

# The Print Line

The Newsletter of Levi, Ray & Shoup, Inc.

Autumn 2002

## DRS V1 R3.4, Now GA, Enables Enterprise Output Server

The latest major release of DRS software, V1 R3.4, is now generally available and implements a range of key features. The document capture, management and control facilities of DRS have been integrated with the distribution functions of VPS® software to form the LRS® Enterprise Output Server—a single, highly scalable and reliable document management and delivery software solution for the entire enterprise.

Significant enhancements in this release of DRS include document tracking; new client interface; LPR query support; and VPS to DRS file transfer.

Document Tracking enables DRS to continually monitor the status of all documents, from creation to final delivery. Each document is assigned a unique document tracking number, which can be used to query the status of an individual print request at any point during its processing.

The new client interface, LRS/Queue, enables direct submission of reports from most common platforms, including UNIX, Windows, AS/400, and OS/390. The LRS/Queue client, included with DRS/TCPIP software, provides complete control of all document attributes and processing options, enabling all platforms and applications to exploit the benefits of a common Enterprise Output Server.

LPR Query Support enables users to query the status of their output requests using the LPQ command which is supported in the base operating system of most common platforms.

VPS to DRS File Transfer enables customers to automatically transfer documents between OS/390 systems using TCP/IP. Useful as an alternative to SNA NJE, this feature maintains all SYSOUT attributes, including Job name, on the receiving system and allows the user to compress and encrypt data to protect sensitive and confidential reports.

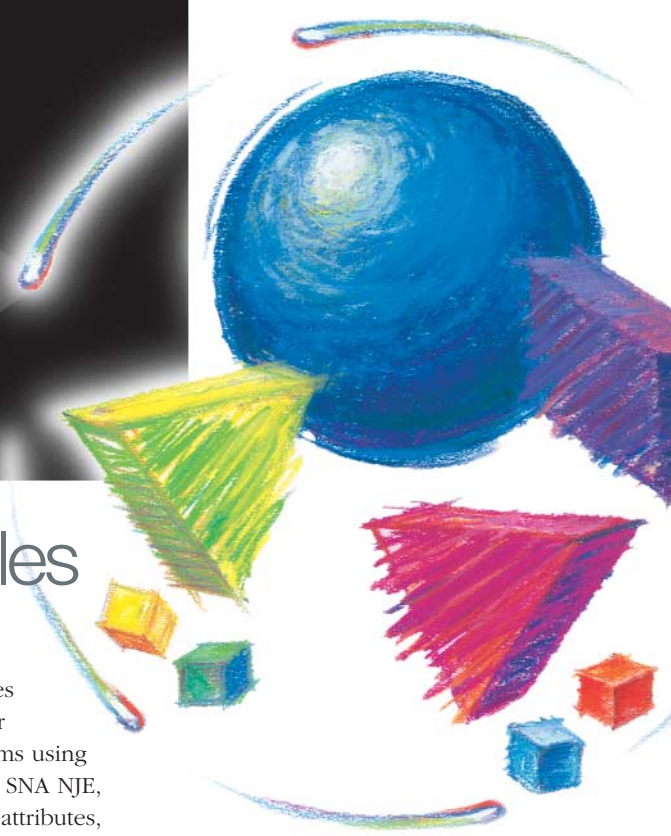
### Three new DRS extension products are also GA:

**DRS/OutputManager™** provides SAP certified integration with the full range of functions offered by the LRS Enterprise Output Server. Implementing DRS/OutputManager empowers SAP R/3 users with full control over their printing, along with feedback of print status so users know when reports have printed, without leaving their SAP application.

**DRS Monitor and Control Facility (DMCF)** provides a central point of control for all output managed by DRS, enabling users to monitor print jobs submitted to the Enterprise Output Server by applications on all platforms. For each print job submitted to DRS, regardless of the platform where it originated, DMCF enables users to see the job's current status (including Waiting, Printed, Purged, Printing Error), along with exactly when and where the job printed.

**DRS/Secure™** receives and decrypts encrypted output sent via TCP/IP from VPS/Secure™ or AnyQueue/Secure™ and writes the output to the JES spool for distribution by VPS.

