influxdata®

Introduction to the MING stack

Charles Mahler

Agenda

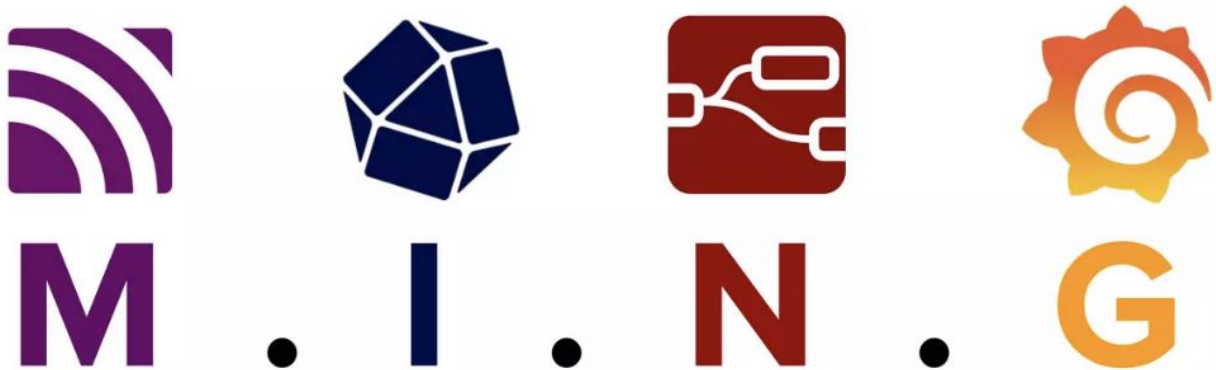
- MING stack overview
- Why is the MING stack needed?
- MING stack component overview
- MING stack production tips
- Case studies
- Q/A

 | © Copyright 2023, InfluxData

Goal of IoT

 | © Copyright 2023, InfluxData

What is the MING stack?



MING stack benefits

- Create value without costs up front
- Integrate with existing projects
- Increase productivity
- Empower non-engineer subject matter experts
- Reduced vendor lock-in
- Open architecture

 | © Copyright 2023, InfluxData

MING stack components

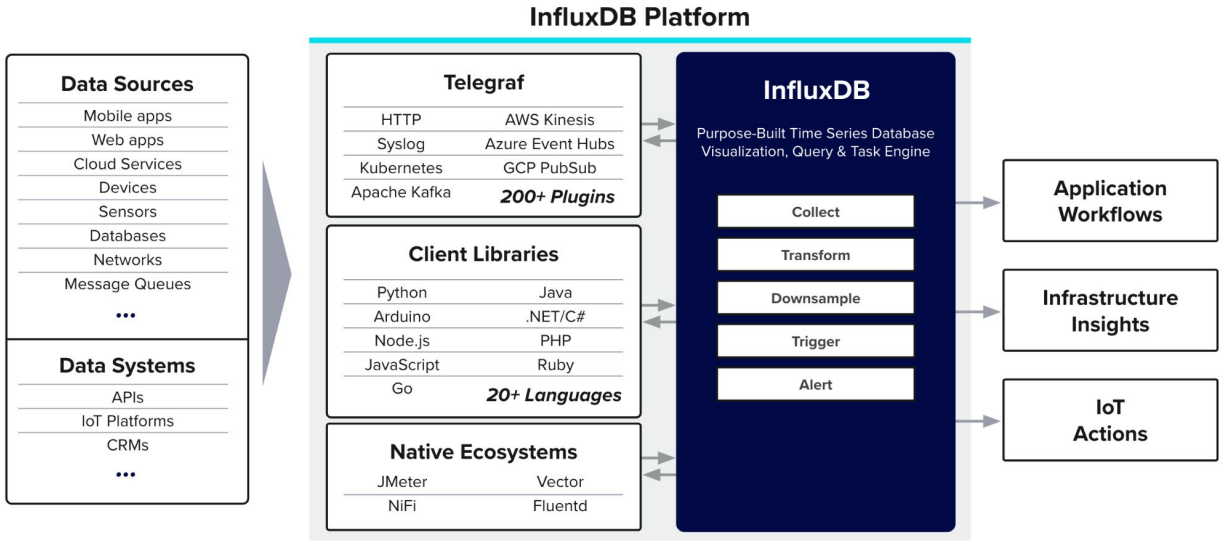
MQTT

- Lightweight, efficient protocol designed for IoT
- Operates in low bandwidth conditions
- Flexible data model
- Scalable

