Energy Monitoring System for manufacturing companies

Datasheet

ANALYTICS
FOR INDUSTRY

Datasheet - Energy Monitoring System

Architecture & Components

The Energy Monitoring System (EMS) consists of several AVEVA and non-AVEVA components. EMS manages the data flow and transformation from AVEVA Insight to either Tableau or PowerBI dashboards. The architecture overview in the image below displays this predefined data flow from sensors and devices (Local OT Infrastructure) to the fully functional dashboards in the cloud.

AVEVA Insight

Insight provides data storage and data structuring for EMS. Insight stores energy data at a rate of 5 seconds data point and keeps 5 years of history. Insight comes with a powerful web based trending tool, giving you easy access to Realtime Analytics.

AVEVA BI-Gateway

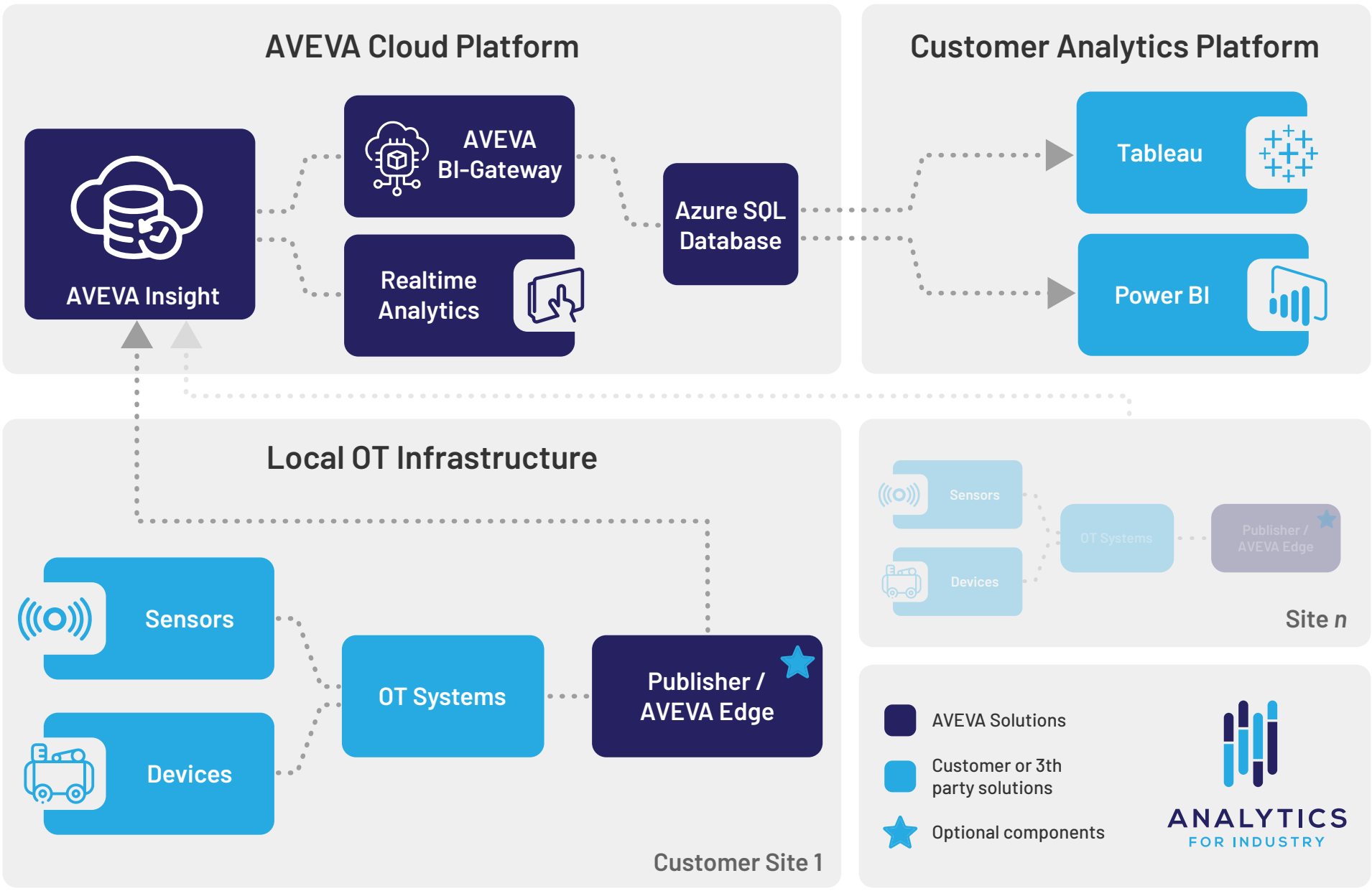
BI-Gateway aggregates and contextualizes the data from AVEVA Insight for consumption by analytics platforms like Tableau or PowerBI. BI-Gateway transforms the raw data of multiple sites, assets and individual meters comming from Insight into actionable information. Energy data is related to production events (like shift, batch and equipment state) and consolidates this into an AZURE SQL database that is optimized for analysis. Salesforce (Tableau) or Microsoft (PowerBI) can seamlessly extract data from the multidimensional AZURE SQL Database.

