AVEVA™ Measurement Advisor

Service Description

Contents

AVEVA Measurement Advisor

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Document Purpose and Audience

Document Purpose

This document describes AVEVA Measurement Advisor 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 Measurement Advisor on AVEVA Connect

AVEVA Measurement Advisor is gas flow measurement software that enables pipeline operators to effectively measure gas flows through automated data acquisition, pre-financial verification, and correction of measurement field data.

AVEVA Measurement Advisor is an enterprise corporate measurement system that is designed to securely store, edit, recalculate, validate, and audit flow parameters of natural gas for integrity measurement and custody transfer applications. The system is built according to industry standards and best practices, such as AGA, API and GPA. The system receives and processes meter readings from devices such as positive displacement meters, turbine meters, and orifice meters via flow computers. Gas composition information from chromatographs and lab processing is managed by AVEVA Measurement Advisor, as well.
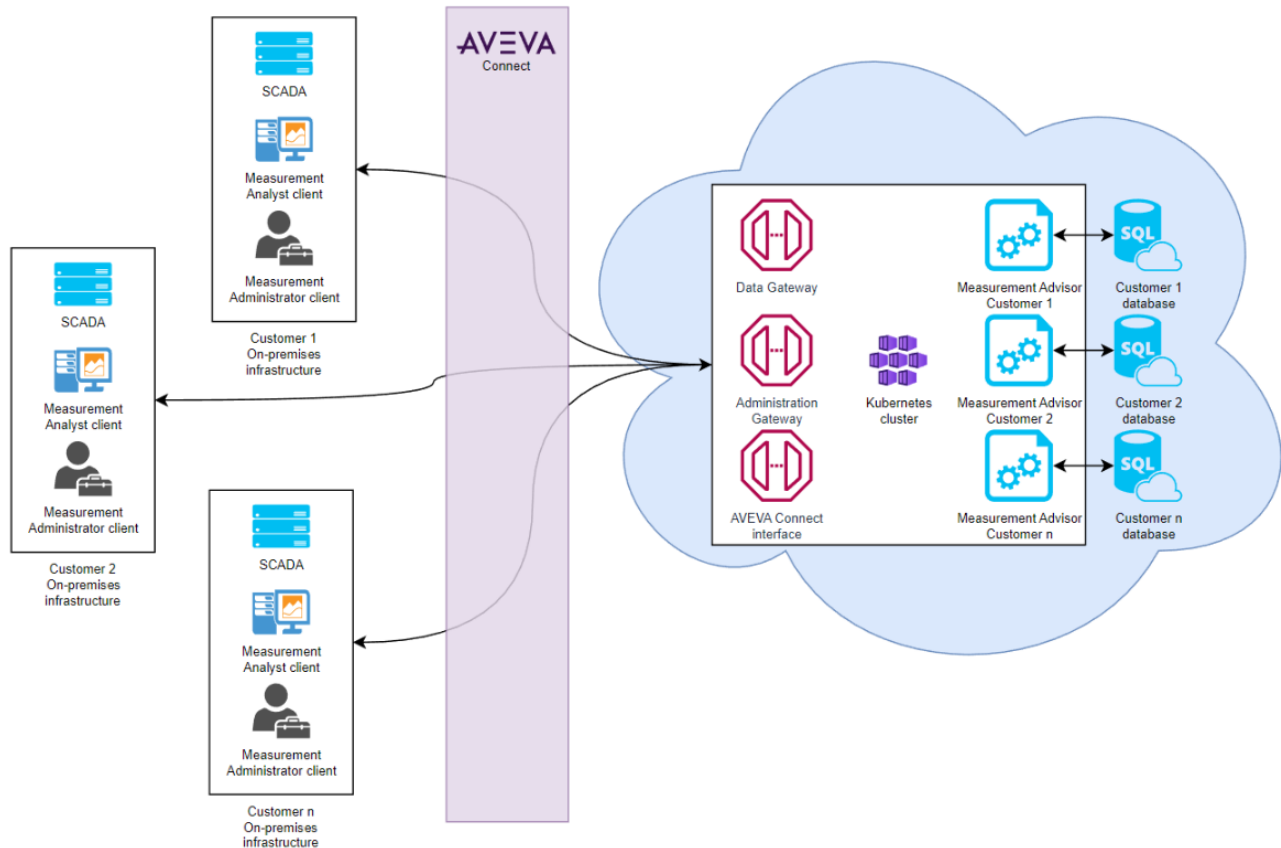
With AVEVA Measurement Advisor on AVEVA Connect, there is no longer a need for an on-premises SQL Server to house the measurement database or application server to process the data. Installations, upgrades, and patching are provided by AVEVA on the cloud, reducing IT cost and effort to maintain and support the system.

