

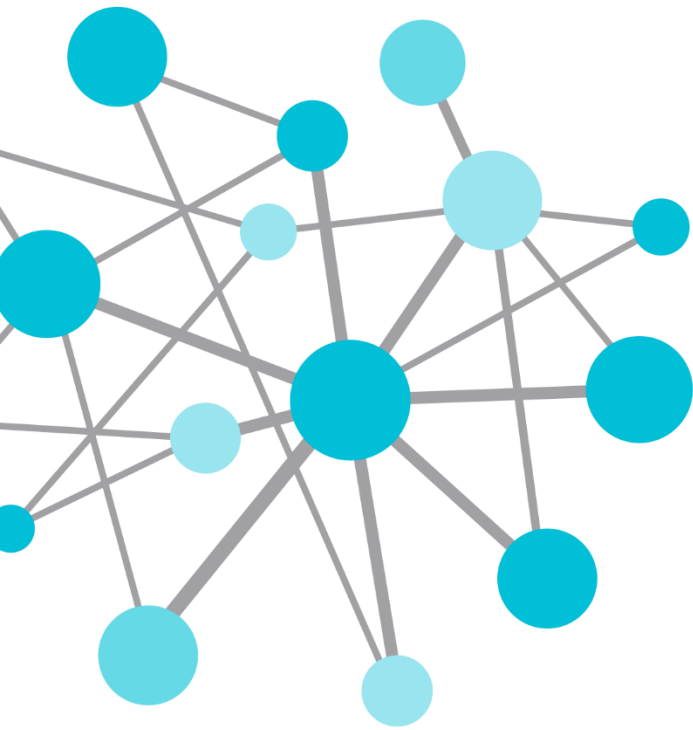
OSIsoft®

# FEDERAL WORKSHOP 2014

The **Power** of **Data**

DECISION READY IN REAL-TIME

October 29, 2014 - Washington, DC



# Enterprise Utility Operations & Planning with the OSIsoft PI System

Presented by **Timothy Schwarz, PE**  
**Lead Engineer, System Operations**  
**Pepco Holdings Inc.**





# Enterprise Utility Operations & Planning with the OSIsoft PI System



# About Pepco Holdings, Inc. (PHI)

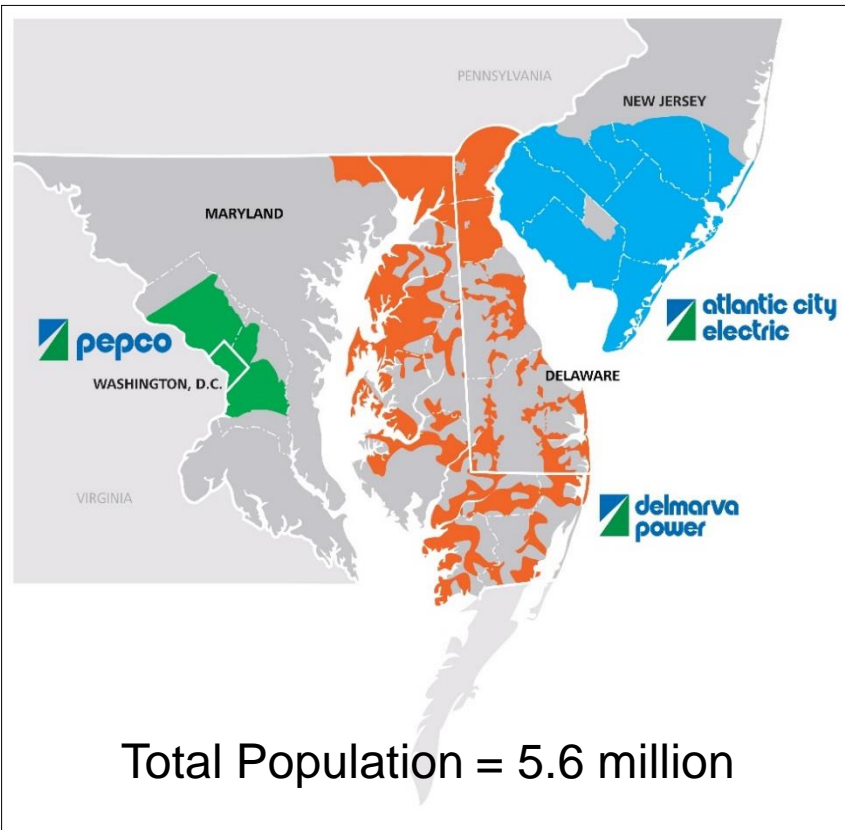
Approximately 2 million customers:  
Delaware, the District of Columbia,  
Maryland & New Jersey

