

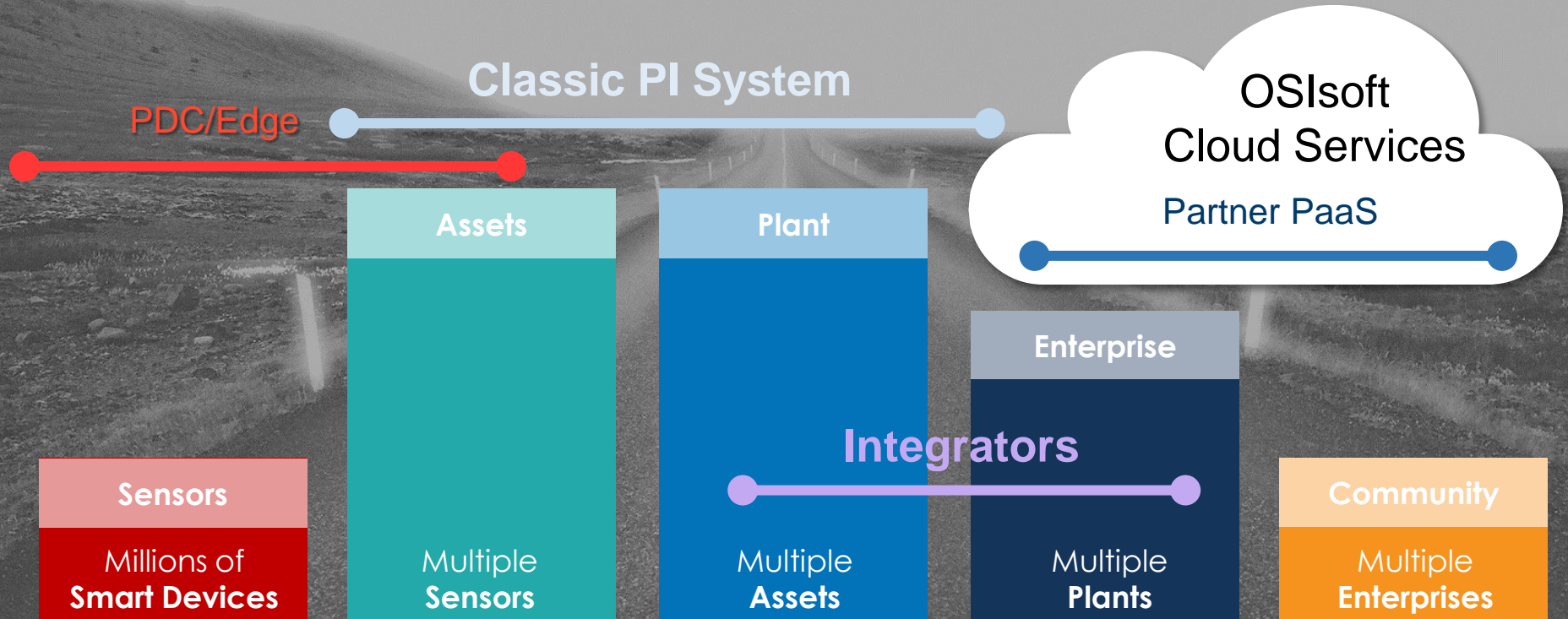
OSIsoft Cloud Services

Laurent Garrigues, Sr. Strategic Product Manager
Janelle Minich, Technical Product Manager

Agenda

- Overview
- OCS PaaS & Partner Apps
 - Scenarios
 - Components
 - Using the data
- Go To Market
- Roadmap

OCS Overview



OSIsoft Cloud Services Design



PI System



cloud.osisoft.com

OSIsoft Cloud Services is a newly developed, cloud native platform, built for real time operational data.

OSIsoft Cloud Services are complementary



Operational data is transferred between PI Systems and OCS
... and also between Edge components and OCS.

Why OSIsoft Cloud Services?

01



Available

Your data is available everywhere you go, whenever you need it

02



Empower

Empower your users to connect with Enterprise scale analytics

03



Connect

Share data with your community of vendors, service providers and business partners through simplified central claims based security

OCS – First Scenarios



Data Science Enablement



Remote Operations Monitoring



PaaS & Partner App.

