

Solution Brief

Industrial Secure Edge to Cloud
Plant Floor Operations Sustainability Solution



Presidio Gives New Visibility into the Extended Enterprise with an Industrial Solution to Bring Near-Real-Time Data to the Plant Floor

Secure Edge to Cloud solution offers new insight into water consumption and enhanced visibility into industrial operations

“For a long time, lack of visibility into critical industrial systems has contributed to waste and inefficiencies. On the factory floor, it’s like you don’t know the score of the game until the game is already over—and we wanted to change that. With the ability to monitor our products from beginning to end, we could potentially see billions of dollars of revenue impact.”

—Presidio customer

At processing plants and factories, harsh and unforgiving environments impede visibility into industrial control systems. Problems with electrical, mechanical, and water systems can be discovered days or weeks after they occur and take just as long to remediate.

Presidio, a leading North American IT solutions provider, has created a Secure Edge to Cloud portfolio along with Intel to bring innovative solutions to Industry 4.0. Together with partnerships from OnLogic and Tempered Networks, Presidio is changing the way OT environments operate securely with IT departments. Presidio recently implemented a water usage sustainability solution at a client’s United States-based processing plant as part of a multiphase plan to analyze data collected by edge devices and sensors to improve efficiency.

In Phase I, the Plant Floor Operations Sustainability solution has been able to save the processing plant approximately USD 1M per year with water usage monitoring. In future phases, the customer intends to use similar Secure Edge to Cloud solutions to monitor refrigerant and power consumption, as well as raw material hydration levels throughout the production process. Planned future phases include expansion to over 40 US-based plants and over 100 internationally.

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Challenges: Processing data at the edge for timely insights and preventive maintenance

In low-margin industries, wasted water can be a significant drain on revenues and vital natural resources. For Presidio’s client, it was a logical place to start monitoring with edge sensors. To avoid overwhelming network connections, the massive quantities of data being generated required processing through edge computing before it could be moved to the data center or the cloud.

While recent surveys show that 75 percent of manufacturers expect to apply IIoT to optimizing production processes in the next two years, creating an IIoT deployment is a complex undertaking requiring an ecosystem of vendors and partners. Typically, IIoT needs to work in the context of existing operational technology (OT) systems and industrial control systems (ICS), which are embedded in operating environments and cannot be easily replaced. IT needs to manage connectivity and network access while providing user interfaces to act on insights generated by the IIoT sensors.

Security also presents challenges to IIoT solutions, which represent a significant change from legacy security strategies. Until recently, OT systems were deliberately kept disconnected, or air gapped, from networks and internet connectivity for security purposes. To ensure that information could be acted upon in a timely manner while maintaining protection from attacks and performance disruptions, sensor data would need to be stored and analyzed close to the manufacturing area.

Solution: Secure Edge to Cloud Industrial Solution enhances visibility of industrial systems

To meet these customer challenges, Presidio looked to the Intel® Partner Alliance. With an extensive ecosystem of partners actively engaged in solving customer challenges with interoperable hardware and software, alliance members create market-ready solutions (MRS) that work to add business value with IoT technologies. With a history of successful deployments with trusted solution partners OnLogic and Tempered, Presidio was able to provide the professional services required to bring the secure edge-to-cloud solution together.

Using these partner solutions to provide vital OT, IT, and security components, Presidio helped its customer gain actionable intelligence from the plant floor about water usage in real time. Daily average reporting and action alerts were implemented to accelerate response times from operations teams. IIoT data, ingested and analyzed with the Secure Edge to Cloud Industrial solution, helped the customer to decrease waste while increasing machine efficiency and reducing production disruption with preventive maintenance.

How it works

Developing the Presidio Secure Edge to Cloud Industrial portfolio required input from multiple partners:

Presidio: Presidio's broad portfolio of services and knowledge of Intel partners and ecosystem solutions made it possible to orchestrate an edge to cloud IIoT solution. Presidio was also able to provide network readiness assessments and expert recommendations on connectivity options, as well as site surveys, OT security assessment, back-end integration and configuration, and platform initialization.

OnLogic: OnLogic hardware, powered by Intel® processors, is deployed in some of the most challenging industrial and manufacturing environments in the world. OnLogic's industrial and rugged PCs feature the latest in cutting-edge fanless and fanned chassis design. Engineered for use in today's most challenging computing environments, OnLogic's industrial computers help reduce downtime and prevent failures from shock, vibration, dust, debris, extreme temperatures, and harsh environments. OnLogic's multiple product lines allow for the flexibility of future scale.

Tempered Networks: Tempered specializes in industrial cybersecurity to ensure that virtual air gaps are appropriately placed to secure industrial systems while ensuring authorized access from remote users and integration with IT networks and applications. The Tempered Zero Trust Networking Solution is able to be deployed quickly to enhance security from edge to cloud and allows remote management and orchestration of software-defined perimeters for the Presidio Secure Edge to Cloud industrial solution. With its focus on identity-based security policies and centralized policy conductor, management and updates of secure access controls are greatly simplified and easily align with business requirements.

About Presidio

Presidio is a leading IT solutions provider assisting clients in harnessing technology innovation and simplifying IT complexity to digitally transform their businesses and drive return on IT investment. Presidio delivers this technology expertise through a full life-cycle model of professional, managed, and support services, including strategy, consulting, implementation, and design.

