OSIsoft Cloud Services

Part 3 of 4

- Building Calculations -

Presented by **Ryan Gilbert,**
Laurent Garrigues

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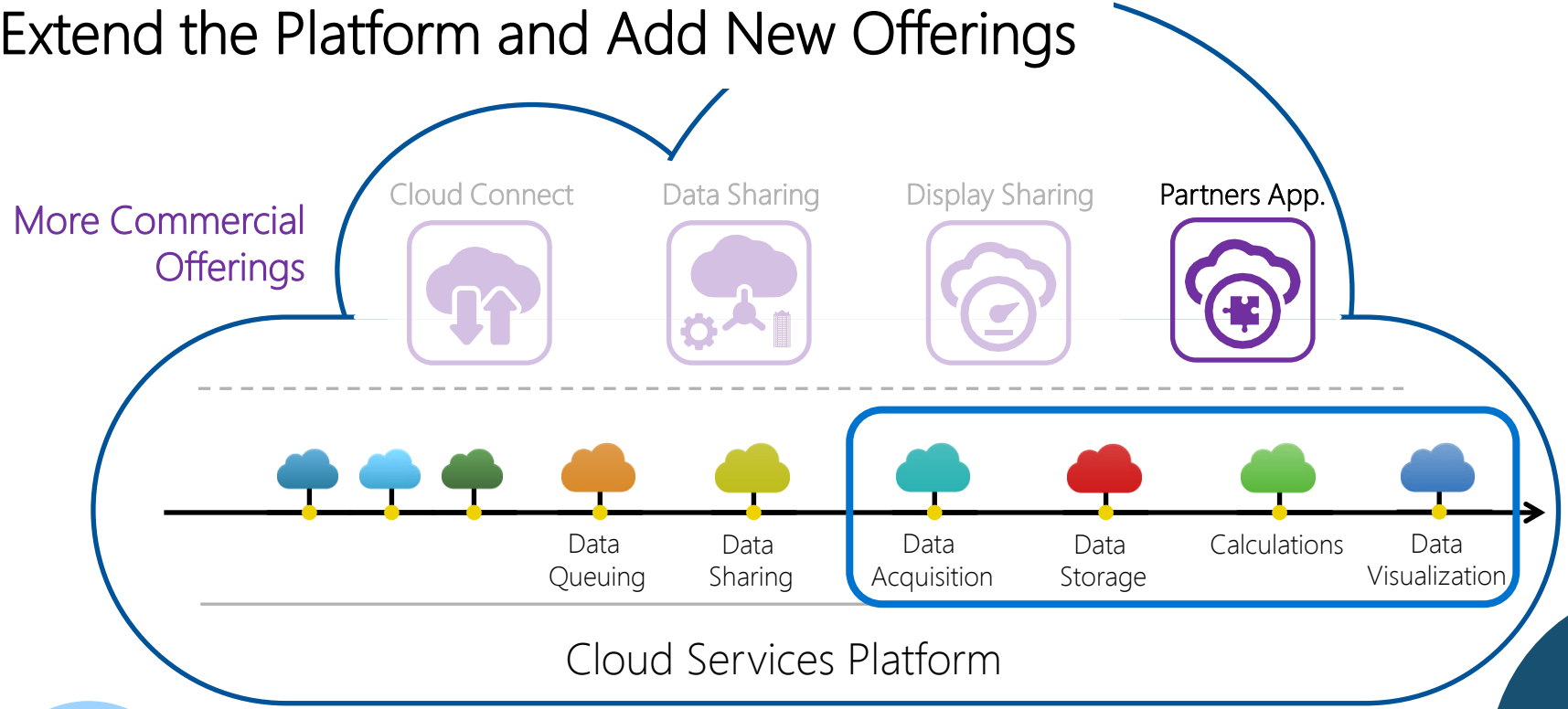
Extend the Platform and Add New Offerings



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Agenda

- What are Calculations in OSIsoft Cloud Services?
- How do we keep them secure?
- How can they be built?
- Building Calculations using the OCS Portal
  - Live Demo
- Future

