BERLIN SEPT 26-29 GERMANY

**OSIsoft®**
# EMEA USERS CONFERENCE
BERLIN, GERMANY • SEPT 26-29, 2016
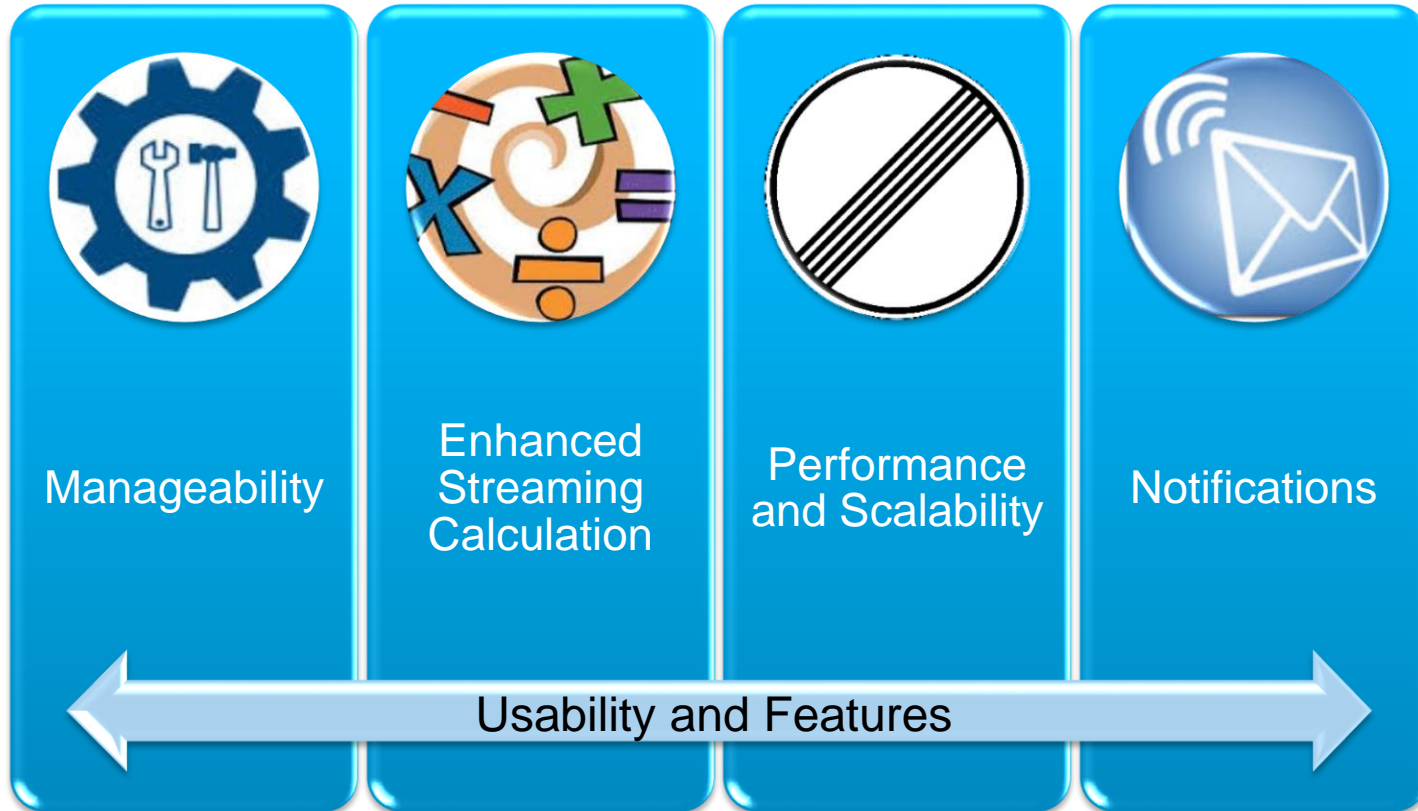
# PI Server 2016
# The Modern PI System

Presented by **Wade Potts, Field Service Engineer**

**Stephen Kwan, Product Manager**

# Timeline

- PI Server 2016 – Q2 2016
- PI Server 2016 R2 – Q4 2016

OSIsoft.