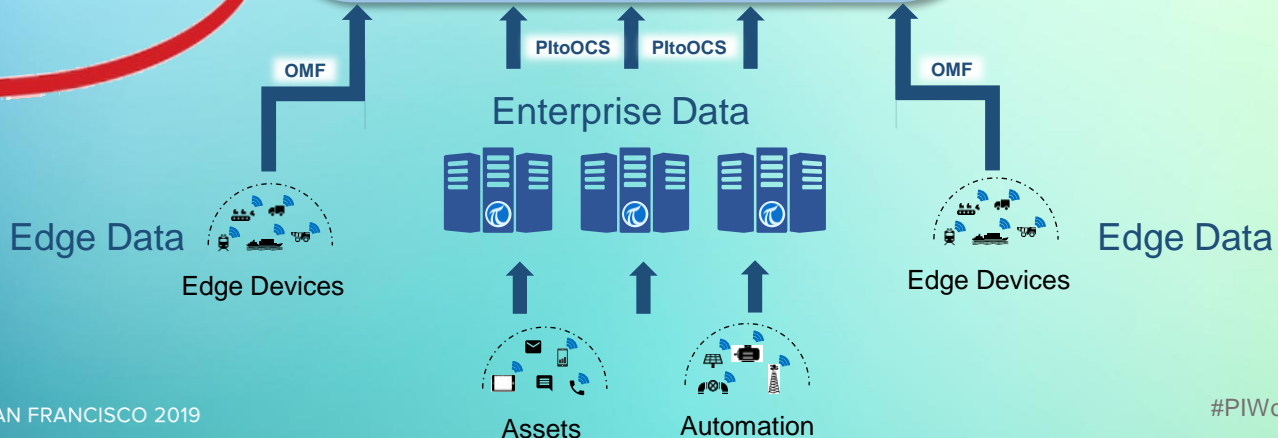


OSIssoft
Cloud Services

cloud.osisoft.com

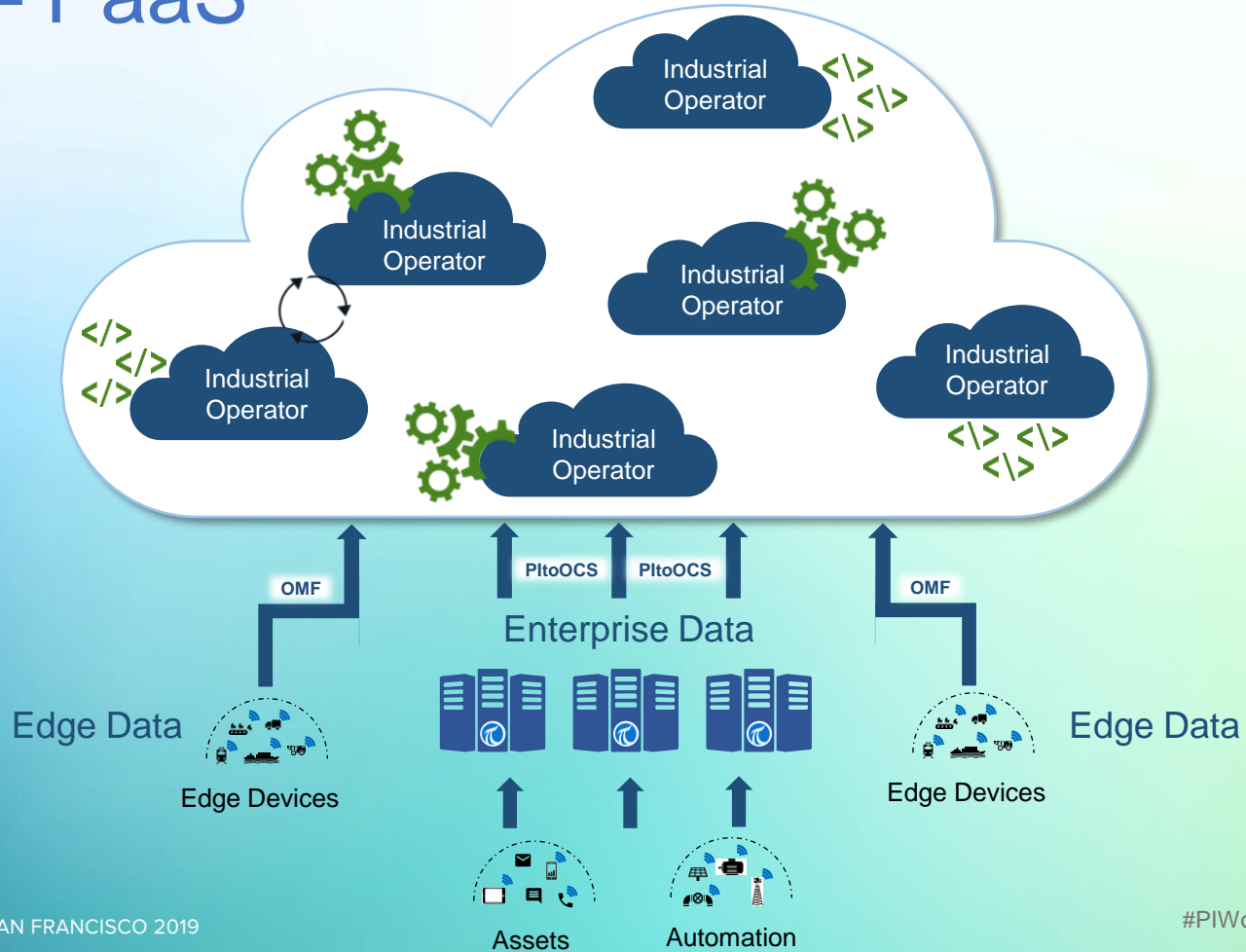


Connected Community

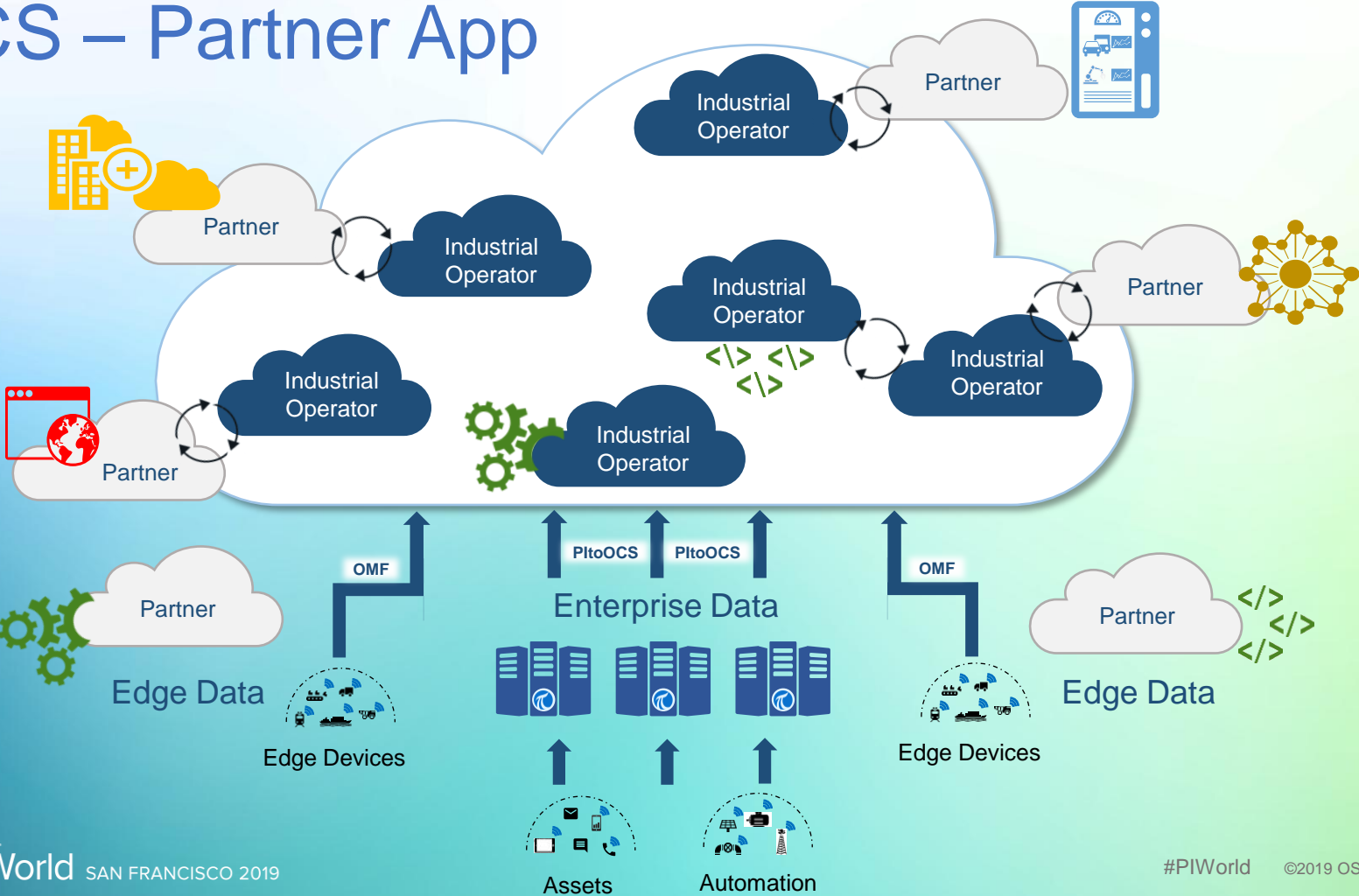


