



**OSI**soft®

**UC**2010

**Real Time Information — Currency of the New Decade**

Hilton San Francisco Union Square | San Francisco, CA

**April 26-28, 2010**

# “Actionable Knowledge from Refined Data” with Microsoft Business Intelligence

**John Schlitt - Business Manager  
Automation COE, Nalco**

# Nalco Company

- World's leading process improvement company
- 70,000 customers in more than 130 countries
- 75 years of experience in the hydrocarbon industries



# Nalco and the Oil & Gas Challenge

- Margins for refining are slimmer than ever
- Refineries work above design capacity
- Refiners must go years without a shutdown

**Nalco provides specialty chemical treatments and services that aid in processing and protect assets so refineries can keep running longer**



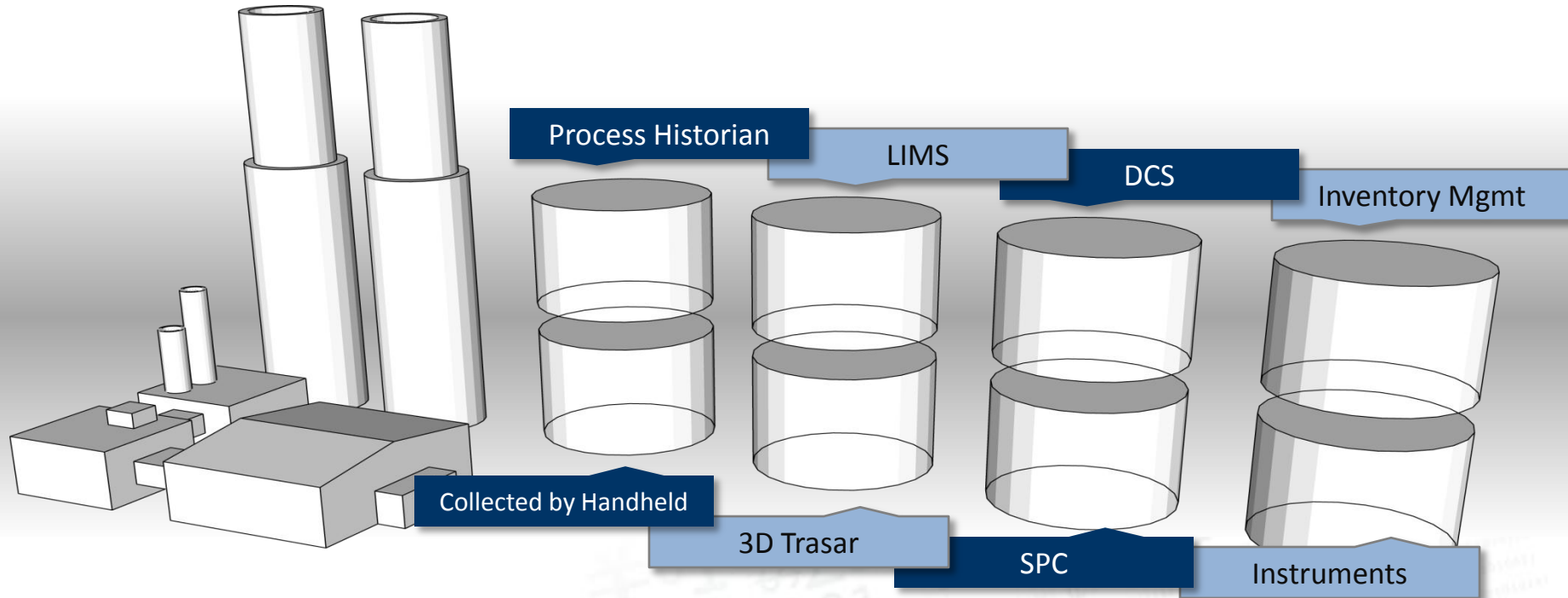
# The Problem: Where's the Data?

- Process data held in various “islands of information”
- Performance data was collected manually
- Personal Service Reports (PSRs) were time-consuming

**The goal: centralize data collection to bring greater value to the service Nalco provides**

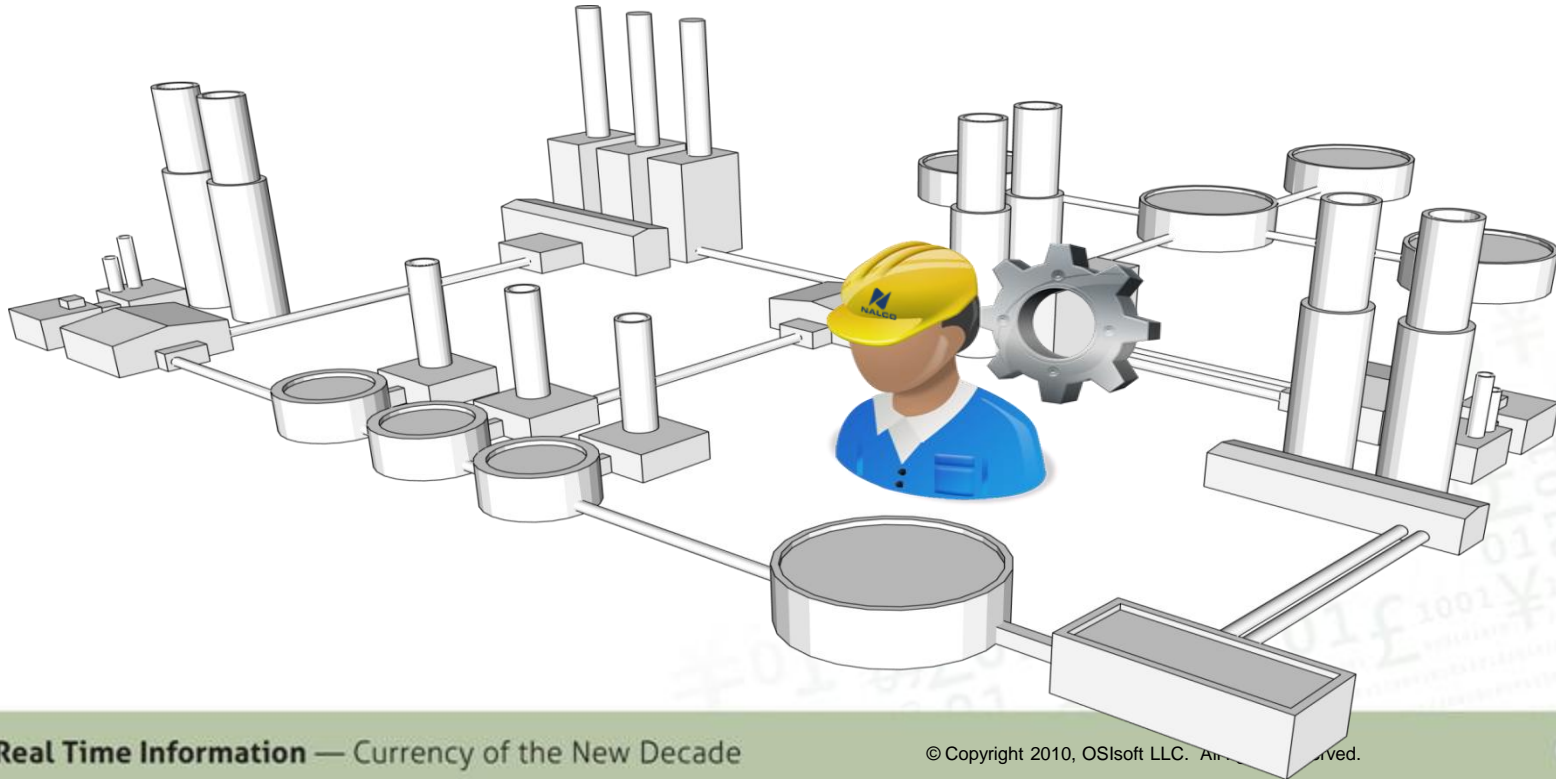
# Challenge: Islands of Information

Various data sources within one process unit...



