



Accelerating Engineering Workflows in the Process Industry with Autodesk Forge

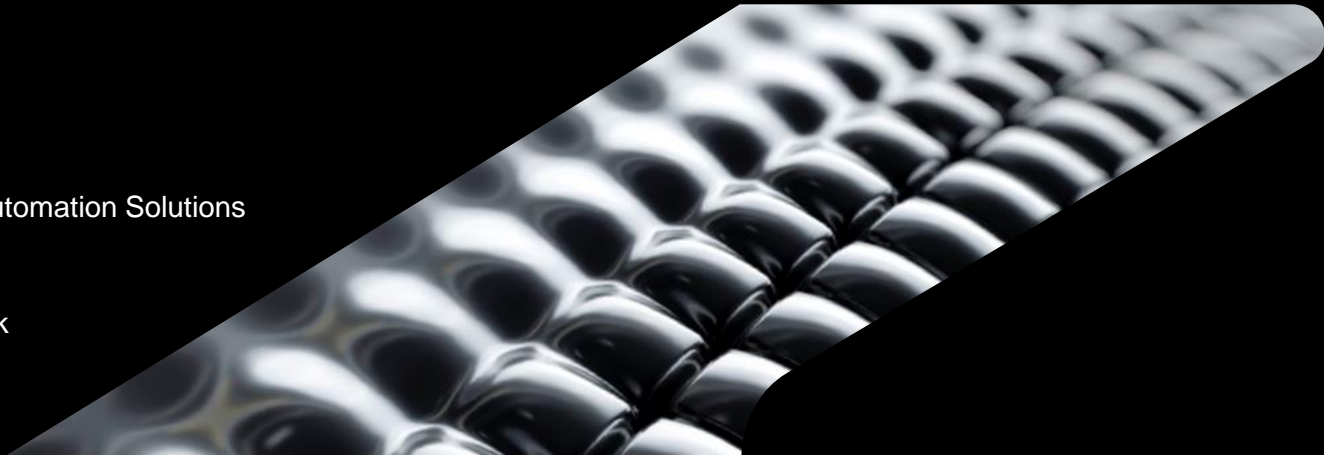
PM502031

Jessica Soloway

Senior Digital Strategist, Emerson Automation Solutions

Tom Closs

Principal Solution Architect, Autodesk



Agenda

- Introductions
- Who, Why, and What
- 2D/3D Viewer Demo
- Technical Overview
- Continuing the Digital Thread

Jessica Soloway

Senior Digital Strategist, Emerson Automation Solutions



9 years at Automation Solutions



Boulder, Colorado



Leading efforts to envision, design, and manage Emerson's digital engineering tools built to support our customers and internal users



Tom Closs

Principal Solution Architect



15 years at Autodesk



Detroit, Michigan



Helping customers overcome challenges by improving processes and integrating technologies



Emerson Automation Solutions

2021 At-A-Glance (NYSE: EMR)

Global supplier of technologies and services that help businesses measure, analyze, control, automate, and optimize production, processing, and distribution.



\$11.6B
SALES

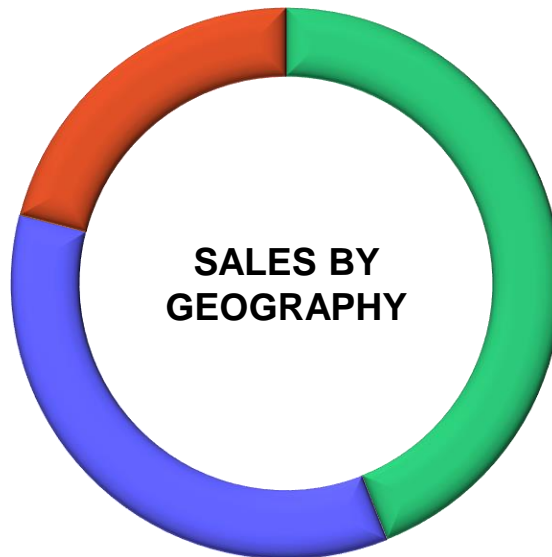


~56,000
EMPLOYEES



CUSTOMERS INCLUDE

Amgen, BASF, BP, Cargill, Colgate-Palmolive,
Dow, Duke Energy, Equinor, Novo Nordisk, Reliance
Industries, Sasol, Saudi Aramco, Shell, Sinopec



AMERICAS
44%

ASIA, MIDDLE
EAST & AFRICA
35%

EUROPE
21%

Automation Solutions

Improving Process, Discrete
Automation and Hybrid Industrial
Manufacturing Performance with
Measurable Results



INDUSTRIES SERVED

Life Sciences & Medical

Chemical

Power

Food and Beverage

Packaging, Pulp, and Paper

Marine

Oil and Gas/Refining

Mining, Minerals, and Metals

Water and Wastewater

Automotive

Industrial Energy

Onsite Utilities

Software

PRODUCT BRANDS & SERVICES

Measurement Instrumentation

- Rosemount
- Micro Motion

Fluid Control & Pneumatics

- ASCO
- AVENTICS

Electrical & Lighting

- Appleton

Industrial Internet of Things

- Plantweb™ Digital Ecosystem

Valves, Actuators & Regulators

- Bettis
- Fisher
- Keystone
- KTM
- Vanessa

Materials Joining, Assembly &
Cleaning

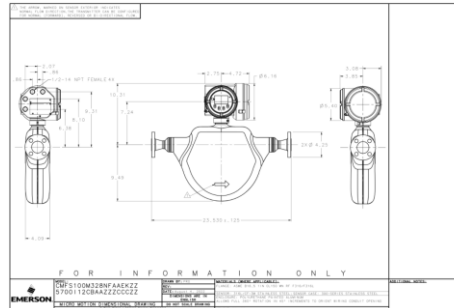
- Branson
- HTE

Software & Systems

- AMS
- DeltaV
- OSI
- Ovation
- PACSystems
- Zedi
- Movicon
- Syncade

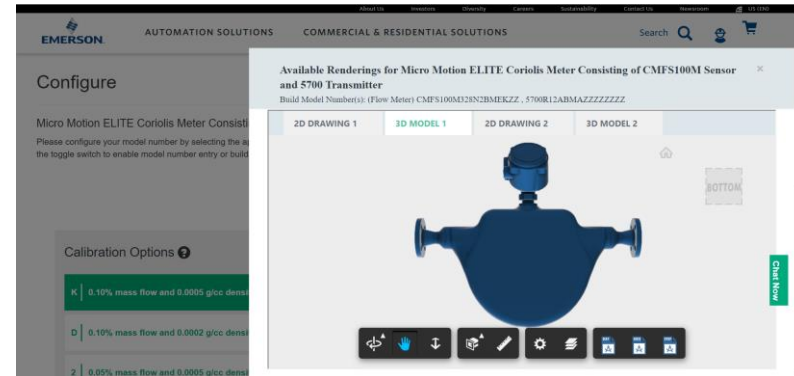
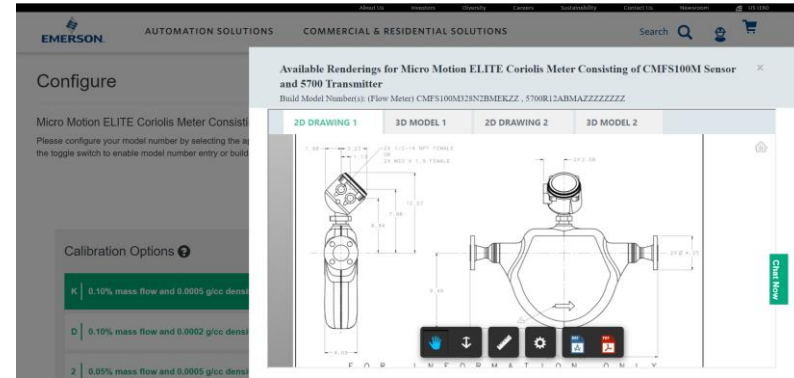
Challenge

