Printer Working Group

Plenary – August 14, 2008
Portland, OR

Plenary Agenda

- Introductions
- Approve/Modify Agenda
- Approve Previous Plenary Minutes
- Review PWG Patent Policy
- F2F Meeting Agenda
- Future PWG F2F Meeting Schedule
- 2009 Meeting Dates/Location/Hosts
- 2008 Membership (current status)
- PWG Financial Overview
- PWG Working Group Status
  - WIMS and DMTF/CIM
  - MFD (and SM)
  - IPP (IPP v2)
  - PDM (Projector and Display Management)
  - IDS (Imaging Device Security)
- PWG BoFs and Potential Future Items
- Plenary Adjourn

PWG Patent Statement

- PWG standards may include the known use of essential patents and patent applications provided the PWG Chair receives assurance from the patent holder or applicant with respect to patents whose infringement is, or in the case of patent applications, potential future infringement the applicant asserts will be, unavoidable in a compliant implementation of either mandatory or optional portions of the standard. This assurance shall be provided without coercion. This assurance shall be either:

  - a) A general disclaimer to the effect that the patentee will not enforce any of its present or future patent(s) whose use would be required to implement either mandatory or optional portions of the proposed PWG standard against any person or entity complying with the standard; or

  - b) A statement that a license for such implementation will be made available without compensation or under reasonable rates, with reasonable terms and conditions that are demonstrably free of any unfair discrimination.

- The PWG is not in a position to give authoritative or comprehensive information about evidence, validity or scope of patents or similar rights, but it is desirable that any available information should be disclosed. Therefore, all PWG members shall, from the outset, draw PWG's attention to any relevant patents either their own or of other organizations including their Affiliates that are known to the PWG members or any of their Affiliates, although PWG is unable to verify the validity of any such information.

Inappropriate Topics for PWG WG Meetings

- Don't discuss the validity/essentiality of patents/patent claims

- Don't discuss the cost of specific patent use

- Don't discuss licensing terms or conditions

- Don't discuss product pricing, territorial restrictions, or market share

- Don't discuss ongoing litigation or threatened litigation

   ➔ Don't be silent if inappropriate topics are discussed

      ... do formally object.

F2F Meeting Agenda

- **Wed. 08/13**
  - 9:00 AM   12:30 PM   Imaging Device Security
  - 12:30 PM   2:00 PM   Lunch
  - 2:00 PM   5:30 PM   Imaging Device Security
- **Thurs. 08/14**
  - 9:00 AM   11:30 AM   WIMS
  - 11:30 AM   12:30 PM   Plenary
  - 12:30 PM   2:00 PM   Lunch
  - 2:00 PM   5:30 PM   MFD model
- **Fri. 08/15**
  - 9:00 AM   10:30 AM   PWG Process and IP Policy Update
  - 10:30 AM   12:30 PM   IPP (IPPv2)
  - 12:30 PM   2:00 PM   Lunch
  - 2:00 PM   5:00 PM   MFD model

Future PWG F2F Meeting Schedule

- **2008**

  - **October**
    - 21-23, Lexington KY (Hosted by Lexmark)

  - **December**
    - 2-4, Irvine CA (Hosted by Samsung)

- **2009**

  - **February**
    - 16-19   Waikoloa Beach Marriott Resort & Spa
      69-275 Waikoloa Beach Drive

      Waikoloa - Hawaii, Hawaii 96738 USA (ISTO Planned)

2009 PWG F2F Dates/Locations/Hosts

- **2009**
  - February
    - 16-19   Waikoloa Beach Marriott Resort & Spa
      69-275 Waikoloa Beach Drive
      Waikoloa - Hawaii, Hawaii 96738 USA (ISTO Planned)

  - Meeting 2
  - Meeting 3
  - Meeting 4
  - Meeting 5
  - Meeting 6

2008 Membership
(25 member companies)

- ✓ **366 Software**
- ✓ **Apple Inc.**
- • Boeing?
- ✓ **Canon, Inc.**
- ✓ **Coretronic**
- ✓ **Dell**
- ✓ **Epson**
- ✓ **Fuji Xerox**
- ✓ **Hewlett-Packard**
- ✓ **Intermate A/S**
- ✓ **Konica Minolta**
- ✓ **Kyocera Corporation**

- ✓ **Lexmark International**
- ✓ **Microsoft**
- ✓ **MPI Tech**
- ✓ **NEC Display Solutions**
- ✓ **Northlake Software, Inc**
- ✓ **Oki Data**
- X Peerless Systems
- ✓ **Ricoh**
- ✓ **Samsung Electronics**
- ✓ **Sharp Labs of America**
- ✓ **Sigma-Tel**
- ✓ **Toshiba**
- ✓ **Xerox Corporation**
- ✓ **Zoran Imaging Division**

