OSIsoft.

REGIONAL SEMINAR 2011

AMERICAS

The AET OSIsoft PI System Story

Presented by

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Russ Gregg – AET Films

- Manufacturing Information Systems Project Leader
- 26 years of Experience in the OPP Film Manufacturing Industry
- Supported Manufacturing Platforms
  - PI System
  - Honeywell Optivision
  - SAP
  - SAS
  - Gensym G2
  - Custom Applications

Applied Extrusion Technologies

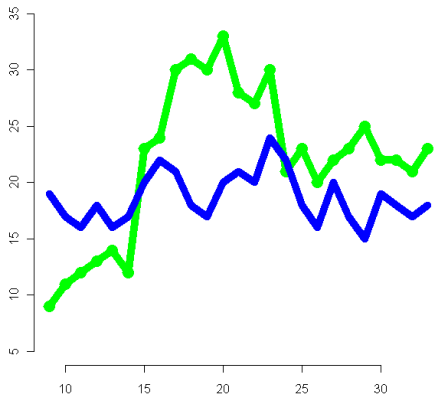
- North Americas leading OPP film producer.
- Markets
  - Packaging
  - Labels
  - Graphic Arts
- Headquarters
  - New Castle, Delaware, USA
- Manufacturing
  - Terre Haute, Indiana, USA
  - Varennes, Quebec, Canada

The AET OSIsoft PI System Story

- Data Driven Improvement
- Building Support
- Selecting a Real Time Data Management System
- Answer: OSIsoft PI System
- Natural Growth Over Time
- AET PI System Architecture
- Keys to Success: Scalability, High Availability, Open Data Access
- OSIsoft Enterprise Agreement
- Results
- Intangible Benefits

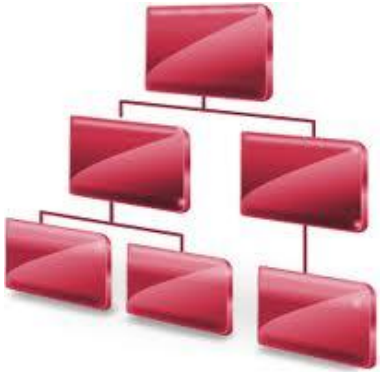
Data Driven Improvement

- Need
  - Required breakthrough improvements to gain profitability and establish business viability to recover from Bankruptcy in 2004.
- Project Selection
  - Pareto Analysis of primary performance metrics identified Film Flatness as the greatest opportunity for manufacturing improvement.
- Approach
  - Gain insight and quantify customers perception of film flatness quality.
- Result
  - Successfully developed an algorithm to quantify customer film flatness fitness-for-use requirements



Building Support

- Executive Support
  - Gained funding for the development of a prototype flatness decision support tool that incorporated the new algorithm.
  - Implement the technology on the worst performing machine.
- Plant Acceptance
  - Field results began to verify the ability for the new tool to predict film performance at our customers.
  - Manufacturing buy-in increased over time.
  - Spec Limits were established based on field results.
- Operator Buy-In
  - Application is nicknamed “Chop-o-matic”.



Selecting a Real Time Data Management System

- Requirements
  - Proven platform
  - Real Time Data collection
  - Data Transformation
  - Data Storage
  - Ability to start small and grow.
  - Off the shelf client tools for data visualization and analysis.
  - Profile data visualization.
  - 24 Hour product support

