AVEVA™ Asset Information Management - Advanced on AVEVA Connect

Service Description

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AVEVA Asset Information Management - Advanced on AVEVA Connect

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Document Purpose and Audience

Document Purpose

This document describes AVEVA Asset Information Management - Advanced on AVEVA Connect, including key features and limitations, as well as the operational parameters.

This document must be read in conjunction with the AVEVA Connect service description, which describes the common services available for all functional digital services on AVEVA Connect. Any additions or exceptions to the common services are described in this document.

Audience

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

About AVEVA Asset Information Management - Advanced on AVEVA Connect

AVEVA Asset Information Management - Advanced is a flexible and standards driven information discovery and consolidation service. AVEVA Asset Information Management - Advanced gathers data from multiple information sources and systems to deliver intuitive access to the Digital Twin. It provides a single source of information that accurately describes the current condition of the physical asset, rather than how it was initially designed.

The solution delivers a fully scalable, predictable, and repeatable SaaS infrastructure for asset information for universal access to engineering and operations personnel. It allows customers to connect their on-premises and cloud engineering, maintenance, and operational data sources with an information standards driven, non-intrusive cloud Asset Information Management (AIM) portal. AVEVA Asset Information Management - Advanced provides capabilities to configure and upload a customer Class Library Definition and provides a fully scalable capture, transform and consolidate capability for processing customer information.

Key Benefits

- Capture and cross-reference cross-functional information in 1D, 2D, and 3D

- Rapidly locate information to support sound decision-making

- Visualize data, documents, drawings, and models via preferred web browser

- Integrate data from on-premises or cloud systems to accelerate digital transformation
- Describe data in a compliant and standards-driven representation

Key Features

- Full cloud based capture, transform, and consolidate processing capability
- Secure, managed Asset Information Management environment
- Information standards driven configuration
- Enhanced registers processing
- Intuitive user experience, with built-in 2D and optional 3D streamed visualization
- Information from multiple sources is displayed in context

Architecture

The functional architecture for AVEVA Asset Information Management - Advanced service is shown in the following diagram.
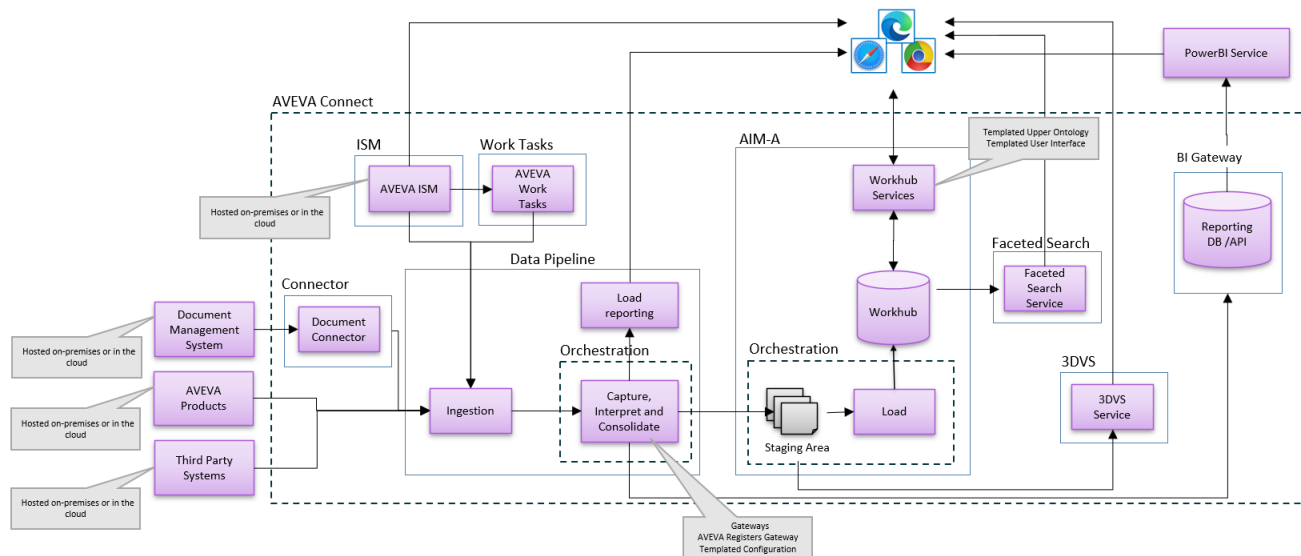
AVEVA Asset Information Management - Advanced is a standards driven information management solution. It is built from the following set of optional and mandatory components that are deployed in the cloud:

