



# Asia Energy Technology

Global Standard by Thai Engineer





PowerEx™

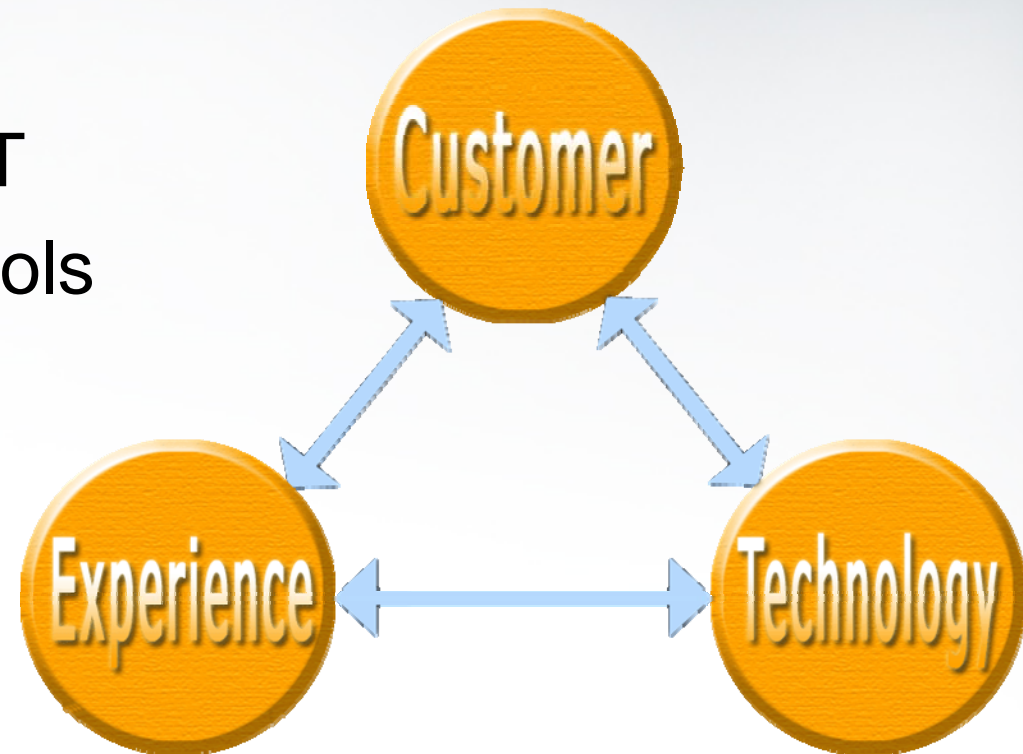


Asia energy Technology Co.,Ltd. (AET) is a Thai application software developer with focus on solution for energy industry and power utilities.

# PowerEx Concept Development

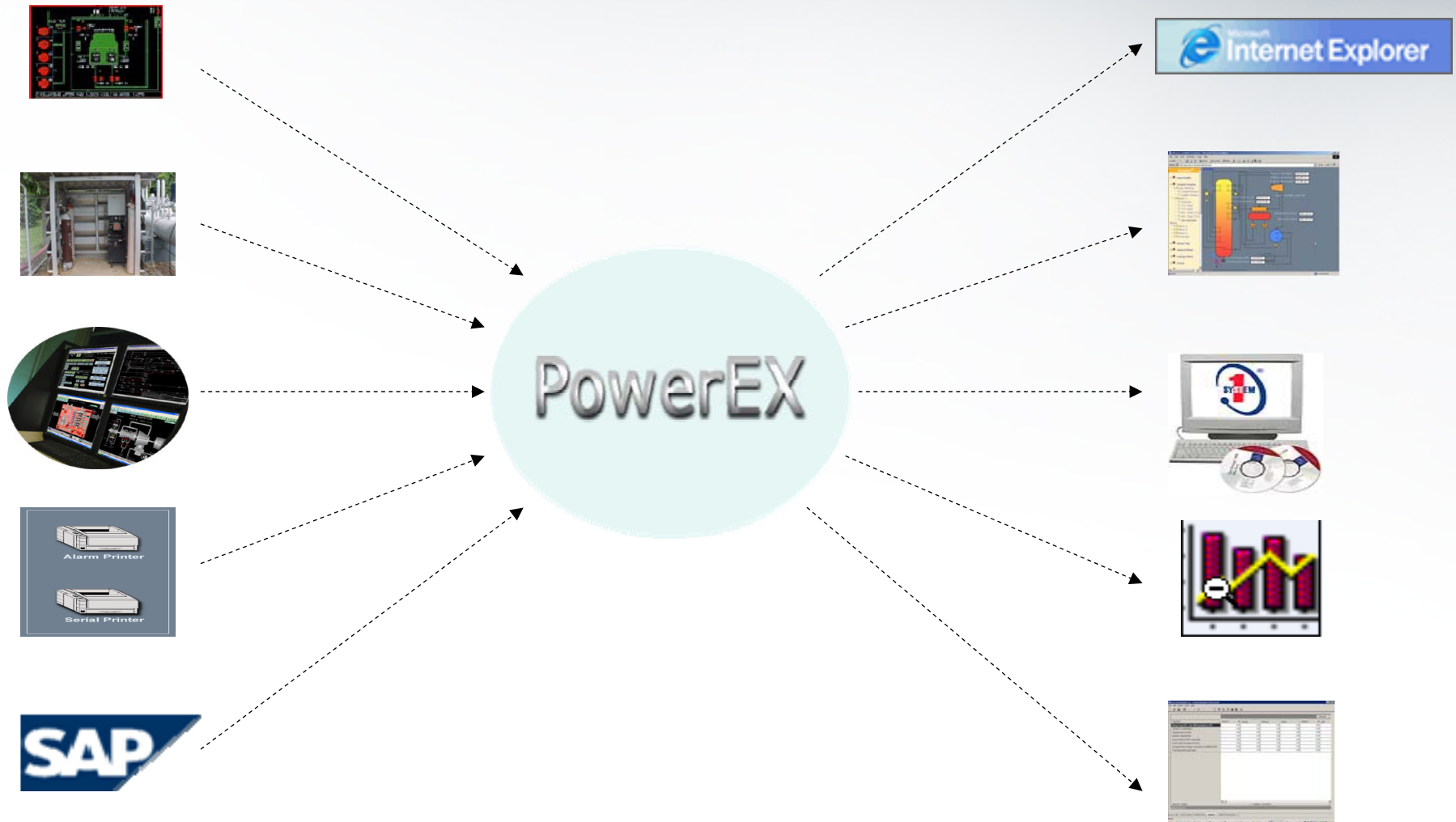


- Customer Requirement
- Automation Experience
- Creditability
- Merging of automation and IT
- Availability of general S/W tools



