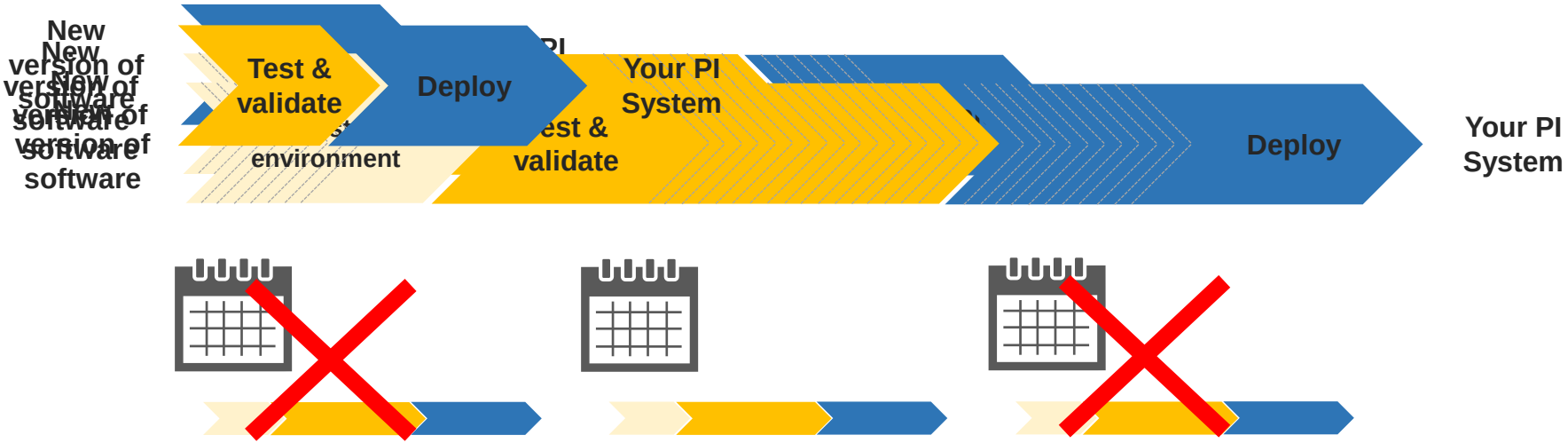
Aggregate: PI System 2018 SP2 and your Critical Operations – Deployment, Patching, Testing

Mana Afshari, OSIsoft

©2019 OSIsoft, LLC

Keeping Your PI System Current



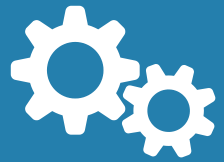
©2019 OSIsoft, LLC

PI System - 2019 and Beyond

Harden
the core

Focus on **security** & **reliability** of data infrastructure

Ease
the management



Bring more **manageability** & **control** to deployments

Extend
the reach

Grow **collection, integration** & **access** capabilities

©2019 OSIsoft, LLC

Hardening the Core of the PI System

PI Server 2018 SP2 and critical operations

Supported for extended period of time

Critical software bugs & security vulnerabilities

Harden
the core

Focus on **security** & **reliability** of data infrastructure

Select PI Interfaces & health of data flow

PI Interfaces health data sent to PI Server & OCS, simultaneously

©2019 OSIsoft, LLC

Available Today

Storage

- Store high fidelity historical and future data at high ingestion rate
- System of record for time series data
- Storage limited only by disk
- High performance data retrieval regardless of time range
- Supports many users simultaneously
- Highly reliable and highly available

Assets and metadata

- Provide context to your data
- Allows common vocabulary
- Model physical or logical assets
- Establish relationship between assets
- Templates for standardization and governance
- Units Of Measure support
- High performance data access via SDK

Calculations and Events

- Near real time streaming calculation engine
- 150+ built in functions
- Configuration experience – ease of use
- Output to PI Points for reporting and trending
- Create event frames and rollups
- Send notifications based on events of interest
- Template support, fully integrated into AF
- Backfills and recalculations
- Auto-recalculation for late or out-of-order data
- High performance supporting hundreds of thousands of analyses

©2019 OSIsoft, LLC

PI Server 2018 SP2 & Critical Operations

Reliability
Performance
Usability

- Improved search performance
- Enhanced PI Analysis Service resiliency
- Additional functions for calculations
- Improved usability and management of analyses
- A dedicated install kit for PI Web API

