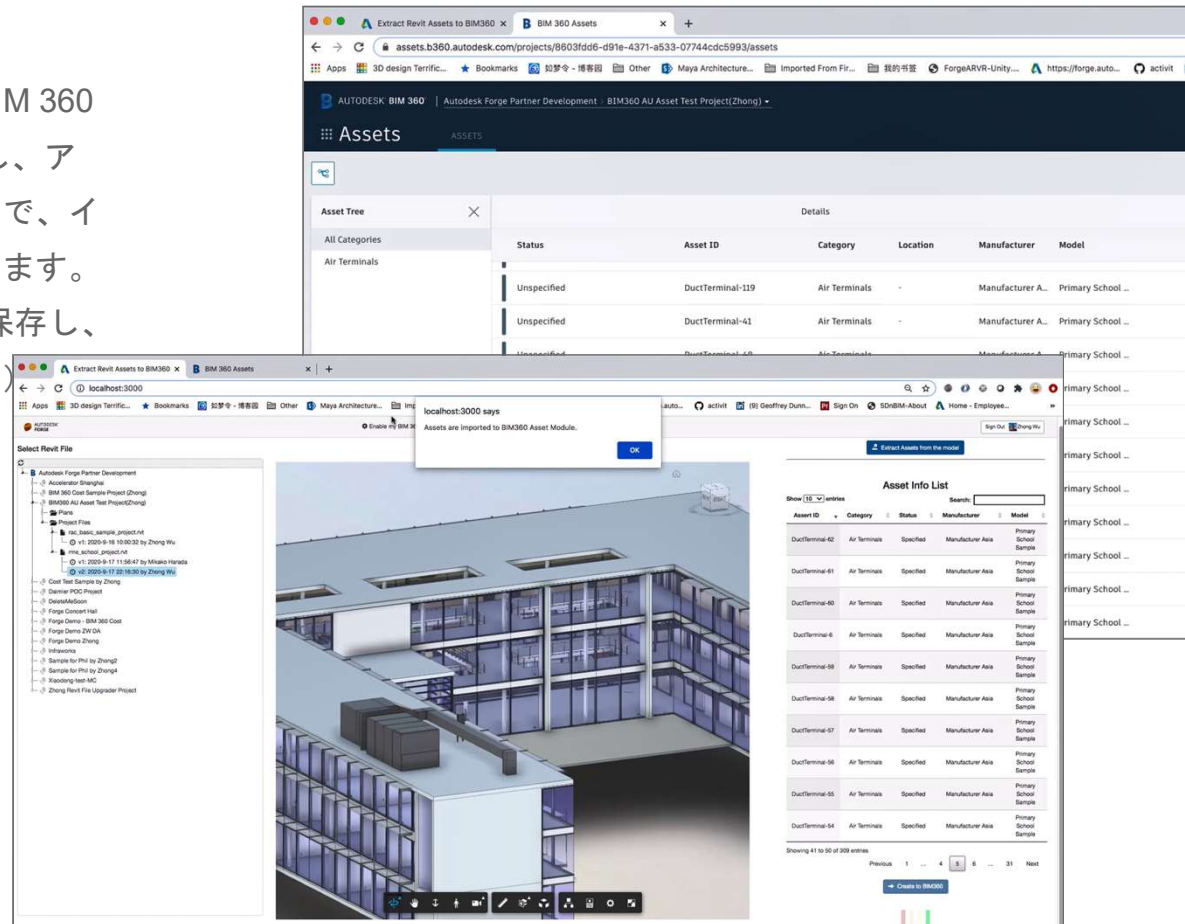
Create

設計モデルからアセット データを設定

機能: Design Automation for Revit を使用して、BIM 360 Docs に保存された設計モデルからアセットを抽出し、アセット モジュールにインポートします。オプションで、インポートする前にアセットをフィルタリング/検証します。
(RevitのUnique Element IDをカスタム属性として保存し、アセットとRevitの要素との関連付けを維持します。)

ソースコード: GitHub サンプル (予定)