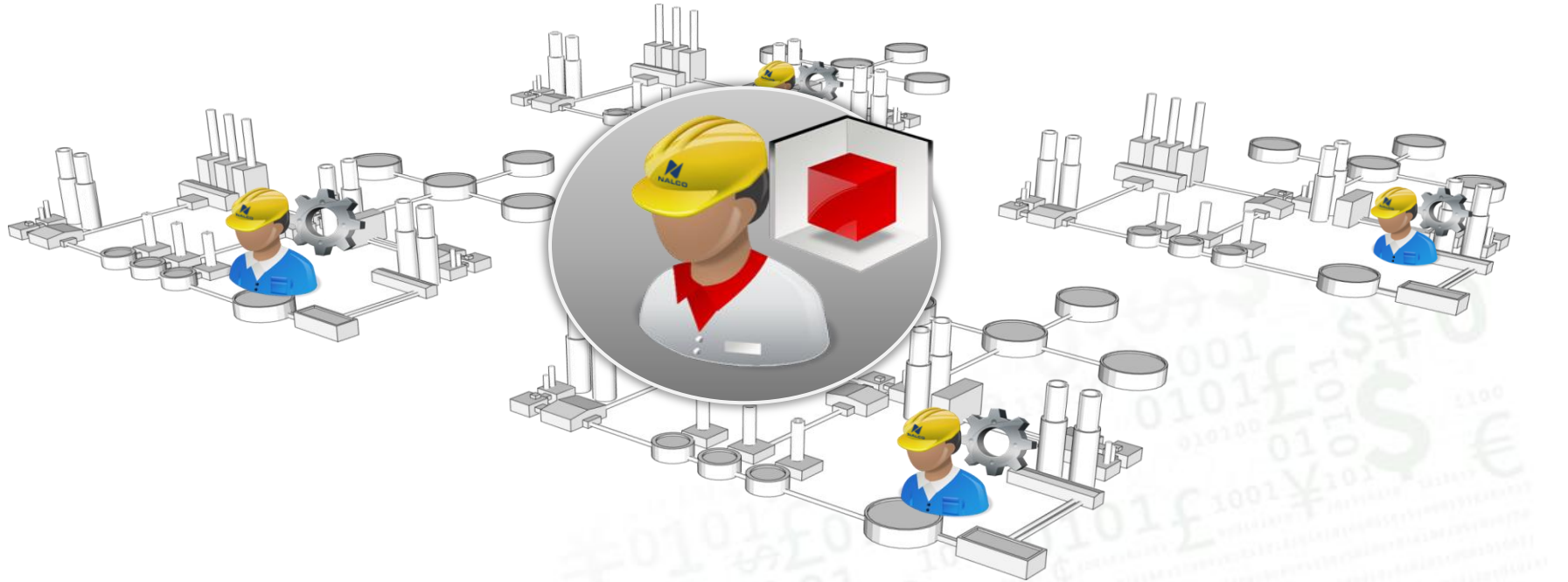
# Challenge: Islands of Information

Multiplied across the entire refinery...



# Challenge: Islands of Information

Multiplied across the global refinery network...



# The Result: Refined Knowledge™

- Centralized data collection
- Condition based maintenance and performance optimization
- Role-based visibility into plant operations and performance
- On-demand Summary and KPI info to customers and Nalco



**Actionable Knowledge from Refined Data  
delivers greater value to the service Nalco provides**

# Refined Knowledge™ Architecture



**Microsoft®**



## Data Infrastructure

- Central Data Collection
- Tech View & Analysis
- Calculation Engine
- Value Generation Tool

## Customer Data Portal

- Secure Customer View
- Metrics Analysis
- Business Decision Tool
- Specialized Tech Support

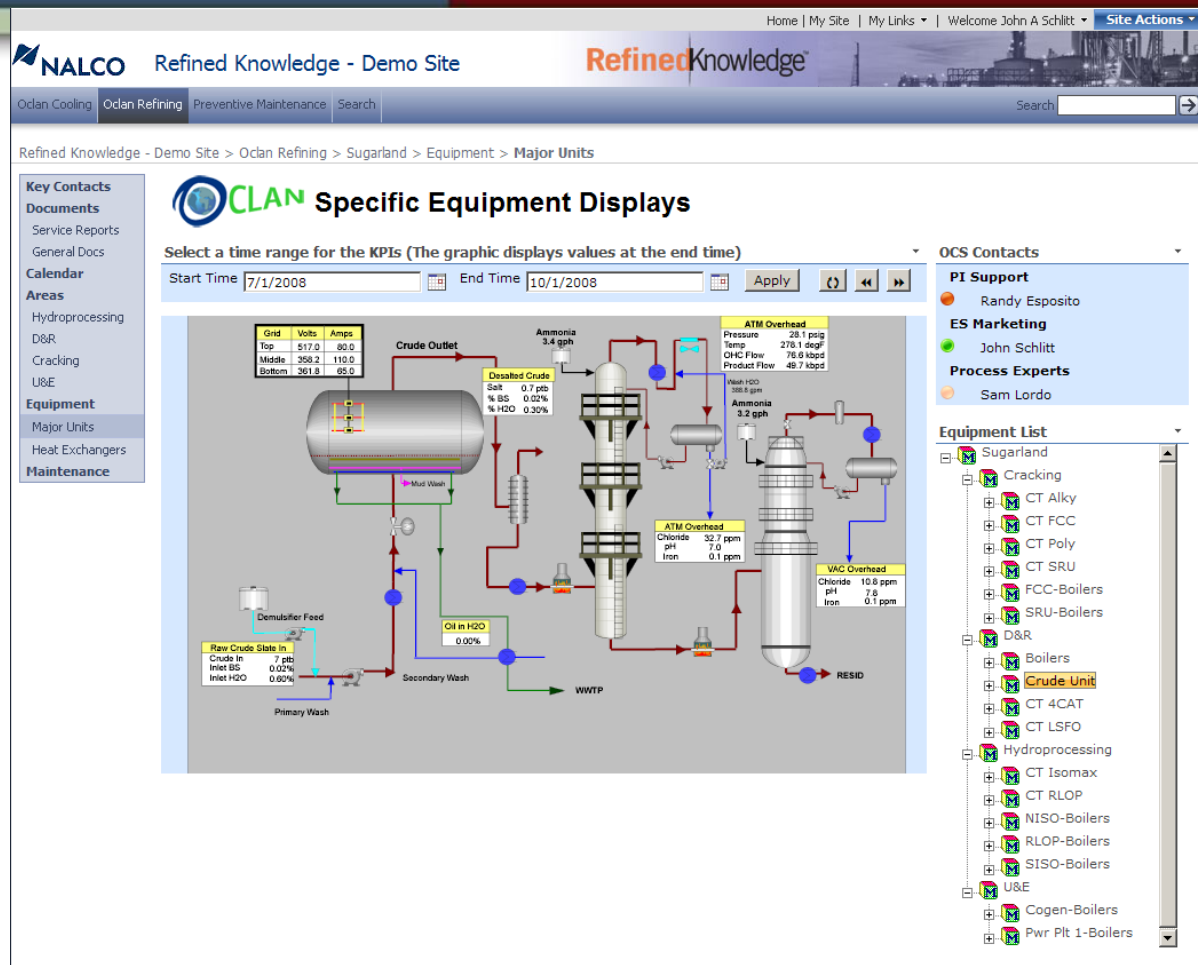
## Solutions Provider

- Problem Solver
- Performance Enhancement
- Production Optimization
- Partner in progress



*Actionable data  
is now at their  
fingertips*

*In the field,  
manual work is  
now value-add*



*Our own  
management  
gets to see  
measured  
performance*



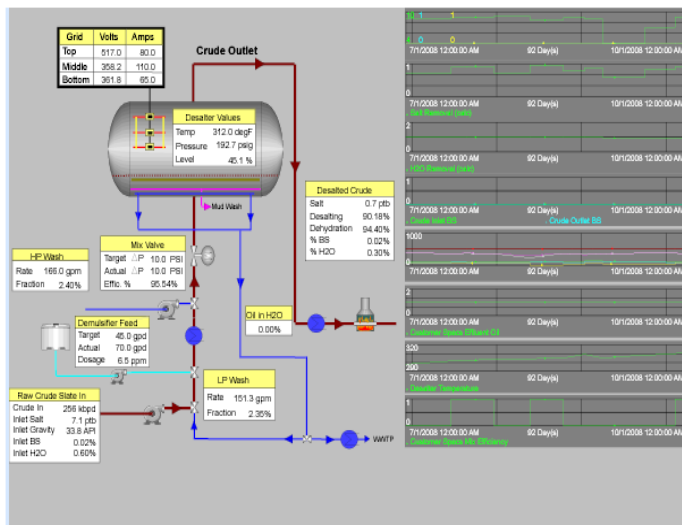
Refined Knowledge - Demo Site > Oclan Refining > Sugarland > Equipment > Major Units

- Key Contacts
- Documents
- Service Reports
- General Docs
- Calendar
- Areas
- Hydroprocessing
- D&R
- Cracking
- U&E
- Equipment
- Major Units
- Heat Exchangers
- Maintenance

## CLAN Specific Equipment Displays

Select a time range for the KPIs (The graphic displays values at the end time)

