

A decorative graphic on the left side of the slide, composed of many small blue triangles of varying shades, creating a pixelated or mosaic-like effect.

WELCOME

Facilities, Energy and Water

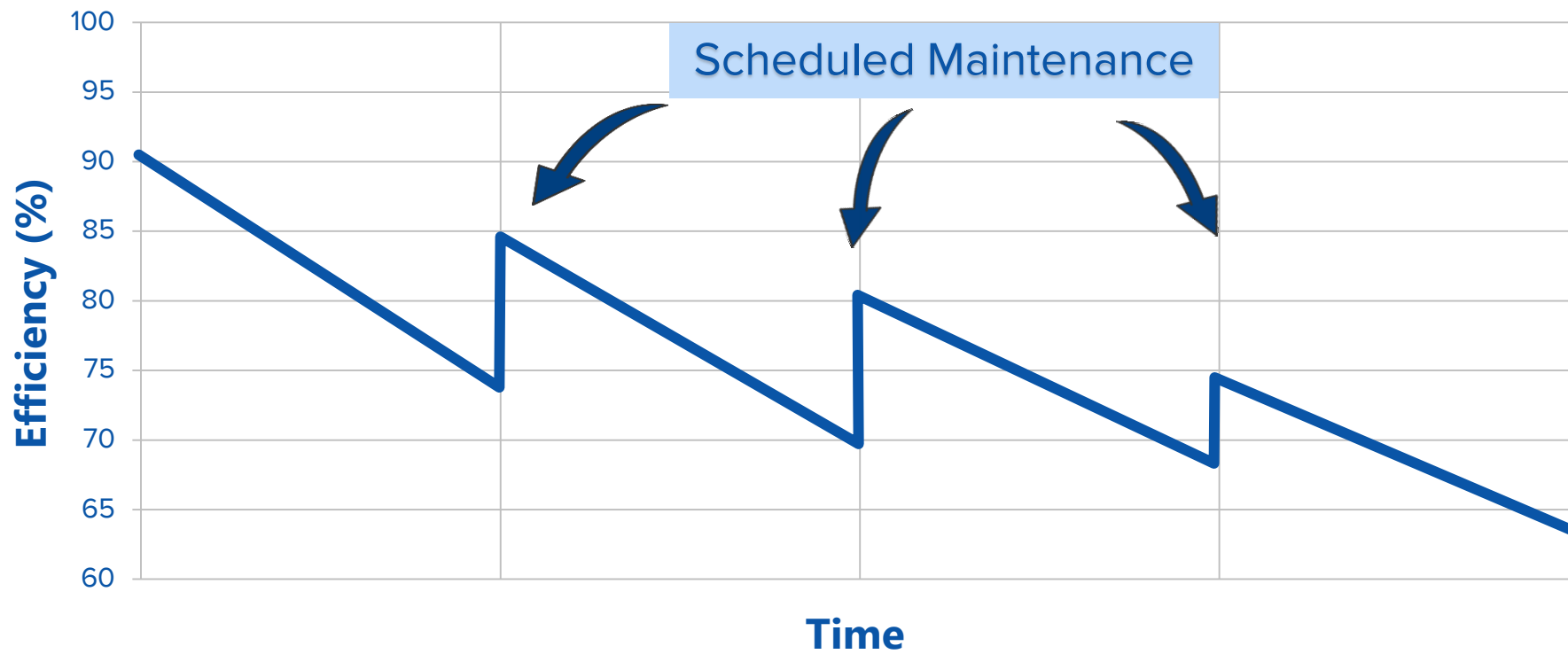
Presented by Gary Wong, Industry Principal, Water

