Tips for Evaluating Scanning Solutions Before You Buy

A White Paper For Purchasing A Scanning Solution For Your Digital Copier or Scanner

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Total cost of ownership (TCO) attempts to quantify the costs associated with a specific product implementation over the lifecycle of the product. This type of analysis is essential to financial decision makers who must take a long-term view of IT spending above and beyond the initial acquisition costs. Office copiers and scanners must now be looked at in the same way.

The goal is to answer questions such as:

- "How much will it cost us to use this technology over the next five years (or the term of the copier lease)?"
- "How much can our organization save by implementing Vendor A's solution compared to Vendor B's?"

On any IT project, initial acquisition costs typically represent only a small percentage of the total cost of ownership. Much more significant are the "hidden costs" associated with a particular solution.

Studies for distributed desktop computing solutions and application servers have yielded similar results, suggesting that the product acquisition cost is much less relevant than the costs associated with:

- Implementation
- Training
- Maintaining the application
- Support over the life of the product

When a purchase decision is based on the sticker price alone, management is frequently left to watch anxiously as the unanticipated hidden costs mount and the product fails to deliver the cost savings that were initially projected.

In almost all cases, however, the initial acquisition costs are the easiest to quantify and are, therefore, often the only numbers available to financial decision makers at purchase time. The estimated costs for installation, configuration, administration, training, and support are much harder to quantify, while "intangibles," such as system reliability, architectural lifespan, and upgrade availability, may be virtually impossible to quantify and may never appear as a line item in a TCO analysis. These difficulties are compounded when implementing a new technology that the company may have no experience dealing with, yet these costs are so critical to making or breaking a project that they must be factored in on at least a subjective level.

Long-Term return on investment

Network scanning and electronic document distribution systems offer the potential to realize enormous cost savings by reducing the expenses associated with the delivery and management of paper documents. Many companies, particularly those with large expenditures on overnight mail or faxing, discover through initial return on investment (ROI) analysis that these systems often pay for themselves in months rather than years. But traditional ROI analysis, while important, frequently ignores the hidden costs of long-term ownership that can dramatically impact cost savings. It also assumes a certain level of adoption within the user community that may or may not materialize depending on the complexity of the solution and the willingness of the users to adapt to new ways of working. Many of the solutions available today lack existing application integration, are complicated to use, or are so inflexible in terms of functioning within existing workflows, that companies fail to realize the cost savings they expected based on ROI analysis.

Consideration of the total cost of ownership (TCO), therefore, is critical when evaluating networked scanning solutions. Such systems become an integral part of your IT infrastructure and are therefore subject to the same risks and costs of ownership as servers, desktops, and other software applications. With most major copier and printer vendors now offering networked scanning in one form or another, it is critical to compare features and benefits, and then scrutinize each solution under the spotlight of TCO. This white paper provides the framework and guidelines you can use when comparing disparate systems from different vendors to help you make a realistic assessment of the hidden costs of ownership of each solution.

Assessing Product Requirements

Most of the major copier and scanner vendors now offer some kind of network scanning capability. These range from basic scan and mail implementations to versatile electronic document distribution systems.

Before you begin drafting a Request for Proposal (RFP), make a realistic assessment of your current and anticipated scanning requirements. A detailed functional evaluation will help you do the following:

- Understand how well the scanning product integrates with your organization's standard network environment and business applications
- Write your RFP in a way that quickly eliminates products that do not meet your specific requirements
- Make fair comparisons when evaluating the product acquisition cost of solutions from different vendors ("apples vs. apples")

Basic scanning

The table below outlines some of the basic scanning functionality to look for when evaluating networked scanning solutions on copiers. Identify the items that would be valuable to your company. Then verify that the functionality you need is available from each vendor you are considering.