 | © Copyright 2023, InfluxData

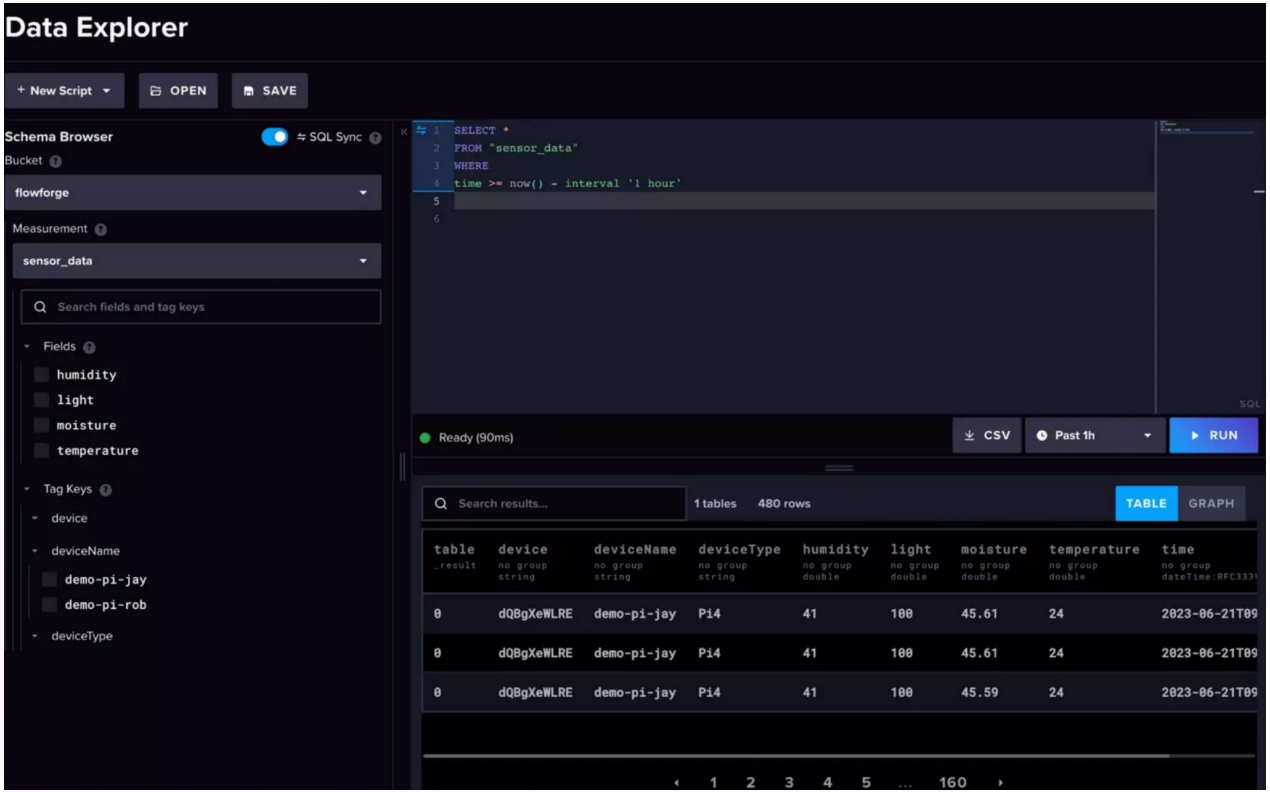
InfluxDB

- Great performance for IoT data
- Ecosystem integrations
- Developer productivity
- Open source



 | © Copyright 2023, InfluxData

influxdata®

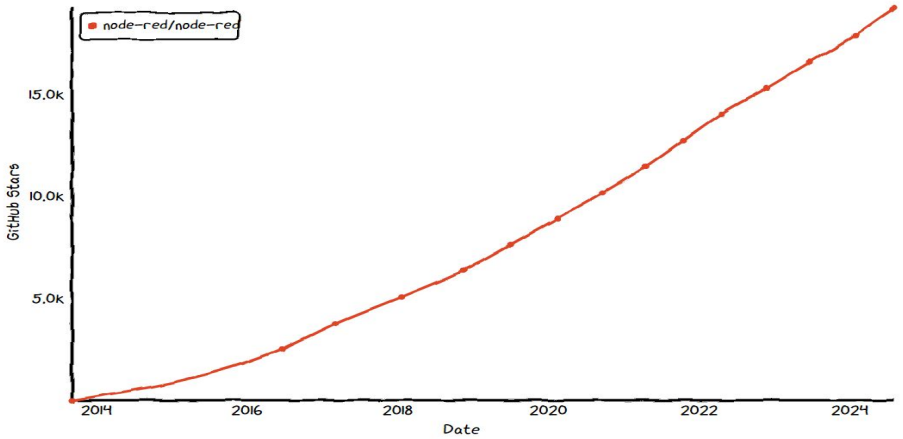


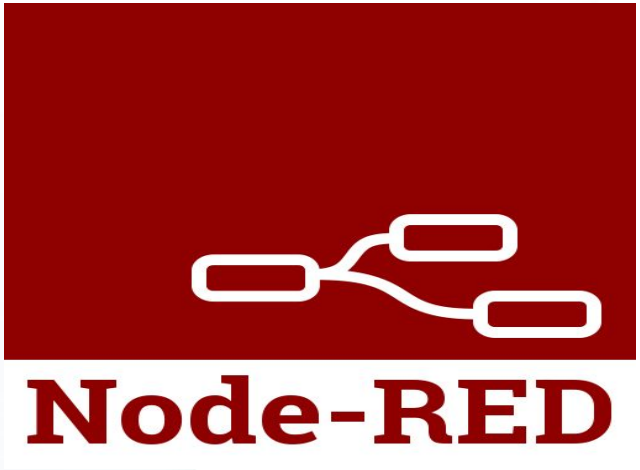
 | © Copyright 2023, InfluxData

influxdata®

Node-RED

- Low-code programming tool for event-driven applications
- Created by IBM for IoT development
- Open sourced in 2013, founding JS Foundation project in 2016
- Used by companies like Samsung, Bosch, and Siemens