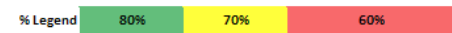
Start Time  End Time



- OCS Contacts**
- PI Support**
    - Randy Esposito
  - ES Marketing**
    - John Schlitt
  - Process Experts**
    - Sam Lordo
- Equipment List**
- Sugarland
    - Cracking
      - CT Alky
      - CT FCC
      - CT Poly
      - CT SRU
    - FCC-Boilers
    - SRU-Boilers
    - D&R
    - Boilers
      - Crude Unit
      - CS Crude Slate
      - DS Desalter
      - OHA V-1100
      - OHV E-1160
    - CT 4CAT
    - CT LSFO
    - Hydroprocessing
      - CT Isomax
      - CT RLOP
    - NISO-Boilers
    - RLOP-Boilers
    - SISO-Boilers
    - U&E
    - Cogen-Boilers
    - Pwr Plt 1-Boilers

## Oclan Site KPIs

		Units	LSL	USL	Desalter
Crude Outlet Salt	ptb		3		90%
Crude Outlet Water	%		0.4%		100%
Crude Inlet Gravity	API	30	34.5		80%
Effluent Oil	%		0.1%		100%
Effluent Solids	%		0.1%		100%
Temperature	degF	250	300		0%
Salt Removal	%	90%			40%
Water Removal	%	95%			70%
Mix Efficiency	%	90%			40%
Top Grid Volts	volts	220	525		100%
Mid Grid Volts	volts	220	525		100%
Btm Grid Volts	volts	220	525		100%
High Pressure Wash Fraction	%	2%	3%		100%
Low Pressure Wash Fraction	%	2%	3%		100%

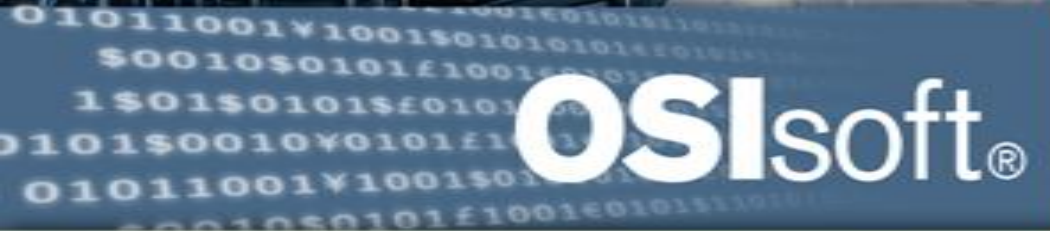


## Nalco Global Benchmarks

		Units	LSL	USL	Desalter
Crude Inlet Water	%		1.0%		100%
Crude Outlet Salt	ptb		0.01		30%
Crude Outlet Water	%		0.3%		100%
Effluent Oil	%		0.5%		100%
Solids Removal	%	60%			N/A
Salt Removal	%	90%			40%
Water Removal	%	90%			100%

# Where are we going...

- Continuous Improvement Philosophy
  - Repeatable approach improving cycle times
  - Drive manual involvement toward zero
- Push analytic logic to SMEs
  - Get away from IT “Projects”; improve speed to market
  - Democratizing Operational Business Intelligence
  - Take advantage of new OSIsoft-Microsoft capabilities



**Real Time Information** — Currency of the New Decade

# Microsoft Innovations Drive Business Performance

Craig Hodges, General Manager, Manufacturing & Resources Sector, Microsoft Corporation

# Microsoft's Investment Priorities





# Innovations Launching In H1 2010

## Business User Experience



## Familiar User Experience

1. Self-service Business Insight
2. Data Exploration and Analysis
3. Data and Contextual Visualization

## Business Collaboration Platform



## Integrated Content and Collaboration

1. Dashboards and Composites
2. Enterprise Search
3. Content Management

## Data Infrastructure and BI Platform



## Data Infrastructure and BI Platform

1. Analyze, Integrate, Manage
2. Master Data
3. Data Mining and Data Warehousing

# What's Important For You

## *Key innovations to drive business performance*

- ❖ Line of Business Application Integration
- ❖ Enterprise Collaboration
- ❖ Unified Communications
- ❖ Business Insight
  - Complex Event Processing
  - Business Intelligence



# Line of Business Application Integration

*"The Nalco solution is a 'win-win' that gives customers answers to their process issues more quickly, while helping us to gain greater customer loyalty and competitive advantage,"*

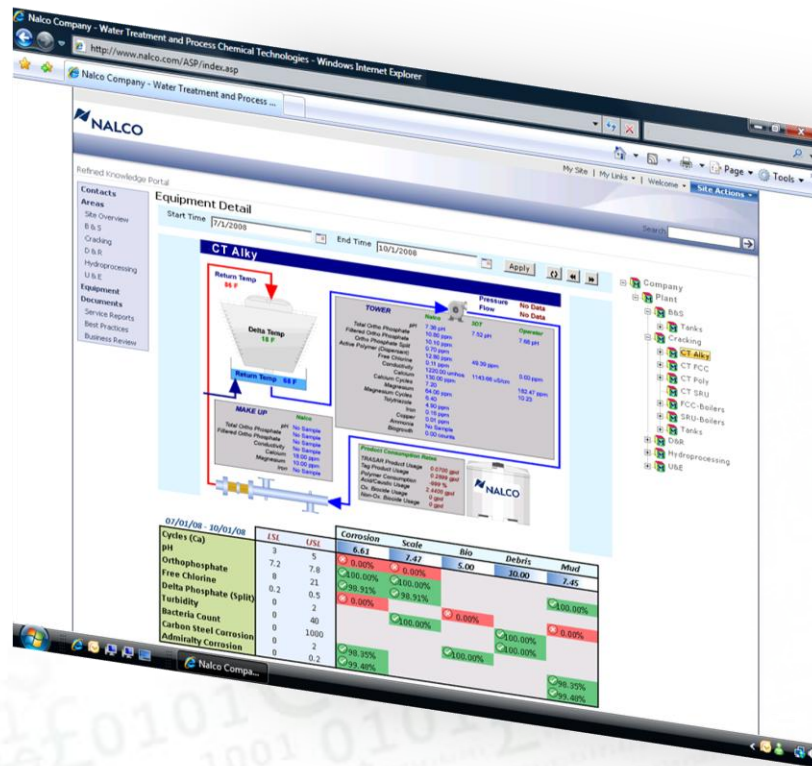
*- Terry Burleson,  
Vice President of Downstream  
Energy Services at Nalco*



