Printer Working Group
Meeting Minutes
10/2/96 - 10/3/96

Attendees:

Lee Farrell
Tom Hastings
Scott Isaacson
Pete Loya
Bob Pentacost
Randy Turner
Bill Wagner
Chris Wellens
Don Wright
Lloyd Young
Atsushi Yuki

PWG:

Administrivia

The schedule for the last meeting of 1996 in New Orleans was discussed. The PWG will meet on Thursday and Friday (Nov 7/8) rather than the normal Wednesday and Thursday,

The schedule for 1997 was finalized as follows:

Jan 8,9	Albuquerque/Santa Fe
Feb 19,20	Tampa/Miami
Apr 2,3	Austin, Texas
May 14,15	San Francisco, San Jose
Jun 25,26	Boston
Aug 6,7	Seattle
Sep 17,18	Atlanta (may shift to hit NetWork-Interop)
Oct 29,30	Denver
Dec 10,11	Los Angeles

Job Submission, Job Control Protocols

- Scott Isaccson will put together a proposal by November meeting.

- Preference would be to work on a printer focused implementation rather than starting with what might be required to make into a more general implementation.
- Don Wright will put a notice on the W3C mailing list regarding our discussion of internet printing to determine any interest from that group.
- Strategy for this protocol would be to define something that is small and easily implementable and then expand later after some implementation experience.

Standard Printer Adapter

- Discussion was postponed.

PRINTER MIB PROJECT

Discussion item: Conditionally Mandatory groups/objects

The group discussed the issues of dealing with changing the optional groups to conditionally mandatory. After discussing the three options: make the group mandatory, removing the group or making the optional groups conditionally mandatory, it would seem that making them conditionally mandatory was really the only option. The discussion then centered on what is meant my conditionally mandatory and how does an implementor decide whether to implement the group or an object in the group. Additionally, if the implementation does include one of these objects, how is a read or a write to that object responded to.

Action item: What is the response to an unimplemented, conditionally mandatory object -- Lloyd will ask this question on the mailing list.

The group unanimously decided to just change the optional groups to conditionally mandatory.

Discussion Item: Teleconferences

The issue here is should be initiate a series of telephone conferences to discuss the open issues as we try to finish up the work on the MIB. This item was left open and could be used if necessary during the process of driving the MIB to closure.

Discussion Item: Channels Group, Magic Cookie

A lively discussion insure on how the magic cookie object should be defined. For example should we define a rigid grammar? Should we allow each implementation to define a grammar? How would the grammars be registered?

Should the object simply be a numeric value. Could this be more than a single object? A structure?? The group decided the name should be prtChannelInformation. Is this string read/write? -- No

Action Item: Randy Turner will update David Kellerman's proposal to describe how a grammar could be defined how to allow multiple items to be included in the object.

Discussion Item: Minimum Access specified for R/W Objects

The group reviewed the list of read-write objects in the MIB and determined which objects should have a min-access of read-write versus a min-access of read-only. The object by object decision will be reflected in the next draft of the MIB. Generally all read-write objects will have a min-access of read-only with the exception of the following object:

- prtGeneralReset

Lunch break - 12:30 -- 2:00

Discussion Item: ChannelTypeTC

The wording on chPort9100(11) was accepted as published by Lloyd Young with the addition of -- Hewlett Packard Co. to the end of the chPort9100(11) object. The wording on chAppSocket(12) will revert to the RFC1759 wording after mail is sent to Adobe to confirm and clarify.

Discussion Item: New Interpreter request from Xerox (JCL)

Tom Hastings agreed to change the name of the New Interpreter to XJCL.

Discussion Item: Host Resources MIB

The group has decided to submit the MIB as it is with references to the Host Resources MIB. We with argue this issue at the appropriate time in the future if necessary.

Discussion Item: prtAlert 1115

This alert should be tone cartridge missing. The group agreed to put it back in.

Discussion Item: V2 Compliance

Diedre made an off hand remark that the MIB should be v2 complient.

Action Item: Diedre needs to tell us whether we should be in complience with the 1400 RFCs or the 1900 series RFCs. RFC1759 has been proposed for over a year before the 1900 series of RFCs were published.

Discussion Items: Pentecost/HP

The following is from a MIB review held at HP.

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1. 2.2.13.4, third paragraph: After "... it removes the corresponding
leading edge event." add "Removing the leading edge entry may cause the
unary change event alertRemovalOfBinaryChangeEntry to be added to the ta
ble."

2. Appendix A: Add definitions for: spot color, process color,
impressions.

3. Appendix E: Update authors & addresses; add Binnur Al-Kazily as an
author.
4. Appendix A: Collation description should read "...placing the pages
from separate copies into separate ordered sets, ready for binding." By
including "separate output bins" the definition is unnecessarily
restrictive.

