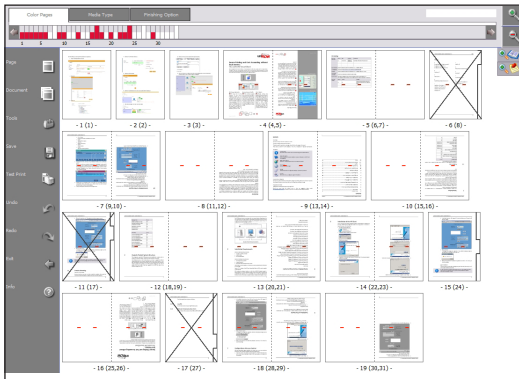


# Canon

## Canon uniFLOW Production Print Report



### Product Snapshot

**Product:** uniFLOW

**Version:** LTS 2018

**Software Developer:** NT-ware Systemprogrammierung GmbH (a Canon Inc. company)

**Web:** [www.uniflow.global](http://www.uniflow.global)

**Phone:** +49 5403 7243-0

**For more information on this software, and other products, visit [Buyerslab.com/bliQ](http://Buyerslab.com/bliQ).**

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## OVERVIEW

uniFLOW LTS 2018 is an open solutions platform designed to manage just about every print, copy and scan process within an organization. It is also has advanced production printing features, which are the focus of this sub-report. These features include job ticketing, document 'make-ready' and job management, among others. Developed by NT-ware Systemprogrammierung GmbH and sold exclusively through Canon and approved resellers, the modular platform offers a multitude of features to support small- to mid-size reprographic departments and print rooms.

## CHIEF BENEFITS

**ONE PLATFORM DOES IT ALL** – In addition to its front-office print management and scan workflow abilities, uniFLOW’s exceptionally complete functionality can handle job scheduling, document preparation, pricing, submission and tracking for an organization’s centralized print facility.

**INCREASED PRINTROOM EFFICIENCY** – PrePrint allows operators to modify the order of a document’s pages, insert jobs into a document, change media type and add finishing options to a document, among many other things.

**INCREASED FLEXIBILITY** – PrePrint allows operators to modify the order of a document’s pages, insert jobs into a document, change media type and add finishing options to a document, among many other things. Changes and additions to documents are shown graphically, and a lot of the interaction with PrePrint is done via context menus and drag and drop.

**ENSURE ACCURATE ACCOUNTING** – uniFLOW allows the creation of multiple price profiles, and individual price profiles can have multiple prices attached to them so that there’s a retail price and an actual-cost price, for example. This means organizations can accurately track what each page costs and what has been recouped.

**COMPATIBLE WITH PRODUCTION PRINT DEVICES** – Unlike most other output management platforms, uniFLOW can accurately track (and price) print jobs sent to compatible production. Plus, integration with Océ PRISMAdirect workflow application ensures a seamless workflow across an organization.

## OUR TAKE

Canon uniFLOW has a number of tools to help improve the productivity and efficiency of corporate reprographics departments (CRDs) and print rooms, and they work exceptionally well. uniFLOW’s production print features also dovetail nicely with other features of the solution.

Jobs are sent to the print room via digital job tickets that allow users to detail exactly what should be printed and the finishing options that should be used, such as stapling, booklet making and so on. The use of job tickets helps to reduce errors and mistakes by the user and print room operators, and it allows users to state exactly what they want without having to consider the device on which the job will be printed. Individual users and user groups can have specific job tickets, and these job tickets are used to initiate the process of taking a job from input by the user to output at a print device.

The main utility used by print room operators is the Operator Dashboard, which provides them with access to print queues, devices, a library of jobs and a list of orders. Operators can quickly drag and drop a job from a print queue on to a device for it to print immediately, or can schedule a job to print at a later time. All of this makes it easy for operators to plan their printing and to manage their workload more efficiently.

Operators can also use the PrePrint utility to make documents ready for print. PrePrint displays a document as a flat plan of pages that can be selected and augmented with specific job settings such as hole-punching, stapling and media type. Pages can be moved to a different location using the mouse and a powerful context menu provides users with a whole list of options with just a click of a mouse button. Job settings are shown graphically on screen. PrePrint is a very user-friendly utility that allows operators to make a document ready for print quickly and easily.

