Device Management in Learning Environments

Device Management and Interactive Whiteboards

The education industry is constantly seeking innovations that can improve the effectiveness of classroom and training activities. These innovations often come in the form of new technologies that make instructors more efficient and better able to engage students in the learning process.

The interactive whiteboard is one such technology that is being widely utilized. These boards, which connect an interactive display with a computer and a projector, are transforming instruction in classrooms and training rooms. By providing the ability to electronically capture handwritten notes and marked-up presentation materials, and operate any software that is loaded on the connected PC, interactive whiteboards are having a positive impact in learning environments around the world.

With the popularity of interactive whiteboards increasing every day, whiteboard manufacturers have the opportunity to position these products as the brains that run all aspects of intelligent learning environments, including in-class instruction, distance learning, and other Audio/Visual (A/V) intensive applications. To get to this point, interactive whiteboards must include robust device control capabilities that manage all of the A/V devices – including displays, projectors, DVD players, and A/V switchers – that are deployed in classrooms and training rooms. Only whiteboard manufacturers that provide these advanced control capabilities will offer a product that can truly run today's high-tech learning environments.

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 environments, including boardrooms, courtrooms, and classrooms. As contrasted to historical device control and monitoring solutions, which have been driven by proprietary closed-architecture hardware-based solutions, Simtrol uses an open software-based approach that incorporates standard interfaces. This architecture creates deployment flexibility that enables end-users to dramatically improve efficiencies and benefit from lower total cost of ownership.

Simtrol's Device Manager™ software is a Windows-based product that provides simple yet powerful control of devices through configurable user interfaces. 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.

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Integration with Interactive Whiteboards

Consider a classroom or training room that has an interactive whiteboard, a PC (which may or may not be embedded in the whiteboard), and five other A/V devices – including a projector, a DVD player, and a video camera – used for in-class and distance learning. With Simtrol's Device Manager integrated to the interactive whiteboard's software, the instructor and other authorized users can control all of the room's devices from an easy-to-use touchscreen Graphical User Interface (GUI). Via this central GUI, the instructor can easily power on/off devices, toggle between sources being displayed from the projector, and control the DVD player. This type of advanced capability saves the instructor time and improves her efficiency and effectiveness. See Diagram 1.

