# AVEVA

# AVEVA™ 3DVis Cloud Streaming Service
# Service Description

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# 3DVis Cloud Streaming Service

Last revision: Monday, April 14, 2025

## Document Purpose and Audience

**Document Purpose**

This document describes AVEVA 3DVis Cloud Streaming Service, including its key features, limitations, and operational parameters.

This document must be read in conjunction with the CONNECT service description, which describes the common services available for all functional digital services on CONNECT. This document describes any additions or exceptions to the common services.

**Audience**

The audience of this document are IT departments and business decision-makers investigating whether to leverage AVEVA cloud offers in their own IT landscape.

## About AVEVA 3DVis Cloud Streaming Service

The AVEVA 3DVis Cloud Streaming Service provides remote rendering and streaming of 3DVis applications for integration with other AVEVA products and services. For example, AVEVA Asset Information Management uses AVEVA 3DVis Cloud Streaming Service to provide 3D model viewing capability. The AVEVA 3DVis Cloud Streaming Service allows 3D model files to be uploaded into a fully featured, cloud-hosted 3D viewer, which can be integrated within other CONNECT-enabled cloud or web-based applications.

The solution delivers a fully scalable, predictable, and repeatable SaaS (Software as a Service) infrastructure for 3D visualization. It can be consumed via AVEVA products deployed as both fully Cloud SaaS configurations and in Hybrid Cloud configurations. It allows customers to connect their on-premises and cloud engineering, maintenance, and operational data sources with interactive and fully navigable 3D visualizations of the asset.

The service is delivered via a single capability, 3DVis Cloud Streaming Service. The service comprises two main components:

- 3DVis Cloud Conversion Service

  This service converts source RVM and ZGL models to the internal 3D format required by the 3DVis.

- 3DVis Cloud Rendering Service

  This service loads the converted models into an instance of the 3DVis viewer running in CONNECT and uses remote rendering technology to securely stream the viewer to the connected client session.

**Key Features**

- Provides secure, managed access to 3D model data

- Includes a fully featured 3D model viewer

- Allows for Rotate, Pan, Zoom, Walk, Fly, and Teleport interaction with the model

- Offers in-context navigation to objects of interest

- Controls for measurement, sectioning, clipping and isolation of model elements

- Is fully integrated with AVEVA Asset Information Management

**Key Benefits**

- High-performance full model rendering of 3D digital assets

- Remotely rendered so no requirement for local client GPU

- Highly scalable SaaS solution to deliver user demand for 3D

- All cloud infrastructure is supported and maintained by AVEVA

**Architecture**

The following diagram shows the AVEVA 3DVis Cloud Streaming Service integration with AVEVA Asset Information Management.
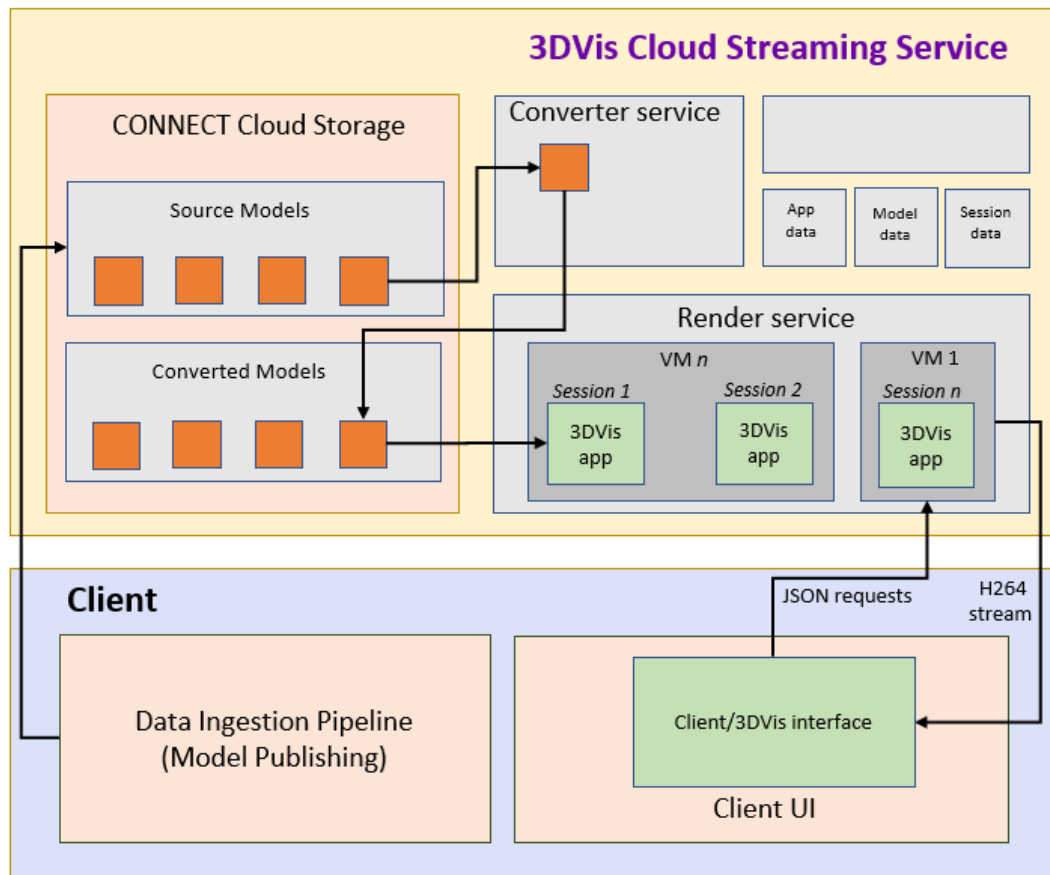
The AVEVA 3DVis Cloud Streaming Service is designed specifically for integration with AVEVA Asset Information Management. 3D Models are published to the AVEVA 3DVis Cloud Streaming Service via the AVEVA Data Pipeline. AVEVA Asset Information Management is also needed to provide tag aliasing and access to the related engineering information model.