- Supported for extended time for critical bugs and security vulnerabilities, only
- Fixes delivered in the form of a Patch vs a full upgrade

©2019 OSIsoft, LLC

Start Today

Upgrade to PI Server 2018 SP2

©2019 OSIsoft, LLC

PI Server – Roadmap

Developing Now

Usability and Performance Improvements (Released)
Improved search performance, query PI Analysis Service runtime information, improved functions for calculations

More Control over Upgrades and Deployments
Providing ways for system administrators to keep their PI System current on fixes for critical bugs and security vulnerabilities, without requiring extensive resources.

Improved Reliability (Released)
Focusing on bug fixes and quality updates.

Considering Next

Performance and Memory Improvements
Improve performance for large number of concurrent clients

Researching Future

Support for Modern Authentication
Support alternative authentication mechanisms

Streamlined Deployment
Easier to deploy more PI Systems

Manageable Systems
Increased Value & Scope of Data

OSIsoft's Product Roadmap is subject to change and is for INFORMATIONAL PURPOSES ONLY.

©2019 OSIsoft, LLC

Hardening the Core of the PI System

PI Server 2018 SP2 and critical operations

Supported for extended period of time

Critical software bugs & security vulnerabilities

Harden
the core

Focus on **security** & **reliability** of data infrastructure

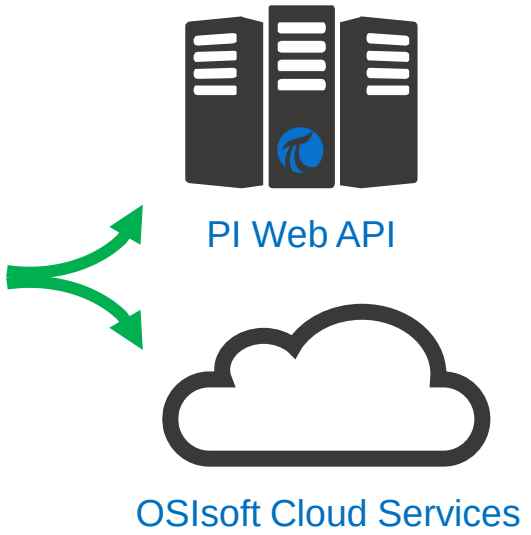
Select PI Interfaces & health of data flow