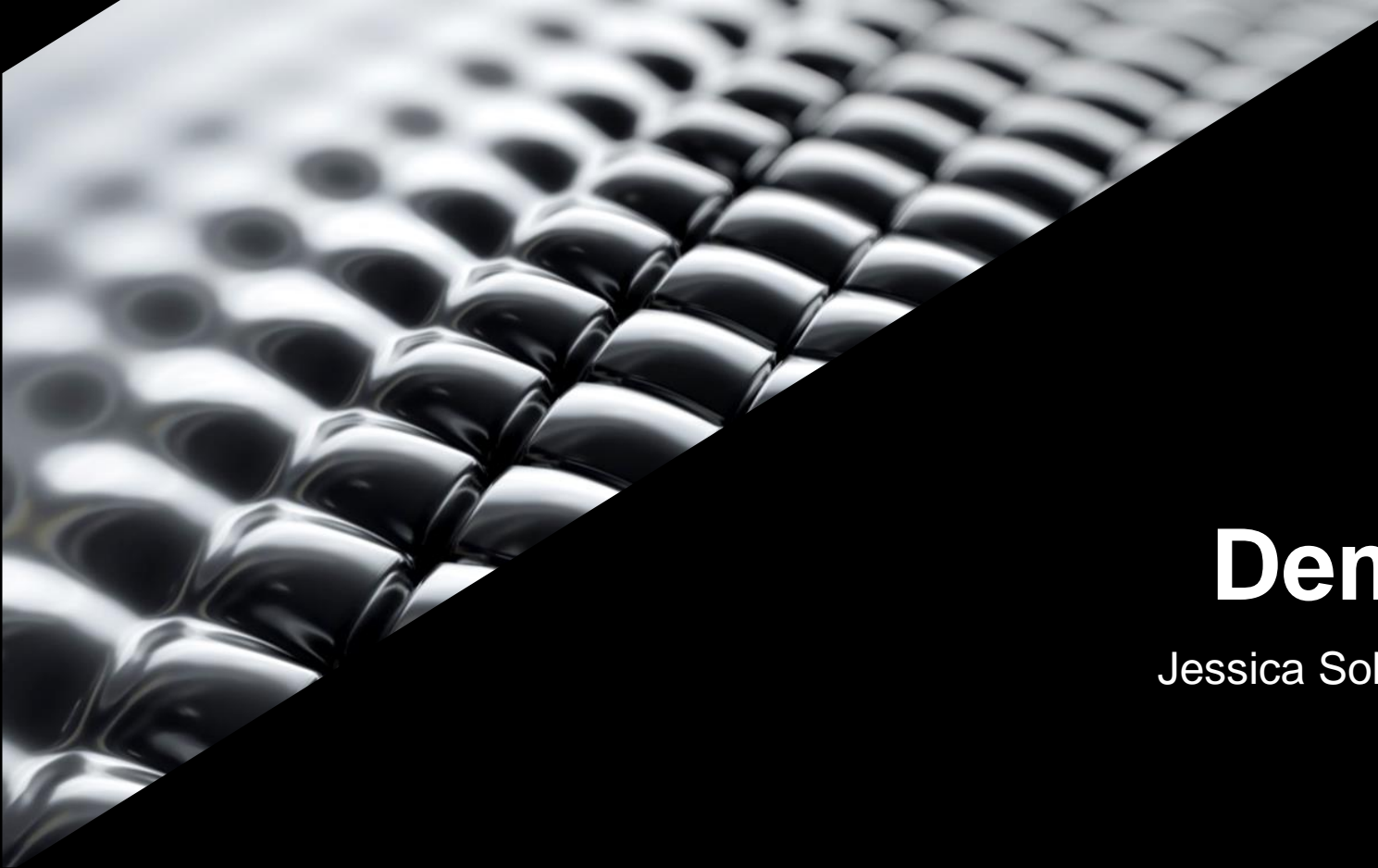
- Hundreds of thousands of requests each year for 2D PDF dimensional drawings & CAD models
- 80% of requests involved resource intensive processes and cross-functional teams
- Average turnaround time was not meeting customer expectations
- Several engineering systems supporting different product brands
- Existing tool was expensive to maintain and limited in ability to scale to more complex products



Solution & Benefits

- Partnership with Autodesk; utilizing Autodesk Forge Platform
- 2D/3D Viewer on Emerson.com: interact & download files
- Self-service digital platform is 94% faster than traditional methods
- Scalable API architecture
- CAD system agnostic
- Support for wide range of file types
- Caching scheme for improved performance and maintenance





Demo

Jessica Soloway

2D/3D Viewer

[About Us](#)[Investors](#)[Diversity](#)[Careers](#)[Sustainability](#)[Contact Us](#)[Newsroom](#)[US \(EN\)](#)[AUTOMATION SOLUTIONS](#)[COMMERCIAL & RESIDENTIAL SOLUTIONS](#)[Search](#)

2

[Home](#) / [Micro Motion 2700 Field And Integral-Mount Multivariable Flow And Density Transmitter](#)[IMAGES \(3\)](#)[VIDEOS \(0\)](#)

Micro Motion 2700 Field And Integral-Mount Multivariable Flow And Density Transmitter

A field-mount transmitter powered by MVD Technology designed for compact, integral mounting. These transmitters feature a rugged Class I, Division 1 / Zone 1 housing with an optional local operator interface designed to make flow meter access easy. Flow meter commissioning is simple and straight-forward with virtually no special programming requirements.

[CONFIGURE >](#)[LEARN ABOUT >](#)[ADD TO WORKSPACE >](#)[Chat Now](#)