[presidio.com](https://www.presidio.com)

About OnLogic

OnLogic creates advanced, powerful, highly configurable small form factor computers that thrive where others fail, in order to empower innovative companies around the world to solve their most complex technology challenges in order to make the impossible possible.

[onlogic.com](https://www.onlogic.com)

About Tempered Networks

Tempered makes the industry's only truly native zero trust software-defined perimeter (SDP) solution. Airwall is the modern air gap for all connected things, and makes it easy to create and maintain hypersecure networks across complex infrastructure anywhere, including for IT/OT/ICS/SCADA, on remote sites, and in the cloud. Airwall networks are multifactor authenticated, micro segmented, encrypted end to end, and impervious to lateral movement.

[tempered.io](https://www.tempered.io)

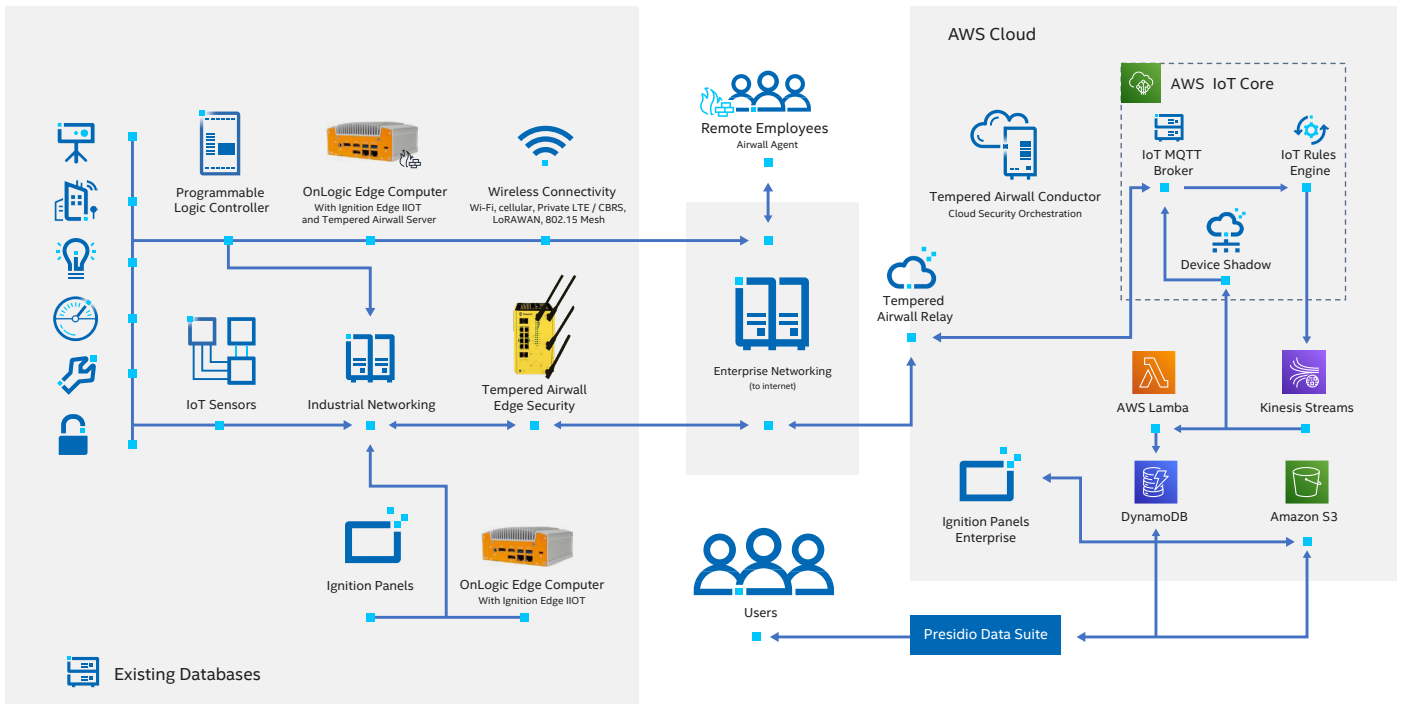


Figure 1. The secure edge-to-cloud network

Conclusion: IIoT enables customers to respond quickly to production plant conditions

For manufacturers operating on low margins, wasted resources and raw materials can be a significant source of inefficiency. IIoT sensors and devices can give operations teams more control over and visibility into industrial control systems, but deploying these systems involves solving complex interoperability problems and partnering with multiple vendors.

For a customer operating high-volume processing plants, Presidio developed the Secure Edge to Cloud Industrial solution in conjunction with technology partner Intel and solution partners OnLogic and Tempered Networks. In Phase I, already deployed, the solution monitors water usage at a single US-based production plant. In future phases, the customer intends to extend the IIoT solution to include refrigerant, power, and raw-material hydration monitoring to create further efficiencies and enhance predictive maintenance.

Learn more

Discover how Presidio delivers insights to industrial customers using a trusted ecosystem of technology and solution partners.

Visit presidio.com/page/827/manufacturing.

Learn how Intel enables Industrial IoT to accelerate the Fourth Industrial Revolution.

Visit intel.com/iot/industrial.



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