

Technical white paper

HP ScanJet in-box solution details and definitions



Efficiently and effectively scan documents with HP scanner solutions

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Introduction

The Windows® software and TWAIN drivers included with HP ScanJet scanners have a variety of powerful features that enable users to efficiently and effectively scan documents and automatically create processed files that meet user needs. This document describes these features and capabilities, along with a compilation of available features by scanner model.

Although the focus here is on Windows solutions, HP scanners have solutions for Linux, Mac, and mobile platforms like Android™ and iOS. While two of the scanners—8500 fn2 and N9120 fn2—are FutureSmart-based products, except for Workpath app platform none of the features related to that platform will be covered here. More information about FutureSmart can be obtained at hp.com/go/futuresmart.

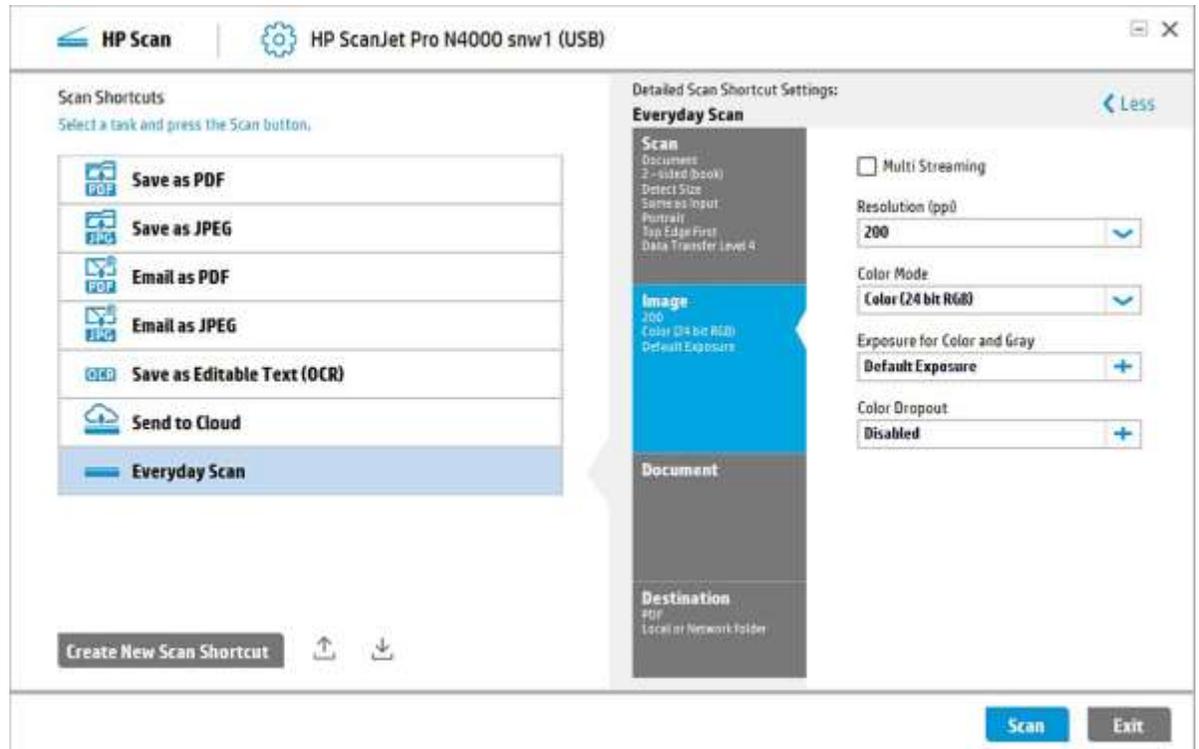
Scanning and processing features

Scanning features

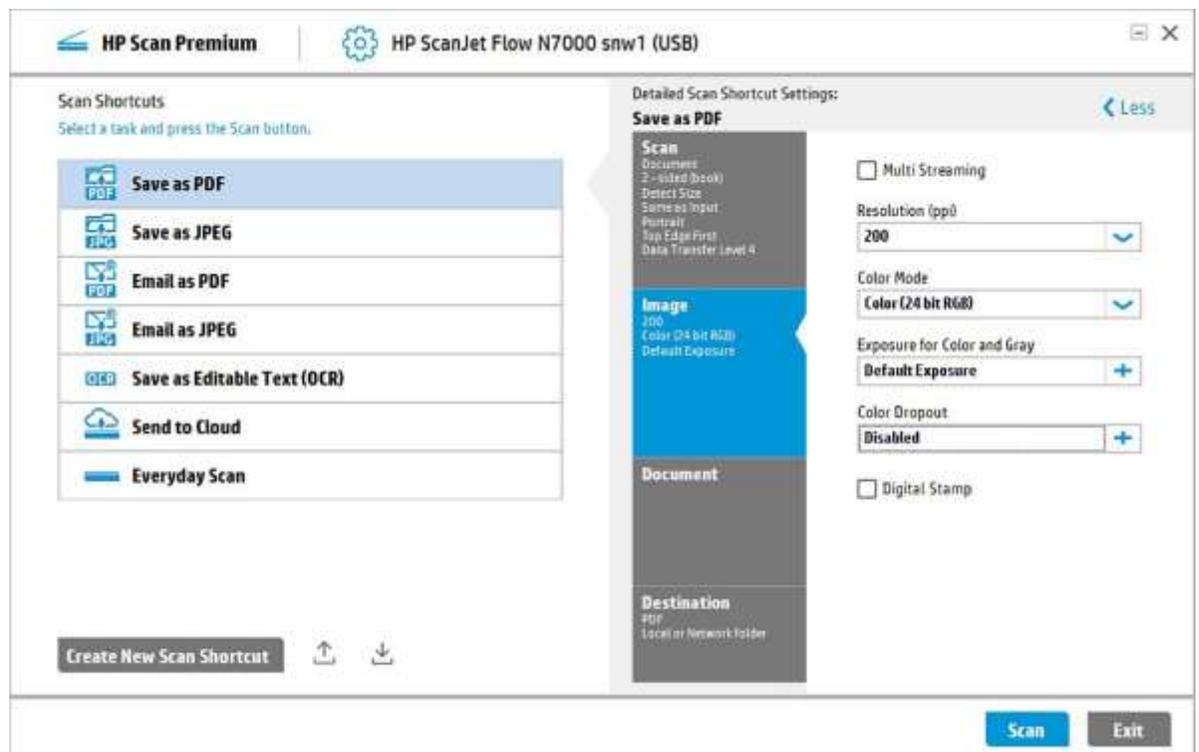
Scanning settings are as basic as defining the resolution, color, page size, orientation, single or double sided, exposure, etc. However, HP scanners also include the following features:

- **Auto exposure**
 - Values of contrast, brightness, and mid-tones are set automatically based on the content of the page.
- **Auto threshold**
 - When scanning in black-and-white, auto thresholding decides which color will turn to white and which to black.
- **Auto detect color**
 - This automatic feature decides on a page-by-page basis whether a page should be scanned as color or as black-and-white, and whether a large file size is needed.
- **Background smoothing and removal**
 - When scanning colored pages, background smoothing creates a page with an even background of a single color, rather than textures of creases and folds.
 - Background removal allows for colored pages to be scanned to a white background. This enables a more readable page and smaller file sizes, especially when page color is not important.
- **Remove noise**
 - When scanning in black-and-white, the page will inevitably have some dark speckles. This feature removes these speckles.
- **Auto detect size / auto page size**
 - This feature detects the size of the scanned pages and produces a file with the original page sizes. It is useful in cases where documents contain mixed pages.
- **Straighten content**
 - On occasion, pages can feed through the scanner skewed. This feature straightens the page before it is saved to a file.
- **Enhance content**
 - When scanning in black-and-white, this feature improves page quality by enhancing and sharpening lines and text. This is especially useful for accurate optical character recognition (OCR) of text.¹
- **Multi-streaming**
 - This feature enables one-time scanning of a document that creates two separate files with different characteristics (e.g., one in color and one in black-and-white).
- **Auto feed**
 - This feature automatically starts feeding paper when it is inserted in the input tray. There are two variations: standard mode, which adds pages and creates one file, and batch mode, which creates one file from each batch of pages in the input tray.
- **Multi-feed detection**
 - Many scanner models include an ultrasonic sensor that detects when two or more pages are fed simultaneously into the scanner. When this occurs, the software can provide simple or advanced options to continue or cancel scanning. More details are available in the “Multi-feed (misfeed) detection and actions” section on page 21.

