Solution Brief

Kalki.io Datahub for Azure IoT Hub

Access Field Devices Using Device Twin

Challenges

Connecting to telemetry devices from Azure IoT Applications

Industries, utilities, and enterprises are constantly looking for ways to improve the operational efficiency, reliability; and optimize the return on investment of their assets. This can be achieved by continuous monitoring of the asset operational conditions and take necessary actions using advanced automation, analytics, and management applications. Microsoft Azure cloud platform provide an extensive services and framework to build such application effortlessly.

Data from field assets need to be collected persistently at the Azure, for applications to do the monitoring, automation, and analytics. System integrators and OEMs who implement cloud-based end to end analytics, automation and management applications faces major challenge in connecting to telemetry devices in the field due to the diverse set of protocol adaptors required to communicate with these assets. A field proven data acquisition service interoperable with the field assets such as sensors, measurement devices, data loggers, controllers, and RTUs from multiple vendors is required at Azure to overcome these integration challenges.

Solution

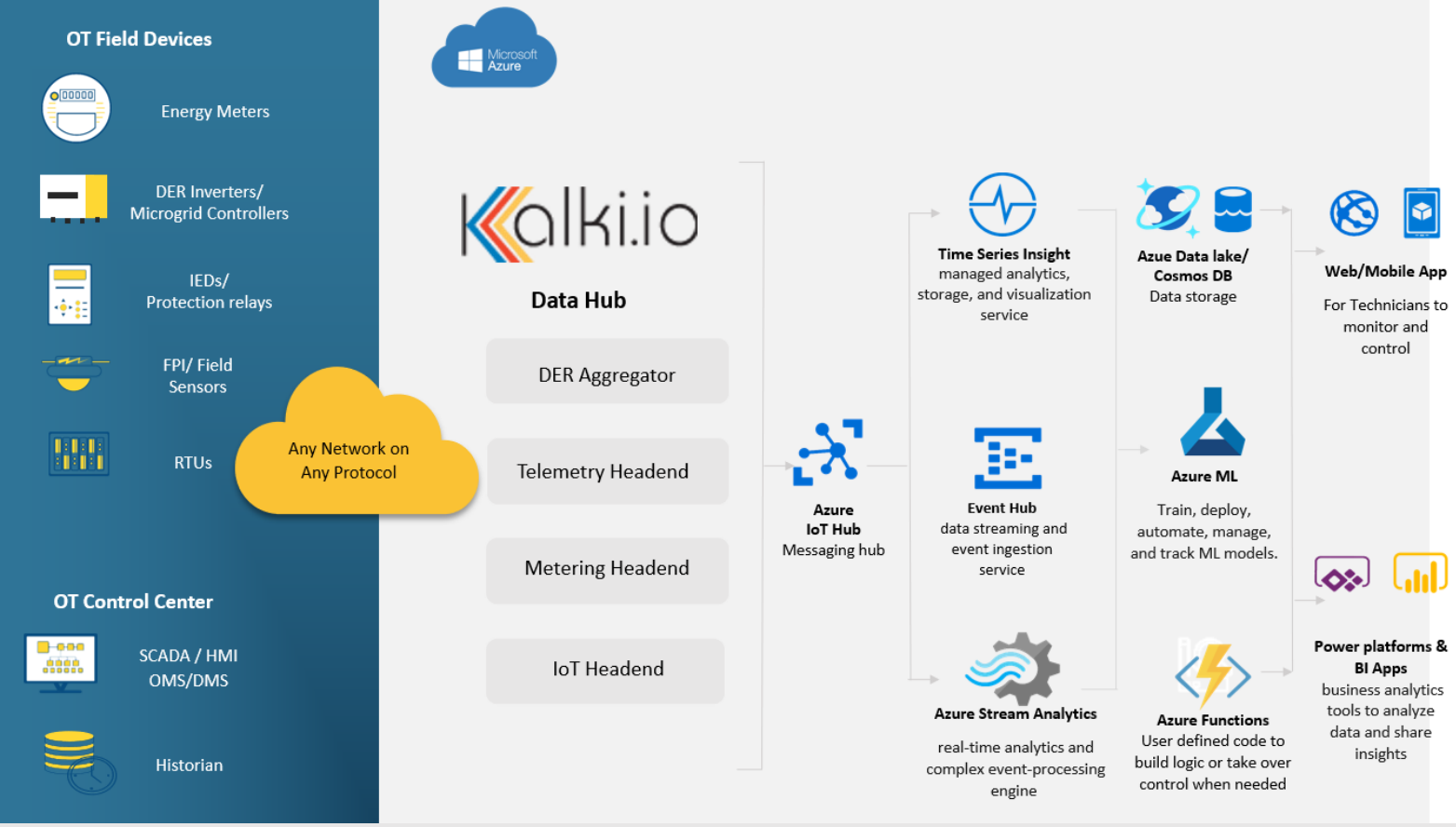
Data Acquisition Gateway on Azure Cloud

Kalkitech datahub service 'KALKI.IO' deployed on Azure, simplifies real-time and historic data collection from field assets such as programing logic controllers (PLC), remote terminal units (RTU), controllers, protection Relays, sensors, IEDs, Smart Meters, data loggers, Machines and similar IIoT devices. Kalki.io datahub supports 1000+ device adaptors on various communication protocols. Kalki.io can perform bi-direction data exchange with the devices and expose these data over to Azure IoT hub as device twins. This adaptor set would cover 100% of all devices & systems used in utilities and 80% of Industrial devices widely in use.

With cloud-based architecture tightly integrated with Azure backend services, Kalki.io transfers all the benefits of Azure directly to the user such as scale as you go with a highly available infrastructure and multi-zone disaster recovery built-in.

Features

- Support a large set of proven device connectors
- Protocols Supported- Modbus, DNP3.0, IEC60870, IEC61850, DLMS, OPC UA, MQTT, IEEE 2030.5 and many other standard and legacy protocols
