



Doculabs MarketFocus White Paper:

## HP LaserJet 4345mfp Series for Distributed Capture

*While many organizations have invested heavily in enterprise content management (ECM) solutions, many have difficulty in bringing the benefits of those investments down to the individual workgroup level. Many small departments and distributed workgroups are still plagued by manual paper handling and routing processes that create huge inefficiencies and potentially costly errors. Moreover, few workgroups have an easy way to get their business documents into the content management system or into a business process quickly enough to improve their operational efficiency.*

*To address the document capture and processing needs of workgroups and distributed environments, HP provides the HP LaserJet 4345mfp series. These multi-function products (MFPs) are available with two software options (Digital Sending Software 4.0 and HP AutoStore) that allow workgroups to easily capture documents, extract relevant data, index the documents, and distribute them to multiple destinations (including fax, e-mail, shared network folders, directories, and content management systems). In addition, the HP LaserJet 4345mfp series provides workgroups with all the benefits of an MFP, including printing, copying, scanning, faxing, and digital sending capabilities – all from a single device.*

*HP commissioned Doculabs, an independent consulting and research firm, to review the HP LaserJet 4345mfp series and the optional DSS 4.0 and HP AutoStore software. Overall, Doculabs finds that the combination of the 4345mfp series and software options provides a compelling solution to bring content management to the workgroup level. The distributed capture solution offers more flexibility, broader capabilities, and a lower price point than competitive solutions. The result is a straightforward approach for workgroups to streamline their processes and tie in to corporate content management solutions.*

## What's Inside

### ***Workgroup Challenges of Distributed Capture***

Highlights the challenges that most workgroups face in managing document capture and input, and HP's approach to addressing them.

### ***Review of the HP LaserJet 4345mfp Series***

Provides Doculabs review of the HP LaserJet 4345mfp series' hardware and software capabilities.

### ***Application Example***

Provides an example of how the HP LaserJet 4345mfp series hardware and software solution can be used for distributed capture applications within workgroups.

### ***Business Benefits***

Highlights a number of key business benefits that the HP LaserJet 4345mfp series can deliver to organizations and their workgroups.

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Provides Doculabs' overall opinion of the HP LaserJet 4345mfp series.

### ***At a Glance***

Provides a snapshot of background information on HP and its document management solutions.

## Workgroup Challenges of Distributed Capture

Many organizations have made major investments in enterprise content management (ECM) technology to address application requirements for specific lines of business or operational areas. However, such enterprise solutions are seldom extended down to small departments or distributed workgroups, or are of limited use for those departments because paper processing remains a core part of the department's functions.

These challenges are especially pronounced in organizations that have large numbers of smaller workgroups or distributed locations such as branches, agencies, or remote field offices. Such workgroups are often the major points of receipt and distribution of key documents. For example, work groups or distributed branches often receive forms (such as account enrollment forms or loan origination forms) that contain information that needs to be quickly captured and assimilated into a business process.

Ideally, such workgroups would have a straightforward approach to capture critical information as soon as it is received, extract relevant business data, and get the document and data routed into the appropriate system or business process. This immediately eliminates the paper, simplifies the distribution and sharing of documents, kick-starts the business process, and gets the document under organizational control in a managed repository.

While many organizations have invested in centralized capture operations, distributed capture is highly complementary – and it reduces the need for documents to be transported to a capture center for scanning and indexing before they can be used. In addition, by having the workgroup capture their documents into a target ECM system, the workgroup has additional incentive to use the ECM system to facilitate its own business processes, as the workgroup can populate the ECM system with the critical documents needed to drive day-to-day job functions.

While distributed capture makes great sense in concept, many of the solutions available in the market today have limitations that have slowed their adoption. For example, many distributed capture solutions available on the market today are:

- Overly complex for workgroup users to learn without much training (which is a critical limitation in environments where users may lack technical skills or in which heavy employee turnover is a factor)
- Difficult to integrate seamlessly with content management systems
- Too inflexible to accommodate complex document flows, changing business needs, and increasing volumes of documents over time
- Resource-intensive for IT in terms of installation, configuration, and maintenance
- Expensive solutions in terms of hardware, software, and support costs

## ***HP's Approach to Distributed Capture for Workgroups***

To address the distributed capture needs of workgroups and distributed environments, HP provides the HP LaserJet 4345mfp series. These multi-function products (MFPs) are designed to provide workgroups with printing, copying, scanning, faxing, and digital sending capabilities – all from a single device. More importantly, the HP LaserJet 4345mfp series is available with optional Digital Sending Software 4.0 and HP AutoStore software, providing an integrated approach to distributed capture that is designed to provide a convenient, more flexible alternative to centralized capture operations.

