

Next-Gen Physiological Patient Monitoring System (PPM)

EVOLUTION OF A PATIENT MONITORING SYSTEM—FROM BEDSIDE TO TRANSPORT

SITUATION

- Requirements for new monitor included going from bedside to transport with the push of a button. Additionally, the new device had to connect to hospital networks and communicate data to many other monitoring stations within a hospital
- This next-gen PPM device must allow new devices to automatically transfer and display parameter, waveform, and alarm data without the monitor knowing the specific type of connected device
- Much of the support software used a platform architecture model unknown to the internal software engineering team

CHALLENGES

- Existing software architecture did not support requirements to turn current bedside patient monitor into a transport monitoring system
- New device protocol was in the development phase at the same time the requirements for using the protocol were also being defined
- Project was behind schedule due to undersized internal engineering team and operational performance gaps

SOLUTION

- Developed a new flexible software platform architecture with a generic open protocol that allowed the monitor to go from bedside to transport with the push of a button
- Defined the software architecture and initial design documents
- Improved product stability by fixing architectural issues related to module integration and implementing a rigorous unit testing framework

RESULTS

- Conducted many successful product demonstrations allowing senior business leaders to see the new product concept in its initial development stages
- Early demos confirmed that new device could display waveforms on other hospital devices using the new protocol and dynamically connected and disconnected devices into the monitor seamlessly
- Areas for development process improvement were identified during the collaborative partnership with MedAcuity

ABOUT MEDACUITY

MedAcuity is a specialized engineering firm that focuses on medical technology software development. The trusted and experienced firm was founded in 2007 by a team of seasoned software engineers who identified opportunities to fill gaps in the engineering expertise and efficiency facing the medical technology industry. MedAcuity offers extensive experience across the MedTech industry with full life-cycle software development and subspecialties in other areas including tool validation, algorithm development, and cybersecurity.

Accelerating the pace of innovation while reducing development time and risk.

It's possible. Ask us how.

866.376.1931