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Internet Printing Protocol Nears Completion

Analysis by Stephen Beals, contributing editor

As the Internet Printing Protocol (IPP), developed by the Internet Engineering Task Force (IETF) and supported by an alliance of Desktop vendors and printer manufacturers, enters its final editing stages, companies are already in the process implementing the standards.

"Our attempt is to have our main documents in shape to go out for last call at the end of the month, so we are approaching the finishing line," explains Carl-Uno Manros, Principal Engineer for Advanced Printing Standards at Xerox Corporation and active participant in the IPP development. "By sometime next year, new machines will have IPP protocol built in."

Spearheaded by IETF The Printer Working Group (PWG) , the project found quick and nearly universal support among the many software and hardware vendors who will be effected by the new standard, including Microsoft, Adobe, Lexmark, Novell, IBM, Sun, Xerox .

"We were more successful than I expected," Manros said of the community of support the project has received. Manros and Adobe's Steve Zilles act as co-chairs of the IPP portion of the PWG's efforts. The task was initiated by Novell/Xerox and IBM last October and was green-lighted by the IETF at its December meeting. As industry standards development goes, the release of proposed standards and formal requests for comments by the end of this year seems like a quick turnaround, especially where dozens of interested parties are involved.

My Computer, Your Printer — 20,000 Miles Away

In essence, IPP is an attempt to solve the problems associated with printing over networks, servers, Internets and intranets which may be used by machines employing any number of platform dependent and often conflicting protocols such as IPX/SPX, Appletalk, and TCP/IP. The driving concept behind IPP was to rid the printing process of the heavy workload being forced on servers by too many protocols, redirectors and custom applications, while using the growing body of inter/intranet resources such as browsers and directory services for printing support.

When authoring the standard, the group formed a list of requirements for the new protocol. Basically, it had work with standard Internet tools and allow printing to printers attached to servers or through networks as well as stand-alone printers with internal servers, with or without spooling. The standard also had to use of HTTP.

IPP allows for management of the printing of jobs including printing or canceling the job and configuring the printer. As implemented, IPP allows end-users to locate a printing device using a web browser, check the status of that printer and submit print jobs. These jobs could come from standard applications like word processors or spread sheets, pre-formatted documents created locally or retrieved from other systems or by reference to existing documents to be retrieved by the printing system and printed. IPP then allows the user to view the print status on the browser and receive alerts for printer or job errors and notification that the job has been completed. The user will also be able to cancel the print job.

The new protocol is designed primarily for small work-group printers, but high-level high speed-printers will benefit from the ability to add extension mechanisms for special functionality. Manros predicts that IPP printers will be a sound alternative to fax machines and may well replace them in office environments. With the increasing speed and quality of color printers, it is easy to see the merits of his prediction.

Impact on Commercial Printing

The ability to direct the printer to pull a document from a third source (as long as it's publicly available) not only frees up the end-users computer from having to have the document available for printing, but also frees up their machine by putting all of the processing and retrieving time at the other end. Which brings up an important part of IPP, which is the ability of the systems administrator at the printer end, to track and bill the end-user for what gets printed.

While commercial printers have been toying with ISDN and other file transfer mechanisms for some time, the new protocol is not an attempt to allow high-end commercial printing by loading your web browser, dialing up someone's Heidelberg Digital press in Spokane, pressing "print" and having 5,000 flyers appear at the end of the press. The protocol is just a method of taking the data, intact, from one place to the other without interfering with the data itself. It is not a file format like PDF or eps. If you want to print an eps file to a printer that doesn't support postscript, you'll still get the same jaggies you always got.

But people like Kinko's are taking IPP very seriously. The idea of having businesses and college students que up printing jobs over the Internet, and bill them to their credit card, can be exhilarating. It is quite simple to imagine a company in Montana producing a full color business presentation, sending the document direct to a collating digital copier where it is printed, stitched, boxed and shipped to 14 different companies in 14 states the next morning. But that's assuming the end-user couldn't just send the document to IPP capable printers at each of those 14 companies.

The promise of IPP is a method of printing over any platform via a browser to printers all over the country that make themselves available to be accessed. It's an exciting new implementation of technology, and it's already on it's way.

Reference URLs

Printing Work Group http://www.pwg.org/ipp/

Presentation documents- slides from an IPP presentation
ftp://ftp.pwg.org/pub/pwg/ipp/press_presentations/briefing.pdf
ftp://ftp.pwg.org/pub/pwg/ipp/press_presentations/ipp-req2.pdf
ftp://ftp.pwg.org/pub/pwg/ipp/press_presentations/model2.pdf

Intermediate drafts that have not yet made it to official Internet-Drafts
ftp://ftp.pwg.org/pub/pwg/ipp/new_MOD/ipp-model-970903.pdf
ftp://ftp.pwg.org/pub/pwg/ipp/new_PRO/ipp-pro-970904.pdf

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Stephen Beals of Chapel Street Publishing is a freelance writer based in New York and possesses extensive experience in commercial printing.

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