PI Interfaces health data sent to PI Server & OCS, simultaneously

©2019 OSIsoft, LLC

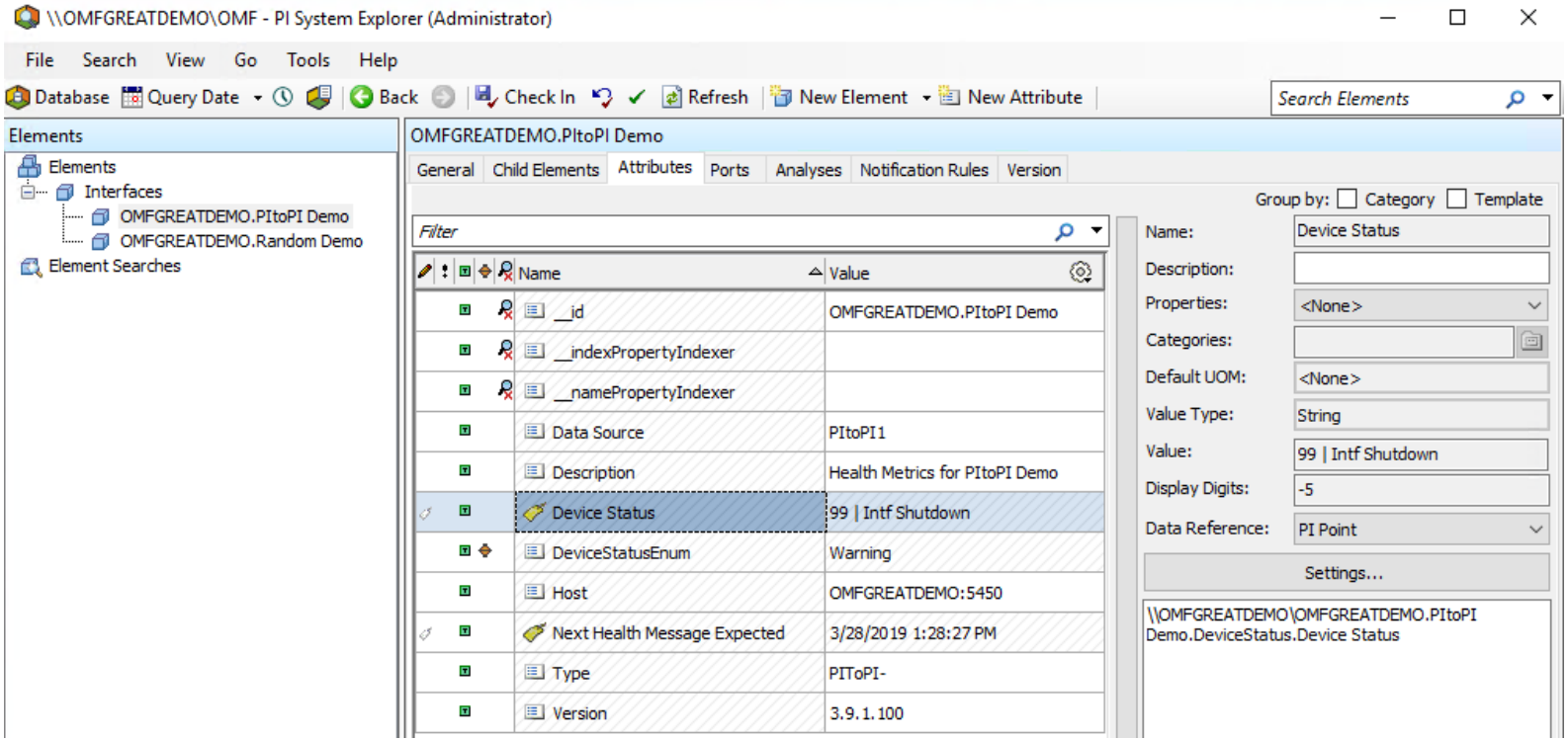
Monitoring the Health of Data Flow

- OSIsoft Messaging Format (OMF)
- Sent to PI Server and OCS, simultaneously
- Automatic PI Tags and AF database creation
- Two tags
  - Device Status
  - Next Health Message Expected



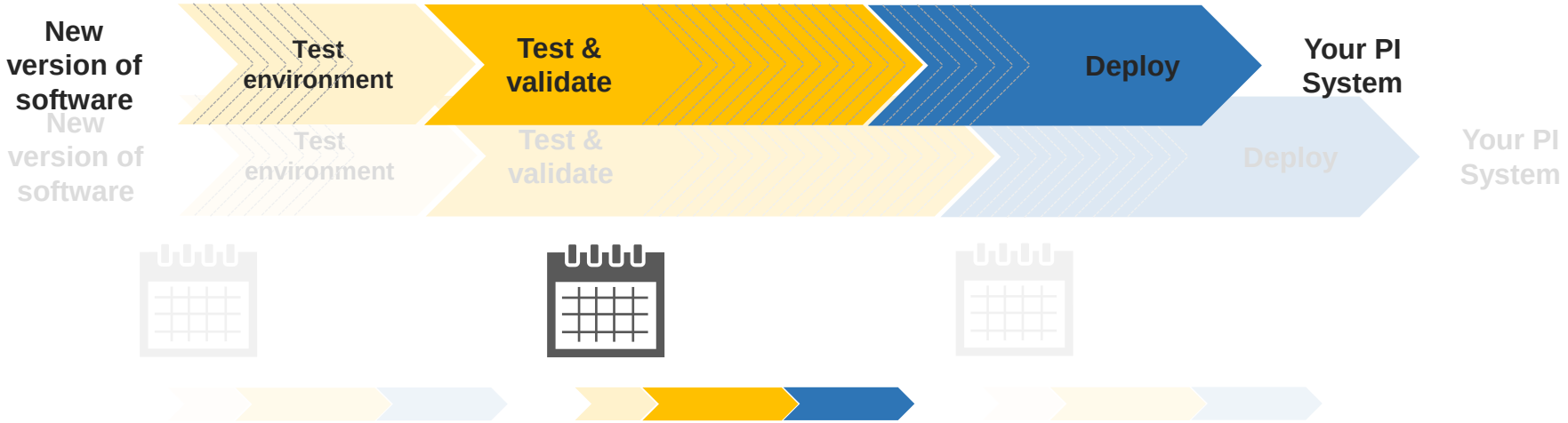
©2019 OSIsoft, LLC

Example of AF Hierarchy



©2019 OSIsoft, LLC

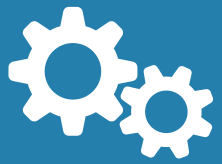
Keeping the Core of Your PI System Current



