

Edge Data Store

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Who am I



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Goals and Takeaways

- Edge Data Store Introduction
- Use of API
- Apps at the Edge
- Extending from the Edge

Edge Data Store



Persistent Storage
Self-Healing Capabilities
Application Platform

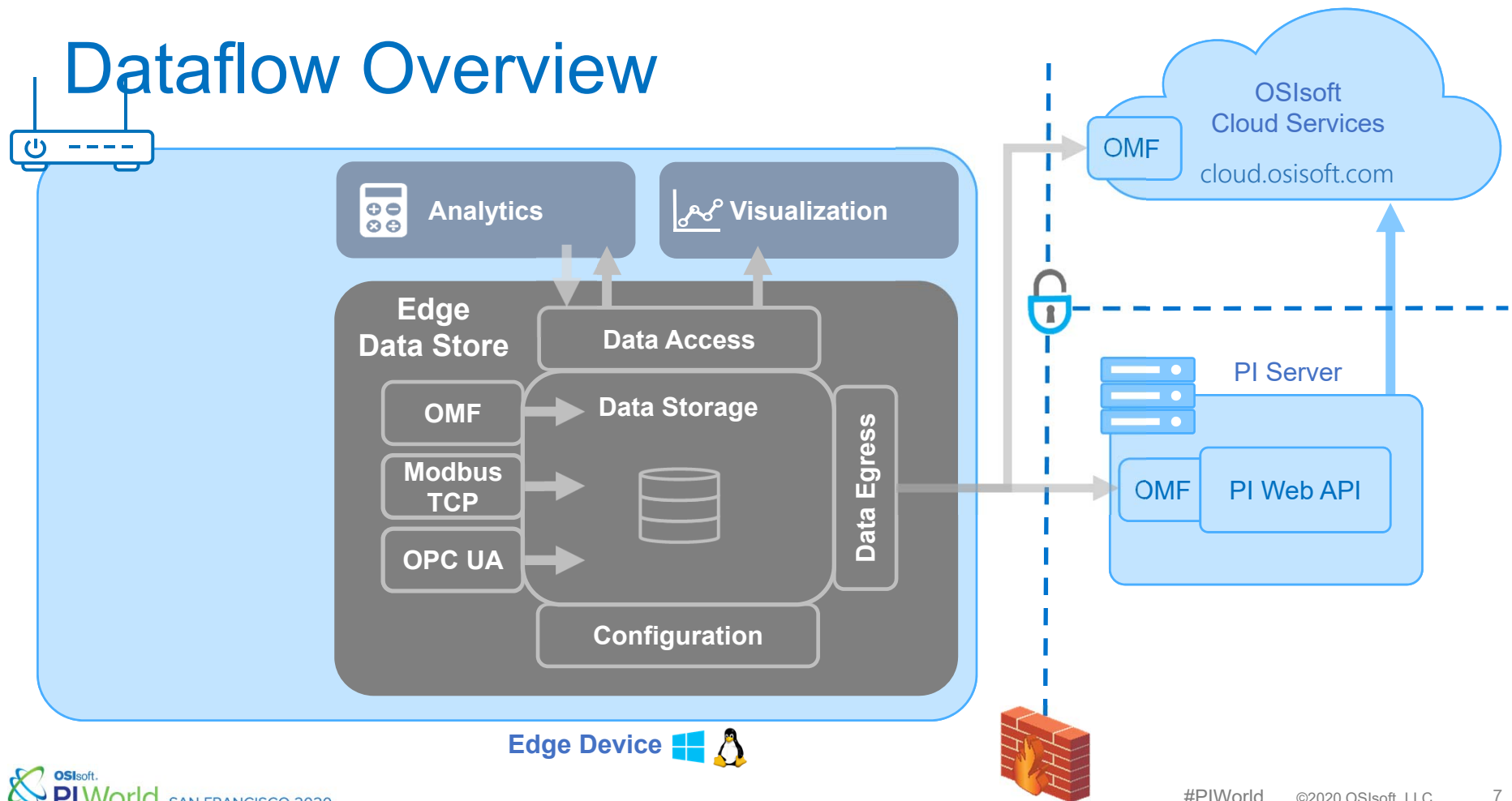
Pervasive Data Collection at the Edge

Chris Felts

Terminology

- EDS – Edge Data Store
- OMF – OSIsoft Message Format
- Type – a template which defines a structure to hold data
- Stream – a structure to hold data
- cURL – command-line utility used to make web requests

Dataflow Overview



Scenario - Problem Definition

- Data collection from edge device on several remote pump skids
- Flow rate and discharge pressure
- Modbus Data Source