✓ Indicates 2008 membership paid

PWG Working Group Status

PWG Plenary Status Report
WIMS/CIM Working Group

Purpose of the effort

The WIMS working group is concerned with the management of imaging services and devices via the Web. The Objectives are:

- Continuing support and update of the protocols and specifications produced by the working group.
- Prototyping updated and upgraded DMTF/CIM printing classes in anticipation of this forming the basis for imaging service and device management over the Web.
- Eventual update of existing and generation of new DMTF/CIM classes for Print Services and eventually Multifunction Devices and Services.
- Monitoring other standards activities relating to Web-base management of Imaging Systems

Work Items for the WG

- **What We're Doing**
  - Providing an Imaging Service/Device basis for management by Web Services, operating through the DMTF CIM mechanism.
  - Update, Create and now Prototype DMTF/CIM Printing MOFs, generated as part of the work register agreement between the PWG and the DMTF and with the objective of ensuring printing management via a Web Services approach using CIM

- **What We're NOT Doing**
  - We are no longer defining a Imaging management service or protocol.
  - We are not involved in the extension or updating of Imaging Management protocols or protocols used for management, such as the Printer MIB over SNMP or the management aspects of IPP.
  - We are not defining new management elements in the CIM Update effort, just structuring already defined management elements for inclusion in CIM.

Recent Accomplishments

- The abstract parent class and the Monitoring Counter MOFs have been accepted without objection.

- Prototyping of a CIM Provider deriving the Print MOFs from printer information obtained via SNMP is proceeding.

CIM Provider - Request

It has been suggested that:

1. a product level MIB to CIM converter would make the existing base of SNMP supporting imaging devices manageable by with WS-Man.

2. having a base of manageable devices will encourage both the inclusion of imaging devices in WS-Man applications and the utilization of web service management by enterprise installations.

3. it is in the interests of the industry (not just some individual companies) to encourage the inclusion of imaging devices in WS management applications and WS managed instalations.

4. and therefore, that the PWG should take the initiative to encourage, by some means, the availability of such a MIB to CIM converter product.

CIM Provider - Considerations

1. A proxy system including existing Windows capabilities and a CIM Provider that obtained Print Device information from existing printers via SNMP, would allow a Management Application to get printer device information by communicating with the proxy via WS-MAN.

2. However, no such high-level Management Application exists for printers. Therefore, a usable capability would require not only the creation of a reliable CIM provider, but also the integration of this provider into a usable proxy and the creation of an end user friendly management application.

3. The PWG has no existing mechanism for the generation of code or for supporting an external code developer. Although the possibility of a development by Open Print was considered, that organization showed no interest in such a project.

4. It is understood that Microsoft is committed to advancing management via web services, but it may be that CIM is not the only way they this would be implemented. Is there a simpler alternative?

Next Steps

- Prototyping of the CIM Printer Device MOFs is under way, but proceeding slowly.
- Question of whether and how to proceed with support for Printer WS-Manage capability with CIM Provider
- Proceed with the CIM effort to:
    - Alert Indications
    - Print Service,
    - Print Job,
    - Print Queue, etc.
- However, some WG members have suggested that a print "profile effort" is of greater import.
- What about "setting" configuration?
- This will be a discussion subject at the WIMS WG F2F

PWG F2F Mtg, Plenary Session, August 2008
WIMS-CIM WG
Status

Rick Landau
Dell, CTO Office
2007/08/08 v0.1

Current State

- Printer device model in CIM schema is complete
  - Published in CIM Schema v2.19 as of 20080808
  - Only 35 change requests over 2.5 years
- Counters
  - First two classes (of four) adopted for schema v2.20
  - Last two MOFs drafted

Recent Activity

- Prototype progress
  - Initialization files that specify relationships of data
    - CIM classes >> CIM properties >> SNMP objects >> OIDs
    - Extracted from MOFs and MIBs (with Perl)
      - Could have been hand-edited, but where's the fun in that
  - Initialization routines to build runtime databases
    - Provider initialization classes and methods (in Python)
  - Simulation aids
    - SNMP retrieval stub to pull values from MIB dumps (hand edited)
- What code can be released?
  - Direction: contribute as open source under generous license