Answer: OSIsoft PI System

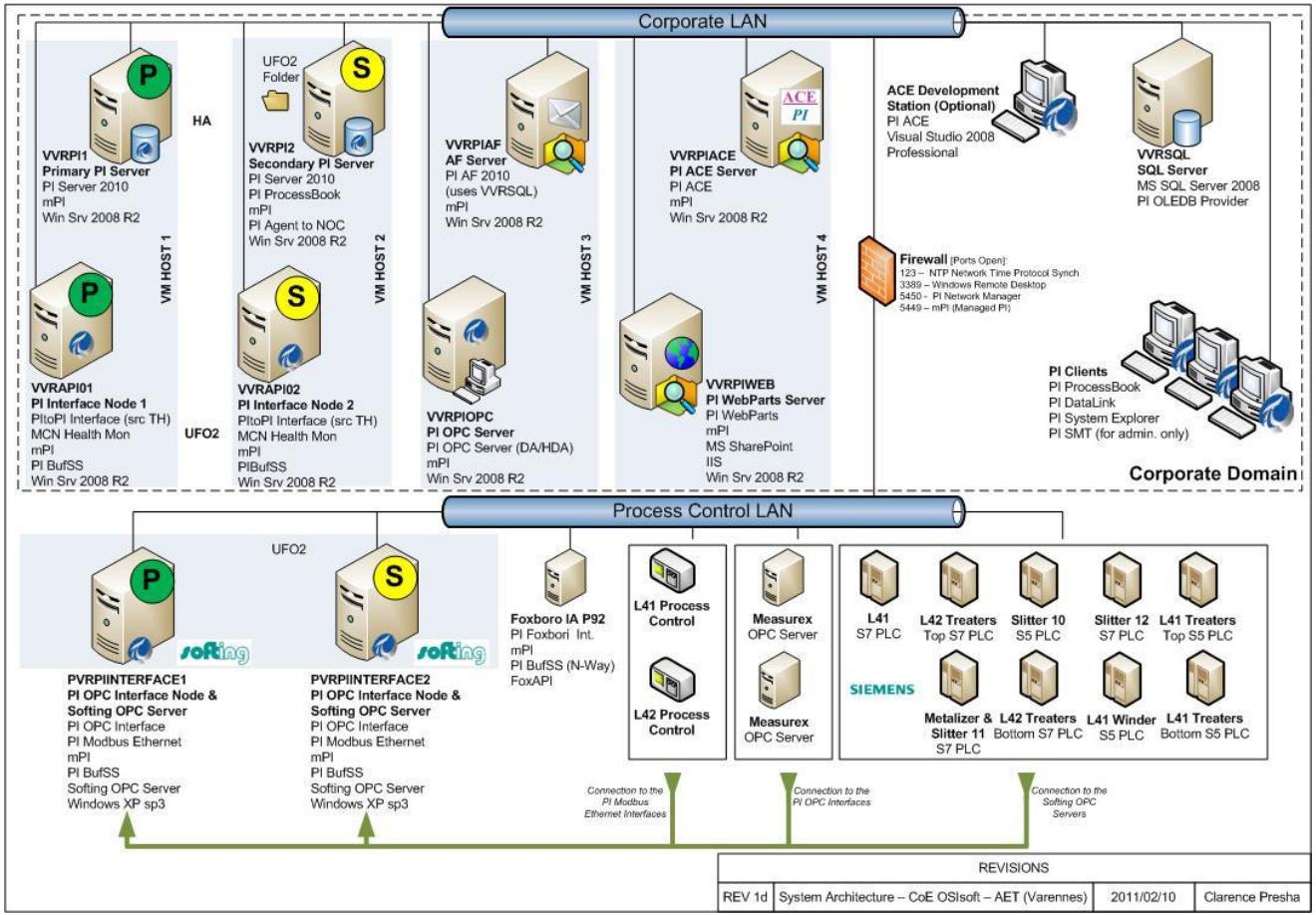
- 2002- PI Server – 5000 tags
- Interfaces
  - PI/Foxboro IA System interface
  - PI/I-Fix interface
  - PI OPC
  - PI SDK
- Client Applications
  - PI Profile View
  - PI ProcessBook,
  - PI Batch
  - PI DataLink
  - PI Data Access (SDK, API, OLEDB, ODBC)