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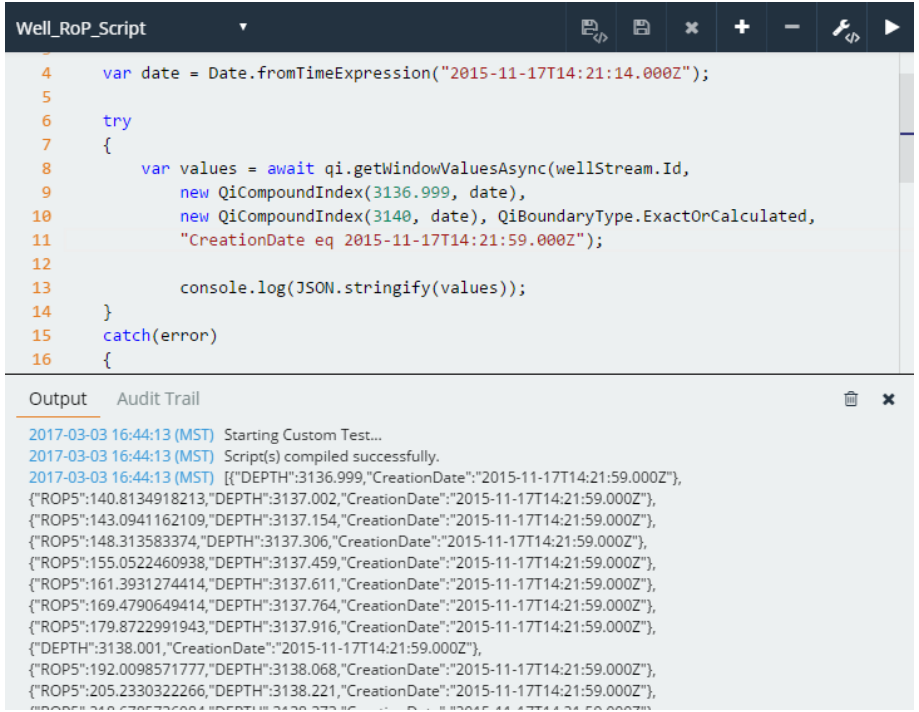
What are Calculations in OSIsoft Cloud Services?

- Hosted with the Data Store
  - Lower latency access
- Custom JavaScript Logic
- Scheduling Support
- Reusable via Templates
- No Data Access Pattern Assumptions



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Securing Calculations in OSIsoft Cloud Services

- Process Isolation
- Bare JavaScript Virtual Machine
  - No WebSockets, DOM, XMLHttp, etc.
  - Only Access Data Store via Read / Write Data RPCs
- Automatic Termination if Time Slice is Exceeded

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Securing Calculations in OSIsoft Cloud Services

- Capped Memory Consumption
- Defective Calculations Pulled from Scheduling Automatically
- OSIsoft Cannot See Your Intellectual Property

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Building Calculations

- OSIsoft Cloud Services Portal
  - Uses REST API
  - Uses No Undocumented APIs
- .NET Client Libraries
- REST API

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Fictitious Scenario for OSIsoft Cloud Services (OCS)

The Story of Unified Petroleum's Digital Transformation

Desire to improve safety and reduce cost

- Optimize drilling
- Share across regions
- Discourage isolation
- Smooth interaction w/ latest technologies
- Available everywhere
- Do not want to maintain an IT staff

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Fictitious Scenario for OSIsoft Cloud Services (OCS)

- Data source
  - Wellsite Information Transfer Standard Markup Language (WITSML)
    - *"Standard"* for sharing well data in the petroleum industry.
- Unified Petroleum is actively drilling in…
  - Gulf of Mexico
  - North Sea
  - Lookout, Oklahoma

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Demo – Building Calculations in the OCS Portal

Unified Petroleum

- Drilling Data Streams Include
  - RoP – Rate of Penetration
  - Depth – Depth of Well
  - RPM – Rotations per Minute
- Calculation Template
  - Use Ratio of RoP and RPM to determine drill bit wear and tear.

