Packaging Machines Case Study

Legacy SCADA replacement for refrigeration control in 300,000 sq ft meat processing warehouse.
Industry: Food & Beverage (Meat Processing)

Quick Facts

Attribute	Value
Customer	Wolverine Packing Company
Facility	300,000 sq ft refrigerated warehouse (Detroit)
Market Position	38% share of US market
Scale	6 Smart (Thin) Clients, 1,500 external I/O points
Legacy Systems Replaced	Opto 22 and Wonderware
Integrator	Tippmann Design Build
Infrastructure	Virtual machine with Windows 10 on data center server

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The Challenge

Challenge: Modernize SCADA system by replacing legacy Opto 22 and Wonderware systems to provide operator interface, data collection, and management of alarms for refrigeration control system.

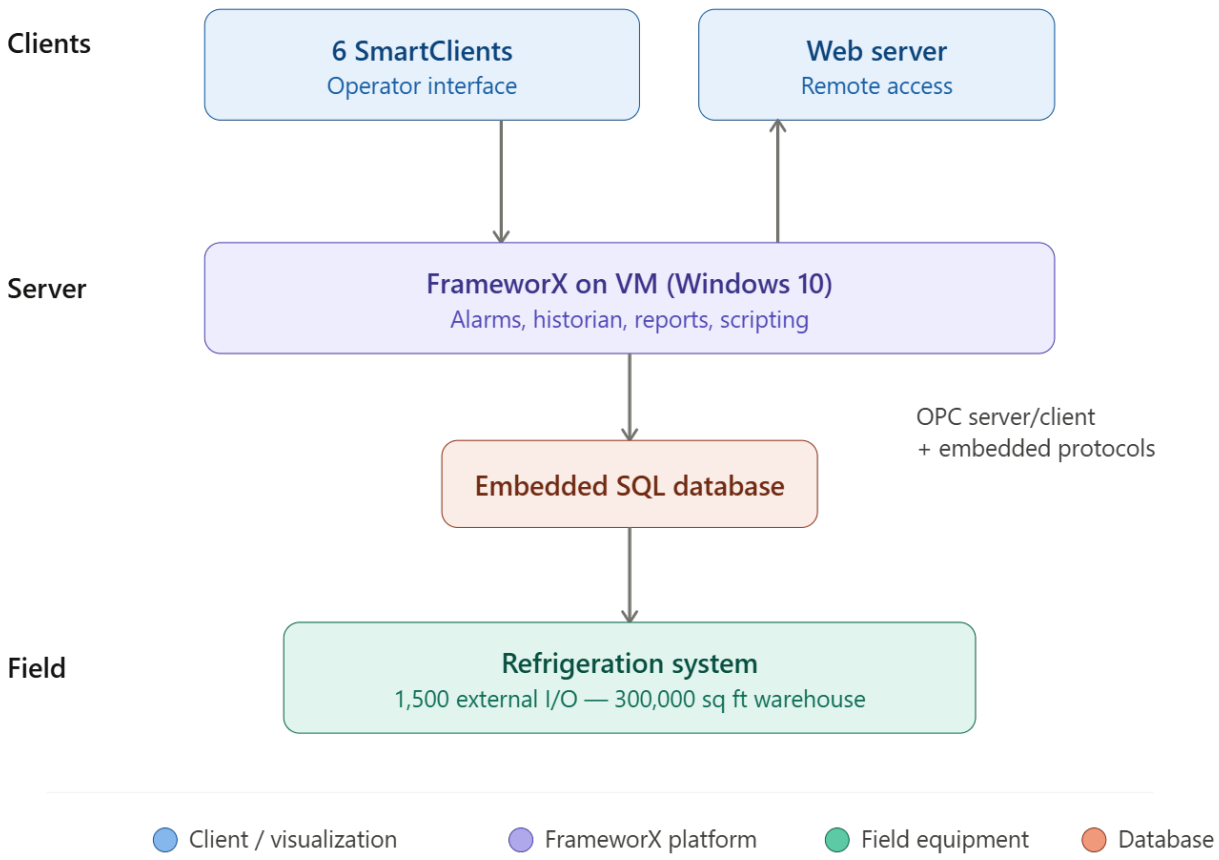
Specific pain points:

- Legacy Opto 22 and Wonderware systems needed replacement
- Complex update procedures with old systems (reconfigured flat files, global search and replace)
- Needed modern solution prepared for future challenges
- Required refrigeration monitoring for meat processing operations
- 300,000 sq ft facility with significant I/O requirements

Impact: Legacy systems created maintenance burden and lacked modern capabilities needed for efficient refrigeration management.

The Solution

Architecture



Tier	Component	Capabilities
Server	FrameworX on VM (Windows 10)	Data center hosted, embedded SQL database
Clients	6 Smart (Thin) Clients	Operator interface throughout facility
I/O	1,500 external points	Refrigeration system monitoring
Data	Embedded SQL database	Project storage, version management

Products Processed

- Portion-controlled ground beef items
- High-end steak cutting
- Value-added products
- Fresh lamb and veal

Standard Modules Used

Module	Application
Real-time Tags	Asset database
Alarms and Events	Refrigeration monitoring
Historian	Data collection
Reports	XML, CSV, XPS, PDF
Embedded SQL	Database engine
Web Server	Remote access

Scripting	C#, VB.NET, Java
Communication	OPC server/client, embedded protocols

Key Enablers

FrameworX capabilities that made this solution possible:

Capability	Application
Modern Architecture	No legacy code, built for current technology environment
Simple Version Updates	Embedded SQL database eliminates flat file reconfiguration
Virtual Machine Support	Runs on Windows 10 VM in data center
Unified Engineering UI	Complete module set in intuitive interface
Multi-Platform Runtime	.NET, Web, iOS, Android, Windows CE, Linux, Raspberry Pi
Long-Term Stability	Simple to run same solution for many years

The Results

- **Reduced Energy Costs** — Better process understanding led to energy optimization
- **Lower Material Usage** — Improved process control reduced waste
- **Increased Uptime** — Modern reliable system improved availability
- **Traceability & Quality Control** — Complete data collection and historian capabilities
- **Simple Version Updates** — No old-system update issues experienced with previous packages
- **Future-Ready Platform** — Modern solution prepared for future challenges

Customer Testimonials:

> "FactoryStudio is years ahead of the legacy systems still being sold today. Updating to newer versions is simple and reliable. We had none of the old-system update issues we've had with other packages in the past."
>
> *— Phil Black, Engineer, Tippmann Design Build*

> "FactoryStudio has helped us reduce energy costs, lower the use of materials, increase the uptime, as well as gain traceability and quality control. Expected benefits will be derived as the more you know about your process, the more you understand it, leading you to develop new fabrication processes, or new products and technologies that ultimately are responsible for the long-term growth of the company."
>
> *— Phil Black, Engineer, Tippmann Design Build*

Resources

Download case study:CaseStudy_PackingMachine.pdf

This case demonstrates legacy SCADA replacement for refrigeration control with modern architecture and simplified version management.

In this section...