©2019 OSIsoft, LLC

Easing Deployments & Improving Manageability

Ease
the management



Bring more **manageability & control** to deployments

- Patches vs full upgrades
- End to end test scripts across the PI System
- Deployment templates and installation scripts for cloud platforms

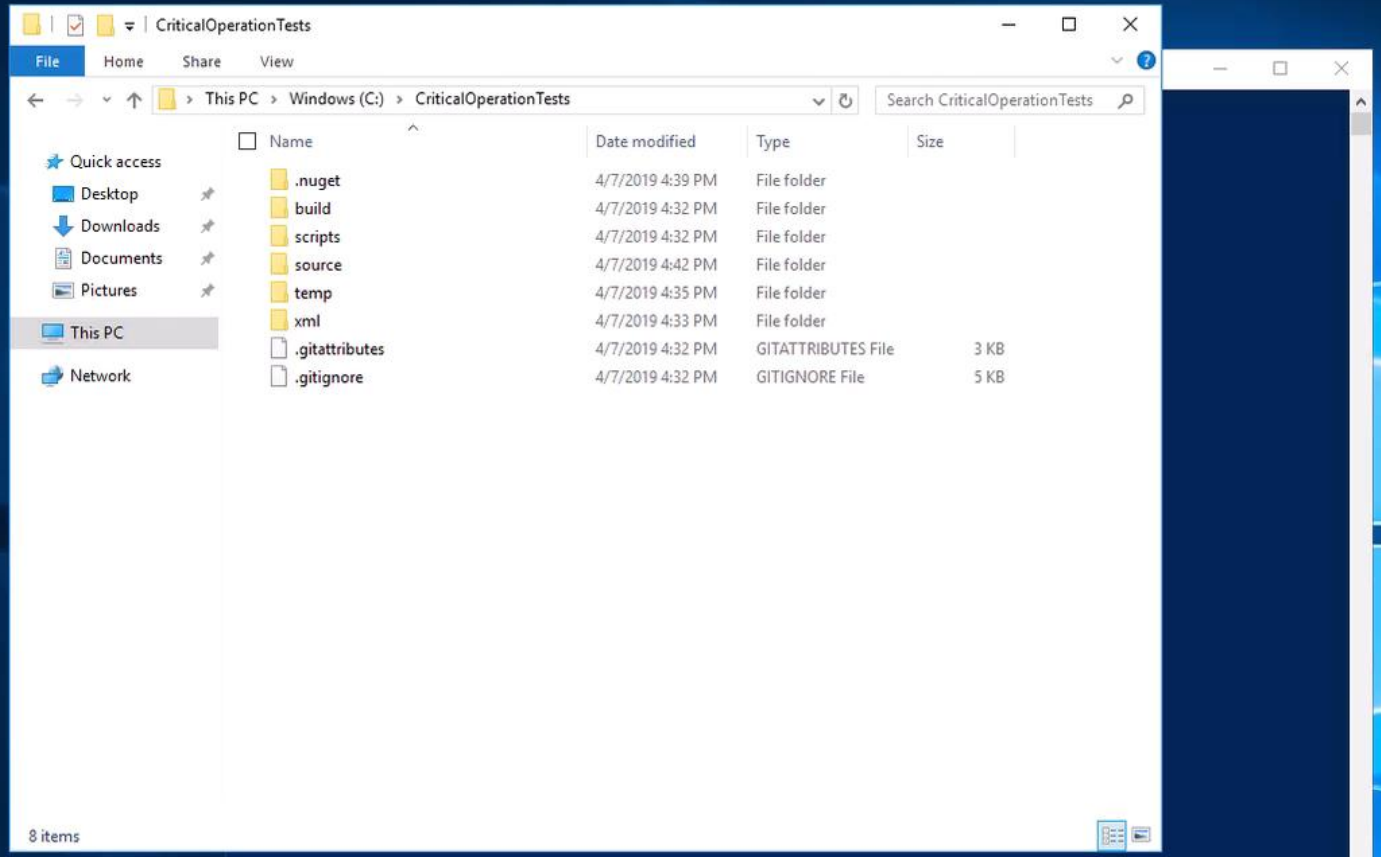
©2019 OSIsoft, LLC

Test Scripts for Upgrades & Patches

- Upgrade to PI Server 2018 SP2
- PI Server patches
- Patch Tuesday

- Lightweight testing framework and scripts
- Easy-to-run test suite
- Functional, end-end

©2019 OSIsoft, LLC


CriticalOperationTests
File
Home
Share
View
This PC
Windows (C:)
CriticalOperationTests
Search CriticalOperationTests
Quick access
Desktop
Downloads
Documents
Pictures
This PC
Network
Name
Date modified
Type
Size
.nuget 4/7/2019 4:39 PM File folder
build 4/7/2019 4:32 PM File folder
scripts 4/7/2019 4:32 PM File folder
source 4/7/2019 4:42 PM File folder
temp 4/7/2019 4:35 PM File folder