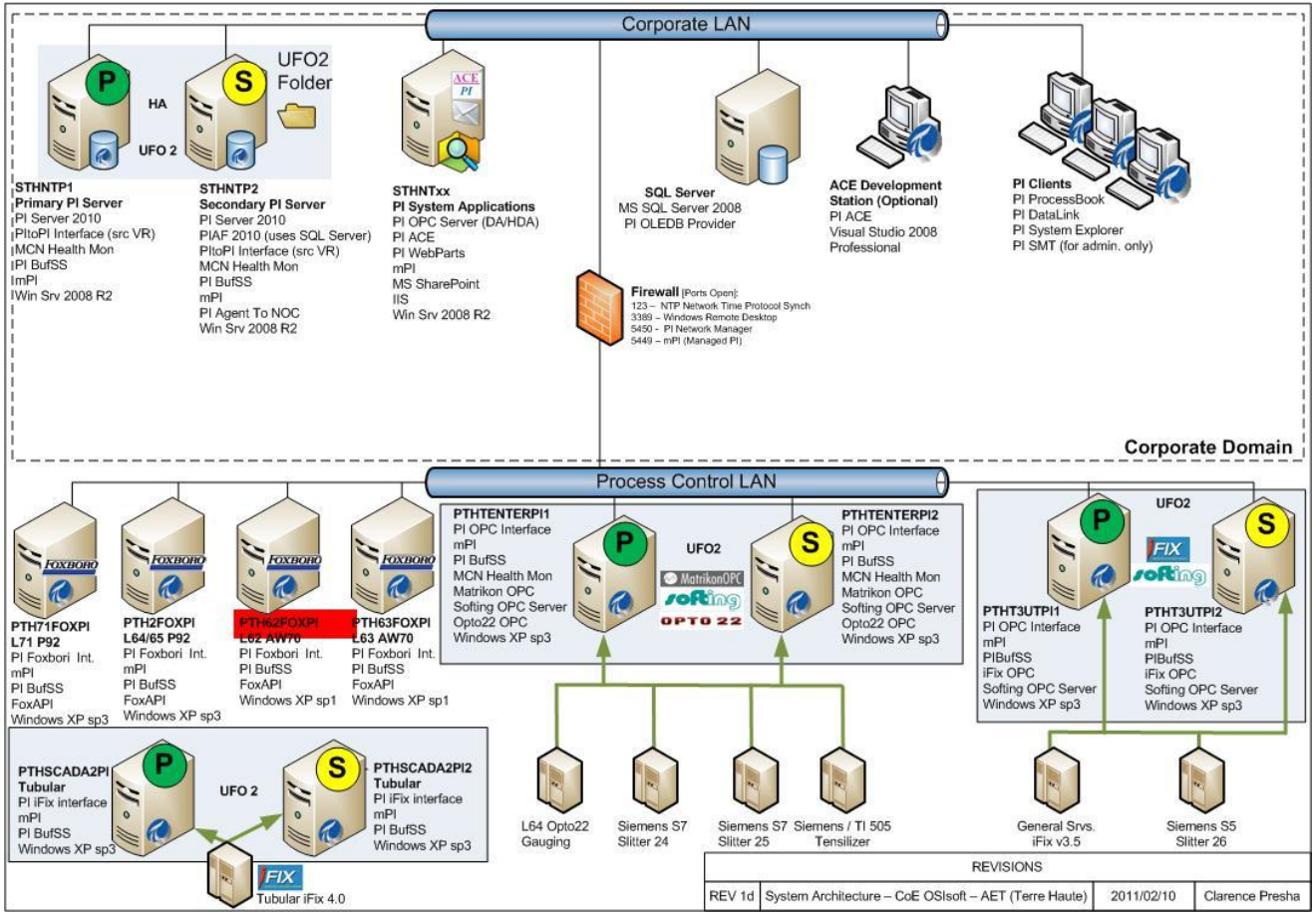
Natural Growth Over Time

- 2002-Present : PI System Grows with F.L.A.T (Film Lay-flat Analysis Tools)
- 2009 - PI System reaches 20,000 tags.
- 2010 - Strategic decision to replace the Baan ERP system with a combination of SAP and Honeywell Optivision.
- 2010 - Enterprise Agreement with OSIsoft.
- 2011 - Installation of PI Systems across the Enterprise.