OCS PaaS & Partner Apps

OCS – PaaS



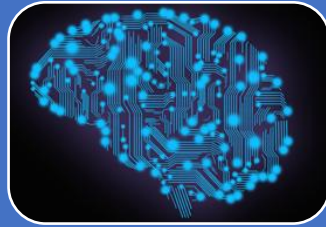
OCS – Partner App



Partner App. Platform



Machine Learning



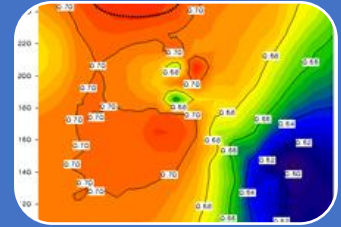
Artificial Intelligence



Patterns Recognition



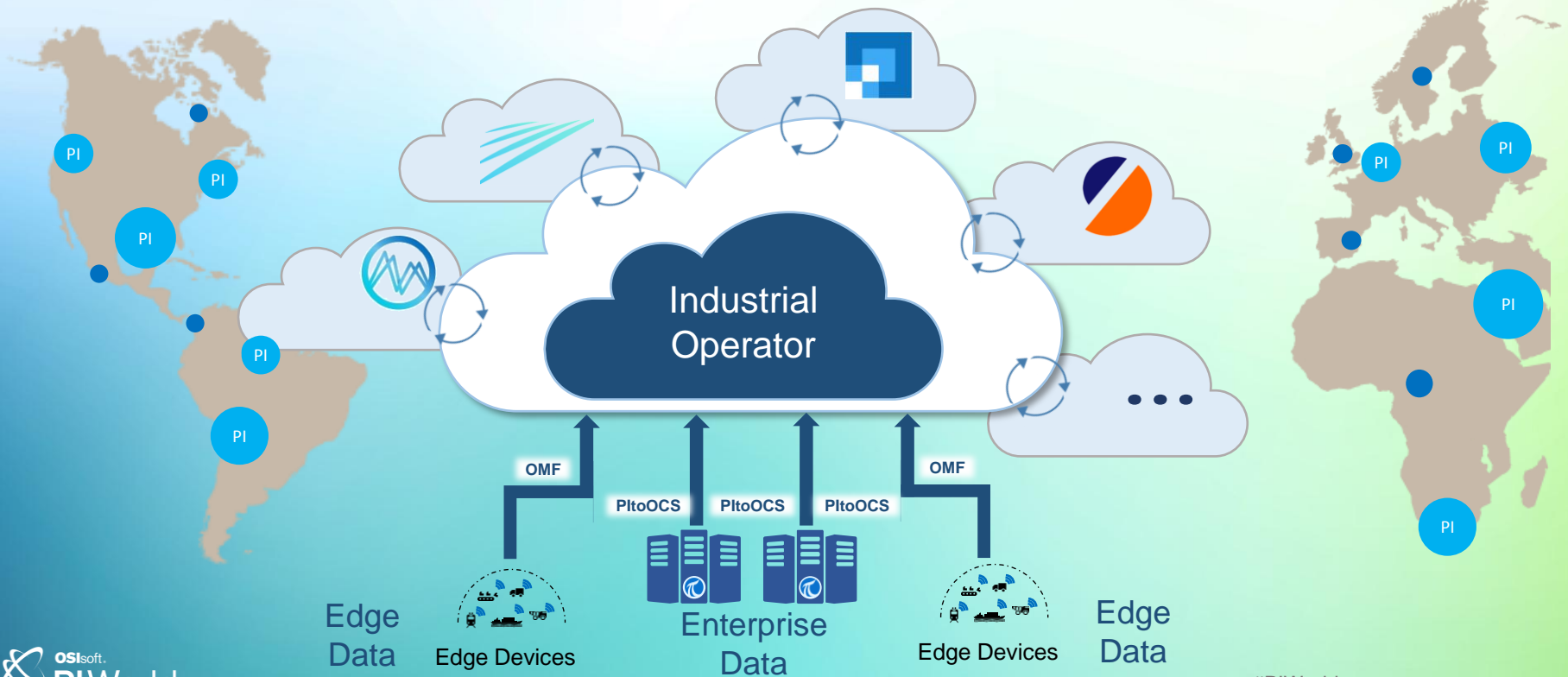
Cognitive Services



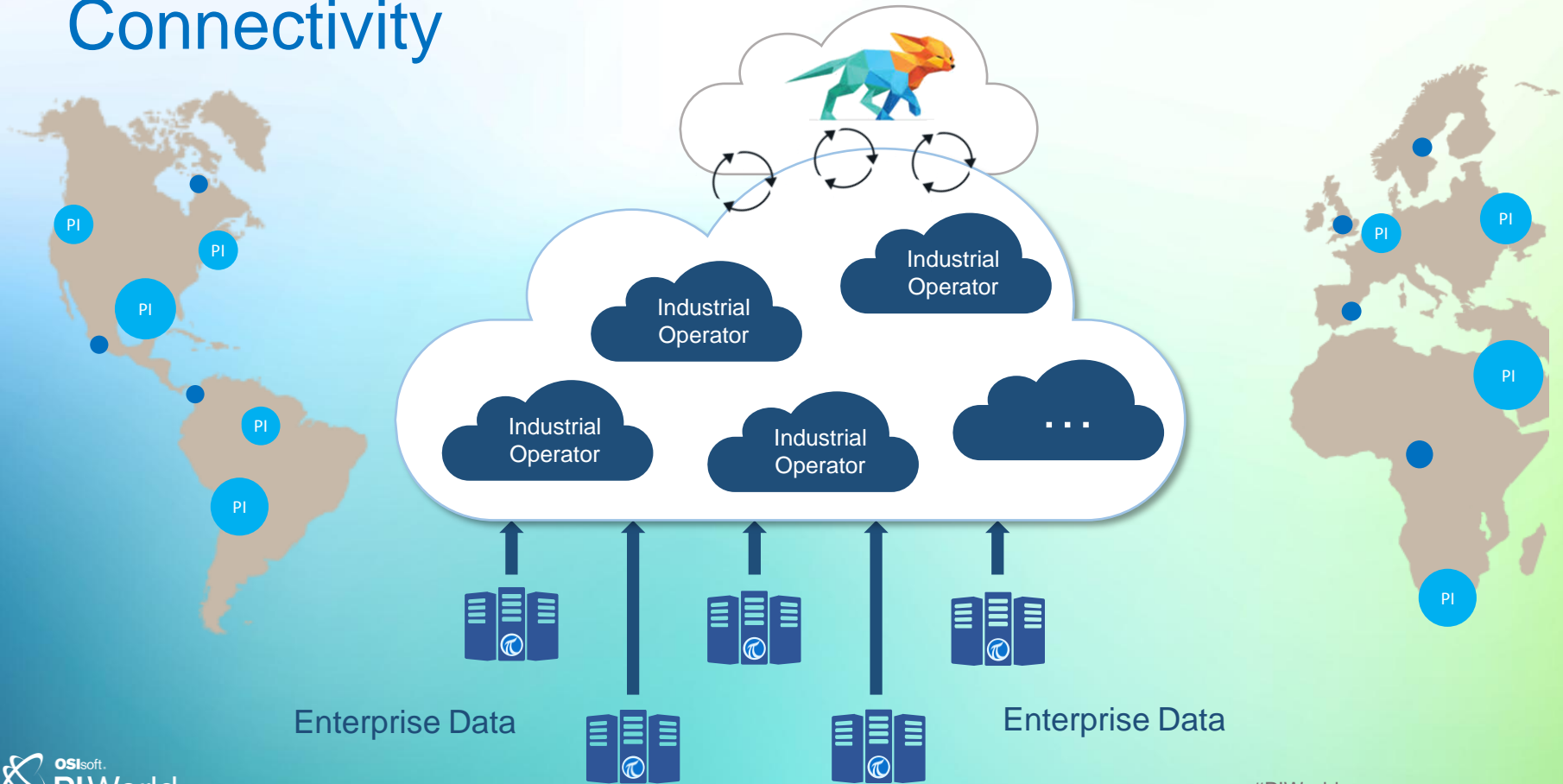
Process Simulation

Enable existing industrial operating companies to more easily leverage the operational data in their PI System for use in value-added applications and solutions delivered by developers and by the OSIsoft partner ecosystem.