To obtain DRS V1 R3.4 or to get more information, contact your marketing representative at (217) 793-3800.



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# LRS Releases Output Management Solution for UNIX Operating Systems

The solution that enables organizations to centralize output management on a single Windows server is now available for users of the most popular versions of the UNIX operating system. AnyQueue® software for UNIX systems enables organizations to utilize a single UNIX server to manage documents generated by users on multiple platforms.

End users can send their documents to AnyQueue, which can retain documents and, based on information submitted with documents, route them to network printers, email servers, LPDs, or UNIX files or print queues. Retained documents can be viewed, printed, or deleted by authorized AnyQueue users utilizing standard Web browsers. Users can see the list of their retained documents organized into folders, and they can attach brief notes to documents.

AnyQueue can define routes to printers with Assured Delivery so users know that every page of their document is in the

output tray. In the event of a printer error and restart, AnyQueue can automatically restart the print job at the correct page.

AnyQueue is compatible with HP-UX version 11 or greater; Sun Solaris version 2.8 or greater; and AIX version 4.3.3 or greater.

Organizations can use AnyQueue's retention feature to store confidential reports securely until the end user who needs them logs in and routes the reports to a network printer or other destination.

AnyQueue can receive and manage output from numerous computer platforms, including OS/390 systems, UNIX hosts, Windows servers, and AS/400 systems. AnyQueue configuration files are portable; once created, a configuration file can be used with the Windows version of AnyQueue or any of the UNIX versions.

For more information about AnyQueue for a UNIX platform or Windows, or to begin an AnyQueue trial, contact your marketing representative at (217) 793-3800.

# LRS, Lexmark Offer Output Encryption and Page-level Print Confirmation

LRS and Lexmark International, Inc., now offer organizations the capability of sending encrypted output from the OS/390 system to a Lexmark printer with the benefits of end-to-end security and confirmation that each page of the encrypted print job has actually been printed.

Gaining these benefits requires VPS®, VPS/TCPIP, and VPS/Secure™ from LRS and a Lexmark T Series laser printer equipped with the new Lexmark PrintCryption Card.

VPS/Secure encrypts output from the JES spool for delivery over TCP/IP networks to a VPS-defined printer. The Lexmark PrintCryption Card interprets the encrypted data stream, decrypts it and enables the printer to produce the confidential documents. With VPS/Secure, only the intended Lexmark T Series laser printer can successfully print the encrypted output.

Both VPS/Secure and the Lexmark PrintCryption Card utilize the Rijndael encryption algorithm. 128 bit symmetric

encryption with up to  $3.4 \times 10^{38}$  possible keys is supported using session keys or persistent keys.

Lexmark is the only company to offer session keys, which are generated randomly for every printer session. The host submits a session key to the printer using asymmetric cryptography with RSA public and private key pairs using 512-bit encryption.

Bi-directional Internet Printing (BIP) support in VPS/TCPIP provides confirmation that a job has printed on a page-by-page basis. Printer status information such as "Toner Low," "Open Cover" or "Paper Jam" is received from the printer by BIP and can be displayed on a VMCF (VPS Monitor and Control Facility) screen.

For more information about secured printing with VPS/Secure and the Lexmark PrintCryption Card, contact your marketing representative.

## Current Version/Release Levels

Product	Version/Release	Fix Level
VPS®	V1R7.0	332
	V1R8.0	348
VPS/Secure™	V1R8.0	348
DRS	V1R3.2	138
	V1R3.3	087
	V1R3.4	007
DRS/Secure™	V1R3.4	007
DRS/Output Manager™	V1R1.0	000
VMCF™	V1R7.0	129
	V1R8.0	066
	V1R8.1	039
VMCF Client for Win.	V1R1.1	008
	V1R1.2	005
DMCF	V1R1.0	003
PageCenter®	V1R1.0	018
	V1R1.1	129
Web Access	V1R1.1	009
	V1R2.0	016
	V1R2.1	003
Client for Windows	V1R1.1	009
PageCenter Plus®	V1R1.1	002
VPSPrint	V1R6.1	023
VPS/Report Browse	V1R2.1	005
	V1R2.2	000
AnyQueue/PageSorter®	V1R1.0	013
AnyQueue®	V1R1.2	009
AnyQueue/Secure™	V1R1.2	001
AnyQueue/WebTRAC®	V1R1.2	009
LRS OS/API	V1R1.0	025
	V1R1.1	003
	V1R1.2	008
LRS/MVS Server	V1R7.0	081
	V1R8.0	128
LRS/LAN Server	V1R1.0	008
LRS/Web Connect	V1R1.1	006
LRS/Net	V1R1.0	019
LRS/Queue	V1R1.0	003