For advanced document, uniFLOW integrates with the Océ PRISMAdirect WorkFlow application.

Sadly, much of uniFLOW’s production print features are only available on the Windows platform and via the Windows Explorer web browser. However, this won’t be an impediment to many print rooms. Any organization that needs to improve the efficiency and productivity of its print room should check out uniFLOW.

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## STRENGTHS

- uniFLOW’s CRD/print room features are device independent, so organizations can make use of their existing print fleet
- The Job Ticket printer driver lets users submit jobs to a print room in an easy and structured manner
- PrePrint allows operators to collate multiple documents, rearrange the page order of a document, add separator pages and much more besides
- Operators can drag jobs to be printed directly onto a device’s icon and have it print immediately
- uniFLOW’s production print workflow lets operators and users formally submit and approve jobs, proofs and the final product
- CRD module’s ‘load balancing’ feature means a single job can be printed using more than one device to expedite production

## WEAKNESSES

- Web browsers other than Internet Explorer are not fully supported
- Operator Dashboard and PrePrint can only be run on the Windows operating system

### KEYPOINT INTELLIGENCE - BUYERS LAB • North America • Europe • Asia

Gerry Stoia, CEO

Deanna Flanick, CRO

Brian O’Connor, CFO

Jeff Hayes  
Managing Director  
Jeff.Hayes@keypointintelligence.com

Randy Dazo  
Director, Office Technology & Services Group  
Randy.Dazo@keypointintelligence.com

Jamie Bsales  
Director, Software Analysis  
Jamie.Bsales@keypointintelligence.com

George Mikolay  
Associate Director, Copier MFPs/Production  
George.Mikolay@keypointintelligence.com

Marlene Orr  
Director, Printer & MFP Analysis  
Marlene.Orr@keypointintelligence.com

Carl Schell  
Managing Editor  
Carl.Schell@keypointintelligence.com

U.S. ANALYSTS

Kris Alvarez  
Editor  
Kris.Alvarez@keypointintelligence.com

Lee Davis  
Editor, Scanners/Software Evaluation  
Lee.Davis@keypointintelligence.com

Felicia Heiney, Editor  
Felicia.Heiney@keypointintelligence.com

Kaitlin Shaw  
Editor, Printer & MFP Evaluation  
Kaitlin.Shaw@keypointintelligence.com