xml 4/7/2019 4:33 PM File folder
.gitattributes 4/7/2019 4:32 PM GITATTRIBUTES File 3 KB
.gitignore 4/7/2019 4:32 PM GITIGNORE File 5 KB
8 items

Recipe of the Automated Tests

Modify configuration file

Download required packages
- NuGet.exe
- .NET Developer Pack 4.7.1
- MSBuild

Import AF database onto target PI System

Compile xUnit test solution

Runs tests

Optionally uninstall AF database from target PI System

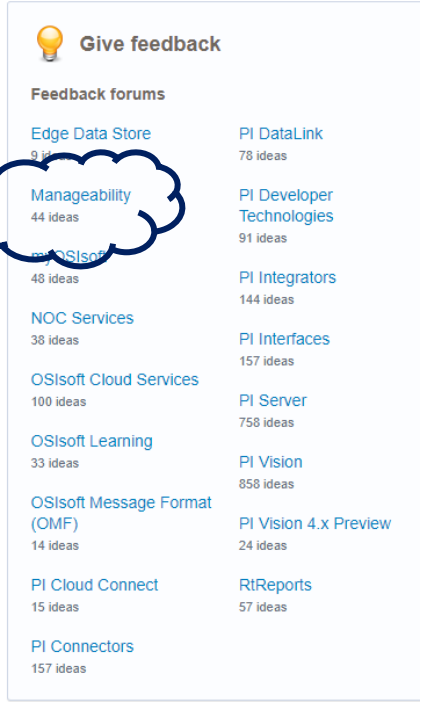
Test report

©2019 OSIsoft, LLC

Share Your Testing Requirements and Practices

https://feedback.osisoft.com

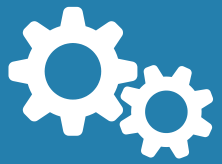
If it is not shared on the feedback portal, it didn't happen!



©2019 OSIsoft, LLC

Easing Deployments & Improving Manageability

Ease
the management



Bring more **manageability & control** to deployments

- Patches vs full upgrades
- End to end test scripts across the PI System
- Deployment templates and installation scripts for cloud platforms