NOTE: "VPS®" includes base VPS and all VPS extension products (VPS/PCL, VPS/IPDS, VPS/TCPIP, VPS/Email, and VPS/CDI).

"VMCF™" includes VMCF/TSO, VMCF/CICS, and VMCF/VTAM.

"DRS" includes DRS/API, DRS/VI, DRS/TCPIP, DRS/STI, and DRS/SAPR2.

"PageCenter®" includes PageCenter Client for TSO, PageCenter Client for CICS, and PageCenter Client for VTAM.

"DMCF" includes DMCF/TSO, DMCF/CICS, and DMCF/VTAM.

If you are running at an old fix level and wish to receive updated distribution materials, contact your marketing representative.

Please remember that we cannot ship materials to a site where maintenance has lapsed.

## Product Support Via Email

Whenever you have a technical question about Enterprise Output Management products from LRS, you can get the answer via email. Simply send your question to [EOMSupport@LRS.com](mailto:EOMSupport@LRS.com).

# Simplified Document Processing Capability Added to DRS/TCPIP

LRS® has enhanced the value of DRS/TCPIP software by adding the document processing capability of DRS Smart Tag Interface (DRS/STI). Previously sold as a separate product, DRS/STI is now provided to customers who license DRS/TCPIP.

DRS/STI can be used with the new LRS/Queue client interface to centrally manage a group of named output attributes and isolate remote users from the specifics of the JES spool. This allows users on platforms such as UNIX to select processing options by name without needing to know

which JES attributes are required. It also enables system administrators to change attributes centrally without requiring changes to the remote applications.

End users can simply select the processing options they need. For example, an end user who needs to duplex print a document could simply specify a Smart Tag output reference of DUPLEX. The user would not need to specifying the necessary DEST, FORM, or WRITER attributes to get the desired result.

DRS/TCPIP requires DRS.

# LRS® Products Pass Test on IBM z/OS 1.4

IBM has released z/OS 1.4, the latest version of its mainframe operating system. We have tested LRS® Enterprise Output Management products using z/OS 1.4 and found no problems with VPS® software V1 R8.0 using SAPI.

VPS V1 R7.0 and VPS V1 R8.0 using the PSO interface along with user exits 13 or 24 need to be at specific minimum fix levels. VPS V1 R7.0 needs to be at least fix 7.0.328 and VPS V1 R8.0 needs to be at least 8.0.326.

If you have any questions regarding the appropriate fix levels of EOM products for use with MVS, OS/390, or z/OS operating system levels, check the table on our web site at <http://www.LRS.com/eom/OS390.htm>, call Product Support at (217) 793-3800, or send an email to [EOMSupport@LRS.com](mailto:EOMSupport@LRS.com).

# Web Browser-based Monitor and Control Begins Beta Testing

End users with a Web browser installed on any platform have the capability to monitor and control document printing using VMCF Web Access, now available for beta testing.

Blending the management capabilities of VMCF with the web's user friendliness, VMCF Web Access empowers authorized users to monitor and control document printing from any workstation equipped with a Web browser. Users can display lists of the VPS-defined printers they are authorized to control, issue VPS® commands, and use the optional Report Browse feature to view documents on the JES Spool.