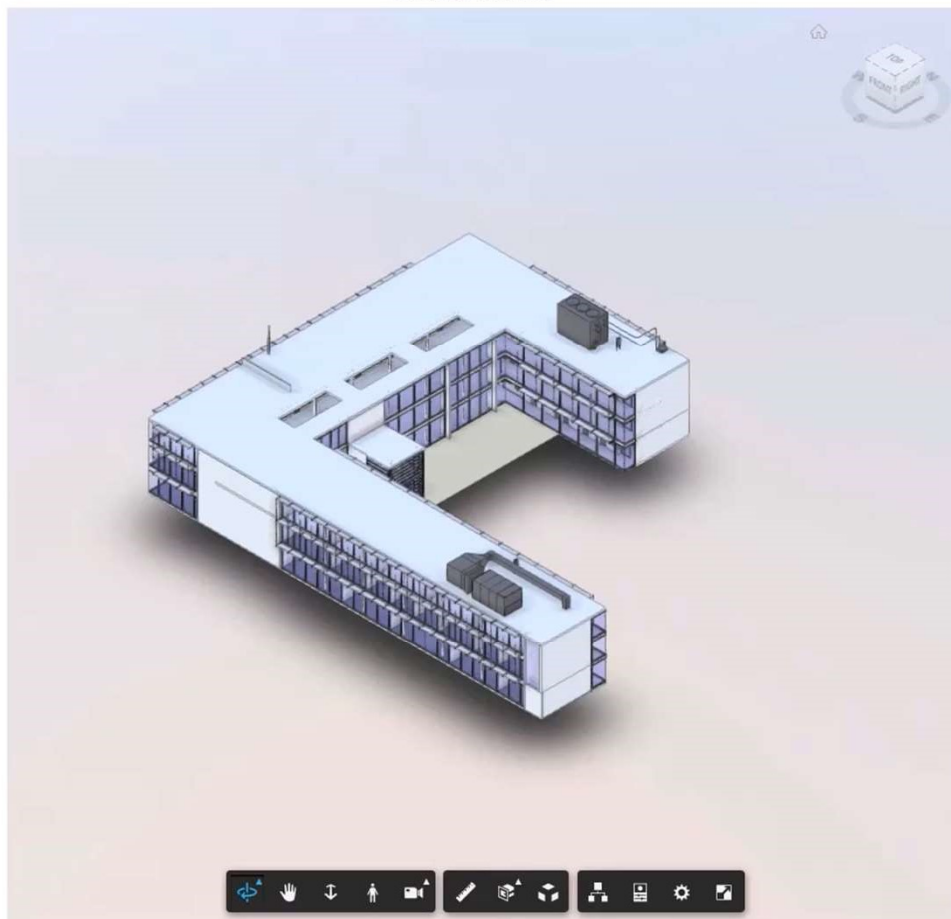
作者: Zhong Wu, Autodesk



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

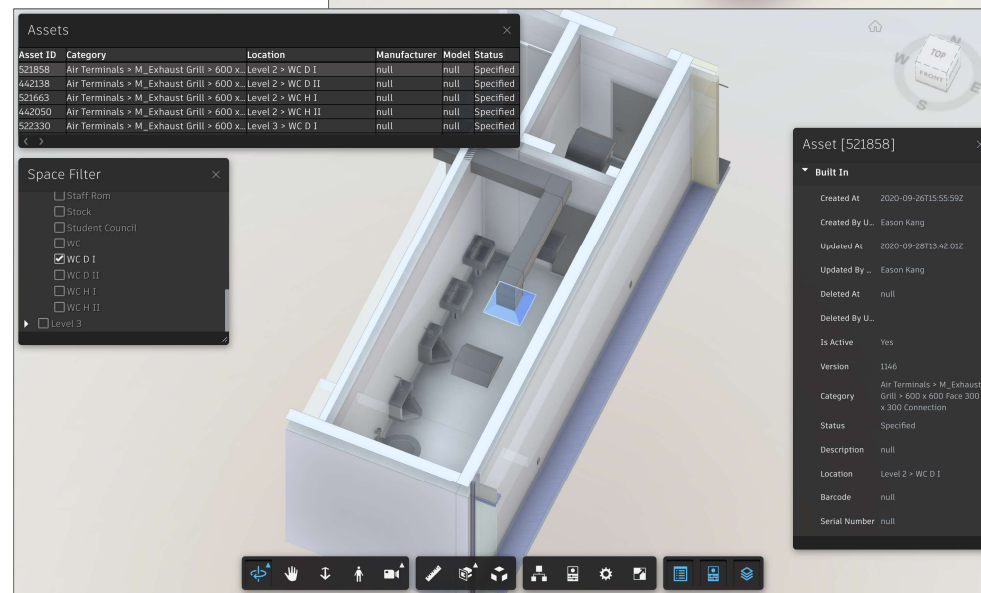
Create to BIM360

モデルビューア上でアセットを表示

機能：モデルビューアでアセットデータを表示します。レベルと部屋でアセットをフィルタリングできます。（RevitのUnique Element IDをカスタム属性として保存し、アセットとRevitの要素との関連付けを維持します。）

ソースコード：GitHub サンプル (予定)

