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Hybrid Data Management with AVEVA™ PI System™ and AVEVA Data Hub™

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AVEVA

Agenda

Deployment

- Rapid AVEVA PI System Deployment in AWS

AVEVA Data Hub / AVEVA PI System Integration

- **Modern Authentication (OpenID Connect)**

Use the same Identities with AVEVA PI System and AVEVA Data Hub

- **PI to Data Hub**

Transfer AVEVA PI System data to AVEVA Data Hub

Deployment Options in a Hybrid World



**On-premises
AVEVA PI System**



**AVEVA PI System
deployed in private cloud**



AVEVA Data Hub

Why deploy PI System to a private cloud?

- On-demand cloud resources
 - Use only what you need. Avoid large up-front capital investments for on-premises hardware.
- Highly available
- Managed services
 - Business analytics, machine learning
- Scriptable deployments
 - Infrastructure as code (IaC) allow deployments to be automated

This is where the PI System Deployment Samples can help!

PI System Deployment Samples for AWS

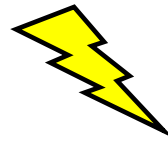
Familiar PI Tools with lightning-fast deployment



**AVEVA PI System
deployed in private cloud**

PI System Deployment Samples

These samples cover deploying the PI System to web services or on premises. [Details](#)



Amazon Web Services

Powershell

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



# The deployment sample target 2 personas

- **DevOps Engineer**
  - Quick start for deploying PI System in an automatic, reliable, and reproducible fashion.
- **PI System Administrator**
  - Quick start for reliably deploying PI System for purposes of rapid prototyping and development with the latest PI System software.