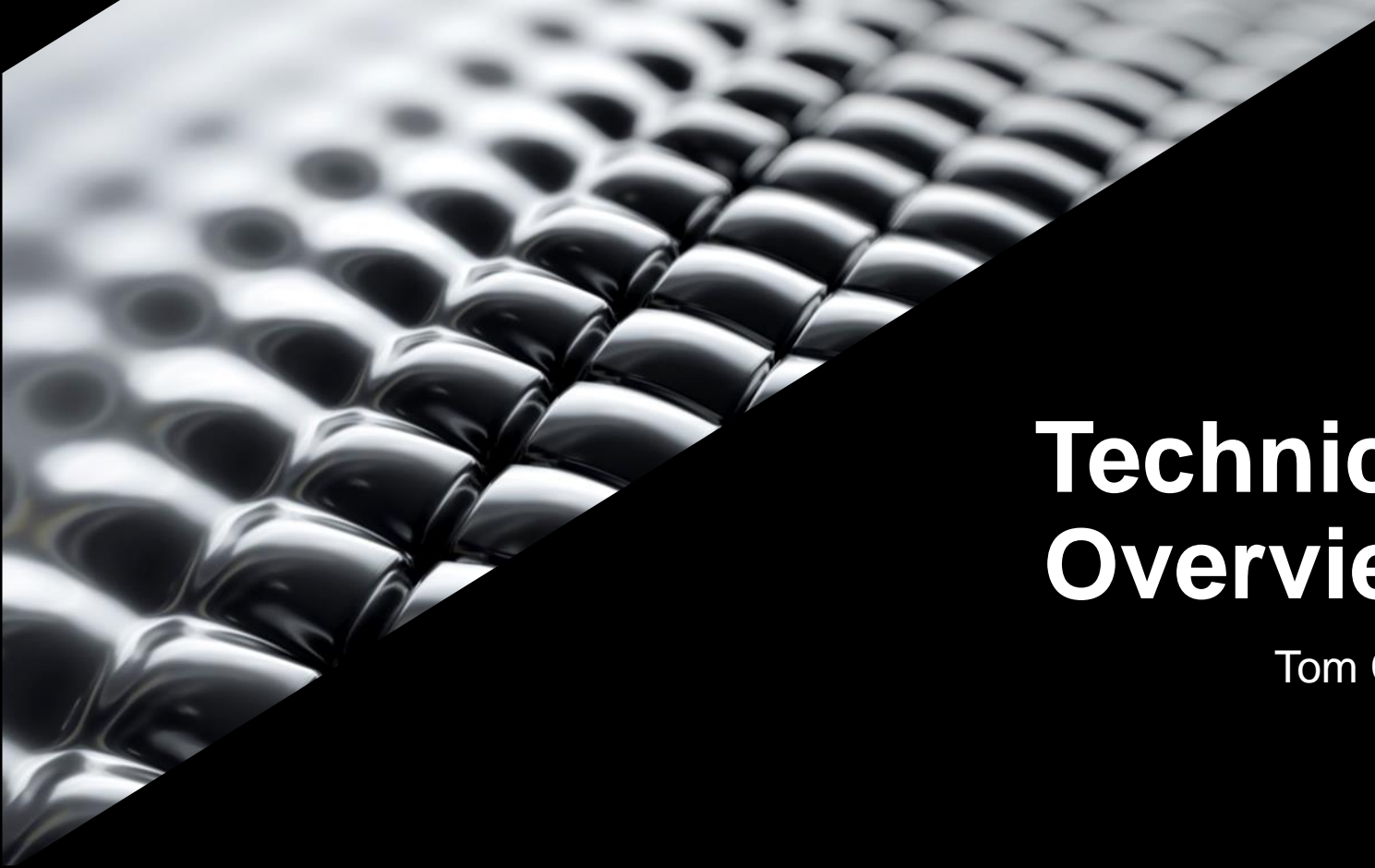
Visualize the Change

The screenshot displays the Emerson website's configuration interface for the Micro Motion 2700 Field And Integral-Mount Multivariable Flow And Density Transmitter. The page features a top navigation bar with links to About Us, Investors, Diversity, Careers, Sustainability, Contact Us, and Newsroom, along with a language selector for US (EN). Below this, the Emerson logo is positioned on the left, and navigation links for AUTOMATION SOLUTIONS and COMMERCIAL & RESIDENTIAL SOLUTIONS are in the center. A search bar and a shopping cart icon are on the right.

The main content area is titled "Configure" and includes a description of the Micro Motion 2700 transmitter. Below the description, there are three output options:

- A | One mA; one frequency; RS485
- B | One mA; two configurable IO channels
- C | One mA; two configurable IO channels

The "3D MODEL" tab is selected, showing a 3D rendering of the transmitter. The model is blue and is displayed in a 3D view. A "2D DRAWING" tab is also visible. The 3D view includes a "RIGHT" label and a "Chat Now" button. At the bottom of the 3D view, there are several icons for interacting with the model, including a hand, a double-headed arrow, a ruler, a gear, and a "STEP" button.



Technical Overview

Tom Closs

Forge Viewer

- WebGL-based
- JavaScript Library
- MultiCAD support



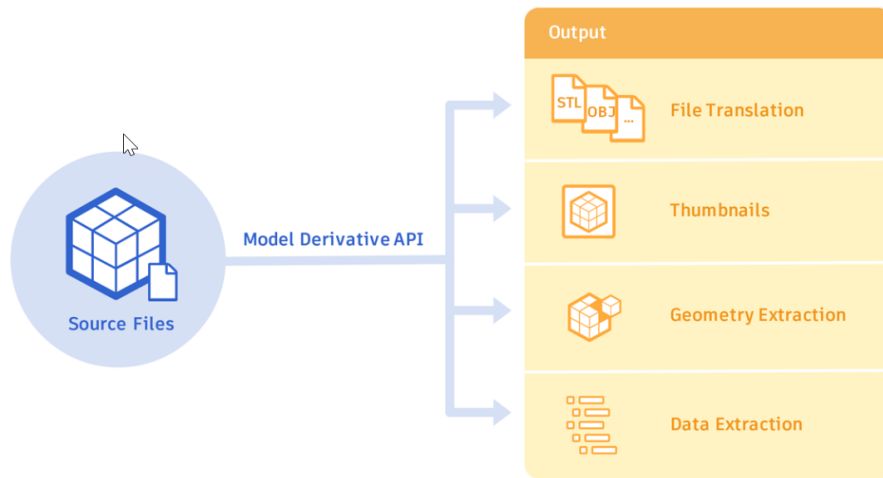
AnyCAD

- Converging CAD Data into one common data thread
- Allows the reading of multiple CAD formats

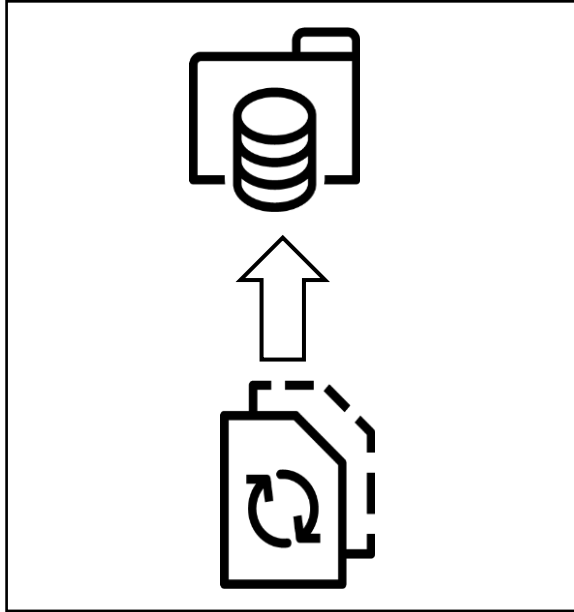


Model Derivative

- Translate designs into SVF/SVF2 format for rendering in the Forge Viewer.
- Extract selected parts of a design and export the set of geometries to the OBJ format.
- Translate designs into different formats.

