JMP Teleconference Minutes of 2/25/97

Participants:
  Ron Bergman
  Keith Carter
  Tom Hastings
  Harry Lewis
  Bob Pentecost
  Lloyd Young

I. Platform based spooler behavior

Lloyd shared his knowledge on this subject as follows:

All 3 platforms supported by Lexmark (OS/2, NT and Netware) have defined interfaces for the client to obtain job info from the server.

∗   OS/2 has the ability to reflect job status through the spool API's up to the point where the job has been stacked in the printer output.

∗   NT and Netware do not. These platforms delete the job from the spooler as soon as the last byte is transferred to the printer.

∗   There is a question as to whether Novell has an option to hold the job until it has completed printing. Does anyone know the answer?

This appears to leave OS/2 as the only print subsystem that can host a fully integrated job monitoring application, sending true-end-of-job back through the spool to the end user. It would seem that Netware and NT will require the client to use the server API's for spooler job info and go directly to the printer for printer job status (ala the HP Netware solution). What about NT5.0 and HTML templates?

II. Review of Keith Carters (OS/2) comments on the job MIB from Feb 4).

Page 7 - Job Object Lifecycle Summary: Please add a State for "Printing" to indicate that the job is currently printing on the printer.

It was concluded that Printing and Processing states normally overlap and in many printers the different states cannot be distinguished. This is part of the reason the IPP group has decided to lump both into a *Processing* state. If the printer can and desires to distinguish, the jmJobStateReasons object should be used. Tom will add an entry in jmJobStateReasonsTC to cover this conditions.

Page 22 - MIB Datatype specifications: This is a nit, but it would be helpful to give an example of the format for DateAndTime. For example, how does one specify 12:01:00AM on Thursday, January 30, 1997?

An example will be added to the MIB. DataAndTime is defined in RFC 1443.

* Page 31 - jmJobStateReasonsTC: Please confirm that state
"completion" plus reason "successfulCompletion" means that
all pages of the print job have been successfully printed
and stacked in the output bin. If so, we're set. If not,
then please add "jobStacked" to indicate the reason for the
"completion" state is that all pages in the job have been
stacked in the output bin of the printer.

   This issue will be clarified.

* Page 42/43 - impressionsCompleted and sheetsCompleted:
How does number of copies affect these values?

   The resource enums will be expanded to include TotalImpressions, TotalSheets,
   TotalPages as well as CurrentCopyImpressions, CurrentCopySheets, and
   CurrentCopyPages.

* Page 43 - jmResourceTypeTC: In OS/2 Warp,
"pagesSpooled", "pagesSentToDevice" and "pagesCompleted"
mean "impressions" - not "logical pages". Therefore, please
change the name of these resources to "impressionsSpooled"
and "impressionsSentToDevice". Please change the
description from "logical pages" to "impressions". Please
indicate that "impressionsSpooled" is for 1 copy of a job
and "impressionsSentToDevice" is reset to 1 for each copy.
"pagesCompleted" can be removed since it equals
"impressionsCompleted". In OS/2 Warp,
"impressionsCompleted" is reset to 1 for each copy of a job.

   The above changes will be incorporated.

* Page 43 - jmResourceTypeTC: Does "processingTime" count
operator intervention time? (e.g. the time a job was held
up due to a paper jam on the printer)

   Processing Time should not include any intervention time. A statement will be added to
   the MIB that "strongly recommends" not including intervention time as processing.

* Page 49 - Should MIB provide jmGeneralNumberOfJobsQueued
and jmGeneralNumberOfJobsComplete so a network management
application can summarize the current status of the printer?

   Tom will add an object that indicates the number of jobs to complete which includes both
   jobs queued and jobs currently being processed.

* Page 58 - jmJobName, jmJobIdName, jmJobIdNumber,
jmJobComment: Clarify the use of these objects. Here is an
example. A user submits a print job. The file name of the
job is "C:\MYJOB.PS". The user specifies a comment of
"Status Report 1/31/97". The print job is queued on server

*"SERVER1" in print queue "PSQUEUE". The numeric job id is
1234. What value is the value of each object? Do we need a
specific object for source server and source queue to
accommodate management applications such as the management
application provided by HP that correlates jobs in a printer
with jobs in a print queue on a print server?*

> After much discussion, it was agreed that this area requires more work. As a starting
> point, the job identification objects need to be mapped to the job submission protocols
> originally investigated at the beginning of the project. Tom will create a new template,
> with the current job id objects, and will request those persons that submitted the original
> mappings to provide inputs for this template.

** Page 59 - jmJobIdNumber: OS/2 uses -1 to indicate there
is not a job id. I recall seeing -2 in one of the Job MIB
specs. Why not use -1 instead of -2?*

> The -1 and -2 values are conventions used the Printer MIB. -1 indicates other (or no
> restriction) and -2 indicates unknown. The same conventions should be used in the Job
> MIB. Tom will check that this convention is followed.

** Page 60 - jmJobDeviceIndex: What value should a print
server return if it doesn't support the printer mib?*

> This item is now a resource. Only resources that are known need to be returned.

III. Review of Ron Bergmans comments of 2/15 and the Abstract updates.

Proposed change to jmResourceName:

> This item was discussed in conjunction with Tom Hastings "Problems and Solutions to
> the jmResourceTable" dated 2/24/97. The two requests were found to be compatible, with
> Tom's change being the superset. It was agreed that Tom will update the MIB using a
> combination of both, except that the proposed object jmResourceUnits was rejected.

New Text for "MIB Abstract" Section:

> This change was accepted. Tom will update the MIB. (Some editorial changes may be
> necessary.)

Major Revision to "MIB Introduction":

> This change was accepted. Tom will update the MIB. (Some editorial changes may be
> necessary.)

IV. Review of Tom Hastings Issues v 0.6 (1/23/97).

*Issue 26 - Which indexes shall be persistent across power off and which need not be?
No decision yet. ACTION ITEM (Tom Hastings): send this issue and the proposal for making
the jmJobIndex and jmJobSetIndex persistent across power off.*

It was agreed that jmJobIndex but not jmJobSetIndex should be persistent.

Issue 44 - There was agreement that the Job Monitoring MIB needs a primary index that can separate jobs into disjoint sets for purposes of scheduling. This primary index serves the same purpose for the Job Monitoring MIB as the hrDeviceIndex does for the Printer MIB, except that the Job Monitoring MIB did not want to require the Host Resources MIB. What is the definition of Job Set? How do job sets relate to queues? Can a Printer have more than one job set without having queuing? For a printer that is fed from multiple external queues, are all the jobs from all those queues in a single job set in the Printer?

jmJobSetIndex has been defined for this purpose. It was generally agreed that the name is not the best but a better name was not presented. It was also agreed that a better explanation of the reason for this object is necessary.

Issue 47 - Should jmJobSubmissionTime be moved from JobTable to QueueTable or ResourceTable?

Agreed to be moved to the resource table.

Updates to the job MIB, including the above changes, are expected to be incorporated next week.

Thanks to Harry Lewis for his notes and help in completing these minutes.

Ron Bergman