Feature	Function
Security Authentication	• Access destinations, address books, and enforce security based on the users' rights • Provide an audit trail conforming to corporate security policies • Encrypt documents and secure PDFs to prevent editing and printing
Activity Logging	• Track scans by function • Track scans by user • Track scans by # of pages and/or date • Import information into cost recovery systems, like Copitrak or Equitrac • PDF copies of scanned documents may be sent to a secure network location
Custom Workflow	• Include index information with the scanned file • Versatile file naming and destination options
Software Developer Kit (SDK)	• Advanced integration into back end applications – including legacy applications • Saves scanned documents directly into the application database and validates information for application integration

Feature	Function
Scan to file	• Send documents to a shared folder or store directly to a document management system (DMS) • Customize "scan to" buttons for individual workgroups or departments • Send documents to network folders, based on user authentication • "Express" feature sends scanned images to a pre-configured destination list
Scan to desktop	• Send scanned documents to a personal network folder • Retrieve scanned documents using desktop client software at the user's PC • View and edit scanned documents at your desktop, then e-mail, fax, OCR, or save them to a document management system • Automatically delete the file from the folder upon opening
Scan and mail via Microsoft Exchange	• E-mail scanned documents from the copier/scanner via the Exchange Server • Access the Exchange global address list from the copier/scanner • Send mail from a personal mail account • Authenticate the sender • Support for hosted Exchange Server environments • Copy sent to user's "sent items" folder • "Send to Self" feature sends e-mail to authenticated user for One-Touch Scanning • "Express" feature sends second image to a pre-defined group of e-mail addresses
Scan and mail via Lotus Notes	• E-mail scanned documents from the copier/scanner via an SMTP mail server • Access the Notes global address list from the copier/scanner • Send mail from a personal mail account with access to personal contacts • Authenticate the sender • Copy sent to user's inbox
Scan and mail via SMTP	• E-mail scanned documents from the copier/scanner via an SMTP mail server • Access the LDAP global address list from the copier/scanner with access to personal contacts • Ensure that the sender's name appears in the "From" field • Authenticate the sender • Copy is sent to user's "inbox" folder
Scan to fax via network fax server	• Fax scanned documents using Captaris RightFax®, and other fax servers • Access existing server-based address books • Authenticate the sender • Track status of fax from your desk
Scan to fax via Mail	• Fax scanned documents using an Internet fax service, Microsoft Exchange, Lotus Notes, or via SMTP (requires 3rd party connector for Mail and SMTP) • Authenticate sender
Scan to fax via Internet fax service	• Fax scanned documents using an Internet fax service (can provide considerable cost savings over traditional faxing) • Authenticate the sender • Track status of fax from your desk
Scan to Document Management System (DMS)	• Authenticate the sender • Save scanned documents directly to DMS from the copier/scanner • Index the documents • Real time visibility of DMS repository and index information • Real time confirmation that the document has been stored successfully

Advanced scanning features

In addition to determining the availability of basic scanning functionality, you must also assess the availability of "advanced features" that may be important to your company or industry. Since vendors typically fail to mention features their own products lack, buyers may not appreciate their significance until it is too late. Here are a few examples:

Problem	Requirements
Busy offices cannot afford to have the department printer or copier tied up while someone scans a large document.	The copier must support concurrent printing and scanning. Additionally, users should be able to interrupt a large scanning job to enable someone to make a photocopy, and then resume scanning where they left off.
Offices frequently deal with pages of different sizes and documents that must be scanned from the glass (rather than the automatic document feeder).	The copier must be able to auto-sense the paper size and combine originals from multiple sources (glass or feeder) into a single file at the device.
Employees require an electronic record of exactly what they e-mailed or faxed, when, and to whom.	The network scanning solution must automatically deliver a copy of the e-mail or fax to the sender's "sent items" folder or their inbox.
It is cost prohibitive to maintain user lists and address books on multiple copiers at large sites.	The copier must directly access the centrally maintained corporate e-mail address book. Additionally, any user should be able to use any copier onsite without any pre-configuration.
Some compliance regulations require that scanned documents be encrypted prior to being transmitted over a public network.	The network scanning solution must enable users to encrypt e-mail attachments before sending them over the Internet.
Many businesses, like law firms, must track all the activities associated with a particular job for billing purposes.	The copier must capture detailed information about each scanning job, including client-billing codes, in a format that can be imported into a billing system like Copitrak or Equitrac.
Users are able to send scanned documents from any users' account.	The scanning solution must offer authentication services through native integration with the corporate e-mail application or network directory services.
Users are unable to determine if a scanned image is correct, which means the could send a document incorrectly scanned.	The scanning solution must offer the ability to preview the scanned image at the point of capture. This preview needs to happen before the image is sent to another application.