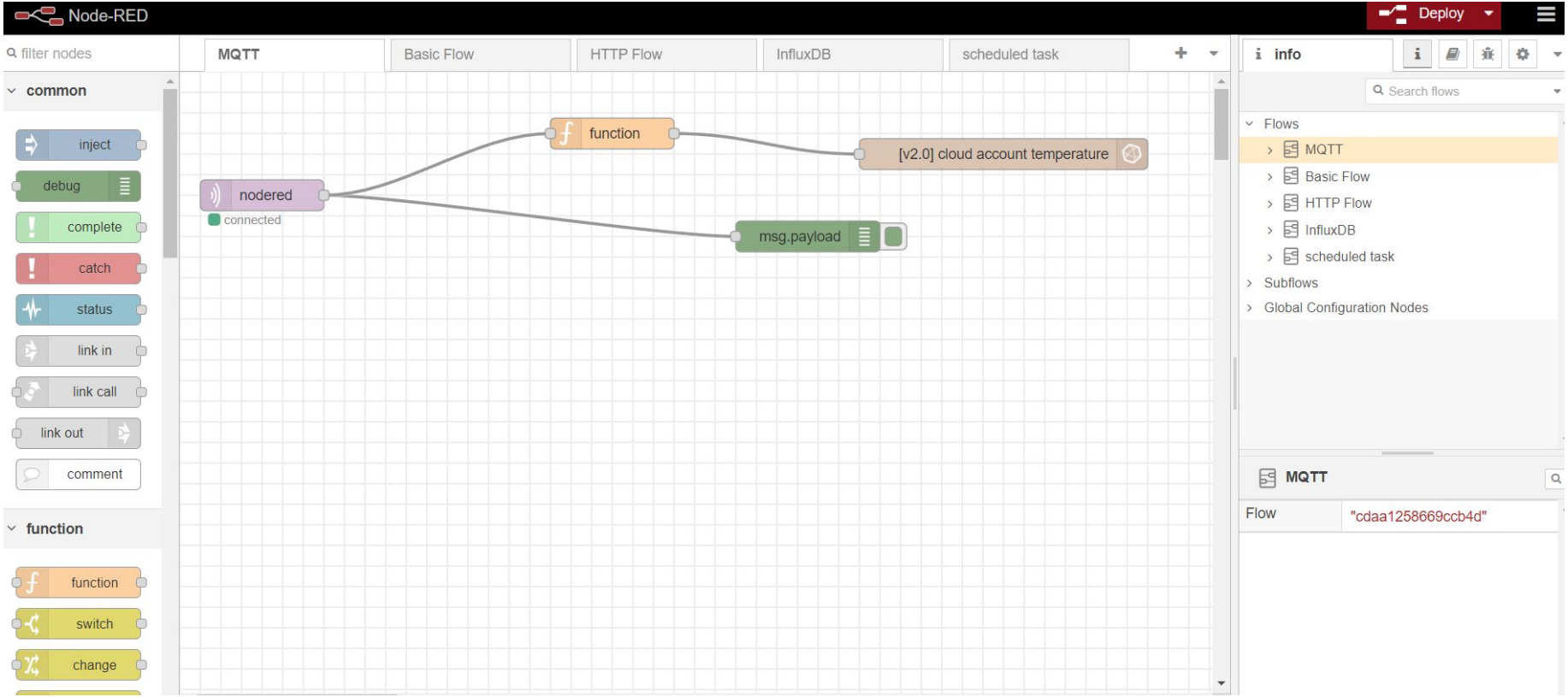
 | © Copyright 2023, InfluxData

influxdata®

Node-RED concepts

- Nodes
- Flows
- Messages

 | © Copyright 2023, InfluxData



 | © Copyright 2023, InfluxData

influxdata®

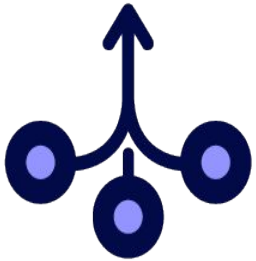
Types of Nodes

Storage

Utility

Control

Integration

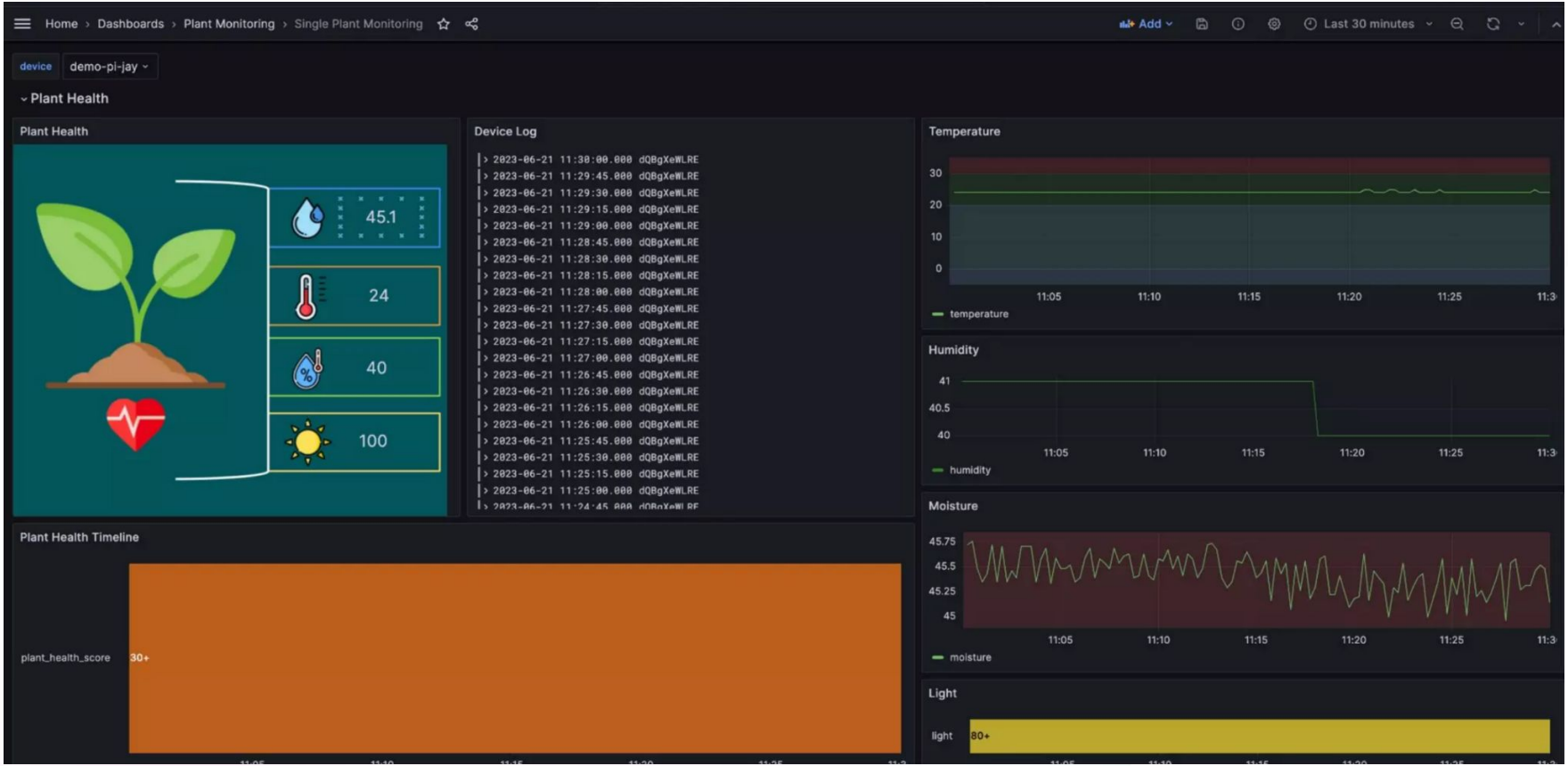


Protocol

Grafana

- Open source data visualization and analytics platform
- Supports multiple data sources
- Data transformation
- Alerting

