

A faint, light blue world map is visible in the background, centered behind the main text.

ChevronTexaco Refining CommonView Project

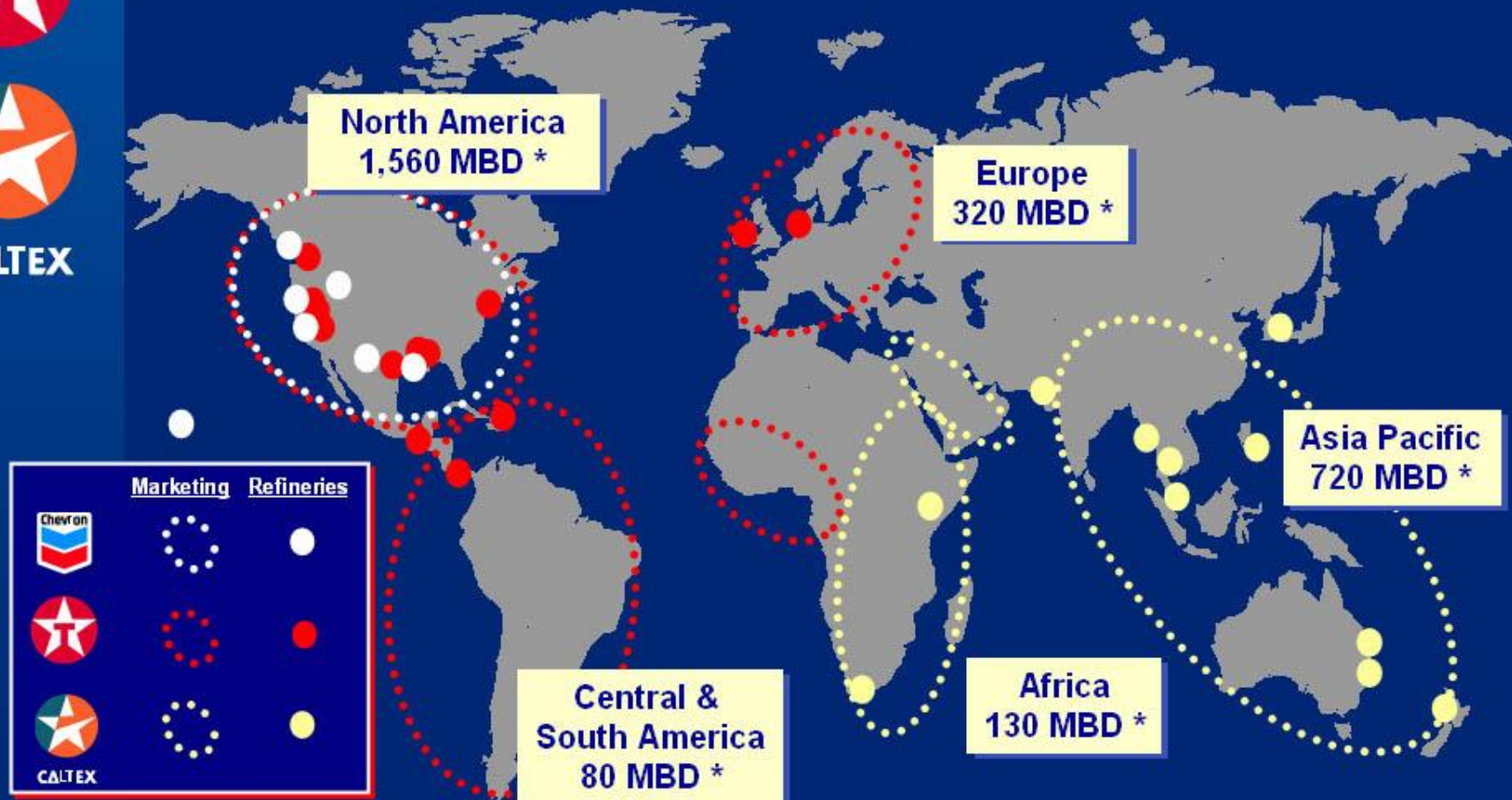
Sam Parino

CIO - North America
Refining



CALTEX

Global R&M Business *Combined Portfolio*





CALTEX

Global R&M Business

Integration Potential

- ❑ **Creates worldwide business built around a family of well-recognized international brands**
- ❑ **Integrates Caltex for streamlined decision-making and simplified governance**
- ❑ **Allows integrated approach to lubricants, trading and risk management**
- ❑ **Leverages brand presence into upstream, downstream gas and power value chains**
- ❑ **Strong market positions in U.S., Latin America, U.K., and Caltex areas**