- Seamlessly integrate with Azure platform using Azure IoT hub connector
- Real time streaming of data and exposing data as IoT Twin device
- Authentication and end-to-end encryption support for each device connected
- Compatibility with Azure IoT Edge for building hybrid IoT applications
- Enable role-based remote management and device maintenance access
- Configuration management using REST interface exposed by Azure connector
- Built-in device management and provisioning to connect and manage any devices at scale
- Share data with on-premise or legacy operational management systems - SCADA /DCS
- Integrate with Azure Event Grid and serverless compute, simplifying IoT application development



Enable highly secure and reliable communication between your Internet of Things (IoT) application and the devices and assets it manages. KALKI.IO provides a cloud-hosted solution to connect, monitor and control all your existing field assets. Solution also accelerates the creation of IoT solutions using **Azure IoT Central**, create a digital model of your physical space or assets using **Azure digital twins**, Explore and gain insights from time-series data in real time **Azure time series insights**, and extend intelligence from the cloud to your edge devices using **Azure IoT Edge**.

Benefits

Lower the overall cost of ownership for monitoring and maintenance for Azure IoT applications.

Reduce Integration cost & Complexity

Reduces your integration cost and time significantly in connecting field assets to Azure applications using proven plug and play adaptors /interfaces in Kalki.io. Handle all devices using device twins without bothering on device specific protocols & data exchange complexity.

Improve asset reliability

Cloud based centralized device management, monitoring and maintenance helps in improving the asset life and there by reliability of the whole system

Optimize support and maintenance cost

Kalki.io enable role based remote device access for maintenance and management helps in connecting your remote assets from anywhere with-out compromising on the security

Seamless bi-directional exchange of data

Azure connector helps in exchange data from & to Azure services & applications using standard interfaces and data model regardless of the devices from which data is exchanged.