Also, users, their roles, and their associated permissions are managed in AVEVA Connect. The creation of groups, areas of responsibility (AORs), and assigning users to AORs still happen within the Measurement Advisor client.

The AVEVA Measurement Advisor client continues to remain on-premises so that the day-to-day experience of a measurement analyst does not change. The capabilities of the product will be generally the same as the on-premises version, with some limitations.

Architecture

The application servers in the cloud are managed with Kubernetes clusters and the Measurement Advisor client does not connect directly to the database. Instead, the client interacts with the SQL server indirectly through a web API, as shown in the following diagram:

Service Overview

AVEVA Measurement Advisor is a service within AVEVA Connect, AVEVA's industrial cloud platform. AVEVA Measurement Advisor does not interact with any other AVEVA cloud service other than AVEVA Connect.

Service Limitations

The following capabilities of AVEVA Measurement Advisor are not currently supported on the cloud:

- File import

- Screens from the **Admin** menu and **Queues** menu (except for **All Queues** menu) of the on-premises Measurement Advisor Client

- Post-processing custom code extensions

- Hydrocarbon Dewpoint calculations using anything other than the GERG equation of state are not available

- Custom user doc (CD_PROJECT_USER_DOC)

- Reports menu (CD_REPORTS)

- Excel Reports Menu (CD_EXCEL_DIRECTORY)

- Hiding measurement points (CD_DISPLAY_MEASUREMENT_POINT must be set to Y)

In addition:

- Custom stored procedures cannot be added.

- Calculation library cannot be extended.

- Adding custom back-end processing is not supported.

- Direct access to the database is not allowed.

- The maximum database size supported in the cloud by default is 1 TB. Larger databases can be accommodated but will require a discussion as it will alter what gets provisioned and the associated AVEVA Flex credit consumption for the infrastructure.

Regional Cloud Availability

AVEVA Measurement Advisor is available for deployment in public cloud regions located in:

- North America - Canada Central

- North America - Canada East

- North America - US East

- North America - US West

Hardware and Software Requirements

The Measurement Advisor client that runs on the user's computer will connect to the cloud resources using standard HTTPS requests using port 443.

Component	Minimum/Recommended
Web browser	HTML5 compatible browser, including the latest versions of Google Chrome, Mozilla Firefox, and Microsoft Edge.
Internet connection	10 Mbps or higher per user
Desktop	To run the AVEVA Measurement Advisor Client, the desktop must be running Windows 10 with .NET Framework 4.8

Security Standards and Compliance

AVEVA Measurement Advisor is a native cloud offering built on Microsoft Azure and automatically leverages its security features.

In addition to the technologies and architectural practices that ensure high security for AVEVA Connect, AVEVA Measurement Advisor restricts access to information based on assigned roles and also to the Areas of Responsibilities (AOR) that users have been assigned. Users must be assigned to one or more AORs to access the data. What the user can do with the data is then dependent upon the roles that they have been assigned for the AVEVA Measurement Advisor service.

User data access is controlled via a web API service that allows only specific interactions with the database. No direct/uncontrolled access to the database is possible.

All components in Azure are secured based on the least privilege principle and are not accessible directly from the internet unless necessary.

Network-connected resources (AKS, SQL Servers, Storage Accounts, App Services) are attached to a firewall-protected virtual network (VNet) and are only accessible via VPN connection aside from the intentionally internet-facing web APIs. These web APIs are behind a Front Door service that uses a Web-Application Firewall to protect the application from common threats defined in the top-ten Open Web Application Security Project (OWASP) categories.