HP Scan Software – Image tab



HP Scan Premium – Image tab

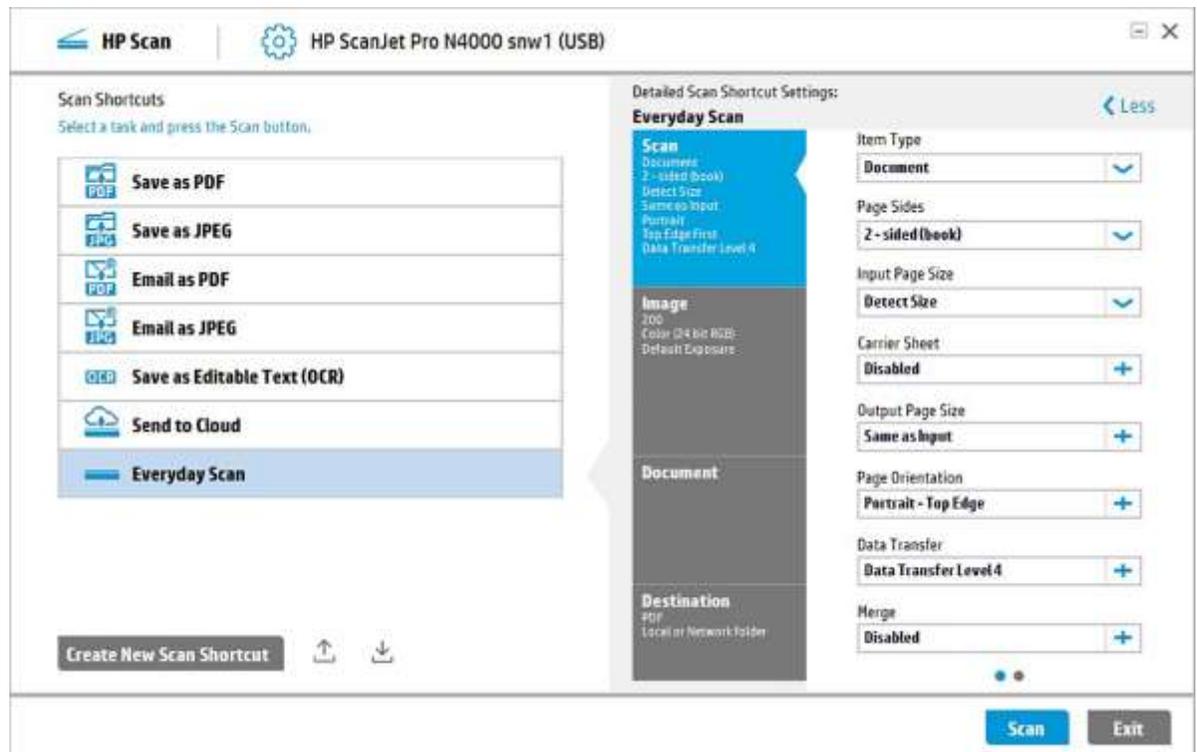


Page processing

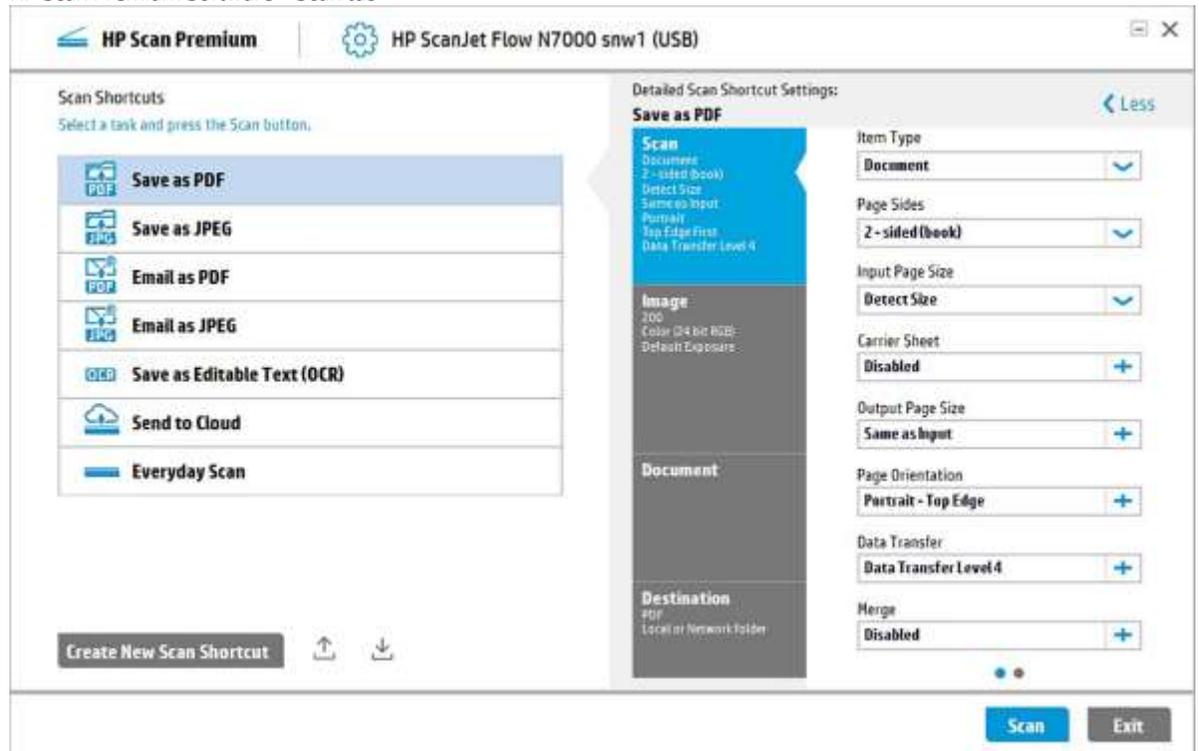
While scanning features, in general, apply to all pages scanned, page processing will affect only pages that meet specific conditions. These include:

- **Auto orient**
 - When a page is detected as being in a different direction to the scan orientation, it is automatically rotated. For example, if a page is upside down, it will be rotated 180 degrees; when it is oriented sideways, it will be rotated 90 degrees.
- **Multi-color and channel color dropout**
 - When a page contains a specific color, this color will be removed. In the case of multi-color dropout, a specific color can be chosen. In the case of channel dropout, one color—red, green, or blue—can be chosen.
- **Edge erase**
 - This feature erases unwanted edges around a page. This is especially useful when thin black lines are sometimes scanned at the margins of the page.
- **Resize page**
 - Independent of the actual page size, a scanned page will be saved in the specified page size. For example, a small photo ID card could be saved as a Letter-sized page (magnifying the content on the card).
- **Delete blank page**
 - Documents can contain blank pages that are not of interest and should not be saved as part of the final file. These blank pages are detected and automatically deleted.
- **Merge pages**
 - This feature merges the front and back of a page to a single page in the final file. This way, the contents of both sides are visible at the same time. For example, both sides of a photo ID card can be merged so that the content can be viewed together.
- **Hole fill**
 - For pages with punch holes, these holes can be erased. Thus, pages kept in a binder can be cleaned up and saved.

HP Scan Software – Scan tab



HP Scan Premium Software – Scan tab



Document processing

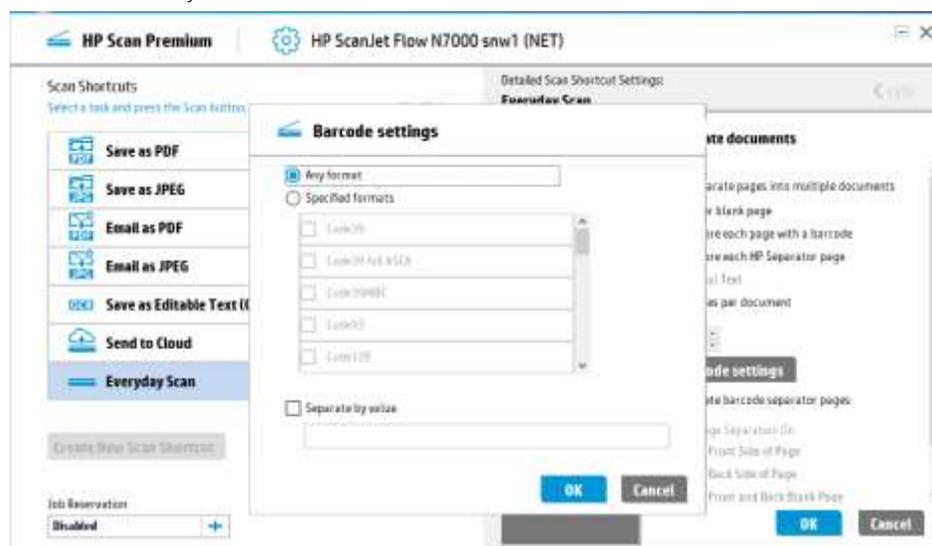
Once the individual pages are scanned and processed, the document can be analyzed and enhanced in a variety of ways.

Document separation

- A scanned file can consist of multiple documents that need to be separated. The software can accomplish this in various ways:
 - Fixed number of pages: if each document consists of the same number of pages, they can be automatically separated based on this rule.
 - Blank page: a common method of separating documents is to insert a blank page between them. With this method, the blank pages are detected and the separation processed.
 - Barcode: common workflows will scan documents where the first page contains a barcode. This barcode can be automatically detected and used as the mark to separate each document. Barcode detection can be performed in one of two ways:
 - Searching for a barcode anywhere on the page
 - Decoding a barcode in a specific zone of the page (“zonal barcode”)
 - By Barcode type / value (HP Scan Premium only)

This feature allows the user to separate the scanned documents by the type of barcode detected or by the value that is encoded in the barcode. This is different to separation by the presence of a barcode. In this case, a barcode can be present but may not trigger the separation because it is not the correct type or value as selected by the user. This applies to both general barcode use or zonal barcode detection.

One or more barcode types can be selected from the list of supported barcodes. A specific value is searched and must match exactly with what the barcode has encoded.



- Zonal text (OCR): detecting text within a specified zone on a page will trigger the separation and start a new document.
- HP Separator page:² separate documents are identified by using a special page that HP provides. Automatic detection of this page will process the separation.
- Manually: If none of the previous automatic methods are enough, a user can manually indicate the end of one document and the beginning of the next.

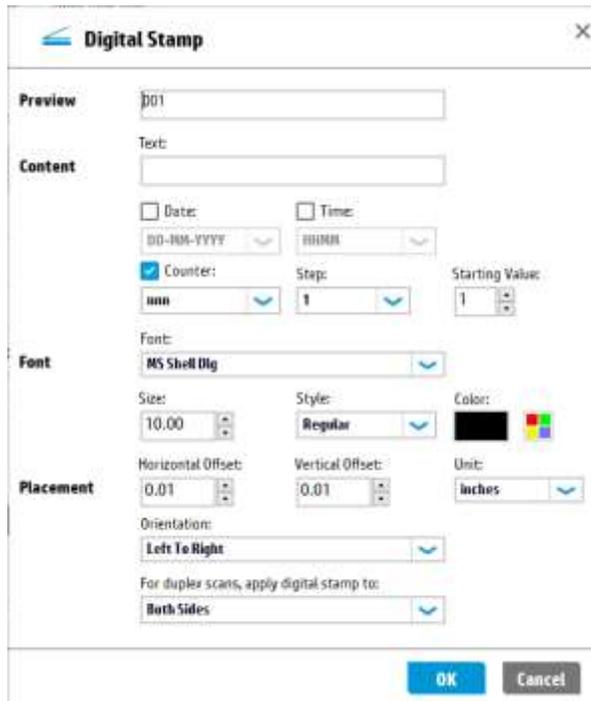
Digital stamps (HP Scan Premium only)

Some workflows require that when a document is scanned, it has markings or identification on each page. Digital stamps apply certain text (e.g., date and time, page number, etc.) to each page that is saved to a file. This is similar to physically printing text on each scanned page but, instead, the mark appears in the scanned file.



Digital Stamp settings include the following:

1. Preview section needs to show applied digital stamp information sample.
2. Content details include text, date and time, page-counter, starting value and incremental step values.
3. Font details include font-type, size, color and styles.
4. Placement details include horizontal offset, vertical offset, unit, orientation, single page or duplex.