More Info/How to participate

➢ **We welcome more participation from member companies**

- ❖ Element Selection
- ❖ MOF Evaluation/Proofing
- ❖ Change Request Generation

➢ **The group maintains a Web Page and separate WIKI pages for WIMS and for CIM update**

http://www.pwg.org/wims/index.html

http://pwg-wiki.wikispaces.com/WIMS

http://pwg-wiki.wikispaces.com/WIMS-CIM

➢ **Subscribe to the WIMS mailing list by sending an e-mail to majordomo@pwg.org with a blank subject line and a message:**

subscribe WIMS

➢ **WIMS holds periodic phone conferences, with dates, call numbers and agenda on PWG Google Calendar.**

http://www.google.com/calendar/embed?src=istopwg%40gmail.com

PWG Plenary Status Report
MFD Working Group

August 14, 2008

Camas , WA
PWG F2F Meeting

Purpose of the effort

The MFD working group is concerned with the modeling of Multifunction Devices. The Objectives are:

- Definition of a framework for the data model for the Services and Subunits that comprise a Multifunction Device
  - Began with PWG SM v1.0 (based on IPP Print Service)
  - Incorporated Printer MIB (covers device aspects)
  - Incorporated WIMS model extensions (generalizes framework)

- Definition of Print Service operations derived from IPP

- Network Scan Service is near completion
  - Use Cases and Requirements specification completed formal PWG vote
  - Semantic Model and Service Interface specification is ready for Last Call. XML Schema and WSDL are tracking specification changes.
  - Objective is industry wide semantic alignment for Scan similar to what PWG SM v1 did for Print

- Other Services of Multifunction Devices will reuse semantics from Print and Scan whenever possible

Work Items for the WG

- **What We're Doing**
    - Initial focus was limited to Scan
    - Work is beginning on a Resource Service
    - Evolve the XML Schema in parallel with the specifications
        - Separate common information from service specific information
        - Reuse existing semantic whenever possible
    - We are about to begin definition of another Service (e.g. Copy, FaxIn)

- **What We're NOT Doing**
    - We are not defining complex services or work flow

Current Status

Network Scan Service

- Use Cases and Requirements Completed PWG formal vote

- Semantic Model and Service Interface specification is ready for Last Call

- XML Schema and associated WSDL matches the specification

- A protocol binding should follow

Next Steps/Schedule

- Move Network Scan Service to Last Call and Formal Vote
- Work on specification of Resource Service objects, attributes, values, operations and parameters
- Select the next MFD Service to model
  - Create a straw man proposal to begin discussion

More Info/How to participate

- The group maintains a Web Page and WIKI pages

  http://www.pwg.org/mfd/

  http://pwg-wiki.wikispaces.com/MFD

- You can subscribe to the MFD mailing list by sending an e-mail to majordomo@pwg.org with a blank subject line and a message of:

  subscribe MFD

- The group holds periodic phone conferences

  - Dates, call numbers and agenda are announced on mail list and listed on the PWG Google Calendar

  http://www.google.com/calendar/render?cid=istopwg%40gmail.com

PWG Plenary Status
IPPv2 Working Group

Camas, WA - PWG F2F Meeting
August 14, 2008

Goals

- There are currently multiple extensions to IPP version 1.1.
  - 7 approved IETF RFCs
  - 6 approved PWG ISTO standards
- Many IPP implementers are unaware of the existence of all these extensions.
- A new IPPv2 (or v2.0, 2.1, …, 2.X) standard will bring attention to these extensions and encourage their adoption.
- No new extensions will be developed.

IPPv2 Working Group Officers

- ## IPPv2 WG Chair:
  - Ron Bergman (Ricoh)

- ## IPPv2 WG Secretary:
  - Craig Whittle (Sharp)

- ## IPPv2 WG Document Editors:
  - Mike Sweet (Apple)
  - Ira McDonald (High North)

Current Document Status

IPP 1.0 Documents
- RFC 2565 Internet Printing Protocol/1.0: Encoding and Transport
- RFC 2566 Internet Printing Protocol/1.0: Model and Semantic

IPP 1.1 Documents
- RFC 2910 Internet Printing Protocol/1.1: Encoding and Transport
- RFC 2911 Internet Printing Protocol/1.1: Model and Semantics
- RFC 3510 Internet Printing Protocol: IPP URL Scheme

IPP Other Documents
- RFC 3380 Internet Printing Protocol: Job and Printer Set Operations
- RFC 3381 Internet Printing Protocol: Job Progress Attributes
- RFC 3382 Internet Printing Protocol: The 'collection' attribute syntax
- RFC 3995 Internet Printing Protocol: Event Notifications AND Subscriptions
- RFC 3996 Internet Printing Protocol: The 'ippget' Delivery Method for Event Notifications