More information on analyticsforindustry.com/docs

Tableau or PowerBI Dashboards

By providing integration for two of the world's leading Analytics Platforms in our solution we eliminate the need for "yet another tool" and integrate seamlessly with your IT/OT strategy.

More information on analyticsforindustry.com > brochure



Achritecture Overview

Data Structure & Transformation

To ensure a well-functioning system, source data need to be published to AVEVA Insight according to the data delivery standards. In addition, tags (data points) must contain a fixed set of properties (meta-data). The combination of the delivery standard and properties ensure that the system can store and transform data and display information on the dashboards.

BI-Gateway transforms and contextualizes the timeseries data coming from your sensors and devices into a relational and integral data set. This data-set is optimized for self-service analytics with Salesforce (Tableau) or Microsoft (PowerBI).

For more info about data structuring and transformation, go to analyticsforindustry.com/docs

Connectivity & Publishing Methods

Multiple standard, custom or 3th party solutions allows you to publish your data to AVEVA Insight. AVEVA Insight offers up to 300+ industry standard drivers, 30+ build in publishers (AVEVA products only) or custom Restful API connectivity.

In case the free publishing tools from AVEVA are not sufficient or when you need further data preparation, we recommend using AVEVA Edge or Crosser Streaming Analytics and Integration to process and publish your data to AVEVA Insight (licenses not included).

Data publishing is not part of the EMS implementation project

Cyber Security

All sensitive customer data is encrypted, logically segregated and segmented in a multi-tenant architecture. These measures offer the best assurances that customer data is safe from unauthorized access and limit the risk of data being compromised in any meaningful manner while protecting the privacy, control and autonomy of each customer's data independently from any other.

All data flow communications to and from AVEVA cloud services are encrypted using SSL/TLS over HTTP (i.e., HTTPS) on the industry standard and well-defined Port 443 using Advanced Encryption Standard (AES) 256-bit encryption with secure 2048-bit X.509 certificates.

Data is always pushed out of your network (adhering to the ISA95/Perdue network model).

More information is available at analyticsforindustry.com/security

Prerequisites

To get the most value out of EMS, energy meters should be in place at area, preferably unit level. The following items will be transferred from your local OT system into our EMS solution. You can start simple and publish more data once available.

- Air, Gas, Electricity, Steam and Water consumption data
- Production volumes, preferably also intermediate volumes per equipment
- Machine states produced products (Batch optional) and involved shifts.
- Asset information, Engineering unit, Interpolation type

Want to know more about the Analytics for Industry Energy Monitoring System?

Contact us at info@analyticsforindustry.com

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