Metadata capture

Metadata is data stored with a document to provide information about it, such as title, author, subject, date of creation and keywords. Metadata can refer to the data fields used to store the information or the content of those fields. This new feature allows metadata to be added to saved documents.

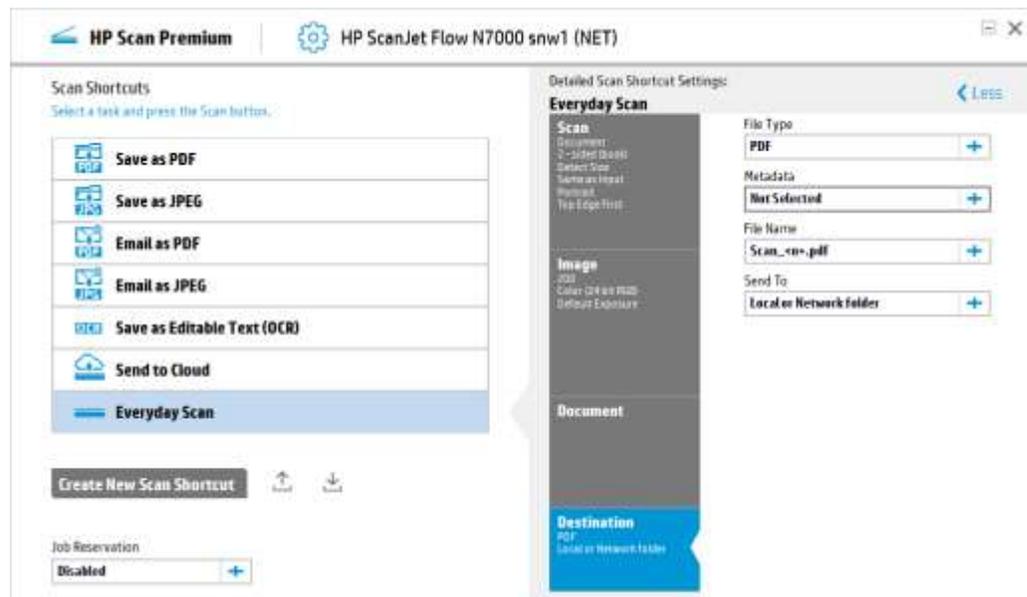
All metadata defined in “Description” should be saved in the XML file, with the same name as the scanned image.

XML format is designed to store metadata. Data in this format can be stored in XML files or embedded into other files such as PDF files. User-defined metadata, PDF-specific metadata and, optionally, barcodes and scan information (number of pages, scan date, etc.) can be stored in an XML metadata file.

All Metadata defined in “Description” should be contained in the PDF file along with Scanned content. In case of PDF file, an XML file containing the metadata information may also be available on user preference and with the file name same as PDF file.

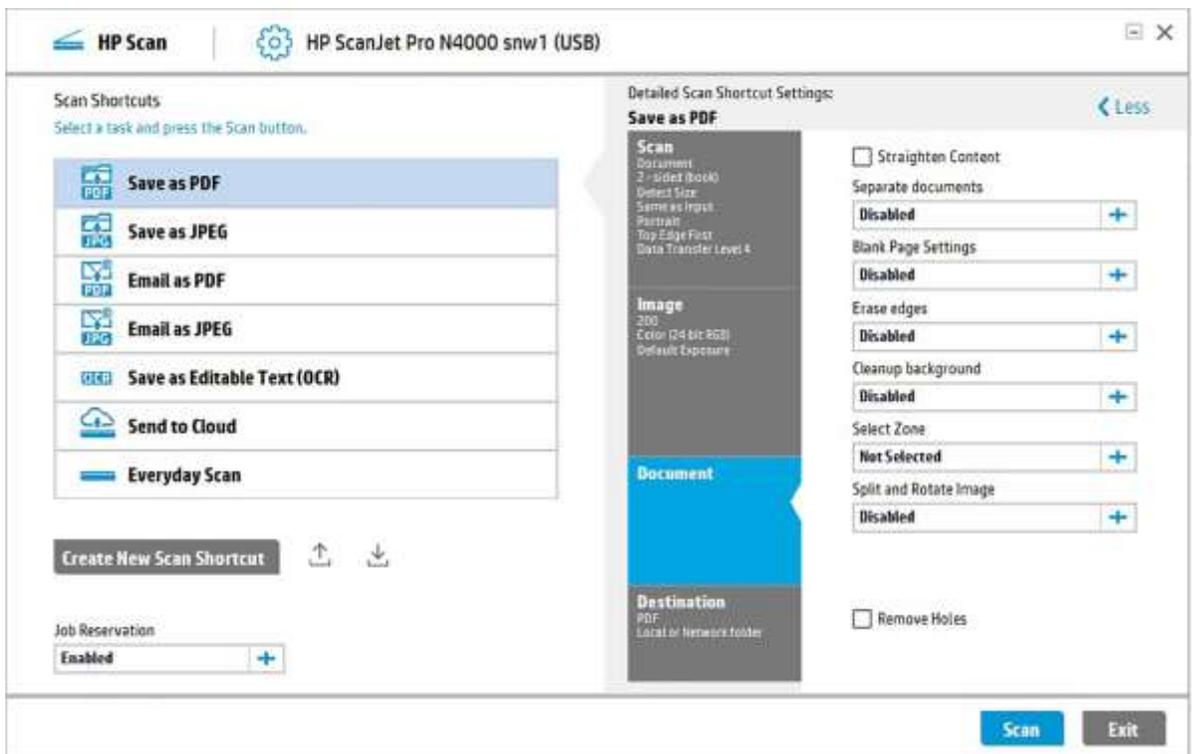
PDF files can store metadata. Standard PDF metadata includes Title, Author, Subject, and Keywords. This data is displayed under Document Properties in PDF editors. This new feature will support embedding standard PDF metadata and optionally barcodes and scan information in PDF files.

1. A Metadata rollout option will be there in Destination tab for setting the Metadata fields.
2. User can select PDF and XML metadata settings from the Metadata rollout.
3. PDF Metadata settings option is valid only if the output file type is pdf. XML meta data will there for all filetypes including PDF filetype.
4. An option should be available to enable or disable the Metadata embedding for PDF.
5. Add, Modify, Delete, Move up, Move down buttons should be available in PDF and XML metadata settings.
6. Only Title, Author, Subject and Keywords options should be listed while selecting PDF Metadata fields using Add option.
7. After the scanning is complete user will have to provide necessary metadata information which will be saved as part of XML metadata or PDF file metadata.

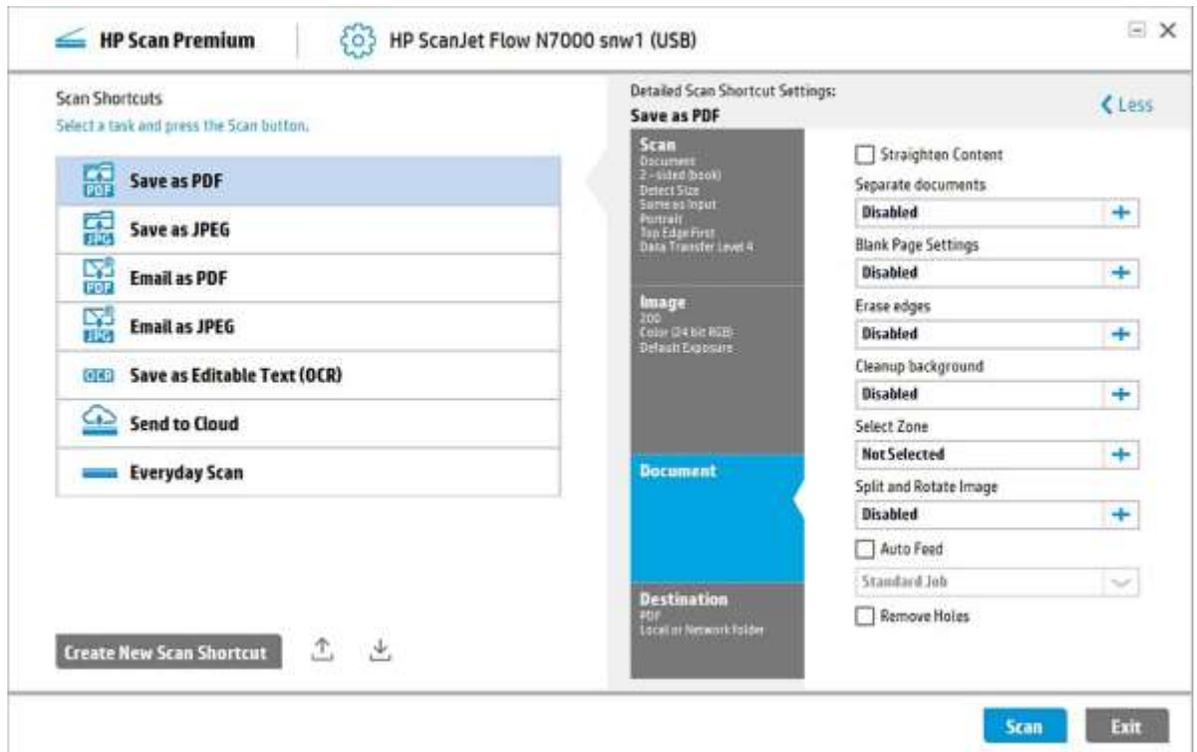




HP Scan Software – Document tab



HP Scan Premium Software – Document tab



File creation and destination

Once pages have been processed and documents identified, they go through the last steps of file creation, saving, and sending.

File creation

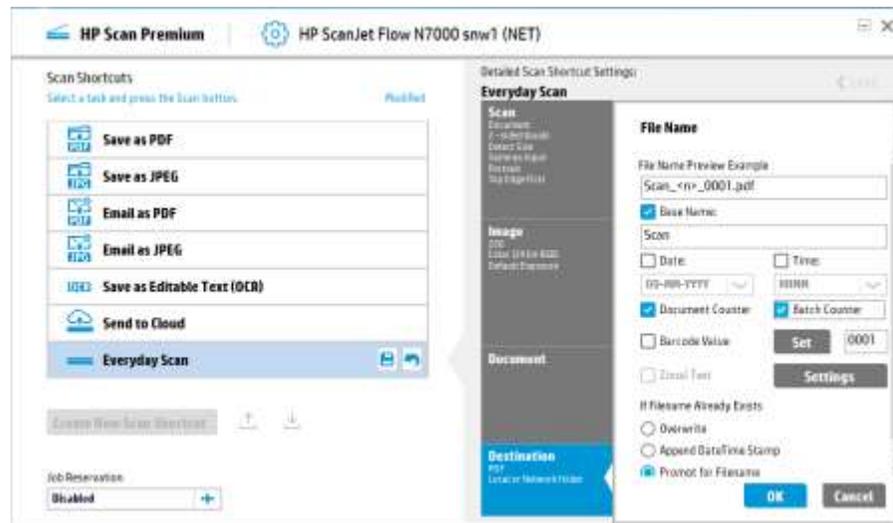
The final step in the creation of a document is identifying its type and name.