David Doll, Industry Principal, Facilities & Energy Management

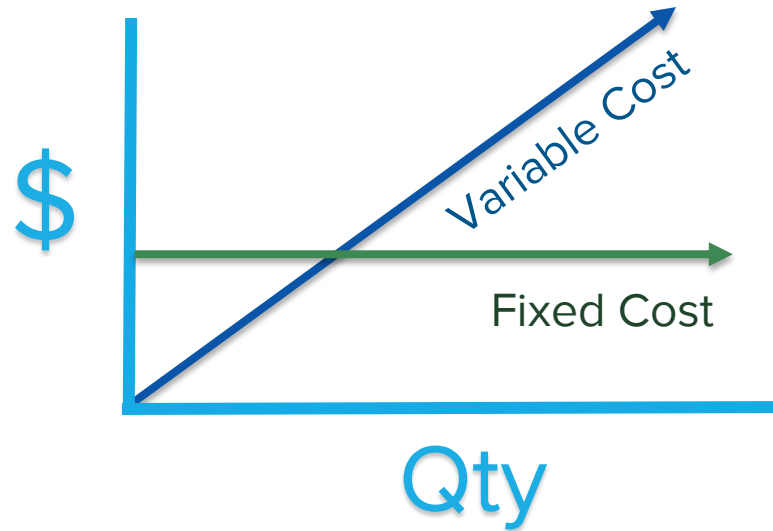
WELCOME!!

Reliability
Millions of Streams
Real-time
Visualization
CBM
Scalability
Asset Framework
PI System
Analytics
Quality
IoT
Connectivity
Sensor-based Data
Big Data
Infrastructure
High Speed
Business Transformation
Security
Connected Services
Operational Intelligence
Regulatory Compliance
Enterprise Agreement
Business Impact
Enterprise
Process
Operational Efficiency
Time Series
Event Frames
Future Data
Energy Management
Streaming Data
Open System
Asset Health
Safety

Performance over time



Are you treating Energy and Water as a Fixed Cost or a Variable Cost?

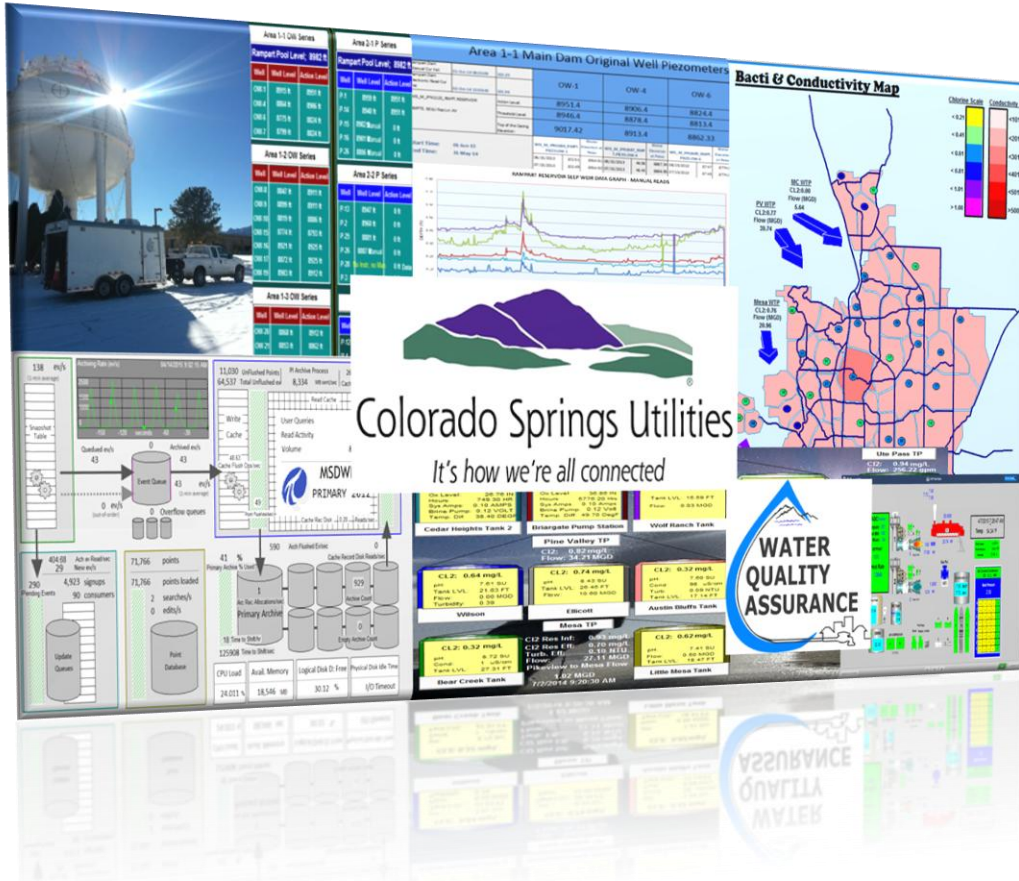


A sneak peek....