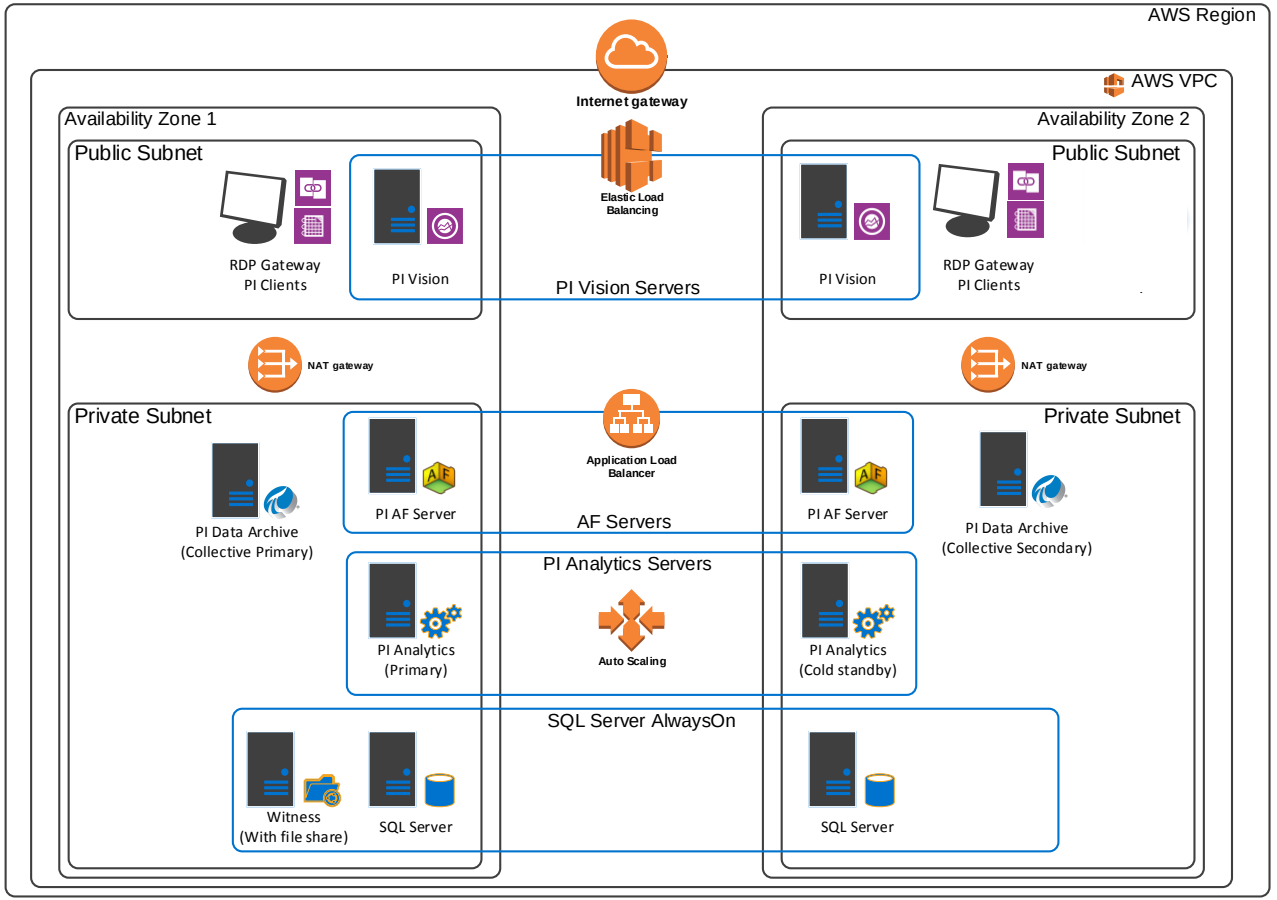
©2019 OSIsoft, LLC

Easy Deployment of Test Environment

- Quick and easy way of spinning up a system
- Templates for resources in the cloud, PowerShell scripts the PI System
- Following best practices
- BYO(Subscription, License, Install kits)