Refinery Technology Directions

Creating Opportunities to Conceptualize Problems in New Ways and Maximize Value

Local

- Planning / Scheduling
- Multivariable Predictive Control
- Equipment Advisory Systems
- Plant Data Historians

Integrated

- Composition- Specific Apps / Control
- Abnormal Event Monitoring / Prediction
- Automated Data Interpretation
- Plant Data Analysis

Enterprise-Scale

- Plant- wide Control
- Multi- period / Multi- plant Optimization
- Advanced Forecasting
- Operator Tools
- Large- Scale Database Handling
- Virtual Teams

2000

1990



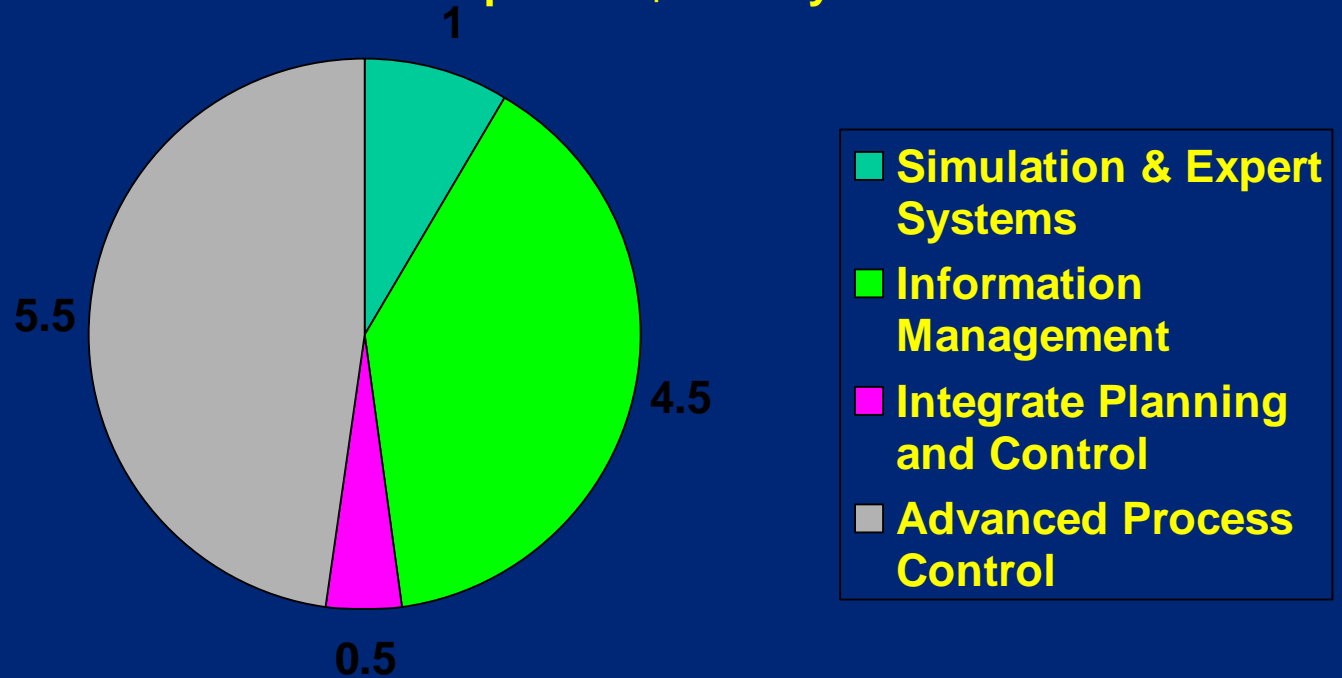
1980

The Automation Steering Team

- Collaboratively plan and implement business-driven technology in four sectors:
 - Advanced Process Control
 - Expert Systems & Simulations
 - Integration of Planning and Control
 - Information Management
- Our team will encourage a “Think Global and Act Global” philosophy for automation technology in the NAP refining system. We will manage a process designed to reduce costs, shorten implementation time and increase the return on investment.