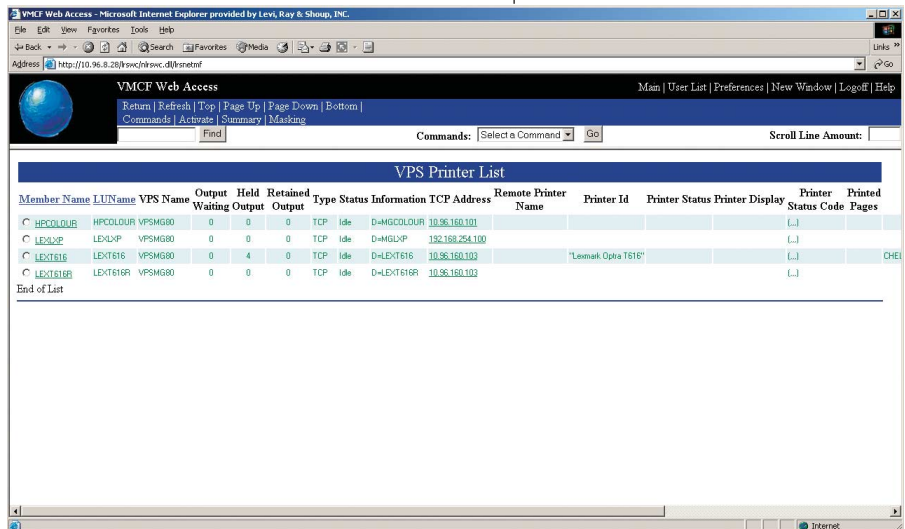
The combination of VMCF Web Access and Report Browse enables users to view output waiting to be printed along with output that has been printed and retained on the spool using the new VPS retention feature. With the appropriate browser plugin, users can also use Report Browse to view formatted documents on the JES Spool, including PDF documents, text documents, and PCL files.

VMCF Web Access is the latest LRS® product that works with LRS/Net, which maintains a standard execution environment for all LRS Web-enabled applications, and

LRS/Web Connect, which runs inside web servers on all major platforms.

VMCF Web Access makes use of HTML templates, which allow organizations to customize the product's appearance. An organization can create custom VMCF Web Access screens for different departments and work groups to meet the individual needs of different users.

If you are interested in beta testing VMCF Web Access, contact your marketing representative at (217) 793-3800 or send an email to [askLRS@LRS.com](mailto:askLRS@LRS.com).



## New Output Retention and Reprint Facility Available

A new enhancement to VPS software V1 R8.0 enables users to retain a SYSOUT dataset on the JES spool after it has been successfully delivered. This enhancement allows users to reprint output if the original is lost or corrupted during the print delivery process.

VMCF has been enhanced with a new option to display retained documents, enabling users direct access to a list of processed reports that can be viewed or reprinted.

Organizations must have the appropriate fix levels to offer this facility to their end users:

- VPS V1 R8.0.339 or higher
- LRS MVS Server V1 R8.0.119 or higher
- VMCF V1 R8.1.031 or higher

SAPI support in VPS must be enabled to utilize the new retention feature. This feature is NOT available using the PSO interface to JES.

For more information on the output retention enhancement, or to make sure you have the correct fix levels, contact your marketing representative at (217) 793-3800.

## Scriptor Selling LRS® Software in Denmark

Organizations throughout Denmark now have a new source for LRS® software sales and support. Scriptor Technology A/S, which supplies, implements and supports hardware and software solutions, is the newest LRS distributor.

As Denmark's largest printer service provider, Scriptor provides authorized warranty repair service for equipment from Hewlett-Packard, Kyocera-Mita, OKI and Lexmark. By focusing completely on output, Scriptor

has the capability to handle virtually any output-related problem customers experience, whether the problem occurs at the application level on an IBM system or at a hardware level in a printer.

With offices in Copenhagen, Odense and Aarhus, Scriptor is the vendor of choice for many of Denmark's largest organizations. Scriptor's solutions include software for managing output from IBM MVS systems and control of output from SAP, Oracle and most major platforms, as well as

implementation and operation of printers and copiers in large networks.

Complete information is available on Scriptor's web site, [www.scriptor.dk](http://www.scriptor.dk), or by e-mail at [info@scriptor.dk](mailto:info@scriptor.dk). Office locations are:

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## Support to be Dropped for DRS V1 R3.2

Customers currently using DRS V1 R3.2 should make plans to upgrade before March 31, 2003. Support for DRS V1 R3.2 will be dropped at that time.