# Themes

| Manageability | Enhanced Streaming Calculation | Performance and Scalability | Notifications |

**Usability and Features**

# Manageability

# Manageability

manageable:

*adjective*  man·age·able  \ˈma-ni-jə-bəl\

Definition:

: **easy to control or deal with**

OSIsoft.

# Manageability examples

**Health**
- Proactively let you know when the system needs attention

- Ex: PI Points are not updating

**Diagnostics**
- Help you discover and resolve issues

- Ex: Easy to find and actionable system logs

**Administration**
- Improved Administrative experience

- Ex: Online Archive reprocessing

# PI Data Archive

OSIsoft.

# What's new in PI Data Archive?

## Improved Archive Management

Detect when archive is corrupt

Online reprocessing of archives via PI SMT

Auto recovery of corrupt queues in Data Archive and BufSS
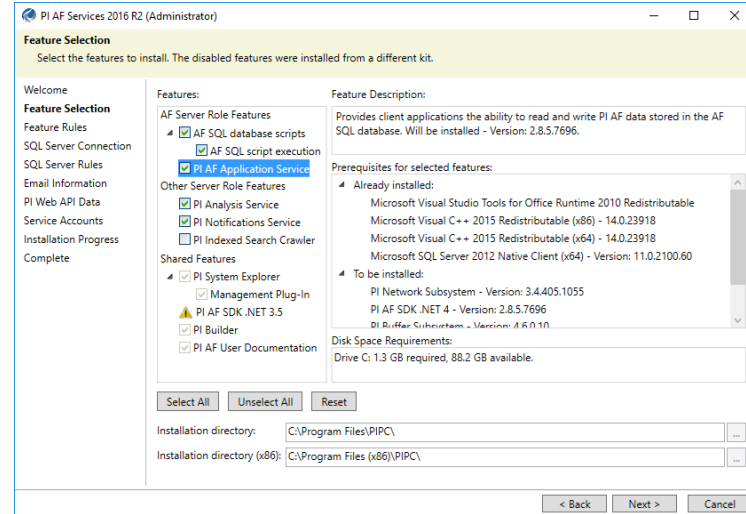
Connection history

# PI Asset Framework

# Manageability

- Integrated Services install
  - AF Server/SQL Scripts
  - PI Analysis Service
  - PI Notifications Service
  - PI WebAPI
  - PI Indexed Search with Crawler
- PI Builder support for contacts, notification end points, notification rules and templates
- Microsoft SQL Server 2016 support

# Richer Context for your Data

- Well defined traits for attributes
  - Limits
  - Forecasts
  - Geolocation
- Annotations
- Identify manual entries
- Enable better client interactions
  - PI Coresight

# More Context for your Important Events

- Event frames enhancements
  - Severity
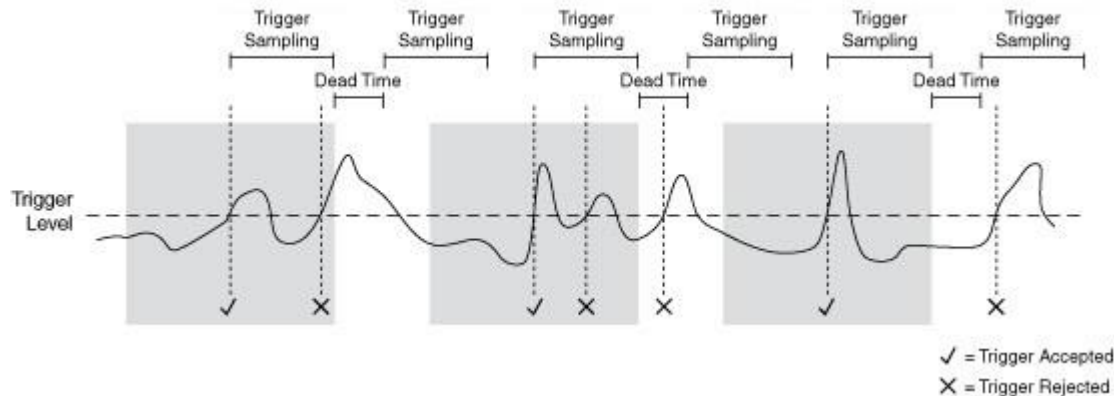  - Acknowledgements
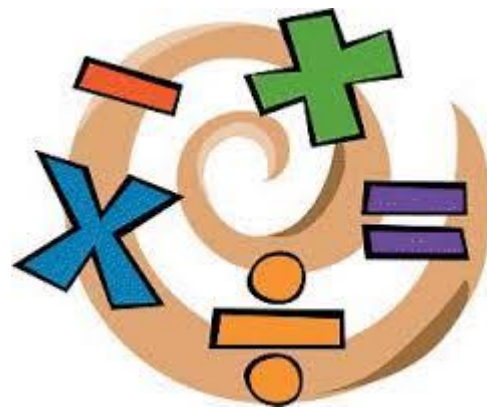  - Annotations