# What is PowerEx

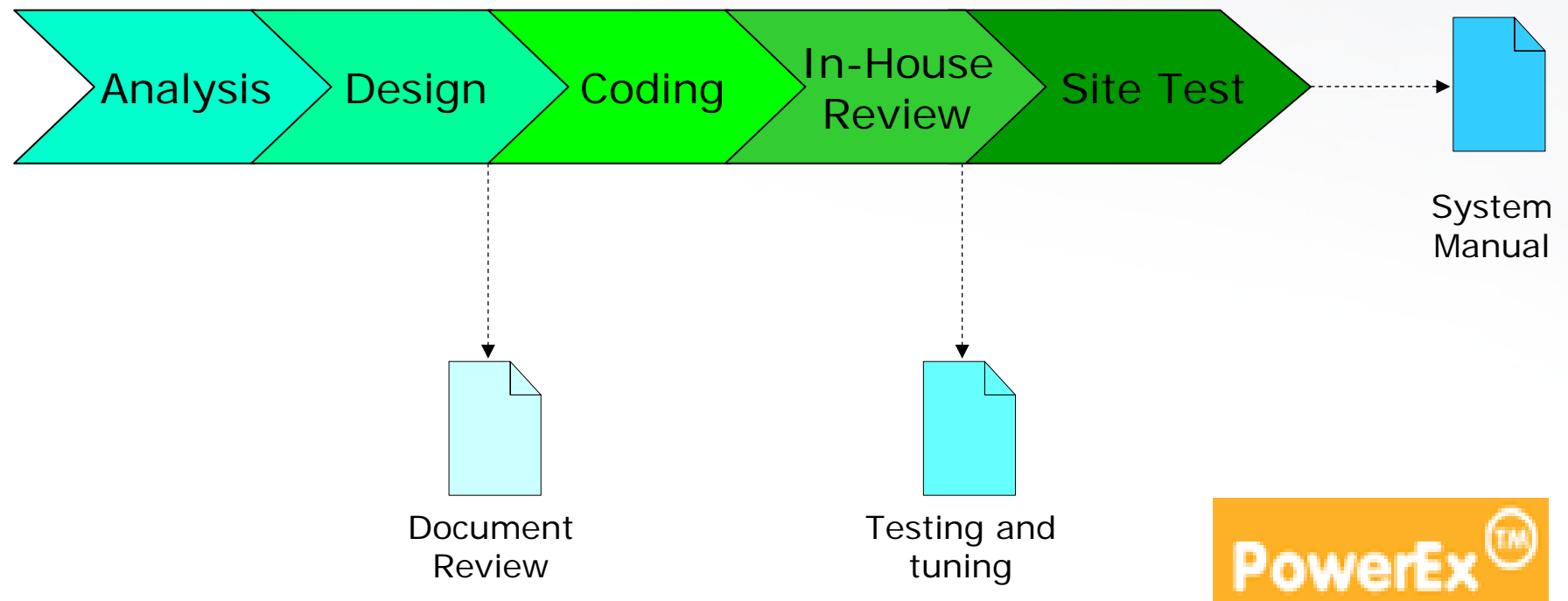
- Exchange Information for power plant management



# Global Standard by Thai Engineers



- IT (Intranet, Web Browser, HTTP ,XML)
- Automation (ModBus, OPC, ODBC, @aGlance)
- Methodology



# De facto Standard by Microsoft



- Window Operation System



- Internet Explorer



- SQL Database



- Web Server



# AET Customer - KEGCO Plant



- Plant-IT System
- Alarm Management System
- Preventive & Corrective Maintenance
- Outage Management



# AET Customer - KRABI Plant



- Power Plant Monitoring System
- Operator Log Sheet System



# AET Customer - GLOW Plant



- Alarm Management System
- Control and automation system audit



# AET Customer – GULF Plant



- Online Plant Monitoring System



# AET TEAM

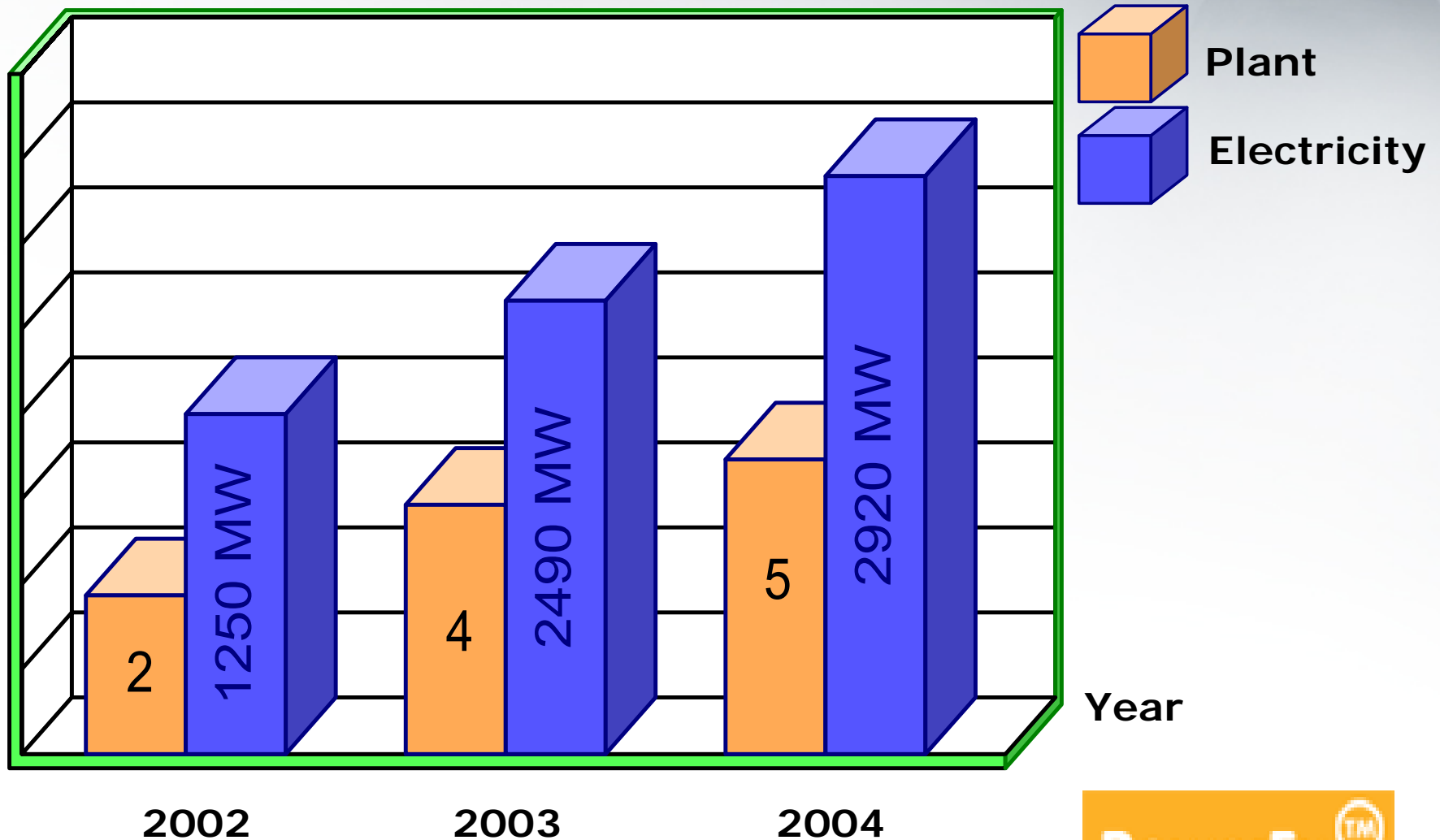


- Management with years of experience in power plant automation / IT
- Young staff from leading universities
- Support by training and Microsoft certification