- Automatic file naming: in addition to naming a file manually, it is possible to name it automatically using the following information:
 - Fixed text: specified text can be added to each file created.
 - Barcodes: the first barcode in a document or a zonal barcode can be used as part of the file name.
 - Date and time: the scan date, time, or both can be part of the file name.
 - Zonal text: text detected (OCR) in a specified zone on a page can be used in the file name.
 - Document counter: a special counter can also be appended to the file name in case multiple documents would result in the same name.
 - Batch counter (HP Scan Premium only)

Batch counter is a feature added for each shortcut with values starting from 0001.

Points to be noted:

- Batch Counter increments by one for every Scan job, the new value will be reflected in the Edit Field after every successful batch scan.
- Set button will either reset the value to 0001 or to the user defined value.
- Each Short cut will have its own Batch Counter values.
- Sequence of the Batch counter in the file name can be changed from Sequence settings Window.
- Batch counter value will be displayed in the File Name Preview.



- Depending on the file type, OCR is run and the text is saved as part of the file. The file types that use OCR and can be created include:
 - Searchable PDF, PDF/A, Word, Excel, RTF, WordPerfect, TXT, HTML, XML, and XPS
- Other file types that can be created are PDF (image only), TIFF (single- and multi-page), JPEG, PNG, and BMP.

Saving and sending files

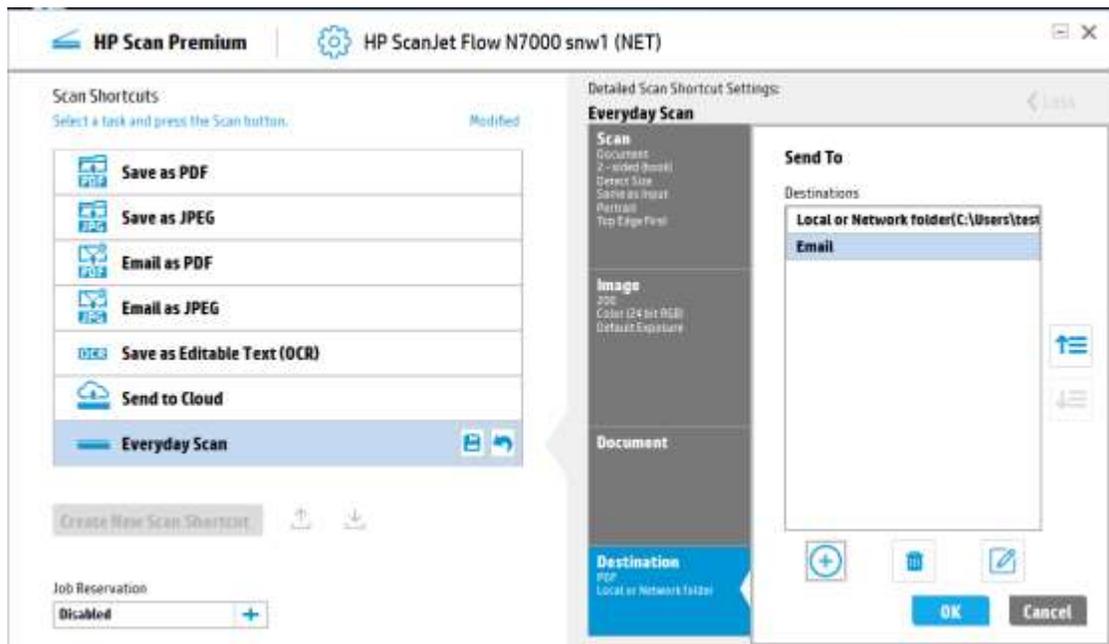
Once a file is created, it can be saved or sent to a variety of locations. It is possible to automatically save and send the file to one or multiple destinations.

- Destinations
 - Local folder
 - Network folder
 - Email: using a MAPI client such as Microsoft® Outlook or using an SMTP server
 - FTP/SFTP: save to an FTP server or a secure SFTP server
 - Box
 - Dropbox

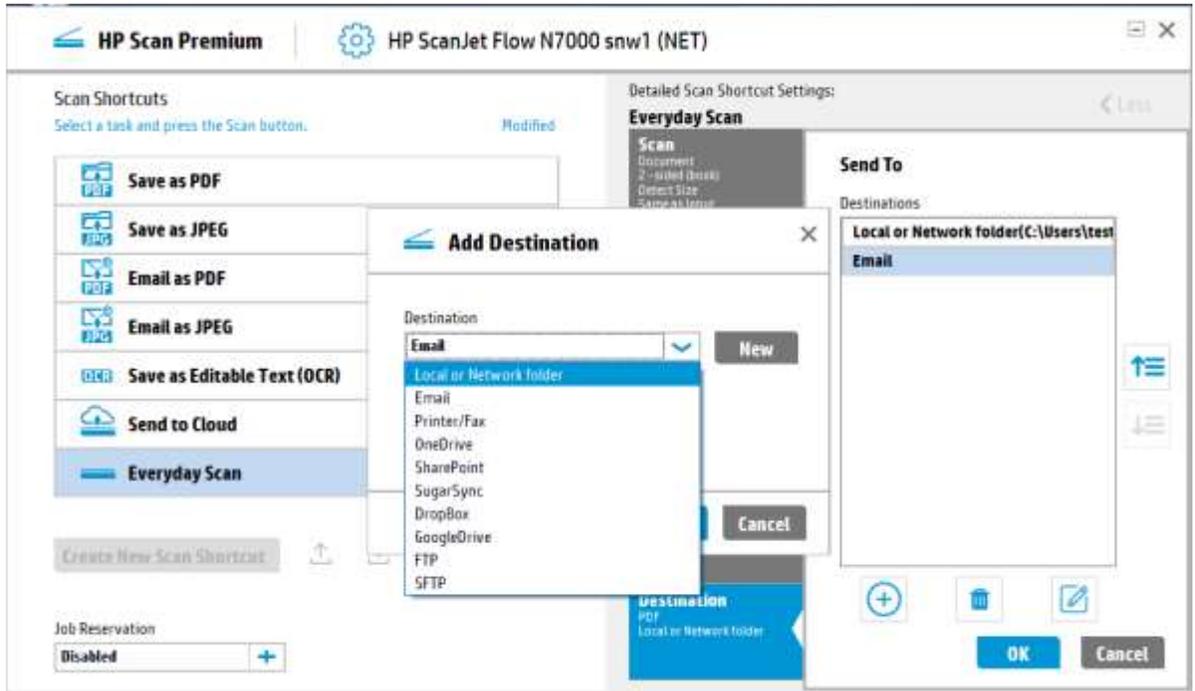
- Google Drive™
- OneDrive
- Office 365
- SharePoint®
- Evernote
- Printer/Fax: scan to a printer, copying the document
- Custom destination: specify an application that is able to receive and process the document

- Multiple Destinations (HP Scan Premium only)

This feature will allow the user to send the scanned output to multiple destinations (like Local Folder, Email, Email – SMTP, Google Drive, Sharepoint, FTP, SFTP, Onedrive, etc.) as the user configures. This will be same as sending to a single destination with the only difference being the document will be sent to multiple destinations. Figure below displays the multiple destinations selected, Local or Network folder and Email.

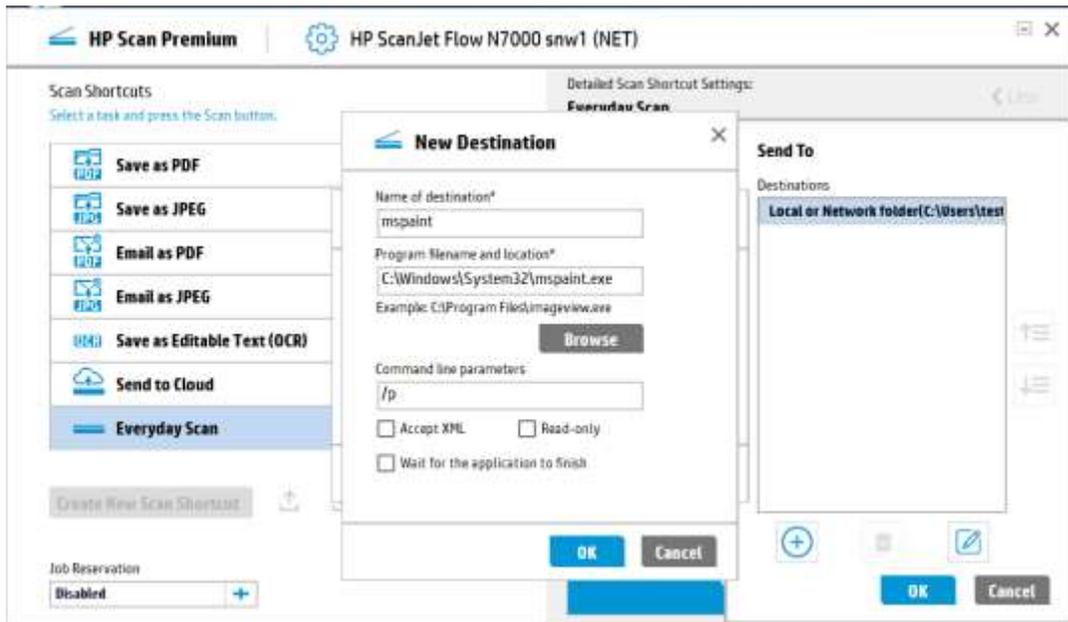


Different destinations available with HP Scan will be listed here. User can select the desired destination and click on **Next** button to make settings for that selected destination. The **New** button is to add Named Destinations.



