



**Buyers Laboratory Inc.**

**BUYERS GUIDE  
TO MFP SCANNING SOLUTIONS**

What Every Buyer Needs To Know  
Before Making A Decision

**The Leader. The Expert. The Source.**

## WHAT EVERY BUYER NEEDS TO KNOW BEFORE SELECTING AN MFP SCANNING SOLUTION

For organizations that plan to implement scanning on their networks via multifunctional products (MFPs)—whether it be to save money on fax costs by sending hard-copy documents over the Internet to e-mail destinations or to store hard-copy documents electronically to facilitate retrieval—an assessment of scanning solutions should begin early in the selection of a multifunctional product. While reliability is still buyers' primary concern when purchasing a multifunctional product, followed by output quality, if you plan to implement scanning, taking a close look at the scanning functionality offered by the models being considered may help narrow down your choice between several reliable models that are otherwise comparable. For example, several other key concerns to buyers—ease of use and cost factors—can't be considered completely if the ease of use and costs of implementing the scan function aren't considered.

Buyers Laboratory Inc.'s (BLI's) testing of multifunctional products from all major vendors, combined with our coverage of the industry, has exposed us to a wide range of scan functionality and has led us to develop a checklist of things to consider when evaluating scan solutions. While some features, like convenient entry of destinations such as e-mail addresses, will be important to all users, other features may not be important to some users, depending on their organization's specific needs.

Following are key points to consider or questions to ask in a range of important areas, including cost issues, ease of use, functionality, network integration and security, before making a scanning solutions decision:

### Cost Issues

Scan solutions vary widely in price, which is not surprising, considering that they also vary widely in functionality. They can range from free utilities for TWAIN scanning bundled with a print controller to full-featured systems that cost thousands of dollars. The problem for buyers is that it can be very difficult to determine the true cost of a scanning solution. Here are some questions to ask and points to consider when looking at scanning costs.

*Will scanning cost more if I don't purchase it up-front?*

Whereas options such as a document feeder or a high-capacity paper feeder cost the same regardless of when they're purchased, a scanning solution will likely cost considerably more if purchased as an option after initial purchase of a unit. To encourage the sale of connected units, which tend to yield higher total page output, and therefore increased supply revenue, many vendors try to induce customers to buy fully-loaded multifunctional products that include scanning by offering such configurations at a considerable savings over the cost of purchasing the unit and the scan option at a later date. Clearly, it's advantageous to the buyer who knows he wants to implement scanning to do so up-front if it will garner such savings.



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***Will the addition of the scan solution to a copier require a particular controller?***

If so, the price of that controller will obviously have to be factored into the total cost.

Some multifunctional products are offered with a choice of controllers. If, for example, only one of two available print controllers will be required for a particular product's scan solution, does that print controller cost significantly more than the other? Does the needed controller for scanning otherwise offer the capabilities the buyer will need for printing?

Related to the point above about knowing up-front if you will desire scanning, buyers should be aware that in some cases, if a copier has already been equipped with a print controller that allows network printing, and a buyer now wants to add scanning, in at least one case of which BLI is aware, that print controller, which costs several thousand dollars, will have to be replaced with a scan-enabled print controller, essentially wasting the money spent for the initial controller.

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***Aside from a particular print controller that might be required, what other hardware or software is required for the scan solution and what are the associated costs? For example, does the controller incorporate a network interface card, or must a network interface also be purchased?***

In some cases, for example, there may be a hardware cost to scan-enable a product. On top of that, there may be an additional cost for software used both for management of the system and for software that allows end users to work with scanned documents.

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***Does the scan solution call for you to supply software of your own?***

This is not necessarily a bad thing. Perhaps your company has already made an investment in scanning and document management software. In this case, the ability for the scan solution to work with that software will leverage your investment. This type of solution also gives you the ability to choose the end-user document management software that best suits your needs.