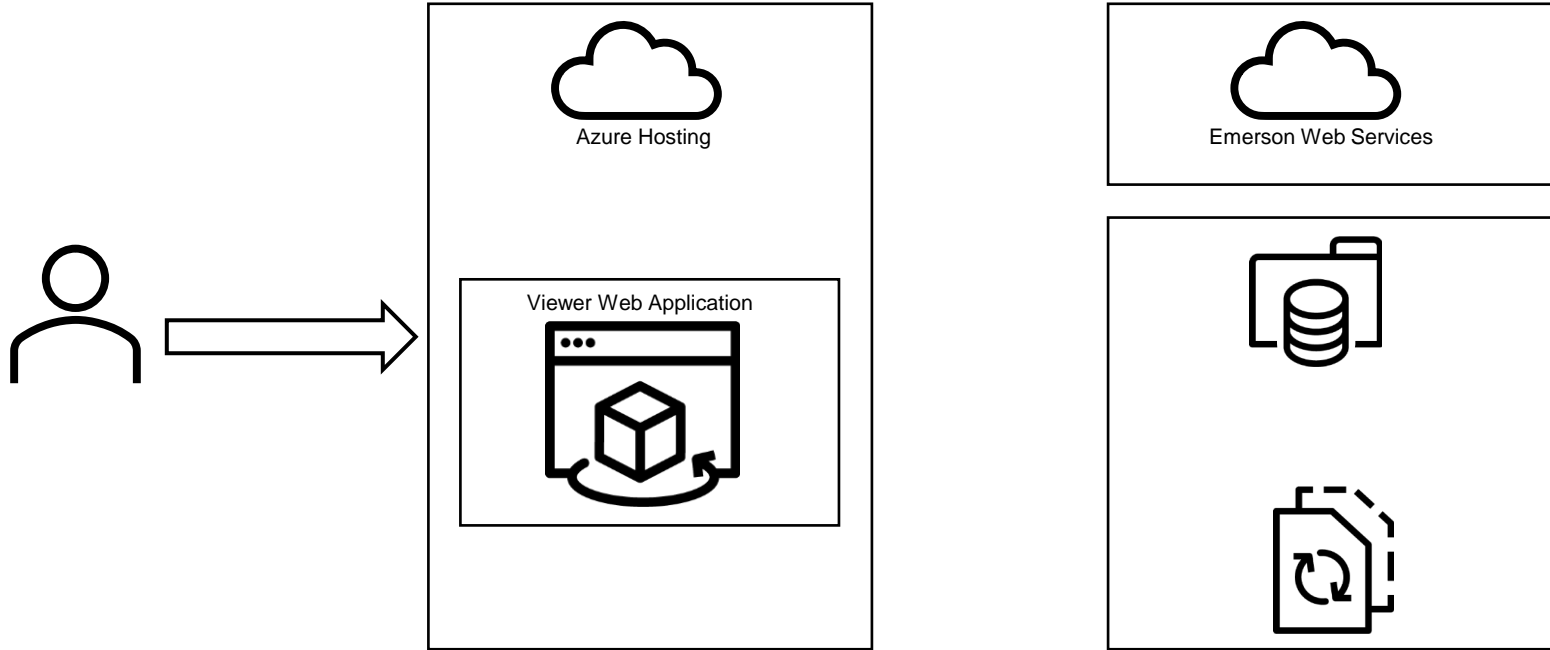


Caching

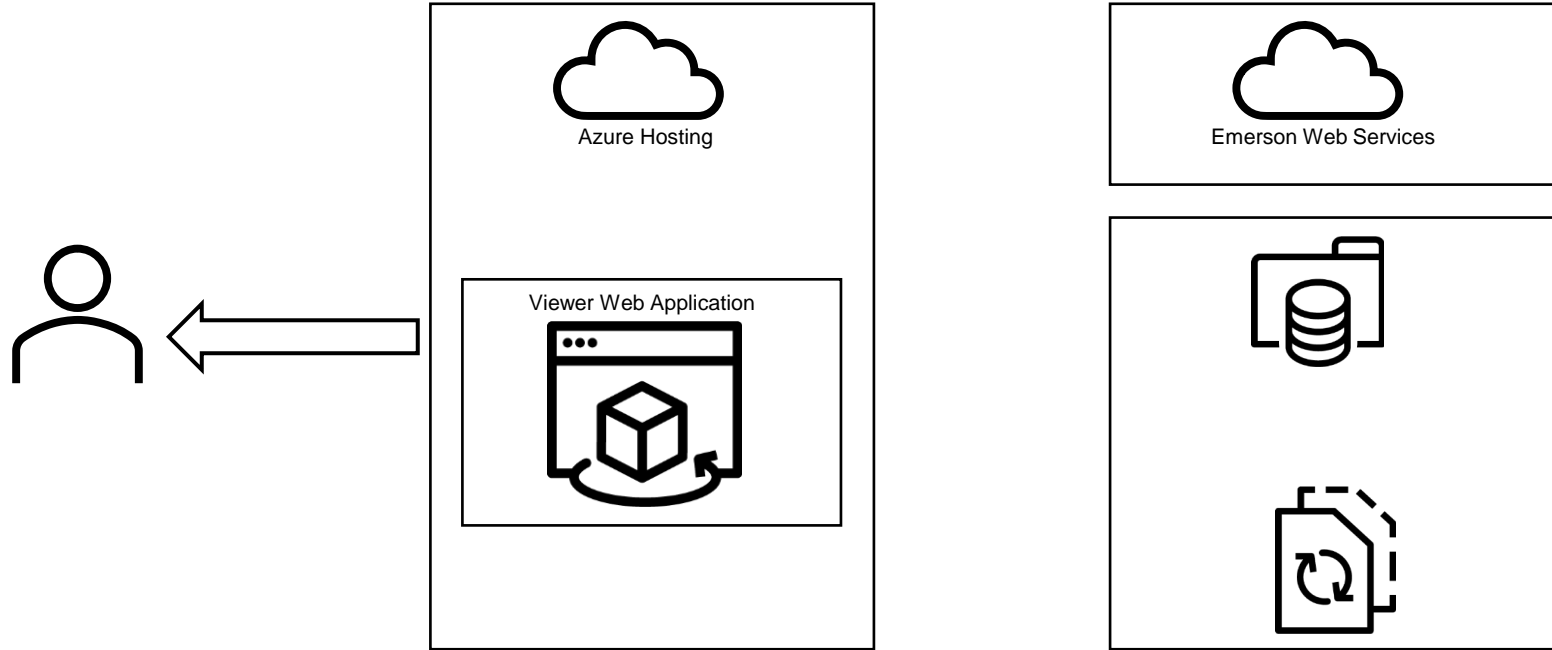


- Increase performance
- Built over time
- Automation to ensure the correct version of data