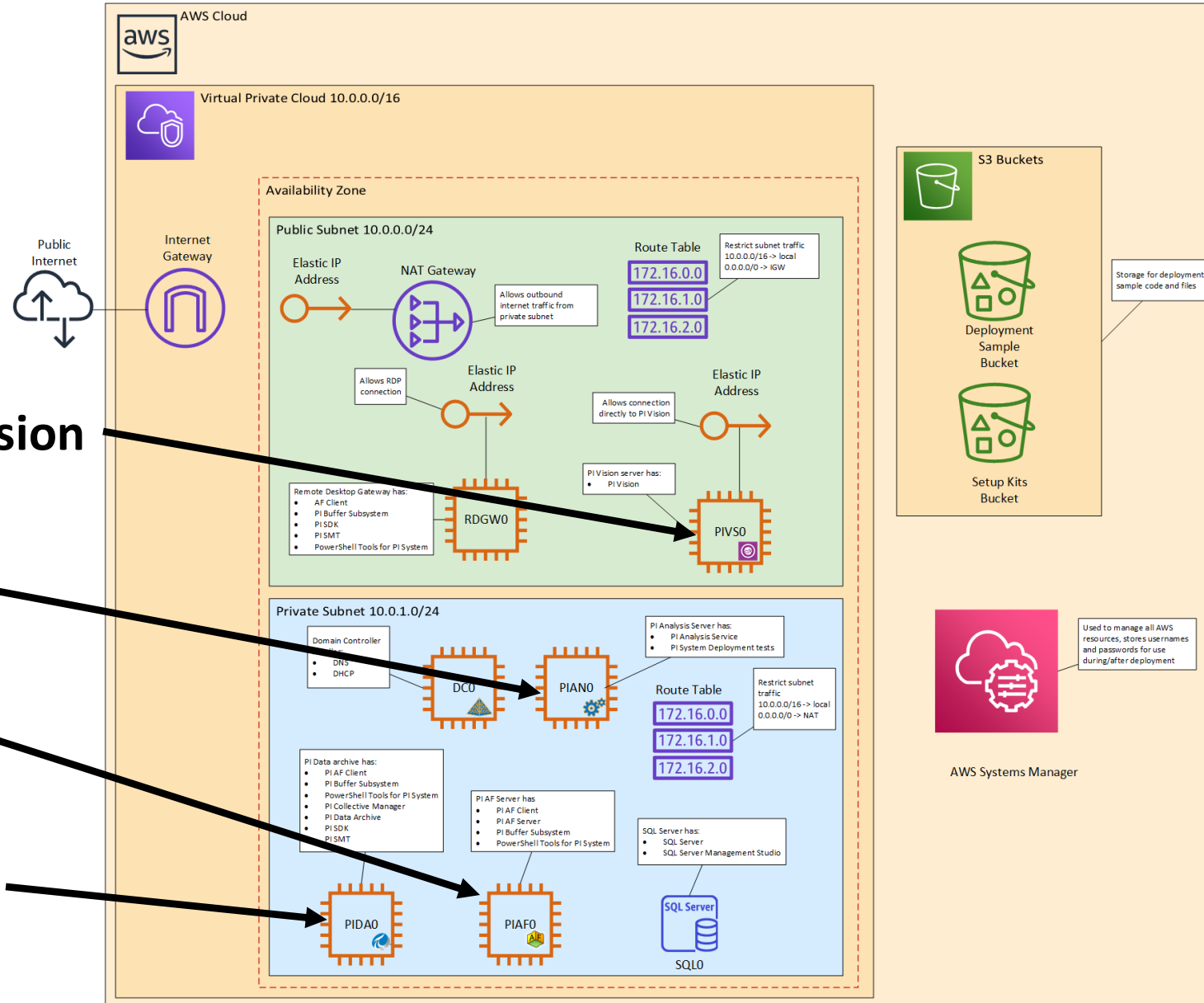
# PI System

**AVEVA PI Vision**

**PI Analysis**

**PI AF Server**

**PI Data Archive**

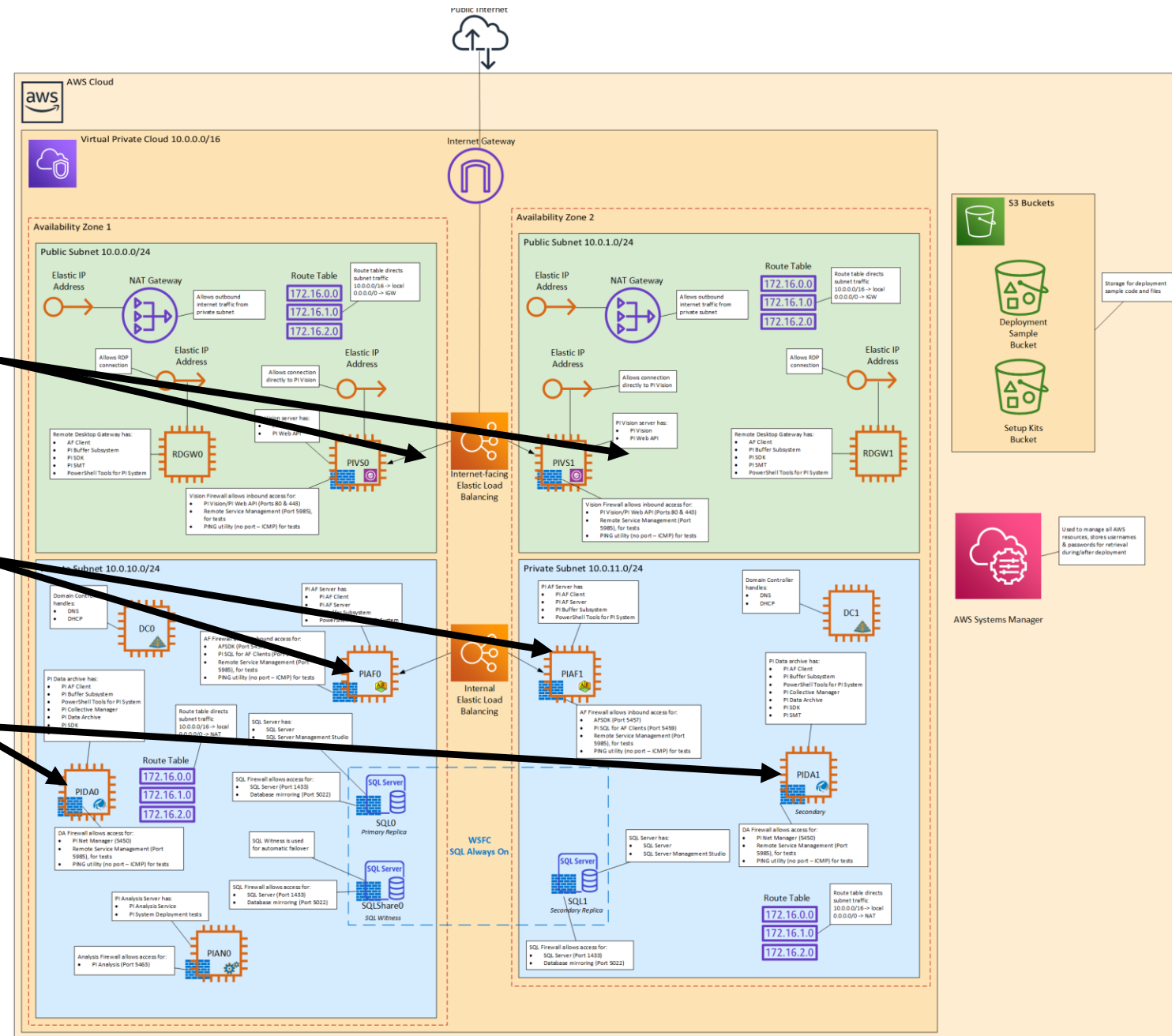


# PI System High Availability

**AVEVA PI  
Vision (HA)**

**PI AF Server (HA)**

**PI Data Archive (HA)**

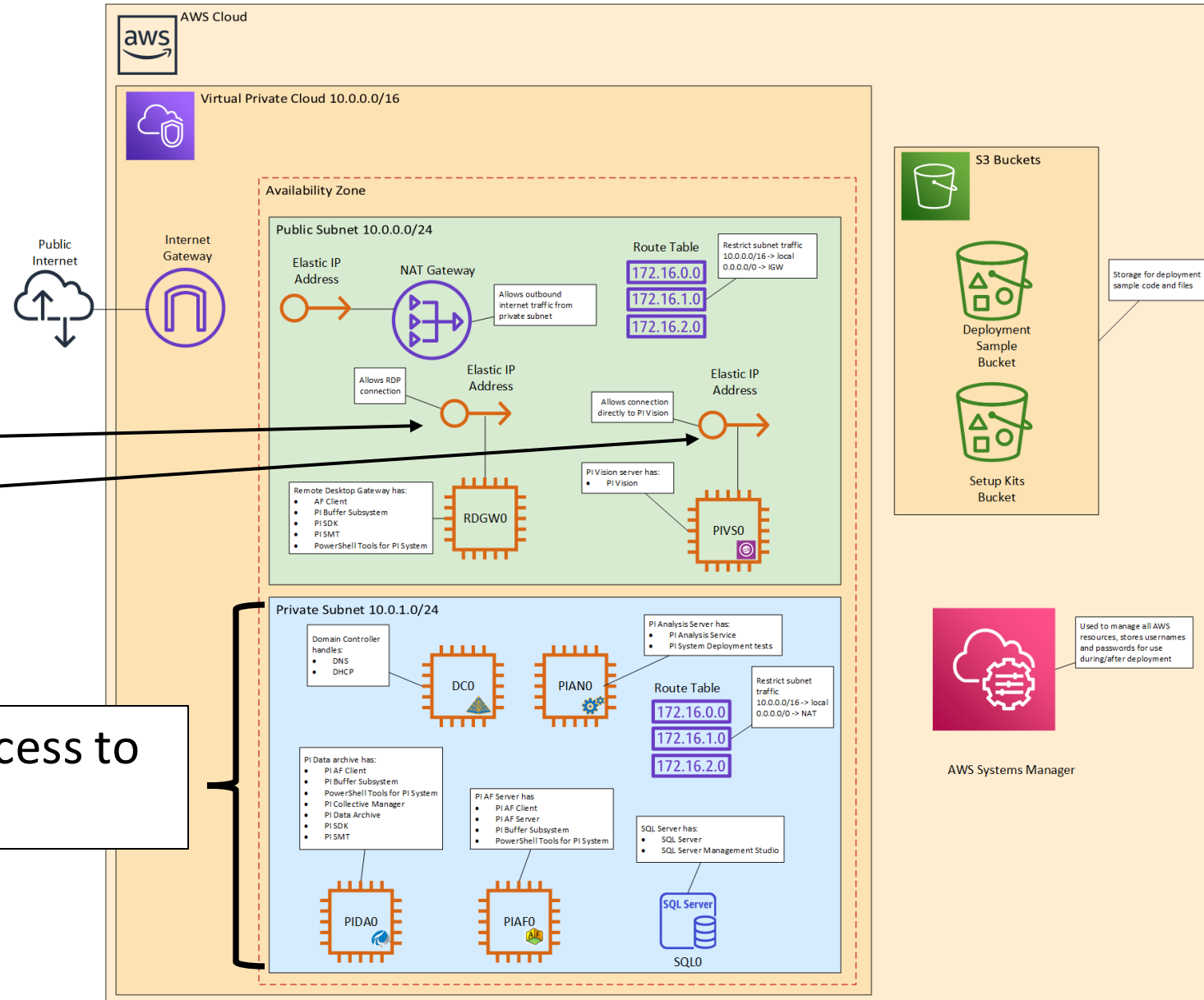


# Secure by default

Public access:

- Jump box
- PI Vision

No public access to databases.



# Ready for a demo?

Let me set the stage...

S3 Buckets

✓ s3bucket-osideploymentsamples-piworld

✓ DeploymentSample

images

> modules

> scripts

templates

PI System Deployment Samples for AWS

GitHub

✓ s3bucket-osisetupkits-piworld

✓ osisetupkits

PIServer

PIVision

AVEVA setup kits

PI System Deployment Tests

GitHub

> sample-pi\_core-pi\_core\_deployment\_tests-powershell-main.zip

DEMO



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# Modern authentication for PI Server