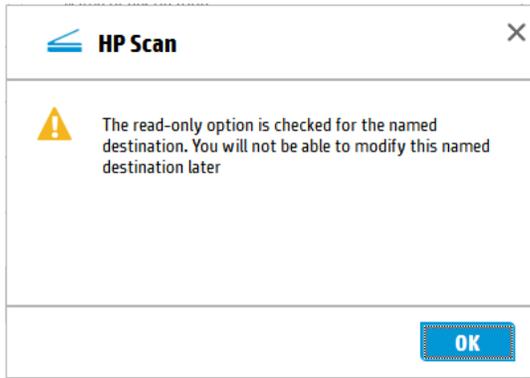
- Custom Destination (HP Scan Premium only)

A new destination can be added by clicking “+” & “new” sign button in the figure below. A New Destination pop up appears as shown.

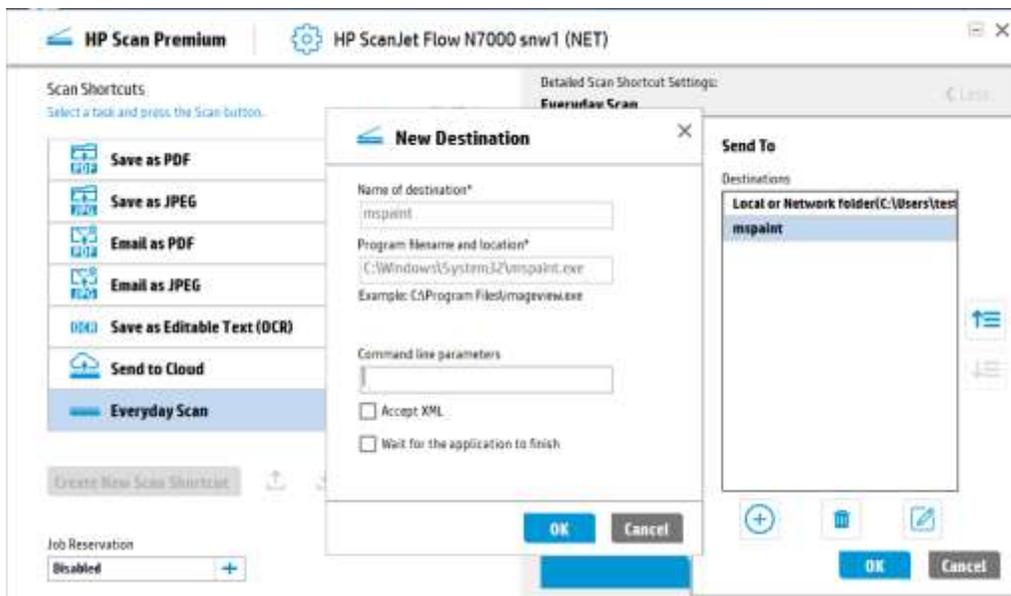


- Name of destination* is a mandatory field to be entered to give the name of Custom Destination.
- Program filename and location*, this field is used to give the path of exe of the application.
- Browse button will open the file explorer, from where the user can select exe files or Bat files.
- Command line parameters, here user will give the command line parameters which will be directly sent to the application selected in “Program filename and location*”.
- Accept XML : this option is to send the xml to the application selected in Custom Destination. XML will contain the path of the file to be opened.
- Read-only : this check is to make the Custom Destination non-modifiable. If Read-only is selected, then the Modify button is disabled.

Note: When Read-Only is checked, there is a warning pop-up that appears.

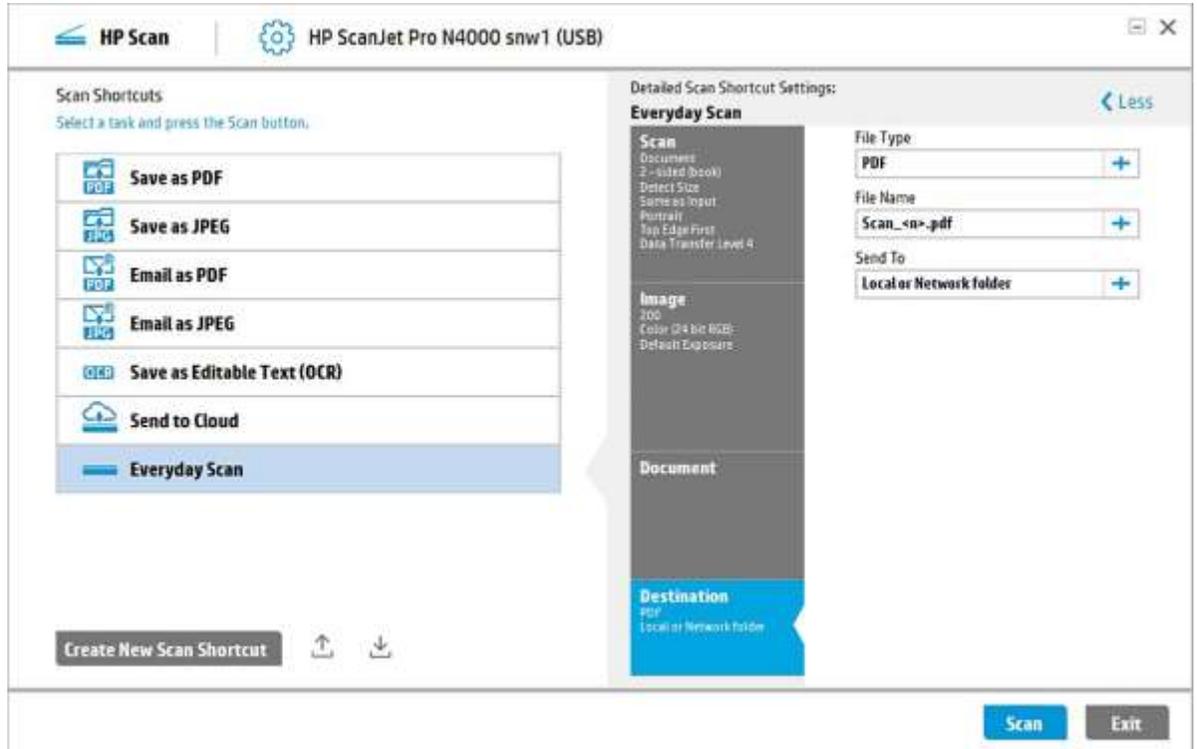


- Wait for the application to finish : this check is for waiting for application to close to make any other operation in HP Scan.
- After clicking OK, Custom Destination will be added into the Destinations list as well as Destinations Drop Down in Add Destination Dialogue.

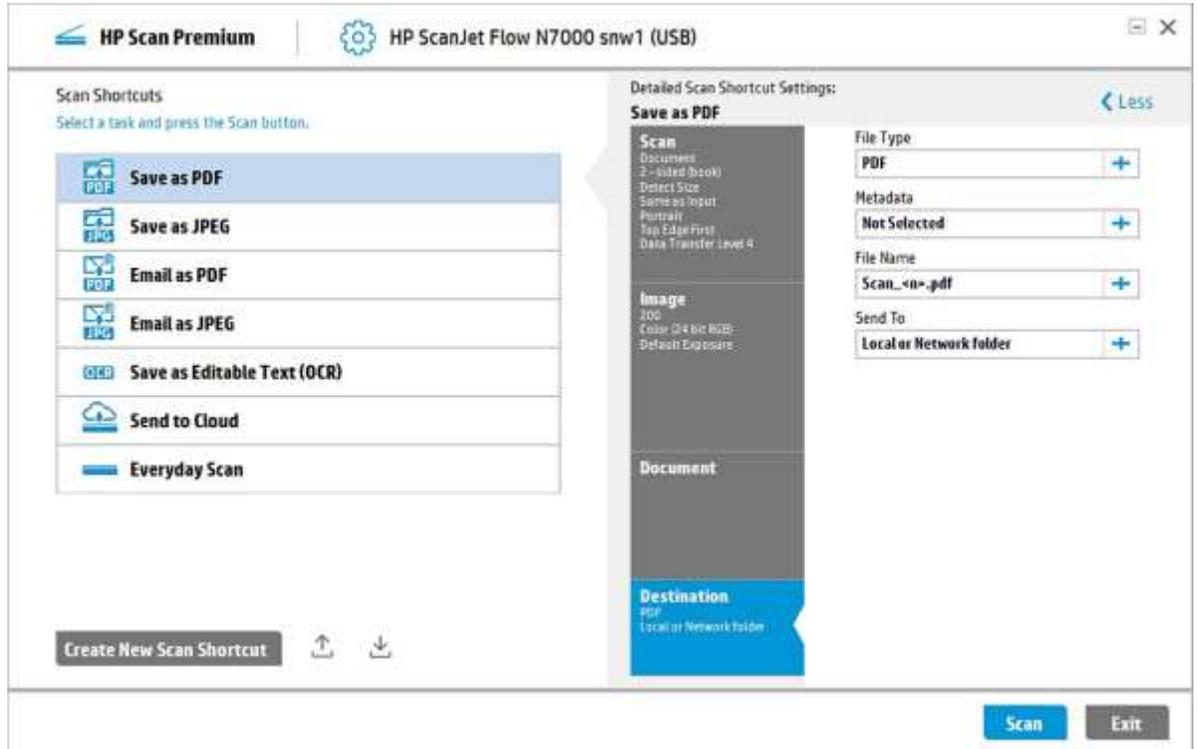


- Behavior on clicking OK/Cancel button will be same as in the other rollout. Here it will show the Destination Tab. The output of this will be that the scanned file will open in the new destination directly.

HP Scan Software – Destination tab



HP Scan Premium Software – Destination tab



PDF/A

A word about PDF/A: this is a specific ISO-standardized version of the PDF file format used for archival purposes. The options for PDF are strictly defined, and PDF/A must include the following (examples, not a complete list):

- 100% self-contained, with all information embedded in the file (e.g., cannot have external references to fonts or graphics).
- Audio and video content are not permitted.
- JavaScript and executable file launches are not permitted.
- Encryption is not permitted.
- Standards-based metadata is required.
- LZW compression is not permitted.
- Etc.

PDF security

The PDF file format offers many different features. A prominent one is extensive security capabilities. With a password-protected PDF file, it is possible to restrict the permissions of the file. These permissions include two distinct passwords: one to open the file and another to enable the following features:

- Editing
 - Allows inserting, deleting, or rotating of pages.
 - Enables filling and signing of PDF forms.
 - Allows the addition of comments and form fields.
- Printing: allows low- or high-quality printing.
- Enables copying of text, images, and other content.
- Enables access to text for screen reader.

When a file is password-protected, it is encrypted for security. Options for encryption technology include RC4-128 and AES-128.

