



Test Report

COLOR MULTIFUNCTIONAL PRODUCTS
Xerox CopyCentre/WorkCentre Pro 32 Color
16 PPM Full-Color/32 PPM Monochrome
Copier/Printer/Scanner

GENERAL APPRAISAL



The Xerox WorkCentre Pro 32 Color, a four-drum, single-pass multifunctional product that outputs at 16 ppm in color and 32 ppm in black, provided impressive overall performance in BLI's three-month evaluation, offering a superior blend of productivity, ease of use, output quality and reliability. The WorkCentre Pro 32 Color proved to be highly reliable, completing its 45,000-impression durability test without requiring service of any kind and with eight misfeeds, for a misfeed rate of one per 5,625 impressions. What should also contribute to good uptime for this unit is a design that employs user-replaceable components, including the four drum cartridges, fuser module and waste toner collection container. While this design involves more user intervention than do units that use service-replaceable components, it eliminates the downtime associated with the service calls that would otherwise be necessary to replace these components. In addition, the unit produced very good output for business applications, receiving BLI's highest image quality rating for color business graphics and color

photographs in both print and copy modes. Its black output was also good in both modes, receiving BLI's highest image quality rating for all types of output evaluated (text, line art, halftones and solids) in both print and copy modes. Black text in print mode, for example, was sharp and crisp, even at the smaller 6-point size, with no drop-out evident, lines were clearly defined and smoothly formed, and grayscale displayed distinct transitions between levels. Output was similarly good in copy mode, with colors displaying good fidelity to the colors in the original. BLI test technicians also cited the good job the unit did at reproducing light pastel shades, including yellow, and in picking up light background patterns. Moreover, copier users have a wide range of color adjustments to choose from, including selections for "normal," "lively," "bright," "warm" and "cool," as well as adjustments for color balance, sharpness, saturation and type of original. The only criticisms of output quality noted were judged not to be significant for office color applications and would likely not be noticed by most office users (loss of image detail in very light areas, some graininess in light images such as skin tones and evidence of mottling in large solid areas).

Demonstrating outstanding overall productivity in BLI's tests, the WorkCentre Pro 32 Color produced output at overall efficiency

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General Appraisal *continued*

rates that are above average in simplex copy mode when outputting in black and well above average in all other copy modes and in simplex and duplex print modes when outputting in color. Overall efficiency in print mode is slightly above average in simplex mode and above average in duplex mode when printing in black. Indeed, when compared with other single-pass color multifunctional products tested, the WorkCentre Pro 32 Color stands out as one of the most productive, holding a top position in most categories (color and black, simplex and duplex, copy and print). (Note, though, that unlike some single-pass products that output at the same speed in both black and color, the WorkCentre Pro 32 Color outputs at 16 ppm in color and 32 ppm in black.) Based on a 733-MHz processor, the WorkCentre Pro 32 Color also performed well in BLI's raster tests, with first-print-out times that are faster than average for the Word file and competitive for the TIFF, PDF and JPG files, when compared with other single-pass color units tested, including when producing output larger than 11" x 17". Moreover, the unit's first-copy times are competitive when outputting in color and the fastest of single-pass color units tested when outputting in black. Also noteworthy is that the unit's rated warm-up time, at one minute, is much faster than that of most other single-pass color multifunctional products tested.

Yet another strength of the Xerox WorkCentre Pro 32 Color is its ease of use for both walk-up functions and from the desktop. Unlike most systems, it allows for a left-to-right workflow, with documents fed into the feeder on the left side of the machine and picked up

from the finisher on the right. It also features a work surface to the left of the platen that serves as a resting place for users to organize their copies and originals, and a distinctive dark blue panel in the back that indicates all the functions of the unit. The uncluttered control panel features an easy-to-read LCD touch screen with an intuitive menu system and a "help" function. Users can choose the default screen for the control panel. For example, in environments where users will frequently switch among a range of different functions, the "All Services" screen, which presents the user with all the different functions available, would be a good choice. The copier screen offers a good layout that presents users with all the features required for most typical copy jobs on the main screen, without requiring them to access additional menus. Adjustments to color output are accessible from a tab for "Color Options." The control panel also offers extensive status information on jobs in queue (including the number of sets programmed and completed) and enables walk-up users to prioritize a job to the next in queue with a single keystroke. In addition, a machine status key provides access to a wide range of device information, including the life of consumables and meter counts for each function, including by user. Noteworthy is that there are separate meters for black and color output, for both copy and print output. Ease of replacing all the user-replaceable components that required replacement during the course of the test (i.e., the toner cartridges and the black and color drums), was also judged to be good, as were the procedures for removing misfeeds.