# Modern Authentication and the AVEVA PI System

**OpenID  
Connect**



For **secure  
authentication**

**AVEVA Identity  
Manager**



**Proven** technology to  
integrate **Identity  
Providers**

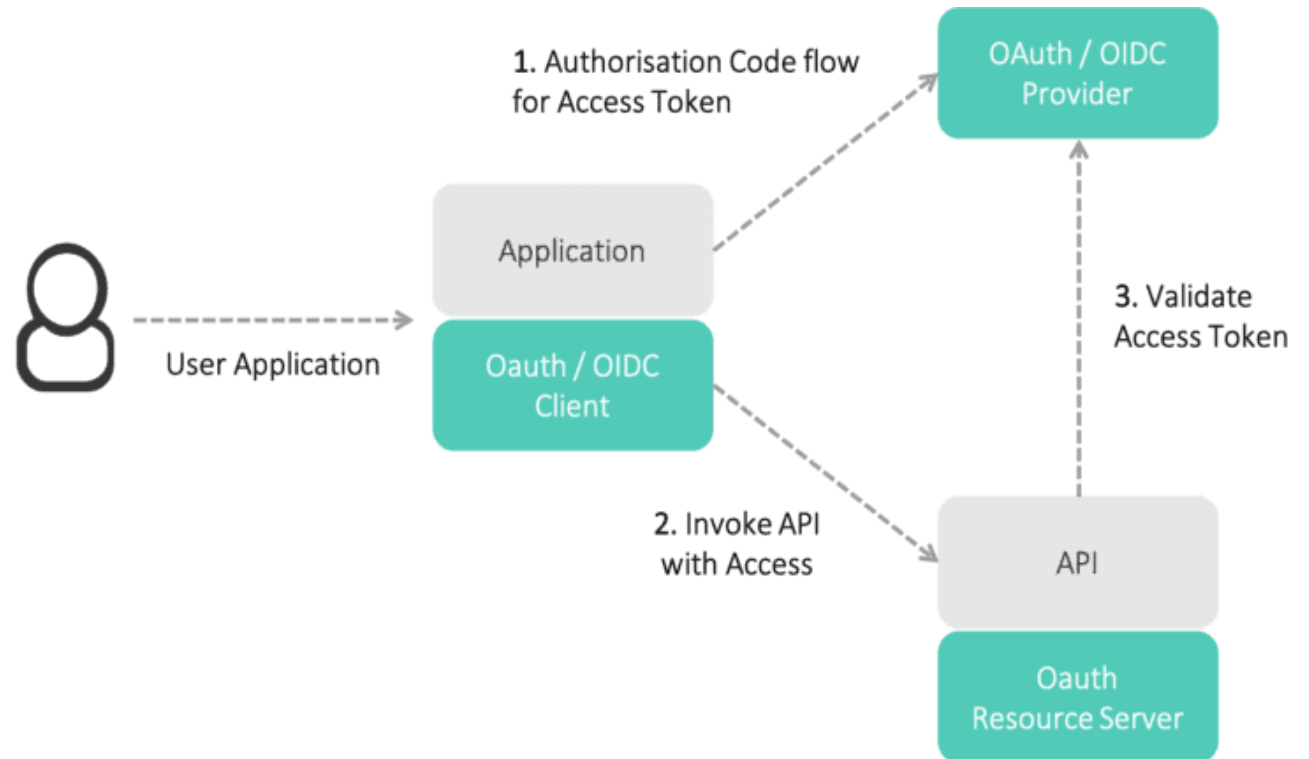
**TLS  
Support**



Transport Layer  
Security for **trusted  
communication**

# OpenID Connect (OIDC)

- Leverage multiple Identity Providers
- Removes dependency on Windows Active Directory
- Enabler for seamless integration of On-Prem, Private Cloud and AVEVA Data Hub
  - Work In Progress (Preview in Demo later)