# AET Performance



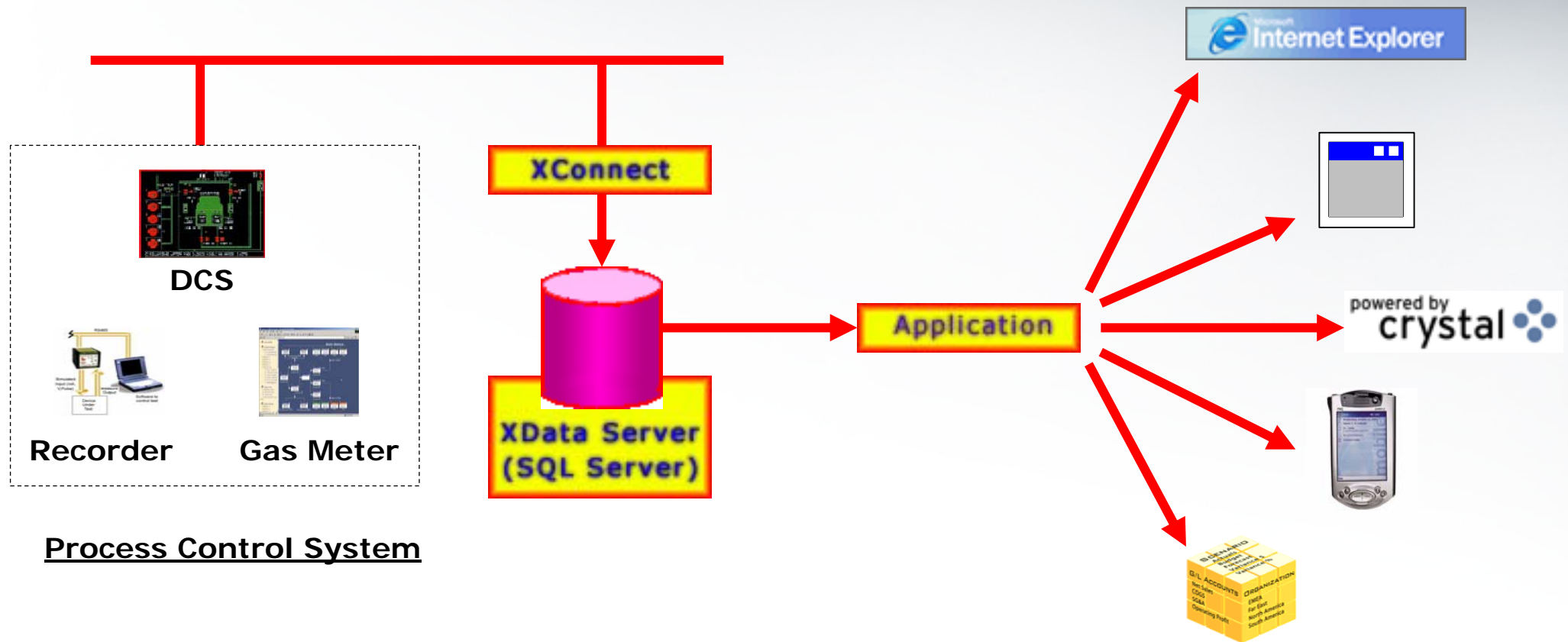
Performance



# PowerEx & XData



# PowerEx Architecture



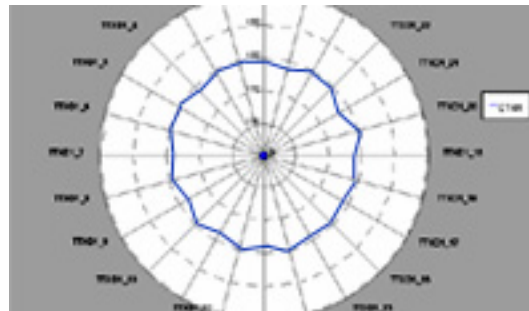
Process Control System

# PowerEx Component



## XDATA

- Based on Microsoft SQL Server
- Designed for large volume process data
- Historical, Real-time and Trend Tables
- Support OLAP and XML web services

