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Printer Working Group

Plenary – August 14, 2008 Portland, OR

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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 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.



- 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



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12:30 PM	Imaging Device Security
2:00 PM	Lunch
5:30 PM	Imaging Device Security
11:30 AM	WIMS
12:30 PM	Plenary
2:00 PM	Lunch
5:30 PM	MFD model
10:30 AM	PWG Process and IP Policy Update
12:30 PM	IPP (IPPv2)
2:00 PM	Lunch
5:00 PM	MFD model
	2:00 PM 5:30 PM 11:30 AM 12:30 PM 2:00 PM 5:30 PM 10:30 AM 12:30 PM 2:00 PM



- 2008
- October
 - 21-23, Lexington KY (Hosted by Lexmark)
- December
 - 2-4, Irvine CA (Hosted by Samsung)
- 2009

• February

 16-18 Waikoloa Beach Marriott Resort & Spa 69-275 Waikoloa Beach Drive

Waikoloa - Hawaii, Hawaii 96738 USA (ISTO Planned)



- 2009
 - February
 - 16-18 Waikoloa Beach Marriott Resort & Spa 69-275 Waikoloa Beach Drive Waikoloa - Hawaii, Hawaii 96738 USA (ISTO Planned)
 - April 14-16 New Orleans (ISTO Planned)
 - June 16-18 Rochester NY (hosted by Xerox)
 - Aug. 18-20 Portland/Seattle (Tentative, TBD)
 - October 13-15 Boulder CO (hosted by InfoPrint)
 - December 8-10 Austin TX (hosted by Dell)

2008 Membership

(25 member companies)



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

✓ Indicates 2008 membership paid

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**



PWG Working Group Status



PWG Plenary Status Report WIMS/CIM Working Group



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.





- 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.



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.



- 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?



- 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 (CRs have been submitted)

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 <u>majordomo@pwg.org</u> 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



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



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



- 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



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 <u>majordomo@pwg.org</u> 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 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

- Ox0002 Print-Job
- Ox0004 Validate-Job
- Ox0008 Cancel-Job
- Ox0009 Get-Job-Attributes
- Ox000A Get-Jobs
- Ox000B Get-Printer-Attributes
- Ox0016 Create-Printer-Subscriptions
- Ox0018 Get-Subscription-Attributes
- Ox0019 Get-Subscriptions
- Ox001A Renew-Subscription
- Ox001B Cancel-Subscription
- Ox001C Get-Notifications
- Ox0033 Cancel-Document
- Ox0034 Get-Document-Attributes
- Ox0035 Get-Documents

2.0 Required Operations



- Ox0002 Print-Job
- Ox0004 Validate-Job
- Ox0008 Cancel-Job
- Ox0009 Get-Job-Attributes
- Ox000A Get-Jobs
- Ox000B Get-Printer-Attributes



2.1 Required Operations, pg 1

- Ox0002 Print-Job
- Ox0004 Validate-Job
- Ox0005 Create-Job
- Ox0006 Send-Document
- Ox0008 Cancel-Job
- Ox0009 Get-Job-Attributes
- Ox000A Get-Jobs
- Ox000B Get-Printer-Attributes
- Ox000C Hold-Job
- Ox000D Release-Job
- Ox000E Restart-Job
- Ox0010 Pause-Printer
- Ox0011 Resume Printer
- Ox0012 Purge-Jobs



2.1 Required Operations, pg 2

- Ox0013 Set-Printer-Attributes
- Ox0014 Set-Job-Attributes
- Ox0015 Get-Printer-Supported-Values
- Ox0016 Create-Printer-Subscriptions
- Ox0018 Get-Subscription-Attributes
- Ox0019 Get-Subscriptions
- Ox001A Renew-Subscription
- Ox001B Cancel-Subscription
- Ox001C Get-Notifications
- Ox0022 Enable-Printer
- Ox0023 Disable-Printer



2.2 Required Operations, pg 1

- Ox0002 Print-Job
- Ox0004 Validate-Job
- Ox0005 Create-Job
- Ox0006 Send-Document
- Ox0007 Send-URI
- Ox0008 Cancel-Job
- Ox0009 Get-Job-Attributes
- Ox000A Get-Jobs
- Ox000B Get-Printer-Attributes
- Ox000C Hold-Job
- Ox000D Release-Job
- Ox000E Restart-Job
- Ox0010 Pause-Printer
- Ox0011 Resume Printer
- Ox0012 Purge-Jobs
- Ox0013 Set-Printer-Attributes
- Ox0014 Set-Job-Attributes
- Ox0015 Get-Printer-Supported-Values



