



NDPS-Enabled Products

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Like most network administrators, you were undoubtedly impressed by Novell Distributed Print Services (NDPS) when Novell unveiled this advanced printing technology in 1997. (To find out how NDPS works, see "What Is NDPS?") If you want to implement NDPS on your company's network, you will have many NDPS-enabled products to choose from. Industry-leading companies from Hewlett-Packard Co. to Xerox Corp. have embraced NDPS, releasing NDPS-enabled products that are fully integrated with Novell Directory Services (NDS).

To demonstrate the wide range of today's NDPS-enabled products, Novell displayed a handful of NDPS-enabled printers and print servers at BrainShare '99 in Salt Lake City, Utah. This article briefly describes these NDPS-enabled printers and print servers, explaining how each product simplifies the process of managing and using network print services.

NDPS-ENABLED PRINT SERVERS

Several companies make NDPS-enabled print servers. These print servers bring the power of NDPS to any printer, whether or not the printer is NDPS enabled. These print servers provide a convenient, cost-effective way to gradually introduce NDPS into your company's network, without having to replace existing printers with NDPS-enabled printers.

Novell featured the following NDPS-enabled print servers at BrainShare '99:

- **AXIS 5400 Print Server.** AXIS 5400 Print Server from AXIS Communications Inc. is an NDPS-enabled external print server. AXIS 5400 Print Server offers bidirectional communication with Printer Control Language (PCL) and Printer Job Language (PCL) printers. In addition, AXIS 5400 Print Server includes AXIS Communications' ThinWizard software, which you can use to remotely manage AXIS 5400 Print Server through a standard web browser.
You can purchase AXIS 5400 Print Server through retail channels at the suggested retail price of U.S. \$399. For more information about AXIS 5400

Print Server, visit AXIS Communications' web site (<http://www.axis.com>). You can also call 1-800-444-AXIS or 1-978-614-2000.

- **PocketPro Print Server.** PocketPro Print Server from Extended Systems Inc. is an NDPS-enabled external print server. PocketPro Print Server offers bidirectional communication with PCL and PCL printers. In addition, PocketPro Print Server includes Extended Systems' Web View software, which you can use to remotely manage PocketPro Print Server through a standard web browser.
You can purchase PocketPro Print Server through retail channels at the suggested retail price of U.S. \$279. For more information about PocketPro Print Server, visit Extended Systems' web site (<http://www.extendedsystems.com>). You can also call 1-800-235-7576 or 1-208-322-7800.
- **NetportExpress 10/100 Print Server.** NetportExpress 10/100 Print Server from Intel Corp. is an NDPS-enabled external print server. NetportExpress 10/100 is available in a single-port configuration for one printer and in a three-port configuration for multiple

printers. Both configurations provide autonegotiation capabilities, enabling you to use NetportExpress 10/100 Print Server in a mixed Ethernet environment. In addition, both configurations include an embedded web server, which you can use to remotely manage NetportExpress 10/100 Print Server through a standard web browser.

You can purchase NetportExpress 10/100 Print Server through retail channels beginning at the suggested retail price of U.S. \$275. For more information about NetportExpress 10/100 Print Server, visit Intel's web site (<http://www.intel.com>). You can also call 1-800-538-3373 or 1-541-850-5333.

NDPS-ENABLED PRINTERS

When the time comes to replace a printer on your company's network, you



Extended Systems' PocketPro Print Server

should consider purchasing an NDPS-enabled printer. NDPS-enabled printers allow you to take advantage of all NDPS capabilities, such as autodiscovery, plug-and-print, and bidirectional communication capabilities. (For more information about the features NDPS offers, see "What Is NDPS?")

Color Printers

Novell featured the following NDPS-enabled color printers at BrainShare '99:

- **ColorPage 8000.** ColorPage 8000 from EPSON is an NDPS-enabled color laser printer. ColorPage 8000 provides a resolution of up to 600 x 600 dots per inch, printing up to 16



What Is NDPS?

Novell Distributed Print Services (NDPS) is a set of NetWare Loadable Modules (NLMs), management utilities, and enhanced client software. When used in conjunction with NDPS-enabled products, these components allow you to manage network print services more efficiently. These components also allow users to use network print services more easily.

NDPS makes your job easier by enabling you to perform all print configuration and management tasks through the NDPS Printer object, rather than having to use three separate Novell Directory Services (NDS) objects for each printer. In addition, NDPS helps users by enabling them to print without having to capture printer ports or manually load printer drivers. Users can also check the status and the characteristics of each printer to find the printer that meets their needs. For example, a user can quickly locate a printer that is not busy or a printer that can print double-sided pages. Users can even create customized print configurations. For example, a user can request notification when a paper tray is empty or when a print job is completed.