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***Does the scan solution come with software?***

If you are considering a scan solution that includes software enabling end users to work with scanned images, the cost of that software is included in the price of the system. Consequently, whether it is proprietary to the vendor of the MFP/scan solution or sourced from a third party, you should ensure that it meets your needs. Otherwise, opt



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for a system that enables you to work with software of your own choosing. Also, find out how many licenses are included in the price and how much additional user licenses will cost.

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***Is additional memory required for scanning?***

***Are there any additional costs for such special capabilities as Internet fax or scan to e-mail?***

Sometimes these are extra-cost options.

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***Is a dedicated PC required to run the scan system? If so, is it supplied by the vendor or the user?***

In either case, the cost will have to be accounted for.

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***If the buyer has, or intends to purchase, multiple multifunctional products for deployment throughout the organization, and would like to use several of them as scanning devices, what costs will be involved for each one?***

Whereas some scan systems can drive just one multifunctional product as a scanner, others can support multiple multifunctional products.

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***Will you be charged for scans?***

While many buyers are very familiar with cost-per-copy contracts whereby they pay a set price for the copies/prints they make, and with paying per-click charges for service contracts, buyers should be aware that vendors are incorporating utilities to track scans into their systems and BLI has heard of some vendors that are charging customers for scans. If you're acquiring equipment on a cost-per-page basis, be sure to be clear about the types of "pages" for which you're being charged, i.e., prints, copies, scans, and the costs for each.

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***What, if any, training is included in the price? If training is not included, how much will it cost?***

This is an important point to clarify with vendors. If training is included, find out if it's only for an administrator or if it's also for end users. Buyers should also determine whether the training will cover any end-user software included with the system.

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## Ease of Use Issues

In our experience, some scan systems can be difficult to set up and use. Just as ease of use is very important to users for copy and print functions, so it is for scan functions. Here are some questions to ask and points to consider regarding ease of use:

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*Can e-mail and file destinations be programmed remotely from a PC using either a software utility or Web utility or both?*

This method is more convenient than having to program them at the MFP control panel using hard-key or touch-screen keypads incorporated into the control panel, which some systems require. One system tested by BLI required entry of destinations both at the control panel and from the utility.

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*Since users will likely need to scan documents to destinations that have not been programmed, how easy is it to program destinations from the control panel? Are the keys available for this function hard keys, which is fairly common for Segment 1 and Segment 2 MFPs (i.e., models up to 30 ppm), or is there a touch-screen keypad?*

Some systems have a single easily accessible key to add the .com suffix, while others require the users to shift the keyboard to access symbols such as @.

*Are the keys large enough to be easy to see and use?*

*Is the display adjustable for brightness?*

*Is the keypad in alpha order or is it a QWERTY layout that mimics a typewriter keyboard and is therefore easier to use for users accustomed to keyboarding?*

*Is access to commonly used symbols such as @ and .com simple?*

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*Can the “from” field be automatically populated based on a user’s identification of himself or herself at the control panel?*

The information for the “from” field can be included in the attributes programmed under templates or profiles for frequently used scan jobs. Or users may select it from phonebooks residing on the device.

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*Are scan functions intuitive to use from the control panel?*

While control panel layout may be somewhat subjective, it’s important because a system that’s easy to use is more likely to be embraced by users, improving the return on investment for the scan solution.

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*Does the vendor’s scan solution support LDAP (Lightweight Directory Access Protocol)?*

This capability, which enables the address book (or address books) that resides on a network’s e-mail server to be accessed directly through query from a multifunctional unit, while it won’t affect ease of use for the end user, greatly reduces administrative tasks, since the task of programming scan destinations such as e-mail destinations, is eliminated.

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*If the system doesn’t support LDAP, does it allow downloading of address books residing on MAPI-compliant mail servers on the network?*

While not as convenient as LDAP, since the addresses residing on the control panel or a dedicated PC running the scan system will have to be updated anytime addresses are added, deleted or changed on the mail server, at least it eliminates the need to reenter numbers.

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*How easy is it to install the software for the scan solution?*

Some systems have auto-install routines, which make installation very simple; some involve more manual procedures and others have the scan functionality embedded in the unit so that other than the software to work with documents at end-user workstations, no software is required.