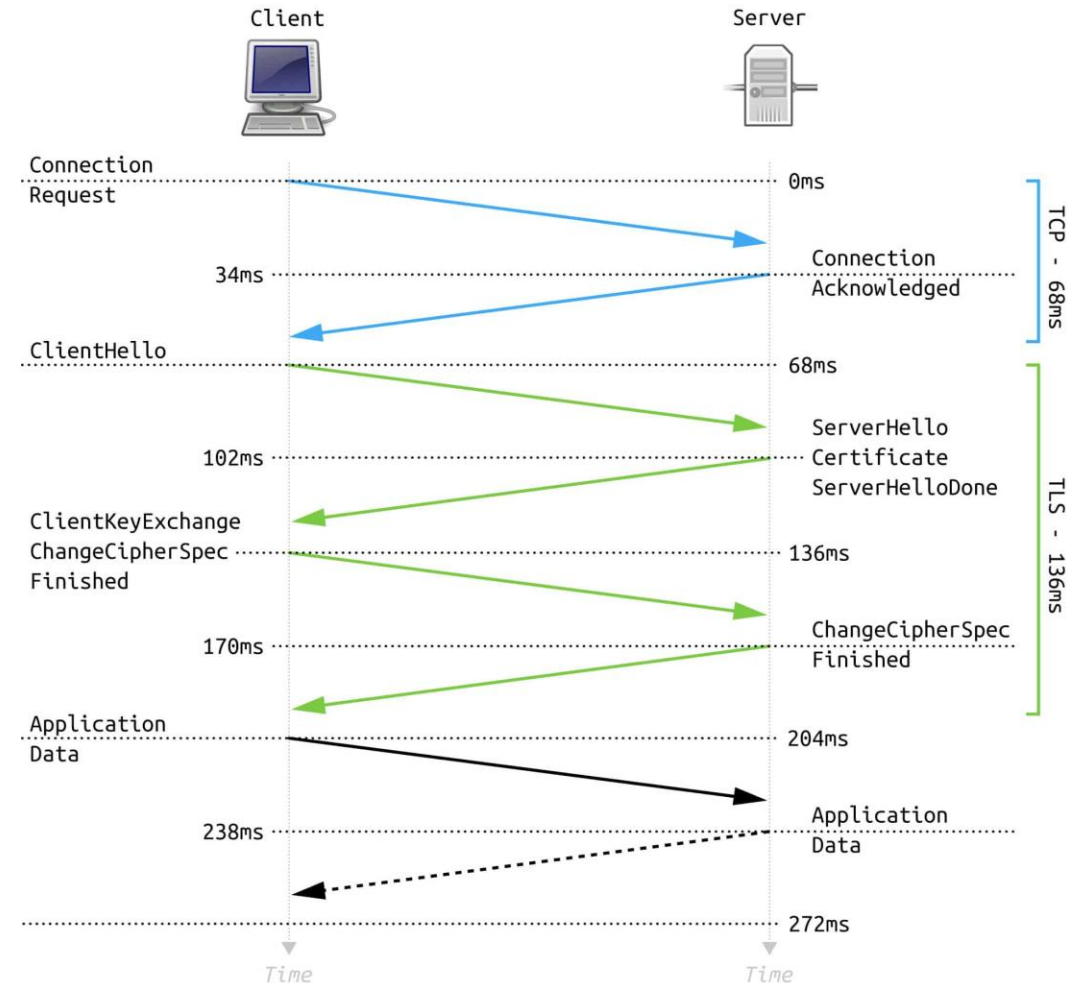
# Transport Layer Security (TLS)

## Now:

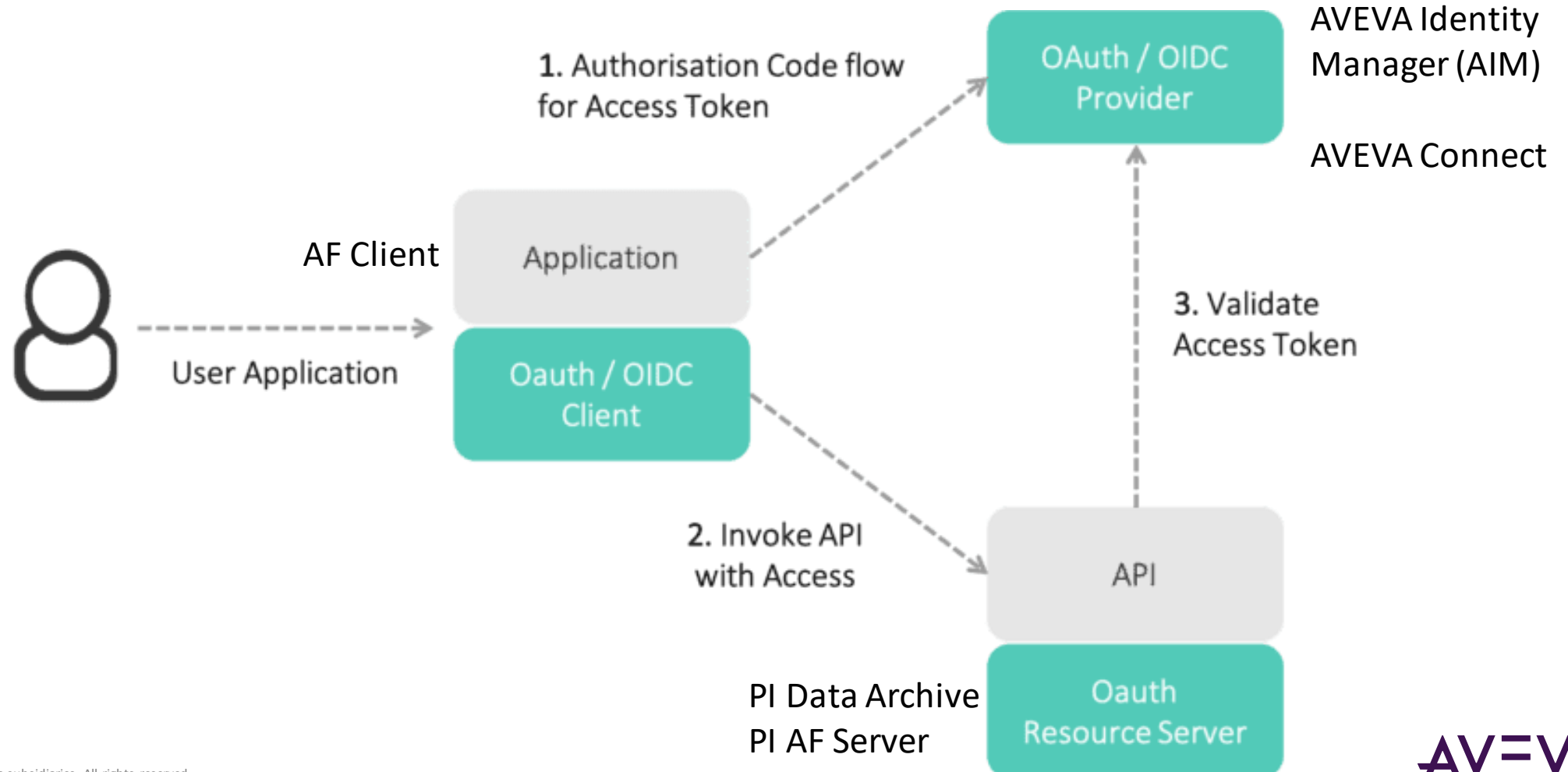
- Requires Windows Authentication for encryption of data sent to PI Data Archive
- Legacy installs did not leverage Windows Authentication by default

