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Projector & Display Management BOF Status

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Projector & Display Management WG

- (If you've seen the intro recently, go to slide 6.)
- 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, Seattle, LA, Singapore, Taiwan, Tokyo
- PWG email reflector (pdm@pwg), PWG FTP site for docs
- As of May, a real 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
- 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 (& PWG): Lee Farrell
  - Coretronic (Optoma): Vincent Chen
  - Dell: Rick Landau, Nick D'Alessio, Vincent Ng
  - Delta Electronics: Jason Tsai, Josephine Lee
  - Epson: Hiroyuki Hashimoto
  - NEC: Koichi Ara
  - SpinozaTechnology: Randy Massengale, Devin Fujimoto
  - Symon Communications: Raymond Rogers

Recruiting

- Still recruiting
  - Need especially display companies and software/controls companies
- Talked to two dozen companies at InfoComm in June
  - Ten seemed interested, one already started discussions
  - Brochure on FTP site
  - List of companies (minus contact info) on FTP site

Current State

- Using a template for defining groups, tables, properties
  - Settled down after many revisions
  - XML format so we can use it to generate at least part of MIB & MOF
    - XSLT translation to MIB fragments just starting, works well so far
- Doc of syntax rules collected from template, minutes of many meetings, comments from Ira and others

Current State (cont'd)

- 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
- Approx fifteen (15) groups defined, working on several others

Groups Currently in Draft

- Audio
- Button
- Display capability
- Display setting
- Fan
- Filter
- Interlock
- Light
- Light source
- Localization
- Optic
- Power state
- Signal source
- System controller
- Thermal sensor
- Thermal switch

Groups Remaining to be Drafted

- Alert
- Interface
- Interpreter and codec
- Text display
- Transport capability
- Transport setting

Groups for V1

- General
- PowerState
- SystemController
- DisplayCapability
- LightSource
- Fan
- Filter
- TempSensor
- TempSwitch
- Audio
- ConsoleButton
- Localization
- Alert (not yet drafted)

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: ThermalSensor
  - Mandatory: Description, Status, Temperature
  - Optional: ErrorCounter, ErrorCounterReset, 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
  FruReset
  ReplacementNumber
  ReplacementTime

FRU Reset Example (cont'd)

- Age and ErrorCounter are both Counters, cannot be written into
- Write values into FruReset after replacing the unit
  - resetFRU
    - Sets Age and ErrorCounter to zero
    - Increments ReplacementNumber
    - Stores date/time in ReplacementTime (optional)
  - resetCountersOnly
    - Sets ErrorCounter to zero

Documents

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

Roadmap

- Milestone: Draft abstract data model Feb-March 2007
  - Expect first drafts or better of all v1 groups by end Q3
- SNMP MIB produced mainly by translation
  - One-shot translation technically possible but impractical
  - Translation will produce several fragments that have to be hand edited into MIB framework
    - Separate groups, TCs; edit into hand-crafted MIB container (thanks, Ira)
  - Add ancillary helper properties (e.g., row update for FRU replacement)
  - Restructured template slightly, need to rework translation

Let's 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: use cases, architectural groupings, syntax rules, priorities
  - white: FAQs, membership list, recruiting info

Questions?