In addition to permissions, it is possible to add digital signatures to a PDF file. HP solutions allow the embedding of a Personal Information Exchange file (PFX file) in the PDF. The main purpose of this feature is to identify the person or group that was responsible for creating the file.

Digital Signature (HP Scan Premium Only)

Adding digital signature to the PDF document enhances the security to the PDF document. This feature enables the traceability of the PDF document.

In the below UI select the check box Sign PDF documents with invisible signature, the Choose a digital certificate (Digital ID) drop down box is enabled and displays all the certificates from the Personal certificate store.

User selects the Import button to import the self-signed certificate.



File size considerations

In environments with high volumes of scanning, file size is an important part of controlling the amount of storage required. There are many factors that need to be considered when optimizing file size:

Resolution

The higher the dots per inch (dpi), the more data generated. For example, a 200 dpi document generates four times as much data as a 100 dpi document because twice as much data is contained horizontally and vertically.

Another consideration, however, is if the data will be processed with OCR. If so, it is recommended, for accurate text recognition, that the resolution not be lower than 150 dpi (ideally 200 dpi or more, and 300 dpi for Asian languages).

Color mode

Options for color mode include color, gray, and black-and-white (both two-tone or halftone). Each has an impact on data and file size:

- Color scanning will usually produce 24-bit data for every dot.
- Grayscale scanning will usually produce 8 bits for every dot.
- Black-and-white scanning will produce 1 bit for every dot.

Consequently, color scanning will have 24 times more data than black-and-white scanning. This makes black-and-white scanning very popular for archival.

Compression

The objective here is to reduce the size of the file, but there are many ways of doing so.

Compression techniques can be divided into lossy (where some data is lost in favor of compression) and lossless (where data is fully conserved):

- Lossy compression will affect image quality. The lower the compression, the better the image quality; the higher the compression, the more image quality will be affected.
- Lossless compression uses techniques that allow for size reduction without affecting image quality. The resulting sizes are generally larger than with lossy compression, but if image quality is important, this is the best choice.

Compared to picture scanning, document scanning allows for more lossy compression before the effects on image quality are visible. For this reason, it is possible to create smaller document files.

Types of compression include:

- JPEG: this is the most popular compression type and is most commonly used for color scanning. It is lossy compression, so file-saving parameters will usually include a “quality” setting to configure the level of compression desired.
 - JPEG only compresses color data, so if a black-and-white scan is saved with JPEG compression, it first needs to be converted to color data (i.e., 1-bit data is converted to 24 bits). Consequently, JPEG is not ideal for black-and-white scanning.
- LZW: this is lossless compression that can be used for scanning in any color mode. This type is particularly effective in compressing black-and-white documents.
- ZIP: another common lossless compression format. This is typically used for the compression and packaging of software, but it can also be used for scanned document files.
- CCITT Group 3 and Group 4: these are lossy compression types that are specifically designed for black-and-white scanning.

File type

The choice of file format will significantly affect the size of a file.

Common formats include:

- Single page formats: these file types can only save one page per file. For each multi-page document, there will be multiple files created.
 - JPEG: this most common lossy-compression file format for pictures can be used for scanned pages, as well.
 - PNG: this lossless compression file type will maintain image quality but will usually be larger than the equivalent JPEG file.
 - BMP: this format is similar to PNG, but is typically uncompressed; and a scanned page can result in a relatively large file size.
- Multi-page formats:
 - TIFF: sometimes named TIFF for a single-page file and MTIFF for a multi-page file, TIFF is a “container” file format, where the pages contained in it can use a variety of compression types. For example, a TIFF file can have JPEG-compressed pages while another can be an LZW-compressed document. Given this capability, it is common to see TIFF parameters that allow for one compression type when doing color scanning, and a different type when scanning in black-and-white.
 - PDF: this most common document file format is also a “container” file. Each page can have its own compression type. For example, it is possible to mix color, JPEG-compressed pages with black-and-white, Group-4-compressed pages. This flexibility allows for optimal management of file size.

The above file formats do not include types like Word DOCX, Excel XLSX, Text TXT, etc. Since the processing of text with OCR significantly transforms the scanned page to text, formatting, and images, file size is dependent on the type of document scanned and the file format used. In these cases, it is usually not possible to optimize for file size.

Feature details

Barcodes

A variety of barcode formats are supported by both HP Scan and HP Scan Premium. As listed below, these formats will be recognized and can be decoded to extract the information they contain.

HP Scan

- Code 39, Code 39 full ASCII
- EAN 8/13, UPC-A, UPC-E (6-digit)
- Code 128, GS1-128 (UCC/EAN-128)
- Codabar
- ITF (2 of 5 Interleaved)
- Postnet code
- PDF 417
- QR

Recognized languages

The following table shows the languages supported for OCR, where characters and words can be recognized.

Language	HP Scan
Albanian	✓
Arabic	✓
Bulgarian	✓
Catalan	✓
Chinese (Simplified)	✓
Chinese (Traditional)	✓
Croatian	✓
Czech	✓
Danish	✓
Dutch	✓
English	✓
Estonian	✓
Finnish	✓
French	✓
German	✓
Greek	✓
Hebrew	✓
Hungarian	✓
Indonesian	✓
Italian	✓
Japanese	✓
Korean	✓
Lithuanian	✓
Norwegian	✓
Polish	✓
Portuguese	✓
Portuguese (Brazilian)	✓
Romanian	✓
Russian	✓
Slovak	✓
Slovenian	✓
Spanish	✓
Swedish	✓
Turkish	✓
Ukrainian	✓
Vietnamese	✓

Color dropout

This is a feature that is not commonly used, but merits mention since certain workflows require this capability.

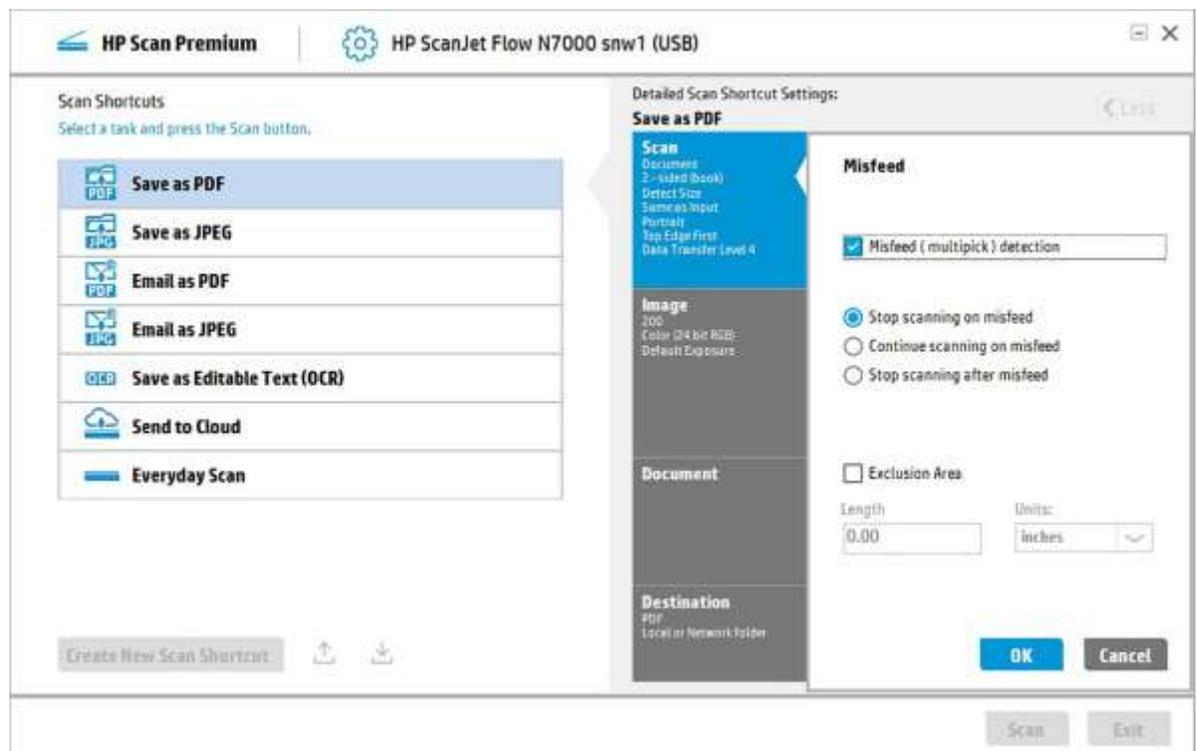
With color dropout, it is possible to remove a specific color from a page and in that way, remove unwanted information. The typical example of color dropout is a multiple-choice answer sheet for a test. These sheets are typically two colors: black and one specific hue of red, blue, or green. Color dropout is programmed to remove the second color. With the answers filled out in black, only the markings of the answers are left and can be easily read by an answer sheet program to score.

Another example is a black-and-white document, such as a contract, that has been marked with red ink. The desire is to save a “clean” version of the document without the red markings. Color dropout can selectively remove the red and keep the rest of the document intact.

Multi-feed (misfeed) detection and actions

An ultrasonic sensor helps detect paper multi-feeds (when two or more pages feed into the scanner simultaneously) and lets the user choose how to respond. The response can be either simple or advanced, depending on the scanner model’s capabilities.

