

Engineering Cyber Resilience into Life-Critical Care

How a connected ECG platform eliminated 94% of identified vulnerabilities and achieved UL 29001 certification



Business challenge

For a global medical technology manufacturer, securing a connected electrocardiogram platform meant protecting more than data. Every weakness across firmware, communication protocols, network interfaces, PKI, or configuration could affect patient safety, regulatory confidence, and continued use in clinical environments.

With threats evolving and scrutiny increasing, the client needed to reduce exposure across the entire platform without disrupting clinical workflows or delaying regulatory timelines. The business needed to:



The Cyient solution

Cyient applied an end-to-end security engineering approach that combined vulnerability assessment, penetration testing, threat modeling, failure simulation, and remediation guidance across the connected platform.

- Tested embedded firmware, communication stacks, and network interfaces for exploitable weaknesses
- Modeled threats to identify and prioritize high-risk attack pathways
- Injected simulated failures to test resilience under adverse conditions
- Validated PKI and reviewed configurations to strengthen authentication and secure communications
- Guided remediation in alignment with UL 29001 and FDA expectations
- Supported compliance readiness for regulatory review and certification

Business benefits

The program converted broad cyber exposure into a stronger, certifiable security posture, improving resilience without compromising clinical continuity.

- Eliminated **94%** of identified vulnerabilities
- Reduced the attack surface by **87%**
- Achieved **UL 29001 certification**
- Recorded **zero critical FDA findings** in subsequent reviews
- Established a repeatable security model for connected medical platforms

Engineering excellence. Nothing Less.

Patient safety could not depend on a point-in-time security check. By engineering resilience across every layer, the client turned cybersecurity into a continuous safeguard for clinical performance, compliance, and trust.

Build cyber resilience into every connected device.

Speak with our experts today.



Cyient is a global lifecycle engineering services company powering mission-critical industries from design to aftermarket across products, plants, and networks. With 300+ customers and 15,000+ associates across 30+ countries, we combine human expertise, deep domain knowledge, and AI to deliver intelligent engineering for every lifecycle across Aerospace and Rail, Automotive and Mobility, Connectivity, Energy, Healthcare, Mining, Utilities, and beyond.

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