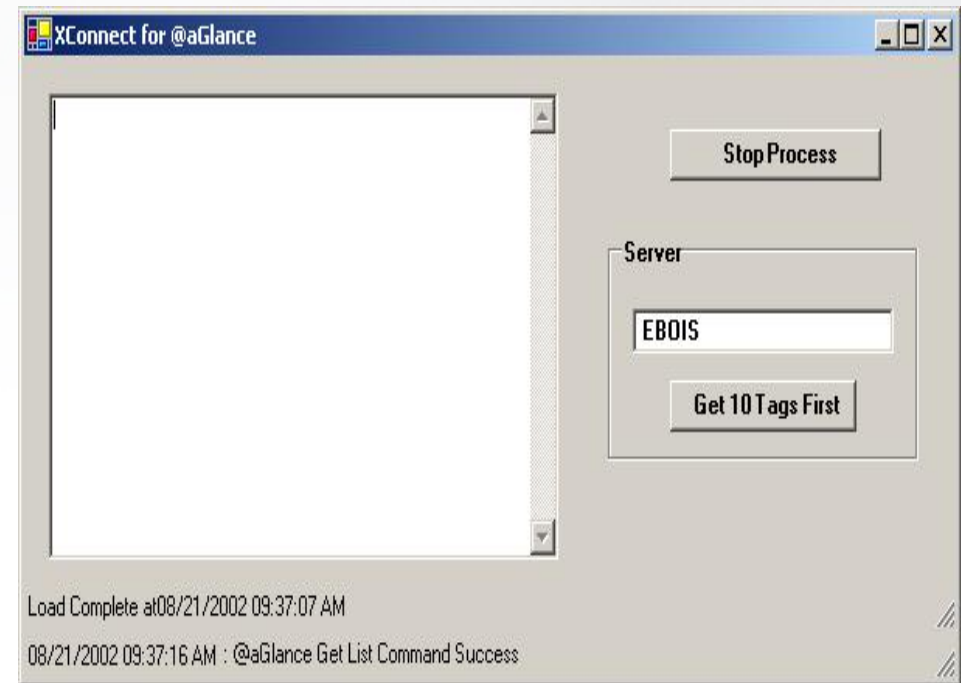


# XConnect Interface



Fully compliance to automation system manufacturer standard

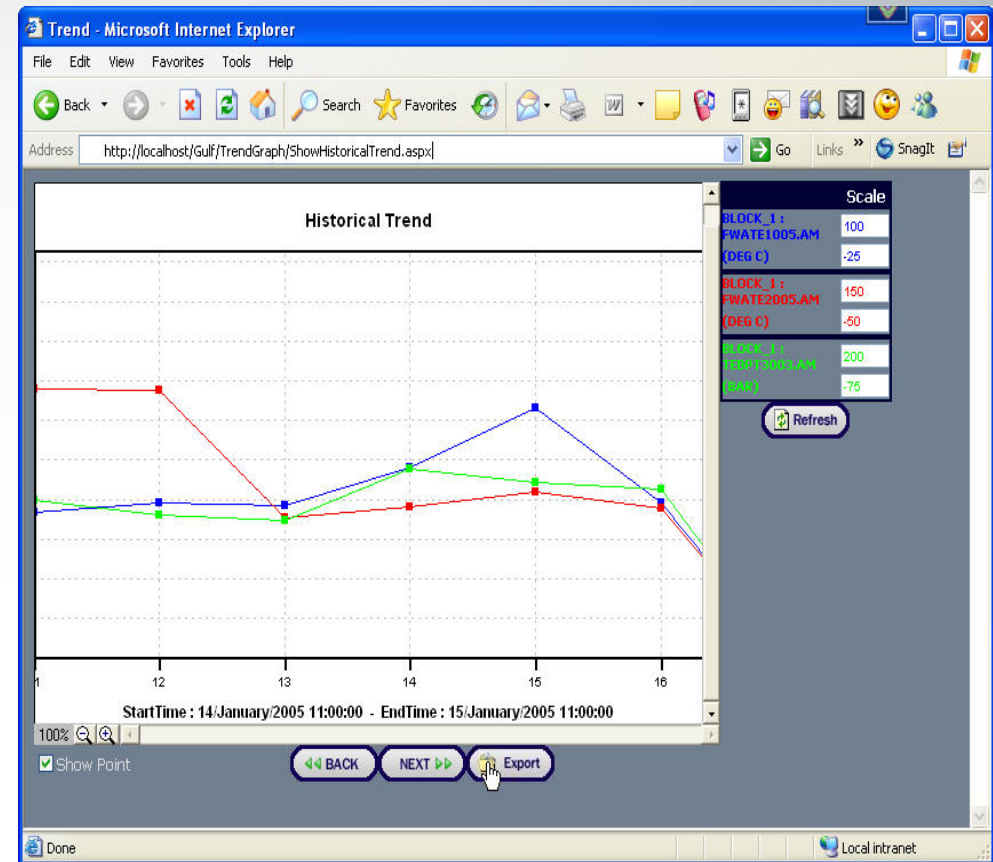
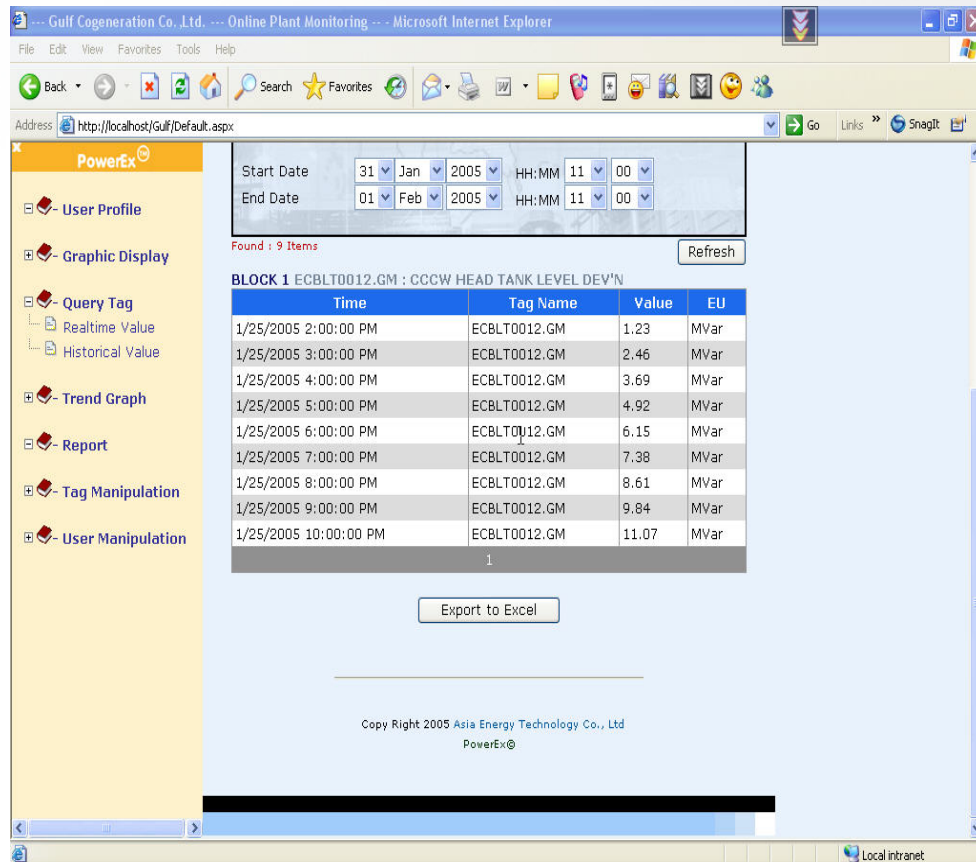
- @aGlance interface
- Modbus Interface
- OPC Interface
- TCP/IP Interface
- ODBC Interface
- Serial Interface