- Atlantic City Electric, Delmarva Power and Pepco provide regulated electricity service
- Delmarva Power also provides natural gas service
- Pepco Energy Services is a non-regulated subsidiary that provides energy efficiency and renewable energy services



# Pepco Energy Holdings, Inc. Quick Facts

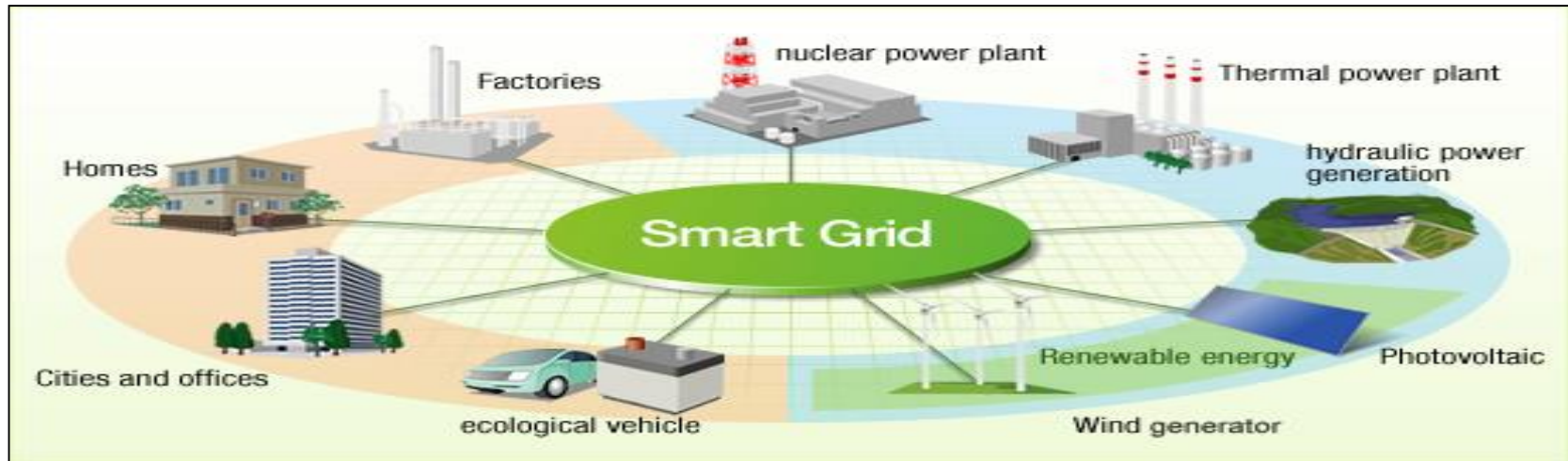
- Incorporated in 2002
- Service territory 8,340 miles<sup>2</sup>
- Customers served
  - Atlantic City Electric: 545,000 Electric
  - Delmarva Power: 503,000 Electric & 125,000 Natural gas
  - Pepco: 793,000 Electric





# PHI Sees a Growing Need for More Operations Data

- Historically, data received & stored from major transmission substations
- Today, PHI requires greater visibility into all areas of the electrical system from 500k Volt substations to individual homes
- PHI uses the OSIsoft PI system to manage of this data and makes it available to growing numbers of users across the company to perform analytics



- We expect to just flip a switch to turn the lights on
- But Today's electrical system is highly dynamic
- Disturbances with electrical component operations can happen in sub-seconds