# Enhanced Streaming Calculations

# Event Frame Generation Analyses

- More flexible triggering options
  - Multiple start triggers
  - Individual time true
- Assign severity

# Analytics

- Manual recalculation via PI System Explorer
  - Programmatic access via AF SDK
- Windows Clustering support for PI Analysis Service
- Additional functions
  - Compare with deadband
  - Rate of change
- SQC
  - Output to attribute
  - Generate event frame

# Performance and Scalability

## Fast and Better

New search methods in AF SDK

- Elements, event frames, analyses, notification rules, cases and transfers
- Backwards compatible with existing search methods
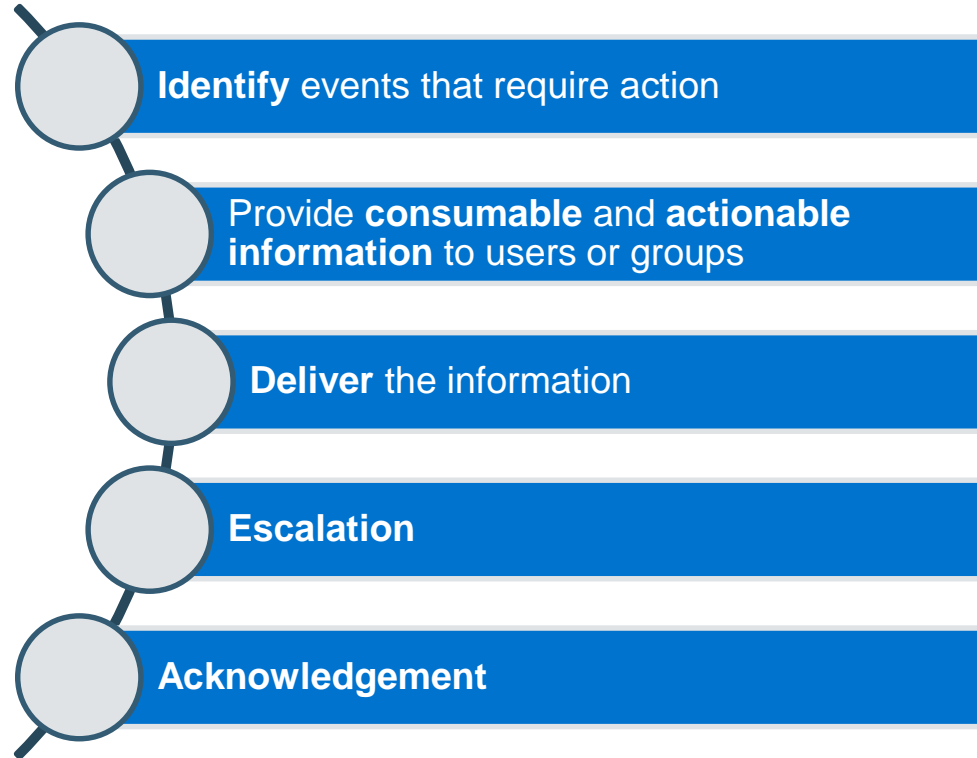
# Faster and Better

- Data Access
    - Asynchronous data access calls in AF SDK
    - Replace/Delete events over a time range
    - Bulk retrieval for an array of timestamps and a mode
- Event Frame and FindChangedItems Performance Improvements
- Reduced Memory usage in client

