Migrating from PI ProcessBook to PI Vision for a large midstream company

One of North America's largest midstream energy companies was faced with the daunting task of migrating all PI ProcessBook displays for all sites across Canada.

PI ProcessBook is a 25-year-old data visualization legacy software application used by the organization. Its graphics displayed critical operational data utilized in day-to-day operations.

The Challenge. With PI ProcessBook being retired and application support from AVEVA ending by the end of 2024, the organization was evaluating migration of PI ProcessBook displays with AVEVA's recommended next generation of visualization software, PI Vision.

The organization's goal was to standardize and optimize displays in seven facilities while providing consistency across their operations throughout North America.

The Solution. Streamline Control's solution was to migrate from PI ProcessBook to PI Vision. PI Vision is designed to provide more advanced and flexible capabilities, leading to greater efficiency, improved data analysis, and a more intuitive user experience.

Implementation. Our PI Team provided expertise in the scope, design, configuration, and implementation of the project.

To establish a clear direction for the project, the following steps were undertaken:

- **Developed a project execution plan** and documented the strategic approach and milestones.
- **Conducted a discovery phase** and assessed all existing PI ProcessBook displays to understand their current usage and operational processes.
- **Categorized displays** and utilized the PI ProcessBook to PI Vision Migration Utility to classify displays into three categories:
  - Fully Migratable
  - Partially Migratable
  - Not Migratable
- **Built an implementation plan** based on the analysis of PI ProcessBook displays.
- **Created a PI Vision Standards Guide** and collaborated with the organization to develop standards for PI Vision.
- **Developed a PI Asset Framework Standards Guide** and worked with the organization to establish guidelines for the PI Asset Framework.

Results. Streamline was able to successfully discover, design and implement the PI ProcessBook to PI Vision migration with the organization while meeting the project timeline and budget.

Streamline achieved the following project objectives with the organization:

- **Standardized PI Vision architecture** and ensured the use of the latest version of PI Vision and enhanced end-user usability.
- **Implemented dynamic navigation** and included a PI Vision Landing Page for streamlined access.
- **Assessed PI Asset Framework components** and evaluated all components for alignment with the PI Vision architecture.
- **Reviewed PI System database components** and analyzed existing components to ensure compatibility with the new PI Vision setup.
- **Deployed PI Vision dashboards** and addressed operational and production data, trending, reporting, and event frames with the organization's operations.
- **Standardized display elements** and unified the look and feel across all PI Vision displays, including:
  - Display appearance
  - Company branding and logo
  - Background colors
  - Symbols and trend trace colors
  - Time bar duration defaults
  - Event severity colors
  - Navigation consistency
  - Display legends
  - Text and titles
- **Migrated PI ProcessBook displays** and moved all applicable displays to PI Vision.
- **Provided technical solutions** and offered recommendations and action plans for displays that could not be migrated due to limitations like custom scripting or symbols.
- **Reconfigured PI Vision displays** and made necessary adjustments to existing displays.
- Created new KPI displays and developed new KPI displays for facilities while enabling facility engineering teams to maintain going forward.
- **Completed Quick Reference Guides** and produced guides for PI Vision training.
- **Standardized units of measure** and ensured consistency for PI Asset Framework and PI Vision.
- **Developed new PI Asset Framework** components and created new elements, attributes, event frames, and analytics as needed for PI Vision.

By standardizing PI Vision displays and PI Asset Framework development, the organization has better positioned user experience, data accessibility and system performance while providing modern features with improved security. The PI ProcessBook to PI Vision transition supports better decision-making, operational efficiency, productivity and long-term scalability.

About PI Vision

Migrating from PI ProcessBook to PI Vision offers several benefits. PI Vision is designed to provide more advanced and flexible capabilities. Migrating to PI Vision can lead to greater efficiency, improved data analysis, and a more intuitive user experience.

Below are the key benefits of migrating to PI Vision for the organization:

- **Visualization:** PI Vision provides more advanced visualization options with a wider range of graphical tools.

- **Training:** Creating displays in PI Vision is more intuitive than PI ProcessBook, therefore reduced training for the organization's users.

- **Web-Based Access:** PI Vision is a modern web-based application allowing the organization's users to access from any device with a web browser and more remote access capabilities (mobile).

- **Real-Time and Historical Data:** PI Vision has improved performance in accessing and visualizing both real-time and historical data. The improved performance makes it easier for the organization's engineering teams to analyze trends and events while making data driven decisions.

- **Scalability:** Large deployments and number of users are supported without compromising performance. PI Vision is ideal as the organization expands and acquires new assets.

- **Improved Security:** PI Vision enhanced security features were implemented which includes granular access controls and better integration with enterprise architecture security such as single sign-on.

- **Data Integration:** PI Vision integrates natively with AVEVA software and external data sources. PI Vision is designed to integrate with modern technologies and standards, which ensures better compatibility with future updates for the organization.

- **Units of Measure:** The organization's users can dynamically change units of measure on a PI Vision display. This is a suitable feature when an organization is using both imperial and metric units of measure.

Standardization

Streamline worked with the organization to implement standards for PI Vision and PI Asset Framework. There are multiple advantages with standardizing implementation:

- **PI Vision Standards Guide:** A PI Vision Display Guide establishes clear guidelines for display design, including layout, color schemes, and data representation. A PI Vision Display Guide is an artifact which will outline maintaining a standard approach to visualizing data across the organization.

- **PI Asset Framework Standards Guide:** A PI Asset Framework Standards Guide creates a standardized method for organizing and structuring asset data throughout the organization. The standards ensure that data is stored and retrieved in a predictable way which enhances data quality and usability. The guide provides a structured approach to managing data that supports scalability, compliance and collaboration with operations.

- **Consistency:** Standardizing the AVEVA PI System implementation across different sites or departments ensures consistency in data collection, storage, and analysis practices. This consistency simplifies maintenance, troubleshooting, and knowledge transfer among teams.

- **Scalability:** Standardizing AVEVA PI System implementation will allow the organization to scale their data infrastructure more efficiently. Consistent deployment practices streamline the process of adding new data sources, expanding monitoring capabilities, and accommodating growing data volumes.

- **Ease of Management:** Standardization simplifies the management of the AVEVA PI System deployments by establishing common configurations, workflows, and best practices. This simplification reduces administrative overhead, minimizes the risk of configuration errors, and enhances system reliability.

- **Cost Efficiency:** Standardizing the AVEVA PI System can result in cost savings by streamlining deployment, and maintenance processes. Standardized configurations and centralized management can help optimize resource utilization and reduce overall expenses.

- **Performance Optimization:** Standardizing AVEVA PI System configurations and workflows allows organizations to optimize system performance more effectively. By identifying and implementing best practices across deployments, organizations can maximize data availability, reduce latency, and improve overall system responsiveness.

Experts at all aspects of the PI Systems

Streamline's PI engineers are experienced in design, deployment and support of PI Systems

Our PI System engineers are accredited by AVEVA (PI System Infrastructure Specialist/PI System Installation Specialist).