## Power is just constant ... right?



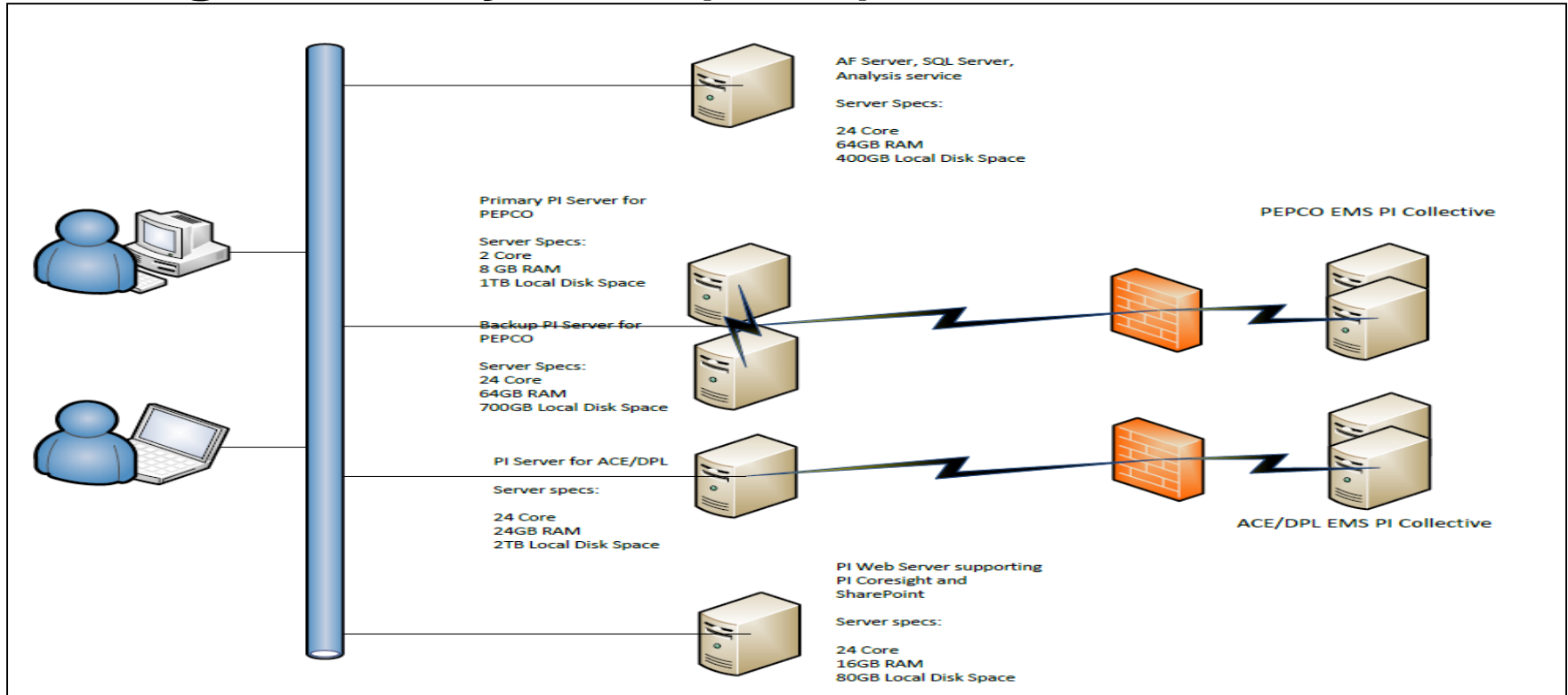
# Moving from a Static to a Dynamic Business