With the HP LaserJet 4345mfp series hardware and software solution, workgroups have the ability to quickly capture documents, index them, and distribute them digitally to multiple destinations (including fax, e-mail, shared network drives, directories, and content management systems). In addition to reducing paper handling and routing, these capabilities can help get business-critical documents into workflows faster, improve organizational control over content, and facilitate content sharing and re-use.

The HP LaserJet 4345mfp series, combined with the optional software, is designed to be a highly cost-effective and accessible way to bring document management to the workgroup. The devices are small enough and inexpensive enough for organizations to deploy multiple units to distributed locations, so users are assured of having ready access to the devices when and where they need them. In addition, the HP LaserJet 4345mfp series has an intuitive touchscreen control panel that is easy for users to learn and operate, facilitating adoption of advanced capabilities. The same panel is provided on other LaserJet devices, providing users with consistency.

Likewise, the HP LaserJet 4345mfp series and software is designed to make life simpler for IT. As with other networkable HP LaserJet devices, the entire 4345mfp series solution can be administered via web-based management modules, and the software components include graphical design modules that minimize programming requirements and even allow workgroups to handle much of their own application setup. In addition, HP provides all support for the software components as well as the hardware, giving IT a single point of contact for support and maintenance.

Finally, HP provides additional products and expertise to help bring the entire solution together. For example, HP provides storage solutions and server hardware that are key foundation components to any document management architecture. In addition, HP offers consulting and integration services that can provide organizations the expertise and service they need to implement solutions to support their distributed capture and document management efforts. While this paper does not review these products or services in depth, it is important for customers to realize the benefits of obtaining this breadth of hardware and software products, services, and expertise from a single, stable vendor.

## Review of the HP LaserJet 4345mfp Series

This section provides Doculabs' review of the HP LaserJet 4345mfp series, including Digital Sending Software (DSS) 4.0 and HP AutoStore Software.

### ***Base Capabilities for Distributed Capture***

The HP LaserJet 4345mfp series provides up to 45 pages-per-minute of high-quality printing but can also be used as a standalone walk-up copier, scanner, fax, or digital sending device. The HP LaserJet 4345mfp series is designed to provide a workgroup-oriented solution with the speed and capabilities found in more advanced departmental devices.

The MFPs support a range of digital sending options. Right out of the box, the MFPs allow users to send documents to e-mail addresses, allowing organizations to gain immediate value without the need for additional software. More advanced features for electronic distribution are provided through DSS 4.0 and HP AutoStore software (described below).

The HP LaserJet 4345mfp series is designed to be intuitive for users. All HP MFPs use the same touch-screen graphical control panel for scanning, copying, faxing, and digitally sending documents. The touchscreen control panel provides user instructions and status messages, making it easy for workgroup members with little training to operate all the device's functions and help features. In addition, advanced features provided through DSS and AutoStore are accessed directly from this graphical control panel.

### ***Advanced Distributed Capture and Processing Capabilities***

The value of the HP LaserJet 4345mfp series can be greatly enhanced through the use of two optional software packages: DSS 4.0 and HP AutoStore. These software packages are designed to expand the devices' digital sending capabilities, facilitate process management, and seamlessly integrate with document management systems. HP offers full support for DSS 4.0 and HP AutoStore, providing a single-vendor solution for distributed capture.

#### ***Digital Sending Software (DSS) 4.0***

DSS 4.0 is HP's entry-level server-based solution for digital sending. The software provides network authentication (Windows, Novell, LDAP), the ability to send from the MFP to the network via an encrypted channel, and the ability to send to multiple destinations including LAN/Internet/Win2K fax services, network folders, printers, and FTP sites.

DSS 4.0 provides built-in OCR capabilities as well as custom keys and metadata capabilities for simple, accurate indexing and routing of documents. DSS 4.0 is straightforward to install, and the configuration utility allows management of multiple devices from one utility. End user simplicity is enabled by the custom keys and the intuitive control panel interface.