作者：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 |



Assets API デベロッパ リソース

- ドキュメンテーション
- GitHubのコードサンプル
- Postman コレクション

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

▼ API Reference

▼ HTTP Specification

- > Admin
- ▼ Assets
 - ▼ 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

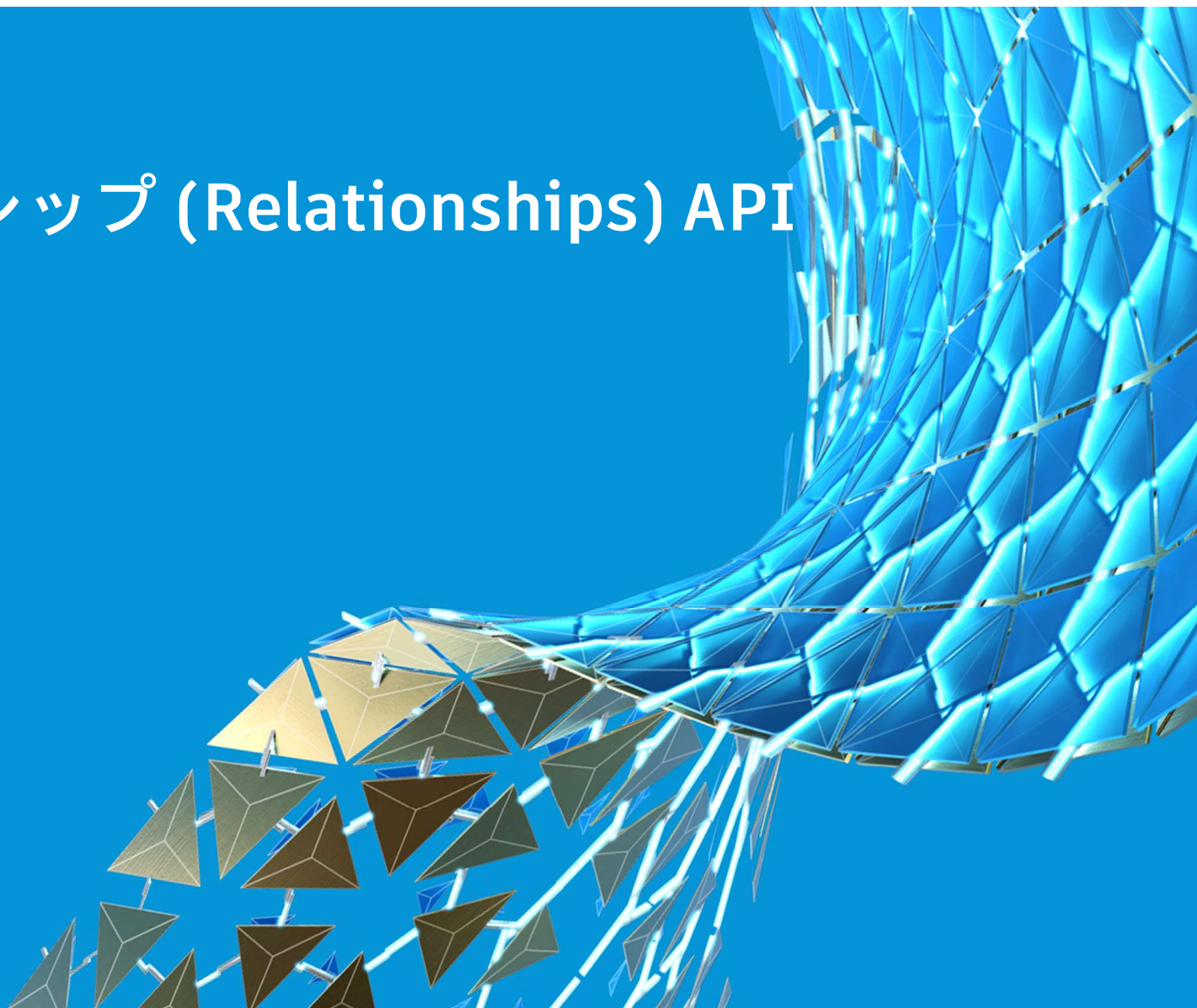
Resource Information

| | |
|-------------------------------|--|
| Method and URI | GET https://developer.api.autodesk.com/bim360/assets/v |
| Authentication Context | user context required |
| Required OAuth Scopes | data:read |
| Data Format | JSON |