LRS traditionally supports a maximum of two releases for any of our Enterprise Output Management products. With the general availability of DRS V1 R3.4, we are currently supporting three releases of DRS.

If you are not running DRS V1 R3.3 or 3.4, please contact your marketing representative to upgrade.

## 2002-2003 Trade Show Schedule

*SAP TechEd '02*  
November 11 – 15  
New Orleans, LA

*HIMSS 2003 Annual Conference and Exhibition*  
February 9 – 13  
San Diego, CA

*SHARE Technology Exchange*  
February 24 – 26  
Dallas, TX

## Seminars in Europe

LRS is hosting a series of free one-day seminars describing and demonstrating Enterprise Output Management solutions. For complete information on the seminars, and to register online, visit [www.LRS.com/EOM/EuropeSemMain.htm](http://www.LRS.com/EOM/EuropeSemMain.htm).

### UK Sponsored Seminars:

5 November – Brussels, Belgium  
7 November – Amsterdam, Netherlands  
12 November – Stockholm, Sweden  
14 November – Copenhagen, Denmark  
19 November – Guildford, UK  
20 November – Birmingham, UK  
21 November – Bristol, UK  
26 November – Oslo, Norway  
27 November – North London, UK  
28 November – Manchester, UK

### German Sponsored Seminars:

13 November – Köln/Düsseldorf  
14 November – Frankfurt  
20 November – Hamburg  
22 November – Stuttgart  
26 November – Zürich  
29 November – Vienna

# VPS/Email Provides Fast Relief For the Slow Report Headache

The combination of VPS®, VPS/TCPIP, and VPS/Email software has helped the University of Rochester automate mainframe report distribution. Now the university delivers information to users instantly and has reduced the inefficiency of manually distributing paper reports.

## Organization

Located in Rochester, New York, the University of Rochester is a private coeducational university with nearly 8,000 students. The University's single data center operates a mainframe with one LPAR devoted to university administrative functions and another LPAR running applications for healthcare operations at the University of Rochester Medical Center.

## Need

When the data center staff studied distribution of mainframe-generated reports throughout the enterprise, it discovered numerous examples of inefficiency. Mainframe reports for the Medical Center were being printed on a high-speed Xerox printer in the data center and delivered to a central location by the university's courier service.

"In the hospital, the reports would get delivered to a room they call the closet," explained Gary Wade, Manager of Technical Services and Production Control. "All of these people from the different floors would have to come down and pick up their reports. A lot of the departments within the hospital were getting a bundle of reports and then somebody was given the role of actually separating those reports, so they would go to the mail room and pick them up and then bring them back to their office and unbundle them and then distribute them to all the people within their area. So there was distribution to the hospital and then sub-distribution to the individual departments."

The solution to the university's distribution need was remote printing in each department. Distributing output to network printers would have been difficult

with the aging print utility the university was using, however. That software sent print through an SNA gateway to network servers.

## Solution

To route mainframe output directly to TCP/IP-attached printers throughout the enterprise, the university installed VPS® and VPS/TCPIP from LRS. It also installed VPS/Email to send reports directly to an email address or multiple addresses.

The data center staff then began the work of 'selling' the concepts of distributed printing and email distribution. Wade said they focused on print jobs that were 20 pages or fewer because they would be the perfect size to send to an office printer.

Mary Ann Ziegler, production control coordinator, began selling email distribution when she handled reports of printing problems. Ziegler would suggest email delivery to users who called about missing reports. Because the university courier service picks up reports at the data center every 2 to 2½ hours, a reprinted report could not be delivered any quicker than that. Email delivery, by comparison, is instant.

## Result

In the first 10 months that VPS/Email was in use, the number of reports delivered by email increased from about 500 per month to more than 2,700. During that period, the number of small reports printed in the data center dropped by about 50 percent.

"Some users have turned off printing to their printers altogether because they like email distribution that much," Wade said. "They can distribute a report using email, we can put different email users on the list to receive the report, and they can send it to a group that's already defined in Microsoft Outlook, the email package we use."

