



FactoryTalk Analytics GuardianAI

Reference Architecture

expanding **human possibility**[®]



PUBLIC



ROCKWELL AUTOMATION
GLOBAL PORTFOLIO
ENGINEERING

FactoryTalk Analytics GuardianAI – Overview

Predict equipment failures and reduce unplanned downtime

Overview

FactoryTalk Analytics GuardianAI is a machine learning based supervisory application that uses existing plant devices, such as variable-frequency drives, as sensors to monitor the health of assets like pumps on the plant floor.

1. The device data is first used to establish a baseline signature of each asset's behavior under normal operating conditions.
2. Then, it monitors the assets for any deviation from baseline.
3. Once a deviation is detected, a notification is sent to the user identifying the anomaly.
4. If an anomaly is detected but cannot be identified, FactoryTalk Analytics GuardianAI will notify the maintenance engineer that an unidentified anomaly was detected.
5. The engineer can then investigate the issue, determine the cause of the anomaly and tag the deviation accordingly.
6. The FactoryTalk Analytics GuardianAI machine learning engine will then train to identify the new anomaly for future encounters.

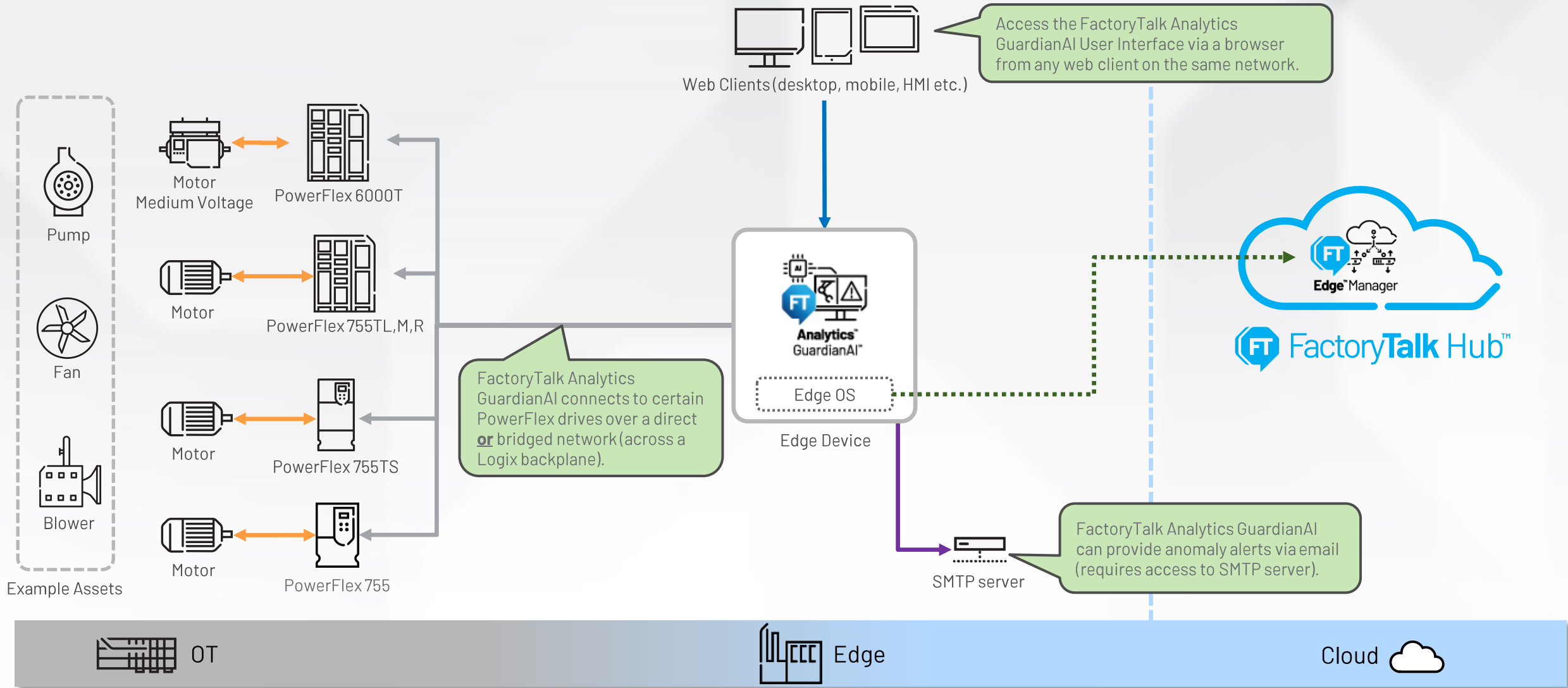
Simple Four Step Workflow (no code machine learning)

1. Complete initial setup.
2. Establish baseline of each asset's behavior.
3. Monitor plant assets.
4. Notify the user when an anomaly is detected.