CPDS - Refining 2001 Automation Portfolio

Annual Spend = \$12MM/year



Application Quilt

	El Segundo	Richmond	Pascagoula	Hawaii	Salt Lake	El Paso	Burnaby	Pembroke
ERP			SAP					
WEB Viewer		Corp. Portal / INDXHQ					?	?
Desktop		PI - Process Book from OSI					Honeywell	Honeywell
Process Monitoring			PMO				Excel	?
Yield Accounting		Sigmafine from OSI					Excel	Advisor
Planning			PETRO					PIMS
Optimization	Romeo	DQP						
MVC	DMC	RMPCT	DMC	RMPCT	RMPCT	DMC	DMC	DMC/RMPCT
Historian	PHD	PHD	IP21	PI	PI	PI	PHD	PHD
DCS			Honeywell				Bailey	Honeywell
LIMS			StarLims				Honeywell	LIMS
Maintenance			Passport				SAP PM	Orbit
Reliability			Meridium				Visions	ART

The Payoff: Achieving Operational Excellence

\$313 MM

Operator Capability

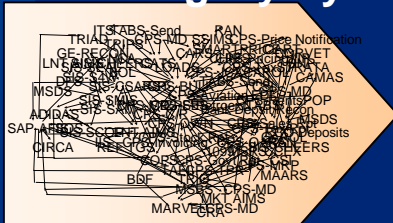


We are Laying the Foundation Upon Which We Can Successfully Build Our Business Models . . . Not Just Replacing Our Legacy Systems In Kind

Existing Business Models



Current Legacy Systems



Opportunity →

New Business Models



CommonView

Sigmafine

UDS

ACE

IndX

LIMS

*We are replacing numerous systems with
simplified, standardized processes and systems*



Refining CommonView Project

Now Some Details

Background

- El Segundo installs Honeywell PHD historian 1Q99.
- El Segundo begins exploring web view for manufacturing.
- El Segundo and Richmond coordinate to seek single PHD GUI beginning in 4Q99. Richmond needs emerged from the CHAMP project (PHD installation).
- Work scope for the Common GUI expanded to include other US refineries in 4Q2000 (Pascagoula, Salt Lake City and Hawaii with El Paso added later).
- Initial public discussion of Chevron CommonView at NPRA Computer Conference 4Q2001.

CommonView Objectives

- Common view of data from disparate data sources.
 - PHD, CIM21, IP21, PI
- Preservation of existing investment
 - Retain existing process historians
 - Avoid duplicate tag configuration
 - Structure the data for ease of access
- Global data accessibility
 - Users, applications, business functions
 - Remove connectivity as an issue
- Platform for future layered applications

Key CommonView Team Findings

- Server-based connection to many data sources.
- This was a radical concept fifteen months ago.
- OSI shared the concept and could deliver.
- OSI ComConnector matched Chevron needs.
 - PHD CC released
 - CIM21, IP21 and OLE DB CC then in progress
 - Chevron provided significant testing and feedback.

Key CommonView Team Findings - 2

- The user view has many faces.
- LAN, web, PDA, phone, future views
- PI supports them all
 - LAN clients
 - Web clients
 - Data access
 - ProcessBook development environment

Key CommonView Team Findings - 3

- Global data access
 - In place with PI
 - Client access to any PI Server if authorized
 - PI to PI for data transfer
 - Programmatic access
- Platform for future applications
 - PI is a consistent platform for apps, regardless of process historian.
 - Variety of OSI apps
 - Third party apps
 - This is an area of focus for OSI with the PI Application Framework.