*For a copy of our Case In Print article describing the impact of VPS/Email at the University of Rochester, contact your marketing representative*



# High Volume Network Printing with the HP 9000 Series

Hewlett Packard's industry leading technologies have introduced a new generation of multi-functional, high speed network printers, the LaserJet 9000 series. These printers provide the user with fast, versatile and dependable network printing.

This review covers how the HP LaserJet 9000 performs with the VPS® suite of Enterprise Output Management products from Levi, Ray & Shoup, Inc. (LRS). Systems Engineers in the Enterprise Document Engineering (EDE) group at LRS performed the testing and evaluation of this printer.

## Printer Highlights

The HP LaserJet 9000 series of printers offers the versatility to be both a high volume production printer for a dedicated function or a multifunctional print station for a large number of users in a busy environment. Multiple LaserJet 9000 printers can also be clustered together to process even higher volume print jobs dependably and quickly.

Our 9000DN test model was equipped with a standard duplex tray, 3,100 sheet total capacity input trays, a 3000-sheet stapler-stacker unit, and an HP JetDirect 610n (EIO) internal print server for Ethernet 10/100 Base-TX. The HP LaserJet 9000 series has a 300 MHz RISC microprocessor that delivers fast network printing at a rated speed of 50 pages per minute at its highest resolution setting of 1200 dots per inch.

Printer setup and management can be handled easily through the extensive HP Web JetAdmin tool. This browser interface enables remote installation, configuration, diagnostics, and proactive management for all your network peripherals from a common web browser.

The browser interface allows the configuration of e-mail notices to be sent from the printer to selected e-mail recipients. These e-mails can include event notices such as supply information, service notifications, jam recovery information and advisory notifications.

For more information about Hewlett Packard printing products and services, call (800) 752-0900 or visit the HP web site at [www.hp.com](http://www.hp.com).

## LRS Product Testing

The HP 9000 DN was installed on the LRS network using the JetDirect 610n (EIO) internal print server through the functional HP Web JetAdmin tool. Both LPD and direct sockets connections from VPS/TCPIP are supported by this printer.

The VPS test system used during this printer review was VPS Version 1 R8.0 at fix level 331, which was configured to include VPS/TCPIP and VPS/PCL. The printer was first tested using TCP/IP with standard LPR/LPD protocols. A VPS printer definition was configured with the keyword COMMTYPE=(TCPIP/LPD). The VPS keyword TCPOPTS was used to accommodate the variations in different LPD implementations. The values 02000000 (wait 10 seconds between connections) and 00100000 (process copies by sending dataset multiple times) were combined for a keyword of TCPOPTS=02100000. We successfully tested large and small line mode reports through this LPR/LPD connection. We then sent the same line mode reports to the printer using PCL and PostScript formatting commands added by VPS Keyword Command PCMDSTRT and PCMDEND. All output printed as expected.

The HP 9000 DN was next tested using a direct sockets connection, which we recommend whenever possible. The direct sockets connection offers better performance than an LPD connection along with additional operational features. The VPS printer definition was configured for direct sockets operation using the keywords COMMTYPE=(TCPIP,SOK) and TCPRPORT=9100, because HP JetDirect adapters support the sockets connection on TCP/IP port number 9100. The VPS printer definition also contained the keyword RELREQ=I, since the direct sockets connections can maintain the TCP/IP connection for multiple datasets.

VPS/PCL was then enabled by adding the keyword CONVTYPE=PCL to the VPS printer definition. VPS/PCL converts AFP output to a PCL data stream at the host before sending it to network-attached printers. A variety of AFP jobs were sent to the printer, including complex forms

## HP 9000DN Printer Features At-a-glance

### Features:

- 50 ppm
- 300 MHz RISC microprocessor
- 64 MB RAM expandable to 384 MB RAM
- 300,000 pages per month duty cycle
- HP PCL 6, 5e, and Postscript Level 3 emulation
- HP FastRes 1200 (maximum)

### Connectivity:

- Bidirectional IEEE 1284 parallel interface
- HP JetDirect 610n (EIO) internal print server for Ethernet 10/100Base-TX
- Two open EIO expansion slots

### Paper Handling:

- duplex tray
- 4 input trays = 3,100 sheets
- 3 output trays = 3,600 sheets
- 3000 sheet stapler/stacker

### Networks Supported:

- Novell Netware 3.x, 4.x, 5.x
- Microsoft Windows 95, 98, NT 4.0, Me, 2000
- Mac OS (EtherTalk)
- Linux (Web), UNIX (Web)



overlays, multiple fonts, pagesegments (graphics) and bar code graphics (BCOCA). In all cases the AFP electronic forms and resources printed quickly and correctly.