OSIsoft®



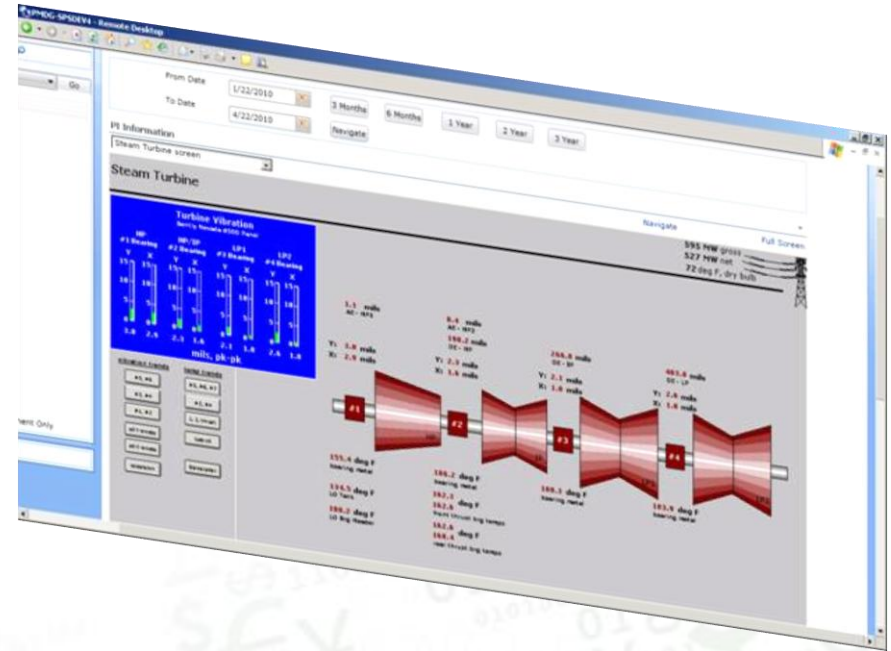
NALCO



# APPS Enables Improved Business Performance

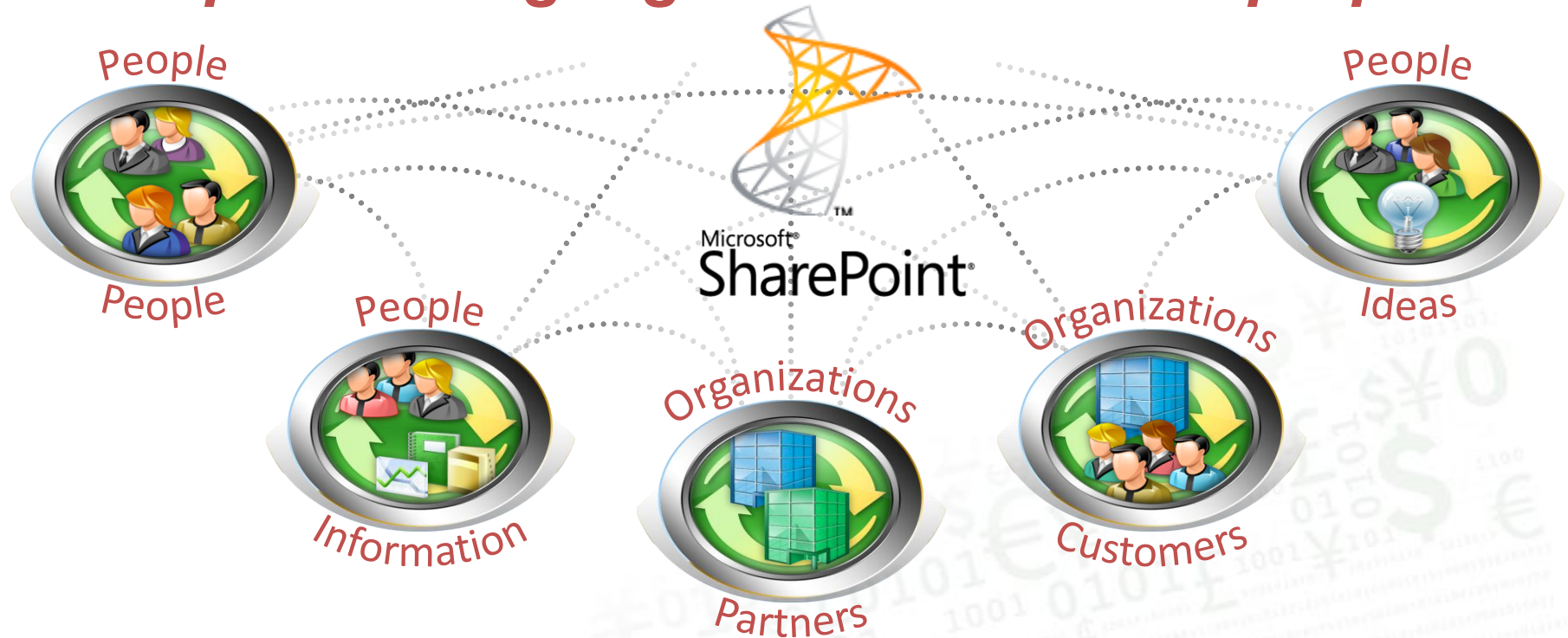
*"The Proactive Maintenance Gateway based upon the **Accenture Plant Performance Solution** correlates plant data and information relative to critical equipment and systems. This interplay of information provides the advanced analytics and system access required to detect, diagnose, and prioritize developing equipment and process problems."*

- David Thomason, Information Technology – Plant Applications at RRI Energy



# Enterprise Collaboration

*People working together for a shared purpose*





# Connect With People And Expertise

*Streamline how you find and collaborate with others*

The screenshot displays a 'People Search Results' interface. On the left, a sidebar contains filters for 'Name', 'Expertise', 'Job Title', 'Interests', and 'Past projects'. A callout 'Filter by title, expertise & other attributes' points to these filters. The main area shows a list of people, each with a profile picture, name, title, and contact information. Callouts highlight specific features: 'Phonetic name lookup' points to a search bar; 'Expertise matching' points to a 'Sort by' dropdown; 'Org browsing' points to a 'Browse in organizational chart' link; 'Real-time presence' points to a 'View recent content' link; and 'Find recent content' points to a 'View recent content' link. The interface also includes a 'Search' button, a 'People' tab, and a 'Sort by' dropdown.

Filter by title, expertise & other attributes

Phonetic name lookup

Expertise matching

Org browsing

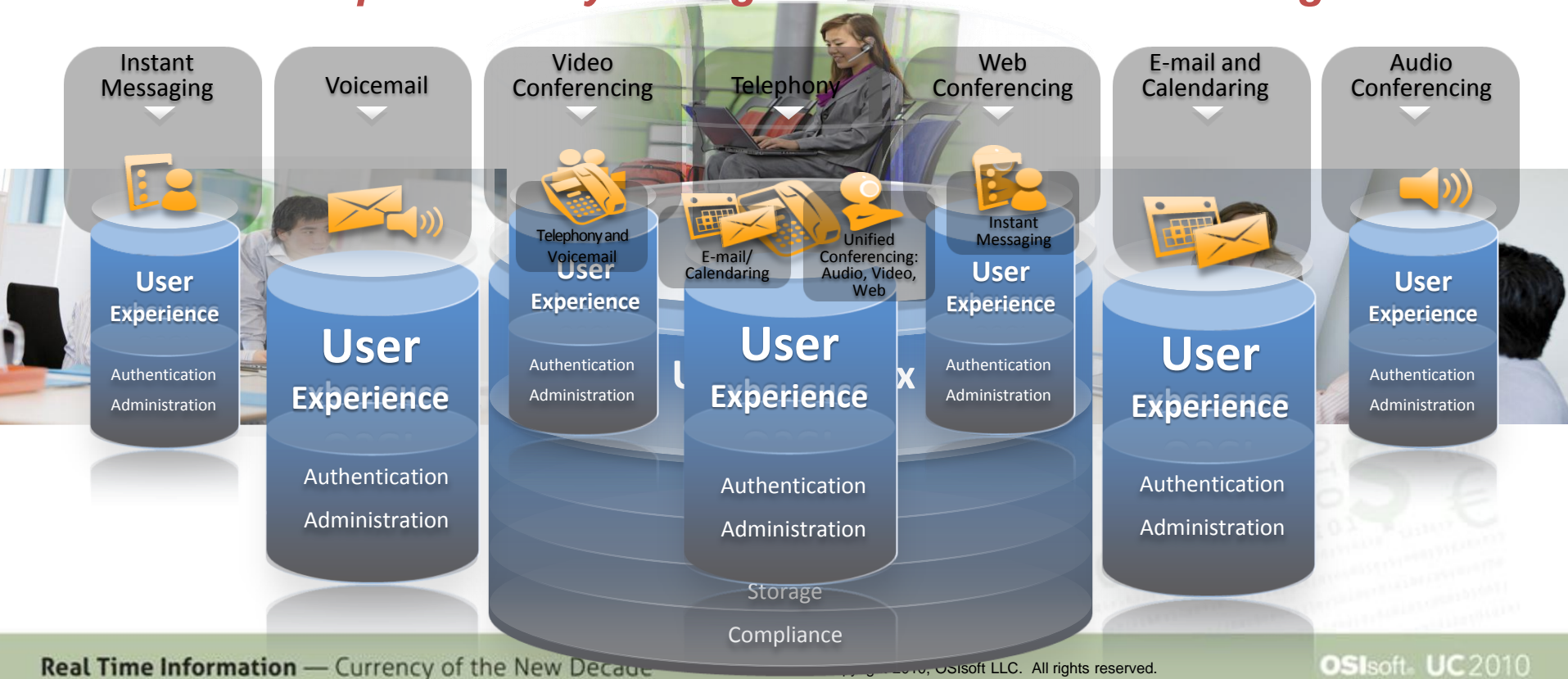
Real-time presence

Find recent content



# Unified Communications

*Increased productivity through communications convergence*



# Today's Business Insight Challenges...



Improve my ability to act on data early in the cycle versus after the fact?  
Produce ability for self-service analysis without going to IT?  
Provides use of tools that are familiar and intuitive?  
Provide capability to share my insights with others?

Ensure consolidated, validated, and trusted data?  
Deploy for real time performance and scale?  
Efficiently manage large data volumes?  
Get started fast but build to last?