Using the API

- Access to the API is restricted to the local machine
- Any web programming language that can read and consume API data can be used
 - C# WebClient or HttpClient
 - PHP, Python, Ruby
 - Plus many more!
- API Documentation
 - <https://osisoft.github.io/Edge-Data-Store-Docs/V1/SDS/SequentialDataStore.html>

DEMO

API - Configuration

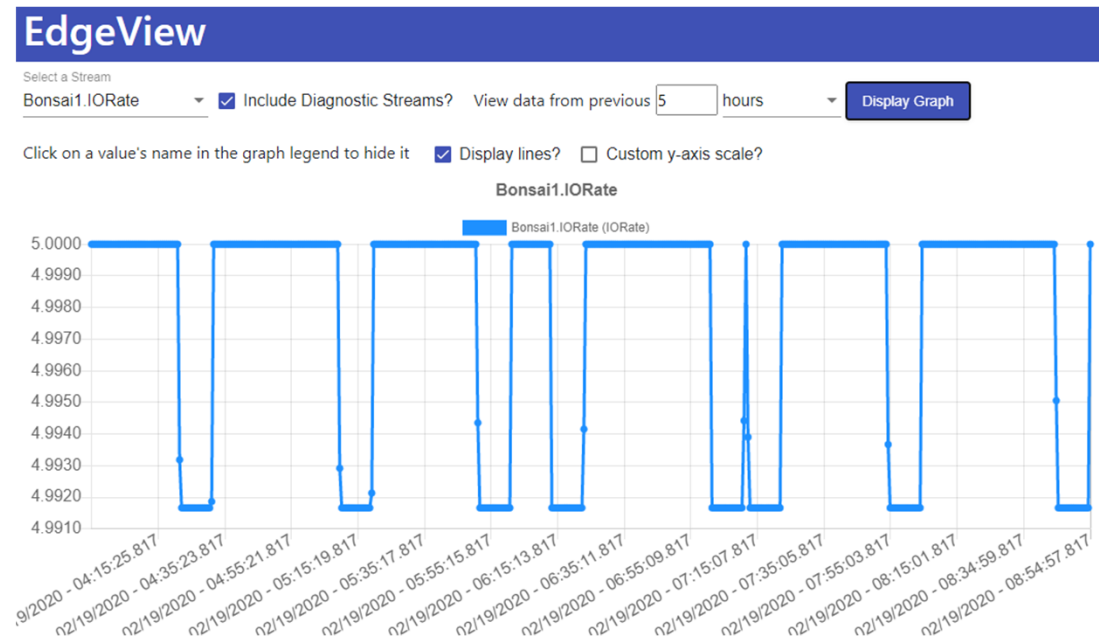
Demo Recap

- Start with base configuration address:
`http://localhost:5590/api/v1/configuration`
- Append relative path

Relative path	Purpose
/	All configuration
/ {componentId} /	Component configuration
/ {componentId} / {facet}	Specific facet configuration

Example Visualization Application

- Simple visualization app showing available streams and stream data
- EdgeView is ASP.NET Core + Angular



DEMO

API – Storage Reads
& EdgeView App

Demo Recap

- Start with base data address:
`http://localhost:5590/api/v1/tenants/default/namespaces/{namespaceId}`
- Append relative path

Relative path	Purpose
<code>/streams</code>	Get Streams
<code>/streams?query={query}</code>	Get Stream using a query
<code>/streams/{streamId}/data/first</code>	Get First Value
<code>/streams/{streamId}/data/last</code>	Get Last Value
<code>/streams/{streamId}/data?filter={filter expression}</code>	Get Filtered Value
<code>/streams/{streamId}/data?startIndex={start time UTC}&endIndex={end time UTC}</code>	Get Window Value

Example Analytic Application

<https://github.com/osisoft/OSI-Samples-Edge>

- Data filtering/compression
- Event triggering on the edge
- Type and stream creation

DEMO

API – Storage Writes

Demo Recap

- Start with base data address:
`http://localhost:5590/api/v1/tenants/default/namespaces/default`
- Append relative path

Relative path	Purpose
<code>/types/{typeId}/</code>	Type information
<code>/streams/{streamId}/</code>	Stream information
<code>/streams/{streamId}/data/</code>	Read or write data
<code>/streams/{streamId}/data/summaries</code>	Request summary data

Extending from the Edge

- Built-in egress capabilities
 - Automatic data forwarding to PI or OCS
 - Control over stream selection

Reference Links

- https://osisoft.github.io/Edge-Data-Store-Docs/V1/Edge_Data_Store.html
- <https://github.com/osisoft/OSI-Samples-Edge>