EUROPEAN ANALYSTS

Priya Gohil, Senior Editor  
Priya.Gohil@keypointintelligence.com

Simon Plumtree, Senior Editor  
Simon.Plumtree@keypointintelligence.com

Andrew Unsworth, Editor  
Andrew.Unsworth@keypointintelligence.com

LABORATORY

Pete Emory  
Director, U.S./Asia Research & Lab Services

David Sweetnam  
Director, EMEA/Asia Research & Lab Services

COMMERCIAL

Mike Fergus  
Vice President of Marketing & Product Development

Gerry O’Rourke  
International Commercial Director

## PRODUCT PROFILE

<b>Versions:</b>	uniFLOW is available in a range of editions to suit every size organization: Workgroup Edition, Business Edition, Corporate Edition and Enterprise Edition. Each edition comes with the core product and a module of the customer’s choice, with additional modules available at extra cost. Organizations must purchase the CRD Printing module.
<b>Pricing:</b>	Pricing for uniFLOW LTS 2018 is set by the reseller. For guidance, the cost of purchase varies between \$2,500 for the WorkGroup edition with 50 concurrent users to \$20,000 for the Enterprise Edition with unlimited users.
<b>Users:</b>	The platform supports an unlimited number of licensed users supported.
<b>Server:</b>	2.5-GHz CPU (multi-core CPU recommended); 4-GB RAM; 50-GB hard disk space (80-GB or more recommended); Microsoft Windows Server 2003, Server 2008/2008R2, Server 2012/2012R2.
<b>Client:</b>	Microsoft Windows XP Professional, Vista, Windows 7, Windows 8.x, Windows 10.
<b>Mobile Device Compatibility:</b>	uniFLOW LTS 2018 supports mobile printing from all mobile devices via various means of submission. uniFLOW LTS 2018 supports Apple AirPrint fully and uniFLOW is certified by Apple as an AirPrint-compatible solution. The uniFLOW mobile app is available for iOS, Android and Windows Phone devices.
<b>Compatible Output Hardware:</b>	Canon uniFLOW’s production print modules can output to any device with a PostScript driver. It’s also possible to print using a PCL driver in order to print non-PDF or PostScript files, but the print job must first be ‘checked out’ of the system and printed manually by the operator.
<b>Software Integrations:</b>	uniFLOW is a self-contained solution, however it uses the Foxit and Crystal Reports applications to process PDFs and create reports, respectively. If third-party software such as the Microsoft Office applications is installed on the same server as uniFLOW, users can print files associated with that file type.
<b>Availability:</b>	uniFLOW is sold globally through Canon and its reseller partners in North America, Latin America, Europe, Asia-Pacific (including Japan and Korea), the Middle East and Africa.
<b>Languages:</b>	uniFLOW LTS 2018 supports full installation in 30 languages. The administration manual is available in English, French, Italian, German and Spanish. To aid multi-lingual offices, users can change the language used by a Canon MEAP-enabled device with the Canon Language Keyboard switch, which allows walk-up users to choose from a list of firmware-supported languages.

## Features & Productivity

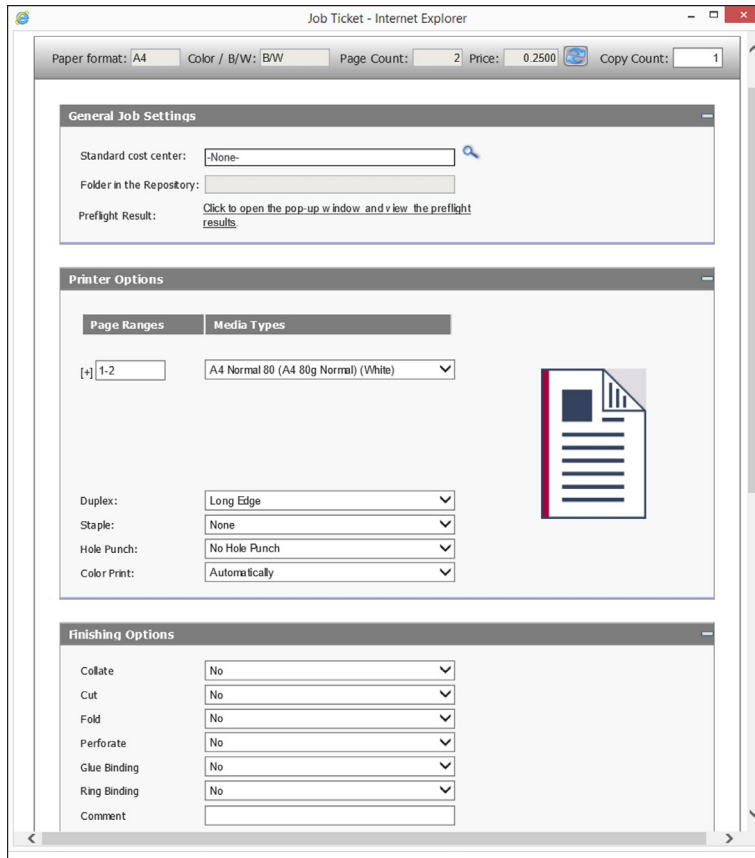
uniFLOW LTS 2018 is a modular solution that enables a diverse range of capabilities for production printing: print-room management, usage tracking and control, billing/cost recovery, device management and mobile print functionality. Key production print capabilities (job ticketing, central job management, and document make-ready) are delivered in one single base module. Other functions can be obtained with the addition of optional modules and components.

