HP Pushes Ink Jet Printing to 70 Pages per Minute

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HP has announced two ultra-fast office MFPs with Edgeline technology. We tell you how it fits in with other cutting-edge printing technologies.

Hewlett Packard unveiled an assortment of hardware and software products today, but the two that will surely get the most attention are the HP CM8060 and CM8050 Color multifunction printers (MFPs) with Edgeline Technology.

The claimed speed for the CM8060 is a maximum 70 to 71 pages per minute (ppm) and an average of 60 ppm for black-and-white pages and 50 ppm for color, with the CM8050 just 10 ppm slower on each score. That by itself will be enough to turn heads, but the real story is the Edgeline technology that both printers are built around.

These are the first two office multifunction printers based on the Edgeline technology that HP announced in October, 2006. The most striking fact about Edgeline is that it's an inkjet technology, which isn't what most people would expect for an MFP that's targeted for larger offices. The printers get their speed from a combination of a print head that doesn't have to spend time moving because it spans the width of the page; a drum to carry the paper and spin under the print head, allowing multiple passes at high speed when necessary; and fast-drying ink.

Edgeline technology obviously has the speed to challenge laser-based MFPs for heavy-duty printing in a large office. There's no reason to think that output quality will be a problem, since today's best ink jets

come close to laser quality for text and graphics. The ink on a printed page can smudge if it gets wet, but it's at least partly protected by a bonding agent that the printer lays over the ink. HP likes to demonstrate that if you spill liquid on the page, you can blot it up without doing serious damage to the image. The bonding agent also lets you use highlighters without smearing the ink.

Both the CM8060 and CM8050 come equipped for reasonably heavy-duty paper handling that you'd need for a large office. The base unit for both models includes a 100-sheet duplexing automatic document feeder (ADF) for scanning both sides of a page, a built-in print duplexer for printing on both sides of the page, the ability to handle paper up to 12 by 18 inches, an 80-page multipurpose feeder, and three 500-sheet input trays. Options include a 4,000-sheet input tray, a four-bin job separator for output, and a multi-function finisher that can staple and stack print jobs.

HP expects the printers to be available this month. It also expects that most customers will purchase a service contract with a monthly payment that will cover the hardware, service, and supplies. For anyone who wants to buy the printers outright, prices start at $18,930 for the CM8050 and $23,530 for the CM8060.

It's impossible to look at the Edgeline printers spitting out pages at high speed without thinking about the late March announcement of Silverbrook Research's Memjet technology , with its projection of 60-ppm Memjet desktop printers being available in 2008, priced at $200-$300. Memjet technology shares a basic approach with Edgeline, using inkjet technology with a page-wide print head to speed printing. One big difference is that it's designed to print in one pass, which lets it use a much simpler (read: cheaper) mechanism for feeding pages under the print head.

If the projections for Memjet printers hold true, the technology will have a tremendous impact on printers, on users' expectations, and on the printing industry. But it shouldn't have too much impact on HP Edgeline printers, at least in the short to medium term.

A big part of the CM8050's and CM8060's costs lies in paper handling that's designed with the kind of heavy-duty, expensive mechanism meant to ensure the reliability that a large office needs. The Memjet prototypes simply aren't designed for heavy-duty paper handling, and they aren't MFPs. They are single-function printers meant for much smaller offices, with paper handling suitable for much lighter use. It remains to be seen if they'll fulfill their promise at that level, much less whether they can scale up to more heavy-duty printers.

A more interesting challenge to Edgeline technology may come from solid ink printers, although it's not clear how far in the future that challenge may be. Solid ink printers are technically ink jets by some definitions. The ink starts out solid, but the printer melts it and spits it out of nozzles. Unlike other ink jets, Xerox's solid ink printers spray the ink on a drum which then rolls against the page to transfer the ink to the paper, much like the drum in an offset printing press. Xerox's solid ink printers also use a page-wide print head to improve speed, much like Edgeline and Memjet technologies.

About ten years ago, I saw a laboratory demonstration at what was then Tektronix and is now the Xerox Office Group site in Wilsonville, Oregon. Based on that demonstration, the company was claiming the potential for what seemed like absurdly high speeds. (My memory says 200 ppm, but after 10 years, I won't swear to that number.)

Fast forward to the Xerox Partner Summit in February, 2007. At that meeting, Xerox showed a video on solid ink printing that included a roughly one- to two-second clip with a prototype printer spitting out

pages at high speed. The clip's too short to time the printer reliably, but the speed seems to be better than a page a second. (To see the video go here and choose Solid thINKing for the Future.)

As for when a fast solid ink printer may materialize as a product, Xerox isn't ready to say any more than what's in the video - that the printer is a prototype "running more and more like a production unit every day." And the company doesn't know when the printer may actually be available. I'm looking forward to seeing it whenever it comes out, and I can't wait to compare it with one of HP's Edgeline printers.