## HP AutoStore

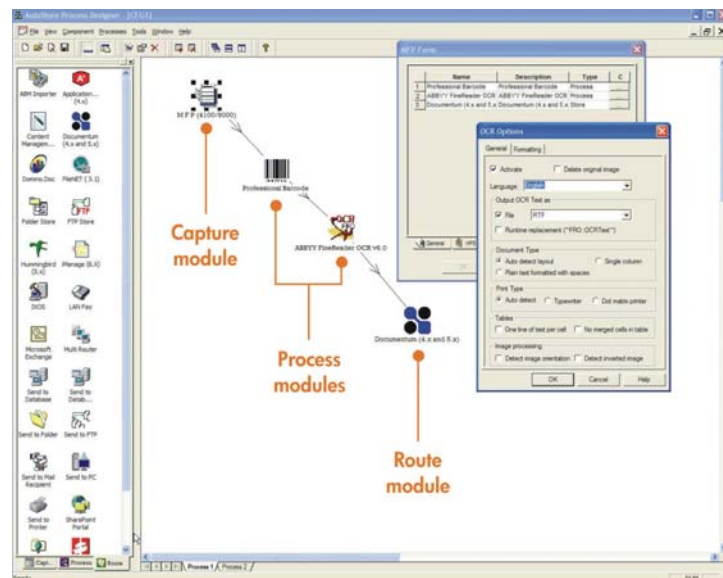
HP AutoStore is a server-based software package that is designed for more advanced digital sending requirements. The software provides a common framework or middleware layer to capture and route images and data to nearly any third-party document management or groupware repository – making the solution ideal for decentralized or distributed capture applications.

The base version of HP AutoStore ships standard with routing to Microsoft SharePoint Portal Server, Microsoft Exchange, and Lotus Notes/Domino. Optional routing modules are available for Documentum 4.x and 5.x, Documentum ApplicationXtender, Interwoven WorkSite 6.x, Open Text Livelink 9.x, IXOS eCON Server 5.x, and Hummingbird DM5. It manages data in a standard format that can be imported into OLE databases such as Oracle or Microsoft SQL Server.

HP AutoStore also provides extensive image processing capabilities. For example, it includes engines for forms processing, optical character recognition (OCR), and barcode recognition – and the extracted index information (metadata) can be mapped directly into content management system profiles. HP AutoStore also includes image enhancement capabilities including deskew, despeckle, text smoothing, and removal of dots, lines, borders, and empty pages – resulting in higher quality images. HP AutoStore can be configured to convert documents from TIFF or other formats into searchable PDF, making it easier for users to later locate the information they need from within their existing content management applications.

HP AutoStore includes a graphical Process Designer that allows administrators or authorized users to configure their document capture processes. In a simple drag-and-drop manner, administrators can create “maps” to configure the necessary components and processing stages, such as forms processing steps, OCR steps and export steps to third-party document management systems.

Figure 1 – HP AutoStore features an intuitive process designer for graphically creating capture and routing process flows without programming.



Administrators can also define document types and index fields, which creates menus within the MFP's touchscreen control panel that make it easy for users to properly index a document and send it to the correct destination or system. This improves indexing and sending accuracy, while minimizing user training requirements.

### ***Configuration and Administration***

HP DSS 4.0 and HP AutoStore software provides a wizard-driven approach for installation and setup. The HP LaserJet 4345mfp series includes firmware components that minimize server-side installation tasks, simplifying the process for IT.

HP AutoStore is a service that runs on all Windows 32-bit platforms. It includes a Status Monitor that enables administrators to ensure that the system is running properly and to monitor activity. Event notifications can be configured to inform users of any errors that may occur during processing. HP AutoStore also includes a software development kit (SDK) that allows custom creation of Visual Basic or Java Script code to perform functions such as database lookups and data validation.

For networking and administration, the HP LaserJet 4345mfp series includes the HP Jetdirect Fast Ethernet embedded print server, which supports TCP/IP and simplifies administration of shared devices. Administrators can configure and monitor 4345 devices via standard web browsers using HP Web Jetadmin and the HP Embedded Web Server. This facilitates remote configuration and administration of the devices over the network, instead of from the touchscreen control panel at the device.

### ***MFP Capabilities***

In addition to its value as a distributed capture solution, the HP LaserJet 4345mfp series provides all the advantages of an all-in-one peripheral for workgroups.

The black-and-white 4345mfp series offers rated print and copy speeds of 45 pages per minute, a duty cycle of 200,000 pages per month, and resolution up to 1,200 dpi. The MFPs come standard with 256 MB RAM, with the ability to add up to 512 MB of memory.

