

PWG Quarterly June 2008

Projector & Display Management WG

Status

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Projector & Display Management WG



- Call for participation at PWG quarterly meeting a year ago
- Began in earnest July 2006 with critical mass
 - Projector vendors and OEMs
 - Management software developers
- Weekly concalls
 - Tricky to schedule: Austin, Dallas, New Jersey, Seattle, LA, Singapore, Taiwan, Tokyo
- PWG email reflector (pdm@pwg), PWG FTP site for docs
- As of May 2007, an official working group in PWG

Goals



- Develop a data model for the management data of video projectors and video displays
- Management = Is it healthy? Capabilities? Is it on? Turn it off. Current settings? Adjust settings for usage model.
 - NOT deliver data
- Projectors = Installed projectors from small conference room to theater
 - NOT low-end, personal, carry-around projectors
- Displays = Large, (semi-)permanently mounted displays, digital signage, wall, kiosk, up to jumbotron
 - NOT desktop monitors

Gradual Approach



- Agreed on targets, requirements for management
- Develop architectural model
 - Started with Printer MIB model
- Define common use cases
 - Inventory, manage power and consumables
 - Save and restore settings for usage profiles
- Divide and conquer
 - Everyone takes some use cases, some groups, some data items

Working Method



- Define abstract data model
 - Using abstract language template in XML
- Generate usable SNMP MIB first
- Provide consistent naming, datatypes, semantics for other access points: embedded web server, serial, CIM MOF

Participation



- Active companies
 - Canon
 - Coretronic
 - Crestron
 - Dell
 - Delta Electronics
 - Epson
 - NEC
 - SP Controls
 - SpinozaTechnology
 - Symon Communications

Recruiting



- Still recruiting
 - Need especially display companies and software/controls companies
- Talk to companies at InfoComm in June
 - Hand out CDs containing latest MIB draft
 - Brochure on FTP site
 - List of companies (minus contact info) on FTP site

Development Process



- Writing all technical material in XML
- Using an XML template for defining groups, tables, properties
 - Settled down after many learning revisions
 - XML format so we can use it to generate at least part of MIB & MOF
- Translation to MIB completed
 - XSLT translation of groups to MIB fragments
 - Automated assembly and fixups to complete MIB
- Doc of syntax rules collected from template, minutes of many meetings, comments from reviewers

Priorities



- Previous prioritization
 - Classified properties into priority groups: must, should, nice, no
 - Concentrate on power control, health and status, very basic video and audio controls, a few capabilities, alerts
- More recently revised into
 - Mandatory and optional groups, and
 - Mandatory and optional properties within group
- Seventeen (17) groups defined for v1

Current State



- All v1 groups drafted
- Complete MIB assembled by automated procedure
- MIB text embedded in doc in draft standard format
 - Explanatory text and examples
- Technical specs and text both need review

Groups Currently in Draft



- Alert
- Audio
- Button
- Connector
- Controller
- Display capability
- Display setting
- Fan
- Filter
- General
- Interlock
- Light source
- Locale Character Set
- Locale Language
- Power state
- Thermal sensor
- Thermal switch

Mandatory vs Optional Properties



- Some groups are optional, e.g., Interlock, Audio
- If a device implements a group, it must implement the mandatory properties of the group
- Example: TempSensor
 - Mandatory: Description, Status, Temperature
 - Optional: ErrorCounter, Reset, ReplacementPartNumber

Resettable Counter Example



- Hypothetical unit properties:
 - Description
 - Status
 - ErrorCounter
 - ErrorCounterReset
- ErrorCounter is a Counter, cannot be written into
- To zero the Counter, store specific value into ErrorCounterReset property

FRU Reset Example



- FRU = Field Replaceable Unit
- Goal: Reset all important information for the new unit
- Goal: Ensure that software can detect a replacement
- Description
 - Status
 - Age
 - ErrorCounter
 - Reset
 - ReplacementCount
 - ReplacementTime (if the device has date-time)

FRU Reset Example (cont'd)



- Age and ErrorCounter are both Counters, cannot be written into
- Write values into Reset after replacing the unit
 - resetFRU
 - Sets Age and ErrorCounter to zero
 - Increments ReplacementCount
 - Stores date/time in ReplacementTime (optional)
- To track component errors, use resetCountersOnly
 - Sets ErrorCounter to zero, does not affect other properties

Power States



- Defined set of power states
 - Manufacturer chooses a subset to implement
 - Full power: On
 - Reduced power: PowerSave, Standby, ActiveOff
 - Transitional states: Warming, Cooling
 - Terminal states, need human intervention: DeepSleep, Off
 - States define capabilities of device, including imaging, management agents, communications
 - Some states and state transitions implemented, some not, manufacturer's choice

Documents



- FTP area on <ftp.pwg.org/pub/pwg/pdm>
- Charter, member list, requirements, use cases
- Data model
- Priority assessments
- Group and property definitions

- Latest MIB text and MIB document

Look at Source Documents



- Structure of FTP area
 - charter
 - minutes
 - objects: XML definitions and discussions of groups and properties
 - related: specs and docs from other groups
 - schemas: XML schema definitions of properties (future)
 - slides
 - wd (for working documents):
 - latest draft MIB text and MIB doc
 - use cases, architectural groupings, syntax rules, priorities
 - white: FAQs, membership list, recruiting info

Questions?