5. Item deleted (already fixed).

6. prtInputMediaType: The object "prtInputMediaColor" indicates that the
implementor is free to add additional string values as long as they
follow a certain naming convention. This object makes no such mention.
Does this imply that the implementor may NOT add additional strings?

7. prtOutputPageCollated: Description should be continued with
"Collation is the process by which multiple copy output places the pages
from separate copies into separate ordered sets, ready for binding".

8. prtOutputOffsetStacking: Description should be continued with "Offset
stacking is the process by which output pages are physically displaced
in order to separate them"

9. prtMediaPathMaxSpeed: If using "impressions per hour" unit of
measure, there is no indication of the size of paper that will deliver
that performance. This number is meaningful only for a specific (but
unspecified) size of paper.

10. prtInterpreterLangFamily: Remove the sentence "This type 2 list of
enumerations requires review before additional entries are made."
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The following are the results/decision relating to the above items:
#1. Approved, add sentence after 3rd sentence in 2.2.13.4.
#2. Approved, Spot Color, Process Color and Impressions will be written by Tom Hastings and sent to the mailing list.

#3. Approved, authors and participants will be updated by Don Wright and forwarded to the editor.
#4, Approved
#5. Already done.
#6. Approved. Add workding about ISO9070 from prtInputMediaColor to prtInputMediatype something like "Implementors may add additional string values. The naming conventions in ISO 9070 are recommended in order to avoid potential name clashes." to end of prtInputMediaType description.
#7. Approved. Add definition of collation from the glossary.
#8. Approved. Add definition of offset stacking from the glossary.
#9. Rejected. Good idea but impractical to implement differently. Most implementors will spec this based on Letter or A4 paper.
#10. Approved because this information is already stated elsewhere.

The following are considered to be typos and will be fixed by the editor unless he discovers them to be otherwise.

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1. Table of contents: Update entries and page numbers.
2. Pg. 6 - 2nd paragraph "... alert information about printer can be thought of..." "printer" should be "the printer".
3. Pg. 8 - General Printer section: line 4: "In addition to the providing..", remove "the" from the sentence.
4. Pg. 9 - "explicitely" is misspelled; should be "explicitly.
5. Pg. 9 - "... Input Group which represents that media that..." should be "...Input Group which represents the media that...".
6. Pg. 12 - Section 2.2.12: sentence "...current message on the operators console of the..." - "operators" should be "operator's".
7. Pg. 15 - In hrPrinterStatus, the numbers used for "idle", "printing", "warmup", and "unknown" in the syntax section don't match the numbers in the description section.
8. Pg. 17 - change "signal ed" to "signaled".
9. Pg. 18 - Line 3: "It they were never..." should be "If they were never...".
10. Pg. 18 - Section 2.2.13.5 missing. It should include information from prtAlertGroupIndex description, i.e. the MIB is indexed with hrDeviceIndex & another index optionally which could be the value '-1' if not present.
11. Pg. 19 - Put quote marks around "external means" in "here external means include using the operator...".
12. Pg. 19 - "the printer believes that information..." change "that" to "the".
13. PrtSupplementaryPageContentTC is never used elsewhere in the document.
14. Add "enumeration type" comment to: SubUnitStatusTC, PrtCoverStatusTC (change the indentation to match other object descriptions), PrtInputTypeTC (change the indentation to match other object descriptions), PrtSupplementaryPageContentTC.