### Production Printing

- uniFLOW provides functions for job ticketing and central job management as part of its print room-focused abilities—features not found in other output management platforms BII has evaluated. These features allow operators to manage their entire print room, from job submission to job intake and from document make-ready to production.
- By using a digital job ticket, users send print jobs directly from their PC to the print room in an efficient and standardized manner, reducing errors and costly reprints. Users only have to follow a few simple steps to complete the digital job ticket. Instead of setting the output options in the printer driver, users can select the output options directly in the job ticket.
- Specific job ticket profiles can be created for specific individuals and user groups, which eases the process of job submission. Job ticket profiles can also be created for specific printers, too.
- Job ticket profiles can be managed in the Job Ticket Editor. Job ticket profiles can be created that allow a wide variety of information types to be collected, such as printing options, finishing options, personal data and delivery and invoice addresses, among other things. It's also possible to let users select additional services such as courier delivery, too.
- Extra fields can be added to a job ticket profile to collect further information from the user, and items such as text fields, comment boxes and selection boxes can be added to the profile.
- It's also possible to add plug-ins to a job ticket profile to allow enhanced interaction and to gather further information from the user. Users can access library folders, for example, and/or can choose the cost centre to which the job should be charged.
- Once a user has completed and submitted a job profile, the print room operator can access and deal with it using the Operator Dashboard.

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- The main production print utilities in uniFLOW are Operator Dashboard and PrePrint. Operator Dashboard provides operators with a set of jobs in an input queue, and operators can then add those jobs to other queues or drag and drop a job on to a printer to have it print. PrePrint is opened from within Operator Dashboard, and it allows operators to make documents ready for print by selecting finishing options and media types for pages, among other features.
- Print volume in the print room can easily be increased by automatic rerouting of large print jobs from office MFPs to the central print room. uniFLOW also integrates with Océ PRISMAdirect.
- Organizations can make use of uniFLOW's highly sophisticated workflow system to have certain jobs routed to their CRD or print room automatically. Users can also send a print job by scanning a document on the MFD and fill in the job ticket via an MFP's embedded application.

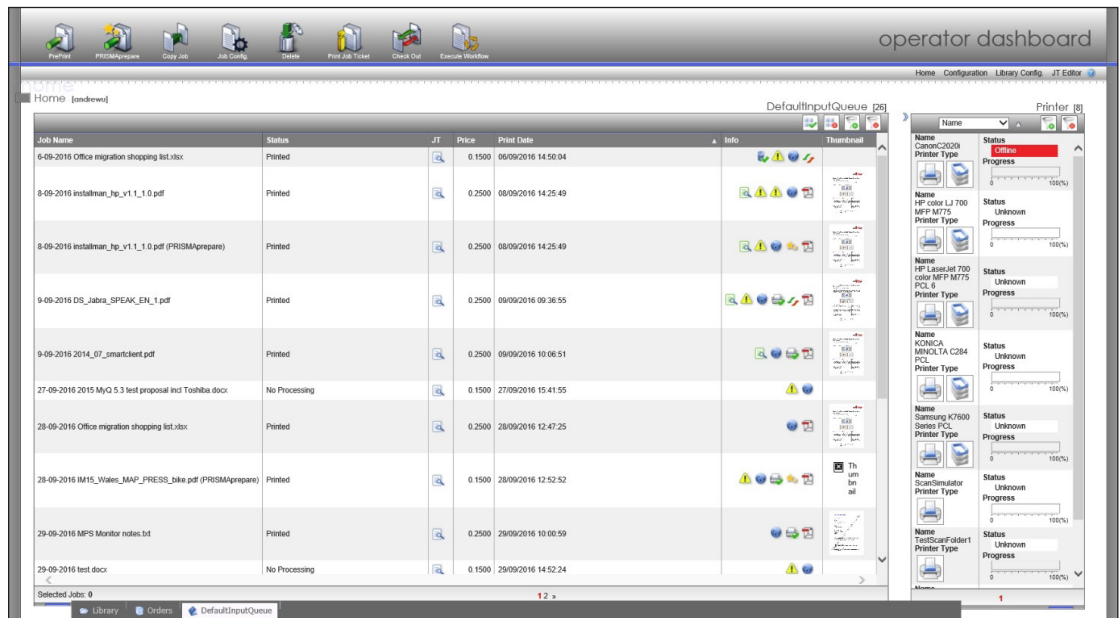
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## Operator Dashboard

- The Operator Dashboard is the main work area for print room operators. It's a web-based utility that allows operators to manage printers, orders and jobs submitted to them. It's also used to launch other tools such as the PrePrint document make-ready utility.