- RFC 3998 Internet Printing Protocol: Job and Printer Administrative Operations
- PWG 5100.1 Internet Printing Protocol: "finishings" attribute values extension
- PWG 5100.2 Internet Printing Protocol: "output-bin" attribute extension
- PWG 5100.3 Internet Printing Protocol: Production Printing Attributes – Set 1
- PWG 5100.5 Internet Printing Protocol: Document Object
- PWG 5100.6 Internet Printing Protocol: Page Overrides
- PWG 5100.7 Internet Printing Protocol: Job Extensions
- PWG 5100.8 Internet Printing Protocol: "-actual" Attribute
- PWG 5101.1 PWG Standard for Media Size Names

New IPPv2 Groups

- Version 2.0 to include all 1.1 plus:
  - **PWG 5100.1 "finishings" attribute extensions**
  - **PWG 5100.2 "output-bin" attribute extensions**
  - **PWG 5101.1 PWG Standard for Media Size Names**
- Version 2.1 to include all 2.0 plus:
  - **RFC 3380 Job and Printer Set Operations**
  - **RFC 3381 Job Progress Attributes**
  - **RFC 3382 The 'collection' Attribute Syntax**
  - **RFC 3995 Event Notifications and Subscriptions**
  - **RFC 3996 'ippget' Delivery Method for Notifications**
  - **RFC 3998 Job and Printer Administrative Operations**
  - **PWG 5100.7 Job Extensions**
- Version 2.2 to include all of 2.1 plus:
  - **PWG 5100.3 Production Printing Attributes, Set 1**
  - **PWG 5100.5 Document Object**
  - **PWG 5100.6 Page Overrides**
  - **PWG 5100.8 "-actual" Attributes**

New IPPv2 Groups

Version mapped to Printer Types:

- IPPv2.0
  - Simple Workgroup Printer

- IPPv2.1
  - Enterprise Printer Environment

- IPPv2.2
  - Production Printer Environment

Current Required Operations

- **0x0002**   **Print-Job**
- **0x0004**   **Validate-Job**
- **0x0008**   **Cancel-Job**
- **0x0009**   **Get-Job-Attributes**
- **0x000A**   **Get-Jobs**
- **0x000B**   **Get-Printer-Attributes**
- **0x0016**   **Create-Printer-Subscriptions**
- **0x0018**   **Get-Subscription-Attributes**
- **0x0019**   **Get-Subscriptions**
- **0x001A**   **Renew-Subscription**
- **0x001B**   **Cancel-Subscription**
- **0x001C**   **Get-Notifications**
- **0x0033**   **Cancel-Document**
- **0x0034**   **Get-Document-Attributes**
- **0x0035**   **Get-Documents**

2.0 Required Operations

- **0x0002   Print-Job**
- **0x0004   Validate-Job**
- **0x0008   Cancel-Job**
- **0x0009   Get-Job-Attributes**
- **0x000A   Get-Jobs**
- **0x000B   Get-Printer-Attributes**

2.1 Required Operations, pg 1

- **0x0002**   **Print-Job**
- **0x0004**   **Validate-Job**
- **0x0005**   **Create-Job**
- **0x0006**   **Send-Document**
- **0x0008**   **Cancel-Job**
- **0x0009**   **Get-Job-Attributes**
- **0x000A**   **Get-Jobs**
- **0x000B**   **Get-Printer-Attributes**
- **0x000C**   **Hold-Job**
- **0x000D**   **Release-Job**
- **0x000E**   **Restart-Job**
- **0x0010**   **Pause-Printer**
- **0x0011**   **Resume Printer**
- **0x0012**   **Purge-Jobs**

2.1 Required Operations, pg 2

- **0x0013**   **Set-Printer-Attributes**
- **0x0014**   **Set-Job-Attributes**
- **0x0015**   **Get-Printer-Supported-Values**
- **0x0016**   **Create-Printer-Subscriptions**
- **0x0018**   **Get-Subscription-Attributes**
- **0x0019**   **Get-Subscriptions**
- **0x001A**   **Renew-Subscription**
- **0x001B**   **Cancel-Subscription**
- **0x001C**   **Get-Notifications**
- **0x0022**   **Enable-Printer**
- **0x0023**   **Disable-Printer**

2.2 Required Operations, pg 1

- 0x0002   Print-Job
- 0x0004   Validate-Job
- 0x0005   Create-Job
- 0x0006   Send-Document
- 0x0007   Send-URI
- 0x0008   Cancel-Job
- 0x0009   Get-Job-Attributes
- 0x000A   Get-Jobs
- 0x000B   Get-Printer-Attributes
- 0x000C   Hold-Job
- 0x000D   Release-Job
- 0x000E   Restart-Job
- 0x0010   Pause-Printer
- 0x0011   Resume Printer
- 0x0012   Purge-Jobs
- 0x0013   Set-Printer-Attributes
- 0x0014   Set-Job-Attributes
- 0x0015   Get-Printer-Supported-Values