15. Change "ChBidirPortTCP" to "chBidirPortTCP".
16. Pg. 36 - Change "manufacture's" to "manufacturer's".
17. Pg. 36 - "A typical examples of alerts..." remove "s" from "examples".
18. Pg. 37 - "...types are for for situations..." remove one of the "for".
19. Pg. 38 - in "noHumanInterventionRequired", remove "Human" to match the enum on page 38.
20. Pg. 94 - "in a non-idempotent way, the this data..." delete "the".
21. Pg. 95 - In the definition of "Object", ".. usage)." appears at the end of the definition, and it doesn't seem to belong there.
22. Pg. 97 - Delete the hyphen from "prtInputDeclared-MediaDimFeedDir".
23. Pg. 101 - Printer job state should read "... within a printer". It doesn't make any sense as written.
24. prtLocalizationLanguage: ISO 639 uses lower case letters, these examples should, too.
25. prtGeneralServicePerson description: "staring" should be "starting".
26. prtInputMediaDimFeedDirChosen: MediaUnit" should be prtInputDimUnit.
27. prtInputMediaDimXFeedDirChosen: "MediaUnit" should be prtInputDimUnit.
28. prtInputSerialNumber: The range for prtOutputSerialNumber is given as 0..63, but prtInputSerialNumber is defined as having a range of 0..32. Seems strange that there should be a difference between input and output devices.
29. prtInputMediaType: "mailing purposes" text should be tabbed/spaced over to line up with the rest of the definitions.
30. prtOutputMaxDimFeedDir, prtOutputMaxDimXFeedDir, prtOutputMinDimFeedDir, prtOutputMinDimXFeedDir: "DimUnit" should be "prtOutputDimUnit".
31. prtOutputStackingOrder: 'FirstToLast' should be changed to 'firstToLast' and 'LasttoFirst' should be changed to 'lastToFirst'.
32. prtMarkerIndex: Change "...this marking SubUnitStatus" to "...this marking sub-unit".
33. prtMediaPathMaxSpeedPrintUnit: Indent SYNTAX, MAX-ACCESS and STATUS fields.
34. prtMediaPathMaxSpeed: The sentence should be reworded so that "prtMediaPathMaxSpeedUnit's" doesn't need to be pluralize an official "MIB-type" word.
35. prtMediaPathMaxSpeed: "prtMediaPathMaxSpeedUnit" should be "prtMediaPathMaxSpeedPrintUnit".
36. Pg. 74 - In "Local-, Ether-or" add a space before "or".
37. Pg. 74 - References to "ChannelType" (2 occurrences) should be prtChannelType
38. PrtChannelEntry: prtChannelType type should be PrtChannelTypeTC and prtChannelState type should be PrtChannelStateTC.
39. PrtInterpreterEntry: prtInterpreterDefaultOrientation type should be PrtInterpreterDefaultOrientationTC and prtInterpreterTwoWay type should be PrtInterpreterTwoWayTC.
40. prtInterpreterFeedAddressability: "10000 prtMarkerAddressabilityUnit s (see..." should be reworded so that " prtMarkerAddressabilityUnit " doesn't need to be plural.

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41.  prtInterpreterXFeedAddressability: "10000
prtMarkerAddressabilityUnit s (see..." should be reworded so that "
prtMarkerAddressabilityUnit " doesn't need to be plural.
42.  PrtConsoleLightEntry: prtConsoleColor type should be
PrtConsoleColorTC.
43.  PrtAlertEntry: prtAlertSeverityLevel type should be
PrtAlertSeverityLevelTC; prtAlertTrainingLevel type should be
PrtAlertTrainingLevelTC; prtAlertGroup type should be PrtAlertGroupTC;
prtAlertCode type should be PrtAlertCodeTC.
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Discussion Item: IETF Re-certification

Chris Wellens agreed to Diedre to chair the Printer MIB project as well as be the advisor. After discussions with Lloyd, they agreed to a co-chair arrangement where Lloyd will run most of the meeting and Chris will provide technical leadership generally outside the meetings. The group unanomously approved this arrangement. Randy Turner will remain as editor.

Discussion item: New Bakeoff

Interworking Labs does not have the power or space on their site to host a second back-off. She suggested that perhaps the Stardust Lab in Campbell CA might be able to host the event. Chris estimated a fee for this testing to be in the neighborhood of $12K but she will need to check with them first to verify the dates and costs. Chris Wellens will have a member of her staff to develop a draft of a statement of what will be tested in a bake-off. The limited number of applications for managing printers using the MIB could be a problem as we try to demonstrate interoperability.

Discussion Item: MIME Registration

Ray Lutz agreed at the last meeting to pull together a MIME type to PDL mapping. Nothing has been seen on the mailing list.

Action Item: Lloyd will contact Ray and find out the status of this work.

Discussion Item: Teleconference

There will be a teleconference on Friday, October 18th at 1PM Eastern to discuss open issues.

Discussion Item: Implementation Experience

Lloyd's note to the mailing list of 9/25 identified what needed to be included in an implementation experience statement.

Action Item: Lloyd will post a template to the ftp server which should be filled in by each company implementing the MIB. These files will be merged into a combined implementation experience document.

The meeting adjourned at 5:45PM

JOB MONITORING PROJECT (JMP)

The following items were discussed during the review of Tom Hastings document posted before the August San DIego meeting.

Job Parameters

1) Job parameters, item 3 "PDLs requested [one value...]: delete the comment in square brackets.

2) Item #3, PDL requested will be a table with multiple values and to include level and version as in the printer MIB. This object will be mainly used by the operator in the course of redirecting jobs.

3) Job priority - There was a discussion on the normalization required to change from one job submission protocol (eg TIPSI - priority 1 to 255) to the 0 to 100 scale specified in the MIB.

4) Discussion on the implementation of object #5 and #6 and how the tables are formed.