Request

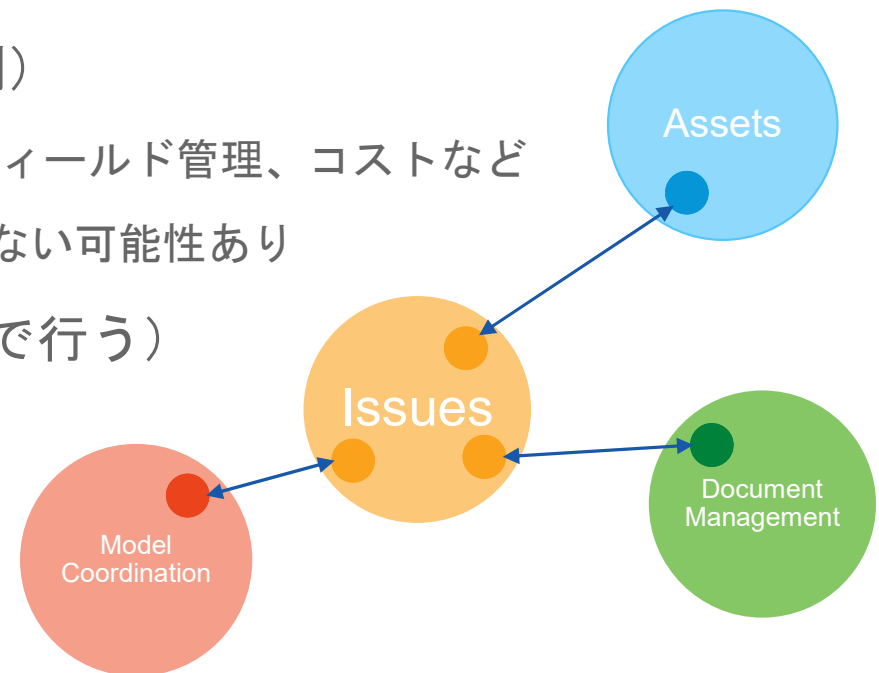
Headers

リレーションシップ (Relationships) API



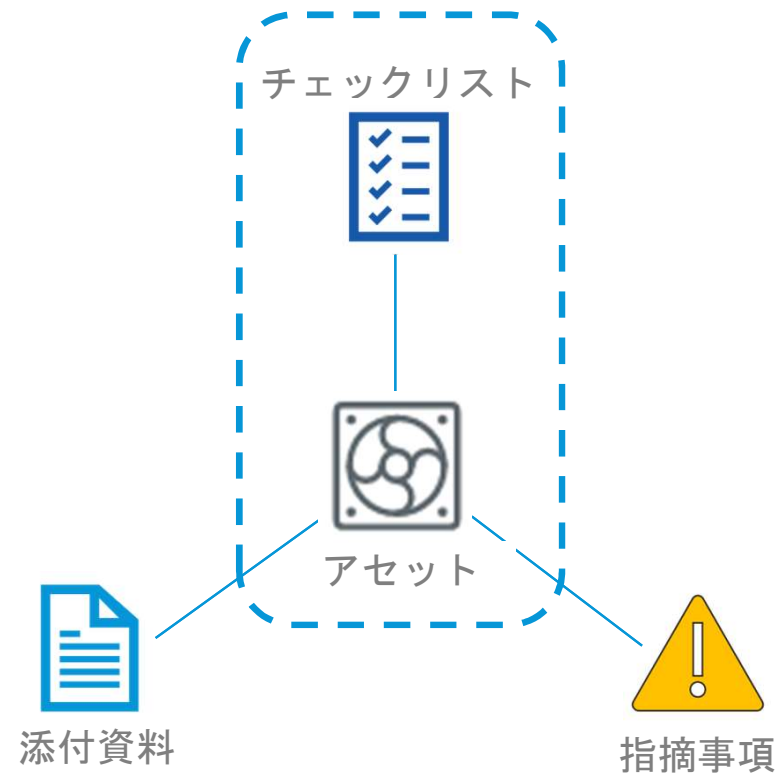
リレーションシップ (Relationships) API

- 異なる機能コンポーネント（ドメイン）に存在するアイテム（エンティティ）間のリンクを表現
- BIM 360の様々なモジュールで使用：例)
 - モデル コーディネーション、アセット、フィールド管理、コストなど
 - 古くから存在する機能では、使用されていない可能性あり
- 読み取り専用（作成はドメイン関数側で行う）
- すでにリリース済み

