



# SATURN SYSTEMS

"Solving Complex Business Issues through Software Engineering"

## Device Integration: Medical Cart Power Monitor

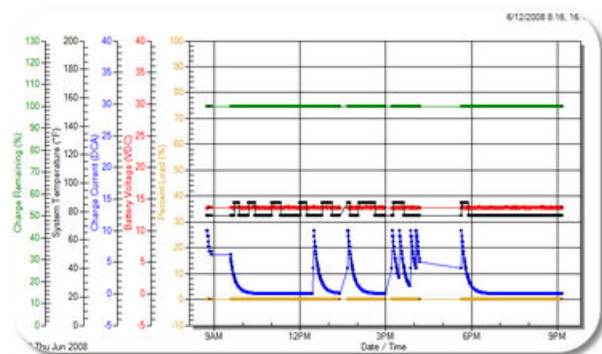
**Overview...** A major manufacturer of point-of-care medical carts required a monitoring application for an integrated power supply and battery. Mobile medical carts are used by hospital staff to provide a platform for computing and secure dispensing of medications. A reliable and compact power source for a PC, monitor and peripheral devices is important to the success of these carts. Once in the field however, it is also critical for IT staff to have a means to monitor the health of the power systems to ensure uninterrupted service.

Core requirements included recognition and communication with multiple power supply models and vendors over USB. Additionally, the application also had to supply a means to configure and monitor battery charge thresholds, battery replacement warnings, system faults and provide real-time alerts to IT staff. Finally, the solution required a means of reviewing the statistical history for a power supply using a graphical reporting package.

*"An elegant blend of robust device communications and industry standard enterprise integration."*

**Solution...** Saturn Systems designed a two part solution that consisted of a Windows service that allowed for continuous monitoring regardless of user activity, and a Windows System Tray application that provided the user with immediate feedback and alerts on power supply state. To allow for remote monitoring of all power system statistics, all network and inter-application communication was implemented using [Windows Management](#)

[Instrumentation](#) (WMI) protocol. WMI is the same protocol used by all Windows system software to provide statistics for the Windows Performance Monitor, and is based on the industry standard [Web-Based Enterprise Management](#) (WBEM).



**Results...** The resulting solution provides a perfect balance of user feedback and supportability. Cart users can easily check their battery life and are informed of low battery conditions and faults. Power system issues and battery maintenance on an enterprise level can be monitored and handled before they become emergencies.

**About Saturn Systems...** Saturn Systems is a national provider of software engineering solutions in the areas of device integration and enterprise technologies through our Rural Outsourcing business model.

Since 1990, Saturn Systems has created success through innovative application of technical expertise, a disciplined approach to project management, and a command of emerging technologies. Saturn Systems is a private company headquartered in Duluth, MN, USA. For more information, visit our web site at [www.saturnsys.com](http://www.saturnsys.com). *Outsource To America!*