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General Appraisal *continued*

The WorkCentre Pro 32 Color also offers excellent multitasking capabilities, enabling users to program an unlimited number of copy jobs while another copy or print job is in progress. Noteworthy is that as soon as one job has been programmed, even before it completes scanning, the control panel is freed up to allow programming of the next job. Moreover, a priority of “1” or “2” can be assigned to two of the functions in order to have these types of jobs take precedence over others.

Connectivity

Configured standard with Xerox’s SMart controller and a 10/100BaseT Ethernet network interface, the WorkCentre Pro 32 Color performed very well as a printer, with highly automated setup procedures for Windows XP workstations (Windows 98 requires downloading of a file from Xerox’s Web site to create the port) and very well designed bidirectional print drivers that inform users at the point of need—right before they send their job—of such factors as the approximate amount of available paper or if a problem exists that would interfere with the production of a job. Whether or not an error condition exists, the user can click on the “Status” button on the driver screen to obtain additional information on device status. And although users don’t receive a pop-up print job completion notification, they can view lists of active jobs (to see where theirs is in the queue) and completed jobs, along with status information, from the status screen within the driver. The WorkCentre Pro 32 Color includes PCL 5c, PCL 6 and PostScript 3 (emulation) print drivers for Windows 98, 2000, NT 4.0, Me and XP, as well as the necessary PPDs for Macintosh operating systems. Installation onto

Windows 98 workstations was accomplished using the Windows Add Printer wizard. BLI test technicians liked the fact that multiple drivers can be installed at once (other multifunctional products require repeating the installation process for each different driver desired). Once the installation process is complete, any configured accessories are automatically detected and the information is available for viewing in the driver, without the user having to initiate the process, as is the case with some systems, or having to manually specify the configuration, which is the case with some other systems. The PCL and PostScript drivers are virtually identical in appearance and functionality, regardless of operating system, and are very ease to use.

In addition to offering the previously mentioned status information, including a paper gauge, the drivers offer most of the features that would be expected of a unit in this range, such as secure print and proof print. Also offered are delayed print, the ability to select a banner page (alternatively, service can enable generation of banner sheets from the controller), job review and accounting (optional; when enabled, the user must enter a code in order to print). Direct printing of a range of file types, including TIFF and PDF, is possible without needing to open the application.

Configured as tested, the Xerox WorkCentre 32 Color supports scan to e-mail, Internet fax and scan to network-connected PCs via FTP, all of which performed well in the tests. The scan function is integrated, with no additional hardware (such as a server) required. The sys-

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General Appraisal *continued*

tem supports LDAP, so walk-up users can access e-mail addresses residing on a corporate mail server directly from the control panel of the WorkCentre Pro 32 Color, eliminating the need to manually enter such addresses. Destinations can also be entered on the fly at the control panel via a QWERTY touch-screen keypad; e-mail and/or Internet fax destinations cannot, however, be stored on the device. Also supported is network authentication, a security feature that requires users to log in with their network user name and passcode in order to access the scan function. Scan-to-file destinations are set up in templates via the Web utility. The procedure was very simple, requiring entry of a file destination and format for the scan and assigning it a name that will appear on the control panel. The Scan to PC Desktop Deluxe software option includes Image Retriever software, which runs minimized on users' workstations and checks for incoming scanned files, either notifying users of received scans via pop-up message or automatically opening scanned images into PaperPort Deluxe 8.0 (a 25-user license is provided). PaperPort also allows editing of the scanned images with annotations, highlighting and cropping, among others, as well as OCRing of text documents.