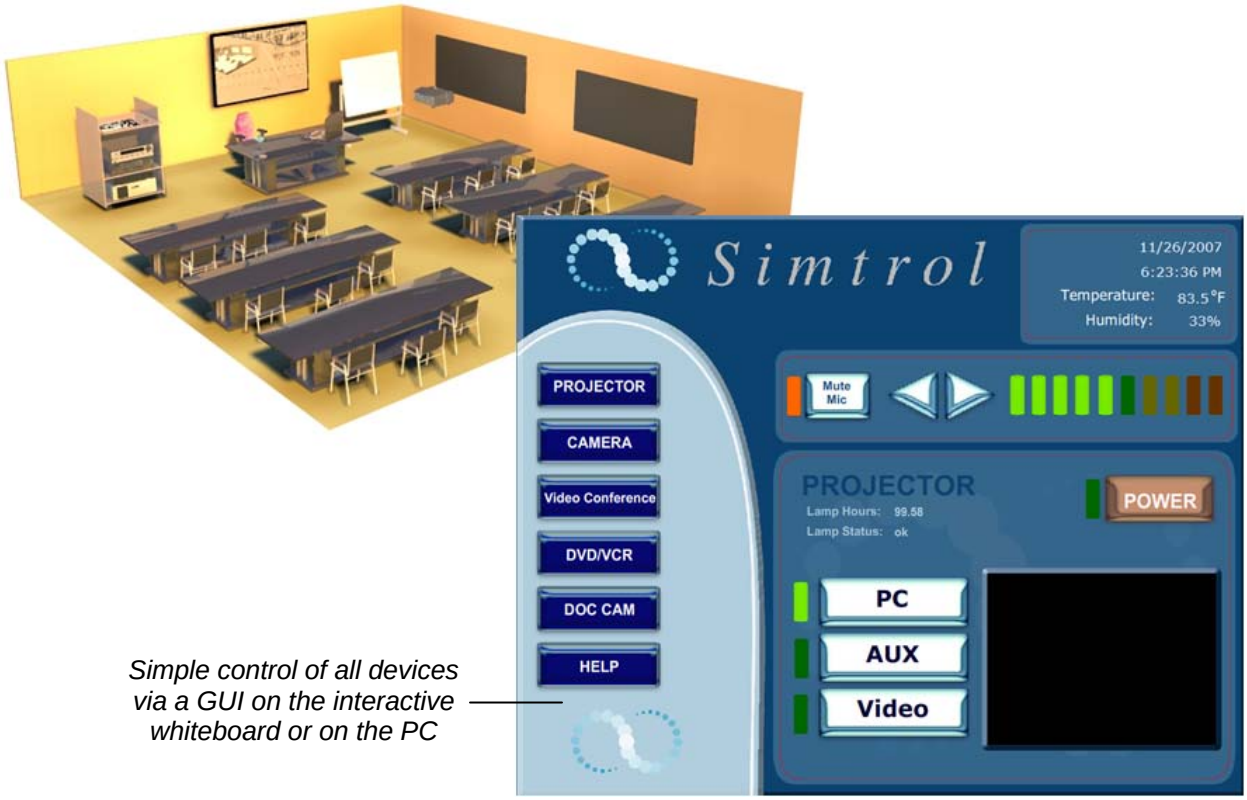

Diagram 1: Simtrol's Device Manager provides advanced device control capabilities for all devices via a central GUI.

Device Manager can also provide benefits to the A/V or IT organization that supports these learning rooms. The software application offers the ability to report on the health, status, and use of devices; to schedule devices for routine activities (such as powering on a projector at 8 a.m. and powering off at 3:30 p.m.); and to proactively alert designated contacts when a device unexpectedly becomes non-operational. IT support staff can centrally manage all devices deployed throughout a school or business; staff can also remotely manage devices deployed across a school district or a company's offices that are spread around the world. This advanced monitoring and scheduling capability saves organizations money, reduces energy consumption, and enables improved support. See Diagram 2.

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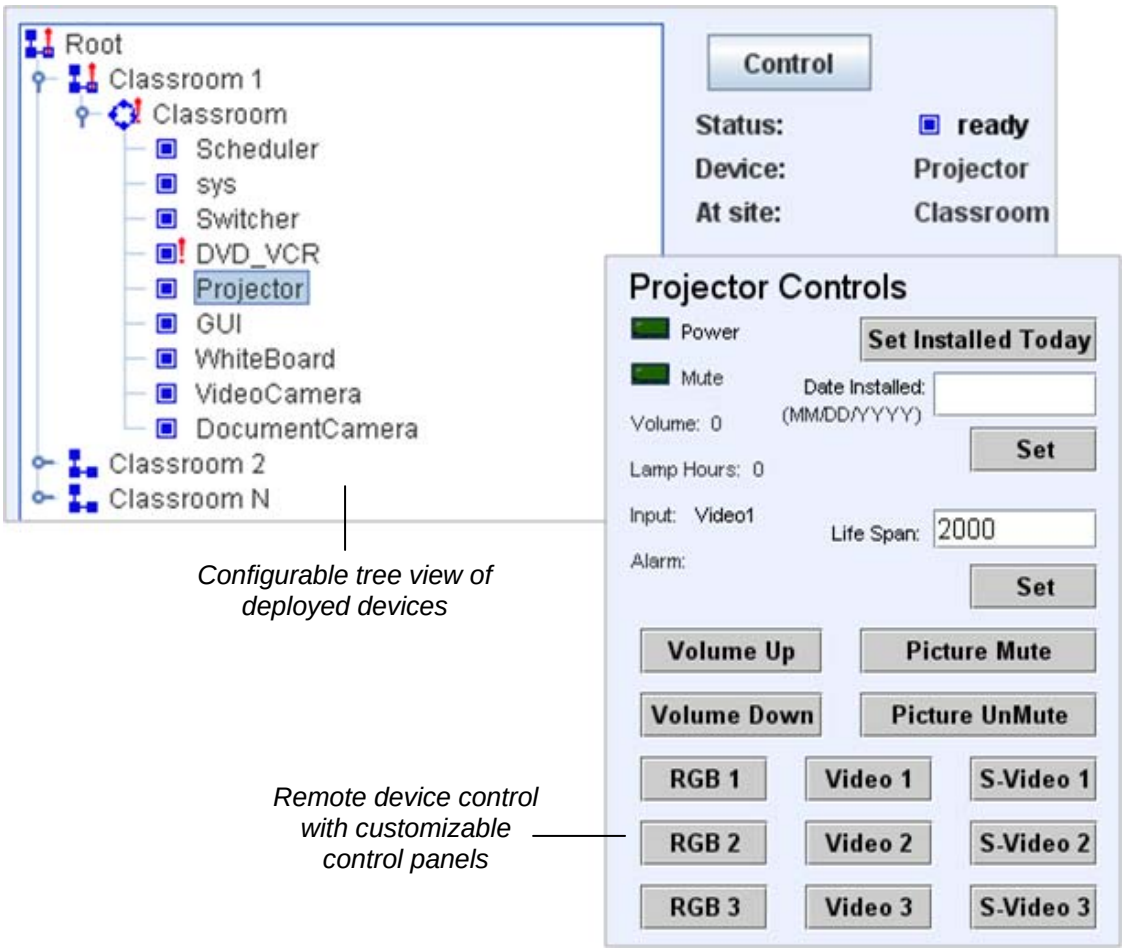