Scalability and workflow integration

In addition to ensuring that the product you purchase is compatible with your existing network environment and business applications (mail systems, fax servers, document management systems, etc.), you must also try to anticipate future needs:

- Will the solution accommodate our needs if we transition from a workgroup environment to a departmental or enterprise environment?
- Is functionality available to handle new technologies we expect to implement in the future?
- Has the vendor demonstrated an ability to update the product to ensure compatibility with the latest operating system and network application functionality?

By selecting a product that provides only basic functionality with no upgrade path, you may end up with a product that will become prematurely obsolete. Selecting a product that does not provide the scalability or future growth potential your company needs is one of the biggest reasons businesses fail to achieve the anticipated return on investment.

Just as important, you must also determine the product's compatibility with your existing business processes. As you gather information about each solution, ask yourself the following questions:

• How well does it integrate with our existing workflows?
• Does it present opportunities to streamline current practices?
• Can it expand to accommodate changing business needs?

By investigating these questions thoroughly before the purchase, you can avoid the "shelfware" problem, where a product fails to deliver the anticipated return on investment because it was too inflexible to be useful and cannot be integrated with your evolving network application environment.

Product acquisition costs

When considering total cost of ownership, product acquisition costs are generally the easiest to quantify. These costs include hardware, software, optional features, licenses, and software maintenance/support agreements. You should also include any options you may add during the product's lifecycle.

Pricing models can vary significantly from vendor to vendor. Some vendors sell a base model at lower cost, but most scanning functionality requires the purchase of expensive options that vary in price depending on the number of users you need to support.

If you only need basic scan and mail via SMTP with no user authentication and are confident that this is all you will need during the life of the product, then a rudimentary scan and mail solution may provide the best value. Frequently though, clients do not realize the drawbacks of such a simple solution (lack of security and accountability, reluctance of recipients to open attachments from unknown senders, etc.) until it is too late, and they end up purchasing more expensive options at a later date or, worse, discovering that the functionality they need is not available. Such variations in base price can skew initial perceptions of product acquisition cost. Careful analysis is therefore required before making any assumptions about the relative cost of competing solutions.

Additionally, it is important to select a product that will grow with your organization. As new uses of scanning are identified in your company, how easy is it to add additional scanning applications to the copier? Does the product offer a software developer's toolkit that will enable you to add functionality? Choosing a product that can mirror the growth of your technology could be the decision that gives you the largest cost savings in the future.

Tracking of this kind, when used in conjunction with the appropriate administrative procedures, is important in any environment where sensitive information is stored in paper form and its distribution must be monitored.

Item	Note
Quoted price for scanning-enabled copier	Does it include the base copier, all required scanning hardware, and the hardware maintenance contract?
Quoted price for software maintenance contract	Does it include annual software upgrades, phone support, etc. for the life of the lease?
Quoted price for installation and configuration	Does it include unpacking, hardware configuration, and initial software configuration?
Additional servers required	As additional scanning solutions are added, will you need additional servers to support each copier?
Desktop client software	Does the vendor offer a user license for their desktop software in the base price?
Scan and mail via SMTP	Is SMTP support included in the base price?
Scan and mail via Microsoft Exchange	Is Microsoft Exchange integration included in the base price?
Scan and mail via Lotus Notes	Is Lotus Notes integration included in the base price?
Scan to Microsoft SharePoint	Is Microsoft SharePoint integration included in the base price?
Scan and fax via network fax server	Is network fax integration included in the base price?
Scan to DMS	Is DMS integration included in the base price? Does the integration work "out-of-the-box" with no additional customization required?
Authentication	Does user authentication come standard?
Encryption	Can you encrypt documents?
Activity logging	Can you track and recover costs for scanning via activity logging?
OCR (Optical Character Recognition) converts scanned image to searchable text	Does the base product offer OCR?
Color scanning & compression	Does the base product offer color and black & white scanning? Does the base product compress color documents to minimize network impact?
Custom workflow	Does the base product give you the ability to create custom "scan to" buttons? Are there versatile file naming and multiple destination options?
Software Developer Kit (SDK)	Is there an SDK offering advanced integration into back end applications?

Device security

The eCopy ScanStation includes a customized PC running Microsoft Windows XP or Windows 2000. This makes it easy to configure and administer using the Windows-based administration program and the tools you already use for device configuration, software updates, and network management. Since the ScanStation is a public device, it includes various security features to prevent unauthorized use.