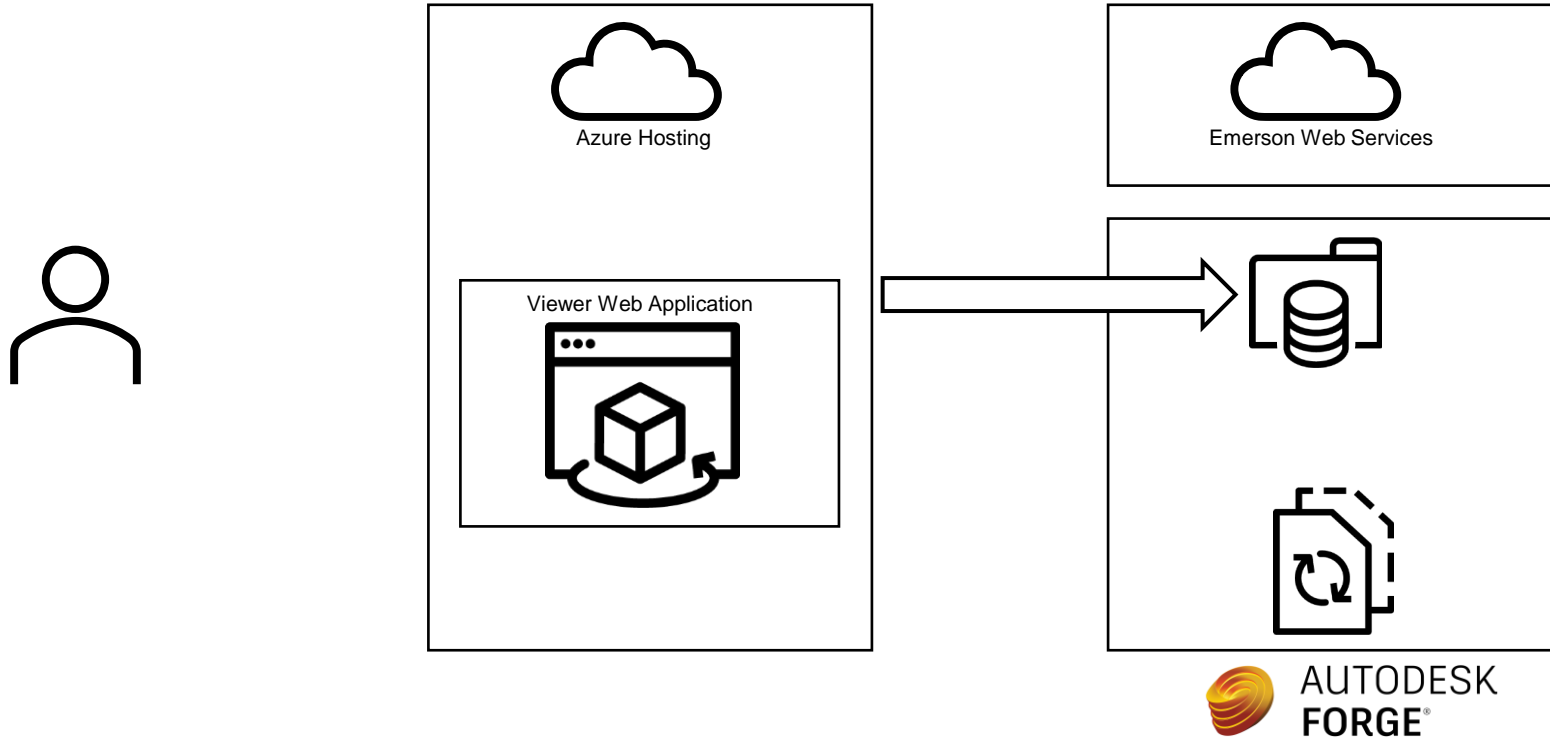
Solution Overview



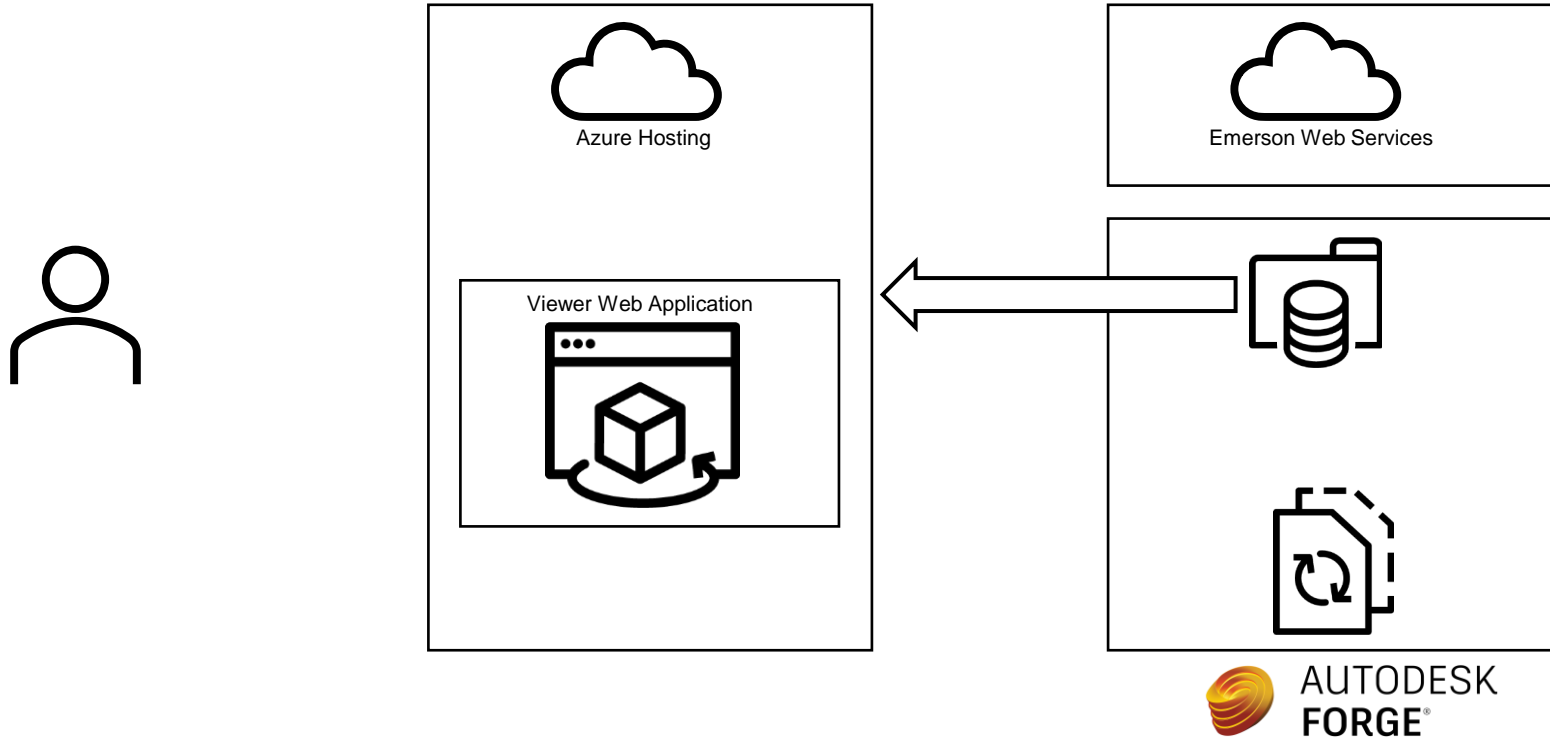
Solution Overview



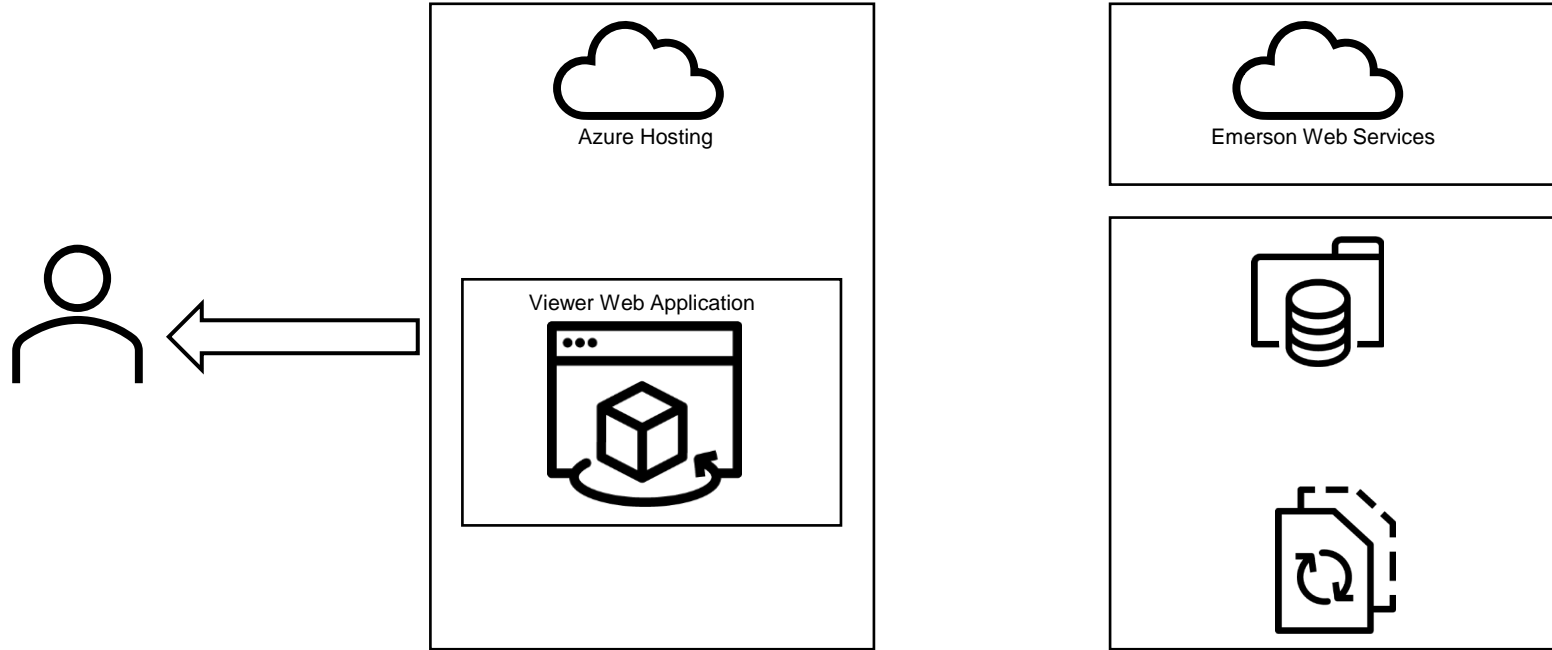
Solution Overview



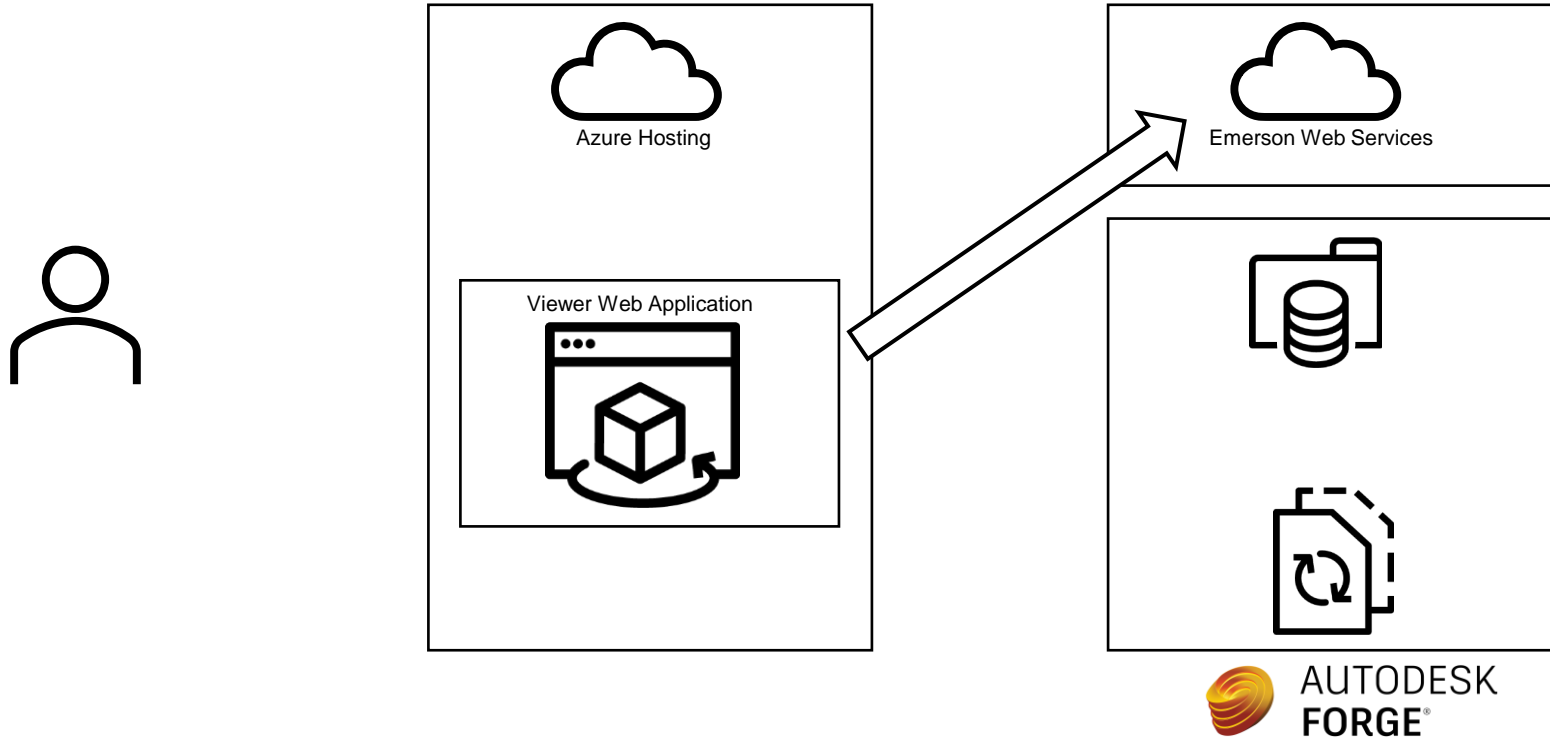