 | © Copyright 2023, InfluxData

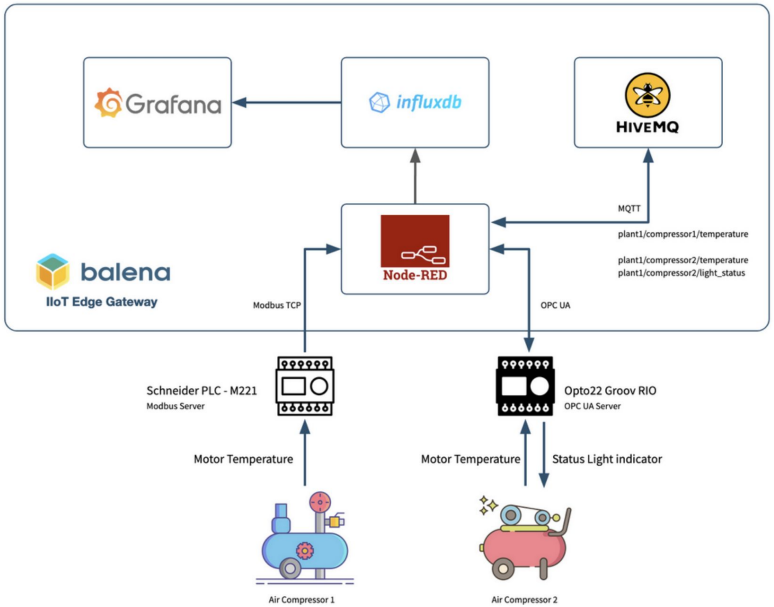


 | © Copyright 2023, InfluxData

influxdata®

Deployment options

- Docker
- Portainer
- Balena



 | © Copyright 2023, InfluxData

influxdata®

MING stack in production

- DevOps
- Scaling
- Security
- Edge device management

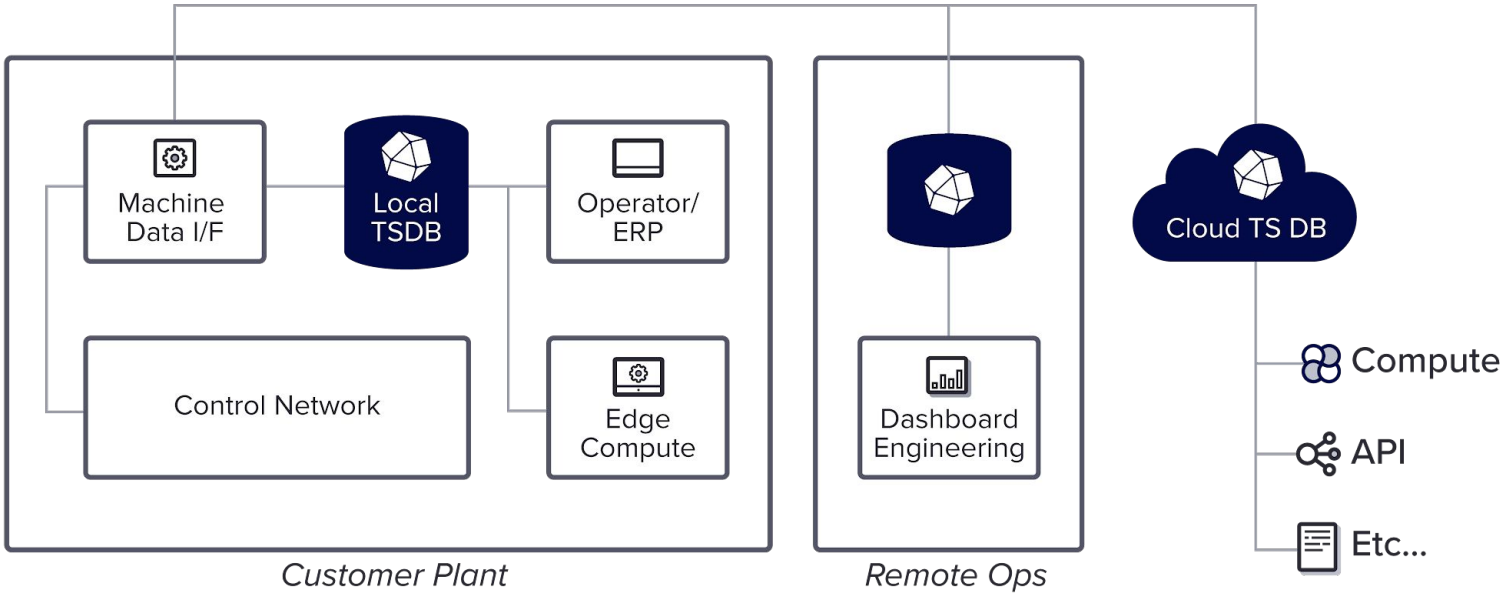