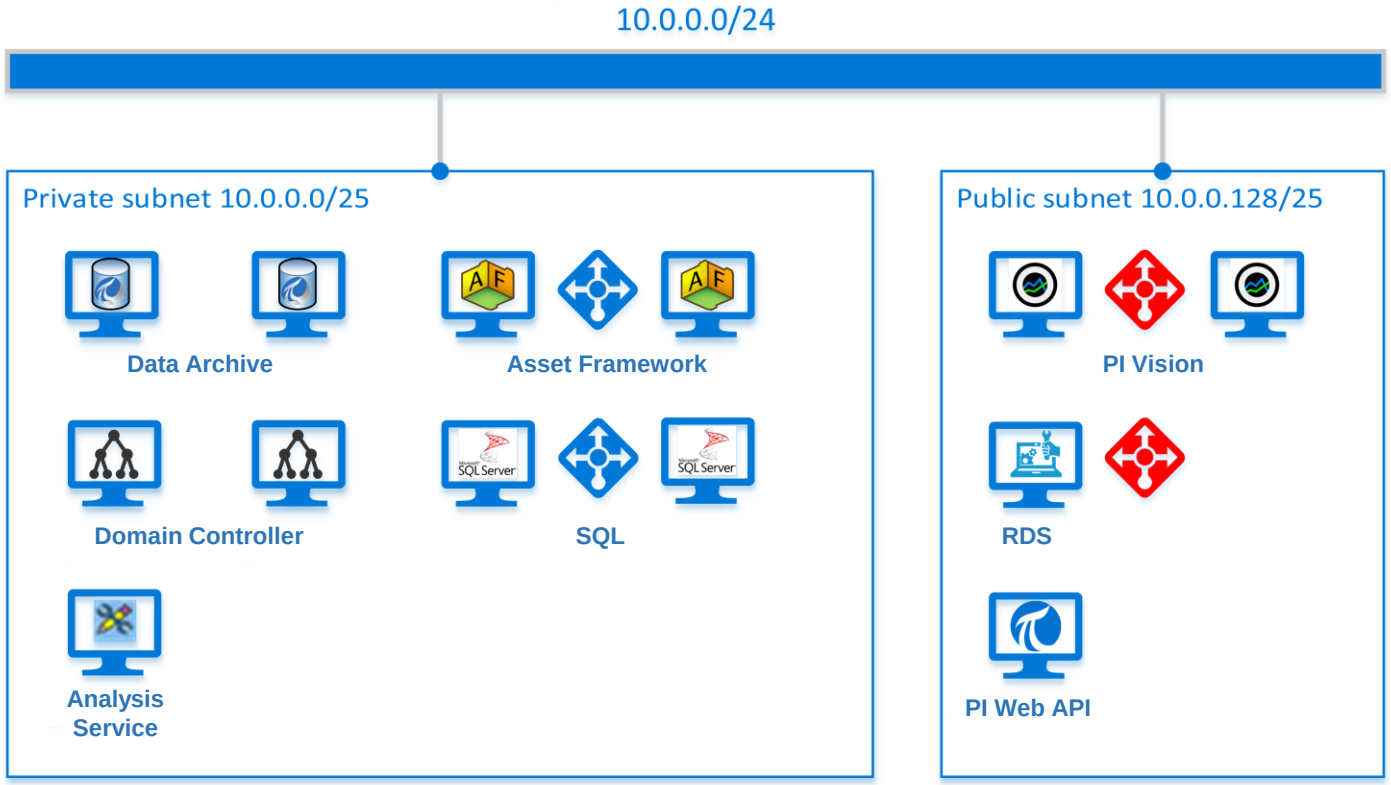
©2019 OSIsoft, LLC

AWS HA PI System Architecture



©2019 OSIsoft, LLC

Microsoft Azure HA PI System Architecture



Internal load balancer

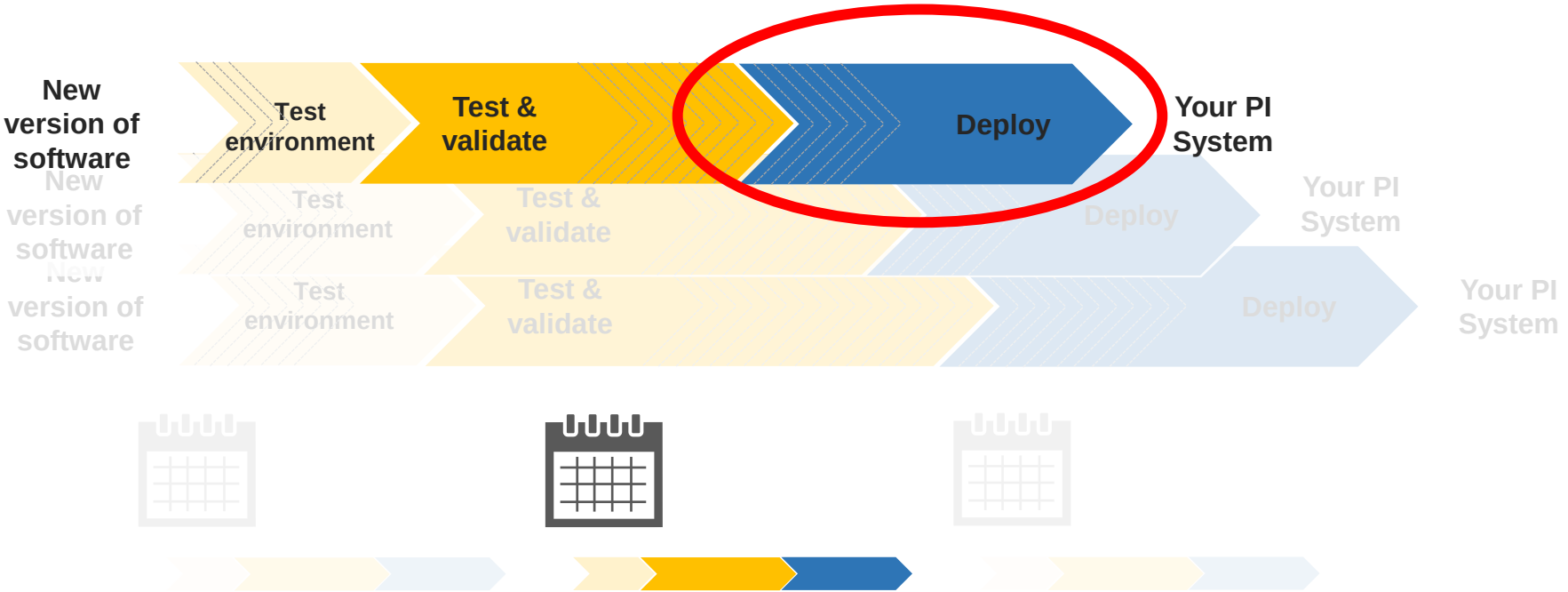
External load balancer

Private = Internal only (Backend)

Public = External Facing (Frontend)

©2019 OSIsoft, LLC

Keeping the Core of Your PI System Current



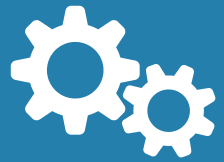
©2019 OSIsoft, LLC

PI System - 2019 and Beyond

Harden
the core

Focus on **security** & **reliability** of data infrastructure

Ease
the management