CommonView Phase 1

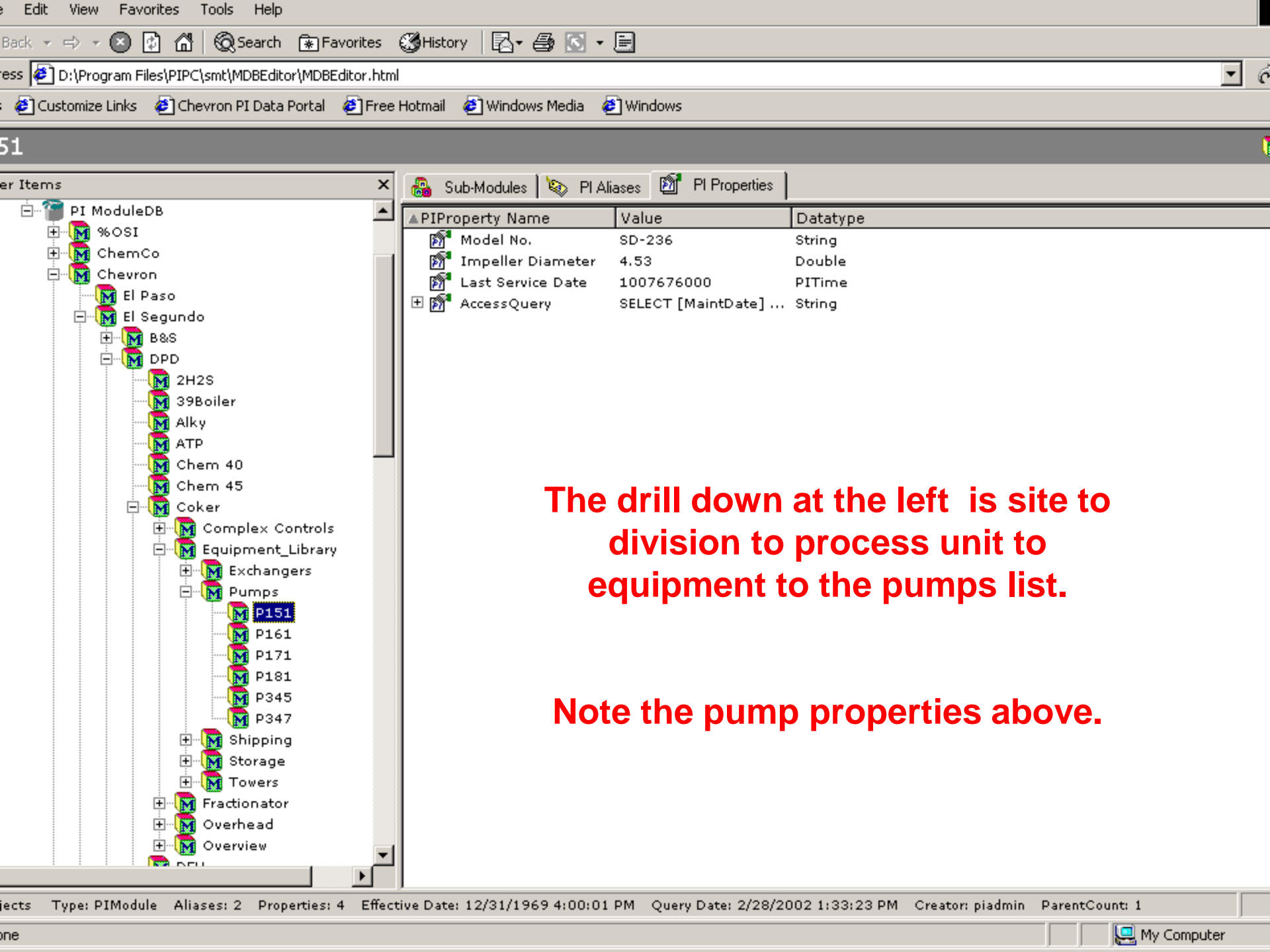
- **Implement OSI's Process Book Desktop Suite and Universal Data Server**
 - OSI's Universal Data Server can interface to PHD and InfoPlus historians. Refining can standardize on one solution at the desktop for power users and provide a common interface point for applications like the new Lab System, Yield Accounting, Equipment Monitoring, etc.

The CommonView Implementation

- PI Server installed at six sites (June-October)
- OSI installation typically 3-5 days
- PHD CC: typically 30-50K tags
- IP21 CC: about 10K tags
- Lab CC: rolling out at El Segundo
- Migrations in progress
 - El Paso: CIM21 to PI historian
 - Hawaii: PHD to PI historian
 - Objective is reduced maintenance
- PI went in and worked.

CommonView use of the ModuleDB

- Site hierarchy
- Site Equipment List (Sourced from Meridium)
- Corporate drill down capability
- Sigmafine report templates
- Refinery transactions
 - archived to transfer record database
 - Wharf, tank farm
 - Others coming
- Advanced Calculations
- See mock up next slide



The drill down at the left is site to division to process unit to equipment to the pumps list.

Note the pump properties above.

CommonView and ACE

- PI initial purchase 2Q2001.
- ACE released 3Q2001, purchased 4Q
- Flow corrections
 - Shared development effort (RIC, PAS)
- Migration of PMO (unit material balances and more)
 - Design in progress
 - Planned migration Excel to ACE
 - Calculations can be managed as a corporate resource.
- Environmental reporting under consideration (RIC)
- Data extraction from rdb systems planned (RIC)

CommonView and Sigmafine

- Unique opportunity 2Q2001 tied to SAP
- But timing was tight.
- Migration from mainframe IIS/YIS systems
 - Refinery inventory and volume accounting systems
- Sigmafine selected 3Q2001.
- Implementation in progress for six refineries
- Pascagoula initial site
- Will migrate to Application Framework/
Sigmafine 4

