

Internet Printing Project Meeting Minutes
February 6, 1997
San Jose, California

The meeting started on February 6th, 1997 at 8:30AM led by Carl-Uno Manro. The attendees were:

Ron Bergman - Data Products
Mike Timperman - Lexmark
Lee Farrell - Canon
Don Wright - Lexmark
David Kellerman - Northlake Software
Scott Isaacson - Novell
Mabry Dozier - QMS
Jeff Copeland - QMS
Bob Pentecost - HP
Tom Hastings - Xerox
Harry Lewis - IBM
Roger Debry - IBM
William Wagner - Digital Products
Atsushi Yuki - Kyocera
Robert Herriot - Sun
Carl-Uno Manros - Xerox
Keith Carter - IBM
Jim Walker - Dazel
Chuck Adams - Tektronix
Stuart Rowley - Kyocera
Peter Zehler - Xerox
Robert Kline - TrueSpectra
David McMaster - TrueSpectra
Robert Chansler - Adobe
Sylvan Butler - HP
Shivaun Albright - HP
Paul Riechmann - IBM
Steve Adobe - Adobe
Shinji Mochizuki - Kyocera
Noim Jacobs - Sun
Wendy Phillips - Sun
Tony Collins - Sun
Prashant Sheekla - Novell
Asad Faizi - Netscape
Weing Gan - Intel
Hirofumi Nishiwaki - Ricoh
Gary Roberts - Ricoh

Yuji Yamashita - IBM
Nobuhiro Asai - IBM
J.K. Martin - Underscore
Shige Kanemitsu - Kyocera
Babak Jahromi - Microsoft
Greg LeClair - Epson
Randy Turner - Sharp

The following proposed agenda was reviewed and approved:

- 1) Agenda Check
- 2) Microsoft
- 3) Scenario Discussion
- 4) Requirements Discussion
- 5) Lunch
- 6) Model & Semantics
- 7) Protocol
- 8) Directory
- 9) Security
- 10) Prototyping
- 11) Planning discussion

Introductions

Microsoft Presentation - Babak Jahromi

The charts of this presentation are available on the ftp server as:

ftp://ftp.pwg.org/pub/pwg/ipp/new_MOD/ms_internet.pdf

Internet Printing

- Print to URL
- HTML queue status from URL
- WEB point and print
- Install driver from URL

“Seamless integration with printing architecture”

How do we get a printer URL?

- Have IIS or Peer Web Server
- Share the printer
- URL = “http://ServerName/PrinterShareName”

Technology

- HTTP/HTML based
- Any browse on any client views the printer or job information
- Server components implemented as an IIS ISAPI DLL

Printing to URL

- NT 5 clients print to Win NT 5 server via an HTTP print provider supporting OpenPrinter (UTL)
- Prints across firewalls to Internet

Architecture Charts – Print client and server

HTTP Print Provider

- Base on Win32 Internet APIs
- Win32 Internet APIs available for Win9x and WinNT

OpenPrinter code samples

HTML Printer Status

- HTML view of printer or job information generated automatically by the server
- Customize HTML view by providing HTML templates
- Add-on components embedded in HTML tags providing vendor-specific views

Architecture - HTML view of printers

Tag Processor, tag Entry points, Action Commands, etc.

Variety of Views

- Printer Properties
- Job Properties
- Queue View
- Security Views
- etc.

Web Point and Printer

- Hot Link in HTML View
- Driver automatically downloaded off the print server

Discussion on several items of Babak's presentation

- Number of POSTS to send a print job
- Using URLs and how they relate to commands
- Microsoft's proposal would allow a new type of "printer" that expected ATTRIBUTES to be pre-pended to the JOB STREAM
- Nothing in the proposal at this time to deal with changing job attributes while the job is waiting to be printed (e.g. number of copies, etc.)

SCENARIOS - Roger Debry

Roger Debry of IBM presented the IPP Scenarios document. The document is available from the PWG ftp server. Detailed issues on this presentation were collected by Peter Zehler. Comments and issues raised include:

- What capabilities should be enumerated via the directory or some other means?
- How will users access this information - should this be in the scenarios?
- Issue of what to do when the user requested something that the printer can't do – what should the printer do?
- How does a printer print HTML? What about collections of pages?
- How are commerce transactions handled in 1.0?
- How should previously printed jobs be reported? How many? Time based?
- Discussion on what is meant by a capability being available –
 - On hand
 - Can be ordered
- Other possible scenarios to be added
 - Distributed Document Content

Don Wright, Roger Debry and Peter Zehler will have a phone conference next week (week of 2/10) to determine how to integrate the scenarios into the requirements document.