# What is Complex Event Processing (CEP)?

The continuous and incremental processing of event streams, from multiple sources, based on declarative query and pattern specifications, with near-zero latency

	<i>Database</i>	<i>Complex Event Processing</i>
<i>Query Paradigm</i>	Ad-hoc queries	Continuous “standing” queries
<i>Latency</i>	Seconds, hours, days	Milliseconds or less
<i>Data Rate</i>	1000s of events/second	10x K to 100x K events/second



# StreamInsight – User Scenarios

## ***Manufacturing & Utilities*** *Process Monitoring & Control*

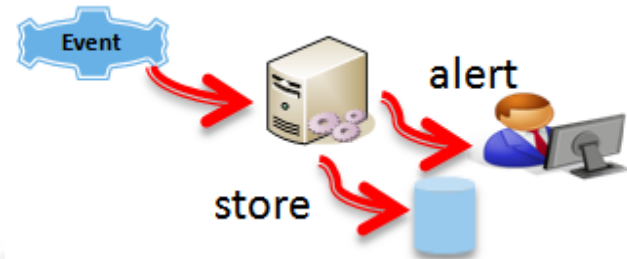
- Sensor-based plant floor monitoring
- Monitoring energy consumption
- Alerting on event detection
- Data cleansing and validation

## ***Continuous Intelligence*** *Real-time data warehousing*

- Low-latency data processing and fact table generation
- Continuous query aggregations and correlations
- Real-time analysis of aggregated data
- Real time predictive analytics

## ***Finance/Trading*** *Algorithmic Trading*

- High volume data processing
- Time-critical processing and alerting
- Short opportunity window for profit
- Smart filtering of input data



# Microsoft BI Vision And Strategy

## *Democratizing business intelligence*

Improving organizations by providing business insights to ***all*** employees leading to better, faster, and more relevant decisions

- Delivered through a familiar environment
- Integrated into business productivity infrastructure
- Built on a trusted and extensible platform



# Excel 2010

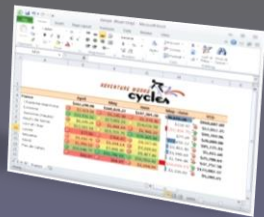
## User Experience And Collaboration

Work  
together...



...across the  
PC, phone,  
and browser...

...to bring  
ideas to  
life.



## Data Analysis and Visualization

Analyze with Slicer...



Spot trends  
with  
Sparklines



PowerPivot  
Self-Service  
Business  
Intelligence

## Hosted Spreadsheet and Programmability

Microsoft®  
**SharePoint® 2010**  
Excel Services

Extensible  
Platform



REST API  
Web Services API  
JavaScript OM

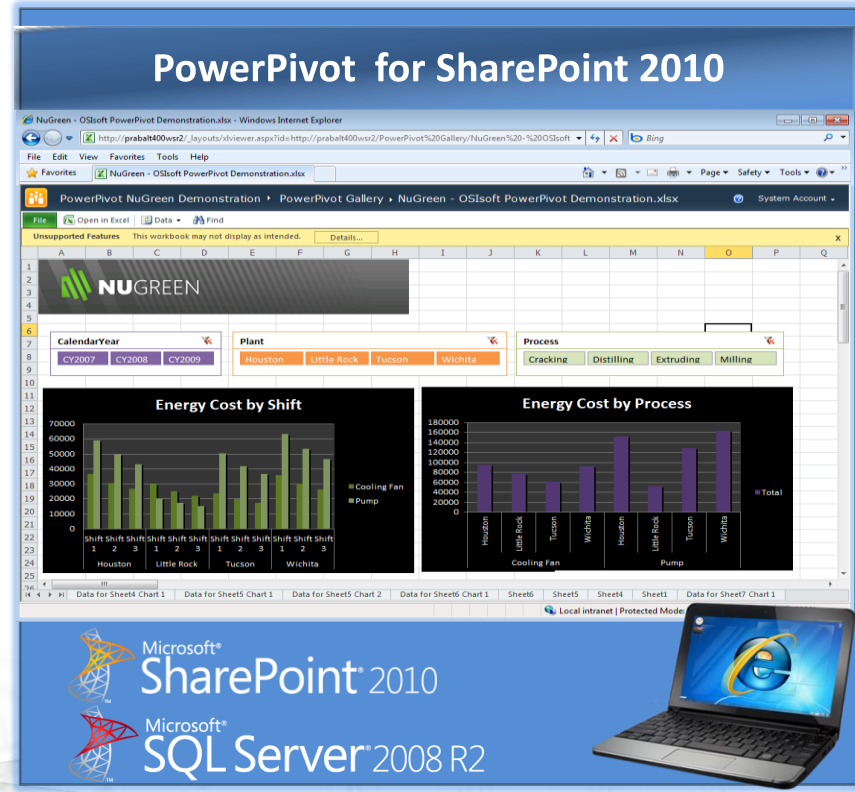
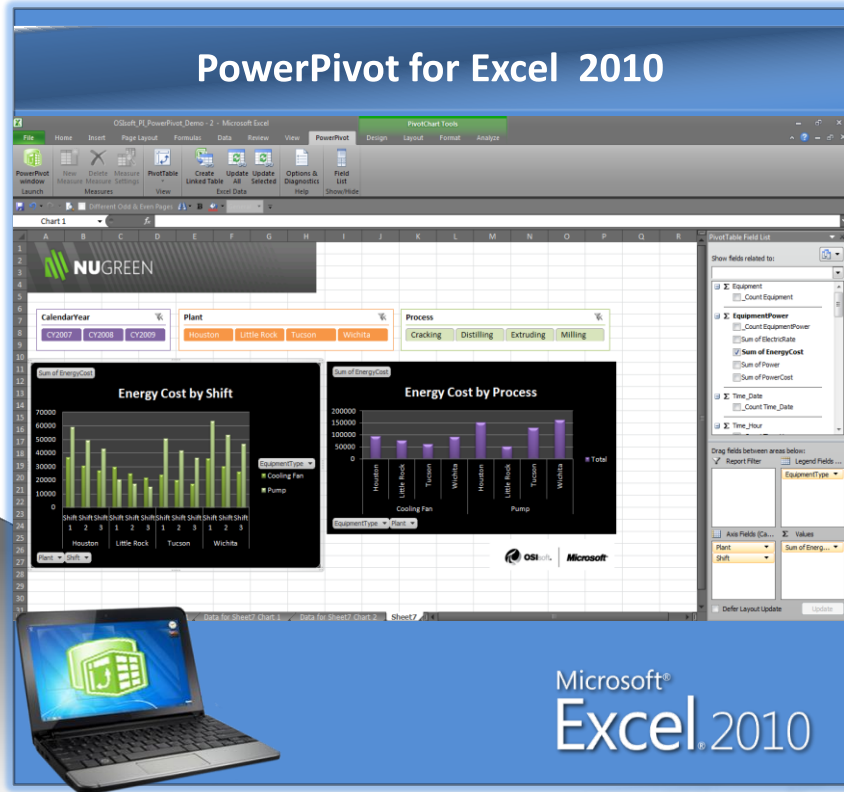


64-Bit Excel

High  
Performance  
Computing



# Consistent User Experience With PowerPivot



# Making BI Meaningful



# Looking forward to 2010

A demo of Technology Available Now

**John Schlitt - Business Manager**  
**Automation COE, Nalco**

NalcoDemo - Home - Windows Internet Explorer

http://dfpiweb2010/NalcoDemo/SitePages/Home.aspx

Bing

Favorites

NalcoDemo - Home

Site Actions

Browse

Page

John Sanders

NalcoDemo

Home

NalcoDemo

Search this site...

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Heat Exchanger Performance Report

Site Pages

Shared Documents

Nalco Displays

Lists

Calendar

Tasks

Discussions

Team Discussion

Recycle Bin


All Site Content

Welcome to Nalco Heat Exchanger Monitoring!

Demo Site

Essential Expertise for Water, Energy and Air<sup>SM</sup>

Welcome to Nalco's North American Web Site. Nalco Company is the world's leading water treatment and process improvement company. We help our customers reduce energy, water and other natural resource consumption, minimizing environmental releases while boosting the bottom line. Through our sales, service, research and marketing team of more than 7,000 technically trained professionals, we serve more than 70,000 customer locations in over 130 countries.