In terms of capacity, the base model of the 4345mfp includes a 100-sheet multipurpose tray, a 500-sheet input tray, a 500-sheet output tray, and a 50-sheet automatic document feeder (ADF). Models are available with additional 500-sheet input trays, analog fax accessory, a three-bin mailbox or stapler/stacker accessory, and a printer stand with storage cabinet.

The HP LaserJet 4345mfp series also includes printing and finishing capabilities more typical of departmental printers and copiers. For example, the devices are available with options including automatic two-sided printing and stapler/stacker accessories. Such features make it easy for workgroups to scale up from small-volume, ad hoc jobs to larger scale input and output jobs.

Figure 2 – The HP LaserJet 4345mfp Series ranges from the base model that fits on a tabletop, up to the 4345xs, which includes multiple paper trays and finishing options.



The HP LaserJet 4345mfp series supports HP PCL 5e, PCL 6, and PostScript output. The MFPs can directly render PDF files into printed output, which means that PDF files can be printed from any device (including mobile devices) without using PDF readers or converters.

The MFPs include a 20 GB embedded hard disk that supports job storage and retention features. For example, users can submit a job with multiple copies, print only the first copy for review, and then either print the remaining copies or cancel the job from the MFP. In addition, the devices support a “virtual mailbox” for private printing, in which a user can submit a job to the MFP, where it is stored until the user enters a valid PIN at the device.

For faxing, HP’s optional Analog Fax Accessory provides a wealth of flexible features. Fax jobs can be stored at the device until a user enters a PIN number to release the stored documents. Scheduling parameters can be set to specify dates or times when faxes should be printed or held on the device. Fax forwarding features allow incoming faxes to be re-directed to another fax number. LAN fax capabilities are provided through DSS 4.0.

## Application Example

A large financial services organization has a number of distributed branch offices that manage account origination and front-line customer service for walk-in customers. The branch offices handle significant amounts of paper documents such as enrollment applications and other paper forms to change account information. In addition, the employees in the field offices use paper in order to conduct other administrative functions, such as employee expense reporting and other HR-related functions.

Historically, the organization's branch offices had to resort to many different manual techniques to accomplish their day-to-day tasks. In some cases, the office would fax certain forms and documents into the corporate office to trigger business processes relating to customers and accounts. In other cases, the offices would send paper forms and documents to the corporate office via courier for processing.

Such manual approaches resulted in longer processing times, and they introduced the opportunity for error due to mis-handled documents, mis-routed documents, or poor document quality. In addition, these approaches did little to provide the branches with efficiency in their own processes, as the documents they submitted were not available for online access in order for the branches to resolve customer inquiries within the branch.

To address these issues, the organization deployed HP LaserJet 4345mfp devices to all of its branches. The branches started using the devices for simple digital sending applications for HR-related documents, scanning HR forms and expense reports and digitally sending them directly to HR recipients at the corporate office. The organization gained immediate returns from reduced courier expenses and more timely receipt of documents by HR.

The next stage of the implementation was to roll out DSS 4.0 and HP AutoStore to the branch offices. With these capabilities, the organization began using the solution for more complex business processes. Specifically, the devices were configured to allow users to scan and index customer enrollment forms. The devices' control panel interfaces were programmed with intuitive drop-down menus that made it easy for users to accurately categorize and securely send them directly into the organization's content management system. The capture flows included OCR and image cleanup features that improved document image quality and data quality.

With these capabilities and processes in place, the branches were able to dramatically reduce the amount of paper handling involved in their operations, increase the accuracy of their document capture, and to get the documents into the business process faster. In addition, by sending the documents directly into the organization's central content management system, the digital images became immediately available for the branches' representatives to search for and retrieve customer documents right at their desktops – resulting in faster customer service and the ability to resolve customer inquiries without burdening the organization's call center.