- Operator Dashboard only outputs in PostScript format, so each output printer must use a PostScript driver. However, it's possible to 'check out' a non-PDF or PostScript print job so that it can be printed on a specific device outside of the uniFLOW platform using a PCL, GARGO or other driver. This means operators can output a print job on wide-format printers, for example, or print an MS Word document on a native printer.
- The Operator Dashboard is comprised of a toolbar and menu at the top of the page, a central, tabular panel that displays input queues and their jobs, and a side panel in which printers are displayed. There are also tabs at the bottom of the screen that allow operators to see jobs in the library and orders.



**The Operator Dashboard utility is well-organized and provides a quick, easy means of managing print room workloads and scheduling documents for print.**

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- Individual print queues can be set up for each operator, and each queue can be configured differently according to the needs of each operator. Queues can be configured to use a specific set of job options, so one print queue could be for hole-punched documents and another for stapled. Jobs can also be dragged from the Library section to another queue.
- Operators can use buttons to select or deselect all jobs in a print queue, and can filter the jobs seen in the print queue according to various criteria such as status, whether or not it's a web submission job and whether or not it's been printed.
- Jobs in the Operator Dashboard queues can be deleted at any time, but can also be scheduled for deletion.
- Dragging and dropping jobs from one queue is a quick, efficient means of processing a job with a specific set of options. A job could be dragged from one

queue and placed into a second queue that will process the job with a specific set of finishing options on a specific device.

- Jobs are printed by dragging and dropping a job from a queue on to a printer in the printer list at the right-hand side of the screen. Doing so displays the Print dialog screen, which shows the printer settings to be used when printing the job, and these can still be tweaked by operators even at this stage via a list of drop-down menus.
  - The Print dialog clearly informs the operator if a job cannot be printed on the selected printer with the current settings, and clearly explains which settings are the problem. This is very helpful, as it means operators can quickly resolve any issues and keep the print room running productively and efficiently.
  - Operators can load existing job profiles in the Print dialog quickly to change settings to those needed. It's also possible to store settings as a new profile.
  - Operators can print a job ticket from the Print dialog and/or perform a test print in the Print dialog.
  - Jobs can be scheduled to print at a specific time, which helps operators to plan effectively and prioritize a print room's workload.
- Each printer in the printer list has a status bar, a progress bar and two icons.
  - One icon lets operators view and change paper drawer settings. An operator might want to change a drawer setting from A4 to A5R after making those changes to the printer physically, for example.
  - The other icon opens a dialog that shows the status of the printer, its progress bar and a list of the jobs scheduled to run on it.
  - The status bar uses a natural language label and a colour to denote the status of a device. A device that is ready for use has the label "Ready" on a green status bar, for example.
- There are a number of buttons on the toolbar at the top of the screen: PrePrint, Copy Job, Job Config., Delete, Print Job Ticket, Check Out and Execute Workflow. A job must be selected in a queue in order to use the tools represented by the tool icons. The first button opens the PrePrint utility, which will be discussed later in this report.
- The Copy Job button allows operators to account for a copy job. Clicking the button opens a job profile that must be completed by the operator so that they can correctly account for all the options used to produce the copy job. Operators can choose a cost centre for the job and add costs for additional services.
- Clicking the Job Config. button lets you view various data on the print job, select or change the cost center code, change the job's status (accepted, rejected, completed, and so on), charge users for jobs manually and add additional services to jobs such as using special media or couriering the printed job.
- The Job Config. screen also lets you download any web submission jobs that maybe all or part of the jobs you've selected. Users may have uploaded jobs in a native