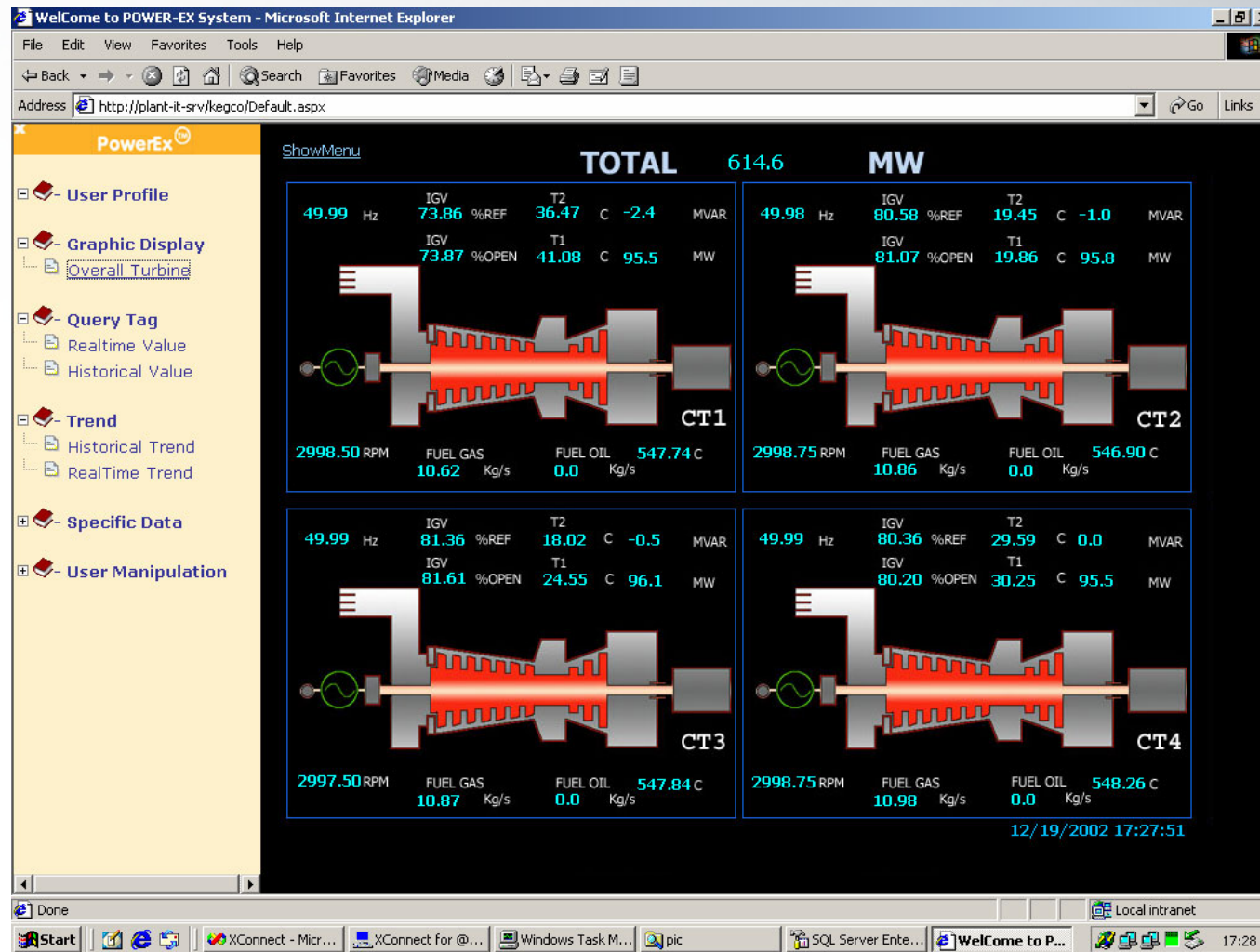
# PowerEx Application



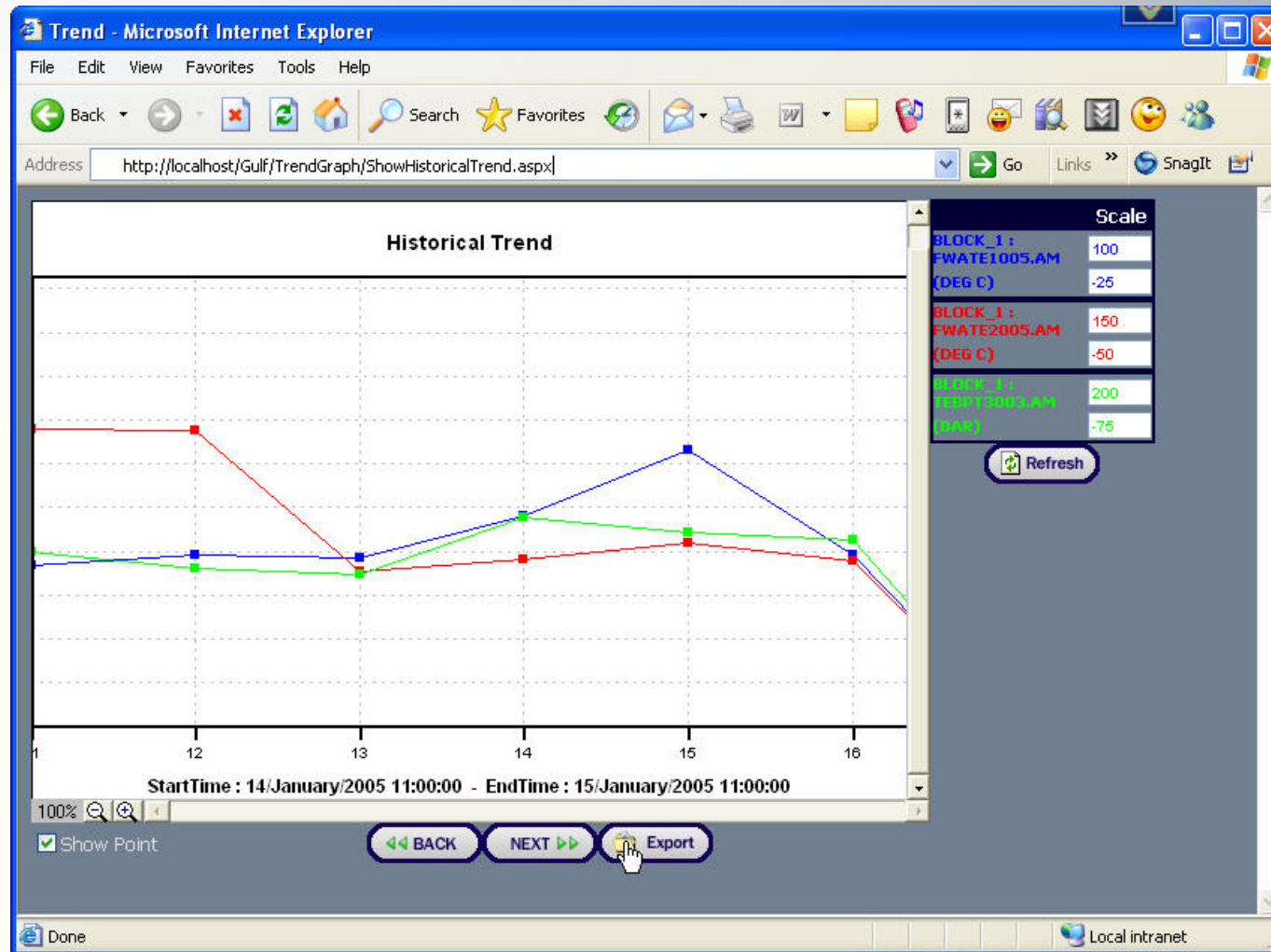
# Application – Data Historian



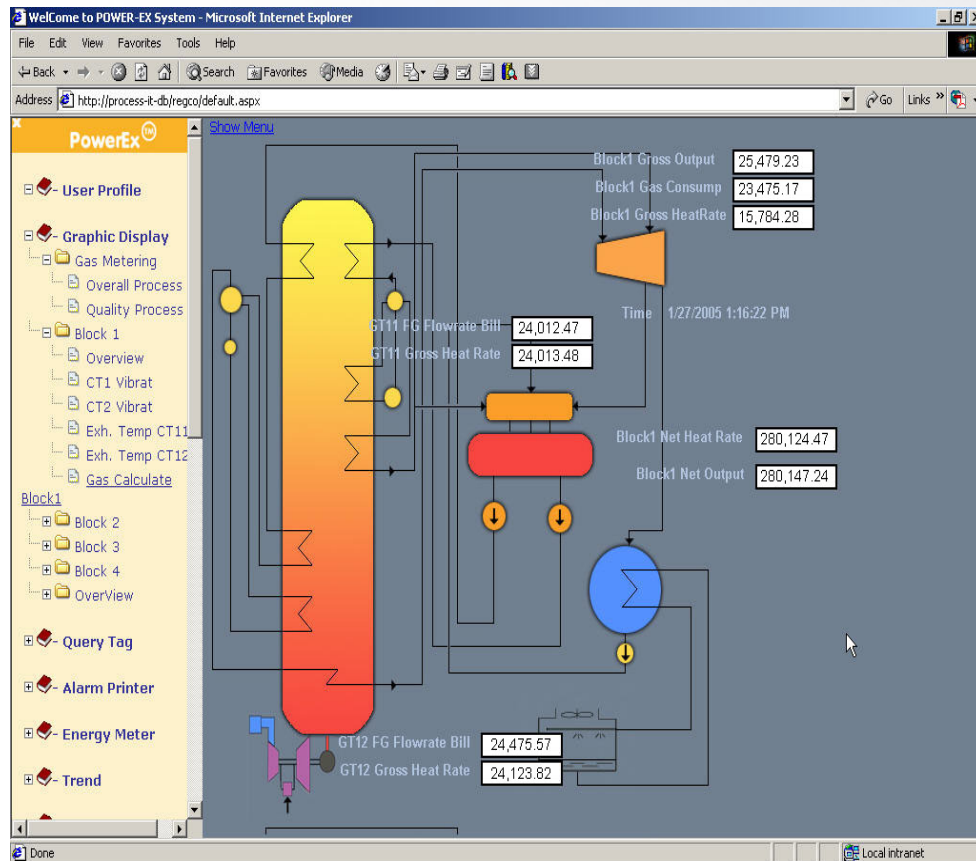
# Application - Real Time Analysis



# Application – Trend



# Application – Gas Composition / Efficiency Calculation



ExecutiveReport.car - Crystal Analysis Professional

Time\_dim

Tag_Desc	1995	Quarter 1	Quarter 2	Quarter 3	Quarter 4
ACTUAL PLANT NET EFFICIENCY HHV (%)	497.21	124.67	124.24	124.50	123.80
Dependable Capacity (kW)	14,099,014.58	3,524,980.68	3,524,980.68	3,522,655.89	3,526,397.33
EAf (Average)	1,032.23	258.50	257.81	258.04	257.88
Electricity Output(KWH)	8,352,744,700.00	2,086,453,800.00	2,036,556,900.00	2,123,743,400.00	2,105,990,600.00
Equivalent Availability Factor(%)	1,030.58	259.08	252.62	259.31	259.57
Plant EQUIV. DERATED FACTOR (%)	0.00	0.00	0.00	0.00	0.00
Plant EQUIV. FORCED OUTAGE Factor(%)	0.00	0.00	0.00	0.00	0.00
Plant EQUIV. MAINTENANCE OUTAGE (%)	0.00	0.00	0.00	0.00	0.00
Plant EQUIV. SCHEDULED OUTAGE Factor(%)	0.00	0.00	0.00	0.00	0.00
Plant Heat Rate (BTU/kWh)	98,850.73	24,639.94	24,723.08	24,677.22	24,810.49