## BIP™ Support on the HP 9000 DN

BIP™ (Bi-directional Internet Printing) combines the communications capability of Printer Job Language (PJL) and TCP/IP networking with the output management capability of VPS/TCPIP to extend the user's control over IP printing. Jobs can be monitored from the OS/390 console and the VPS/TCPIP system log for any error messages from the printer such as paper tray empty, toner low, open cover, etc. If an error occurs, BIP error recovery with the checkpointing option activated will allow VPS/TCPIP users to restart the print job at the exact page where the error occurred.

We tested BIP functionality by sending a three-page print job to the HP9000DN with tray 1 empty. The printer sent the following PJL message to the system log:

```
@PJL USTATUS DEVICE CODE=41102
DISPLAY="LOAD TRAY 1 PLAIN LETTER".
```

After adding paper to tray 1 the job printed and the system log received the following messages from the printer:

```
@PJL USTATUS PAGE 1
@PJL USTATUS PAGE 2
@PJL USTATUS PAGE 3
@PJL USTATUS JOB END NAME = "[JOBNAME]"
PAGES=3
@PJL USTATUS DEVICE CODE=10023
DISPLAY="PROCESSING JOB"
```

BIP functionality will send PJL messages from the printer to the console and system log for other issues such as OUTPUT BIN FULL, LOAD STAPLES, TONER LOW, JAM LOCATION, etc. Any message that is sent to the LED screen of the printer can be relayed back to the console and system log.

BIP support worked with the HP9000DN as expected.

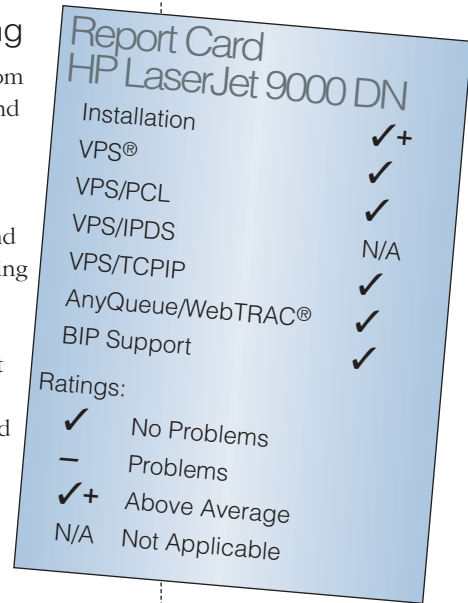
## AnyQueue® Software Configuration and Testing

AnyQueue® receives output from multiple platforms concurrently and routes the output to multiple LAN destinations, including local and network print queues, SMTP and MAPI-compliant email systems, and local and network files. The tracking capabilities of AnyQueue/WebTRAC® software enable AnyQueue to retain output temporarily before delivering it to LAN destinations and provides end users with browser-based report viewing and control capabilities. Links can be emailed to users to notify report availability.

Testing was done to the HP9000DN through AnyQueue® v1.2.005 which was configured to support TCP/IP communications from the host VPS® system. Test reports were sent to the printer using line mode, line mode with embedded PCL and PostScript Command Sequences and AFP converted to PCL. These tests were done from both a direct sockets connection and an LPR/LPD connection. All output sent to the printer using each of these methods printed normally.

## VPS/Secure™ and AnyQueue/Secure™ Note

The HP 9000 DN does support the VPS/Secure™ and AnyQueue/Secure™ products. However, this particular 9000 DN printer was not equipped with the necessary hardware needed to test these functions.





Levi, Ray & Shoup, Inc.

ENTERPRISE OUTPUT MANAGEMENT

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Autumn 2002

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