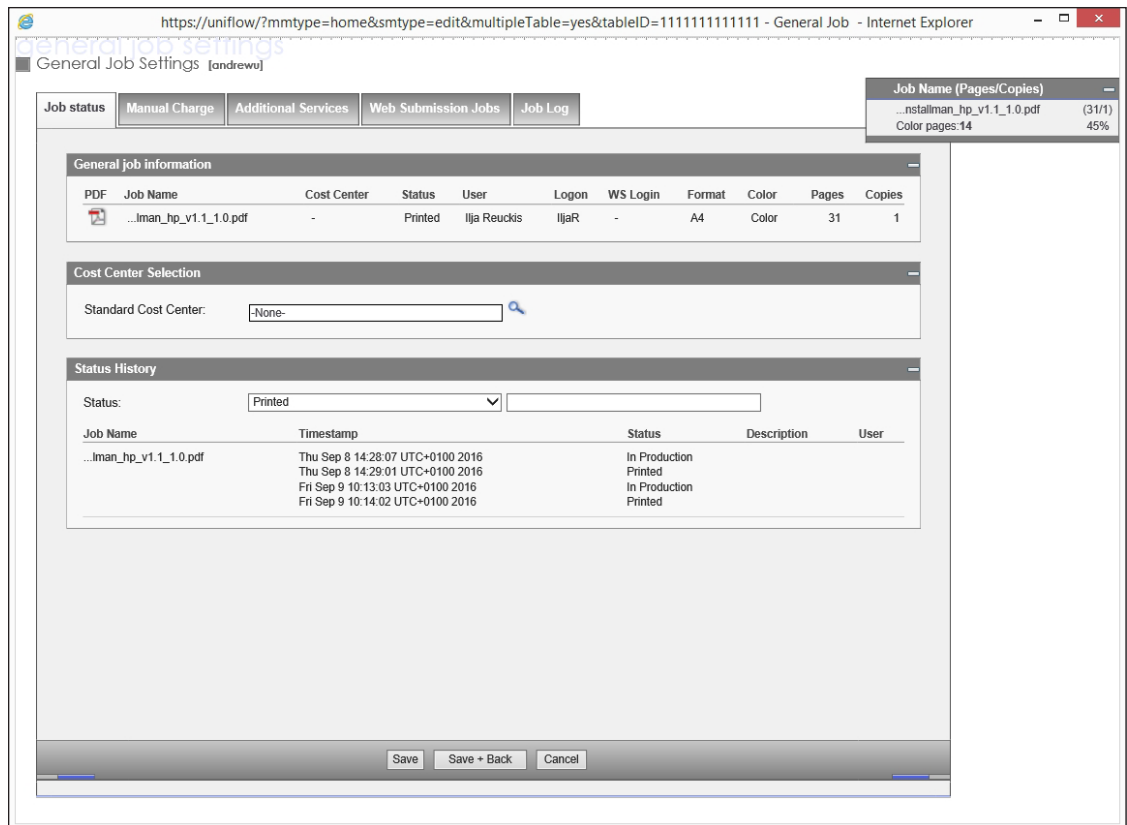
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file format such as DOC, XLS or PPT via web submission, and operators can either download the native file or have the native file converted to PDF. Converting a native file to PDF is helpful because Operator Dashboard can only work with PDF and PostScript files.

- The Job Config. screen displays a detailed log of everything that’s happened to the job, in chronological order.
  - Job tickets for one or more print jobs can be printed by dragging and dropping the jobs on to the Print Job Ticket button, or by selecting them in the list and clicking the Print Job Ticket button.



**The Job Config. Screen lets operators amend many options related to a selected print job.**

- The Delete button allows a selected jobs that is no longer needed to be deleted immediately or deleted according to a schedule. Scheduled deletions are handy if it’s no longer needed but an operator doesn’t want to get rid of it immediately just in case it’s needed again. Alternatively, jobs can be placed in the Library for archiving and/or later reuse.
- The Print Job Ticket button simply allows operators to print the contents of a job ticket with a specified device.