Categories: Executive

Measures: Actual

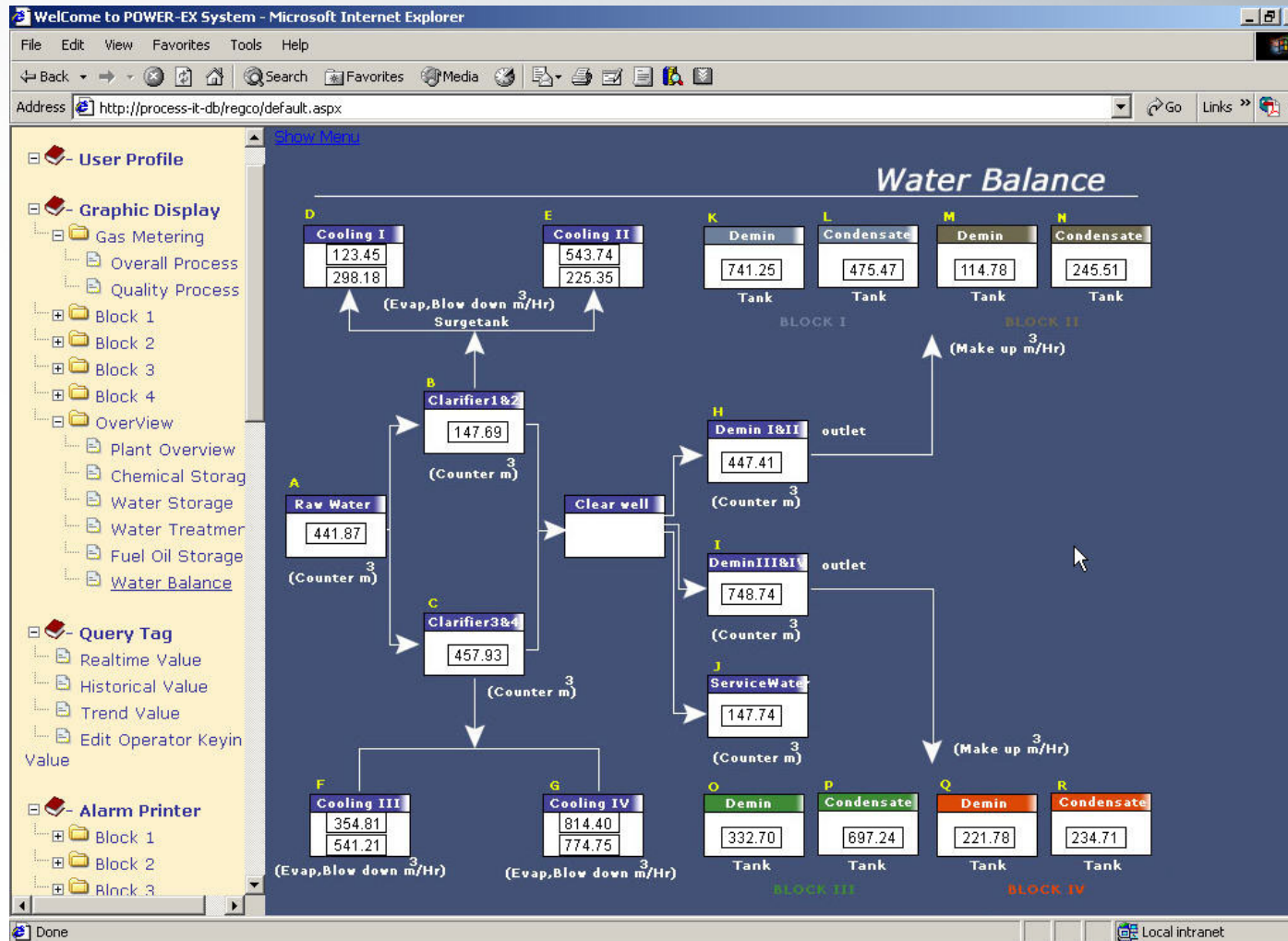
Hidden Dimensions

START PAGE OPERATION FINANCE OPERATION RESULT

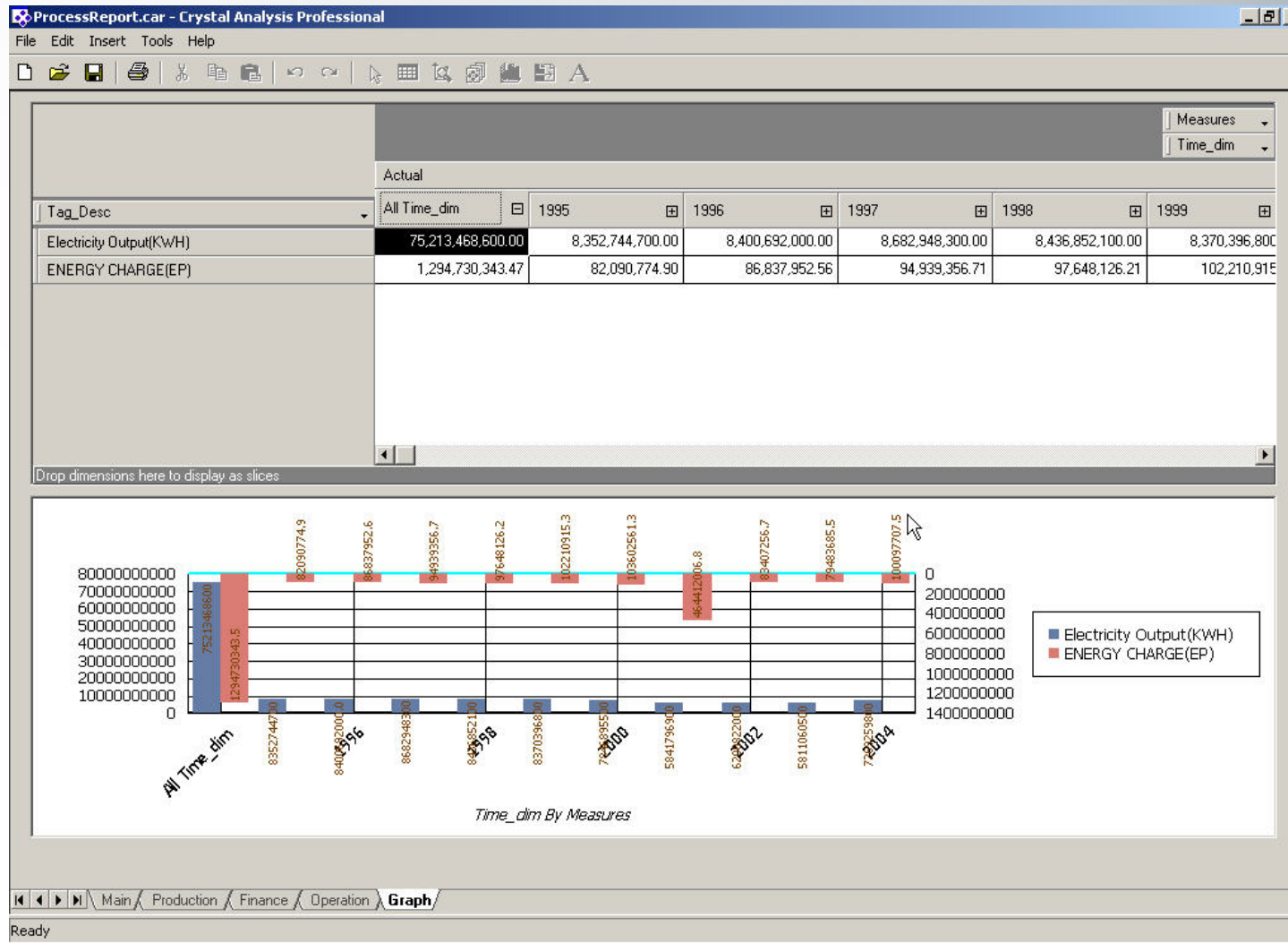
Ready

Start | OPC Serve... | Windows T... | Xcel Connect | XCalculator | C:\tmp Ba... | Executiv... | 2.bmp - Paint | 16:07