MODELING GROUP - Bob Herriott

(See the 2/5 modeling sub-group meeting minutes for details.)

- Report from meeting 2/5/97
- Multiple documents per job needed
 - Document attributes needed
 - Document attributes like Job attributes except they only apply to document
 - A document is not an object
 - Conformance -- multiple documents per job support not required
- Adornments to attributes
 - “Best Efforts”
 - PDL specific adornments

PROTOCOL - Roger Debry

Roger gave a presentation of “IPP Protocol White Paper Discussion” and “IPP Protocol White Paper” documents (which are available from the PWG FTP server.)

- ISSUE: Should the protocol allow multiple PDLs per document?

- ISSUE: The current proposal doesn't return the JOBid until the end. What happens with multiple clients all sending jobs at the same time – how does the server know where the data is coming from?
- Discussion on the need for transport to be REQUEST-RESPONSE
 - should we duplicate the function in the underlying transport?
 - what cases can't be handled?
- If we use HTTP should we overload POST or create new methods?
 - Could 1.0 use POST and define a migration path using new methods?
 - Asad Faizi of Netscape asked why would the protocol overload the use of POST to send data using HTTP. He suggested that new methods could be created that would provide a cleaner interface and higher performance. Netscape servers could be “patched” to add new methods?

Roger Deby proposed to produce a set of technical papers to cover the material being done by the printer working group. There was some interest in doing these papers; however the issue of schedule and availability of time to write these papers was an issue. It would be ideal if this series could be an entire issue of some technical journal. No decision was made; however, there did seem to be a lack of time to do this work.

PLANNING DISCUSSION - Carl-Uno Manros

Carl-Uno reminded the group that we are suppose to produce 4 Internet Drafts by mid-March:

- 1) Requirements
- 2) Protocol
- 3) Model and Semantics
- 4) Directory

Discussion on using MIME occurred again. Should we define our own MIME type (application/ipp) or use one of the existing multi-part MIME types. No decision.

DIRECTORY - Carl-Uno

Not much progress has been made in this area at this time. We have a draft which was created from the directory pieces of the original IPP ID. No work has been done on this document since then. This document will be a generic schema, another document will map that schema to LDAP or some other directory services.

SECURITY - Carl-Uno

The security sub-group will be meeting tomorrow (2/7) in El Segundo to talk about security. At this time Carl-Uno, Roger Deby and several other Xerox security people plan to be in attendance.

PROTOTYPING - Carl-Uno

Separate sub-group on prototyping. Several groups have prototyping efforts underway or soon will be:

- Xerox
- IBM
- Novell

WEEKLY CONFERENCE CALL - Carl-Uno

Discussion items for the Wednesday conference call:

- 1) Report on security meeting
- 2) Discussion on the Model document
- 3) Report and discussion on results of requirements/scenarios plan

After the conclusion of the planned agenda items, Babak asked for:

FEEDBACK ON MICROSOFT PRESENTATION

- 1) Is there a programmatic interface to the Microsoft system
 - You can use Win32 APIs
- 2) How do you get to these printers
 - Open and WEB open off the printer icon
 - You know the server and share name or use Directory services
- 3) Notification
 - Could we use pushing to get notification?
 - Could we use the META tag for refresh to see status updates?
- 4) Question: Is the current plan for IPP too heavy? Is the Microsoft solution too light?

OPEN FLOOR DISCUSSIONS

A philosophical discussion occurred on the overlap of IPP versus Job Monitoring MIB versus the Printer MIB. Can IPP be a subset of the MIBs or vice versa or should it just overlap. Bottom line: Where there is an intersection of objects between MIBs and IPP, the semantics should be the same.

The group felt that the overhead of the protocol that overlapped some transports in the draft by Roger Debry was probably worth it perhaps with the exception of the Content-Response-Required-Flag.

Carl-Uno announced that the WEB page for the IPP group was making good progress and should be readily available in the next week or so.

The meeting adjourned at 5:25 PM