 | © Copyright 2023, InfluxData

Case studies

Graphite Energy

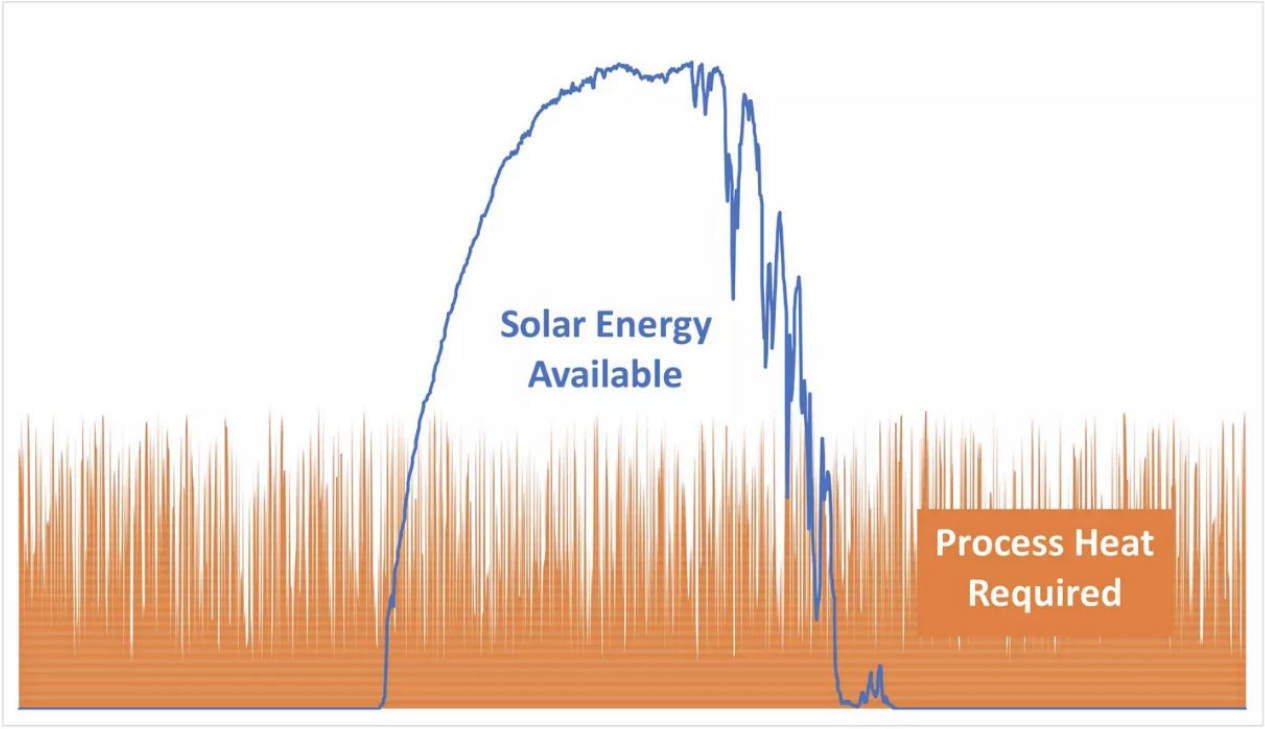
- Provide energy to industrial customers by capturing variable rate renewable energy and making it reliable
- Node-Red used at the edge for data collection and processing
- InfluxDB used for storing and querying their data
- Grafana for visualization