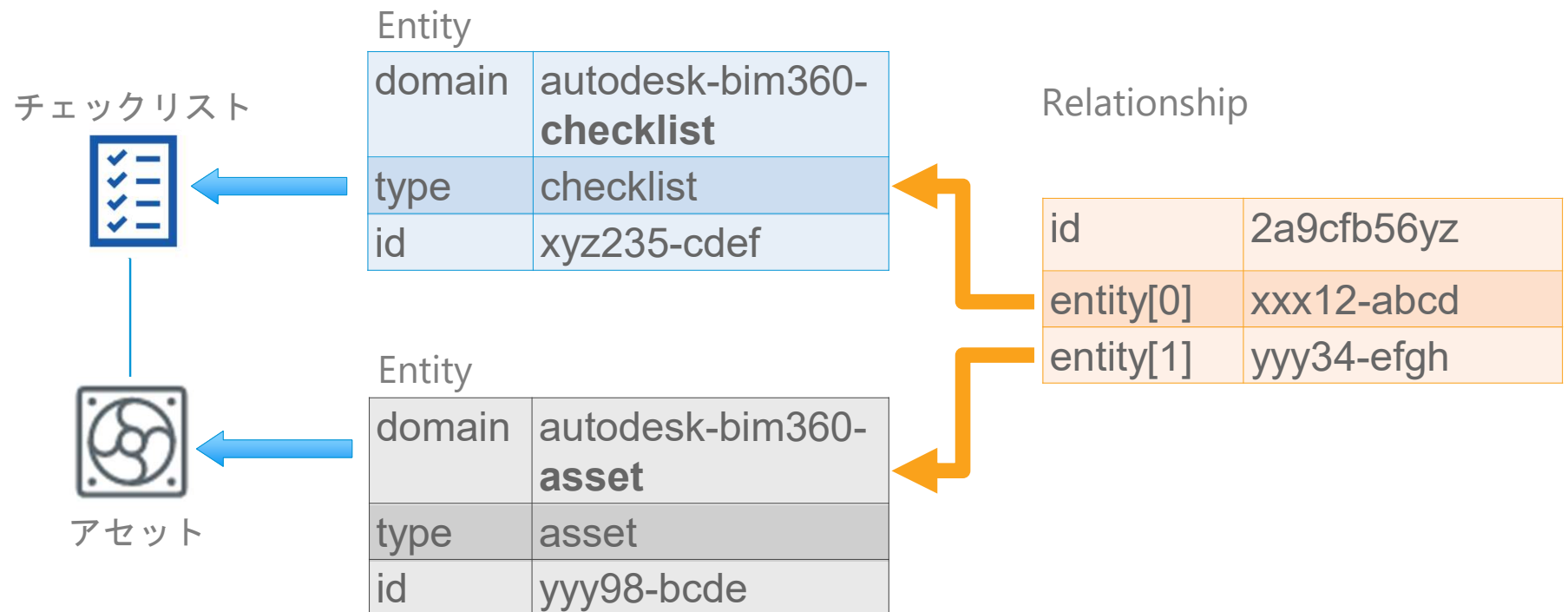


リレーションシップ (Relationships) API

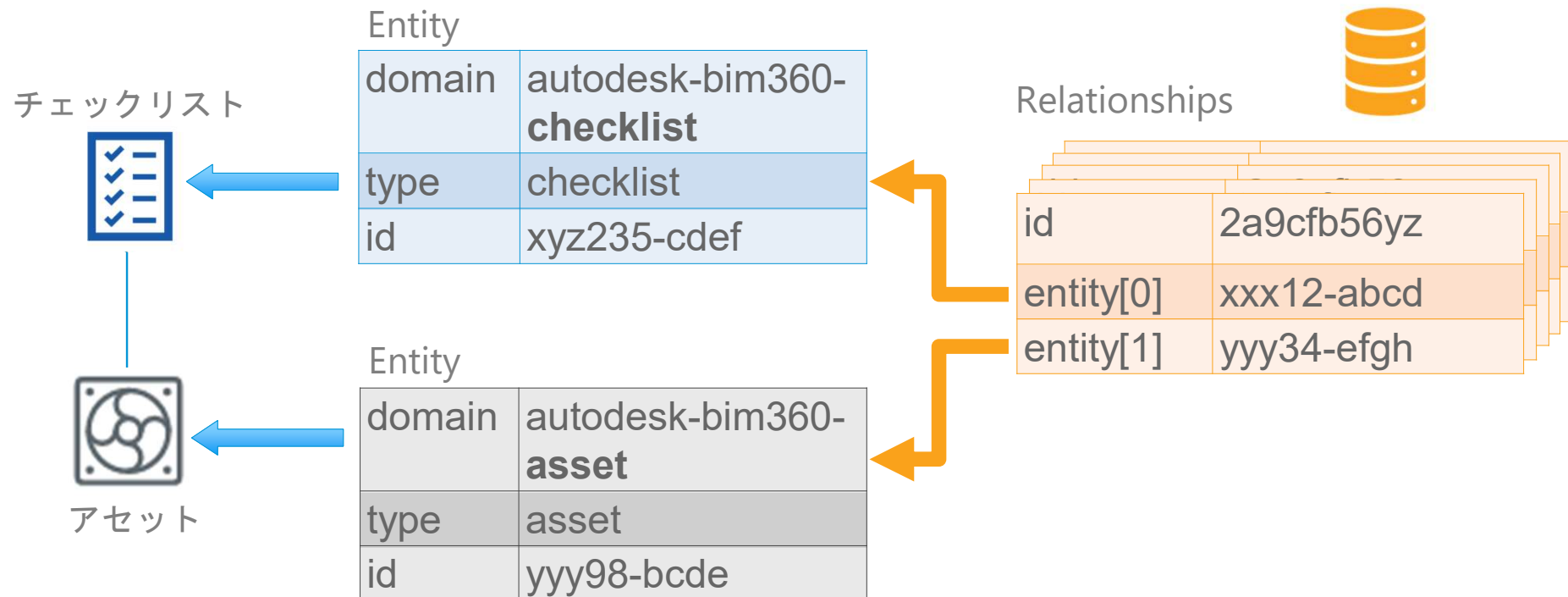
例)