- AVEVA Asset Information Management - Advanced (mandatory)
- Faceted Search (mandatory)
- AVEVA Data Pipeline (mandatory)
- AVEVA Information Standards Manager (mandatory)
- AVEVA 3D Visualization Service (3DVS) (mandatory)
- AVEVA Insight BI Gateway (optional)
- AVEVA Work Tasks (optional)
- AVEVA Document Connector (optional)

The Data Pipeline is used to capture, interpret and consolidate data from either AVEVA products or third-party systems. This data can consist of three-dimensional models, documents and drawings and engineering metadata. A dedicated Document Connector can easily transfer documents and corresponding metadata from a Document Management System (DMS) to the AVEVA Asset Information Management - Advanced solution (see the current component release for the DMS systems supported). The capture, transformation and loading process can be organized and orchestrated easily using AVEVA Work Tasks, allowing notifications and easy scheduling of those activities.

Once the data has been loaded into the cloud and processed by the AVEVA Data Pipeline service, it is automatically loaded into AVEVA Asset Information Management - Advanced. This consists of the Workhub persistent store and Workhub services which provide data to the AVEVA Asset Information Management - Advanced web application. The Faceted Search component provides the ability to search keywords and item, tag and document names in the content of the document files.

The rules that drive the capture, interpret and consolidation processes are defined using AVEVA Information Standards Manager. These processes allow the data to be presented in a common data model using consistent naming conventions that can be uploaded to the cloud. AVEVA BI Gateway can be used to generate reports around data quality, consistency and completeness of the project based on rules defined in AVEVA Information Standards Manager as well as reporting against any type of data available in the AIM database.

The 3D Visualization Service provides the web application access to interactive video streaming of uploaded 3D models. The 3D Visualization Service provides translation services that transform the uploaded 3D models into GPU optimized cached files that are used during the video streaming.

Service Overview

AVEVA Asset Information Management - Advanced is provisioned on AVEVA Connect. It is deployed on a per customer/per environment basis. The service is single tenant, and one production environment is provided per deployment.

AVEVA Asset Information Management - Advanced provides users the ability to search, view and navigate engineering information. Its powerful mapping system allows related information to be automatically linked together to add context which provides a single environment to view and understand information from multiple systems.

- **Search Features**

    o **Simple Search**

    This refers to simple string searches using part of keyword or a wildcard character. The searches are applied to either the identifier or name of the item. Filters that are defined as part of the class library can be applied to these searches.

    o **Advanced Search**

    The advanced search functionality provides the ability to filter search results, based on the criteria that certain users (with appropriate rights) have created for others to execute. The criteria can be:

    – Constituent class of the Items

    – Attribute relationship between Items

    – Attributes of related Items

o **Query Forms**

Query Forms provide the ability to find information using a form-based search mechanism. The query forms can be displayed within the form or as a table view. Query forms can be pre-defined to search based on applicable types.

o **Faceted Search**

Faceted search is a search capability which provides the ability to search keywords and item, tag and document names in the content of the document files. The search results can be filtered based on the selection of the specific engineering attribute values. The list of attribute values that can be filtered are configurable through a service request.

- **Summary Views**

When an item is selected, a summary view is displayed containing multiple panes that display different types of information. The content of the panes in the summary view is different, depending on the type of item being displayed and based on the high-level core classification of the object, for example equipment, document and event, etc. Typical information that is displayed includes attributes, relationships, and for documents a file viewer which displays a rendition of the document or drawing file associated to the document.

- **Document Visualization**

The default view for a document on selection is its associated rendition file, displayed in a file viewer. For a list of supported file types for the file viewer, see *Appendix A: File Types Supported by the File Viewer* on page 13. Other file types can be uploaded but they will not be displayed in the file viewer.

In all cases, the file can be downloaded through the user interface for viewing in a native application or bowser if supported.

Additional processing is applied to Microsoft Word, Excel, PowerPoint and PDF documents, and AutoCAD and MicroStation drawings. In these cases, tags are extracted from the file content and the corresponding renditions include hotspots for the tags are displayed in the file viewer.

- **Three-Dimensional Visualization**

The default view for a three-dimensional model on selection is its associated three-dimensional file, displayed in a three-dimensional file viewer.

The viewer supports, panning, zooming, clipping and sectioning of the three-dimensional model. Any tags that are hotspotted can be selected and it is possible to perform measurements between two selected points.