Share this site


Change site theme

Set a site icon

Customize the Quick Launch

Shared Documents

Type	Name	Modified	Modified By
	FCC-SRU Critical HX Monitoring	4/16/2010 12:16 PM	 John Sanders
	MISO Critical HX Monitoring	4/16/2010 12:16 PM	 John Sanders
	Oclan_Sugarland_Production_Metrics_HXs	4/16/2010 12:16 PM	 John Sanders
	RL0P Critical HX Monitoring	4/16/2010 12:16 PM	 John Sanders
	SISO Critical HX Monitoring	4/16/2010 12:16 PM	 John Sanders

 Add document

NalcoDemo - Home - Windows Internet Explorer

http://dfpiweb2010/NalcoDemo/SitePages/Home.aspx

4 X Bing

★ Favorites NalcoDemo - Home

Site Actions Browse Page John Sanders

NalcoDemo Home

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[Heat Exchanger Performance Report](#)

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	RLCP Critical HX Monitoring	4/16/2010 12:16 PM	 John Sanders
	SISO Critical HX Monitoring	4/16/2010 12:16 PM	 John Sanders

 Add document

Links: Excel Web Access - Exchanger Data Cube Dashboard keynote

☐ URLHeat  
Exchanger  
DetailAdd new  
link

Process
LEP
REF
CPU

Tube Type
ST
U

# Critical HX Monitoring

Exchanger	Water		CW Flow		U-Value		Heat	
	Velocity Feet/Sec	Skin Temp Deg. F	GPM		BTU/ (hr/ft <sup>2</sup> /deg F)		Load MMBTU	Heat Flux BTU/hr/ft <sup>2</sup>
E-163-A	3.70	77	2237		45.5		5.1	352.1
E-163-C	3.80	78	2298		48.0		5.8	401.1
E-191-A	2.31	101	4360		62.8		36.6	2782.4
E-191-B	3.08	80	4360		52.1		13.7	1027.2
E-256-A	2.46	97	1726		117.8		6.4	1082.2
E-256-B	2.47	89	1732		130.8		5.4	911.8
E-256-C	2.46	84	1728		141.9		8.0	1362.3
E-271	4.43	132	1930		153.3		40.9	9922.5
E-343	1.79	97	249		63.3		2.6	2443.0
E-38-A	1.81	105	3752		50.9		34.2	2378.9
E-38-B	1.95	82	3731		48.6		13.1	980.1
E-77-A	2.23	105	4204		61.8		36.4	2768.5
E-77-B	2.16	84	4246		57.1		19.0	1391.1
E-98-A	1.58	108	2986		47.3		29.3	2227.0
E-98-B	1.54	86	3013		45.3		15.6	1141.8



Links: Excel Web Access - Exchanger Data Cube Dashboard keynote

URL

Heat  
Exchanger  
Detail

Add new  
link

File Open in Excel Data Find

# Critical HX Monitoring

DF PI Notifications - \DFPI2010RC\Nalco\Nalco\Hydropro...

John Sanders  
DF PI Notifications

DF PI Notifications  
- \DFPI2010RC\Nalco\Nalco  
[Water Flow Critical] gener

Name: Skin Temp. Critic  
Server: DFPI2010RC  
Database: Nalco  
Start Time: 4/22/2010  
Trigger Time: 4/22/2010 2:20:12 PM  
Target: \DFPI2010RC\Nalco\Nalco\Hydroprocessing\Unit 3\E-271  
Value: OutsideControl  
Priority: High

Trigger Input:  
\DFPI2010RC\Nalco\Nalco\Hydroprocessing\Unit 3\E-271|Skin  
Temp: 134.654006958008

Link:  
[Skin Temp Critical Trend](#)  
[Heat Exchanger Detail](#)

Actions:  
[Acknowledge](#)  
[Acknowledge with Comment](#)

Last message received on 4/22/2010 at 2:20 PM.

Invite

- Invite a Contact...
- Invite by E-mail...
- Invite by Page...
- Invite from Current Conversations
- No current conversations.
- Conference Actions
- ☒ Show Participant List
- Add This Conversation

U-Value (hr/ft <sup>2</sup> /deg F)	Heat Load MMBTU	Heat Flux BTU/hr/ft <sup>2</sup>
45.5	5.1	352.1
48.0	5.8	401.1
62.8	36.6	2782.4
52.1	13.7	1027.2
117.8	6.4	1082.2
130.8	5.4	911.8
141.9	8.0	1362.3
153.3	40.9	9922.5
63.3	2.6	2443.0
50.9	34.2	2378.9
48.6	13.1	980.1
61.8	36.4	2768.5
57.1	19.0	1391.1
47.3	29.3	2227.0
45.3	15.6	1141.8

Links: Excel Web Access - Exchanger Data Cube Dashboard keynote

URL

Heat  
Exchanger  
Detail

Add new  
link

File Open in Excel Data Find

# Critical HX Monitoring

Process

LEP

REF

CPU

Tube Type

ST

DF PI Notifications - \\DFPI2010RC\Nalco\Nalco\Hydropro...

John Sanders

DF PI Notifications

DF PI Notifications 2:13 PM

\\DFPI2010RC\Nalco\Nalco\Hydroprocessing\Unit 3\E-171\Notifications [Water Flow Critical] generated a new notification event.

Name: Skin Temp. Critical  
Server: DFPI2010RC  
Database: Nalco  
Start Time: 4/22/2010 2:13:23 PM  
Trigger Time: 4/22/2010 2:13:23 PM  
Target: \\DFPI2010RC\Nalco\Nalco\Hydroprocessing\Unit 3\E-271  
Value: OutsideControl  
Priority: High

Trigger Input:  
\\DFPI2010RC\Nalco\Nalco\Hydroprocessing\Unit 3\E-271\Skin Temp: 134.698471069336

Link:  
[Skin Temp Critical Trend](#)  
[Heat Exchanger Detail](#)

Actions:  
[Acknowledge](#)  
[Acknowledge with Comment](#)

Last message received on 4/22/2010 at 2:13 PM

Tube	Heat Load	Heat Flux
BTU/2/deg F	MMBTU	BTU/hr/ft2
45.5	5.1	352.1
48.0	5.8	401.1
52.8	36.6	2782.4
52.1	13.7	1027.2
17.8	6.4	1082.2
30.8	5.4	911.8
41.9	8.0	1362.3
53.3	40.9	9922.5
53.3	2.6	2443.0
50.9	34.2	2378.9
48.6	13.1	980.1
51.8	36.4	2768.5
57.1	19.0	1391.1
47.3	29.3	2227.0
45.3	15.6	1141.8

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Process

LEP

REF

CPU

Tube Type

ST

DF PI Notifications - \\DFPI2010RC\Nalco\Nalco\Hydropro...

John Sanders

DF PI Notifications

DF PI Notifications 2:13 PM

\\DFPI2010RC\Nalco\Nalco\Hydroprocessing\Unit 3\E-171\Notifications  
[Water Flow Critical] generated a new notification event.

Name: Skin Temp. Critical  
Server: DFPI2010RC  
Database: Nalco  
Start Time: 4/22/2010 2:13:23 PM  
Trigger Time: 4/22/2010 2:13:23 PM  
Target: \\DFPI2010RC\Nalco\Nalco\Hydroprocessing\Unit 3\E-271  
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Priority: High

Trigger Input:  
\\DFPI2010RC\Nalco\Nalco\Hydroprocessing\Unit 3\E-271\Skin Temp:  
134.698471069336

Link:  
[Skin Temp Critical Trend](#)  
[Heat Exchanger Detail](#)

Actions:  
[Acknowledge](#)  
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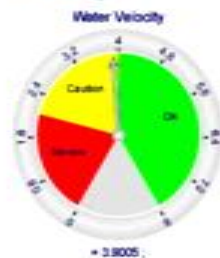
Tube	Heat Load	Heat Flux
BTU/2/deg F	MMBTU	BTU/hr/ft2
45.5	5.1	352.1
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17.8	6.4	1082.2
30.8	5.4	911.8
41.9	8.0	1362.3
53.3	40.9	9922.5
53.3	2.6	2443.0
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51.8	36.4	2768.5
57.1	19.0	1391.1
47.3	29.3	2227.0
45.3	15.6	1141.8

NalcoDemo ▸ HeatExchanger

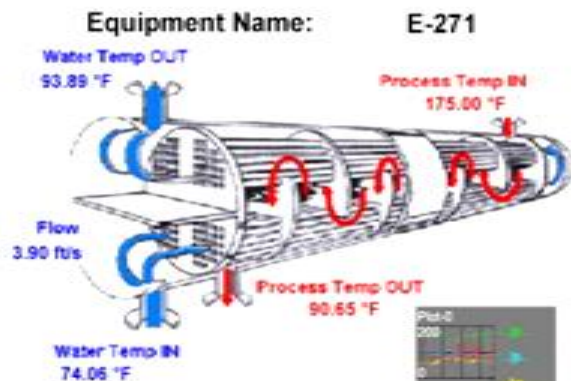
Search this site...