Industrial Operator – Every App Everywhere for Everyone



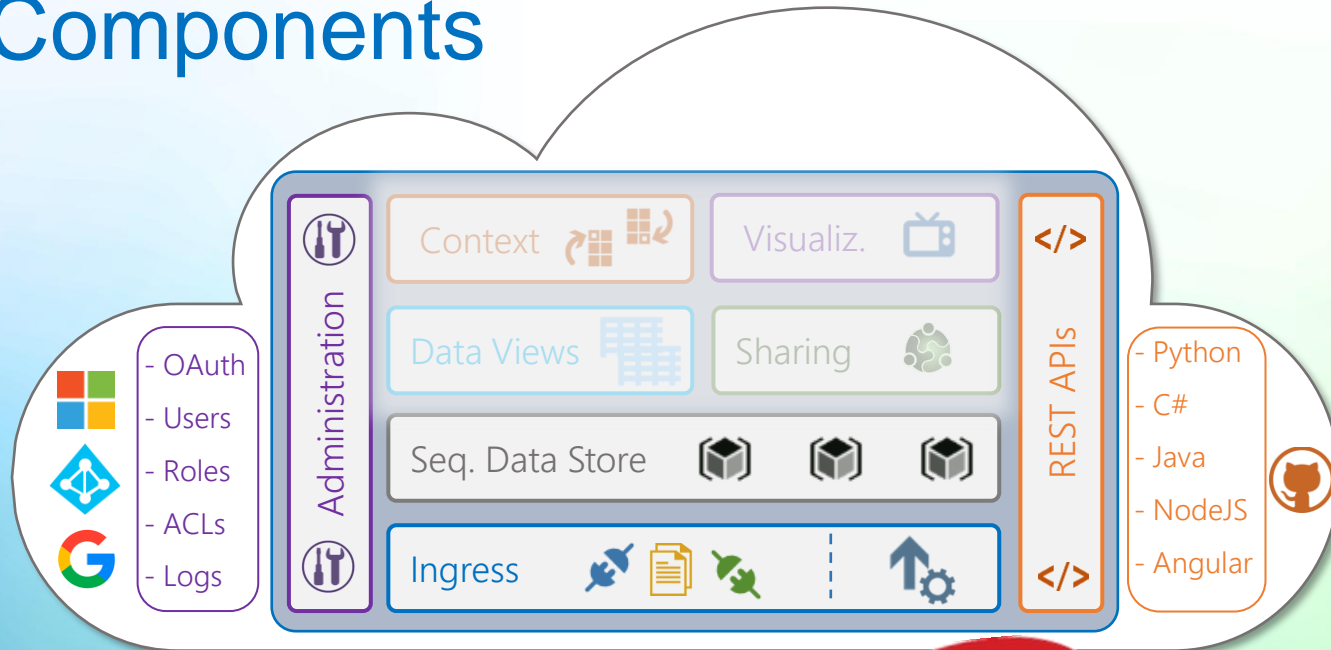
Partner – Unlimited & Centralized Ops Data Connectivity



OCS Preview - Partners

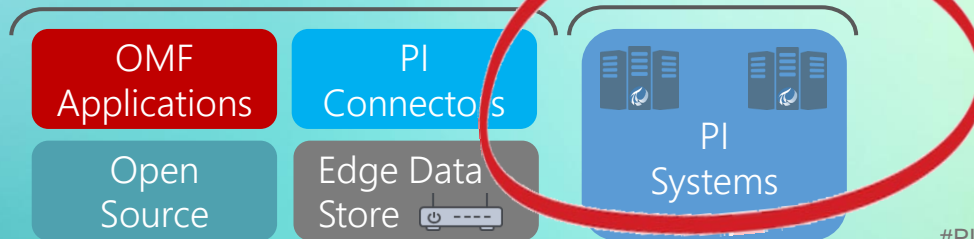


OCS Components



OSIsoft Messaging Format

Native



Native Ingress: PI to OCS

Transfer PI Time Series Data to OCS: Central, Simple, Secure.



Secure

Secure authentication in the cloud
Windows accounts authenticate against on-Prem PI Server(s)



Best of Breed

Moves time series data from On-Prem PI Server to PI OCS

Easy to Use

Simple to install
Runs On-Prem
Off the shelf software



Central Configuration

Configure and Manage connections, data transfers, and security from PI OCS Portal



Send Device Data – OMF Editor

OSIsoft Cloud Services

https://cloud.osisoft.com/omf

OSIsoft Cloud Services

OMF Editor

OMF Type: Type Container **Data**

OMF Version: 1.0 Valid OMF

```
1 [
2   {
3     "containerid": "PLACEHOLDER_ID",
4     "values": []
5   },
6   {
7     "containerid": "SLTCEDSpi-b827eb4159dd Phidgets sensors",
8     "values": [
9       {
10        "Temperature": "",
11        "Y Angular Speed": "",
12        "Humidity": "",
13        "Z Acceleration": "",
14        "Z Angular Speed": "",
15        "Time": "",
16        "X Acceleration": "",
17        "Sound Level": "",
18        "X Angular Speed": "",
19        "Light Level": "",
20        "Y Acceleration": ""
21      }
22    ]
23  }
24 ]
```

Errors

Explorer Information

Stream Explorer

Select a stream in the explorer to display information about the stream. Use the Insert and Replace buttons to insert a stream's data template into the OMF editor area or replace the current contents of the editor with the stream's data template. Note that to use the Insert functionality, the JSON in the editor must be syntactically correct.