The viewer supports the ability to run visual queries against the three-dimensional model. This allows the user to define a query and project the results of the query within the context of the three-dimensional model.

- **AVEVA Point Cloud Manager Visualization**

AVEVA Asset Information Management - Advanced solution supports the integration with AVEVA Point Cloud Manager. If an integration is enabled through AVEVA Connect, it is possible to view bubble views within an embedded AVEVA Point Cloud Manager Viewer.

The viewer supports panning and zooming, and any tags that are hotspotted can be selected. Any tags that have a reference to a bubble view will automatically open the bubble view with it zoomed to the selected tag, when the reference is selected.

- **User Management**

All users and user groups are defined and managed using AVEVA Connect, which includes assignment to access specific AVEVA Asset Information Management - Advanced instances within AVEVA Connect.

AVEVA Asset Information Management - Advanced supports multiple roles, with each role defining a set of permissions. All users are assigned to at least one role and may be assigned to multiple roles.

User Roles:

- o Default User - Read only access

- o Core Team Admin - General use, with permissions defined during service setup if role is required

- o Power User - General use, with permissions defined during service setup if role is required

- o Administrator - Full access, able to alter configuration via UI

- o ImportProgress - Able to view Load Status and Load Reporting report pages

- o ImportReport - Able to download Load Reports

- o Data Pipeline - Service role that allows a user to be able to invoke Ingestion API in AVEVA Data Pipeline using a user access token

- o Load Reporting User – Can see the load reporting site and perform actions such as getLoadReports and GetRemediations

- **AVEVA Connect**

AVEVA Asset Information Management - Advanced can be deployed at the account or the folder level within AVEVA Connect.

Operational Parameters

The following table presents examples of operational parameters and known limitations for a standard AVEVA Asset Information Management - Advanced 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.

It is recommended that any specific implementation requirements are discussed with the AVEVA team.

Area	Summary	Criteria, Notes
Documents	Maximum number of Document Records in one instance	1.2 million
Data	Maximum number of tags in one instance	2.5 million

Area	Summary	Criteria, Notes
3D	RVM files and ZGL files	20 GB for RVM 9 GB for ZGL is the maximum file size allowed for publishing
Data Pipeline	File upload	5 GB is the maximum file size. For files above this limit, the multi-part upload mechanism is required.
Concurrent users	Maximum number of users to an instance at any one time, based on assumed usage patterns excluding document viewing	100

Regional Cloud Availability

AVEVA Asset Information Management - Advanced 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 Asset Information Management - Advanced can be deployed in the following regions:

Component	Regions	Restrictions
AVEVA Asset Information Management - Advanced	• Europe (Ireland) • Canada (Central) • Asia-Pacific (Singapore)	
Faceted Search	• Europe (Ireland) • Canada (Central) • Asia-Pacific (Singapore)	
Data Pipeline	• Europe (Ireland) • Canada (Central) • Asia-Pacific (Singapore)	
AVEVA Information Standards Manager	• Europe (Ireland)	
3DVS	• Europe (Ireland) • Canada (Central) • Asia-Pacific (Singapore)	Must be deployed in the same region as AVEVA Asset Information Management - Advanced
AVEVA Work Tasks	• Canada (Central) • US West (N. California)	

Component	Regions	Restrictions
AVEVA BI Gateway	• Europe (Ireland) • US West (N. California)	
Document Connector	• Europe (Ireland) • Canada (Central) • Asia-Pacific (Singapore)	

Deployments of AVEVA Asset Information Management - Advanced made before July 2023 in the following regions will be maintained.

Component	Regions	Restrictions
AVEVA Asset Information Management - Advanced	• US East (N. Virginia) • Asia-Pacific (Tokyo) • Asia-Pacific (Sydney)	
Faceted Search	• US East (N. Virginia)	Global instance deployed to this region only
Data Pipeline	• Asia-Pacific (Tokyo)	Global instance deployed to this region only
3DVS	• US East (N. Virginia) • Asia-Pacific (Tokyo) • Asia-Pacific (Sydney)	Must be deployed in the same region as AVEVA Asset Information Management - Advanced
AVEVA Work Tasks	• US West (N. California)	
AVEVA BI Gateway	• US West (N. California)	

Service Limitations

AVEVA Asset Information Management - Advanced has the following limitations:

1. **Data Ingestion**

   The Data Pipeline is a highly flexible capture, interoperate and consolidate capability. It is designed to consume information of multiple formats containing multiple content.

