Tempered

Learn how Great Lakes Water Authority enabled a secure connection to remote sites and protected its critical infrastructure.

Great Lakes Water Authority establishes a secure connection to its critical remote sites

Airwall Solution provides remote access and simplified management for one of the largest control systems in the U.S.

Challenges

Network communications between their control centers and critical remote sites were based on radio technology. Because radio was unreliable and had limited range, they began to enable a wired fiber connection to these critical remote sites, which proved to be extremely expensive.

Solution

After ensuring a data connection with a working proof of concept in their internal lab, the Airwall Solution was deployed to 13 of their critical remote sites. These sites were able to share data on pressure, flow, level, valve position, and more at a fraction of the cost of a wired fiber connection.

Wins

GLWA successfully established a data connection to their critical remote sites, and expanded use across both freshwater and wastewater critical infrastructure. The organization was able to accomplish this easily, cost-effectively, and at-scale.

"We are able to connect our remote sites quickly and cost-effectively, without any complex configuration changes. Tempered's Airwall Solution supports our security posture and has helped us achieve our goals."

Ali Abdallah
Infrastructure Administrator

The challenge

Great Lakes Water Authority (GLWA) provides water and wastewater services for nearly 40% of Michigan's population. This includes the City of Detroit and approximately 100 suburban communities.

Their infrastructure includes 5 water treatment plants, 1 wastewater treatment plant, 40 pump stations, 8 combined sewage overflow (CSO) facilities, and 3 interceptors.

They also managed over 250 remote sites that have power but need a network connection. These sites needed to send pressure, flow, level, and valve position data back to GLWA control centers.

On both the clean-water and wastewater side, they have a capacity of treating over 1.7 billion gallons of water per day. They serve 8 southeast Michigan counties, which amounts to 4 million people a day using GLWA's water system.

With a critical infrastructure that's one of the largest in the country, GLWA needed to ensure a seamless data connection to their remote sites. They wanted to transition away from using a radio connection, which was proving to be slow, unreliable, and limited in range.

They began the process of adding wired fiber connection to a few critical remote sites. However, they discovered that it was costing them close to $200K per remote site, and they quickly realized this was not cost-effective or scalable.

The solution

Ali Abdallah, GLWA's Infrastructure Administrator, heard about Tempered's Airwall Solution and was intrigued. As the person who architected GLWA's control systems, he was looking for a seamless and cost-effective solution.

He worked with a Tempered Solution Architect to deploy a proof of concept in a lab environment. He was able to quickly establish a data connection from GLWA's control centers to a physical Airwall Gateway with a cell connection.

Ali quickly realized how seamless, simple, and cost-effective it could be to connect to GLWA's critical remote sites. GLWA's initial deployments were to 13 inflatable sewer dam sites with radio connection issues.

Customer success

"Tempered's Airwall was reliable, easy to use, and simple to configure. All you need is power, a SIM card, and you're connected," said Ali Abdallah. "Once Conductor was set up, adding more physical Gateways is simple. There's little configuration needed."

GLWA was able to expand their deployment to more remote sites for clean-water, wastewater, and distribution. This would have cost much more to connect using other methods.

> *"Every time we needed to connect to a remote site, all I've needed to do is send over another physical Airwall Gateway. Instead of trying to troubleshoot older technology, or spend a lot for a wired fiber connection, we have a solution that is a fraction of the cost and much more effective."*
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> **Ali Abdallah**
> **Infrastructure Administrator**

Deployed Airwall Solution components

Airwall Edge Services, coupled with Airwall Conductor and Airwall Relay, created a solution that enabled a secure connection at scale for GLWA's remote sites.

Airwall Conductor: The team deployed the orchestration engine for provisioning, segmentation, allocation, and revocation of the network in the cloud. The Conductor allowed them to visualize their segmentation and do granular white listing of the network.

Airwall Relay: Identity-based routing devices were deployed in the cloud, allowing secure traffic between remote sites and control centers. This was accomplished through encrypted tunnels, without the need for troubleshooting an unreliable radio network or deploying an expensive wired fiber connection.

Airwall Gateways: Physical Airwall Gateway 150 devices were deployed to protect remote sites and ensure a seamless connection to the control centers.

Tempered delivered defense-in-depth

1. Zero-Trust Network Access (ZTNA)
2. Software-Defined Network (SDN)
3. Software-Defined Perimeter (SDP)
4. Multi-Factor Authentication (MFA)
5. Micro-segmentation for every endpoint
6. Lateral movement eliminated

without expense-in-depth

- A fraction of the cost of traditional solutions
- Deployed much faster than traditional solutions
- Did not require additional network admins

Want to see what Airwall can do for you? Schedule a call AutomaTech to learn more.

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