 | © Copyright 2023, InfluxData



 | © Copyright 2023, InfluxData

influxdata®

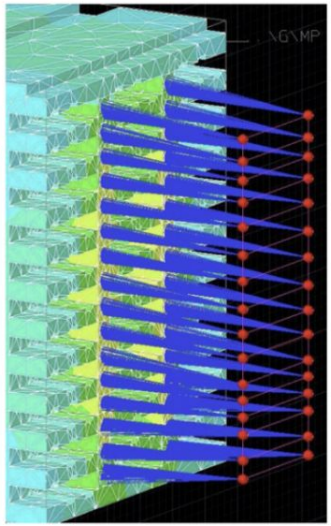


 | © Copyright 2023, InfluxData

IN-SERVICE MACHINE

DIGITAL TWIN @ EDGE AND REMOTE

DATA

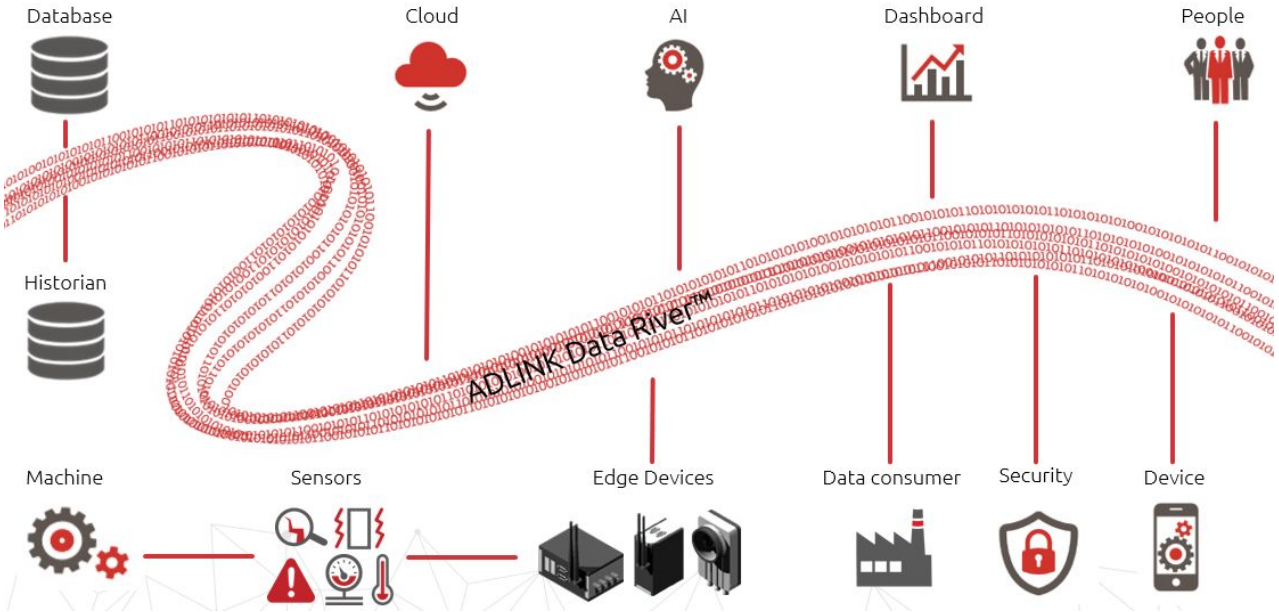


 | © Copyright 2023, InfluxData

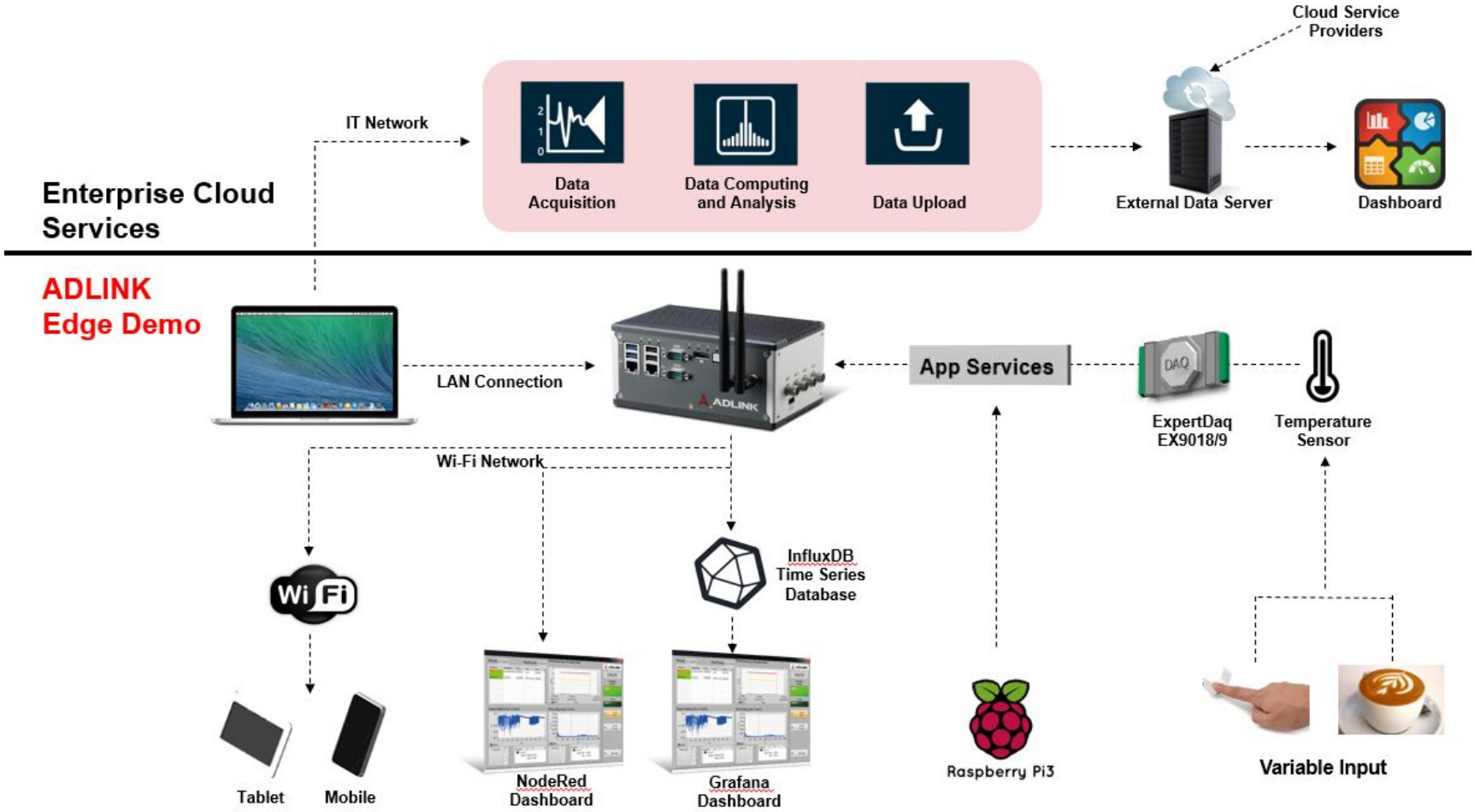
influxdata®

ADLINK

- Industrial IoT service provider