David Mora, Jeannette Ortiz Colorado Springs

Improving Business with Operational Intelligence

- A 4-Service utility
- Ensuring water quality and optimal distribution
- Realizing 58% reduction in overtime
- Meeting FERC reporting requirements

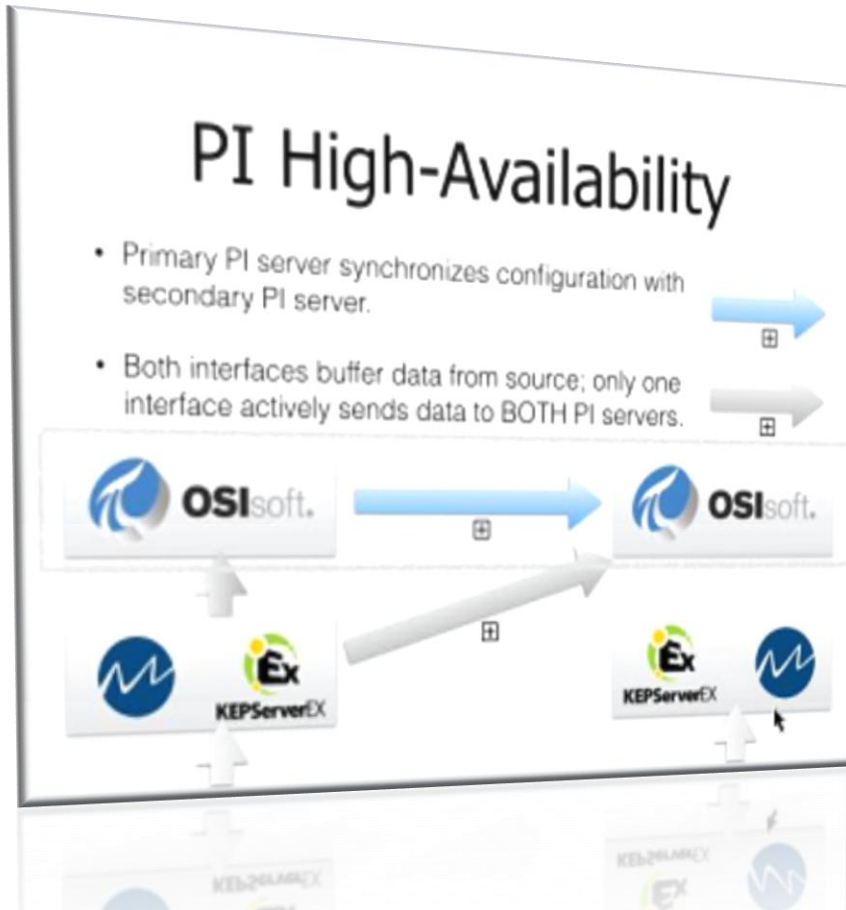


Colorado Springs Utilities
It's how we're all connected

Paul Van Buskirk, Genentech
Oliver Yu, Zymergi

Facilities Energy Optimization
and Alarm Management

- Replacing a limited, fault-prone system
- “Why the PI System” for the new vision
- Utilizing HA and the OSIsoft partner network to create a reliable architecture



David Phillips, David Trombly UC Davis

Maximizing the Value of Each Existing Meter



- Getting more insight rather than installing more meters
- Using Machine Learning for real-time analysis
- Getting the whole campus involved in water conservation

Steve McCormack City West Water

Data Driven Decision Making

- Verifying water purchases
- Reducing non-revenue water
- Realizing 7–12% target energy savings

About City West Water

- Located in Melbourne, Australia
- 580 km² service area
- Population 850,000
- 320,000 res' customers
- 35,000 non-res' customers
- 90 GL water supplied
- 70 GL sewage collected



About DWSD

Drinking Water

- ✓ 1,079 square miles
- ✓ Detroit and 127 suburban communities
- ✓ 40% of Michigan's population
- ✓ 610 MGD produced