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## Functionality

The scanning solutions offered by multifunctional product vendors can range from simple TWAIN drivers that allow PC users on the network to activate scanning at the multifunctional product via third-party scanning programs like Adobe Photoshop, to fully featured systems that may include PCs and software to not only distribute scanned documents but to work with them as well. To determine the level of functionality suitable for your needs, you should ask:

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*To what types of destinations can a scanned file be sent? For example, can scanned documents be sent:*

- *To e-mail addresses?*
- *To groups of e-mail addresses or groups consisting of e-mail destinations, fax destinations, Internet fax destinations and file destinations?*

This capability, along with Internet fax capability, allows users to send hard copy while avoiding the telephone line charges associated with faxing.

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- *To file, via FTP (File Transfer Protocol), a protocol used to transfer files over a TCP/IP network?*

In this case, the scanned file is stored on a server on the network that has been set up as an FTP server (that is, it must be running FTP software). Or some vendors may configure their MFPs so that the hard drive functions as an FTP server, in which case documents can be scanned into electronic mailboxes, from which they can be retrieved manually or via PCs on the network polling the device and retrieving scans automatically at specified intervals. Note that with some scanning systems, all scans go to one common folder, which may make retrieving them more cumbersome, whereas some systems offer more flexibility in allowing documents to be scanned to specific directories and subdirectories.

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- *To a URL (Web address)?*

Similar in some respects to scanning to file via FTP is scanning to a URL. Users from anywhere in the world to whom the URL address has been given can access documents at that location. While convenient, it is subject to security breaches. In contrast, FTP servers require the entry of a user name and password.

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- *To a PC desktop, i.e., the PCs of end users on the network?*

In this case, the users' PCs must be equipped with the appropriate software to work with scanned images, such as photo editing or document management software.

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- *To mailbox storage on the MFP?*

This would enable frequently used documents to be printed on demand from the control panel.

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*Does the system support either T.37 or T.38 Internet fax protocol?*

Internet fax capability is very similar to scan-to-e-mail capability in that the document scanned is sent to an e-mail address (in this case, the e-mail address of the MFP), although, unlike regular e-mails, the document is converted into TIFF-F format; however, because MFPs supporting Internet fax also allow reception of documents sent from



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other Internet fax-capable devices (and, from PCs, as well, although the latter is less reliable and less practical), a document scanned/e-mailed to an Internet-fax capable MFP that supports fax capability can take advantage of the fax-capable device's distribution capabilities, such as forwarding the document to another destination or, via broadcasting, to groups of destinations.

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***Is scanning via TWAIN supported?***

TWAIN is a programming interface that allows users of a graphics application on a PC, such as an image editing program, to activate a scanner to acquire an image. Most scan solutions support TWAIN scanning.

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***Does the system offer black-and-white scanning only, or color scanning as well?***

Some MFPs, though they output only in black and white, offer color scanning. Color scans, once on the network, can, of course, be printed out on color output devices on the network, perhaps eliminating the need for expensive color copier/printers.

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***How many destinations can be preprogrammed and stored under one-touch or autodial keys on the control panel?***

The ability to select a destination with a single key enhances ease of use.

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***In what file types can scanned documents be sent/saved?***

Common offerings include PDF, TIFF, and M-TIFF (multi-page TIFF; allows a multiple-page document to be saved as a single file), but one system BLI knows of is said to offer a "PDF plus text" format as an option, which means that unlike with received scanned PDF files, these scanned files can be edited by recipients, provided that they have a full version of Adobe Acrobat on their PC. Another option allows users to send Microsoft Word and Microsoft Excel files so that, according to the manufacturer, recipients that have these widely used programs can open these files directly.

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***What is the speed at which documents are scanned?***

While often the scan speed is the same as the multifunctional product's output speed, this is not always the case. In fact, the scanning speed can be as much as half the speed of the output device.

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***Can scan settings for specific types of jobs or users be stored along with destinations, eliminating the need to specify certain parameters every time a certain type of document is scanned?***

This capability may be referred to as "templates" or "profiles" for scanning. For example, in addition to specifying a resolution and simplex or duplex, a template or profile used for employee A's scan jobs could also contain the e-mail address for the "From" field, eliminating the need for the user to have to type this information every time he or she scans to e-mail.