- Node-RED used for transforming data and dashboards



 | © Copyright 2023, InfluxData



 | © Copyright 2023, InfluxData

influxdata®

Prescient devices

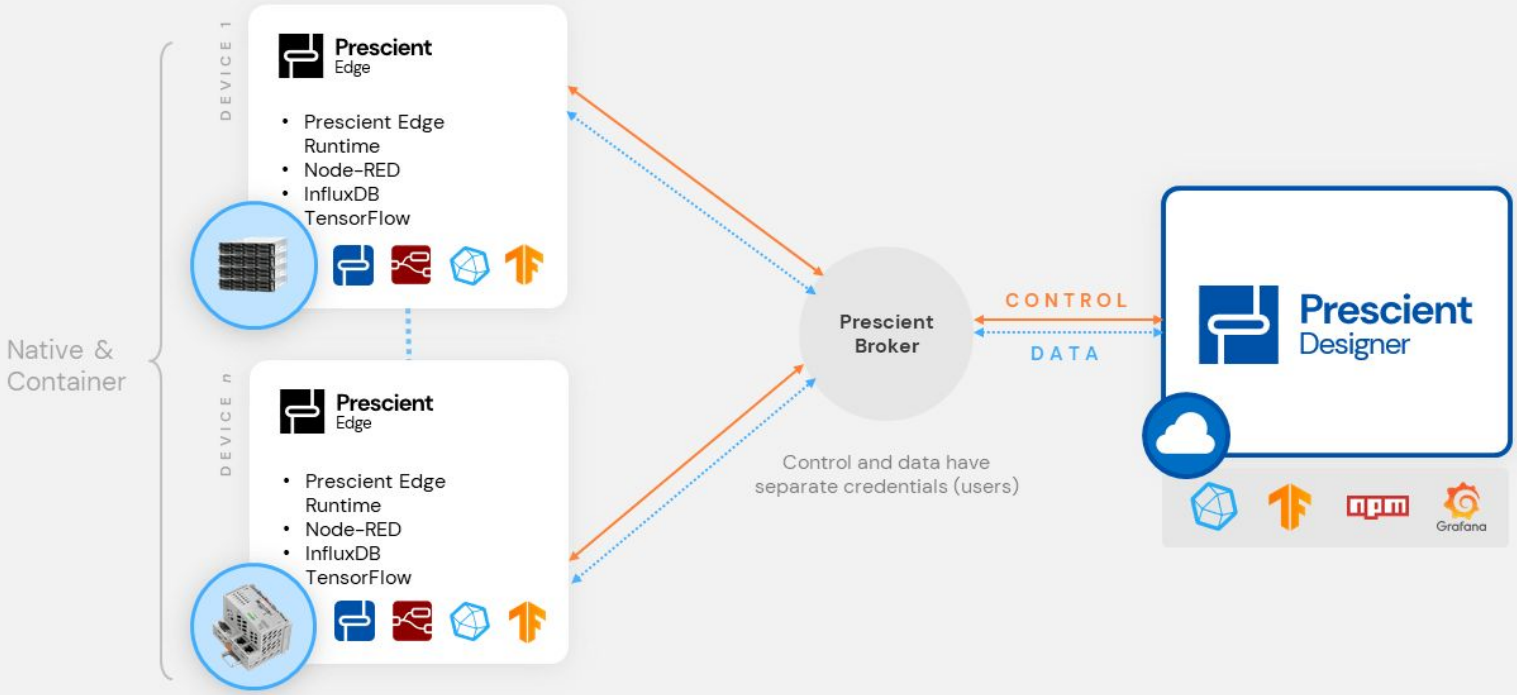
- Platform for deploying and managing edge computing
- Build in the cloud with Node-Red and deploy to edge devices
- Customer development speed increases 12x on average