HP Scan – Misfeed options (Same as HP Scan Premium)



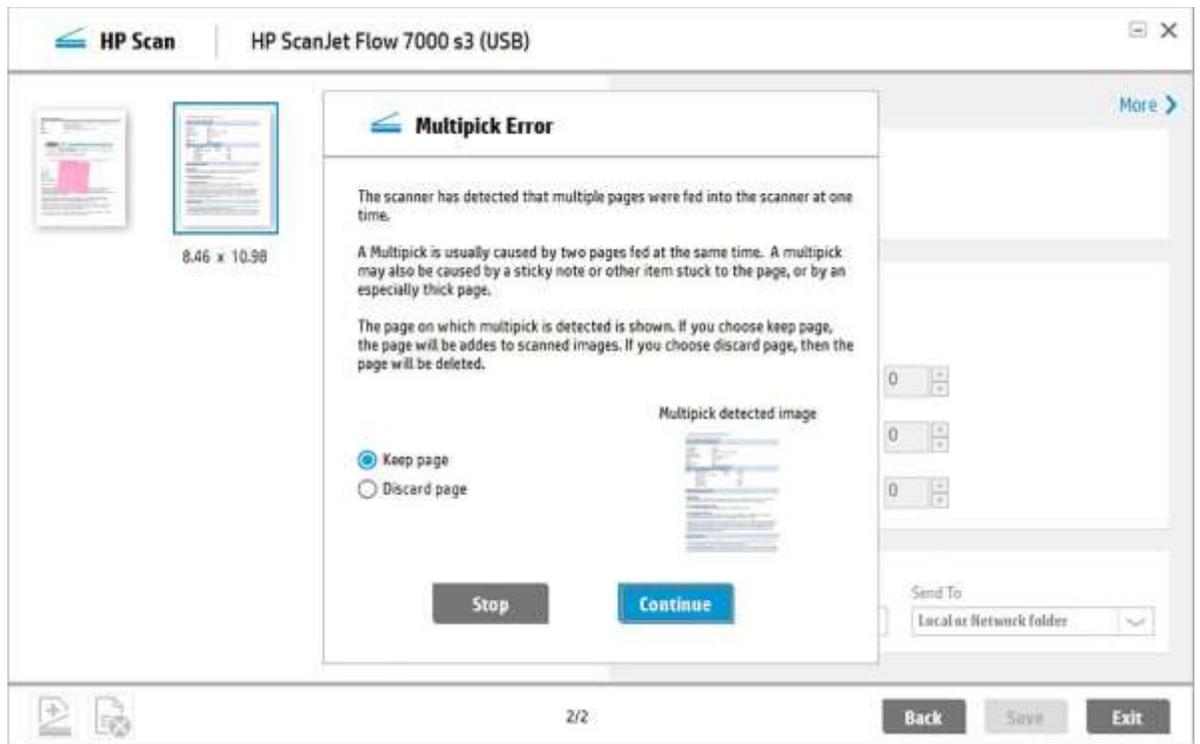
- **The simple option** is shown in the screen above as **Stop scanning on misfeed**. When a multi-feed occurs, the scanner stops feeding the paper immediately and two choices are presented: **Continue** or **Cancel**. The **Continue** option allows the user to reinsert the misfed pages and continue scanning.
- **The advanced option** is shown in the screen above as **Stop scanning after misfeed**. In this case, when a multi-feed is detected, the page finishes scanning first and then the options are presented, as shown below. This flow allows for the scanned page to be:
 - Kept: this assumes that the page was correctly scanned even if there was a multi-feed, such as when it has a sticky note on it or when scanning an envelope.
 - Discarded: the page was not scanned correctly and should not be part of the scanned document. The user can then reinsert the misfed pages and continue scanning.

After choosing **Keep page** or **Discard page** the user is given the choice whether to **Continue** or **Cancel** the scan (as with the simple flow).

- **The third option—Continue scanning on misfeed**—will not stop for any multi-feeds. Instead, an icon will show on the thumbnail of the mis-fed page to indicate that a multi-feed did occur.

The following section identifies which models have the sensor and offer the advanced choices.

HP Scan – Multipick error



Feature support by model

The features described above are available in three different ways: the TWAIN driver, HP Scan software, and HP Scan Premium Software. Note that different version of HP Scan is provided for 2500f1, 3500f1 and 4500fn1 with a bit lower features.

In the case of the TWAIN driver, only the features of HP Scan related to scanning and page processing apply. The following tables show each model and the features they support.

Small work team models

Feature	Pro 2500 f1 HP Scan	Pro 3500 f1 HP Scan	Pro 2000 s2 HP Scan	Pro 3000 s4 HP Scan
Scanning				
Auto exposure	✓	✓	✓	✓
Auto threshold	✓	✓	✓	✓
Auto detect color	✓	✓	✓	✓
Background smooth/removal	✓	✓	✓	✓
Remove Noise	⊘	⊘	⊘	⊘
Auto detect size	✓	✓	✓	✓
Straighten content	✓	✓	✓	✓
Enhance content	✓	✓	✓	✓
Multi-streaming	⊘	⊘	✓	✓
Auto feed	⊘	⊘	✓	✓
Multi-feed detection sensor	⊘	✓	⊘	✓
Advanced multi-feed detection	⊘	⊘	⊘	✓
Page processing				
Auto orient	✓	✓	✓	✓
Multi-color dropout	✓	✓	✓	✓
Channel color dropout	⊘	⊘	✓	✓
Edge erase	✓	✓	✓	✓
Resize page	⊘	⊘	⊘	⊘
Delete blank page	✓	✓	✓	✓
Merge pages	✓	✓	✓	✓
	Scanner Includes special feature to scan folded paper to create A3 from A4 or 11x17 from Letter	Scanner Includes special feature to scan folded paper to create A3 from A4 or 11x17 from Letter	Scanner Includes special feature to scan folded paper to create A3 from A4 or 11x17 from Letter	Scanner Includes special feature to scan folded paper to create A3 from A4 or 11x17 from Letter
Hole fill	✓	✓	✓	✓
Document processing				
Document separation	<ul style="list-style-type: none"> • Single page 	<ul style="list-style-type: none"> • Single page 	<ul style="list-style-type: none"> • By fixed number of pages • By blank page • By barcode • By zonal barcode • By zonal text (OCR) • Manually 	<ul style="list-style-type: none"> • By fixed number of pages • By blank page • By barcode • By zonal barcode • By zonal text (OCR) • Manually
Digital stamps	⊘	⊘	⊘	⊘
Metadata capture	⊘	⊘	⊘	⊘

Feature	Pro 2500 f1 HP Scan	Pro 3500 f1 HP Scan	Pro 2000 s2 HP Scan	Pro 3000 s4 HP Scan
Automatic file naming	<ul style="list-style-type: none"> • Fixed text • Date and time 	<ul style="list-style-type: none"> • Fixed text • Date and time 	<ul style="list-style-type: none"> • Fixed text • Barcode • Zonal barcode • Zonal text (OCR) • Date and time • Document counter 	<ul style="list-style-type: none"> • Fixed text • Barcode • Zonal barcode • Zonal text (OCR) • Date and time • Document counter
File types	<ul style="list-style-type: none"> • PDF • Searchable PDF • RTF • TXT • TIFF (single- and multi-page) • JPEG • PNG • BMP 	<ul style="list-style-type: none"> • PDF • Searchable PDF • RTF • TXT • TIFF (single- and multi-page) • JPEG • PNG • BMP 	<ul style="list-style-type: none"> • PDF • Searchable PDF • PDF/A • Word • Excel • RTF • TXT • TIFF (single- and multi-page) • JPEG • PNG • BMP • CSV 	<ul style="list-style-type: none"> • PDF • Searchable PDF • PDF/A • Word • Excel • RTF • TXT • TIFF (single- and multi-page) • JPEG • PNG • BMP • CSV
PDF permissions	⊘	⊘	✓	✓
PDF digital signatures	⊘	⊘	⊘	⊘
Destinations	<ul style="list-style-type: none"> • Local folder • Network folder • Email / Email SMTP • FTP/SFTP • Dropbox • Google Drive • OneDrive • SharePoint 	<ul style="list-style-type: none"> • Local folder • Network folder • Email/Email SMTP • FTP/SFTP • Dropbox • Google Drive • OneDrive • SharePoint 	<ul style="list-style-type: none"> • Local folder • Network folder • Print/Fax • Email/Email SMTP • FTP/SFTP • Box • Dropbox • Google Drive • OneDrive • Office 365 • Evernote • SharePoint 	<ul style="list-style-type: none"> • Local folder • Network folder • Print/Fax • Email/Email SMTP • FTP/SFTP • Box • Dropbox • Google Drive • OneDrive • Office 365 • Evernote • SharePoint

Workgroup models

Feature	Pro 4500 fn1 HP Scan	Pro N4000 snw1 HP Scan	Enterprise Flow 5000 s5 HP Scan Premium	Enterprise Flow 7000 s3 HP Scan Premium	Enterprise Flow N7000 snw1 HP Scan Premium
Scanning					
Auto exposure	✓	✓	✓	✓	✓
Auto threshold	✓	✓	✓	✓	✓
Auto detect color	✓	✓	✓	✓	✓
Background smooth/removal	✓	✓	✓	✓	✓
Remove noise	⊘	⊘	⊘	⊘	⊘
Auto detect size	✓	✓	✓	✓	✓
Straighten content	✓	✓	✓	✓	✓
Enhance content	✓	✓	✓	✓	✓
Multi-streaming	⊘	✓	✓	✓	✓
Auto feed	⊘	✓	✓	✓	✓
Multi-feed detection sensor	✓	✓	✓	✓	✓
Advanced multi-feed detection	⊘	✓	✓	⊘	✓
Page processing					
Auto orient	✓	✓	✓	✓	✓
Multi-color dropout	✓	✓	✓	✓	✓
Channel color dropout	⊘	✓	✓	✓	✓
Edge erase	✓	✓	✓	✓	✓
Resize page	⊘	⊘	⊘	⊘	⊘
Delete blank page	✓	✓	✓	✓	✓
Merge pages	✓ Scanner Includes special feature to scan folded paper to create A3 from A4 or 11x17 from Letter	✓ Scanner Includes special feature to scan folded paper to create A3 from A4 or 11x17 from Letter	✓ Scanner Includes special feature to scan folded paper to create A3 from A4 or 11x17 from Letter	✓ Scanner Includes special feature to scan folded paper to create A3 from A4 or 11x17 from Letter	✓ Scanner Includes special feature to scan folded paper to create A3 from A4 or 11x17 from Letter
Hole fill	✓	✓	✓	✓	✓
Document processing					
Document separation	• Single page	• By fixed number of pages • By blank page • By barcode • By zonal barcode • By zonal text (OCR) • Manually	• By fixed number of pages • By blank page • By barcode • By zonal barcode • By zonal text (OCR) • By HP Separator page • Manually	• By fixed number of pages • By blank page • By barcode • By zonal barcode • By zonal text (OCR) • By HP Separator page • Manually	• By fixed number of pages • By blank page • By barcode • By zonal barcode • By zonal text (OCR) • By HP Separator page • Manually
Digital stamps	⊘	⊘	✓	✓	✓
Metadata capture	⊘	⊘	✓	✓	✓

