



CASE STUDY

National Gas Distributor Achieves Pipeline Visibility

National Natural Gas Distributor Gains Operational Visibility and Service Reliability

Midstream oil and gas companies operate within complex environments. Their industrial control systems (ICS) include dozens of equipment types and cover vast distances. This makes it challenging to monitor, manage and secure pipeline systems that aren't thoroughly documented or easy to visualize.

Thanks to new technology, it's now easy to implement passive network monitoring with automated visualization and asset discovery. The same solution can provide early detection of operational problems and cyber security risks. However, to take advantage of this, reliable connectivity with remote stations is needed.

This was the challenge a North American natural gas distributor was facing. They wanted visibility into pipeline operations down to the site level, but needed to verify the service reliability of their connectivity provider to achieve that.

The Nozomi Networks solution delivered the information needed to measure connectivity uptime at distribution sites. The operator is now able to determine whether contracted service levels are being met, and has the tools to improve operational awareness and cyber security.



Customer Profile

Natural gas **transportation, storage and distribution system**

9,000 kilometers of pipeline

420 gas distribution sites



Goals & Challenges

Real-time monitoring of distribution stations spread across the country

Integration with a managed service provider's control center technology



Results

Visibility into natural gas surface station operations

Ability to **monitor communications links** for service reliability

Confidence that **agreed upon service availability levels** were being met



"The natural gas distributor needed visibility into its OT network to confirm that it was receiving the service levels agreed upon. We looked to our partner Nozomi Networks for the functionality needed to create a detailed asset inventory, and the specialized tools needed to monitor the organization's critical operational processes. Thanks to Nozomi Networks innovative operational visibility and cyber security solution, we were able to deliver the needed insight."

NETWORK CONSULTING ENGINEER

Nozomi Networks Systems Integrator Partner

Guardian Delivers Operational Visibility into More Than 400 Field Sites

The Challenge: Monitoring Connections to 420 Widely Dispersed Gas Distribution Stations

The gas distributor is responsible for supplying natural gas to residential, business and industrial users across the county. It operates more than 400 pipeline regulation and measurement facilities spread over 9,000 kilometers of mostly inaccessible terrain. Managing the integrity of the country's critical infrastructure – particularly the safety, efficiency and reliability of its natural gas supply, is paramount. To achieve that, the distributor needed real-time, ongoing visibility into its site connectivity uptime.

The Challenge

The natural gas company had contracted a managed service provider (MSP)/telecom service provider (TSP) to take care of its distribution infrastructure. The MSP/TSP lacked visibility into its network and had no ability to measure and monitor connectivity status. It needed to find an efficient way to inventory and verify all physical assets on the network, and provide accurate reports on connection service uptime to the gas distributor.

Project Goals

Project requirements included:

- Fast implementation of communications link monitoring capabilities
- Proof that the operational visibility solution could meet use case requirements within a lab environment prior to field deployment
- Integration with MSP systems to monitor communications link service levels

The Solution: Three Industry Experts Collaborate To Deliver Operation-Wide Visibility

Step One: To build capability fast, the natural gas distributor partnered with a specialized MSP/TSP. Its role was to maintain the communications infrastructure that connected the 420 gas distribution stations to a central control center.

As part of the service contract, the MSP/TSP was required to provide proof that the communications links met the quality and availability levels agreed upon in the contract.

Based on their deep expertise in developing customized automation, control and telecom solutions for industrial systems, the MSP/TSP knew they could deliver an effective way to collect and transfer data from the field to the main control center. What they lacked was the means to monitor ongoing network communications down to the site level.

Step Two: Another regional expert – a systems integrator (SI) with extensive business process performance and ICS cyber security knowledge, believed they had the perfect solution to the connectivity monitoring problem. The SI had established a strategic partnership with Nozomi Networks in an effort to provide comprehensive OT asset visibility, critical process monitoring and streamlined IT/OT integration to their customers. They were confident that the Nozomi Networks operational visibility and ICS cyber security solution would perform well against the connectivity monitoring requirements.