The entire solution is monitored by Azure Defender for Cloud.

For information on the security features of AVEVA Connect, see the AVEVA Connect service description.

High Availability, Business Continuity, and Data Protection

To ensure high availability, business continuity, and data protection, AVEVA Measurement Advisor follows the timelines given in this section.

- **Data Storage**: AVEVA Measurement Advisor uses a few different types of data storage mechanisms. The main mechanism is Azure SQL Database. Azure SQL Database stores customer configuration data and transactional data. There is a separate SQL Database for each tenant, so customer data is kept separate. Azure File Share is utilized to store customer-specific configuration files. These files are eventually loaded into the corresponding tenant's Azure SQL Database. Azure Blob Storage is utilized to store the latest downloadable copy of the AVEVA Measurement Advisor client. Internally, Azure Key Vault and Azure Table storage are used to maintain information about tenant provisioning and the location of their corresponding Azure SQL Database.

- **Data Backup**

  - **Azure SQL Database**: The system utilizes the backup capabilities of the Azure SQL Database service. Point in time recovery is possible to any point within 14 days. Long term backups take a full backup of the database and are scheduled weekly and monthly. Weekly backups are retained for 28 days. Monthly backups are retained for 180 days. Backups are stored with geo-redundant storage (GRS).

  - **Azure File Share**: System configuration that is created or modified by Measurement Advisor Administrators using the Measurement Advisor Config Tool is stored first in files as part of the 'Object Registry'. The files are loaded into the database when the administrator has completed their configuration work. These changes are typically infrequent. As such, these files are backed up once every 4 hours using Azure Recovery Services Vaults. These daily backups are retained for 14 days, a weekly backup and a monthly backup are also created and are retained for 28 days and 180 days respectively.

  - **Azure Blob Storage**: Blob storage is utilized internally for resources that are required during provisioning of a tenant and for the client download files. These blobs are created by the build and release process and contain no transactional or customer data.   The blobs and the storage containers are configured for versioning and to enable soft-delete. Additionally, the data is replicated to a backup storage account in a paired Azure region to facilitate faster recovery. Soft-deleted blobs and storage containers are kept for 7 days. Backups are retained for 180 days.

  - **Azure Key Vault**: Connection string data for the SQL Server instances is kept within Azure Key Vault. The connection strings are used by the internal processes in the cloud. This information is protected by enabling soft-deletes and to enable purge protection. Soft deleted secrets are retained for 90 days. Backups of the key vault contents happen daily to a backup storage account in a paired region. The secret is also immediately backed up upon initial creation.

- o **Azure Table Storage**: Information that is used by internal processes about the tenant and the state of the tenant is kept within Azure Table Storage. This data changes infrequently and is backed up daily to a file in a storage container in blob storage.   It is also immediately backed up when certain changes are made to the table including new tenant creation.

- **Disaster Recovery**

  The need for disaster recovery is reduced by ensuring that our services are configured to handle failures in a fault tolerant manner. For example, most of the services are configured for Zone Redundancy or Geo Redundancy, which means that a data center can fail, and the service will fail over to resources in another data center. If an entire region fails and is expected to be offline for an extended period of time, the services will need to be provisioned in another region and the data restored from the latest backup. The process to declare a disaster follows predefined procedures, as does the process for how the services are restored.

  To achieve the required RTO, automation pipelines are used to provision resources quickly and repeatably. The RPO measure is achieved through the point in time recovery capabilities for the data stored in Azure SQL Database and the configuration files stored in Azure File Share.

  In case of a disaster, services and data are restored in an alternate environment leveraging the latest available backup.

Cloud Service	Recovery Point Objective (RPO)
AVEVA Measurement Advisor	2 hours

Cloud Service	Recovery Time Objective (RTO)
AVEVA Measurement Advisor	24 hours

Decommission of the Service

In the event of a customer wishing to decommission AVEVA Measurement Advisor, 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 will be retained for 30 days after receiving the deletion request to safeguard against accidental or wrongful deletion. After this period, the process of deleting data will be initiated.

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

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.

Customer Support

AVEVA Technical Support provides support for issues related to user administration of the application and technical support for the usage of the application.

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/.