# Notifications

# What users want from the PI System?



**Identify** events that require action

Provide **consumable** and **actionable information** to users or groups

**Deliver** the information

**Escalation**

**Acknowledgement**

# Legacy PI Notifications

| | | |
|---|---|---|
| Installed as a separated product | Set trigger condition | Customizable content |
| Configure subscribers | Deliver the notification | Escalation |
| | Acknowledgement | |

# Typical Use Cases

## Anomaly detection

- Limits checking
- Data flow, e.g. flat lining

## Alerting users

- Send an email
- Escalate if needed
- Reminder that something is not right

## Send information

- Often to 3rd party systems

# Customer requests:

- Higher performance and scalability
- Less complicated to configure and use
- Better integration into AF
- Better client support

# Notifications 2016 R2 in the PI System

- Leverage analysis service to identify important events

**Detect**

- Use event frames as a natural container for the event

**Containerize**

- Content
- Delivery
- Escalation
- Acknowledgement

**Notify**

# Goals

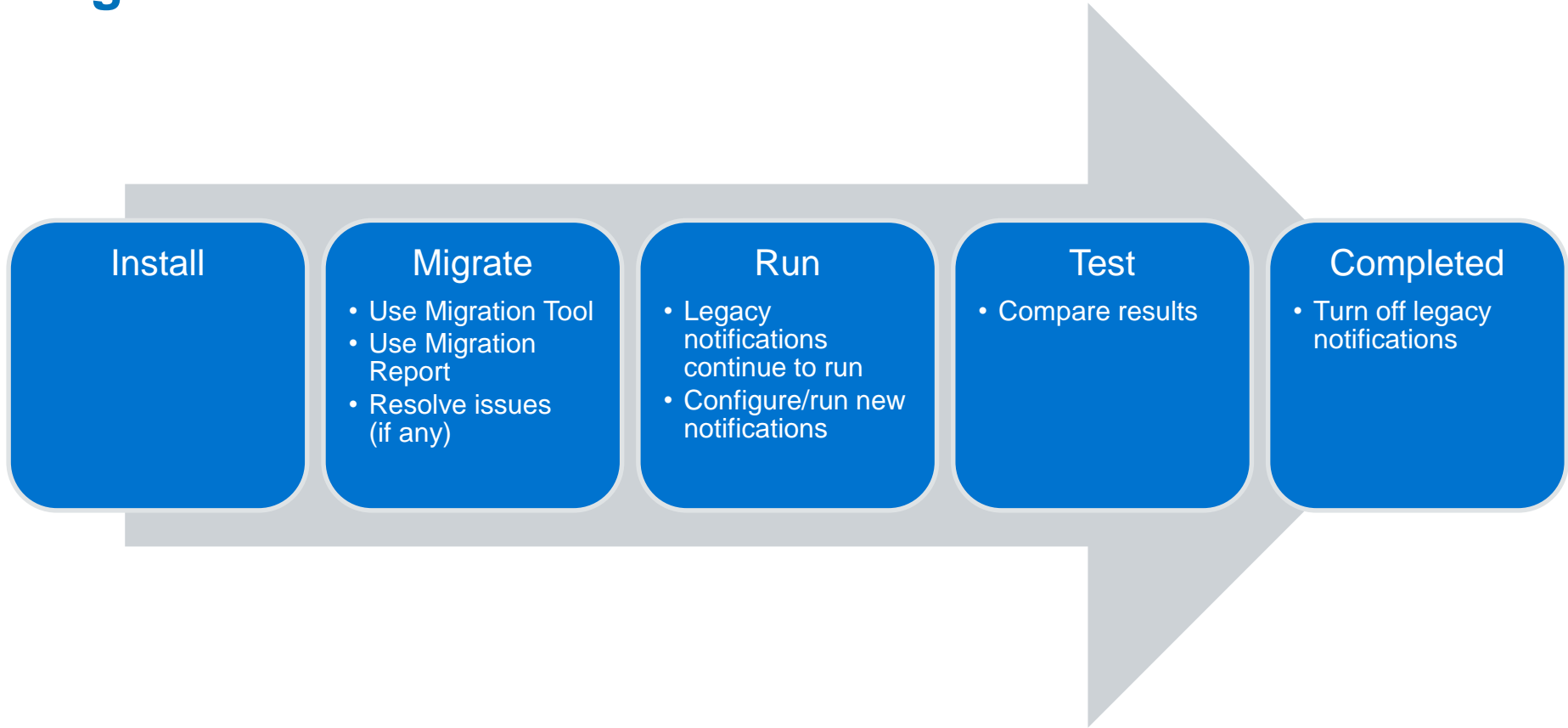| Scalability and Performance | • Target: 1M configured notifications |
| Migration | • Migration tool for legacy notifications |
| Integration | • Tight integration with PI AF<br>• First class citizen in PI client tools – PI DataLink, PI Coresight, etc. |