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***What resolutions are offered for scanning?***

Commonly, resolutions of 150, 300, 400 and 600 dpi are offered. Higher resolutions are not necessarily good, however. Because of file size concerns and the impact on network traffic, it would be preferable if a lower resolution could be set as the default.

***Can indexing data be entered at the control panel?***

While rare, this capability is offered by at least one system on the market.

***For scanning other than scan to e-mail, how are scanned files retrieved by end users?***

In some cases, this will be a manual process, whereby end users on the network must proactively check a certain location on the network to see what, if any, new files have been scanned for them. In others, PCs on the network can be set to poll a hard drive on the multifunctional device or elsewhere on the network at programmed intervals, automatically retrieving files scanned to their mailbox. In other cases, documents can be scanned directly from the multifunctional product to a specific user's PC.

***Are PC users on the network notified when they have received a scan?***

With some systems, they are.

***Is there a means to track scans by user or department?***

This may be important for security reasons or for professional service firms that charge clients for equipment usage.

***What types of editing capabilities are offered by any client software that may be included with the scan solution?***

In addition to allowing viewing of the scanned documents, some software packages allow more advanced document editing such as the ability to view scanned images in a number of different ways (by date, via thumbnail images, by file name in a list), cropping, magnification/reduction, straightening of skewed images, despeckling, annotating, erasing and highlighting.

***Is OCR functionality included?***

If the software includes OCR, some issues to consider are is it a full-featured version or a scaled-down "Lite" version? What languages does it support?

***Does the software allow for searching by keyword, rather than just simple searches?***

Rather than simply allowing users to browse through scanned documents, the ability to search for documents by keyword can enable quicker retrieval of specific information.



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## Network Issues

Rich Holloway, BLI's director of technical operations, points out that the first question a company should ask from a network administration standpoint is:

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***What does the company want to accomplish by implementing scanning on a network?***

If a company wants to reduce the telephone line costs associated with faxing by implementing multifunctional products with scan-to-e-mail capability, or if a company needs to occasionally scan photographs for editing, the issues to be considered are largely those we cover elsewhere in the report. On the other hand, if a company wants to archive hard-copy documents for subsequent retrieval, the considerations are much more complex. For example, if a company already has a document management system in place, perhaps for use in conjunction with a production scanner, using an MFP for this type of application might not be a good idea, in that tying up the MFP for heavy volumes of scanning will likely hinder productivity of office users waiting to produce copy jobs.

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***Is a document management system already in place?***

If the volume of scanning is not so great that it will impede productivity in the office and a document management system is already in place, it's important to select an MFP/scanning solution that can integrate well with the document management system. Some vendors have been working to offer software integration between their scanning systems and popular document management systems, such as IBM Lotus Notes/Domino. This type of integration, which will likely be offered as an extra-cost option, would allow the document management system or database to be displayed as a selectable destination on the control panel and would present the user at the control panel with the same user interface and access rights that that particular user, based on his or her user log-in and password, would see if using the program from his or her desktop.

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***Do you want to implement scanning for archival and search and retrieval applications, but do not yet have a document management system in place?***

Before even considering which multifunctional/scanning solution to buy, a company should first select the document management software that will best fit the company's needs. Once the system has been decided upon, the company can then look for an MFP/scanning solution that will integrate well with that particular application.

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***Does the vendor of the MFP/scanning solution make APIs (application programming interfaces) or SDKs (software development kits) available to third-party software developers?***

If they do, the chances are better that the scan solution will integrate with third-party document management systems.