## Work in Progress:

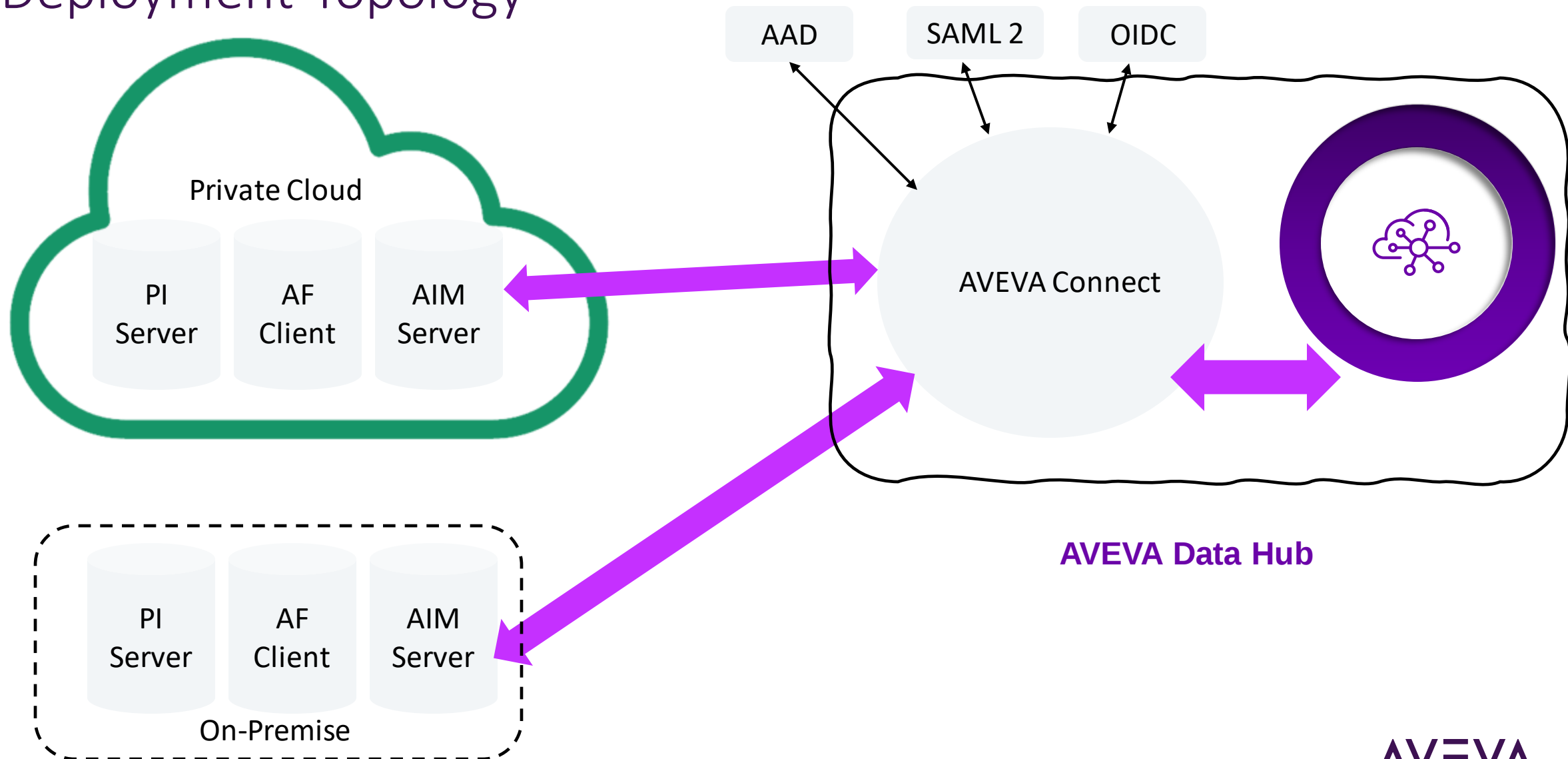
- Server certificate for authentication
- All traffic is encrypted irrespective of connection type