Current PI System Infrastructure

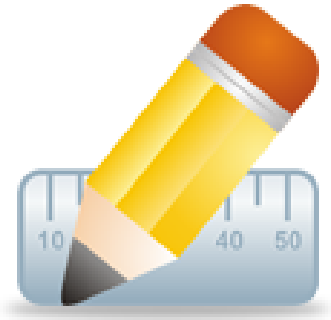
- High Availability PI System servers at both Plants
- PI Servers - PI Collectives for high availability
  - PI Server 2010
  - PI ACE Server
  - PI AF Server
  - PI OPC DA/HDA Server
- Interfaces- Redundant Interface Servers
  - PI OPC to Siemens S5 &S7, Allen Bradley PLC,
  - PI/Foxboro
  - PI/GE I-Fix
  - PI OPC DA/HDA– Connection for Honeywell Optivision MES and control systems.





Scalability

- The OSIsoft Enterprise Agreement allows AET to scale products as required.
- The PI System allows rapid creation of new tags, calculations, alarms.
- PI Interfaces allow easy addition of data sources.
- PI AF provides a platform for the creation of scalable data structures



High Availability

- PI Collectives
- Redundant Interfaces
- 24 Hour PI System support
- Enterprise Agreement
  - Remote Monitoring of PI System
  - Remote PI Server Access
- Mirrored SAN
- Virtual Machines

Open Data Access

- Open data access
  - PI SDK
  - PI OLEDB
  - PI ODBC
  - PI OPC
  - PI OPC DA/HDA Server

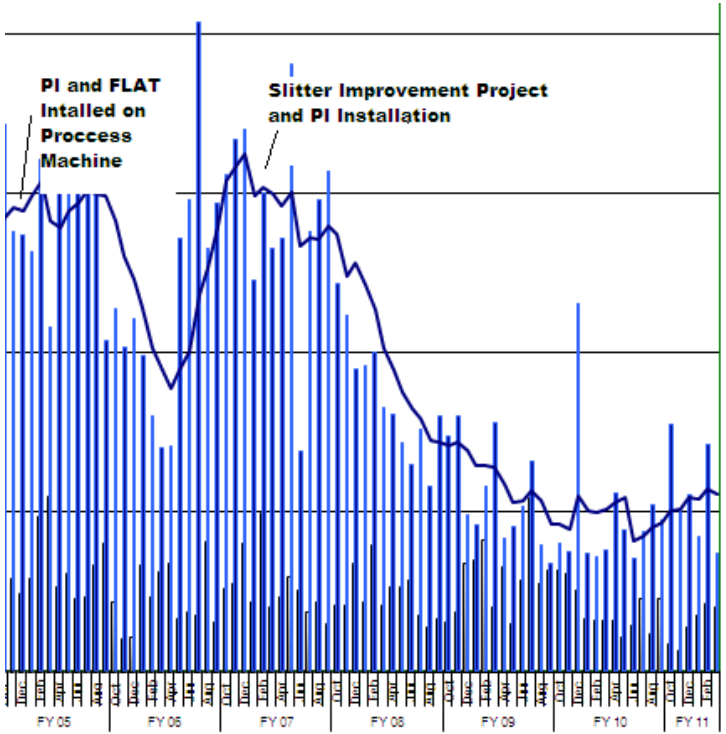
Results: Breakthrough Improvements

- Quality
  - Reduction in Reject and Scrap
  - Reduction in Customer Claims
  - Reduced Cost to Convert
- Productivity
  - Increase in Production
  - Increase in Uptimes
  - Increase in Line Speeds

Results: Wolds most Productive Line

- Quality
  - Reject: ⬇ 10 % to 3 %
  - Customer Claims: ⬇ 8000 ppm to 2500 ppm
- Process Productivity
  - Increase in Production: ⬆ 7%
  - Unscheduled Downtime: ⬇ 51 %
  - Line Speeds: ⬆ 6%
- Slitter Performance
  - Line Speed- ⬆ 23%

Reject Trend



Intangible Benefits

- Operator conformance to Process Plan Limits.
- Discovery of new process interactions
- Ability to maintain/monitor improvement gains.
- Faster complaint investigations.
- Rapid troubleshooting and problem resolution.
- Supports data-driven and fact-based decision making.
- Remote monitoring- off-hour support.

The Future

- Control and Plan Limit Performance
- Energy consumption and cost tracking
- Utilities monitoring
- Equipment reliability
- Increased monitoring of secondary processes.

Questions

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Thank you