Namespace: Development

pi-b8*

SLTCEDSpi-b827eb4159dd Phidgets sensors
SLTCEDSpi-b827eb4e94fc IIoT IR temperature sensor
SLTCEDSpi-b827eb4e94fc Phidgets sensors
SLTCEDSpi-b827ebb04968 Phidgets sensors

Stream Properties

Id: SLTCEDSpi-b827eb4159dd Phidgets sensors
Name: pi-b827eb4159dd Phidgets sensors
TypeId: pi-b827eb4159dd Phidgets sensors Dynamic Type
Type Properties:
{
 Id: Temperature
 IsKey: false
 Type Code: 13 (Single)

Browse the Data – Storage Explorer

The screenshot displays the OSISOFT Cloud Services Storage Explorer interface. On the left, a navigation pane shows 'Storage Explorer' with sub-items: Staging, Types, Streams, and Data. The main area is titled 'Sequential Data Store' and shows a query configuration for 'Stream Id: PI_OAKPI-SLTC01_19513'. The query type is 'Get Range Values'. The start index is '2019-04-04', the count is '1000', and the reversed flag is 'True'. A red circle highlights the query configuration fields. Below the configuration, a table displays 1000 rows of data. The table has columns: Timestamp, IsQue..., IsSub..., IsAnn..., Syste..., and Digital... The data shows values for various dates in March 2019, with the row for 'Fri Mar 22 2019 ...' highlighted in blue. On the right, a 'Data Trend' chart shows a line graph of 'VALUE' over 'TIMESTAMP' from 'Sat 23' to 'Wed 03'. The Y-axis ranges from 400 to 700. The chart shows a fluctuating signal with several peaks reaching above 600.

Timestamp	IsQue...	IsSub...	IsAnn...	Syste...	Digital...
Fri Mar 22 2019 ...	false	468	false	false	
Fri Mar 22 2019 ...	false	474	false	false	
Fri Mar 22 2019 ...	false	467	false	false	
Fri Mar 22 2019 ...	false	457	false	false	
Fri Mar 22 2019 ...	false	45...	false	false	
Fri Mar 22 2019 ...	false	44...	false	false	
Fri Mar 22 2019 ...	false	445	false	false	
Fri Mar 22 2019 ...	false	445	false	false	
Fri Mar 22 2019 ...	false	44...	false	false	
Fri Mar 22 2019 ...	false	442	false	false	
Fri Mar 22 2019 ...	false	43...	false	false	

Manage the Data – Access Control

OSIsoft Cloud Services

Sequential Data Store

Storage Explorer

Displaying 100 of 38157 Streams

Namespace: Development

Search: Click to search

Information

Manage Streams data

You create and manage types and streams on this page. You first create a type in order to create a stream. The type defines the structure of the data you want to stream into a namespace.

See [types](#) and [streams](#) for more information.

Search

You can search for types or streams based on any combination of identifying criteria you specify.

1. Click either the [Types](#) or [Streams](#) button.
2. Click inside the [Search](#) window. The search criteria dialog displays.
3. Click the left hand droplist and select [Name](#), [Description](#), or [ID](#), for the criteria on which you are basing your query.
4. Click the middle droplist and select the relationship ([Equip. Containe](#), etc.)

Manage Permissions for Selected Streams

Access control is managed by assigning permissions to **Roles** in your tenant. Users will be able to perform any operation (read, write, delete, or manage permissions) if they have a role which is assigned an access type of **Allow** and they do not have a role which is assigned an access type of **Deny** for that operation. The user or application who created a resource, identified as the **Owner**, is always guaranteed complete access on that resource.

Note that if you are not an **Account Administrator**, you may only edit access on roles that you have.

NOTE: Access Control permissions will not be shown if multiple entries are selected. Also, **Save** action will override all the previously set permissions.

Selected role: Equipment Vendor

Role Access:	Access Type	Allow	Deny
Read		<input type="checkbox"/>	<input type="checkbox"/>
Write		<input type="checkbox"/>	<input type="checkbox"/>
Delete		<input type="checkbox"/>	<input type="checkbox"/>
Manage Permissions		<input checked="" type="checkbox"/>	<input type="checkbox"/>

Save Cancel

Use the Data – REST APIs

The screenshot displays the OSISOFT Cloud Services API Console interface. A red circle highlights the configuration area for a REST API call. The 'Full Path' field contains the URL: `https://dat-b.osisoft.com/api/v1-preview/Tenants/fd328631-61dc-4b31-86cb-42501786abc5/Namespaces/staging/Streams?query=name:*`. The 'Method' is set to 'GET', and the 'query' parameter is `name:*`. The 'Parameters' tab is active, showing the query parameter. Below the configuration, the 'URI Path' is `GET https://dat-b.osisoft.com/api/v1-preview/Tenants/fd328631-61dc-4b31-86cb-42501786abc5/Namespaces/staging/Streams?query=name:*`. The 'Status' is `Code: 200 Text: OK`. The 'Body' shows a JSON response:

```
[ { "TypeId": "PI-Float64", "Id": "PI_OAKPI-SLTC01_19543", "Name": "Floor_6.CO2 Floor Average",
```

. On the right, the 'Information' panel provides details about the Sds REST API, including a description and instructions on how to use the API console.