<b><i>Does the system support LDAP (Lightweight Directory Access Protocol)?</i></b>	Provided that the company's network operating system also supports it, LDAP is a capability that enables the address book that resides on a network's e-mail server to be accessed directly through query from a multifunctional unit. Administration of scanning systems, such as the programming of addresses, is greatly simplified by LDAP, since the need to program scan destinations such as e-mail destinations, which can be tedious, is eliminated. Moreover, with LDAP support, when a change is made to the corporate address book, that change is automatically accessible from the MFP's control panel.
<b><i>If Internet fax is to be implemented, will the IT department allow it to be installed on the network?</i></b>	One type of Internet fax (i.e., the less commonly used T.38 real-time Internet fax) requires the opening up of a port on a firewall. To answer a question such as this, it's important that the IT department be involved in any decisions regarding implementing scanning on the network.
<b><i>What other hardware is already installed on the network, or may be being considered for installation, that will need to integrate with the scan solution?</i></b>	The scan solutions of some MFPs, for example, can integrate with network fax servers.
<b><i>Can defaults be set for resolution?  Can a maximum file size limit be set for files?</i></b>	If so, users can be prevented from scanning documents that would create extremely large files and traffic on the network.
<b><i>What kind of network and PC resources are required?</i></b>	Some systems have separate controllers for the print and scan function, each with their own network interface card and requiring their own IP address, requiring two network connections and occupying two slots in the MFP. In addition, with some systems, software has to be running on end-user PCs in order to scan to their desktops, while with most systems the software need only be loaded on those PCs.

## Security Issues

Accessible remotely and capable of storing documents in their RAM and on hard drives, multifunctional products pose security risks even when configured without scanning. Those risks are magnified, however, when scanning is implemented because of the greater volumes of information stored. Following are some questions to ask and points to consider when assessing the security of a scan-enabled networked multifunctional product:



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***Can scanning be restricted to only authorized users with a passcode?***

Most systems allow an administrator to assign passcodes that must be entered before a user can access the scan function, but a few systems do not. With most systems, this process involves establishing authorized users and assigning names and codes to those users.

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***Does the system support native integration with e-mail systems like Microsoft Exchange?***

Whereas LDAP allows access to the address books residing on corporate servers, a few systems offer even tighter integration with the existing network infrastructure. For example, one system we tested integrated directly with the security features of the network operating system, enabling the scan system to take advantage of network server attributes such as authentication. In this case, rather than having a list of authorized user names and passcodes that must be programmed for the scanner function of the MFP that is completely separate from the already established set of authorized network users, the MFP can use the same authorized users and passcodes. In other words, the same network log-in and authentication required to use their network computers is required in order to use the scan function of the MFP. This system is more efficient, as it eliminates the need to program another set of names and passcodes and maintain two sets of information on authorized users.

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***Can usage of the scanning function be tracked by individual user or department?***

This may be important for security reasons or for charge-back purposes.

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***If the MFP will be used for scan to e-mail, what will the recipient see in the “From” field?***

In the early days of scan to e-mail, e-mail could be sent anonymously from MFPs to recipients’ e-mail addresses. Naturally, opening an e-mail from an unknown source is a security risk. Most of the scanning solutions seen on MFPs today have a means of identifying the source of an e-mail. While with many systems that can scan to e-mail, the “From” field of the e-mail automatically contains the name that has been set up for the MFP, with some systems, users can specify a personal “from” address, which is preferable.

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***Does the multifunctional product offer any standard or optional security features?***

In addition to requiring network log-in and authentication, among the security features vendors offer for the scan systems of MFPs are removable hard-disk drives and accessories that overwrite the data on the hard disks of the system and the print controller. Depending on the system, the overwriting of data may occur in response to a code entered at the control panel, upon powering up or at random. A few systems offer or are pursuing Common Criteria Evaluation and Validation Scheme (ISO 15408) certification. Established by the National Information Assurance Partnership, a U.S. government initiative designed to meet the security assessment needs of both information



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	technology developers and consumers, this certification is said to be an emerging standard for information technology security evaluation. BLI knows of one accessory that has already obtained certification, and at least one other that is “obtaining” it.
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<i>Is the content of the scans you transmit via e-mail highly sensitive?</i>	If so, ask the vendor if the scan solution has any features or options for secure document distribution. A few systems offer options that allow encrypted transmission. Find out if attachments will also be encrypted.
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