Administration of the device on the network is accomplished via the CentreWare Internet Services (the unit's embedded Web utility), which is very easy to use, thanks in part to an exceptional help function. In addition to allowing configuration of device settings and creation of scan-to-folder destinations, the Web utility provides a good range of information, including error messages, paper status, consumables gauges, and meter counts for copies, prints,

scans, Internet faxes and receptions, including counts by user. In addition, for managing all the output devices on a network—Xerox, as well as non-Xerox models—Xerox offers CentreWare Web, which is available for free download from Xerox's Web site. Moreover, a priority of 1 or 2 can be assigned to two of the functions in order to have these types of jobs take precedence over others.

The unit accommodates output of up to 12" x 19", supporting full-bleed 11" x 17" output in print mode. In copy mode, void areas on the edges of copies resulted in a maximum image size smaller than 11" x 17". Other noteworthy features include 2,000 copy control codes (more than offered by any competitive models) and the ability to produce up to 9,999 copies in a single run (most competitors offer a maximum quantity up to 999). Also standard is a 50-sheet RADF, automatic duplexing, a copier memory consisting of 256 MB of RAM and an 18-GB hard drive and a separate print memory of 128 MB of RAM (expandable to 256 MB). Options include the tested 1,000-sheet finisher, which staples up to 50 sheets per set in multiple positions. Also offered is a security overwrite option, which protects information stored on the device by overwriting it either at specified times or on demand; and Copier Assistant software, which is designed to make it easier for users who are visually impaired, have limited dexterity or use a wheelchair to access and use the system. It provides users with an alternative to the standard touch-screen controls, displaying an enlarged user interface on a PC, and features text-to-speech capability that walks users through copying steps.

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General Appraisal *continued***Shortcomings**

Several shortcomings of the Xerox WorkCentre Pro 32 Color were observed in the tests: 1) Although paper capacity is expandable to 3,140 sheets, the unit comes standard with only one 520-sheet paper drawer and a 100-sheet bypass. Most competitors offer more paper drawers and higher standard paper capacities. And whereas many competitive models can accommodate heavy paper stocks from at least one of the paper drawers, the WorkCentre Pro 32 Color accommodates only up to 28-lb. bond from the paper drawer. Its 100-sheet bypass tray accommodates up to 110-lb. index. 2) Unlike some other competitive models, which can be configured with a choice of finishers, including saddle-stitch finishers, the WorkCentre Pro 32 Color is offered with only one finisher. 3) The unit's first-print-out time for the PageMaker file used in the raster tests is slower than the average for single-pass color models tested. 4) Users can pull from only one paper drawer for any one print job, so, for example, users cannot choose to print on letterhead for one page of a document and print the rest of the document on plain stock loaded in another drawer. 5) While not difficult, the need to always press a key to confirm the paper size after opening the paper drawer, even if just loading paper of the same size, was found to be an inconvenience. Moreover, if a user forgets to confirm the size, any waiting print or copy jobs will be held up. This requirement does provide the advantage, however, of letting users accurately know the color, type and size of paper in each drawer from the driver and the control panel.

Pricing Analysis And Summary

BLI's retail pricing analysis reveals that the Xerox WorkCentre Pro 32 Color is priced lower than the average for color models in this speed range (11 to 21 ppm in color). Cost per page for supplies could not be calculated because Xerox bundles the cost of the user-replaceable consumables into the cost of service contracts.

Based on the Xerox WorkCentre Pro 32's outstanding overall performance in the tests, BLI highly recommends it as an excellent choice for offices in need of a multifunctional product for black and business color output of monthly volumes up to 25,000 impressions.

Color copy quality:

Business graphics: Good

Photographs: Good

Black copy quality:

Text: Good

Line art: Good

Halftones: Good

Solids: Good

Color print quality:

Business graphics: Good

Photographs: Good

Black print quality:

Text: Good

Line art: Good

Halftones: Good

Solids: Good

Ease of use: Good

Ease of maintenance: ... Good

Estimated waste: Low

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General Appraisal *continued***Estimated downtime: Low****Misfeeds: 8****Misfeed rate: 1 per 5,625 impressions****Total service calls****(including PMs): 0****MIBF: Not applicable****MIBS: Not applicable**

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