Device Management in Healthcare Applications

Healthcare systems are becoming more overburdened every day. To combat this growing problem, leading-edge technologies are being deployed to improve the quality and efficiency of healthcare delivery services.

One specific focus area for developers of advanced healthcare technologies is the operating room (OR), where every minute is critical to the effectiveness and profitability of hospitals. Medical equipment manufacturers are creating sophisticated products, including scopes and processors, which streamline medical procedures and thus save time and money. Yet equipment manufacturers and hospitals often overlook a critical component of a complete OR suite; namely, providing the ability to centrally control and monitor all OR equipment to ensure medical procedures are completed as efficiently as possible.

With the ability to centrally manage the technology in the highly collaborative OR environment, doctors and nurses can easily control all equipment and data used during medical procedures (e.g., still images such as X-rays, streaming videos from scopes, and real-time videoconferences with colleagues thousands of miles away). This type of sophisticated centralized management can also extend beyond the four walls of an OR to consolidate data and provide outreach throughout a hospital, a campus, or an entire network. Only medical equipment solutions that provide these advanced capabilities can truly improve the efficiency of healthcare delivery.

Simtrol's Open Approach to Control Systems

Simtrol, Inc. (OTCBB: SMRL) is an innovative provider of device control and monitoring software. We develop scalable software solutions that cost-effectively manage disparate devices in complex, collaborative environments such as operating rooms, boardrooms, and courtrooms.

The sophistication of advanced ORs and the ubiquity of Windows-based PCs dictate that hospital-focused control systems be based on an open and flexible platform. Simtrol's Device Manager™ software is a Windows-based product that enables users of devices to dramatically improve efficiencies and benefit from lower total cost of ownership. Device Manager includes a device control engine that performs the "heavy lifting" of command/response processing and queuing. Device Manager also contains an array of tools for remote diagnostics and monitoring, including proactive notification, remote control panels, reporting, and other asset management functions.

Simtrol Integration within Healthcare Solutions

Consider a hospital with 50 high-tech operating rooms, each of which contains at least ten hardware devices – including medical equipment, image processors, and LCD flat-panel displays. With Device Manager's advanced capabilities, the control and management of all devices in a single operating room is centralized. Doctors, nurses, and other authorized users control all equipment in the OR suite from a central graphical user interface (GUI) that is

configured, based on the room's intended use, to maximize efficiency. With the touch of a finger, streaming video from a scope can be displayed on one panel while a videoconference with a doctor halfway around the world can be initiated and displayed on another panel. By employing Simtrol's open and structured approach to device control, devices may be upgraded or otherwise swapped out seamlessly without the time and expense associated with proprietary solutions. If a hospital wants to install a newer make or model of scope, no time or effort is wasted supporting this activity.

This interoperability and flexibility within the operating room improves the efficiency of the room, thus directly saving time and money. See Diagram 1.

Diagram 1: Simtrol's Device Manager provides centralized control of all devices within an operating room suite.

Device Manager's centralized device management capabilities also provide benefits beyond simply the four walls of individual ORs. When a device becomes non-operational (e.g., a display or monitor goes out), Device Manager can proactively send an email alert to the proper personnel, thus eliminating downtime and keeping operations flowing smoothly. Plus, data can now be shared throughout the hospital (and potentially across a network of hospitals), enabling new technologies and capabilities. See Diagram 2.