2.2 Required Operations, pg 2

- **0x0016**   **Create-Printer-Subscriptions**
- **0x0017**   **Create-Job-Subscriptions**
- **0x0018**   **Get-Subscription-Attributes**
- **0x0019**   **Get-Subscriptions**
- **0x001A**   **Renew-Subscription**
- **0x001B**   **Cancel-Subscription**
- **0x001C**   **Get-Notifications**
- **0x0022**   **Enable-Printer**
- **0x0023**   **Disable-Printer**
- **0x0024**   **Pause-Printer-After-Current-Job**
- **0x0025**   **Hold-New-Jobs**
- **0c0026**   **Release-Held-New-Jobs**
- **0x0027**   **Deactivate-Printer**
- **0x0028**   **Activate-Printer**
- **0x0029**   **Restart-Printer**
- **0x002A**   **Shutdown-Printer**

2.2 Required Operations, pg 3

- **0x002B**   **Startup-Printer**
- **0x002D**   **Cancel-Current-Job**
- **0x002E**   **Suspend-Current-Job**
- **0x002F**   **Resume-Job**
- **0x0030**   **Promote-Job**
- **0x0031**   **Schedule-Job-After**
- **0x0033**   **Cancel-Document**
- **0x0034**   **Get-Document-Attributes**
- **0x0035**   **Get-Documents**
- **0x0036**   **Delete-Document**
- **0x0037**   **Set-Document-Attributes**

Work In Process

- IPPv2 Specification In Process

    - Required Operations list is stable
    - Current version is August 6, 2008

- Proposed to add IPP Operation Attributes

    - List each attribute required per operation
    - No proposal is currently ready for review

General

- Teleconferences are held bi-weekly at 4 pm EDT
- The teleconference schedule:
  - August 25
  - September 8
  - September 22
  - October 6
  - October 23 (?) (Face to Face meeting)

- Contact Information
  - Email distribution list   ipp@pwg.org
  - To subscribe to the IPP mail list see:
    http://www.pwg.org/mailhelp.html

PWG F2F Mtg, Plenary Session, August 2008
Projector & Display Management WG Status

Rick Landau
Dell, CTO Office
2007/08/08 v0.1

Recent Activity

- ## Still recruiting
  - Need especially display companies and software/controls companies
  - Talked to approx thirty companies at InfoComm in June
    - Several promised review of draft, seemed genuinely interested
    - Received follow-up from five companies, but not reviews yet

- ## No technical changes lately
  - Low participation in the summer

- ## Waiting for prototype hardware and software
  - Hardware, software, and simulation all in the works

Current State

- Stable draft of technical MIB and surrounding text
    - Expanded explanatory info, especially power management
    - Minor fixes and extensions to MIB still needed
    - Several pro forma sections of doc need to be filled in
    - May have to change slightly for new IETF outline
- Edit entirely in XML, then translate from XML to MIB
- Need discussions about mandatory vs optional
    - Extension groups in MIB or depend on default values? Prototypes would really help
- Need discussions about power management
- Need feedback from many vendors, current participants and others
    - Lots of follow-up with InfoComm contacts

Participation

- ## Active companies
  - Canon (& PWG): Lee Farrell
  - Coretronic (Optoma): Vincent Chen
  - Crestron: Dan Jackson
  - Dell: Rick Landau, Nick D'Alessio, Vincent Ng
  - Delta Electronics: Jason Tsai, Josephine Lee
  - Epson: Hiroyuki Hashimoto
  - NEC: Koichi Ara
  - SP Controls: Paul Brown
  - SpinozaTechnology: Randy Massengale, Devin Fujimoto
  - Symon Communications: Raymond Rogers
  - Texas Instruments: Umesh Jani

PWG BoFs and Potential Future Items

- ## Potential projects being discussed
  1. ### Vendor Private/Enterprise MIB repository
     - Provide a managed directory (or web site) for vendors to include information about their private MIB(s).

  2. ### Best Practices for implementing the IEEE 1284 Device ID String
     - Standardization of the keywords that are used in the 1284 string such that they can me programmatically parsed more effectively.

- ## Other Items
  1. ### Web 2.0 Widgets and how they might apply to Hardcopy Devices (Randy Turner)

Questions/Discussion?

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Thanks to Sharp for Hosting!

Plenary Adjourned!