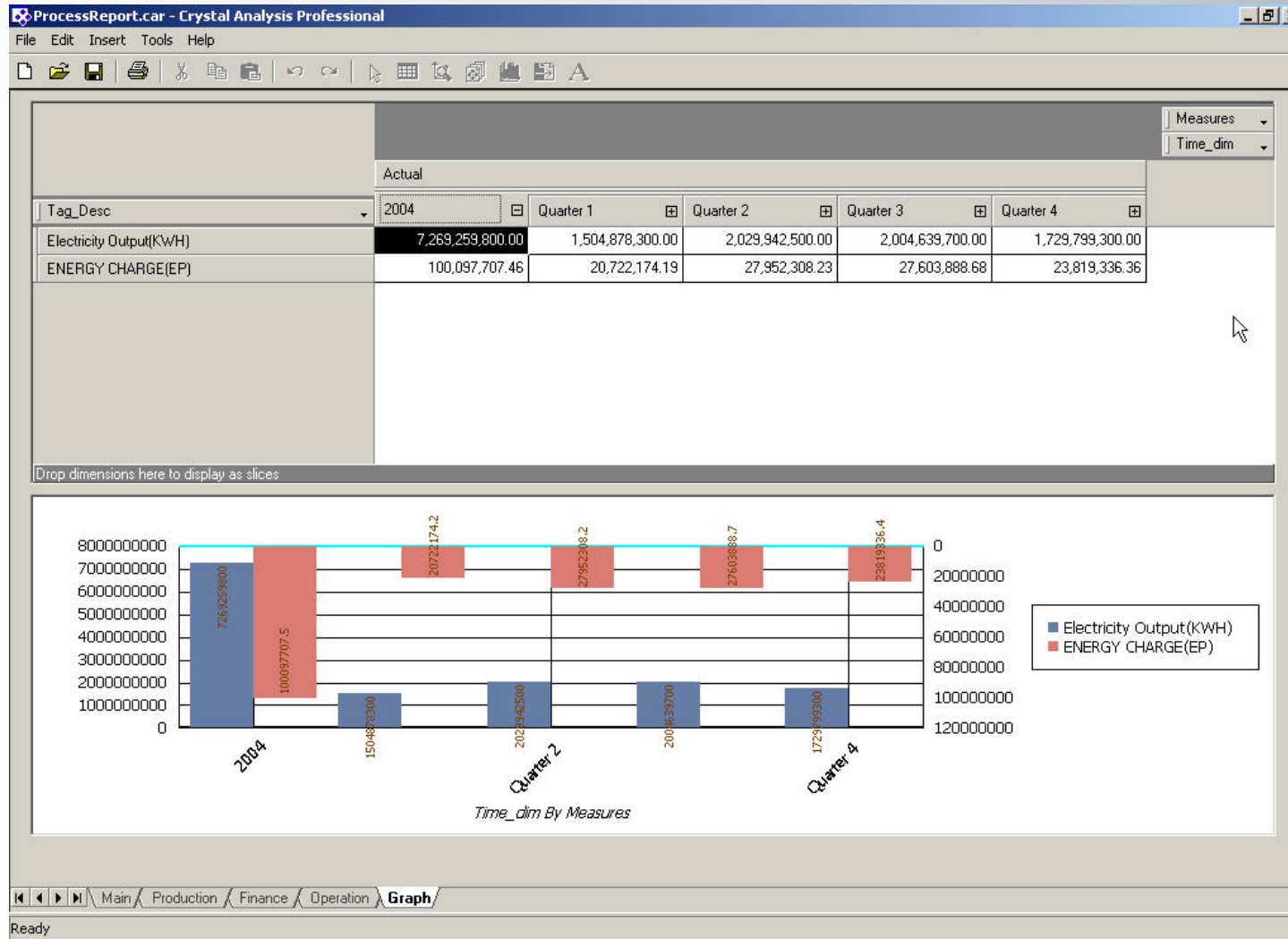
# Application – Water Balance



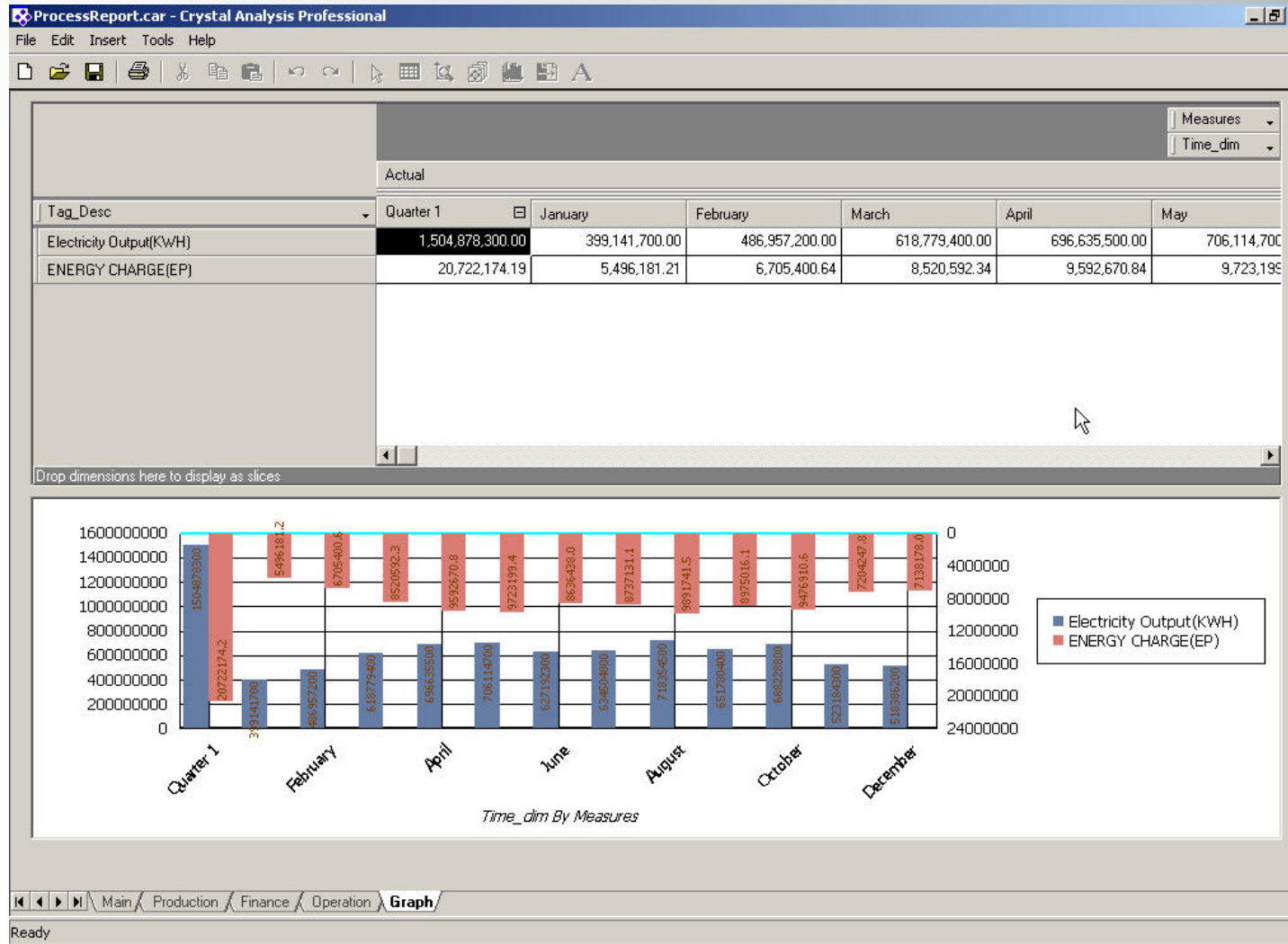
# Application – OLAP



# Application – OLAP



# Application – OLAP



## A globe of the Earth showing the supercontinent Pangaea. The landmass is a large, irregularly shaped continent in the center, colored in shades of green and yellow. It is surrounded by a vast ocean. The globe is tilted, and the horizon is visible at the bottom.