   There can be some cases where the submitted documents cannot be processed due to the complexity or structure of their content. AVEVA will endeavor to assist customers to address these issues, but this may not be possible in all cases.

2. **Documents**

AVEVA Asset Information Management - Advanced provides the ability to view submitted documents that are supported by the document viewer in a rendered format that can be viewed in a web browser. Non supported documents can be downloaded.

There can be some cases when the rendered documents are not exactly the same as the source documents. AVEVA will endeavor to assist customers to address these issues, but this may not be possible in all cases, due to limitation in the rendering technology, and where the use of embedded non-standard (custom) fonts, symbols or externally referenced content has occurred.

There can also be some cases when the documents cannot be rendered and will time out due to their size or content complexity. In these cases, it is recommended that the documents are downloaded and viewed by the client using the appropriate viewer or authoring application.

3. **Printing**

When printing large documents, for example, greater than 100 pages, it is possible for the viewer to run into browser memory constraints. In these cases, it is recommended that larger documents are downloaded as PDF files and then printed.

The maximum number of pages that can be printed for a given document is 200. For documents that have a greater number of pages it is recommend that these documents are downloaded and printed.

Client Hardware Requirements and Supported Browsers

The AVEVA Asset Information Management - Advanced service can provide access to complex and large documents, imposing requirements for a minimum-level of client hardware and software. Graphical performance is optimized for supported browsers only (see supported browsers in the table below).

Client Computer Hardware Requirements

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

Software

Component	Minimum	Recommended
Operating system	Windows 10 Professional (64 bit) iPadOS	
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

For enhanced security AVEVA Asset Information Management - Advanced service follows these practices:

- **SOC2**: The operational practices for the AVEVA Asset Information Management - Advanced service are aligned with SOC2.

- **Access control**: Each AVEVA Asset Information Management - Advanced user requires an AVEVA Connect account, provided as part of the customer subscription when signing up to the AVEVA Connect framework agreement.

- **Server-side encryption:** AVEVA Asset Information Management - Advanced uses server-side encryption with managed encryption keys to ensure the encryption of all data-at-rest throughout the system.

High Availability, Business Continuity, and Data Protection

To ensure high availability, business continuity, and data protection, AVEVA Asset Information Management - Advanced follows the time lines given below.

Disaster Recovery

In the event of a service failure, AVEVA initiates a recovery process in accordance with RPO and RTO objectives detailed below.

Cloud Service	Recovery Point Objective (RPO)
AVEVA Asset Information Management - Advanced	24 hours

Cloud Service	Recovery Time Objective (RTO)
AVEVA Asset Information Management - Advanced	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 web site at https://www.aveva.com/en/legal.

AVEVA Customer Support

Customer FIRST Standard-level Technical Support

All AVEVA Cloud applications include the provision of Customer FIRST Standard-level technical support.

AVEVA Customer Support provides technical support to log and track cases, providing technical assistance for AVEVA Asset Information Management - Advanced applications.

Customer FIRST Standard-level technical support includes:

- Validation and smoke-testing of issues associated with the application user interface and standard application functionality.

- Routine analysis of data-load errors reported by the customer to assist the determination of the root-cause.

NOTE: Customer FIRST Standard-level technical support does not include the resolution of issues related to customer data, the data model, customer ETL or data-loading processes outside of standard application functionality.

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/customer-first/success-accelerators/.

Appendix A: File Types Supported by the File Viewer

The following table gives a list of files supported by the File Viewer.

Type	Extension
Text	etf, txt, csv
Office	xls, ppt, doc, xlsx, docx, dot, dotx, xlt, xltx,xltm, xlsm, pot, pps, pptx, potx, ppsx
Open Document	odt, ott, fodt, ods, ots, fods, odp, otp, fodp, odf, odg, otg, fodg
AutoCAD	dwg, dxf, dwf
Microstation	dgn
Visio	vsd, vsdx, vdx
Image	dcm, dicom, dcim, dicm, jpeg, jpg, jp2, jpc tiff, tif, png, bmp, gif, psd, psb, dib, pct, pic, pict, wmf, emf, pcx, dcx, ras, pcd, tga, tpic, cal, cals, ico, cur, xwd, sgi, wbmp, wpg, xbm, pgm, pbm, ppm, img, svg
Application	pdf, rtf, xhtml, xhtm, msg, eml, ncr, svg