The following eCopy ScanStation features limit the activities that can be performed at the copier or scanner:

• Restricted network access
• Application lockdown
• Automatic logon and application startup
• Physical security
• No removable drives

These features prevent its use for unauthorized purposes or for activities that cannot be traced back to an individual user.

Restricted network access

The ScanStation PC is logged on to your network during normal operation using a dedicated login account. This account requires only limited access to the network, restricting the ability of anyone gaining access to the device to browse the network resources or perform activities that cannot be traced back to an individual user. The access rights required depend on the scanning functions you choose to implement.

Scanning function	Network access requirements
Scan and Mail	An account on the mail server (used to access the global address list)
Scan to Desktop	None
Scan and Fax	An account on the network fax server or mail server (for "Fax via Mail")
Scan to Printer	Access to the designated printer
eCopy Quick Connect	May require write access to Quick Connect destinations, depending on configuration
Scan to SharePoint	None

You can selectively disable individual scanning functions. When you disable a function, its button is removed from the eCopy interface and it cannot be used.

eCopy supports the security features of the Windows and Novell network operating systems. This means that the ScanStation PC provides the same level of network security as any desktop system on your network:

• Password authentication can be required for access to any network resources
• Passwords are encrypted before transmission over the network and whenever stored
• Authentication is done by the domain controller or Novell Directory Services

Application lockdown

eCopy ShareScan software runs full-screen, blocking access to the taskbar, start menu, and desktop icons. The application includes a password lock that prevents unauthorized users from exiting eCopy ShareScan and using other applications.

Automatic logon and application startup

You can configure the eCopy PC to log on to the network automatically using the restricted eCopy login account. This limits the possibility of someone gaining unauthorized access to the PC following a reboot. The PC is configured to launch the eCopy software automatically at startup.

Estimated costs over the product lifecycle

Whichever network scanning solution you choose, there are always significant ongoing costs incurred during the product's lifecycle.

These include:

• Installation and product implementation costs
• Costs associated with the printer/copier functions of the device
• Ongoing administrative costs associated with network scanning
• Document production costs

In addition, the user adoption rate (the willingness of users to switch from traditional copying, faxing, or overnight mailing) can impact your return on investment enormously.

Installation and implementation

The costs of installation and implementation associated with network scanning vary greatly from vendor to vendor. These costs include invoiced expenses, such as vendor-supplied installation services, as well as indirect expenses for services supplied internally, such as device configuration, user setup, and training.

Indirect expenses, such as Global Address List (GAL) maintenance, are often hard to quantify, but by calculating an average hourly cost for each employee category (IT administration, general end user, etc.) and estimating the time required for each activity based on the capabilities of the product, it is possible to arrive at figures that permit a fair comparison between solutions from different vendors.

Clearly, there is an enormous scope for variation depending on the scanning functions you are implementing, the number of devices, the number of employees, your existing network infrastructure, etc. Since most copier vendors now offer basic scan and mail via SMTP, it may be tempting to assume that the indirect costs of product introduction are approximately the same for all solutions. This, however, is not the case. For example, a solution that provides online access to your Outlook/Exchange global address list is significantly easier to configure and manage than a system that provides only an import function for addresses. The GAL needs to be updated or reloaded on each copier every time there are changes that justify an update. For this reason, it is important to select a solution that is efficient and easy to maintain for your IT administrators.

Printer/copier-related costs

Since printer and copier functionality are bundled with a copier-based network scanning solution, the associated costs of these functions must be considered as part of the overall total cost of ownership analysis. These costs include toner, cartridges, service calls, paper, etc.

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Fortunately, the per-page costs for printing and copying are fairly well documented and are available from vendors or third parties. These generally show that copier-based devices are significantly cheaper than printer-based devices due to the cost of toner replacement. Service calls are generally covered by a maintenance agreement and therefore show up as a line item in the product acquisition cost.

Scanning administration costs

Scanning administrative costs are incurred for a number of reasons, including:

- Employee turnover
  > Training: GAL (Global Address Lists) updates
- Maintenance of address lists
- Software upgrades

Ongoing administrative costs, however, are often difficult to quantify, but going through a TCO analysis with these items in mind at least provides some indication of the relative cost of different solutions.

Document production costs

Next, there are the indirect costs of human interaction, infrastructure, and document delivery.

