DMTF Printer Management Working Group
Seattle, Washington
March 31, 1994 - April 1, 1994

The meeting began at 9:50AM, Pacific time.

Attendees:

Joel Gyllenskog - Hewlett-Packard
Steve Waldbusser - CMU
Jeff Johnson - Cisco
Jeff Case - SNMP Inc.
Marshall Rose
Bill Norton - merit.edu
Mike Scanlon - FTP Software
Christine Gressley - University of Illinois
Steve Zilles - Adobe
Stan McConnell - XEROX
Tom Hastings - DEC
Bill Wagner - DPI
Andy Davidson - Tektronix
Ted Brunner - Tektronix
Randy Turner - QMS
Micheal Bringman - QMS
Bob Herriot - SUN
Barry Kelman - Microsoft
Tim Hathaway - Pacific Data Products
Alan Perelman - Emulex
Richard Everman - uci.edu
Andrew Knutsen - SCO
Joseph Flick - HP
Koji Tashiro - NEC
Kevin McBride - Underscore
Noga Prat - Intel
Rong Chang - IBM
Harry Lewis - Pennant
Ron Smith - TI
Mike Timperman - Lexmark
Don Wright - Lexmark

Marshall Rose stressed the group needs to continue to drive to get an Internet draft ASAP.

Joel opened the meeting with introductions of the core group of people who have been working on the MIB/MIF. Afterwards, the other attendees introduced themselves.

Joel reviewed the agenda:

Summary of Status - Joel G.
Printer Model - Ron Smith
Community Name - Joel G.

Status - Joel outlined what the group was charter to do and to not do (fonts, jobs). He described the group's relation to the DMTF and why the group has been chartered by both the IETF and the DMTF to identify the same set of print management objects.

Printer Model - Ron Smith reviewed the printer model the group has been using the conceptualize the printer.

Issues raised during model overview presentation -
--- Is MEDIA optional?
--- Are there multiple CONSOLES?
--- GENERAL PRINTER has only one instances
--- Does CHARACTER SET and LOCALIZATION belong in GENERAL PRINTER or somewhere else?
--- How do we deal with multiple logical printers (multiple GENERAL PRINTERS or some other means?
--- Efficient handling of static information
--- Number of read-write objects - what objects must be R/W, which are optionally read-write?
--- How do we associate media with inputs, outputs with finishers, etc.

Several questions were asked about the relationship among 1284, NPA (1284.1) DMTF, etc. Ron Smith explained how the pieces fit together.

Jeff Case says: The MIB will be in SNMP V2 format but don't use the V2 data types.

Community Name - Joel G.: The problem is the configuration where an external print server which has one IP address and connected to multiple printers. This problem also exists if you want to manage the external printer server using the Host MIB as well as managing the printers. Steve Waldbusser stated that using the Community name to do this was a workable solution. Jeff Case expounded to the way to use community names to differentiate the various printers and host.

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Method #1 - Community string method

community	device	access
blue	*Printer 1*	*R/W*
four	*Printer 2*	*R/W*
fall	*Host*	*R/W*
sunshine	*Host*	*R/W*
not	*Printer*	*R/O*

Method #2 - Demultiplexing in the MIB objects

Add additional column in the tables to identify the various printers.

- -

Discussion on the relative pros and cons of each method. One problem is that the HOST MIB is not designed to have an additional column added to it to support selection of multiple hosts.

The group was generally in favor of the community name approach but the "margin of victory" was small. Further discussion will occur on the e-mail reflector.

The group adjourned for lunch at 12:05PM.
The meeting reconvened at 1:30PM.

Harry Lewis began the afternoon session with a presentation on INPUT.

Issues raised:
--- Should objects such as xxxxxunits be settable by the host? -- NO
--- Should we further consolidate all the UNITS into a single list of enumerations? -- The units should be aligned so that, for example, sheets are always #10 but leave holes where not appropriate. Consolidate units as much as possible (1 english, 1 metric)
--- Discussion on being able to write certain values -- for example should the management application be able to set the paper size? -- yes

Change "CurrentCapacity" to "CurrentLevel"
Change MediaSize to Enum(2)
Remove MediaDimUnits, MediaDimAcrossFeedDir, and MediaDimFeedDir
Rename CurDimAcrossFeedDir to MediaDimAcrossFeedDir
Rename CurDimFeedDir to MediaDimFeedDir
Delete MediaSize enumeration object but put the table in the RFC as a reference of commonly used names.

--- Should units be writable? or always be millimeter?
--- Should writing of values be atomic i.e. both dimensions should be in the same SNMP protocol packet?
--- Should we move DimExtended (printable areas) to mandatory and what units are they based on?
--- Should MediaType be a string or an enum?