The AVEVA 3DVis Cloud Streaming Service may also be integrated with CONNECT visualization, however AVEVA Asset Information Management is still required as the source of 1D, 2D, and 3D engineering data. The AVEVA 3DVis Cloud Streaming Service uses CONNECT Cloud Storage for the storage and management of 3D model files. This includes both the source model files and the converted model files which have been processed in readiness for remote rendering.

The 3DVis Cloud Render service uses GPU-equipped virtual machines to host instances of the 3DVis app. On demand, a user is connected to an app instance via a secure session and the requested model loaded. The whole app instance, both model and UI (User Interface), is then streamed to the user's local client as an H.264 video stream. The hosting client application passes interaction commands to the user's AVEVA 3DVis Cloud Streaming Service session so the user can interact with the remote application.

# Service Overview

AVEVA 3DVis Cloud Streaming Service is an internal service-to-service capability, integrated with AVEVA Asset Information Management and provisioned through CONNECT. It is a multi-tenant solution with multiple instances deployed globally to ensure customers have the best possible performance. All access to customer data is authenticated and authorized to ensure data security. When integrated with AVEVA's Asset Information Management solutions, AVEVA 3DVis Cloud Streaming Service provides users the ability to search, view and navigate engineering information in a 3D context, providing valuable situational and spatial context to the data.

**CONNECT Integration**

AVEVA 3DVis Cloud Streaming Service is a solution-level service and can be deployed at either the account or the folder level within CONNECT. When used with AVEVA Asset Information Management (AIM), AVEVA 3DVis Cloud Streaming Service should be enabled at the same level as AIM.

**User Management**

Users and groups are defined and managed using CONNECT, which includes assignment to access specific 3DVis Cloud Streaming Service instances within CONNECT.

AVEVA 3DVis Cloud Streaming Service supports five user roles:

- Render User – Can stream and view specified converted 3D models

- Render Admin – Can stream, view, and delete converted 3D models in the account

- Model User – Can convert specified source models

- Model Admin – Can convert and delete source models in the account

AVEVA 3DVis Cloud Streaming Service will be mostly used as an integrated service-to-service capability with other CONNECT offerings, such as AVEVA Asset Information Management. Many of these roles will be managed by the consuming service and will not need to be assigned explicitly; they are included for information only. Typically, only the Render User role will need to be configured by customers to grant their users access to the 3D rendering capability within the host application.

# Service Limitations

The following table presents examples of known limitations for a standard AVEVA 3DVis Cloud Streaming Service instance.

These values are guidelines only as system performance is highly dependent on the data, data model, concurrent usage, and user activity profile for the specific instance.

| Area | Summary | Limitation |
|---|---|---|
| Models | Maximum file size for RVM models | 20 GB |
|  | Maximum file size for ZGL models | 9 GB |
| Concurrent users (General) | Maximum number of concurrent users per account | May depend on limitations set in the customer contract on the use of AVEVA 3DVis Cloud Streaming Service within a client application. May be subject to Microsoft Azure GPU availability and capacity limitations within the deployment region. |
| Concurrent sessions per user | Maximum number of 3D rendered sessions per user | 10 |

# Regional Cloud Availability

AVEVA 3DVis Cloud Streaming Service is accessed via the public Internet using HTTPS/TLS (a secure transport mechanism). The web applications can be accessed via any supported web browser.