Printer Agents are NLMs that form the core of the NDPS architecture. You install a Printer Agent on any server that is running NetWare 4.11 or above, and you associate the Printer Agent with a particular printer. (In the future, companies will embed a Printer Agent in their printer hardware. You will not have to create Printer Agents if you use this printer hardware.)

The Printer Agent stores information about the printer,

including the printer's name, network address, features, and status. The Printer Agent also stores information about the printer's configuration, including the method the printer should use to schedule print jobs, where these jobs should be spooled, and who to notify about particular printer events (such as low toner and paper jams).

You must install an NDPS gateway to ensure that Printer Agents can communicate with the printers they represent. NDPS ships with three gateways: the Novell Gateway, the Hewlett-Packard Printer Gateway, and the Xerox Printer Gateway. Many companies that make NDPS-enabled products provide their own NDPS gateway. (When companies begin to embed a Printer Agent in their printer hardware, you will not have to install an NDPS gateway. Printer Agents will then communicate directly with printer hardware.)

You must also install the NDPS snap-in module for Novell's NetWare Administrator (NWADMIN) utility. This snap-in module, which comes with NDPS, extends the NDS schema, adding an NDPS Printer object and other new print service objects. You can use the snap-in module to create an NDPS Printer object for each printer in your company's network.

For more information about NDPS, see "NDPS: Good-bye, Queue World," NetWare Connection, Oct. 1997, pp. 6-22. (You can download this article from <http://www.nwconnection.com/past/>). You can also visit Novell's web site (<http://www.novell.com/catalog/qr/sne24105.html>). In addition, you can call 1-800-NETWARE or 1-801-228-4272. ●

pages per minute in black and white and up to 4 pages per minute in color. In addition, ColorPage 8000 includes two paper trays—a 250-sheet paper tray and a 150-sheet paper tray. (You can purchase an optional 750-sheet paper tray that increases paper capacity to 1,150 sheets.) ColorPage 8000 also includes EPSON's NDPS gateway, which supports both TCP/IP and IPX.

You can purchase ColorPage 8000 through retail channels beginning at the suggested retail price of U.S. \$10,000. For more information about ColorPage 8000, visit EPSON's web site (<http://www.epson.com>). You can also call 1-800-GO-EPSON or 1-310-782-0770.

- Color LaserJet 4500. Color LaserJet 4500 from Hewlett-Packard Co. is an NDPS-enabled color laser printer. Color LaserJet 4500 provides a resolution of up to 600 x 600 dots per inch, printing up to 16 pages per minute in black and white and up to 4 pages per minute in color. To ensure consistent color, Color LaserJet 4500 includes an automatic color calibration feature. Color LaserJet 4500 also includes the HP Printer Gateway, which supports TCP/IP and IPX.

You can purchase Color LaserJet 4500 through retail channels beginning at the suggested retail price of U.S. \$2,499. For more information about Color LaserJet 4500, visit HP's web site (<http://www.hp.com>). You can also call 1-800-752-0900.

- Phaser 840. Phaser 840 from Tektronix Inc. is an NDPS-enabled color laser printer. Phaser 840 provides a

resolution of up to 1200 x 1200 dots per inch, printing up to 10 pages per minute in color. Unlike other color laser printers, Phaser 840 includes ColorStix, which are environmentally friendly solid ink sticks that you can refill at any time—without interrupting print jobs. Phaser 840 also includes Tektronix's NDPS gateway, which supports both TCP/IP and IPX.

You can purchase Phaser 840 through retail channels beginning at the suggested retail price of U.S. \$2,810. For more information about Phaser 840, visit Tektronix's web site (<http://www.tek.com>). You can also call 1-800-835-6100 or 1-503-682-7377.

Black-and-White Printers

Novell featured the following NDPS-enabled black-and-white printers at BrainShare '99:

- Kyocera FS-3700+. Kyocera FS-3700+ from Kyocera Inc. is an NDPS-enabled black-and-white laser printer. Kyocera FS-3700+ provides a resolution of up to 2,400 x 600 dots per inch, printing up to 18 pages per minute. Kyocera FS-3700+ includes a customized



Hewlett-Packard's Color LaserJet 4500

paper-handling system that allows you to choose the paper trays you need. Options include up to two 500-sheet paper trays, a 1,500-sheet bulk stacker, and a power envelope feeder. Kyocera FS-3700+ also includes Kyocera's NDPS gateway, which supports both TCP/IP and IPX.