2.2 Required Operations, pg 2

- Ox0016 Create-Printer-Subscriptions
- Ox0017 Create-Job-Subscriptions
- Ox0018 Get-Subscription-Attributes
- Ox0019 Get-Subscriptions
- Ox001A Renew-Subscription
- Ox001B Cancel-Subscription
- Ox001C Get-Notifications
- Ox0022 Enable-Printer
- Ox0023 Disable-Printer
- Ox0024 Pause-Printer-After-Current-Job
- Ox0025 Hold-New-Jobs
- Oc0026 Release-Held-New-Jobs
- Ox0027 Deactivate-Printer
- Ox0028 Activate-Printer
- Ox0029 Restart-Printer
- Ox002A Shutdown-Printer



2.2 Required Operations, pg 3

- Ox002B Startup-Printer
- Ox002D Cancel-Current-Job
- Ox002E Suspend-Current-Job
- Ox002F Resume-Job
- Ox0030 Promote-Job
- Ox0031 Schedule-Job-After
- Ox0033 Cancel-Document
- Ox0034 Get-Document-Attributes
- Ox0035 Get-Documents
- Ox0036 Delete-Document
- Ox0037 Set-Document-Attributes



- 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: <u>http://www.pwg.org/mailhelp.html</u>



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 Plenary Status Imaging Device Security (IDS) Working Group

Camas, WA - PWG F2F Meeting August 14, 2008



- The industry is moving beyond basic authentication for access to corporate networks to a fairly detailed assessment of the device that is connecting before being allowed to access the network.
 - Examples of what's being measured for PC Clients:
 - OS Type, Version, Patch Level
 - Anti-virus Type, Version, Definition Level, Is Active
- Hardcopy Devices attach to networks, but there's no standard set of metrics that is used to assess an HCD.
- Our Goal is to provide these metrics!!!

Work Items for the WG



- What We're Doing
 - Defining a standard set of metrics that might be measured or assessed in Hardcopy Devices to gauge if they should be given access to a network
 - Defining example "bindings" for how these metrics are used in the individual network assessment protocols.

- What We're NOT Doing
 - We are NOT defining any new assessment protocols or assessment extensions to existing authentication protocols.
 - We are NOT endorsing any of the competing network assessment protocols (NEA/TNC, NAC, NAP), but plan to enable Hardcopy Devices to participate in any/all of them.



IDS WG Chairs:

- Peter Cybuck (Sharp),
- Ron Bergman (Ricoh)
- IDS WG Secretary:
 - Lee Farrell (Canon)
- IDS WG Document Editors:
 - Jerry Thrasher (Lexmark),
 - Ron Nevo (Sharp)
 - Brian Smithson

Status



- Reviewed Network Assessment Protocols
 - Cisco NAC (Network Access Control)
 - TCG TNC (Trusted Network Connect)
 - Microsoft NAP (Network Access Protection)
 - IETF NEA (Network Endpoint Assessment)
- NAP has been targeted to be the first candidate
 - Well documented (public documents)
 - Supported in MS O/S versions
- Current effort is to
 - Develop Assessment Attribute Specification.
 - Develop a binding to NAP for HCD Attributes.
 - Define the required NAP protocol stack support.



- Q1 2008: Initial education and Study
 - Specify Network Assessment Protocols COMPLETE
 - Develop (Use Cases) and Requirements **COMPLETE**
- Q2 2008: Draft Proposals
 - Required Minimal Attribute Set COMPLETE
 - Extended Attribute Set COMPLETE
- Q3 2008:
 - HCD Health Assessment Attributes Spec IN REVIEW
 - NAP Binding Spec Proposal Ready For Review
- Q4 2008:
 - Complete HCD Attributes Spec
 - Finalize NAP Binding Spec
 - Start NEA Binding Spec



- HCD Health Assessment Attributes Spec
 - <u>ftp://ftp.pwg.org/pub/pwg/ids/wd/wd-idsattributes10-20080728.pdf</u> (.doc)
- HCD Health Assessment NAP Binding Spec
 - <u>ftp://ftp.pwg.org/pub/pwg/ids/wd/wd-ids-napsoh10-20080731.pdf</u> (.doc)
- Microsoft NP Protocols
 - <u>ftp://ftp.pwg.org/pub/pwg/ids/white/Microsoft%20NAP%20Protocols.pdf</u> (.ppt)

General



- Teleconferences are held bi-weekly at 1 pm EDT
- The teleconference schedule:
 - August 28
 - September 11
 - September 25
 - October 9
 - October 23 (Face to Face meeting)
- Contact Information
 - Email distribution list <u>ids@pwg.org</u>
 - To subscribe to the IPP mail list see: <u>http://www.pwg.org/mailhelp.html</u>



- 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?





Thanks to Sharp for Hosting!

Plenary Adjourned!