PI Gauge



PI Graphic



PI Table

Asset ID	Description	Date	Work Order No.
E-98-A	Plugged 15 tubes.	2/3/2010	2345-00
E-367	Replaced head gasket.	2/4/2010	3920-20
E-808	Hydroblasted bundle.	3/4/2010	2459-39
E-271	Repair baffle.	3/25/2010	2678-44
E-256-B	Plugged 7 tubes.	4/7/2010	3798-56
E-893	Retubed bundle.	3/27/2010	2345-98
E-808	Hydroblasted bundle.	3/6/2010	2145-00
E-77-A	Backflushed shell-side.	2/28/2010	2134-63
E-98-A	Replaced thermowell.	4/15/2010	3428-09
	Full bundle and hydroblast.		3387-83

Excel Web Access - Exchanger Data Cube Dashboard keynote2

File Open in Excel Data ▾ Find

Process

ExchangerID

Excel Web Access - Exchanger Data Cube Dashboard keynote2

File  Open in Excel  Data  FindProcess 

Exchanger ID

Microsoft®  
Excel.2010 Office

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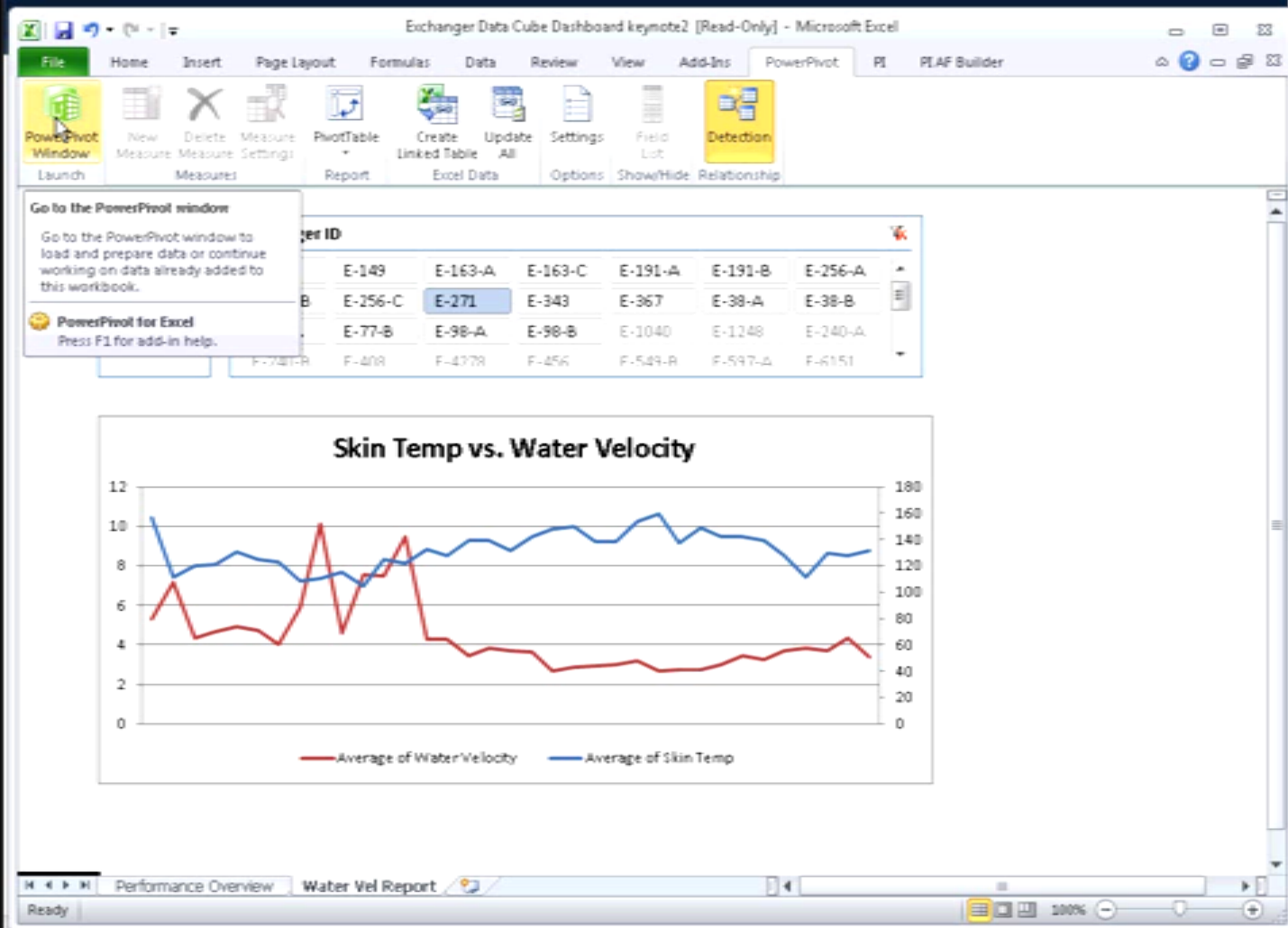
Cancel

367	E-38-A	E-38-B
1040	E-1248	E-240-A
549-B	E-597-A	E-6151

Velocity

2  
0180  
160  
140  
120  
100  
80  
60  
40  
20  
0

— Average of Water Velocity — Average of Skin Temp





PowerPivot for Excel - Exchanger Data Sort keynote.xlsx

Home Design

Paste Append Paste Replace Copy

From Database From Report From Text From Other Sources Refresh

Get External Data

Data Type: Text Format: Text \$ - % + -

Sort A to Z Sort Z to A Clear Sort Clear All Filters

Freeze Column Width

Sort and Filter View

PivotTable PivotChart Chart and Table (Horizontal) Chart and Table (Vertical) Two Charts (Horizontal) Two Charts (Vertical) Four Charts Flattened PivotTable

Customer	Refinery	Process	Exchanger ID	Time	Water Out deg F	Process In deg F
RefiningCo	Chesterfield	REF	E-147	4/1/2003		
RefiningCo	Chesterfield	REF	E-147	4/1/2003		
RefiningCo	Chesterfield	REF	E-147	4/1/2003		
RefiningCo	Chesterfield	REF	E-147	4/1/2003		
RefiningCo	Chesterfield	REF	E-147	4/1/2003		
RefiningCo	Chesterfield	REF	E-147	4/1/2010	2947.90	84.23
RefiningCo	Chesterfield	REF	E-147	4/1/2010	2659.82	75.99
RefiningCo	Chesterfield	REF	E-147	4/1/2010	2188.06	62.52
RefiningCo	Chesterfield	REF	E-147	4/1/2010	2471.20	70.61
RefiningCo	Chesterfield	REF	E-147	4/1/2010	2231.31	63.75
RefiningCo	Chesterfield	REF	E-147	4/1/2010	2211.78	63.19
RefiningCo	Chesterfield	REF	E-147	4/1/2010	2622.00	74.91
RefiningCo	Chesterfield	REF	E-147	4/1/2010	2851.57	81.47
RefiningCo	Chesterfield	REF	E-147	4/1/2010	2573.75	73.54
RefiningCo	Chesterfield	REF	E-147	4/1/2010	2193.15	62.66
RefiningCo	Chesterfield	REF	E-147	4/1/2010	2275.27	65.01
RefiningCo	Chesterfield	REF	E-147	4/1/2010	2592.13	74.06
RefiningCo	Chesterfield	REF	E-147	4/1/2010	2609.58	74.56
RefiningCo	Chesterfield	REF	E-147	4/1/2010	2220.24	63.44
RefiningCo	Chesterfield	REF	E-147	4/1/2010	2528.49	72.24
RefiningCo	Chesterfield	REF	E-147	4/1/2010	2750.50	78.59
RefiningCo	Chesterfield	REF	E-147	4/1/2010	2741.35	78.32
RefiningCo	Chesterfield	REF	E-147	4/1/2010	2851.93	81.48

Flows and Temperatures

Record: 1 of 432,438

Exchanger Data Cube Dashboard keynote - Microsoft Excel

File Home Insert Page Layout Formulas Data Review View Add-Ins PowerPivot PLAF Builder

PowerPivot Window Launch New Measure Delete Measure Measure Settings PivotTable Report Create Linked Table Excel Data Update All Settings Field List Detection Options Show/Hide Relationship

	A	B	C	D	E	F	G	H
1	Process		Row Labels	Average of Water Velocity	Sum of Heat Load MMBTU	Sum of Heat Flux	Sum of Skin Temp	Sum of U
2	LEP	REF	E-163-A	3.699311307	167.2627032	11617.96659	2552.66018	1502
3			E-163-C	3.799875012	190.5483168	13235.37128	2581.34181	158
4			E-191-A	2.309244405	1206.605012	91820.5764	3339.781859	2073
5	Tube Type Straight or U-T		E-191-B	3.083393355	452.346588	33896.33481	2642.881988	1718
6	ST	U	E-256-A	2.457739568	203.6182644	34631.8179	3099.626264	3770
7			E-256-B	2.466506243	171.5566356	29178.03536	2854.45446	4184
8			E-256-C	2.460276119	256.3191414	43594.28561	2693.992263	4542
9			E-271	4.434894842	1431.258592	347287.4957	4608.679942	5364
10			E-343	1.790747044	77.0936256	73289.88079	2920.542296	1899
11			E-38-A	1.813854364	1130.19043	78502.34631	3449.833285	1678
12			E-38-B	1.945838493	470.843874	35282.41843	2939.021982	1748
13			E-77-A	2.22651859	1200.566185	91361.03198	3459.971077	2040
14			E-77-B	2.163542937	684.0563076	50080.99477	3024.184243	2056
15			E-98-A	1.581629615	965.7329688	73490.62612	3577.336033	1561
16			E-98-B	1.535549987	561.4472988	41104.56833	3103.876208	1629
17			Grand Total	2.518847126	9169.445943	1048372.95	46848.18389	3735