Kyocera FS-3700+ printer

Kyocera is also committed to providing ecologically-friendly products. Each component in the Kyocera FS-3700+ printer is manufactured in an ecologically responsible manner. In fact, each part in a Kyocera printer is individually labeled for recycling. In addition, the Kyocera FS-3700+ printer is designed to resist the additional wear caused by printing on recycled paper, which has a rougher surface than traditional paper has.

You can purchase Kyocera FS-3700+ through retail channels beginning at the suggested retail price of U.S. \$1,399. For more information about Kyocera FS-3700+, visit Kyocera's web site (<http://www.kyocera.com>), or call 1-800-232-6797 or 1-770-623-2150.

- **Optra S 2455.** Optra S 2455 from Lexmark Corp. is an NDPS-enabled black-and-white laser printer. Optra S 2455 provides a resolution of up to 1200 x 1200 dots per inch, printing up to 24 pages per minute. Optra S 2455 includes a 250-sheet paper tray, a 500-sheet paper tray, a 2,000-sheet paper tray, and an 85-envelope feeder. Optra S 2455 also includes Lexmark's NDPS gateway, which supports TCP/IP.

You can purchase Optra S 2455 through retail channels beginning at the suggested retail price of U.S. \$1,829. For more information about Optra S 2455, visit Lexmark's web site (<http://www.lexmark.com>). You can also call 1-888-LEXMARK or 1-606-232-3000.

- **Infoprint 20.** Infoprint 20 from IBM Corp. is an NDPS-enabled black-and-white laser printer. Infoprint 20 provides a resolution of up to 600 x 600 dots per inch, printing up to 20 pages per minute. Infoprint 20 includes two paper trays that offer a total paper capacity of 650 sheets. (You can purchase an optional 2,000-sheet paper tray that increases paper capacity to 3,150 sheets. You can also purchase an optional duplex unit for double-sided printing.) Infoprint 20 supports the Novell Printer Gateway running over TCP/IP or IPX.

You can purchase Infoprint 20 through retail channels beginning at the suggested retail price of U.S. \$2,284. For more information about Infoprint 20, visit IBM's web site (<http://www.ibm.com>). You can also call 1-800-IBM-4YOU or 1-770-863-1234.

- **OkiPage 12i.** OkiPage 12i from Okidata is an NDPS-enabled black-and-white digital LED printer. OkiPage 12i provides a resolution of up to 1,200 x 600 dots per inch, printing up to 12 pages per minute. OkiPage 12i includes a 250-sheet paper tray. (You can purchase an optional paper tray to increase paper capacity to 850 sheets. You can also purchase an optional Ethernet internal print server.) OkiPage 12i supports the Novell Printer Gateway running over TCP/IP or IPX.

You can purchase OkiPage 12i through retail channels beginning at the suggested retail price of U.S. \$658.99. For more information about OkiPage 12i, visit Okidata's web site (<http://www.okidata.com>). You can also call 1-800-OKIDATA or 1-905-238-4250.

- **DocuPrint N17.** DocuPrint N17 from Xerox Corp. is an NDPS-enabled black-and-white laser printer. DocuPrint N17 provides a resolution of up to 1200 x 600 dots per inch, printing up to 17 pages per minute. DocuPrint N17 includes a snap-in module for Novell's NetWare Administrator (NWADMIN) utility that displays printer features. DocuPrint N17 also includes the Xerox Printer Gateway, which supports IPX. (Xerox is currently working on a version of this gateway that supports TCP/IP.)

You can purchase DocuPrint N17 through retail channels beginning at the suggested retail price of U.S. \$1,249. For more information about DocuPrint N17, visit Xerox's web site (<http://www.xerox.com>). You can also call 1-800-275-9376 or 1-203-968-3000.

- **Canon GP200.** Canon GP200 from Canon Inc. is an NDPS-enabled multifunction laser printer that provides printing, faxing, copying, and scanning capabilities. Canon GP200 provides a resolution of up to 1,200 x 600 dots per inch for printing and copying and a resolution of up to 600 x 600 dots per inch for faxing and scanning. Canon GP200 prints up to 20 pages per minute.

Canon GP200 also includes four expansion boards, each with its own CPU. These expansion boards enable simultaneous processing of multiple jobs. Canon GP200 supports the Novell Printer Gateway running over TCP/IP and IPX.

You can purchase Canon GP200 through retail channels beginning at the suggested retail price of U.S. \$4,495. For more information about Canon GP200, visit Canon's web site (<http://www.canon.com>). You can also call 1-800-OK-CANON.

CONCLUSION

NDPS can take a lot of the headaches out of managing and using network print services. So if you are spending too much time installing, configuring, and troubleshooting network printers, you should consider implementing NDPS. With all of the NDPS-enabled products that are available, you can easily find NDPS solutions that meet your company's needs.

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