# Comparison (Highlights)

| | Legacy Notifications | Notifications 2016 R2 |
|---|---|---|
| **Installation** | Separate install | Client installed with AF, separate install for Notifications Service |
| **Configuration** | PI System Explorer | PI System Explorer, PI Builder* |
| **Triggers** | Separate configuration | Event frame – Analyses, programmatic, EFGen, manual, etc. |
| Customizable content | Yes | Yes |
| Subscribers, Groups | Yes | Yes |
| Email delivery channel | Yes | Yes |
| Web service delivery channel | Yes | Yes |
| Escalation | Yes | Yes |
| **Acknowledgement and Visualization** | Various | PI Coresight 2016+, PI DataLink 2016+**, PI Builder |
| **Custom delivery channel** | Yes | Not in this version |
| **Notifications History** | Stored in PI Points | Event frame annotations |

\* = limited, \*\* = read only

# Migration Flow

**Install**

**Migrate**
- Use Migration Tool
- Use Migration Report
- Resolve issues (if any)

**Run**
- Legacy notifications continue to run
- Configure/run new notifications

**Test**
- Compare results

**Completed**
- Turn off legacy notifications

# Migration

## Migration strategy

- Working closely with customers
- Testing with customer databases

## Possible behavior changes

- Run systems side-by-side
- Migration report with details

# Custom Delivery Channels

Not supported via migration tool
- Impossible to test custom code

Extensive changes in the new system
- Notification Rules objects are completely new

Custom delivery channels will have to be re-done

# Key Takeaways

| | |
|---|---|
| Notifications is included with the PI Server | • Everything you need with one install |
| Built with a strong backbone | • Leverage the Asset Framework and the Analysis Service |
| Improved scalability and performance | • Tested for system up to 1M Notifications |
| Detect & Deliver | • Analyses for event detection, notifications for delivery |
| Initial release targeted for typical users | • It is including a migration tool for legacy notifications |
| Evolution | • Product will continue to evolve |

# Demo

# 2017 and Beyond

OSIsoft.

# PI Server 2017+ Focus

## Manageability

- Integrated installer
- PI Directory Service
- PI System Dashboard
- Configuration portal
- Improve archive management
- Actionable error messages
- More granularity on default Access Control List

## Performance and Scalability

- Data access
- Event frames
- Searches and queries
- Analyses
- Caching and multi-user enhancements

## Analytics

- Auto recalculation
- Extensible analytics with 3rd party integration

## Usability and Features

- Localized attribute names
- UOM grouping
- Delivery channels

# Contact Information

**Wade Potts**

wpotts@osisoft.com

Field Service Engineer

OSIsoft, LLC.



**Stephen Kwan**

skwan@osisoft.com

Product Manager

OSIsoft, LLC.

## Questions

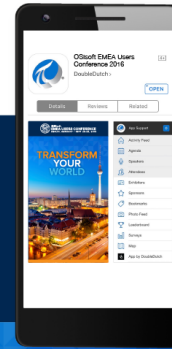Please wait for the **microphone** before asking your questions

State your
**name & company**

## Please remember to…

Complete the Online Survey
for this session

**Download the Conference App for OSIsoft EMEA Users Conference 2016**

- View the latest agenda and create your own
- Meet and connect with other attendees

Download on the App Store
GET IT ON Google Play
HTML

search **OSISOFT** in the app store

http://ddut.ch/osisoft

OSIsoft.
SEPT 26-29 · BERLIN · GERMANY

**OSIsoft.**
# EMEA USERS CONFERENCE
BERLIN, GERMANY • SEPT 26-29, 2016