## Business Benefits

The HP LaserJet 4345mfp series can provide a number of key business benefits to organizations. For example, the HP LaserJet 4345mfp series can help organizations:

- **Quickly get documents into downstream business processes.** By capturing documents at the distributed locations where documents are received, organizations can get them into their business processes as fast as possible, without having to first deliver physical documents to a central scanning center or mail room. This time savings can have a direct impact on revenue and profit, and makes clear sense for distributed capture environments such as bank branches, agencies, or field offices.
- **Increase adoption of distributed capture and maximize the value of content management system investments.** With its intuitive touchscreen control panel, the HP LaserJet 4345mfp series is designed with the office worker in mind. Thus, organizations can add distributed capture with minimal complication to users' day-to-day job functions – ensuring participation by users that understand the documents, without sacrificing quality. This approach also helps workgroups tie into their organizations' content management systems, increasing the adoption and business value of content management investments.
- **Quickly get critical documents under organizational control.** By effectively capturing documents at their source and converting them into electronic formats, organizations can ensure that the documents are brought under corporate control – facilitating regulatory compliance and records management practices. In addition, capturing documents and converting them into an electronic format can reduce the manual touch points involved in subsequent information use, reducing risk.
- **Improve document accessibility and distribution.** The HP LaserJet 4345mfp series can effectively capture and share business documents among internal or external parties, with proper security controls and audit trails. This helps facilitate reporting, discovery, and auditing processes. The security and access control of DSS 4.0 and HP AutoStore are clear differentiators for HP.
- **Simplify document input and output processes for workgroups in a cost-effective manner.** The HP LaserJet 4345mfp series is designed to be intuitive for users, while providing the speed and features required for advanced printing, copying, faxing, and digital sending. In addition, providing multiple workgroup MFPs provides users with a much more convenient approach than having to share a single, more expensive departmental device.
- **Bring complete solutions together by taking advantage of HP's services and expertise.** HP's consulting and integration services can provide organizations the expertise and service they need to implement solutions to support their distributed capture and content management efforts, bringing together a total foundation for document management.

## Final Word

Distributed capture is a great concept, but many organizations have struggled with implementing effective solutions that are intuitive enough for workgroups and distributed offices to use effectively. It is one thing to be able to create an image from a document; the real challenge lies in simplifying the process of indexing the documents, extracting relevant metadata, and routing the documents into managed content repositories or business processes.

With the HP LaserJet 4345mfp series and software options, HP provides a solution that is tailored for the needs of distributed capture in smaller workgroups. Doculabs finds that the solution provides a great approach for bringing document management to the workgroup by delivering advanced distributed capture capabilities in an intuitive and cost-effective manner. Among the key strengths and differentiators of the HP solution include the following:

- **The solution is incredibly intuitive for users.** This can lead to increased adoption along with improved accuracy of document indexing to improve downstream business processes
- **The solution offers strong capabilities for image processing and content management system integration.** These capabilities will help organizations maximize the value of their content management investments by extending distributed capture to the workgroup.
- **The solution is far less expensive than other alternatives in the market, making distributed capture a real option for small workgroups and distributed offices.** A mid-range HP LaserJet 4345mfp has a U.S. list price of under \$6,000 – less than one-third the price of any comparable product from other major competitors. HP's Digital Sending Software (DSS) is priced at approximately \$6,400 for an environment of 20 devices (which includes free support and upgrades from HP); HP AutoStore is priced at approximately \$7,700 for an environment of 20 devices. Similarly-configured competitive solutions can cost at least twice as much.
- **The latest versions of HP DSS 4.0 and AutoStore software are easier to install, configure and customize.** This makes life easier for IT and business users alike.
- **The solution is based on the HP LaserJet 4345mfp series hardware, providing workgroups with all the advantages of a single device for scanning, copying, printing, and digital sending.**
- **HP provides award-winning support for the entire solution (including hardware and software components).** This provides organizations a single-vendor solution that reduces risk.

## HP at a Glance

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<b>Founded:</b>	1939
<b>Stock Symbol:</b>	NYSE: HPQ
<b>2003 Revenues</b>	\$73.1 billion (fiscal year 2003)
<b>Employees:</b>	Approximately 142,000 employees worldwide
<b>Office Locations:</b>	HP now has operations in more than 160 countries worldwide
<b>Overview:</b>	<p>HP is a leading provider of products, technologies, solutions, and services to consumers and business. The company's offerings span IT infrastructure, personal computing and access devices, global services, and imaging and printing.</p> <p>HP provides a range of input and output devices – including scanners and multi-function peripherals – to address a wide breadth of application requirements. In addition, HP provides software that facilitates document routing and import into target document management systems and repositories. Finally, HP provides storage solutions, servers, and services that help organizations bring their entire content management foundation together.</p> <p>For more information on HP's document and content management solutions, visit:  <a href="http://www.hp.com/go/documentcapture">www.hp.com/go/documentcapture</a>.</p>

Table 1: HP at a Glance



## About Doculabs



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