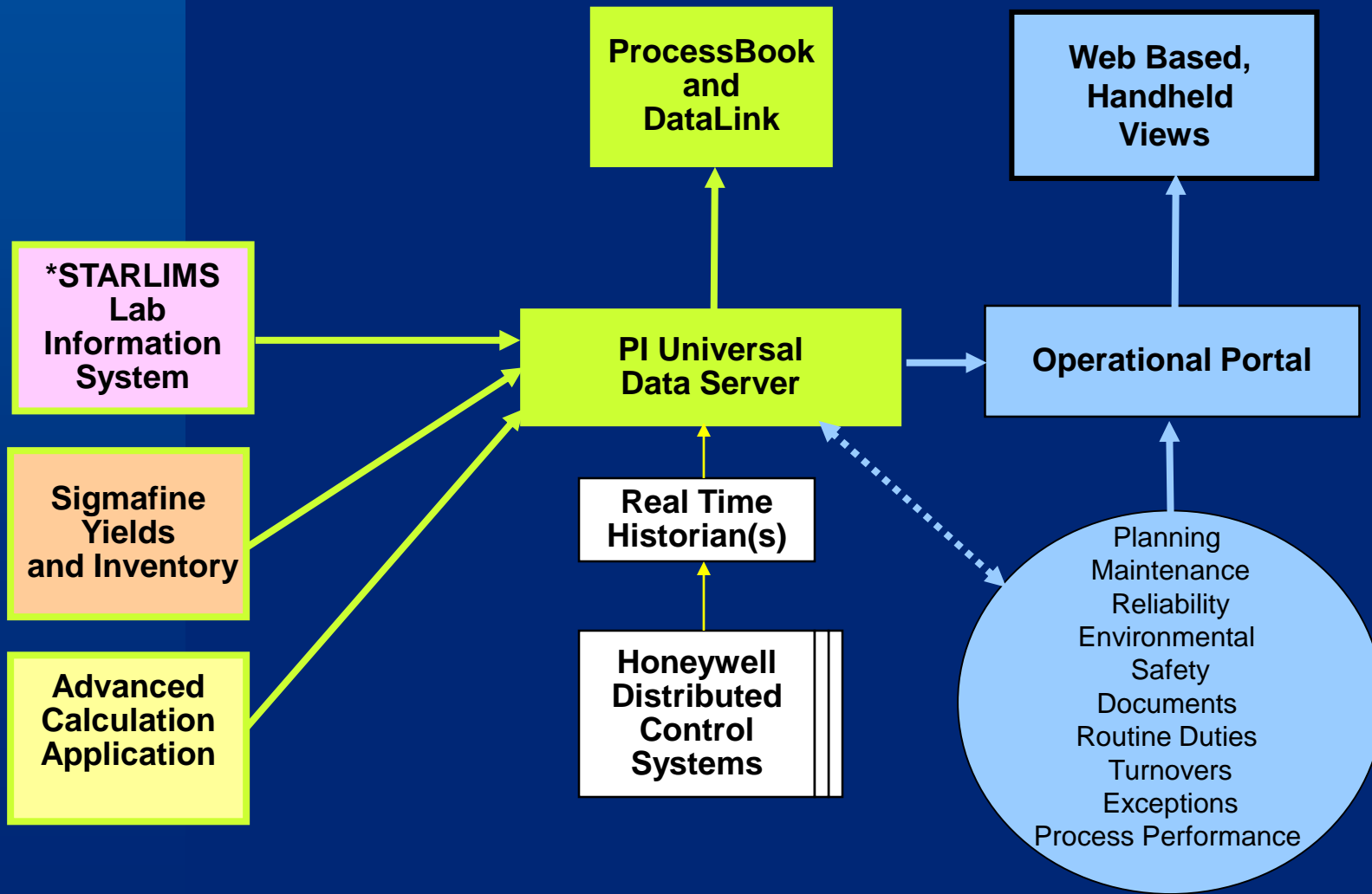
Key CommonView Benefits

- Operational efficiency
- Incident reduction
- Energy savings
- Organizational effectiveness
- Already impacting these ongoing projects
 - Richmond Chevmon Replacement
 - El Segundo Reliability Focused Operations Project
 - Pascagoula Refinery Information Systems Project
 - IIS/YIS (Stock Balance) replacement

CommonView Project: A System-Wide Example

■ Step 1

■ Step 2



My Conclusions

- Buy PI.
- Buy a lot of it.

It just works!