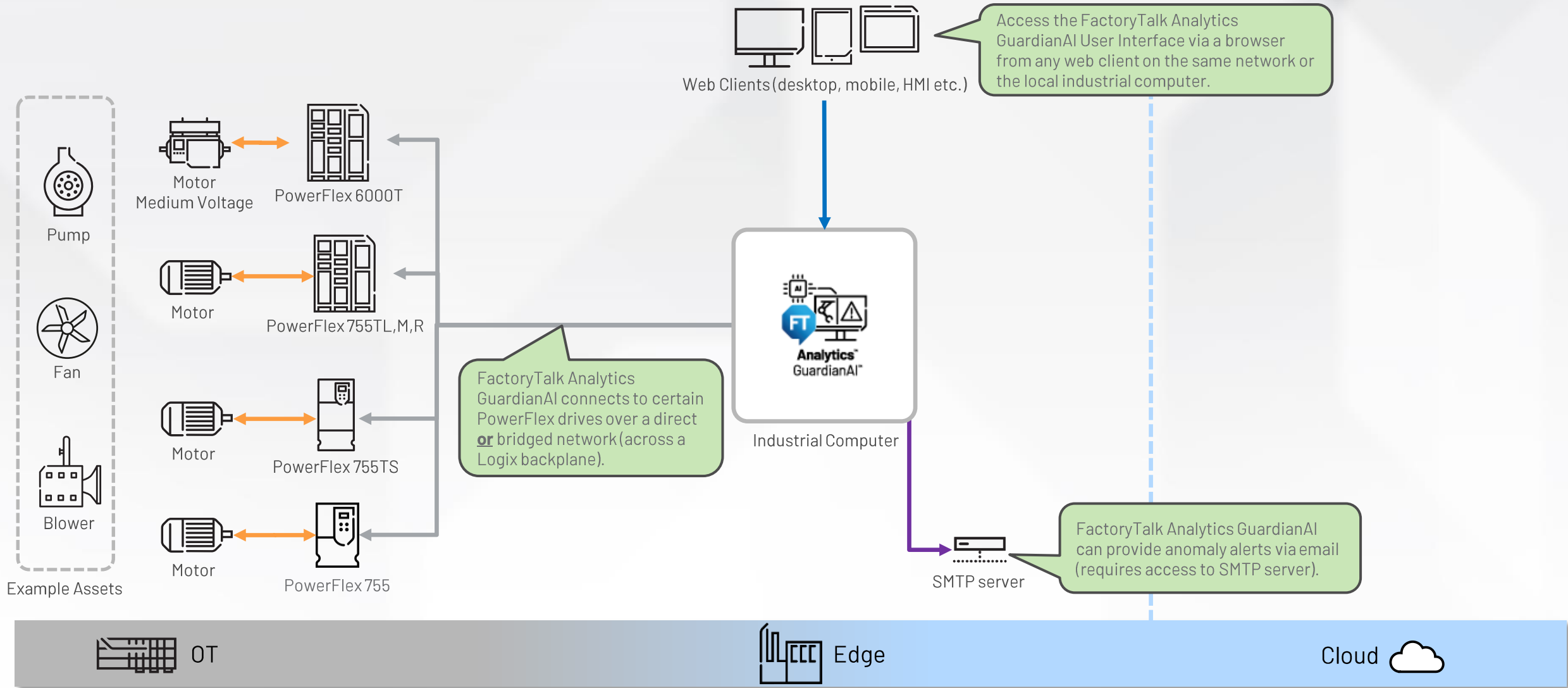
Resources

- [FactoryTalk Analytics GuardianAI homepage](#)
- [FactoryTalk Analytics GuardianAI \[Overview\] presentation](#)

FactoryTalk Analytics GuardianAI on a FactoryTalk Edge Manager Edge Device



FactoryTalk Analytics GuardianAI on an Industrial Computer



FactoryTalk Analytics GuardianAI connects to certain PowerFlex drives over a direct **or** bridged network (across a Logix backplane).

Access the FactoryTalk Analytics GuardianAI User Interface via a browser from any web client on the same network or the local industrial computer.

FactoryTalk Analytics GuardianAI can provide anomaly alerts via email (requires access to SMTP server).