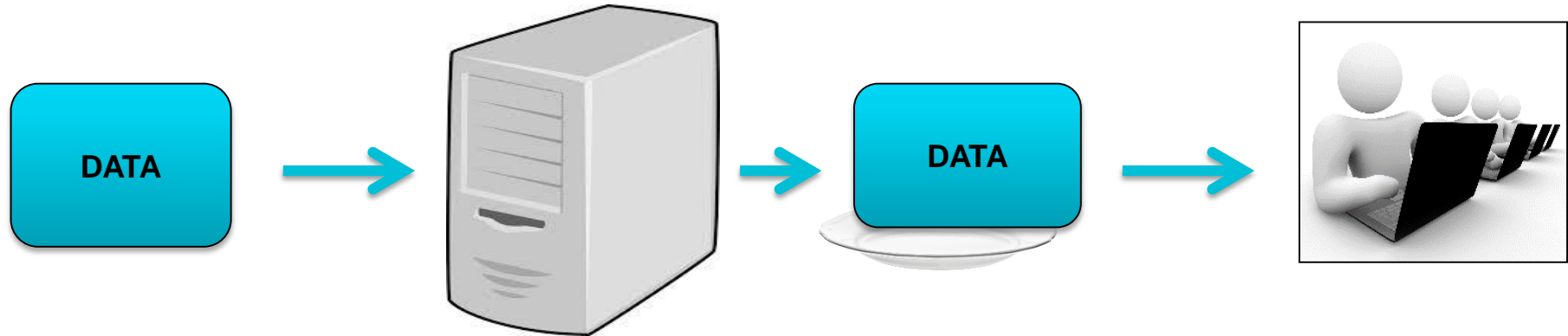
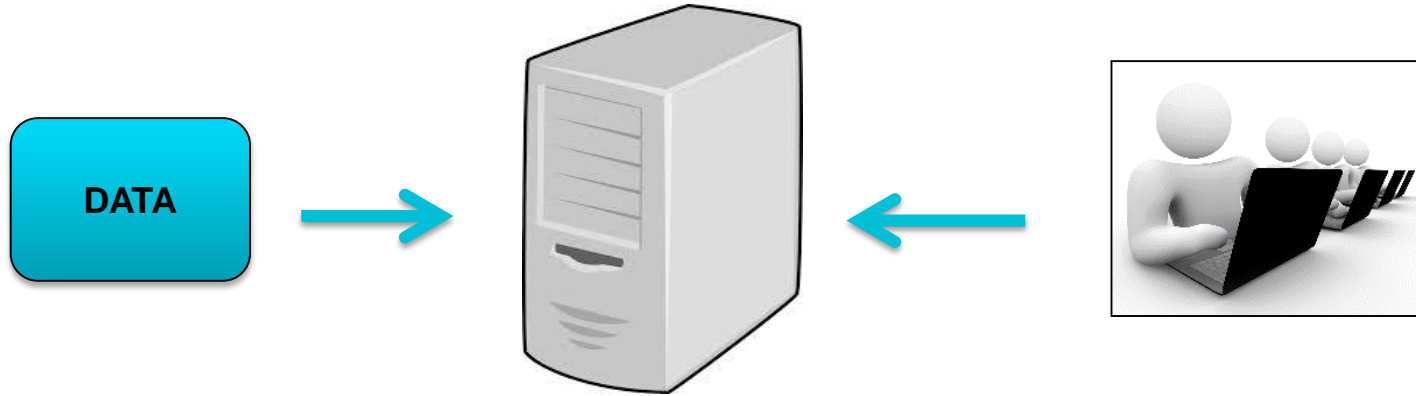
- Circuit breakers operate in milliseconds
- Synchrophasors record voltage, angle & frequency data @ 30 times per second
- The PI system captures this data and integrates system disturbances when they occur



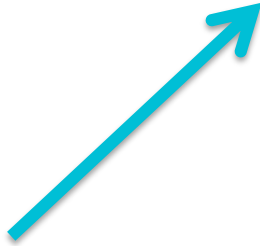
# A PI System Architecture for Pepco's Energy Management System (EMS)



# A Growing Key to Success



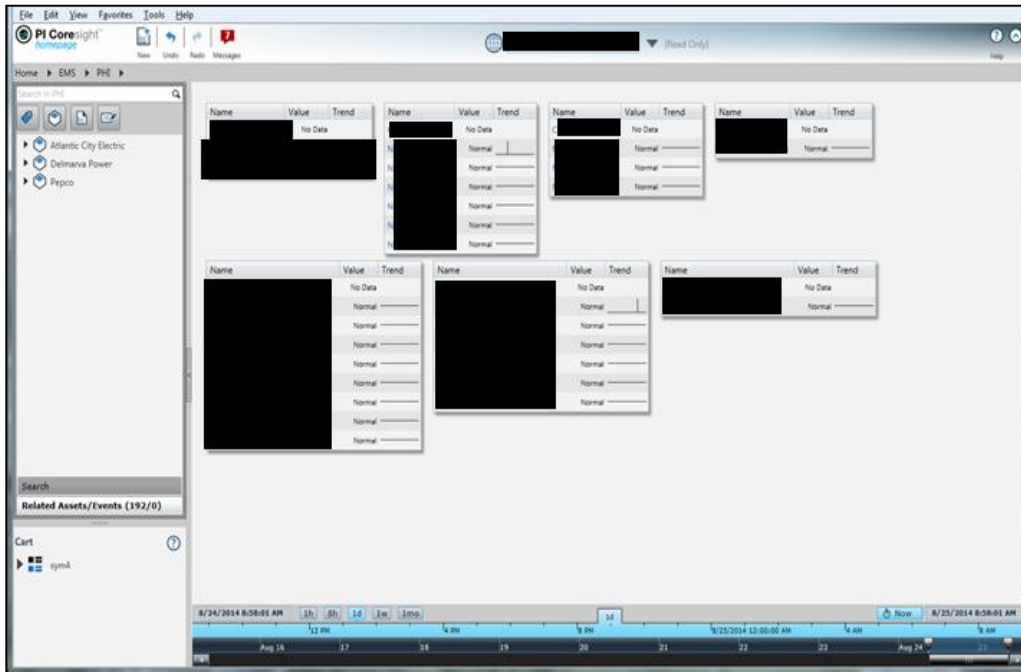
# PI System Tools



- PI Notifications are sent when certain conditions are met
- PI Event Frames make it easy to look for particular disturbances or scenarios that impact equipment and the system