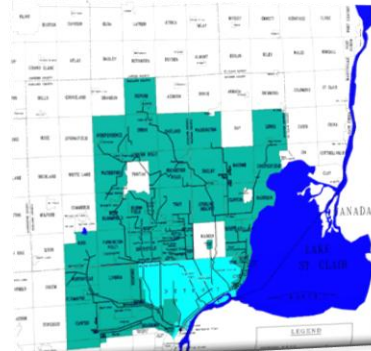
Ilfat Maatouk, Betty Thomas
Detroit Water & Sewerage

Operational Intelligence in your Water Supply

- Reaching \$500,000 in savings last 3 years
- Automated reporting providing quicker insight
- Real-time dashboards for better decision making

Waste Water

- ✓ 710MGD of water treated
- ✓ 946 square miles
- ✓ +3000 miles of sewer lines

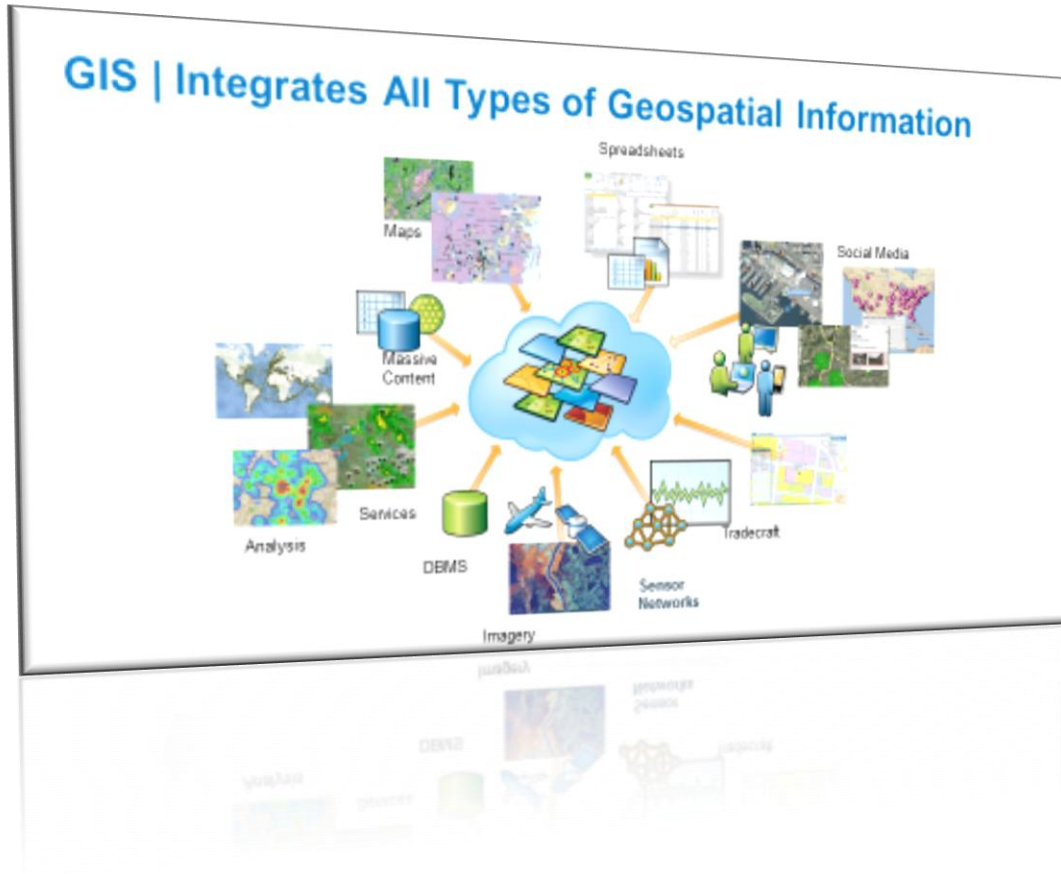


✓ +3000 miles of sewer lines
✓ 946 square miles
✓ 710MGD of water treated

James Sullivan Esri

Spatially Enabling Your Real-time Facilities Data

- We all use maps; friendly and familiar
- Integrate your building and utility data into maps
 - Manage your portfolio
 - Improve Operations
 - Ensure Security