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Demo

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Future

- Additional Languages Support
  - Investigating: C# Script, R, and Python
- Additional Schedule Types
- Security Enhancements (More Sandboxing)
- Community

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Future

- Adapters to Provide Secure Access to:
  - Twilio
  - SendGrid
  - Azure: Machine Learning, Functions, Logic Apps, etc.
- You Tell Us
  - User Voice

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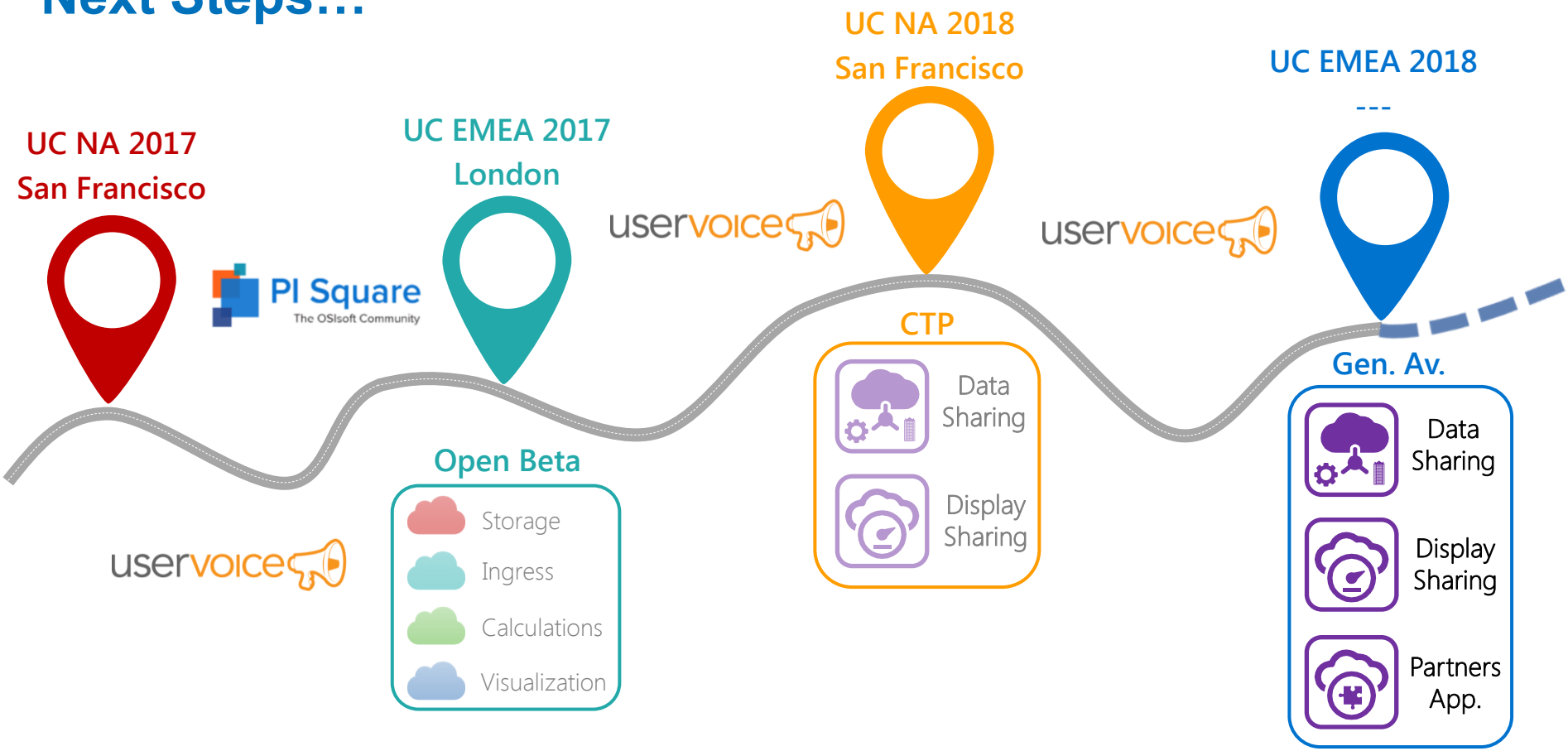
Next Steps…



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감사합니다

谢谢

Danke

Gracias

Merci

Thank You

ありがとう

Спасибо

Obrigado

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