Feature	Pro 4500 fn1 HP Scan	Pro N4000 snw1 HP Scan	Enterprise Flow 5000 s5 HP Scan Premium	Enterprise Flow 7000 s3 HP Scan Premium	Enterprise Flow N7000 snw1 HP Scan Premium
File creation, saving, and sending					
Automatic file naming	<ul style="list-style-type: none"> Fixed text Date and time 	<ul style="list-style-type: none"> Fixed text Date and time Barcode Zonal barcode Zonal text (OCR) Document counter 	<ul style="list-style-type: none"> Fixed text Date and time Barcode Zonal barcode Zonal text (OCR) Document counter Batch counter 	<ul style="list-style-type: none"> Fixed text Date and time Barcode Zonal barcode Zonal text (OCR) Document counter Batch counter 	<ul style="list-style-type: none"> Fixed text Date and time Barcode Zonal barcode Zonal text (OCR) Document counter Batch counter
File types	<ul style="list-style-type: none"> PDF Searchable PDF RTF TXT TIFF (single- and multi-page) JPEG PNG BMP 	<ul style="list-style-type: none"> PDF Searchable PDF PDF/A Word Excel RTF TXT TIFF (single- and multi-page) JPEG PNG BMP CSV 	<ul style="list-style-type: none"> PDF Searchable PDF PDF/A Word Excel RTF TXT XML TIFF (single- and multi-page) JPEG PNG BMP CSV 	<ul style="list-style-type: none"> PDF Searchable PDF PDF/A Word Excel RTF TXT XML TIFF (single- and multi-page) JPEG PNG BMP CSV 	<ul style="list-style-type: none"> PDF Searchable PDF PDF/A Word Excel RTF TXT XML TIFF (single- and multi-page) JPEG PNG BMP CSV
PDF permissions					
PDF digital signatures					
Destinations	<ul style="list-style-type: none"> Local folder Network folder Email Email SMTP FTP/SFTP Dropbox Google Drive OneDrive SharePoint 	<ul style="list-style-type: none"> Local folder Network folder Email Email SMTP FTP/SFTP Printer/Fax Box Dropbox Google Drive OneDrive Office 365 SharePoint Evernote 	<ul style="list-style-type: none"> Local folder Network folder Email Email SMTP FTP/SFTP Printer/Fax Box Dropbox Google Drive OneDrive Office 365 SharePoint Evernote Custom 	<ul style="list-style-type: none"> Local folder Network folder Email Email SMTP FTP/SFTP Printer/Fax Box Dropbox Google Drive OneDrive Office 365 SharePoint Evernote Custom 	<ul style="list-style-type: none"> Local folder Network folder Email Email SMTP FTP/SFTP Printer/Fax Box Dropbox Google Drive OneDrive Office 365 SharePoint Evernote Custom

Departmental models

Feature	Enterprise Flow 7500 HP Scan Premium	Digital Sender 8500 fn2 HP Scan	Enterprise Flow N9120 fn2 HP Scan
Scanning			
Auto exposure	✓	✓	✓
Auto threshold	✓	✓	✓
Auto detect color	✓	✓	✓
Background smooth/removal	✓	✓	✓
Remove noise	⊘	⊘	⊘
Auto detect size	✓	✓	✓
Straighten content	✓	✓	✓
Enhance content	✓	✓	✓
Multi-streaming	✓	✓	✓
Auto feed	✓	✓	✓
Multi-feed detection sensor	✓	✓	✓
Advanced multi-feed detection	✓	⊘	⊘
Page processing			
Auto orient	✓	✓	✓
Multi-color dropout	✓	✓	✓
Channel color dropout	✓	✓	✓
Edge erase	✓	✓	✓
Resize page	⊘	⊘	⊘
Delete blank page	✓	✓	✓
Merge pages	✓	✓	✓
Hole fill	✓	✓	✓
Document processing			
Document separation	<ul style="list-style-type: none"> • By fixed number of pages • By blank page • By barcode • By zonal barcode • By zonal text (OCR) • By HP Separator page • Manually 	<ul style="list-style-type: none"> • By fixed number of pages • By blank page • By barcode • By zonal barcode • By zonal text (OCR) • By HP Separator page • Manually 	<ul style="list-style-type: none"> • By fixed number of pages • By blank page • By barcode • By zonal barcode • By zonal text (OCR) • By HP Separator page • Manually
Digital stamps	✓	⊘	⊘
Metadata capture	✓	⊘	⊘
File creation, saving, and sending			
Automatic file naming	<ul style="list-style-type: none"> • Fixed text • Date and time • Barcode • Document counter • Batch counter 	<ul style="list-style-type: none"> • Fixed text • Date and time • Barcode • Zonal barcode • Zonal text (OCR) • Document counter 	<ul style="list-style-type: none"> • Fixed text • Date and time • Barcode • Zonal barcode • Zonal text (OCR) • Document counter

Feature	Enterprise Flow 7500 HP Scan Premium	Digital Sender 8500 fn2 HP Scan	Enterprise Flow N9120 fn2 HP Scan
File types	<ul style="list-style-type: none"> • PDF • Searchable PDF • PDF/A • Word • Excel • RTF • TXT • XML • TIFF (single- and multi-page) • JPEG • PNG • BMP • CSV 	<ul style="list-style-type: none"> • PDF • Searchable PDF • PDF/A • Word • Excel • RTF • TXT • XML • TIFF (single- and multi-page) • JPEG • PNG • BMP • CSV 	<ul style="list-style-type: none"> • PDF • Searchable PDF • PDF/A • Word • Excel • RTF • TXT • XML • TIFF (single- and multi-page) • JPEG • PNG • BMP • CSV
PDF permissions	✓	✓	✓
PDF digital signatures	✓	✓	✓
Destinations	<ul style="list-style-type: none"> • Local folder • Network folder • Email • Email SMTP • FTP/SFTP • Printer/Fax • Box • Dropbox • Google Drive • OneDrive • Office 365 • SharePoint • Evernote • Custom 	<ul style="list-style-type: none"> • Local folder • Network folder • Email • Email SMTP • FTP/SFTP • Printer/Fax • Box • Dropbox • Google Drive • OneDrive • Office 365 • SharePoint • Evernote • Custom 	<ul style="list-style-type: none"> • Local folder • Network folder • Email • Email SMTP • FTP/SFTP • Printer/Fax • Box • Dropbox • Google Drive • OneDrive • Office 365 • SharePoint • Evernote • Custom

TWAIN driver

The following are features of the TWAIN driver that is included with the following models:

Feature	2500 f1, 3500 f1, 4500 fn1	2000 s2, 3000 s4, 5000 s5, 7000 s3, 8500 fn2, N9120 fn2
Scanning		
Auto exposure	✓	✓
Auto threshold	✓	✓
Auto detect color	✓	✓
Background smooth/removal	✓	✓
Remove noise	⊘	⊘
Auto detect size	✓	✓
Enhance content	✓	✓
Multi-streaming	⊘	✓
Auto feed	⊘	✓
Straighten content	✓	✓
1-n scanning ³	⊘	✓
Page processing		
Auto orient	✓	✓
Multi-color dropout	✓	✓
Channel color dropout	⊘	✓
Edge erase	✓	✓
Resize page	⊘	✓
Delete blank page	✓	✓
Merge pages	✓	✓
Hole fill	✓	✓
Other in-box solutions	✓	✓

Other in-box solutions

FutureSmart-based products such as 8500 fn2 and N9120 fn2 can install HP Workpath apps for transforming the capabilities of the devices.

By greatly reducing the number of workflow steps and offering a single sign-on, Workpath apps can save time and money. Eliminating several small steps helps to create substantial time savings when multiplied across user groups and over time. This also improves users' ability to quickly search for their digital content and send files electronically.

HP Workpath apps



HP Command Center (<https://www.hpcommandcenter.com/>) provides the ability to purchase and deploy HP Workpath applications across a customer's fleet of HP printers and scanners. As of 2020, you can find more than 50 free or paid apps in solution catalog of the center. In addition to the public Workpath apps on HP Command Center, you can have apps created or customized for your unique business needs.

For customers, it is required to ask their HP ScanJet service provider to provide an overview of available apps.

Minimum System Requirements

- 2GB DIMM Accessory Required (Part Number E5K49A)
- FutureSmart bundle version: 4.11.0 or above

Creating Solution portfolio and deploying solutions

- Create accounts for ScanJet customers and assign devices to these accounts.
- Add solutions from the Solutions Catalog to service provider's solutions portfolio.
- Deploy solutions from service provider's portfolio to ScanJet customer's accounts.
- Install solutions on ScanJet customer's devices.

Recommended Workpath apps for ScanJet

Note that Individual apps availability will vary and be subject to change. Please refer to release notes or Hot Topics page in HP command center support menu.



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Category	Workpath apps
Document management	✓ HP for OneDrive® Business
	✓ HP for OneDrive
	✓ HP for SharePoint® Online
	✓ HP For Google Drive™
	✓ HP for Box
	✓ Scan to SMB
	✓ Scan to Email
Education	✓ Connect to Canvas
	✓ Connect to Moodle
Finance	✓ HP for Sage Intacct
	✓ HP for SAP Concur
Healthcare	✓ Icon DICOM Scan
	✓ Biscom Digital Fax
Legal	✓ HP for iManage
	✓ HP for Clio

In addition to HP-developed solutions, most scanners include the following third-party software:

- Kofax PaperPort
 - <https://www.kofax.com/Products/paperport/professional>
 - This desktop document management software combines fast, easy scanning tools with powerful PDF creation.
- I.R.I.S. Readiris Pro™
 - <http://www.irislink.com/c2-1342-189/Readiris-15-for-Windows---OCR-Software.aspx>
 - Readiris is a character recognition software (OCR) designed to enhance your scanner with advanced document conversion features. It will allow you to convert any paper document, image, or PDF into editable and searchable digital files (Word, Excel, PDF, HTML, etc.).
- I.R.I.S. Cardiris Pro™
 - <http://www.irislink.com/c2-1214-189/Cardiris-5---Business-Card-Software.aspx>
 - Cardiris quickly scans your business cards, captures the information they contain, and instantaneously creates electronic contacts to be sent to your favorite contact manager (Outlook®, ACT®, Lotus Notes®, etc.)



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¹ OCR processes the scanned image and saves text in a searchable and editable format.

² This separator page is provided with SDSS in both Letter and A4 format (located in folder C:\Program Files (x86)\HP Smart Document Scan Software 3; for HP Scan Premium, it is located in the folder C:\Program Files (x86)\HP\HP Scan).

³ 1-n scanning: the ability for a TWAIN-capable application to request only the next "n" pages from the scanner, leaving all other pages in the input tray.



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