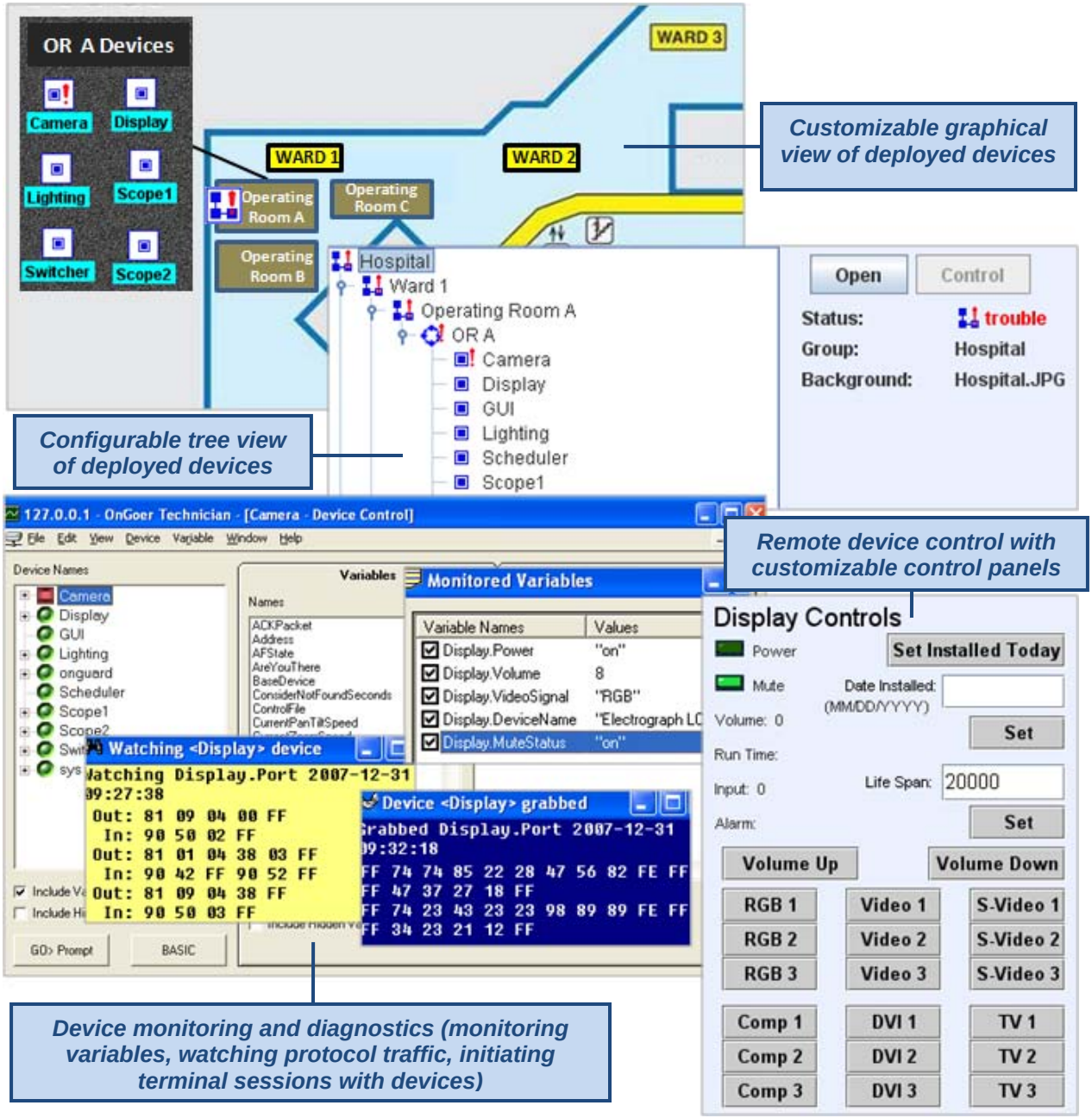

Diagram 2: Simtrol's Device Manager provides configurable graphical and tree views of the environment combined with remote control, real-time alerting, and diagnostics of devices.

Specific features and benefits of a healthcare-focused Device Manager implementation are described in the table below.

Feature	Benefit
Simple, centralized control of all devices used in operating room suite	Improves efficiency of healthcare delivery services
Remote control and monitoring provide the foundation for hospital-wide and network-wide managed service offerings	Enables improved service and support
Scheduling enables devices to be powered off when not being used	Saves money by extending device useful life

Device Manager's open architecture makes it an ideal solution to be bundled into medical devices and other solutions used throughout the healthcare system. By exposing web services through a Service Oriented Architecture (SOA), Device Manager easily integrates with any healthcare-focused application to provide maximum functionality and flexibility. See Diagram 3.

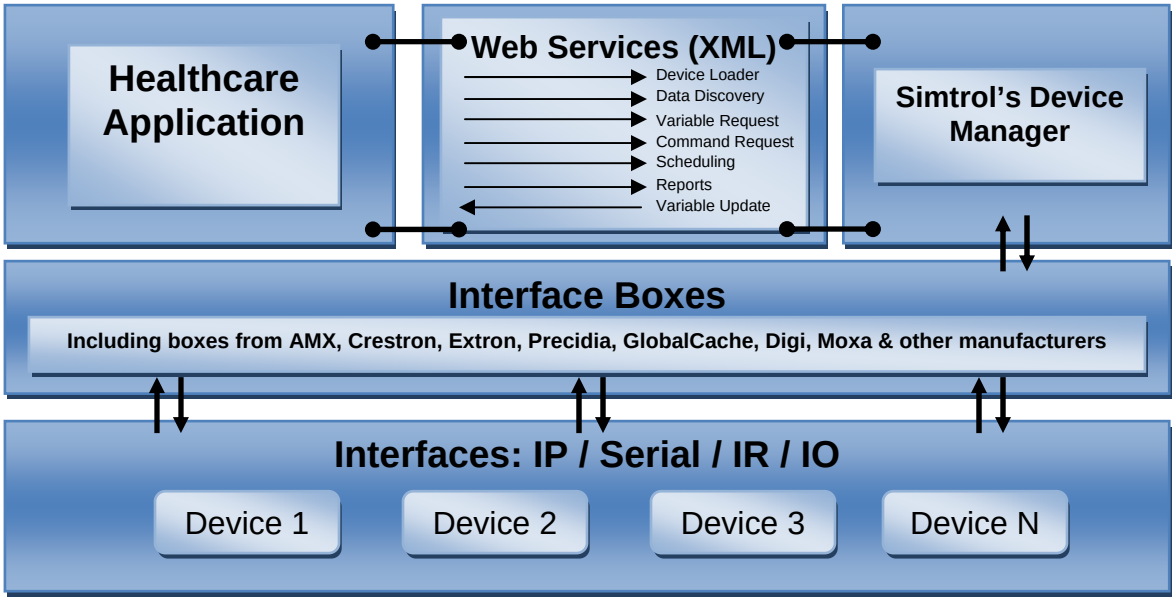

Diagram 3: Simtrol's Device Manager integrates with Healthcare applications by exposing web services through an SOA.

Conclusion

Service providers, medical equipment manufacturers, and other healthcare system participants must constantly find ways to improve their efficiency and effectiveness. Within and across today's operating rooms, non-networked and non-scalable solutions prevent many opportunities for improvement from being seized. With Simtrol's Device Manager software acting as a central nervous system for advanced equipment and technologies, hospitals and medical equipment manufacturers can build integrated and interoperable solutions that enable critical improvements in healthcare systems.