API console

The Sds REST API provides programmatic access to your SDS data. To experiment with the Sds REST API, compose an API command and click **Send**. The URL entered is incomplete if the background color is red.

Each API command begins with an HTTP verb (GET, POST, PUT, DELETE) and is followed by a path to the appropriate SDS REST endpoint. `/api/tenants` and your account Id are automatically prepended to the path you enter, so the command `/Streams` will be issued to SDS as `/api/tenants/namespaceId/Streams`. This complete path is shown in the **Full Path** area. If your command starts with PUT or POST, you are prompted to enter a body for the call.

See [API calls for reading data](#) for more information.

Sample Calls

Data Store Calls

Use the Data – Code Samples

The following code samples are provided for your convenience. See the readme file on GitHub for more information. Some of the placeholders are replaced with sample values. To view or create clients, use the **Clients** page.

PLACEHOLDER_REPLACE_WITH_SERVER_URL

PLACEHOLDER_REPLACE_WITH_TENANT_ID

PLACEHOLDER_REPLACE_WITH_AUTHORITY

PLACEHOLDER_REPLACE_WITH_CLIENTID (Angular Only)

Requires Client Key

PLACEHOLDER_REPLACE_WITH_CLIENT_SECRET

Requires Client Key

OCS Go To Market

OCS – Go To Market

- General Availability (GA) on June 1st, 2019
- Licensed/Priced by subscription
 - 6 months promotional offer
 - Include a 30days free Trial
- Usage based on data streams accessed
- Initial deployment in North America only

OCS Roadmap

OSIsoft Cloud Services (OCS) – Roadmap



Developing Now

Partner App Development

BETA

Data Ingress from Devices

BETA

PI to OCS Data Transfer

BETA

Data Views for Data Science



Considering Next

Trending Experience

Data Sharing (UI based)

EDS to OCS Data Transfer

EMEA Data Center



Researching Future

Visualization for Remote Operations Monitoring

Context

Data View Enhancements





➔ Product Booth

Emerging Technology Wall
Yosemite - Hilton

- Edge data collection
- OCS Overview
- PI to OCS
- Data Science Enablement
- Community



➔ Other Talks

Day 2 – DERNetSoft
PI Geek – *Park 55*

Day 2 – Diemus
PI Geek – *Park 55*

Day 3 – OCS for Dev
PI Tech – *Park 55*

Day 3 – Petuum
Market Place - *Hilton*



➔ More Talks

Day 3 – PI to OCS
Best Practices - *Hilton*

Day 3 – Seeq & Devon
Market Place - *Hilton*

Day 3 – Data Science
Products - *Hilton*

Day 3 – Edge to Cloud
Product - *Hilton*

Communicate with OSIsoft Product Managers



<https://feedback.osisoft.com>

.....
If it is not shared on the feedback portal, it didn't happen!

Questions?

Please wait for
the **microphone**

State your
name & company



Please remember

TO DOWNLOAD
APP, SEARCH
OSISOFT



Contact us for more information...



Laurent Garrigues

- lgarrigues@osisoft.com
- Sr. Strategic Product Manager
- OSIssoft, LLC



Janelle Minich

- jminich@osisoft.com
- Technical Product Manager
- OSIssoft, LLC

謝謝 KEA LEBOHA
 TAPADH LEIBH 고맙습니다
 БАЯРЛАЛАА MISAOTRA ANAO
 DZIĘKUJĘ CI NGIYABONGA TEŞEKKÜR EDERIM GRACIES OBRIGADO شكرا SALAMAT
 DANKON TANK TAPADH LEAT
 KÖSZÖNÖM DANKIE TERIMA KASIH GRACIES
 СПАСИБО
 PAKMET CIZGE
 GO RAIBH MAITH AGAT
 БЛАГОДАРЯ GRACIAS MAHADSANID
 TI БЛАГОДАРАМ
 TAK DANKE MAHANSANID
 RAHMAT MERCI
 HATUR NUHUN
 GRACIAS TIBI
 DANK JE EΥΧΑΡΙΣΤΩ GRATIAS TIBI
 AČIŮ SALAMAT MAHALO IĀ 'ŌE TAKK SKALDU HA
 GRAZZI PAKKA PĒR ありがとうございます
 PAXMAT CAĜA SIPAS JI WERE TERIMA KASIH MATUR NUWUN
 FALEMINDERIT UA TSAUG RAU KOJ
 TI БЛАГОДАРАМ СИПОС
 WAZVIITA
 MULŤUMESC
 HVALA FAAFETAI
 ESKERRIK ASKO
 HVALA ХВАЛА ВАМ
 TEŞEKKÜR EDERIM
 GRAZIE
 DI OU MÈSI
 ĎAKUJEM

