



INDUSTRY

Utilities

CHALLENGES

- Rigorous and detailed wastewater cleaning processes
- Vulnerabilities to water contamination agents, physical threats, and cyberattacks from outside sources
- An impact on public health, community safety, and the overall economic environment as a result of potential attacks
- A combination of outdated technology and complicated overall infrastructure
- The unpredictability of natural disasters and environmental influences which could impact water
- Multiple agency branches, some in rural and remote locations

RESULTS

- **A secure and consistent** migration to a cloud deployment
- **Faster update times** of approximately 10 minutes
- **Comprehensive visibility** into the entire network, with established controls and easier to manage processes
- **Decrease in total cost of ownership** (TCO) due to updated technology and faster process times
- The complete **safety of customer data** and proprietary information
- **Protection from potential breaches and cyberattacks** to ensure clean water is provided to the local communities

How a Municipal Water Treatment Plant Successfully and Securely Migrated to the Cloud with Versa Networks SASE/SD-WAN Titan Solution

This case study examines how a major water supply system in Ontario Canada successfully secured remote and headquarters offices and migrated sensitive data to cloud environments by deploying award-winning secure access service edge (SASE) solutions from Versa Networks.

Company Overview

Serving Ontario, Canada, the Lambton Area Water Supply System (LAWSS) includes nine locations across several remote, rural locations, including a direct filtration water treatment plant (WTP) with a maximum rated capacity of 181,844 m³/d and 67,000 m³ of storage capacity. The WTP uses chemically assisted filtration with disinfection and supplies water to approximately 120,000 users in Lambton County. LAWSS has approximately 250 km of water main of various sizes and materials, three standpipes, several elevated towers, and two booster stations, mostly in the city outskirts. The East and West Lambton Booster Stations have 9,000 m³ and 90,000 m³ of water storage, respectively, and both have the ability to re-chlorinate the water prior to being re-pumped into the distribution system. LAWSS locations include towers, pumping stations, storage facilities - including a communications area for the entire network.

How to Keep the Water Clean and the Network Secure

The Water and Wastewater Systems Sector is vulnerable to a variety of attacks, including contamination with deadly agents, physical attacks such as the release of toxic gaseous chemicals, and cyberattacks. The results of any variety of attacks could include large numbers of illnesses or casualties and/or a denial of service that would also impact public health and economic vitality. The sector is also vulnerable to natural disasters.

It is imperative for organizations such as LAWSS to have the most secure network in place in the advent of ongoing threats. Safe drinking water is a prerequisite for protecting public health and human activity. Properly treated wastewater is vital for preventing disease and protecting the environment. Thus, ensuring the supply of drinking water and wastewater treatment and service is essential to modern life.

For numerous years, LAWSS had been using outdated, older technology consisting of a dedicated radio network and licensing the frequency from outside sources. It was a serial outdated internet-connected network cobbled together which needed a major update. Many services and features needed were not supported on the older system. In 2019 the company started the process of looking at newer available technologies to upgrade the entire network securely and turned to trusted partner Experteers.

"As a leading MSSP in Canada, we utilize the industry's most powerful solutions to deploy across our customer base," said Nasser Jabakhanji, President and CEO, Experteers. "Versa Networks has the strongest SD-WAN SASE platform we have come across. Providing it to LAWSS for their digital migration and safe cloud deployment was an easy decision, we knew it would perform to meet their needs."

Versa Networks, a leader in SD-WAN and SASE, was brought to the attention of the Board. After researching and a deep review of the security features and capabilities Versa provided, LAWSS approved a POC network and ran lengthy testing procedures. After Versa passed all evaluations, LAWSS proceeded to move forward with full deployment and implement Versa's innovative SASE to connect all the branches, including the rural locations. The goal was to operate on a secure network seamlessly while migrating control systems to the cloud with minimal disruption to services.

Migrating to the cloud was initially a concern for the company after years on a dedicated network. LAWSS was looking forward to advantages of digital migration, including saving time, reducing processes, and increasing revenues, all while alleviating the burdens associated with having so much on prem to monitor. The company was looking forward to having a secure, reliable and resilient IT network to continue operations 24x7 that would serve them well into the future.

Due to the nature of the industry, water treatment facilities engage in rigorous processes to deliver their entire communities with available clean water. There is never room for error, and very little downtime or service interruption is allowed. The team proceeded carefully to gain Board approval, design a new layout, and construct a process that would involve cloud migration, testing, and updating legacy equipment. The overall process to get to initial deployment took close to 12 months.

In less than 30 days, Versa was fully deployed and in place – connected to all locations – and everything worked properly and passed testing. Everything that needed to happen did so in the upgrade without downtime or interruption of services.

Faster Processes and Clean Water for All

Four years later, Versa's technology continues to perform to keep the LAWSS network secure and operating in the cloud. Software updates previously coming in late at night have been moved to early morning, where the teams can easily monitor and control the process. Overall, the updates take up to 10 minutes and are a very easy process to manage.

"Versa has enabled LAWSS to deliver exceptional security, connectivity, and performance for both on-premises and cloud applications across all of our locations regardless of where they are located," said Albert Veenkamp, Technical Manager, LAWSS. "The Experteers team provided exactly what we needed, and since Versa offers us more control over data flows during crucial moments, it gives us an edge."

LAWSS has saved a considerable amount from the previous method of running the network on legacy, outdated dedicated internet equipment. With the ongoing potential for data loss and security breaches on the rise and the potential for cyberattacks escalating globally, LAWSS is more secure with Versa in place than they ever were before. Versa and Experteers are helping LAWSS keep customer data, and other proprietary data safe, which is their priority goal.

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Albert Veenkamp
Technical Manager, LAWSS

Technical Details

For this effort, Versa provided:

The Versa SD-WAN solution

A fully managed “white-labelled” service covering

- Hosted on AWS
- Branch on-boarding
- Branch monitoring
- Residential engineering services POC, testing, and deployment carried out by Experteers team
- Training services
- 200Mbps and 1Gbps bandwidth services to match the current “flex” underlay services at LAWSS

A single-platform solution offering

- Fully managed “white-labelled” service
- 200Mbps and 1Gbps bandwidth services to match the current “flex” underlay service at LAWSS
- Branch platforms delivering carrier-grade reliability, enterprise-grade routing, SD-WAN, and security
- Riverbed VNF on the uCPE/ CSG750 platform

About Versa Networks

Versa Networks, the leader in single-vendor Unified SASE platforms, delivers AI/ML-powered SSE and SD-WAN solutions. The platform provides networking and security with true multitenancy, and sophisticated analytics via the cloud, on-premises, or as a blended combination of both to meet SASE requirements for small to extremely large enterprises and Service Providers.

About EXPERTEERS

EXPERTEERS is a leading provider of cloud-based UCaaS/CCaaS, SASE/SD-WAN, Private LTE/5G, and Secure Access services. It offers Zero Trust Network Access (ZTNA) from the Data Center to the Branch, and for Work from Anywhere. Since the pandemic, secure connectivity, particularly for remote workers, is a top priority for enterprises.

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