5) Delete Item #3 and make it a part of Item #5 and Item #6. One enum in Item #5 that denotes this entry as the PDL requested. Item #6 (Resource name) would contain the PDL name including level and version.

6) Goal Clarification: The major goals of this MIB are to satisfy the needs of an agent in the printer and secondarily an agent in the server. Implementations should place the agent as close to the processing ot the print job as possible. This applies to printers that spool as well as those that don't. This is all necessary so that servers are able find out about jobs in a printer that many have been submitted by other servers using other job submission protocols. It was also

stated that in most environments that support high function job submission/job control protocols like DPA that those tools would be used to monitor and manage print jobs rather than using the MIB.

"The job monitoring MIB is for agents in the printer (spooling or non-spooling) or the first server closeest to the printer where the printer is either

1) directly connected to only the server
--or--
2) the printer does not contain the job monitoing MIB agent."

7) Destination will be treated as a "resource" and part of the resource table. It will therefore be a series of enums such as physical printer, logical printer, fax out, etc.

8) job-message-to-operator is a low priority object and should we need to simplify the MIB by removing objects, this would be one that could be removed.

JOB STATUS AND ACCOUNTING

1) Object 2 will be moved to the resources used table. It will not point to the hrDevice Index but rather be an enum.

2) There was a good discussion on object #3 but there were no changes to the object as defined in the Tom Hasting's document of 8/20/96.

3) An issue was raised as to how strings are localized. This issue was not discussed but wll be added to the issues list.

4) We need to add an object that contains the value of the total number of octets in a print job so that when used with "octets completed" a progress thermometer can be presented to the user.

5) A discussion occurred over the issue of whether we should tightly define how octets are completed and impressions completed or should we leave it up to the implementor. In the end, the group decided that the definitions should be very specific and if the agent is unable to determine for example the number of octets delivered to the interpreter it should respond with unknown (-1?). Currently this is a counter64. What do we do about v1 implementations?

6) Remove object #7 "sheets completed" as it is already included in "Consumables consumed."

7) Remove object #8 "processing time completed" as it too is included in "Comsumables consumed."

8) Move #9 & #10 into a separated group that is conditionally mandatory that will be implemented by those products that have a real time clock (date and time)

9) Delete #11, #12.

10) Add an object indexed by Jobid that would contain vendor specific printer generated job comments on a per job basis. This allows errors, warning or other comments about a job to be recorded.

11) Delete #13 - this object doesn't really provide meaningful information about where a job is in the print queue.

12) We need to create a separate, optionally mandatory group for devices with spooling. The objects included would, among other things, help make it possible to determine when a job will print. Suggested objects to be included:

a) A table of the job queue organized in the order the jobs will be printed
b) "process after time" object

13) Discussion on job tables. In one proposal, the MIB could have the following tables related to jobs

a) Table of Jobs Queued/Active
b) Table of Jobs complete
c) Table of Job resources

Other arrangements of tables and pointers could also be used. In none of the cases, do we need separate tables for resources requested and resources used. Instead a single table will be created that contains both. Before a job is processed the count on resources requested will be zero. During the processing of the job, the counts will increment as used, after completion the counts will be accounting information for the completed job. Resources consumed but not requested will be added to the table as the resources are consumed.

On the overall table structure, Scott Issacson will write up a proposal for the mailing list.

14) Object #19 is deleted as it is a resource.

15) A new object for the conditionally mandatory spooling group will be added which is an enum of job scheduling policy.

CONDITIONALLY MANDATORY SPOOLING GROUP

In addition to objects discussed above, the following objects are moved to the Spooling Group:

1) Job upstream id (I2)
2) Job downstream id (I4)
3) Date/Time of job submission (I11)
4) Job priority (J4)
5) Process after time (J7)

Discussion on other comments

1) Request to add an object jobCopiesCompleted that would be in the accounting group.

The group felt that there was limited value in providing this information after the fact because the consumables used objects will report the information necessary for charge-back, etc. However, this information would be useful in the case of a job in progress and in determining when that job will be complete.

Result -- add the object for now and identify it as something to be removed if the MIB becomes too big.

2) Retain the JobName object to help the client find their job easier.

3) Clarification: jobCurrentId is the name of the job on the device that is running the agent.

4) jobOwner - the group decided not to tackle the issue of guaranteeing network-wide unique jobOwner names.

5) Add an object (jobChannelInformation) to be able to somewhat identify the source of the print job.

6) Keep jobDocument because it is the name of a document within a job (DPA terminology).

7) Tom Hasting will incorporate Ron Bergman's simple definitions where appropriate into the next revision of the document.

The meeting was adjourned at 3:15 PM.