リレーションシップ (Relationships) API



リレーションシップ (Relationships) API



リレーションシップ (Relationships) API

| カテゴリー | エンドポイント |
|-------|---|
| 検索 | GET relationships/: relationshipId |
| | POST relationships: batch |
| | GET relationships: search |
| | POST relationships: intersect |
| 同期 | POST relationships: sync |
| | POST relationships: syncStatus |

リレーションシップ (Relationships) API

| カテゴリー | エンドポイント |
|-------|---|
| 検索 | GET relationships/: relationshipId |
| | POST relationships: batch |
| | GET relationships: search |
| | POST relationships: intersect |
| 同期 | POST relationships: sync |
| | POST relationships: syncStatus |

Relationship を id から取得

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


リレーションシップ (Relationships) API

| カテゴリー | エンドポイント |
|-------|-----------------------------------|
| 検索 | GET relationships/:relationshipId |
| | POST relationships:batch |
| | GET relationships:search |
| | POST relationships:intersect |
| 同期 | POST relationships:sync |
| | POST relationships:syncStatus |

与えられた条件 (domain, type, ids, 日時) に一致する Relationship を検索. 例,

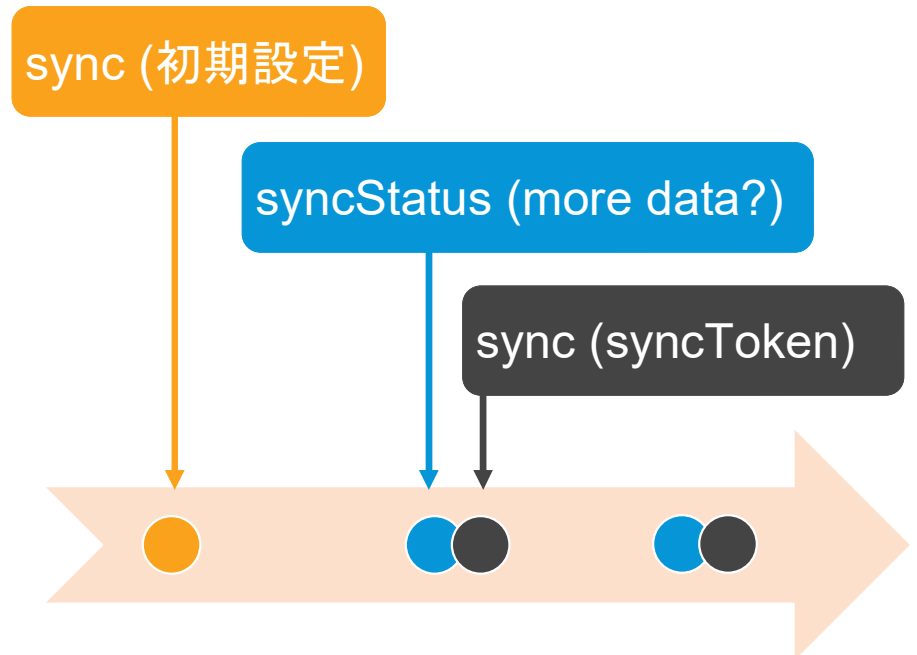
“アセットとチェックリスト間のリレーションシップを取得してください”

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


リレーションシップ (Relationships) API

| カテゴリー | エンドポイント |
|-------|-----------------------------------|
| 検索 | GET relationships/:relationshipId |
| | POST relationships:batch |
| | GET relationships:search |
| | POST relationships:intersect |
| 同期 | POST relationships:sync |
| | POST relationships:syncStatus |