Solution Overview



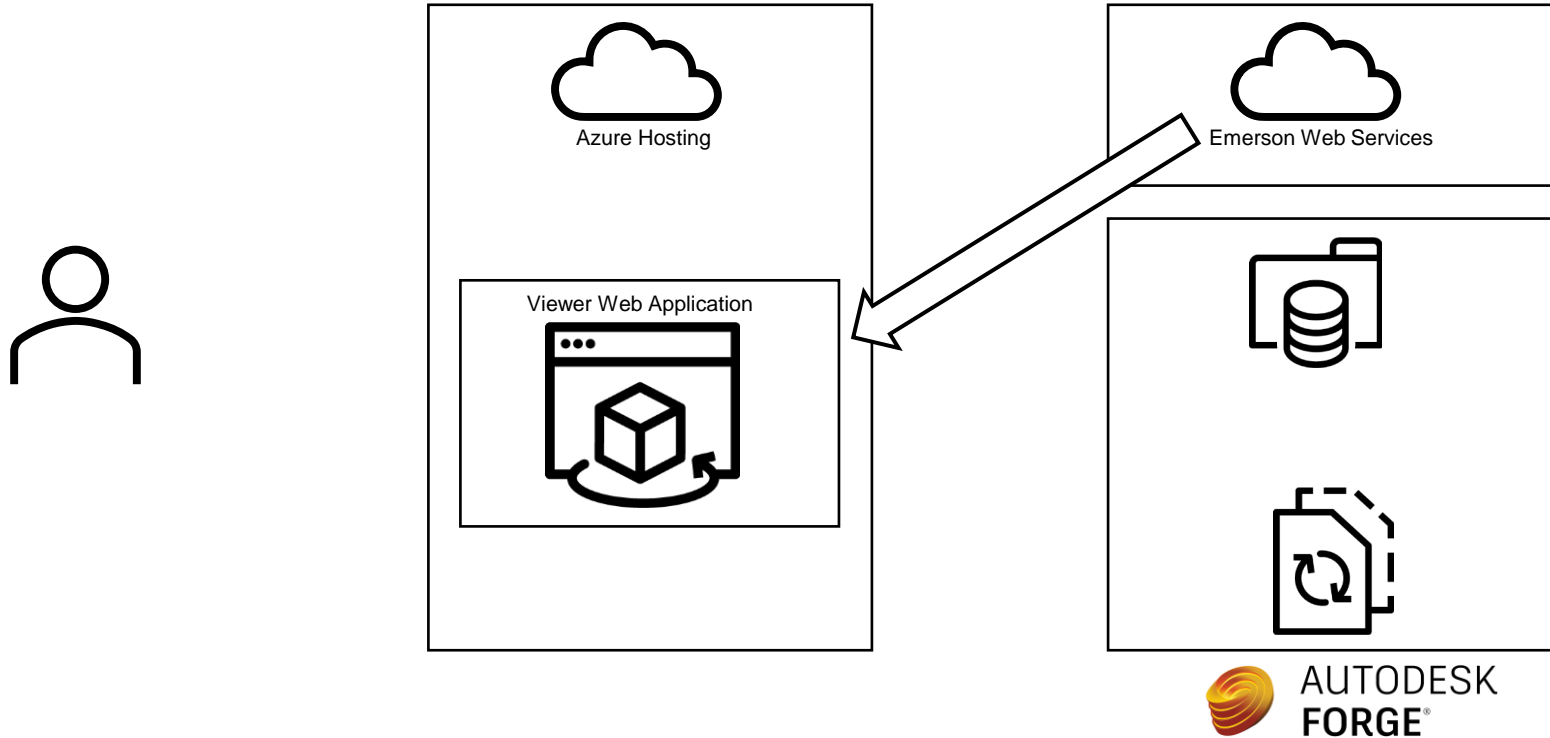
Solution Overview



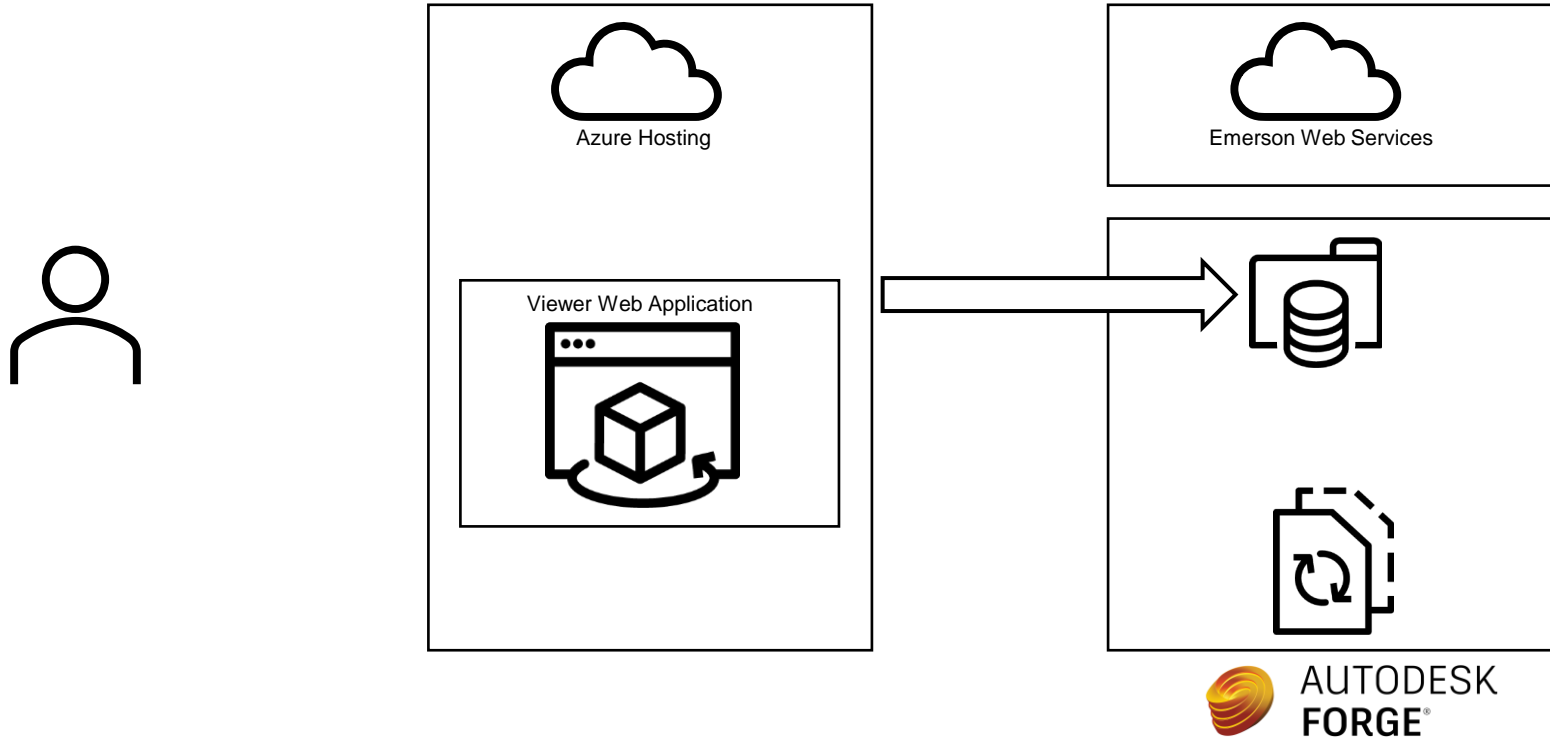
Solution Overview



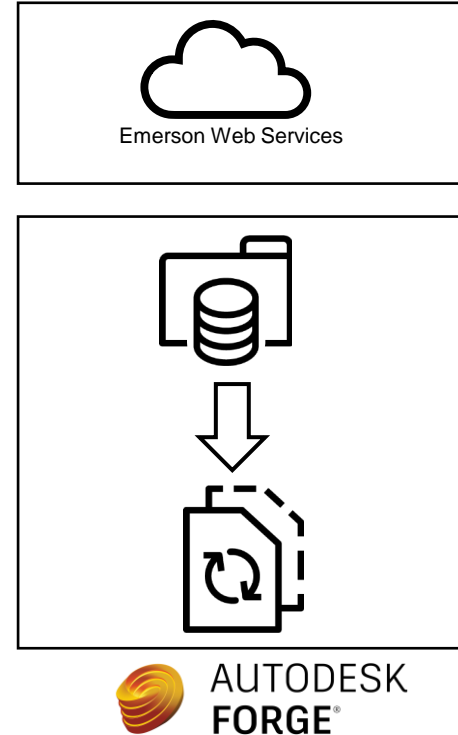
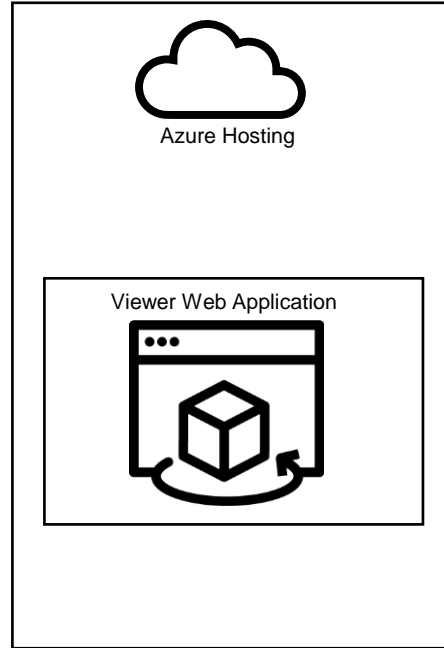