Diagram 2: Simtrol's Device Manager provides configurable graphical and tree views of the environment combined with remote control, real-time alerting, and diagnostics of devices.

Specific features and benefits of a Device Manager implementation in learning environments are described in the table below.

Feature	Benefit
Control and management of all room devices from one centralized user interface	Improves the efficiency and effectiveness of instructors
Scheduling devices reduces electricity consumption and delays the purchase of replacement parts by extending useful life	Saves money
Scheduling enables devices to be powered on only when classroom or training room is in use	Reduces carbon footprint
Centralized control, monitoring, and diagnostics across classrooms and training rooms provide the foundation for centralized or remote support	Enables improved support

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By employing Simtrol's open and structured approach to device control, devices may be upgraded or otherwise swapped out seamlessly without great time or expense. For example: if a newer make or model of projector is required in a training room, only a simple configuration – which can be conducted locally or remotely – is required to support this activity.

Device Manager's open architecture makes it an ideal solution to be bundled into Interactive Whiteboards and other education-related technologies. By exposing web services through a Service Oriented Architecture (SOA), Device Manager easily integrates with external software and hardware applications to provide maximum functionality and flexibility. See Diagram 3.

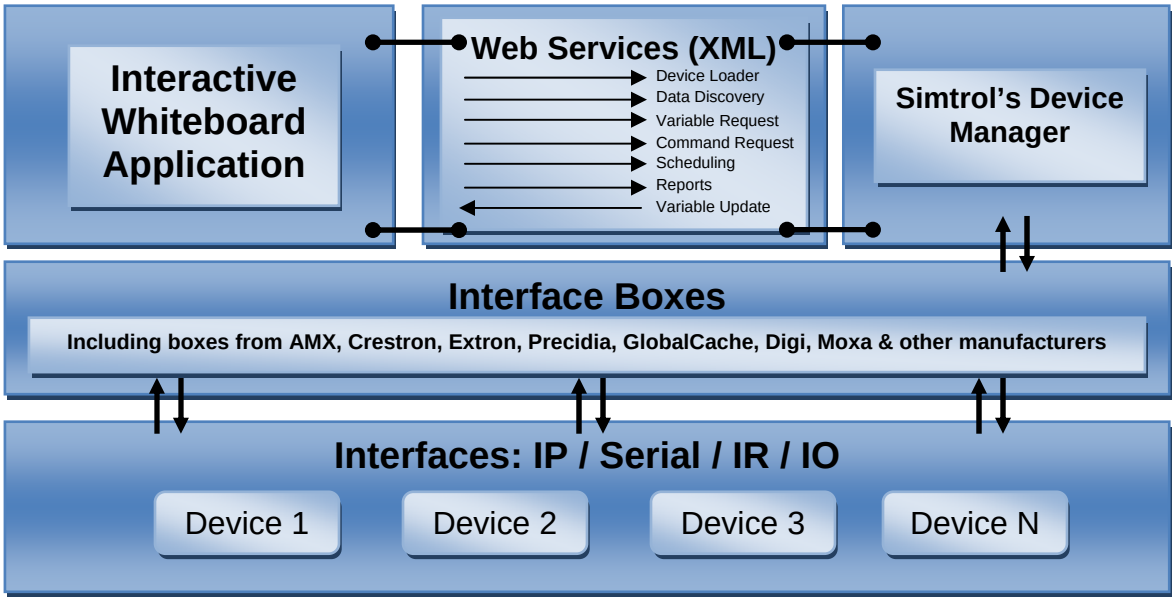

Diagram 3: Simtrol's Device Manager integrates with Interactive Whiteboards by exposing web services through an SOA.

Conclusion

The interactive whiteboard is an innovation that is having a tremendous positive impact on classroom and training room activities. As more and more educational activities involve the integration and management of A/V devices, it is critical that all of these devices be controlled in one central location. By embedding control capabilities into the interactive whiteboard, the whiteboard can act as the "brain" that manages all aspects of this intelligent learning environment.

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