Relationshipデータを外部で保存しているデータと同期する際に使用



Relationships API デベロッパ リソース

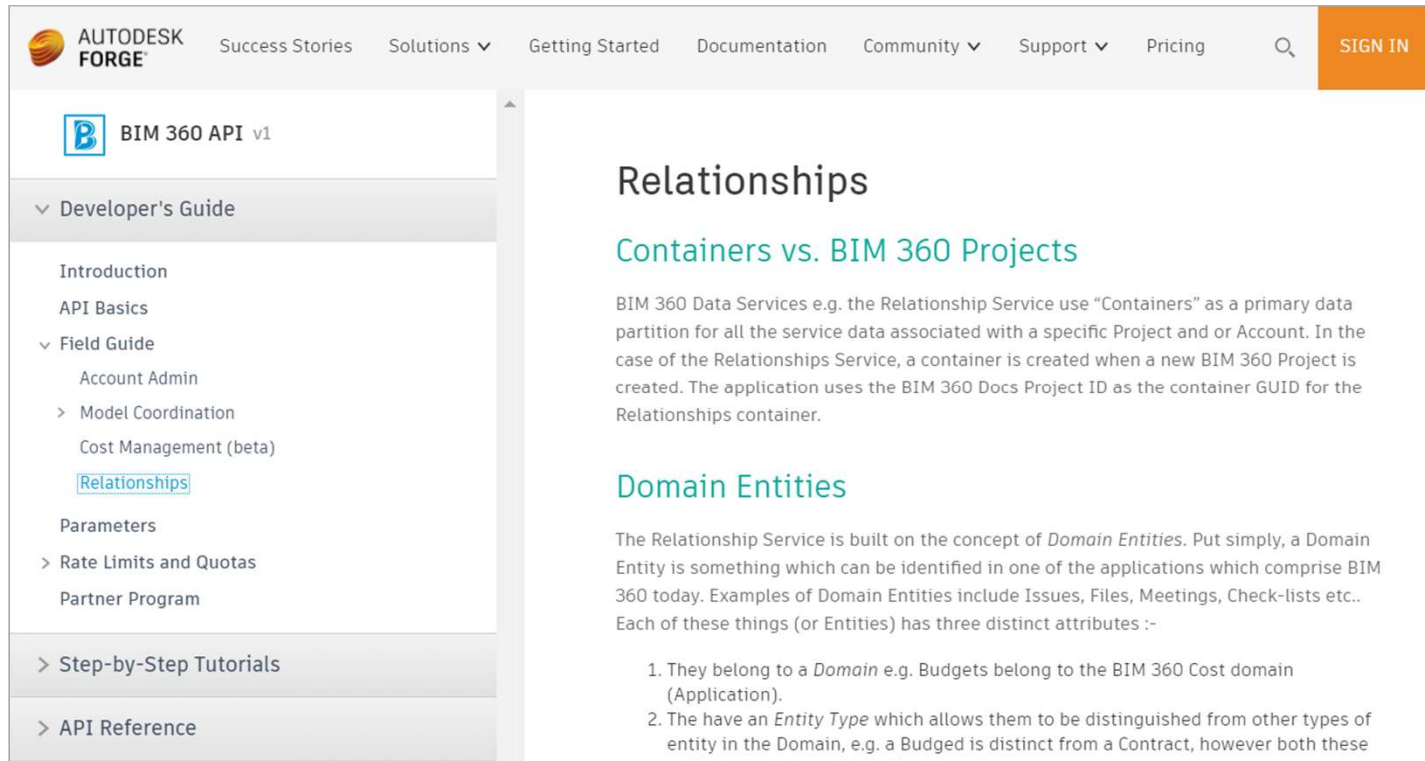
SDK

- .NET Core nuget パッケージ
- JavaScript と Node.js



Relationships API デベロッパ リソース

ドキュメンテーション



The screenshot shows the Autodesk Forge BIM 360 API v1 documentation page. The left sidebar contains a navigation menu with the following items: Developer's Guide (expanded), Introduction, API Basics, Field Guide (expanded), Account Admin, Model Coordination, Cost Management (beta), Relationships (highlighted), Parameters, Rate Limits and Quotas, Partner Program, Step-by-Step Tutorials, and API Reference. The main content area is titled "Relationships" and includes a sub-header "Containers vs. BIM 360 Projects" with a paragraph explaining that BIM 360 Data Services use "Containers" as a primary data partition. Below this is a section titled "Domain Entities" with a paragraph explaining the concept of Domain Entities and a list of two 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.

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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