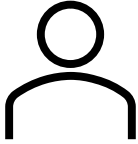
Solution Overview



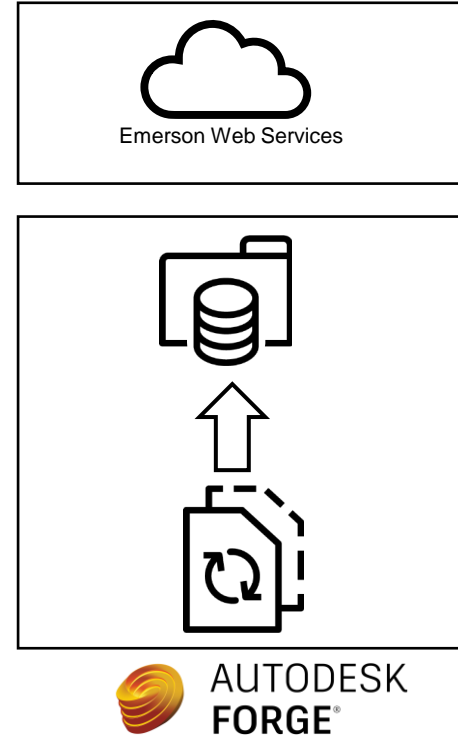
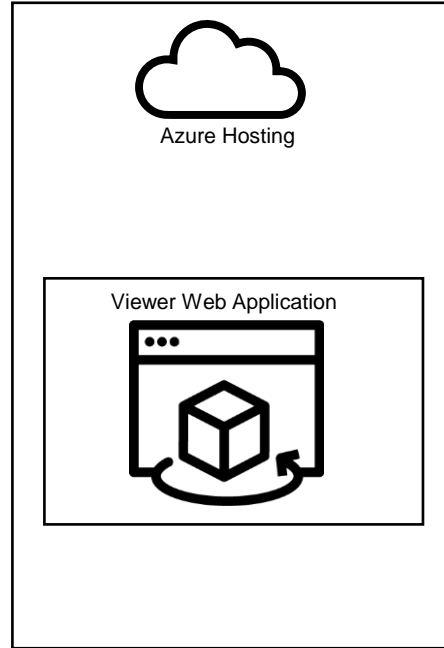
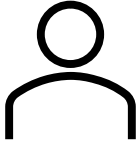
Solution Overview