SECURE energy services

Processing, Recovery and Disposal (PRD)

- Processing oil & gas by-products
- Maximizing the recycling of oil
- Recycling and disposal of waste fluids
- Crude oil treatment with pipeline and rail access

Drilling Services (DS)

- Drilling & completion fluids
- Solids control
- & specialized equipment
- Innovative products

OnSite Services (OS)

- Pipeline integrity
- Environmental services
- Integrated fluid solutions

Marvin Wong Secure Energy

Analytics and Excellence in Oil Treatment Facilities

- Moving from Qualitative to Throughput analytics
- Increased capacity with better performance
- Realized payback in less than 3 years

Data Center Operational Excellence as a Service

Data Center Operational Excellence as a Service

- # DCIM as a Service according to CLARIDION
-
- DCIM as a Service according to CLARIDION**
- The diagram illustrates the architecture of DCIM as a Service, centered around a **CLOUD** hub.
- Client Infrastructure** (Left):
- Data Center
 - Colocation
 - Cloud Infrastructure
- Services** (Top Right):
- Inventory
 - Dashboard
 - Monitoring
 - Energy
 - Cabling
- Clients** (Far Right):
- Business meeting
- DCIM Monitoring and Management** (Bottom Left):
- Server racks
 - Storage
 - Gauges
- Control center for surveillance and alarms** (Bottom Right):
- Multi-monitor workstation
- Central Hub:**
- **CLOUD**
 - **DCIM as a Service**
- Data** (Central Node):
- Connects Client Infrastructure and the central Cloud.
- Flow:**
- Arrows indicate data flow from Client Infrastructure to the central Cloud.
 - Arrows indicate service flow from the central Cloud to Clients and Monitoring/Management.
 - A large blue arrow points from the central Cloud towards the bottom right.

Sequoia Parameters

- IBM Blue Gene*/Q architecture
- 98,304 nodes
- 1,572,864 cores
- 20 PF, 3rd on Top 500 – June 2013
- 96 racks
- 91% liquid cooled
- 30 gpm/rack at 62 F
- 9% air cooled
- 1700 cfm/rack at 70 F
- 4800 square feet
- *Copyright 2013 by International Business Machine Corporation



Ghaleb Abdulla, Anna Maria Bailey and John Weaver
Lawrence Livermore Nat Lab

Monitoring Energy and High Performance Computing

- Currently the third largest super computer in the world
- Small changes create a big impact on energy efficiency and consumption
- Need to manage load to avoid causing problem on the larger utility grid





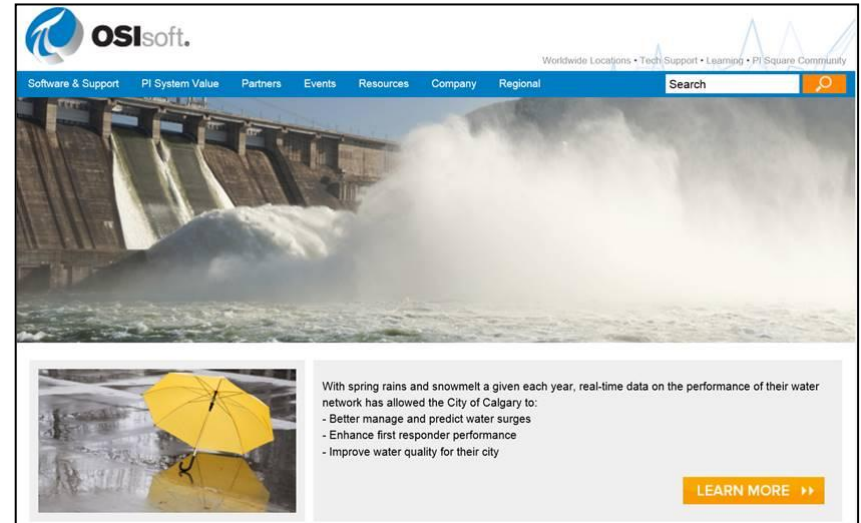
THANK
YOU



Want more information?



www.osisoft.com/corporate/facilities



www.osisoft.com/city-of-calgary.aspx



THANK YOU