These include:

- Time at the device (scanning or copying documents, clearing paper jams, replacing toner cartridges, etc.)
- Document finishing (collating, stapling, saddle-stitching, etc.)
- Delivery (postal service or overnight mail preparation versus electronic delivery)
- Space taken up by the device
- Required network bandwidth

Time at the device is directly related to the product design and usability. For example: Is the user forced to logon twice when scanning to a network folder – once using a network password to gain initial access to the scanning functions, and again using an FTP password to deliver the scanned document to the designated folder?

Just as significant, reducing the time at the copier also permits higher employee/device ratios. If the average time to Scan to desktop with user authentication using one solution is 30 seconds, but is 60 seconds using another solution, then, theoretically at least, the more robust offering is capable of supporting twice the number of scan to desktop users without increasing the wait time at the device.

Scanning errors can be another source of user frustration and document production cost. Incorporating at-device previewing and simple correction tools can reduce these issues.

Adoption rate

Finally, you must somehow factor in the user adoption rate. This has a huge impact on your ability to maximize return on investment (ROI) and therefore reduce total cost of ownership. Only when the network scanning solution saves time or is easier to use than the traditional process it is intended to replace, do you have a chance of obtaining the anticipated ROI. Consider the following examples:

1 You purchase a network scanning solution with the goal of reducing the portion of your monthly phone bill attributable to faxing between different company locations. Faced with the prospect of pre-configuring a template, users may reject the new solution as too difficult to use and continue to use traditional fax machines.

By choosing a document distribution solution that offers large, easy to use buttons and integration with server-based address lists, similar to those that users are presented with at their desktop, you are expediting user adoption and acceptance.

2 Your company spends thousands of dollars a month on overnight mail. Deploying an electronic document distribution solution enables employees to scan and mail documents and provides a vehicle that is easier than filling out a FedEx envelope, faster than overnight, and more secure.

3 Your company spends a lot of time and money photocopying and distributing documents internally. You buy a network scanning solution with the goal of reducing these costs. If you purchase a solution that does not provide access to server-based e-mail distribution lists and users are forced to enter each recipient individually, they will likely fail to see any advantage in using the new system and revert to old distribution methods.

Select a document distribution solution that can integrate with Microsoft Exchange, Lotus Notes, or any LDAP server to provide access to the global address list from the copier. Make sure all server-based distribution lists are available for selection, so you can send the scanned document to hundreds of recipients instantly.

In these examples, rejection of the new system for usability reasons will result in costs associated with long-distance faxing, overnight mailing, or photocopying that must be accounted for when calculating TCO or ROI. One can look at this as an expense or a failure to realize an expected cost saving. Either way, the user adoption rate has a huge impact. The user adoption rate is frequently the single most important factor in determining your ultimate return on investment.

Other intangible costs

The costs discussed thus far are either invoiced direct costs or estimated indirect costs. Any meaningful analysis must also consider the "intangible" costs associated with a given solution. These include:

- System reliability
- Architectural lifespan
- Upgrade availability
- Vendor support

Intangible costs are, by definition, virtually impossible to quantify in hard dollar figures, but must, nonetheless, be factored in on at least a subjective level. Risk management analysis provides mechanisms for assessing and quantifying the risks associated with various parameters, but is beyond the scope of this paper.

Needless to say, buying a mature solution from an established vendor is the first step to reducing intangible costs.

Summary

Adding a network scanning solution to your IT infrastructure can be a risky proposition when the true cost only becomes apparent after the system has been purchased and has been operational for several months. Even the initial product acquisition costs themselves can be misleading, since standard features included with one vendor's product may be sold as add-ons from other vendors or may not be available at all.

As companies carefully weigh the costs and benefits associated with network scanning, they must look beyond initial product acquisition costs. As with most IT infrastructure expenditures, the initial acquisition cost typically represents only a small percentage of the total cost of ownership. Much more significant are the direct and indirect costs incurred over the life of the product.

These include:

- Costs associated with installation and device setup
- Initial software configuration costs
- Cost of consumables
- Day-to-day device and user administration
- Document production costs

Just as important when calculating your overall expected return on investment is the adoption rate. By this we mean the rate at which users are willing to use electronic document distribution methods instead of expensive (but familiar) traditional delivery methods, like fax, overnight delivery, and internal mail. Only when the network scanning solution saves time or is easier to use than the traditional process it is intended to replace is it possible to maximize your return on investment.

The experience speaks for itself™

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