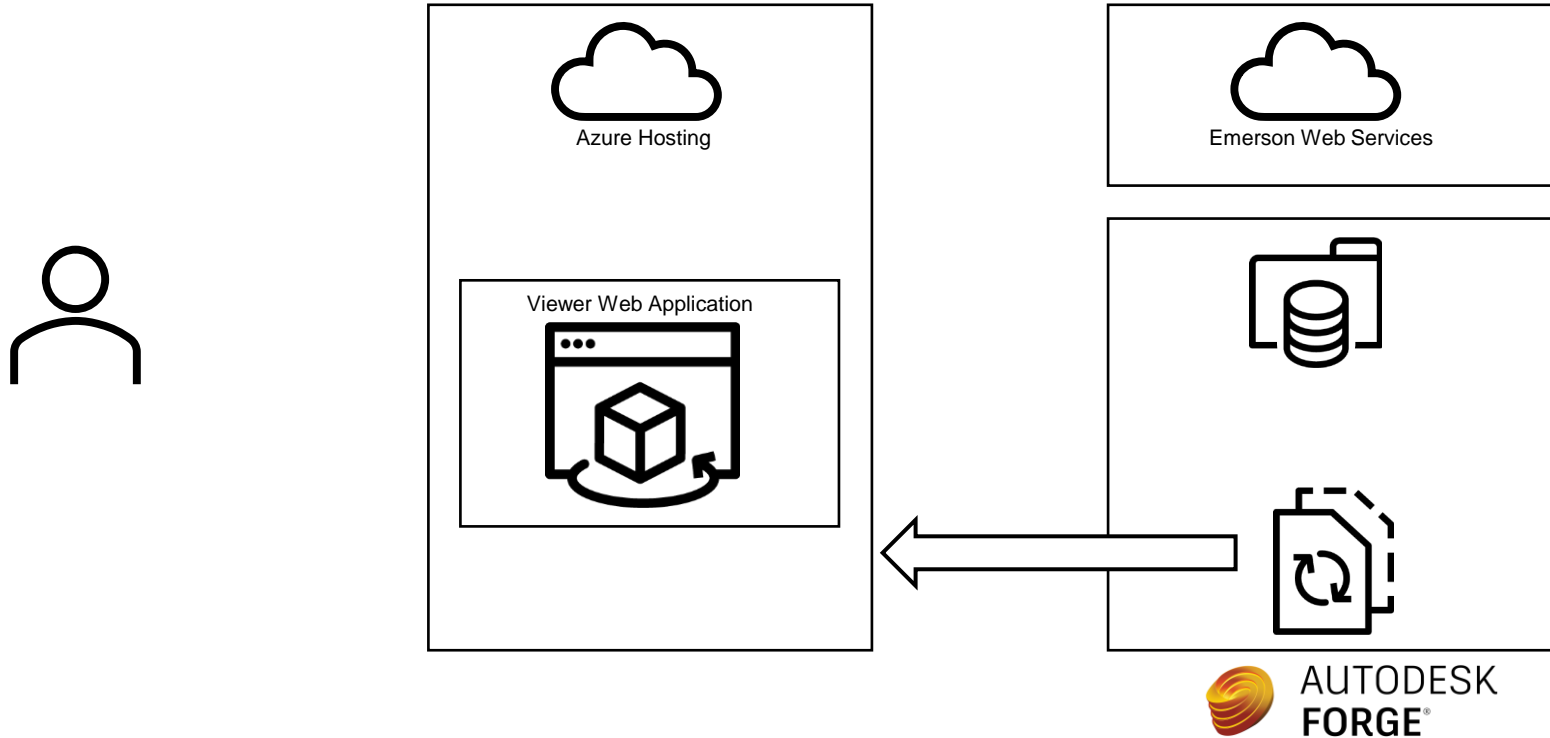
Solution Overview



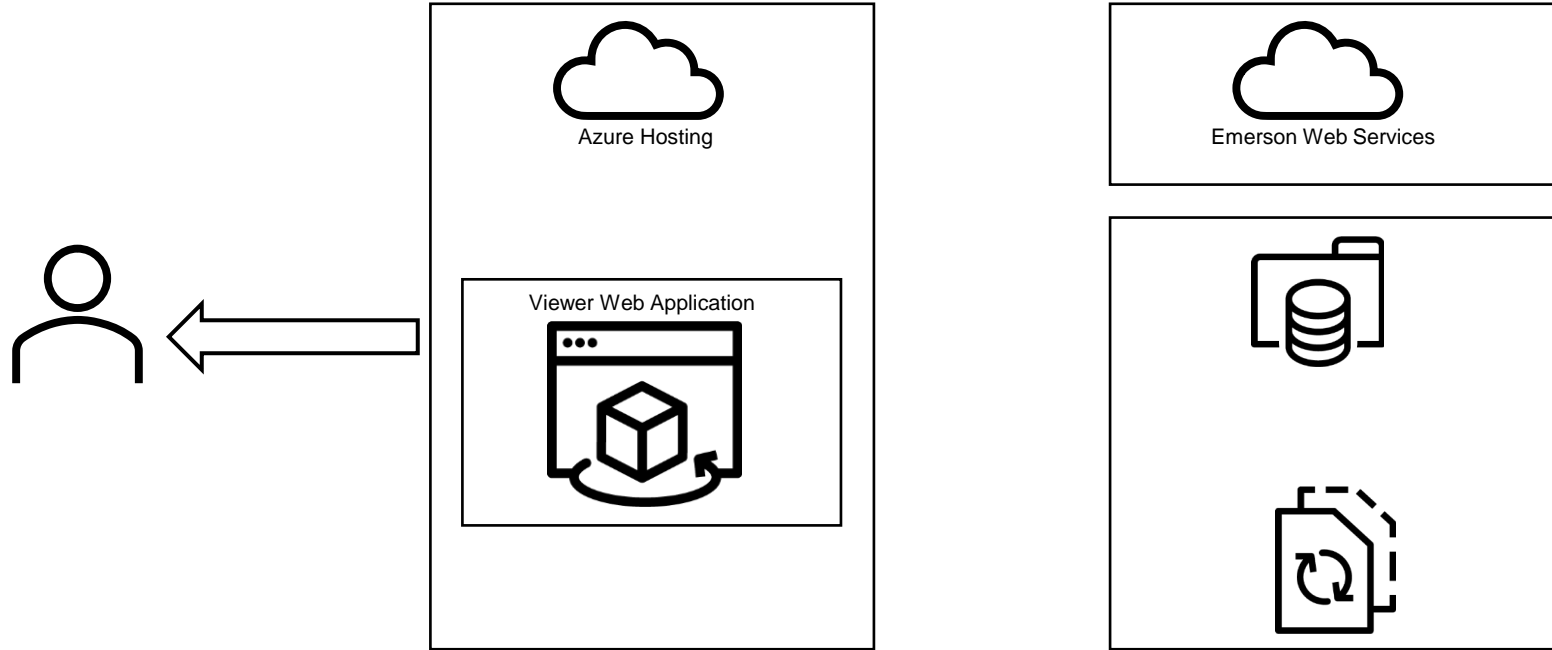
Solution Overview



Solution Overview



Solution Overview



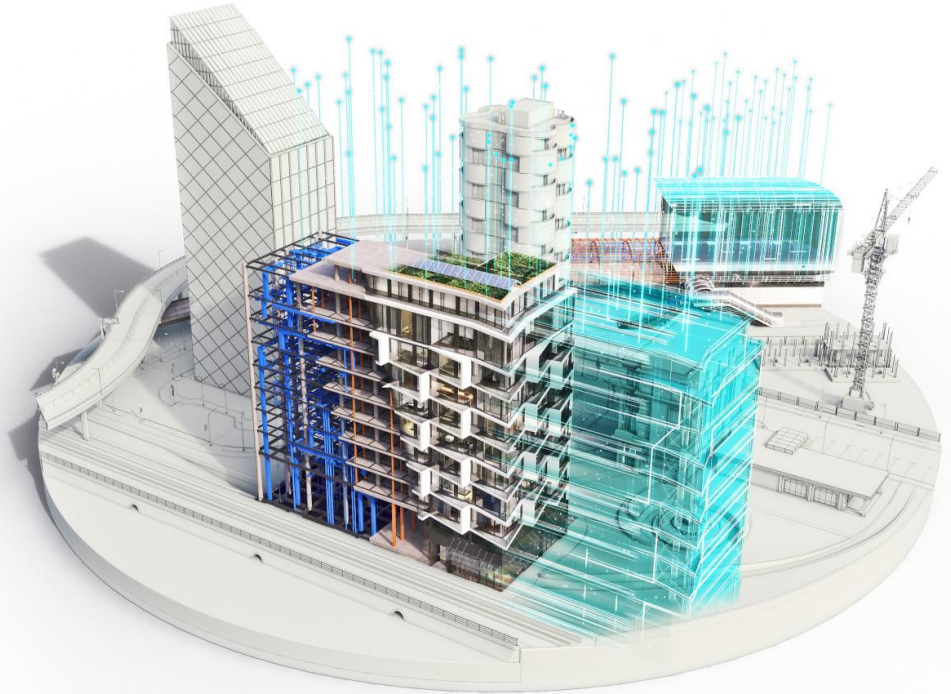


Continuing the Digital Thread

Tom Closs

Digital Twin

- The digital thread
- Convergence
- Simulations vs Digital Twin





Autodesk and the Autodesk logo are registered trademarks or trademarks of Autodesk, Inc., and/or its subsidiaries and/or affiliates in the USA and/or other countries. All other brand names, product names, or trademarks belong to their respective holders. Autodesk reserves the right to alter product offerings, specifications and pricing at any time without notice, and is not responsible for typographical or graphical errors that may appear in this document.

© 2022 Autodesk. All rights reserved.