The meeting was adjourned at 3:50PM.
The meeting reconvened at 9:05AM.

The meeting started off with the identified SNMP issues.

- Is it OK to use -1 and -2 for "other" and "unknown?"
  There is a concern if we provide too many objects with other and unknown values then a device could be made which complied with the standard but actually return other/unknown for everything. Should we consider dropping some of the objects that have other/unknown as valid values?
- How do we identify in the MIB that it incorporates other MIBS?
  One way to do it is to put a comment in the MIB instructing the implementor to incorporate that other MIB.
- How well does the Host MIB work for system controller?
  Only report what you have.
- Integer vs Integer32?
  Integer is used for enumerations, Integer32 for values.
- Security with regard to "write" collisions.?
  Test and Set Data type (RFC1443)
- OK Alert?
  An alert is generated whenever a critical alert is inserted into the alert table. No trap/alert will be generated when the critical alert is removed. It is assumed that the mgmt application will poll looking for the removal of the critical alert.

<u>Media Path Group</u>

Add "simplex" and "either edge binding duplex" to the mediapathtype.

We will support the objects in the host MIB that define printer status and we will delete the "Status" object from prtGeneral.

Recessed at 12:30PM.
Reconvened at 1:30PM.

<u>Marker Group</u> - Don Wright

Issue: Do margins (or imagable area) need to be PDL specific?
Change Weight and Volume unit enums to decimal parts.

Interpreters Group - Joel G.

CharSetIn and CharSetOut added to Interpreters
Move DefaultOrientation to General Printer group

Console Group - Andy Davidson

Display lines and characters implementation may vary among printers as to whether a logical value or a physical value is returned.
OnColor and OffColor of the lights will be only Color.
"Console" will be updated to be able to handle multiple consoles.

General Printers - Joel G

Reset and Reset Special will be merged.

Language/Character Set - Tom Hastings

Tom will identify which strings are affected by which localization variables.

Alerts

Inform class changed to Training Level
Need Alert Codes for System Controller, Interface and Channel.

The meeting adjourned at 5:30PM.

ISSUES

The following issues were raised during the course of the meeting and are being listed here in a numbered format for the purpose of being tracked. Some of these were resolved during the meeting. I have attempted to indicate a resolution if one occurred but I may have missed one or two.

1) Is the media group optional?
   -
2) Will the MIB/MIF support multiple consoles?
   - No
3) Is General Printer a table?
   -
4) How does "character set" tie into "channel"?
   -
5) Static versus dynamic - how efficient will this be?
   -
6) The MIB/MIF consist of 58 objects - is that too many?
   -
7) Should we endorse some type of interlock method for all the writable objects?
   -
8) Should we use separate community names or additional index to support multiple printers being managed through a printer server?
   - Use community names
9) Should paper size be writable?
   - Yes, to tell a printer that can't detect paper size
10) Should units be writable?
   -
11) Should size units be only in millimeters?
   - No, but we will reduce the number of units wherever possible.
12) How should out of range sets be handled - reject or snap to the nearest?
   -
13) Are "dimensions extended" mandatory?
   -
14) In what units is printable area reported?
   - .0001 inches or .001 mm
15) Should media type be a string or an enum?
   -
16) How do we associate media with inputs, outputs with finishers, etc?
   -
17) Do margins (or imagable area) need to be PDL specific?
   -

18) Does "other" have a meaning for objects which normally have an integer value?
  -
19) Is "unknown" the same as "uninitialized" and if not how do you tell the difference?
  -
20) Should default interpreter be by interpreter or overall?
  - overall
21) How do we handle the "parallel in, serial out" channel?
  -
22) Is console width string width or screen width?
  -
23) Is "number of lines" and "number of characters" of the console mean physically or logical?
  - logical
24) Which strings localized and controlled by "current localization?"
  -
25) Do we need an "ID" object for each table "index?"
  -
26) Are all consoles using the same language?
  - We only support one console.
27) Should we enable or disable a channel as a whole or provide a way to selectively enable and disable "data" and "control" flows on a channel?
  -
28) Is the consistent use of 1,2 (for enums) and -1, -2 (for integers) to represent "other" and "unknown" consistent with SNMP "tradition?"
  -
29) How should channel relate to underlying layers and to other existing MIBS?
  -
30) How well does the Host MIB work for the system controller?
  -
31) How much of the Host MIB is mandatory for the system controller?
  -
32) What is the difference between INTEGER and INTEGER32?
  - INTEGER is used for ENUMs and INTEGER32 for values.
33) Do we need and "everything back to OK status" alert?
  - No, applications should scan the alert table.