Bring more **manageability** & **control** to deployments

Extend
the reach

Grow **collection, integration** & **access** capabilities

©2019 OSIsoft, LLC

Communicate with OSIsoft Product Managers

https://feedback.osisoft.com

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

©2019 OSIsoft, LLC

Contact Information

Mana Afshari

- Strategic Product Manager
- OSIsoft, LLC
- mafshari@osisoft.com

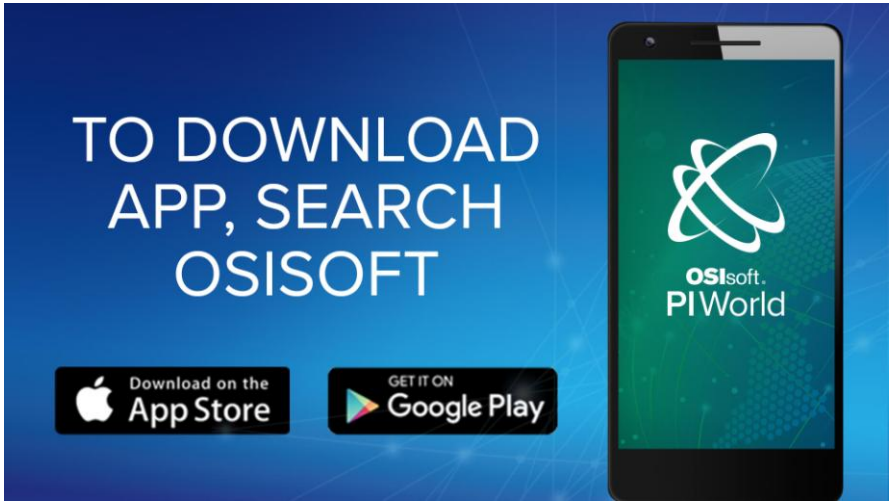
©2019 OSIsoft, LLC

Questions?

Please wait for the **microphone**

State your **name & company**

Please remember



©2019 OSIsoft, LLC

©2019 OSIsoft, LLC