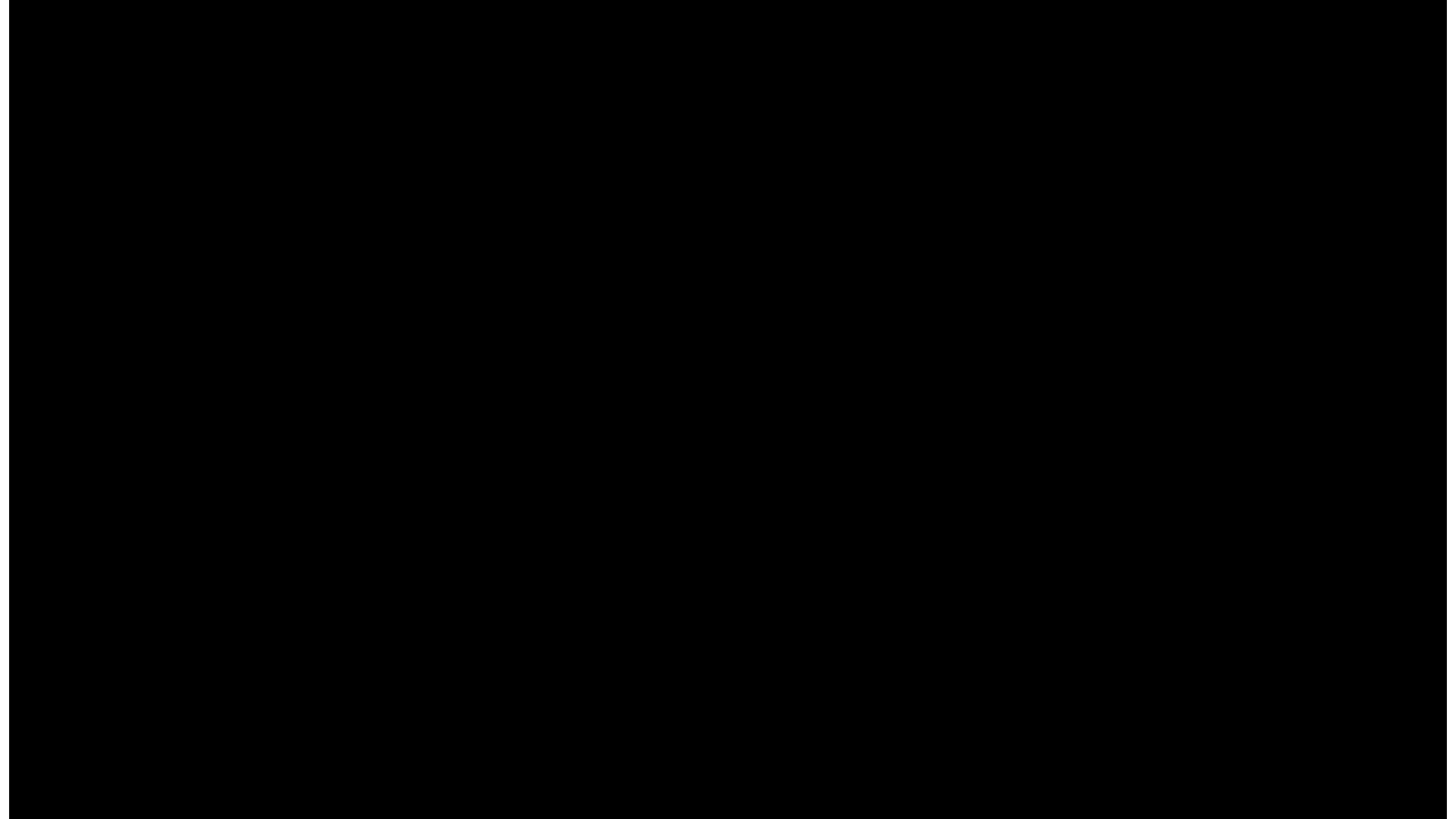
# Deployment Topology



# Deployment Topology



DEMO





# PI to Data Hub



# Is AVEVA Data Hub right for me?



I am doing  
**Data Science**  
projects on  
my operations  
data

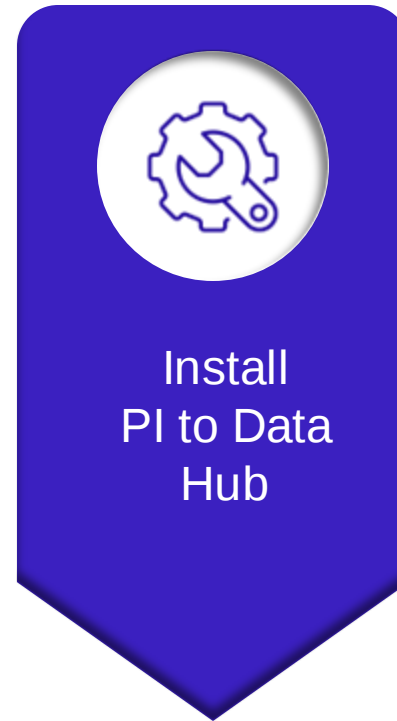
I want  
Software as a  
Service  
(**SaaS**)

I want to  
**Share Data**  
with trusted  
business  
partners

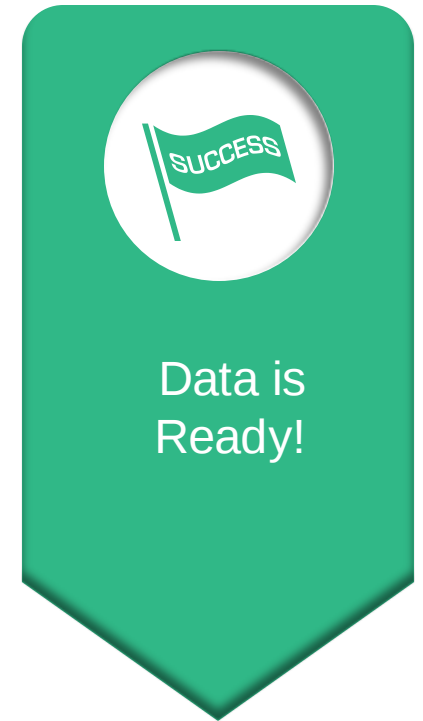
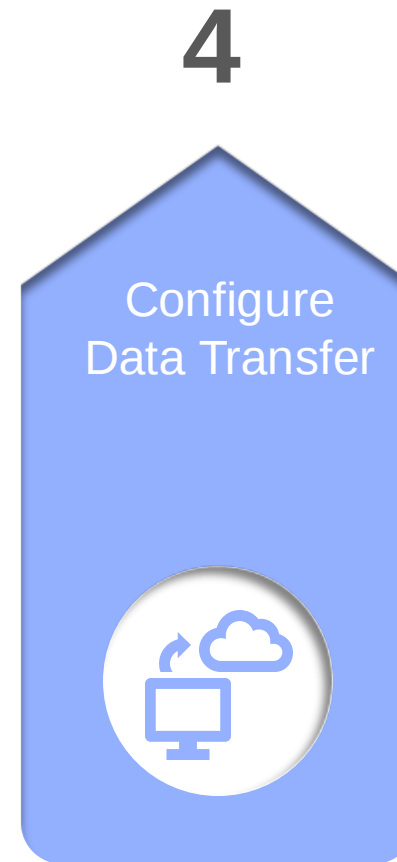
# Getting started with PI to Data Hub



1



3



**Success!**



# What's New in PI to Data Hub



## AF Replication

- AF Elements
- AF Attributes
- PI Point references
- Constant values/strings



## Edit Transfer

- Transfer Name
- Transfer Description
- Data Privacy Settings
- Add/Remove AF Elements
- Add/Remove PI Points



## Data Privacy

- Configure the data privacy level for stream metadata replication



## Health Events

- View Warnings, Errors for your Transfer and Agent
- Sort, Export, Clear Health Events



## Change Synchronization

- PI Points
  - Names
  - Attributes
- AF Elements
- AF Attributes
- PI Point references
- Constant values/strings

DEMO





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# Questions?

Please wait for the microphone  
State your name and company



# Please remember to...

Navigate to this session in the mobile  
app to complete the survey.



# Thank you

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AVEVA is a global leader in industrial software, sparking ingenuity to drive responsible use of the world's resources. The company's secure industrial cloud platform and applications enable businesses to harness the power of their information and improve collaboration with customers, suppliers and partners.

Over 20,000 enterprises in over 100 countries rely on AVEVA to help them deliver life's essentials: safe and reliable energy, food, medicines, infrastructure and more. By connecting people with trusted information and AI-enriched insights, AVEVA enables teams to engineer efficiently and optimize operations, driving growth and sustainability.

Named as one of the world's most innovative companies, AVEVA supports customers with open solutions and the expertise of more than 6,400 employees, 5,000 partners and 5,700 certified developers. With operations around the globe, we are headquartered in Cambridge, UK and listed on the London Stock Exchange's FTSE 100.

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