Support System Case Study

CNG refueling equipment monitoring for a transit fleet, developed in roughly half the time of the system it replaced.
Industry: Transportation & Logistics (Mass Transit)

Quick Facts

Attribute	Value
Customer	MetroLINK (Rock Island County Metropolitan Mass Transit District)
Integrator	ANGI Energy Systems
Ridership	3.5 million rides per year
Tags	~750 total, 454 communication points
Development	Few weeks (less than half the time of the previous system)
Access	Web Clients (no software installation required)

The Challenge

Challenge: Monitor and control Compressed Natural Gas (CNG) refueling equipment to support MetroLINK's fleet of alternative fuel buses, including compression systems, gas management, and dispenser production.

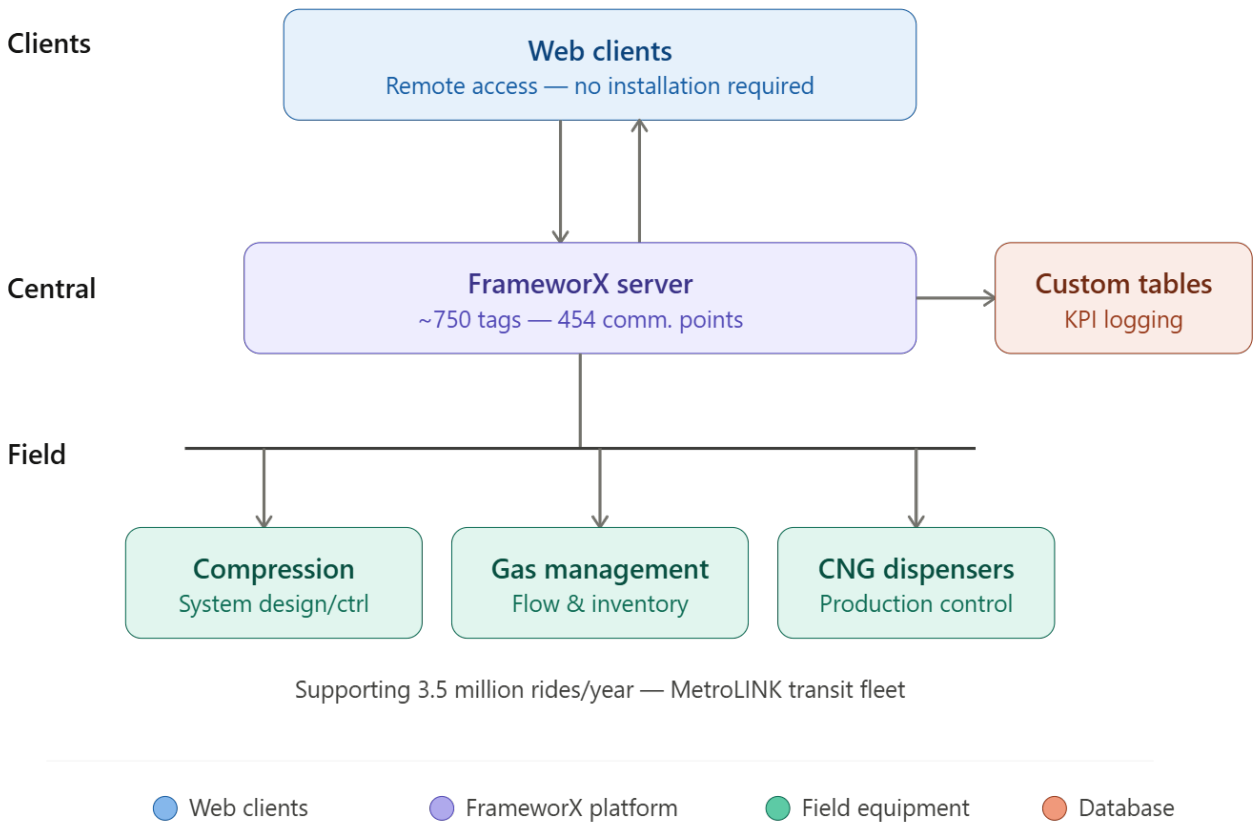
Specific pain points:

- Needed better control and monitoring for CNG processes
- Required logging and reporting on dispenser KPIs
- The customer's previous platforms proved inflexible
- Proprietary scripting on the previous platform was inefficient
- Tag-based licensing on the previous platform was costly
- Needed remote access without installing software on every computer

Impact: Without efficient monitoring, MetroLINK couldn't optimize CNG refueling operations for their alternative fuel bus fleet.

The Solution

Architecture



Tier	Component	Capabilities
Field	CNG Equipment	Compression systems, dispensers
Central	FrameworX Server	Real-time monitoring, historian
Database	Custom Data Tables	KPI logging, queries
Reporting	Data-Grid Controls	Selectable parameters, reports
Clients	Web Clients	Remote access, no installation

Processes Monitored

Process	Function
Compression Systems	Design and control
Gas Management	Flow and inventory
CNG Dispensers	Production control
Dispenser KPIs	Logging and reporting

Scale

Metric	Value
Total Tags	~750

Communication Points	454 (real-world I/O)
Annual Ridership Supported	3.5 million rides

Communities Served

- Moline
- Rock Island
- East Moline
- Silvis
- Milan
- Carbon Cliff
- Hampton
- Colona

Services Supported

- Metro bus service
- ADA paratransit
- Special Transportation Services
- Channel Cat Water Taxi (seasonal ferryboat)

Key Enablers

FrameworX capabilities that made this solution possible:

Capability	Application
Name Spaces	Wealth of information without additional tags or scripts
Communication Point Licensing	Lower cost than tag-based systems (454 vs 750)
.NET Technologies	Efficient custom features (database, reporting, scripting)
Complete Package	No time spent ensuring required modules installed
Custom Data Tables	KPI logging with queries and data-grid controls
Web Clients	Remote access without software installation

The Results

- **Rapid Development** — Project completed in a few weeks, less than half the time taken by the system it replaced
- **Lower License Cost** — Communication point model (454 points) vs tag-based (750 tags)
- **Real-Time Visualization** — Historical and live representation of refueling process
- **Enhanced Monitoring** — Better control of compression, gas management, and dispensers
- **Custom Reporting** — Data-grid with selectable parameters for informative reports
- **Remote Access** — Web Clients allow access without installing software on every computer
- **Minimal Custom Scripting** — Name Spaces provide information without additional tags
- **Baseline for Future** — First project became template for subsequent ANGI projects

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Customer Testimonials:

> "FactoryStudio helps us to get the data we need and deliver meaningful information."
>
> *— James Tuttle, Systems Administrator, MetroLINK*

> "The Name Spaces in FactoryStudio projects provide a wealth of information to use in projects without requiring additional Tags or Scripts to use. Just pluck the information from the Name Space to use in animations, scripts, alarms, wherever you'd like."
>
> *— Larry Stall, Controls Engineer, ANGI*

Resources

Download case study: CaseStudy_SupportSystem.pdf

This case demonstrates CNG refueling equipment monitoring for mass transit, delivered in less than half the development time of the system it replaced, with communication point-based licensing.

In this section...