AVEVA 3DVis Cloud Streaming Service can be deployed in the following regions:

| Deployment Regions | Failover Region | Restrictions |
|---|---|---|
| Europe North - Ireland | Europe West - Netherlands |  |
| Americas - US East | Americas - US West |  |
| Americas - Canada Central<br><br>Asia-Pacific - Japan - East<br><br>Asia-Pacific - Singapore |  | Availability zone failover is available only within the deployment region. |

# Hardware and Software Requirements

The AVEVA 3DVis Cloud Streaming Service uses remote rendering and streaming technology to minimize demands on client hardware. The delivered H.264 video stream can be natively decoded and rendered by most modern browsers without the need for plugins. Validated environments are listed in the tables below.

**Client Computer Hardware Requirements**

| Component | Recommended |
|---|---|
| Processor | 8 core, 3 GHz, 16 MB cache |
| Memory | 16 GB |
| Graphics Card | Intel Graphics |

**Client Tablet Hardware Requirements**

| Component | Recommended |
|---|---|
| Device | iPad Air (5th Generation) iPad Pro (2020) |
| Memory | 8 GB |

**Software**

| Component | Minimum | Recommended |
|---|---|---|
| Operating system | Windows 10 Professional (64 bit) iPadOS (latest) | |
| Web browser | Google Chrome (Windows, iPadOS) Microsoft Edge (Windows) Safari (iPadOS) | Google Chrome and Microsoft Edge are recommended for optimal 3D performance. |

# Security Standards and Compliance

AVEVA 3DVis Cloud Streaming Service is a cloud native offering built on Microsoft Azure and automatically leverages its security features.

In addition to the technologies and architectural practices that ensure high security for CONNECT,AVEVA 3DVis Cloud Streaming Service implements the following protections:

**Access control**: Each AVEVA 3DVis Cloud Streaming Service user requires a CONNECT account, provided as part of the customer subscription when signing up for the CONNECT framework agreement.

**Server–side encryption:** AVEVA 3DVis Cloud Streaming Service uses server-side encryption with managed encryption keys to ensure the encryption of all data-at-rest throughout the system.

# Decommission of the Service

Upon request and confirmation from the customer to decommission AVEVA 3DVis Cloud Streaming Service, AVEVA will follow a process for the decommissioning and destruction of data to include the deletion of all files and data held within the service:

Data is retained for at least 30 days after receiving the deletion request to safeguard against accidental or wrongful deletion. After this period, the process of deleting data is initiated.

Refer to AVEVA Software Legal Information and Policies on the AVEVA Legal site at: https://www.aveva.com/en/legal/.

# High Availability, Business Continuity, and Data Protection

To ensure high availability, business continuity, and data protection, AVEVA 3DVis Cloud Streaming Service follows the timelines given below to recover the converted model and associated model metadata. The 3DVis Cloud Streaming Service does not provide the ability to create any new customer data within its service.

Customer model files are published to AVEVA 3DVis Cloud Streaming Service via service-to-service integrations with other CONNECT services. The model files are then converted and rendered by AVEVA 3DVis Cloud Streaming Service. Both the source models and converted models are stored within CONNECT Cloud Storage under the customer's account. The customer always retains local ownership of the source models.

**Disaster Recovery**

In the event of a service failure, AVEVA initiates a recovery process in accordance with the Recovery Point Objective (RPO) and Recovery Time Objective (RTO) detailed below. If this recovery process fails, the customer has the recourse to republish the source models. This may result in a temporary loss of access to those models, but no loss of data occurs.

| Cloud Service | RPO |
|---|---|
| AVEVA 3DVis Cloud Streaming Service | 2 hours |

| Cloud Service | RTO |
|---|---|
| AVEVA 3DVis Cloud Streaming Service | 24 hours |

## Service Level Commitment

AVEVA Cloud Services are governed by the AVEVA General Terms and Conditions.

The AVEVA Cloud Service Level Commitment is a supporting document that describes the service level commitment for all available AVEVA Cloud Services.

Both documents are available on the AVEVA website at https://www.aveva.com/en/legal.

## Additional Services

AVEVA offers an extensive collection of Customer Success Accelerators, well-defined, outcome-based services that are designed to ensure you realize the maximum benefit from your investment in our software through all the lifecycle stages of your software application.

For more details, visit the Customer Success Accelerators site at https://www.aveva.com/en/support-and-success/customer-success.