# PI System Tools for Web Access

- Utilize Coresight with Ad Hoc displays to share with all users
- Custom web sites to query PI data utilizing the AF SDK



PHI ~ SCADA Alarm & Event Log - ACE, DPL, PEPCO

Regions: Delmarva Power

Station Name: Select Station

Time Filters: Starting Date: 08/25/2014 00:00:00, End Date: 08/25/2014 06:00:00

Search Filters: All Stations, Status Point / Analog Point

Submit Query

Search result returned 1596 records, click to export the data

SCADA Timestamp▲	Station Name	Point Name	Event Description	Point #	TLQ
08/25/14 00:00:45 EDT			Alarm		.N
08/25/14 00:00:53 EDT			Alarm		.N
08/25/14 00:00:55 EDT			Normal		..
08/25/14 00:00:57 EDT			Normal		..
08/25/14 00:01:49 EDT			Alarm		.AN
08/25/14 00:01:51 EDT			Alarm		.N
08/25/14 00:02:05 EDT			Normal		.A
08/25/14 00:02:05 EDT			Normal		..
08/25/14 00:02:17 EDT			PS_IN_EXEC COS by Pgm RTCA		.L
08/25/14 00:02:17 EDT			PS_NOT_EXEC COS by Pgm RTCA		.L
08/25/14 00:02:31 EDT			New viola: Case# 176CEDAR #8 TR		.L
08/25/14 00:02:32 EDT			Harmful contingencies in RTCA		.L
08/25/14 00:02:33 EDT			PS_CMPX_VIOL COS by Pgm RTCA		.L
08/25/14 00:03:35 EDT			PS_IN_EXEC COS by Pgm RTNA		.L
08/25/14 00:03:35 EDT			PS_NOT_EXEC COS by Pgm RTNA		.L
08/25/14 00:03:35 EDT			PS_NOT_EXEC COS by Pgm RTNA		.L
08/25/14 00:03:41 EDT			Alarm		.N
08/25/14 00:03:42 EDT			PS_CMPX_SUCC COS by Pgm RTNA		.L



<

➤

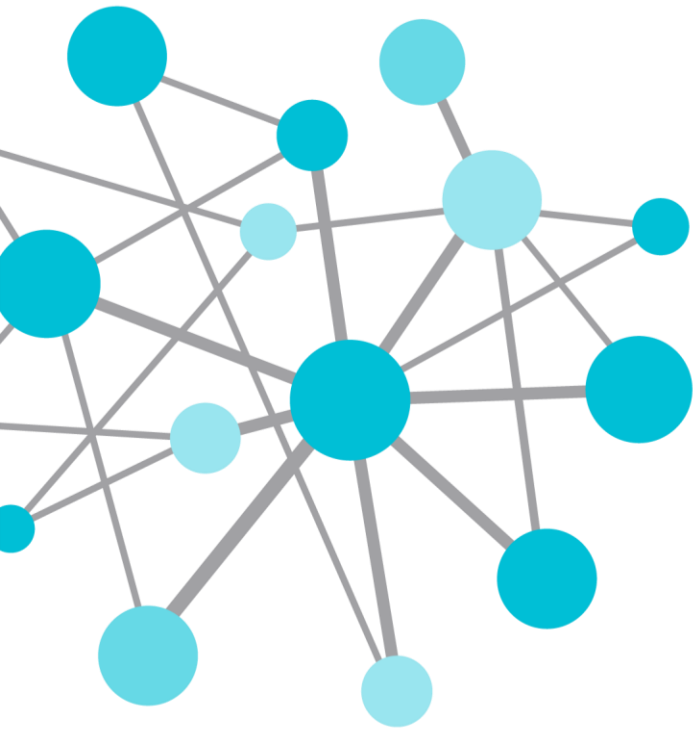
8/25/2014 11:50:58 AM



# Recent Challenges

- Pepco uses the PI System to store data from electric meters
- 1.4M customers with over 9M data points





THANK  
YOU

Brought to you by  **OSI**soft.



# Contact Information

Tim Schwarz

[trscharz@pepco.com](mailto:trscharz@pepco.com)

Lead Engineer System Operations

Pepco Holding Inc.

# QUESTIONS?