Water Vel Report Sheet1

Ready

# Summary

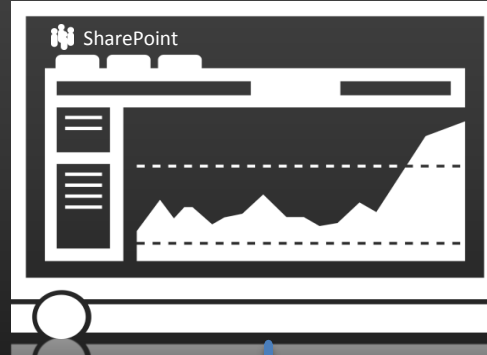
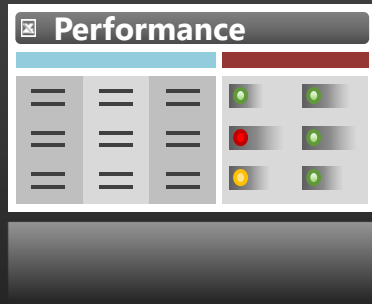
- Integrate multiple sources of data
- Consolidating massive amounts of data
- Quickly share reports via SharePoint
- Allows SME's to own and maintain
- Update in minutes rather than weeks
- PI Notifications/OCS = real-time alerting

**Put your Operational Data in front of everyone who needs it**

**Go see Multidimensional Data Breakout TODAY 3:30**



# Pulling Together Actionable Data

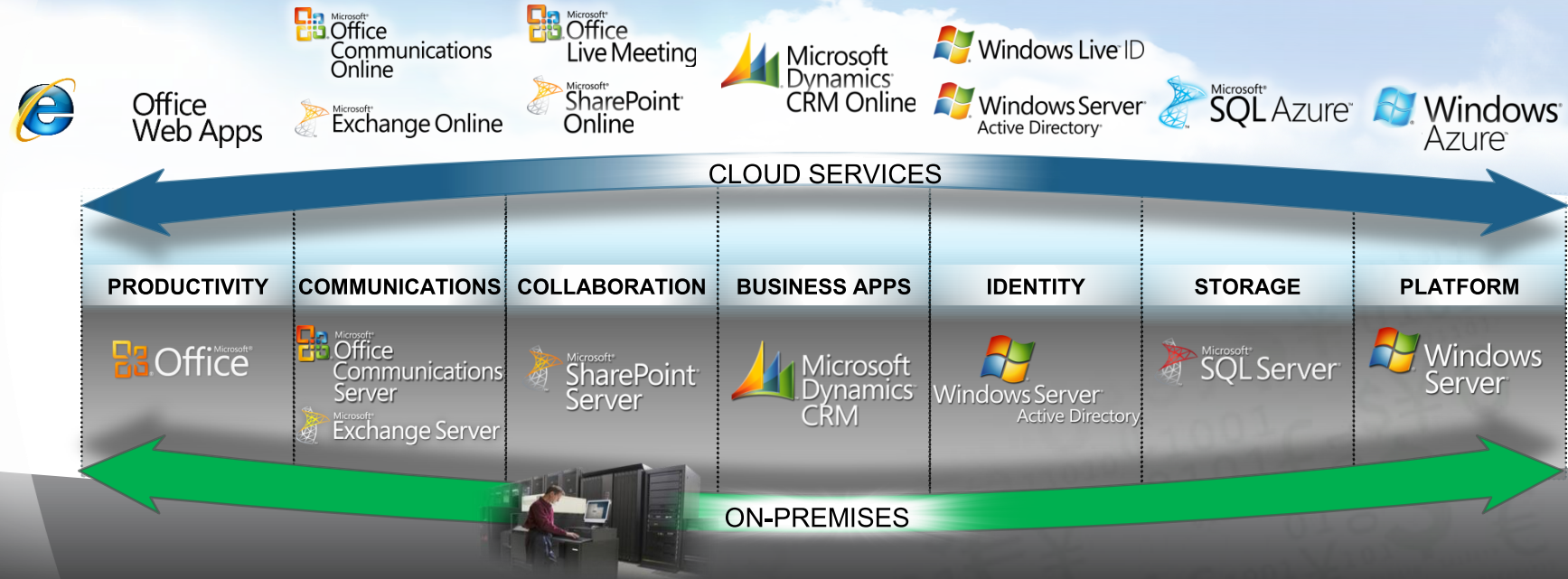


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# Microsoft Partnership With OSIsoft

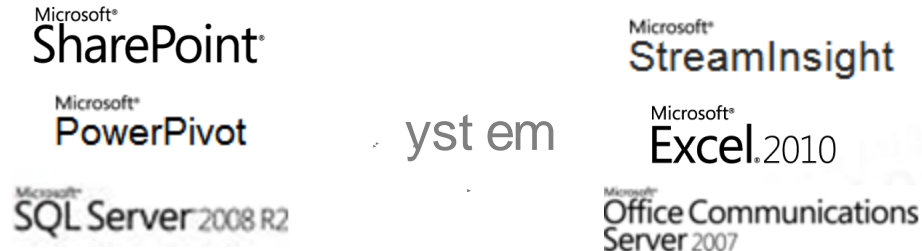
## 18 Year Development History



## Sustainability



## Engineering Roadmap



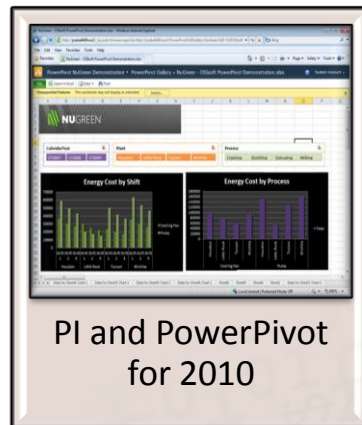
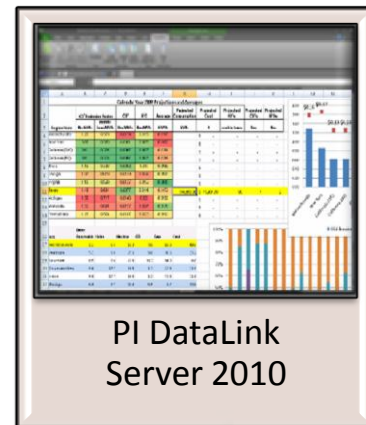
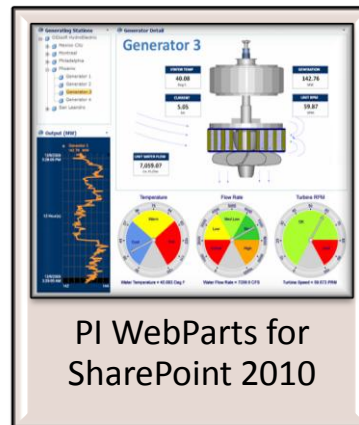
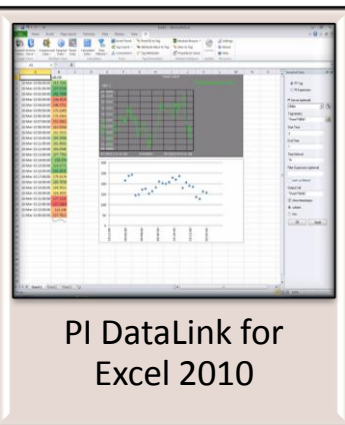
## Helping Customers Together



# OSIsoft's PI for Office 2010

Release H1 2010

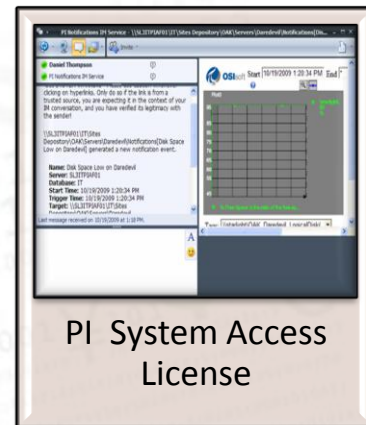
[www.osisoft.com/office2010](http://www.osisoft.com/office2010)



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# Thank you!

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