Solution Brief

Smart City
Critical Infrastructure

deltaflare + OnLogic + Intel: Phoenix Platform for Secure OT Transformation

Phoenix Platform: Secure, Scalable OT Transformation

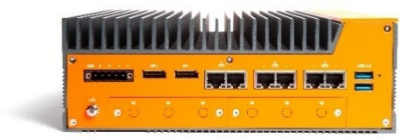
Executive Summary

Critical infrastructure operators across cities, transportation, and utilities are under growing pressure to accelerate digital transformation while maintaining security, regulatory compliance, and uninterrupted operations. Aging systems, increasing cyber threats, and complex regulatory landscapes make modernization particularly challenging in operational technology (OT) environments.

To address these challenges, deltaflare, OnLogic, and Intel have partnered to deliver the Phoenix Platform—a modular, software-defined security and operations framework designed to secure and modernize critical infrastructure without disrupting existing systems.

By combining deltaflare's OT security expertise, rugged edge computing platforms from OnLogic, and Intel processors with built-in security technologies, the Phoenix Platform establishes a unified layer of trust across IT and OT environments. This collaboration enables cities and critical infrastructure operators to:

- Secure legacy and next-generation systems without costly rip-and-replace strategies.
- Support compliance with evolving cybersecurity and regulatory requirements
- Enable digital transformation while safeguarding mission-critical operations.



The deltaflare Phoenix SaaS platform integrates hardware-rooted security capabilities, including Secure Boot, Full Disk Encryption, Trusted Computing, and Total Memory Encryption, to enhance system integrity and resilience against cyber threats. OnLogic edge computing hardware powered by Intel CPUs and built-in security features enable near real-time control, optimized performance and secure edge AI ready support for digital transformation in smart cities, transportation and critical infrastructure.

With a use-case-driven approach, Phoenix empowers organizations to scale securely, enhance operational visibility, and prepare for secure AI-enabled decision-making at the edge. Together, deltaflare, OnLogic, and Intel set a new benchmark for secure OT modernization—providing a practical, future-ready path to resilient and sustainable infrastructure transformation.

Why Security Matters?

Cities and critical infrastructure operators face converging risks: aging and unsupported systems, escalating cybersecurity threats, and increasingly stringent compliance requirements. Addressing these demands requires a robust, future-proof solution that combines advanced security, operational resilience, and scalable digital capability.

The combination of deltaflare's Phoenix Platform, OnLogic industrial-grade hardware, and Intel technologies with built-in security capabilities provides a robust solution designed specifically for the realities of operational environments.

Strategic Collaboration

The Phoenix platform is a software-defined security solution engineered for Operational Technology (OT) environments. It establishes a unified layer of trust between operational and enterprise systems, enabling secure digital transformation without disrupting existing processes.

This solution brief showcases how deltaflare leverages OnLogic rugged hardware powered by Intel technologies with built-in security capabilities to deliver a secure, scalable, and future-ready solution.

Solution Architecture

Phoenix Core is built on secure-by-default principles, least privilege, and defense in depth. It supports both legacy and next-generation applications within the same trusted framework.

Key Features:

- Security Assurance: Hardware-rooted trust, encryption, and verified execution.
- Operational Visibility: Real-time monitoring, logging, and anomaly detection.
- Digital Transformation and Edge AI: Seamless integration of modern applications without disrupting legacy systems.

OnLogic Hardware Advantages:

- Rugged, fanless systems optimized for harsh industrial environments.
- Edge computing capabilities for near real-time control and telemetry.
- Scalable deployment across distributed sites.

Intel Security Capabilities Integrated into Phoenix:

- Secure Boot: Validates firmware and system integrity at startup.
- Full Disk Encryption (FDE): Protects data at rest.
- Trusted Compute: Hardware-backed cryptographic verification.
- Intel® Total Memory Encryption (Intel® TME): Encrypts system memory to prevent runtime attacks.

Figure 1. Phoenix Application Stack

Use Cases

Legacy System Encapsulation

Virtualization of end-of-life systems using phoenix:pandora on OnLogic hardware powered by Intel processors.

Trusted Remote Monitoring

Secure telemetry and remote access for distributed critical infrastructure sites.

Transportation Sector

Applications such as traffic & intersection management, utilities focused on secure modernization for critical infrastructure.

Impact/Outcome

Outcomes may vary based on organizational scale and operational maturity; however, transportation and critical infrastructure operators that adopt this architecture realize the following benefits:

- Increased visibility across distributed OT environments
- Reduced exposure of unsupported legacy systems
- Improved compliance and audit readiness
- Enhanced resilience against transportation and critical infrastructure cyber threats
- Reduced capital expenditure compared to full infrastructure replacement
- A scalable foundation for predictive maintenance and smart transportation initiatives
- Improved security and trustworthiness of AI-driven transportation systems
- Stronger governance for AI-enabled smart city applications

Future Vision

deltaflare plans to further integrate the Phoenix Platform with OnLogic hardware, leveraging Intel acceleration technologies to enable secure, distributed intelligence at the edge. This approach supports:

- Orchestrated distributed AI workloads across geographical regions
- Low-latency decision-making on large data volumes
- Real-time anomaly detection
- Advanced analytics for operational environments in cities and critical infrastructure

Conclusion

The partnership between deltaflare, OnLogic, and Intel sets a new benchmark for secure OT transformation. By combining cybersecurity, operational resilience, and edge computing performance, this unified solution empowers critical infrastructure operators to modernize securely, support compliance requirements, and embrace digital and AI-driven innovation.

Next Steps

Learn more about how deltaflare, OnLogic and Intel are enabling smarter, safer and more connected transportation:

Video & AI Cities Community

Edge AI Suites for Industry Specific AI Solutions

Email: transportation@intel.com

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