# Application – Maintenance Data Management



Adobe Acrobat Professional - [brptLVM[1].pdf]

File Edit View Document Comments Tools Advanced Window Help

Search Create PDF Comment & Markup Send for Review Secure Sign Forms

Select 74% Help

**Daytime Operation**  
บริษัท ผลิตภัณฑ์และวัสดุภัณฑ์

**PM INSPECTION SHEET**  
Title : Low Voltage Motor

Page :Page 1 of 1

1. Function Location - / Tag **KN1-APK-CWP-M-11**  
2. Equipment Description GEN D/E CW PUMP MAIN PART:MOTOR  
3. Rate : HP/KW/Current/RPM - HP/ 18.5 kW/ 36.5 APMS/ 1450 RPM  
4. Noload / Onload Current - / 29.00  
5. Motor Class 2.00  
6. Bearing Dbl -

NO.	No. Bearing	Shaft Dia.(mm)	Lubricant Spec
1.	6310ZZ	50	-
2.	6310ZZ	50	-

Vibration Range (mm/s) RMS			
Good	<= 1.12		
Admiss	1.12	-	2.8
Still	2.8	-	7.1
Inadmiss	=> 7.1		

Horizontal Type Vertical Type

NO.	MO NO.	DATE	Motor Current			Contact & Connection	Insulation Resistance			Pos	Bearing condition (Good/fair/bad)			Lubricant (Grease/oil)	Velocity Vibration (mm/sec)			Vibration Range (mm/sec)	Inspector
			Phase A (Amps)	Phase B (Amps)	Phase C (Amps)		A (M.Ohm)	B (M.Ohm)	C (M.Ohm)		Dblm	Dblc	G,F,B		V	H	A		
1	4720302593									1									
										2									

Remark ::

Man Hour			
Labour	man	:	hh:mm
Working	man	:	hh:mm
Engineering	man	:	hh:mm
Total Man Hour			

Check By	
Date	
Approve By	
Date	

1 of 1

start DayTime :: Historical ... Adobe Acrobat Profe... EN 5:58 PM

# Application – Outage Management



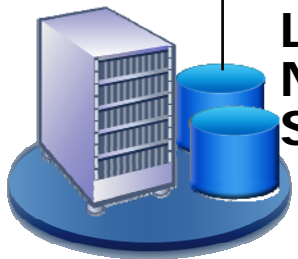
**KMECBLR, KMECGAS  
KC&I, KELE, OPERATOR,  
EXECUTIVES**

**Project Managers**

Microsoft Office  
**Project Web Access**

Microsoft Office  
**Project Professional 2003**

Microsoft Office  
**Project Server 2003**



**Lotus  
Notes  
Systems**

Microsoft  
**SQL Server 2000**

Microsoft  
**Windows  
SharePoint Services**

# Application – Outage Management



Microsoft Office Project Web Access 2003 - mps - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Reload Search Favorites Media

Address http://mps/ProjectServer/Tasks/TasksPage.asp?\_oid=-1 Go Links

Microsoft Office Project Web Access Log Out

Home | **Tasks** | Projects | Status Reports | Risks | Issues | Documents

Update All Update Selected Rows Save

### View my tasks

Show tasks using:  
Timesheet view  
Gantt Chart

Tasks displayed:  
Current tasks  
All tasks

Alert me

Actions:  
View my tasks  
Create a new task  
Assign myself to an existing task  
View and report on

View Options Filter, Group, Search

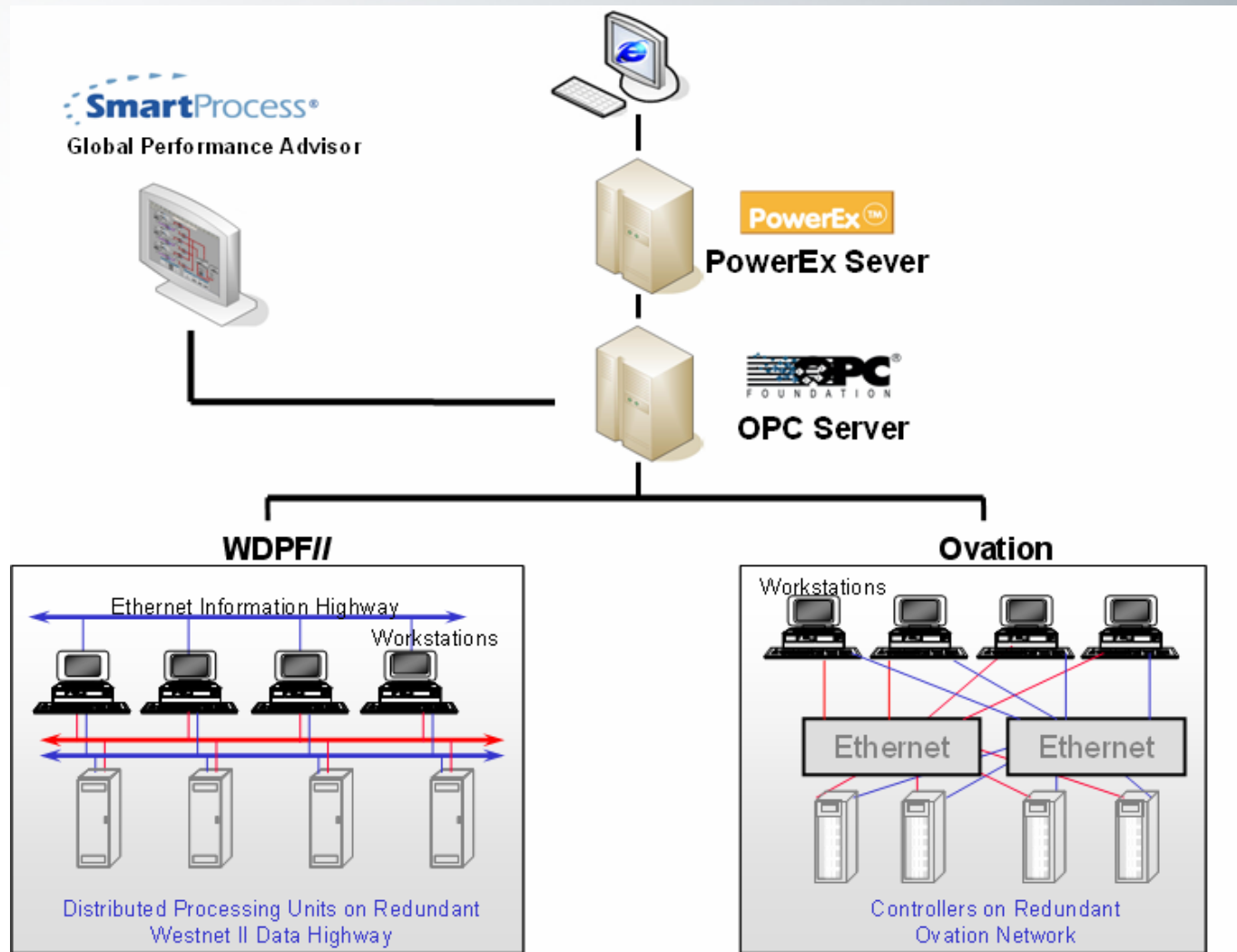
Hide Reject Insert Notes Link Risks Link Issues Link Documents

	Task Name	Work	% Work Complete	Actual Work
	001-Mechanical Department	104.02h		0h
	SECTION 1 : Mechanical GAS	104.02h		0h
!	SAFETY VALVE, RV NO. 0175	20.02h	0%	0h
!	SAFETY VALVE, RV NO. 5037	24.02h	0%	0h
!	SAFETY VALVE, RV NO. 5078	19.95h	0%	0h
!	CCCW, PUMP 1A VALVE BV-0056	20.02h	0%	0h
!	CCCW, HEAT EXCH. 1A VALVE BV-0071	20.02h	0%	0h
	Total:	104.02h		0h

Print Grid Export Grid

Trusted sites

# PowerEx and Emerson Solution



# Future of PowerEx