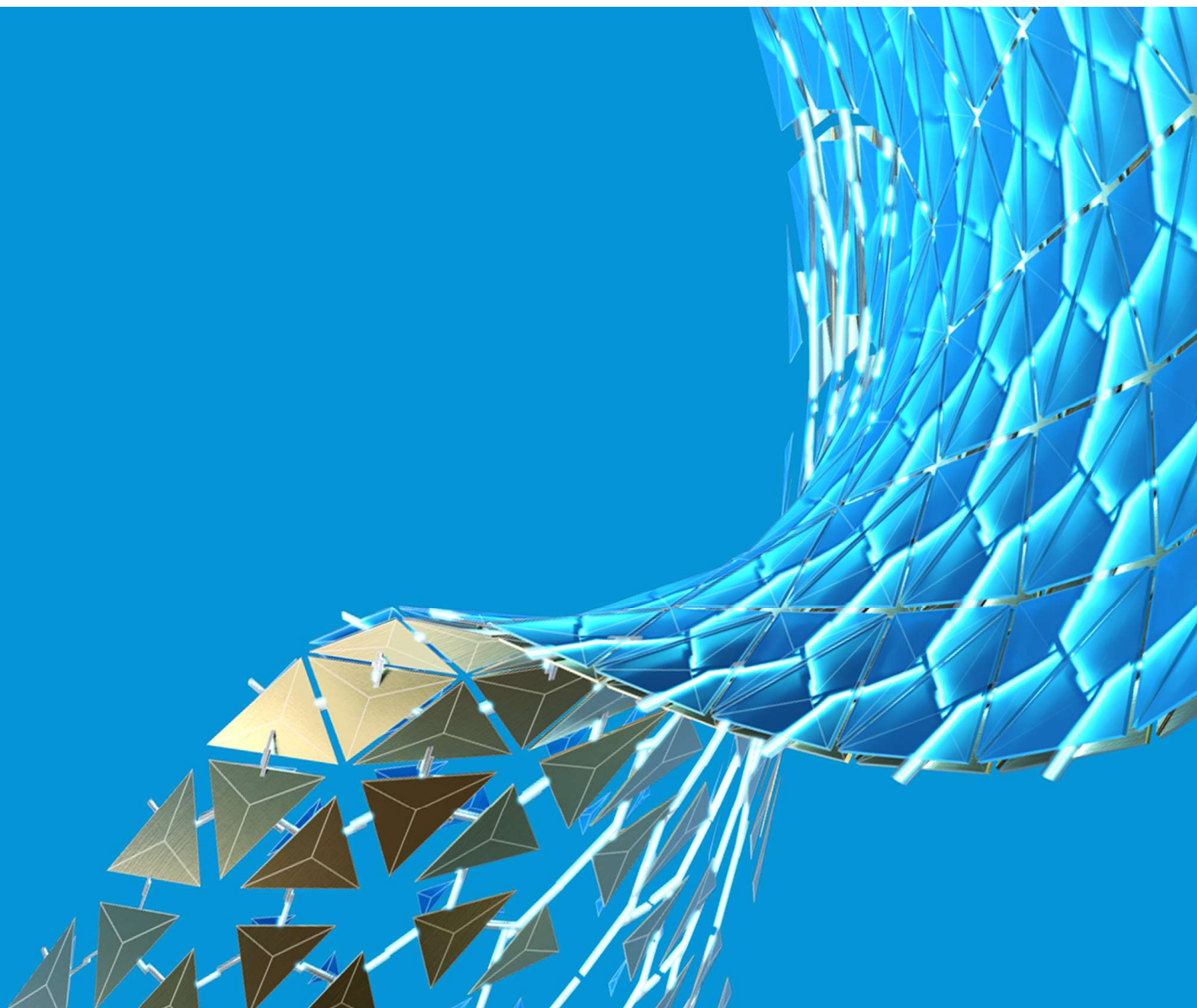
BIM 360 Data Services e.g. the Relationship Service use "Containers" as a primary data partition for all the service data associated with a specific Project and or Account. In the case of the Relationships Service, a container is created when a new BIM 360 Project is created. The application uses the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

今後の予定



今後の予定

Document Management

- カスタム属性の定義、レビュー、translation/viewables 制御

Assets

- 最初のAPI リリース!

Cost Management

- 支払い、請求期間、主契約、費用価値 の集計表、費用^{*1}

Admin

- プロジェクトAPI: ギャップを埋める ユーザーの追加、会社の更新
- アクティビティ

Model Coordination

- アラインメント、アグリゲーション、インデックス作成の機能強化^{*1}
- 2LO、webhook

Field/Project Managements

- ギャップを埋める: チェックリスト、RFI、指摘事項

^{*1}) prioritize based on feedbacks

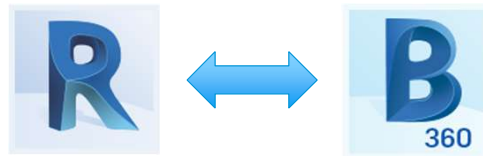
今後の予定

Insight

- Data Connector

Design

- cloud model/
worksharing^{*2}



*2) Revit API

まとめ

- Autodesk Construction Cloud 概要
- BIM 360 & API ステータスとアップデート
- アセット(Assets) API
- リレーションシップ(Relationships) API
- 今後の予定

ご質問は？

Join me at
Class Q&A セッション (CS469611)
Forge Answer Bar

Thank you!

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 mikako.harada@autodesk.com



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