 | © Copyright 2023, InfluxData

influxdata®

Prescient Designer

Architecture



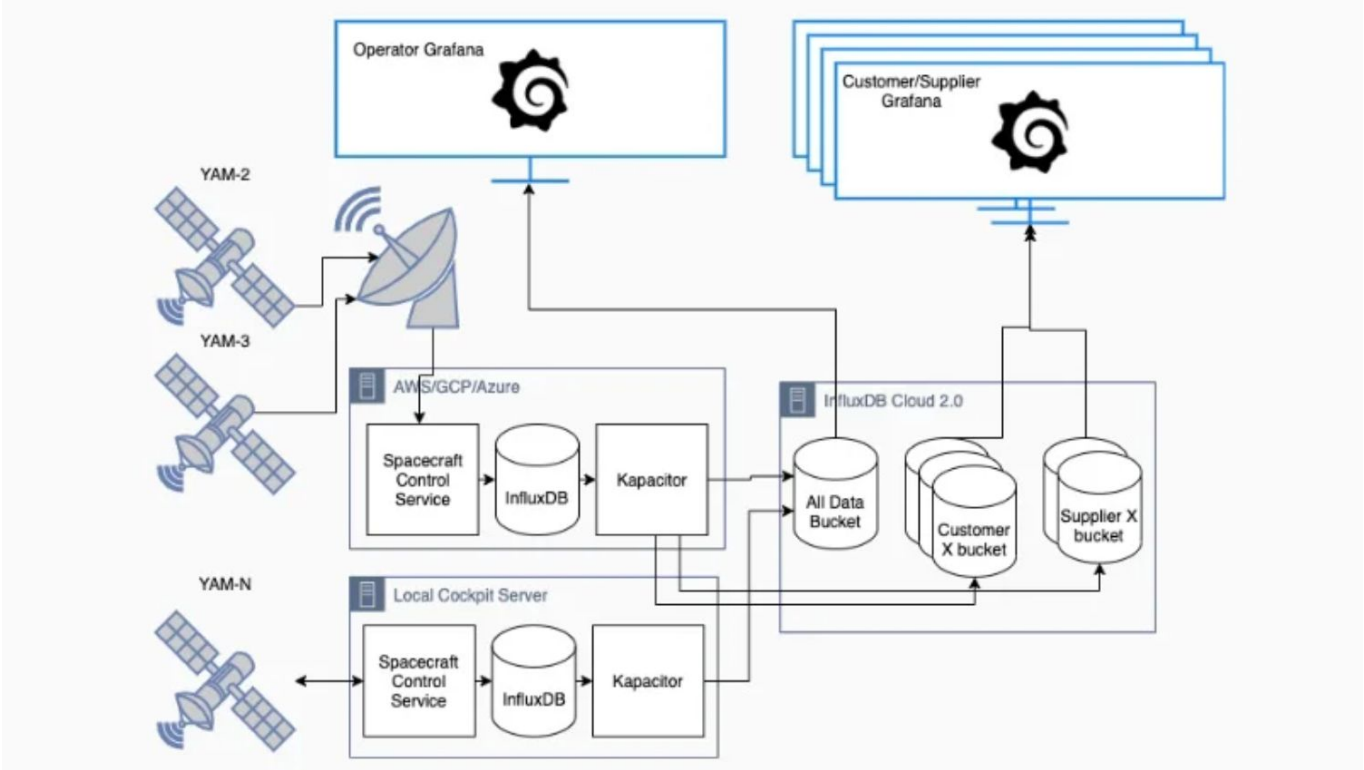
 | © Copyright 2023, InfluxData

influxdata®

Loft Orbital

- Satellites as a service
- Allow companies to rideshare satellites and transfer data over their platform

 | © Copyright 2023, InfluxData



 | © Copyright 2023, InfluxData

influxdata®

Questions?

Website - influxdata.com

Slack - influxdata.com/slack

InfluxDB University - university.influxdata.com