



Some Requirements for Projector & Display Management

Rick Landau

Dell

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Projectors & Displays: Draft Charter

- Projector or display is another imaging device
 - From portable video projector to jumbotron
 - A built-in utility at some location, like a shared printer
 - Use existing management models from printer technology
- Consolidate several current proprietary management solutions
- Next Steps
 - Organize a working group: people, goals, use cases
 - Find a home in a standards organization
 - Develop model(s) of devices, schema; test interoperability
 - Publish SNMP MIB and Web Service specs
- Current interest: Dell, Epson, NEC, Sony, Spinoza Technol., looking for more

Projectors & Display: Scope of Effort

- What to manage: Projector devices and video displays
 - From portable projectors to large digital signs
 - Installed projectors, kiosks, jumbotrons, theater projectors, . . .
 - From plain video input to page description languages
 - Video, bitmaps, mpeg, ppt, html, pdf, postscript, . . .
- Wired or wireless management
- What to manage: Data
 - Static
 - Asset info, capabilities, resolutions, languages, interfaces, . . .
 - Configuration
 - Comm channels on/off, keystoneing, autofocus, light intensity,
 - Dynamic
 - Bulbs & backlighting health & lifetime, temperature, fans, . . .

Backup

Scope of Devices

- Projector devices and video displays
 - Generally, but not always, installed in fixed location
 - Projected, backlit, or individual pixel display
 - Range of devices from plain video input to language interpretation
video ----- html ----- postscript
 - Range of devices from portable projectors to digital signage
projector ----- kiosk display ----- jumbotron
 - Wired or wireless management

Goals of Management

- Reduce cost of ownership
- Increase user satisfaction
 - Installed projector always works
 - I don't have to carry a projector with me
 - I don't have to stock spare projectors, just bulbs
- Increase quality of service and availability
 - High-quality image, bright image
 - No missing pixels
- Reduce user dissatisfaction
 - Primary dissatisfiers: lack of availability, reliability, poor appearance

What Characteristics to Manage?

- Static capabilities: what the device can do if it is healthy
 - Asset info, version info, display resolutions, communications supported, languages supported, inputs supported, etc.
- Configuration: restrictions on or site-specific values for capabilities
 - Comm channels and inputs on/off, light intensity, keystoneing, zoom, autofocus, preferred resolutions, color balance
- Dynamic status: anything that affects the usability of the device
 - Immediately: bulb, backlighting, pixels, fan, temp, communications
 - Future: consumption of bulb lifetime, running temp high

Printer-like Subsystems of a Projector

Subsystem of Printer	Possible interpretation for Projector
Inputs	n/a
Media	n/a
Outputs	n/a
Markers	Resolutions available for display
Supplies	Consumables: bulbs
Channels	Communications paths: LAN/WAN protocols, other connections (e.g., serial port)
Interpreters	Language interpreters, with capabilities, version info
Console	Front (top) panel lights
Alerts	Warning and critical failure events for all the other subsystems

Other Subsystems of a Projector

- Fans, cooling, shutdown timing, temperature, thresholds
- Display geometry (not quite analogous to paper sizes):
keystoning (perspective correction), zoom, aiming
- Other?

Current Interested Companies, People

- Dell: Rick Landau (editor), Nick D'Alessio
- Epson: Hiroshi Midorikawa (editor)
- NEC: Ara Kouichi
- Sony: Imahashi Kazuyasu
- Spinoza: Randy Massengale