Step Three: The MSP/SI project team launched a Proof of Concept (PoC) simulating 20 field stations. Nozomi Networks **Guardian™** R50s – ruggedized physical appliances capable of withstanding temperatures from -40°C to +70°C, were deployed with immediate results. Not only did the Nozomi Networks solution quickly visualize the full ICS test network, within hours it delivered a detailed asset inventory and real-time network monitoring across all 20 stations in the trial.



CASE STUDY

National Gas Distributor

Nozomi Networks Delivers **Real-time Monitoring** of Network Communications

The Results: Network-Wide Visibility, Real-time Monitoring and Scalability

Completion of the successful PoC led to the purchase of over 420 Nozomi Networks R50 appliances for deployment at gas wells, tie points and compressor stations. The MSP/TSP also bought two Nozomi Networks **Central Management Consoles™** (CMCs) to deliver consolidated and remote access to the ICS data from Guardian appliances deployed in the field.

To achieve the desired level of operational visibility, Nozomi Networks worked closely with the MSP/TSP and SI to customize the integration between Nozomi Networks appliances and CMCs, the communications links and the main control center. And, to ensure that the deployment team had the knowledge and skills needed to manage the solution long-term, Nozomi Networks conducted several days of technical product training with members of the multi-organization project team.

The MSP/TSP now uses Nozomi Networks Guardian appliances and CMCs to measure and document the availability of its communications links. It shares monthly reports with the natural gas distributor to confirm it is meeting the agreed upon service levels. And, the natural gas distributor is now confident that it is getting the service it is paying for.

Operation-Wide Visibility into Network Structure and Activity



Thanks to the Nozomi Networks Guardian appliances, the MSP/TSP and SI are able to immediately visualize the pipeline distribution network. Access to key information such as TCP connections and protocols used between nodes and zones greatly enhanced the team's understanding of the

network structure and activity. Longer term benefits include reduced troubleshooting efforts and faster incident response.

Real-time Monitoring for Improved Network Security



In addition to network communications, Guardian is able to monitor gas pipeline assets from different vendors. It displays summarized data related to alerts, incidents and vulnerabilities, and shows indicators of reliability issues such as unusual system variable values. This helps the MSP/TSP monitor individual site operations and report on communications link availability levels.

High Performance and Scalability Delivers Fast ROI

Nozomi Networks was able to demonstrate in the lab and in the field that the R50 appliance solution scales without compromising performance. It also adapts easily to all site requirements, thanks to a variety of appliance module and deployment options. Not only were the natural gas distributor, MSP/TSP and SI able to quickly meet their goals, they also achieved a fast return on investment with no risk to ongoing industrial processes.

Future Plans

While deployment of over 400 Guardian appliances continues, the natural gas distributor and MSP/TSP have also turned their attention to exploring other ways to tap into the advanced operational visibility and cyber security capabilities of the Nozomi Networks solution suite.

What to Look for in a Real-time ICS Visibility and Cyber Security Solution

While operational disruptions dominate the news, there is reason to be optimistic.

The Nozomi Networks solution, comprised of **Guardian**, the **Central Management Console** and the **OT ThreatFeed™** subscription, is not only easy and safe to deploy, it dramatically improves operational visibility and IT/OT cyber security.

When choosing a cyber security solution and vendor for your organization, make sure they have the advantages shown here.

- ✓ **Accurate OT Operational Visibility**
- ✓ **Advanced ICS Threat Detection**
- ✓ **Proven, Large-Scale Global Installations**
- ✓ **Swift Deployment Across Many Sites**
- ✓ **Easy IT/OT Integration**
- ✓ **Global Partner Ecosystem**
- ✓ **Passion for Customer Care**



For detailed information about our products, visit

www.nozominetworks.com



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About Nozomi Networks

Nozomi Networks is accelerating the pace of digital transformation by pioneering innovation for industrial cyber security and operational control. Leading the industry, we make it possible to tackle escalating cyber risks to operational networks. In a single solution, Nozomi Networks delivers OT visibility, threat detection and insight to thousands of the largest critical infrastructure, energy, manufacturing, mining, transportation and other industrial sites around the world.



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