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- The Check Out button allows operators to release a native (non-PostScript) print job so that it can be printed with a device driven by a PCL, GARO, XPS or some other driver. This is useful when a job needs to be printed on a wide-format device that requires a special driver or when a user submits a Word or Excel document to the print room.
- The Execute Workflow button allows operators to process a print job using a pre-made workflow. uniFLOW provides an advanced workflow tools, so a workflow could perform many functions on a job, such as OCRing the document to make sure there is no confidential information in it or extracting data from it which will then be added to a database. Operators simply select the workflow they'd like to execute from a drop-down list in order to execute it.
- Operator Dashboard's Job Lock feature can make sure that only one operator can make changes to print jobs at any one time. This prevents one set of edits being overwritten by another operator accidentally.
- The load balancing feature means that print jobs can be split across more than one printer to make job production more time efficient.
- Jobs can also be split so that colour and black pages are merged inline later in the process, which makes the process more efficient.
- Jobs can be archived for future use in the Library. Operators can create new folders in the Library to organize their archive efficiently, and jobs can be dragged and dropped between folders and also print queues.
- Documents can be preflighted via the Job Ticket dialog to make sure the images and document are of a sufficient quality to print. Operators can see the size of images in pixels and can view the vertical and horizontal resolution of the images.

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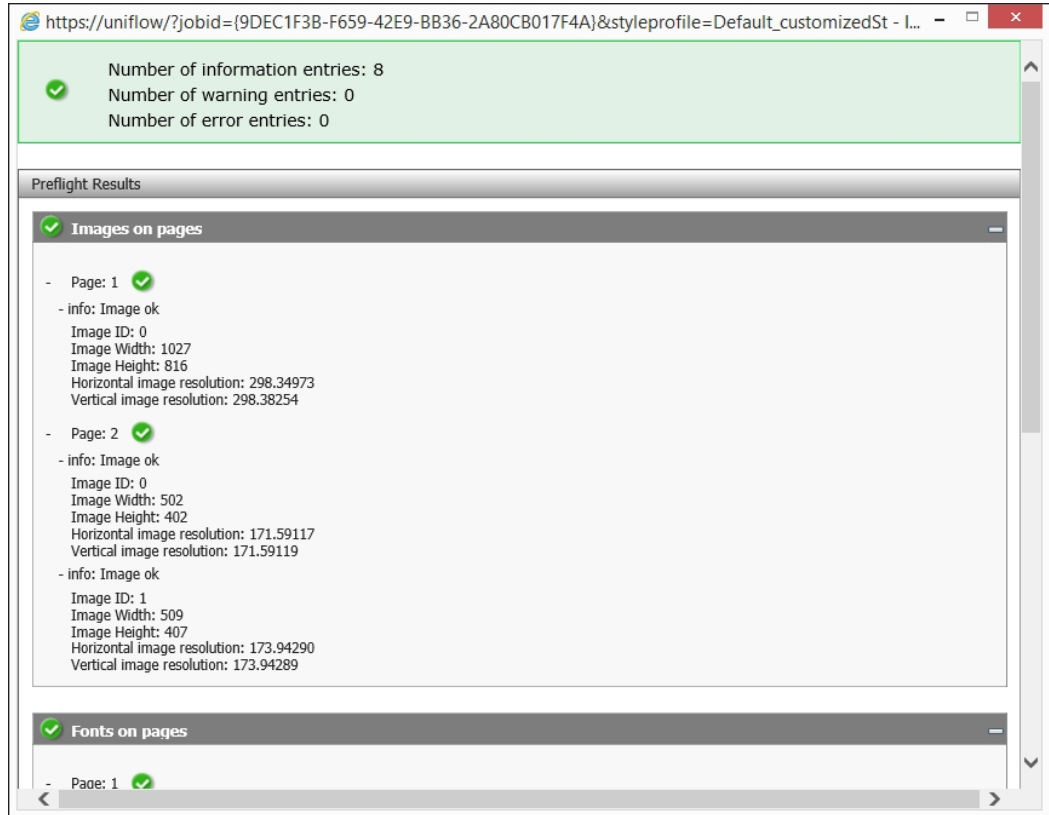
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## Documents can be preflighted prior to print.

- Every job that is submitted to the Operator Dashboard has a job ticket associated with it. The Job Ticket lists the options that must be applied to the print job (media type, finishing options, et cetera), as well as the delivery and invoice information, any additional services that should be added to the cost of the job such as couriering, any cost center code that should be associated with the job and the price of the job, among other things.
- Operators can set the status of the job in the Job Ticket screen, perhaps marking a job as accepted before requesting a sign off from the customer or colleague and then finally marking the status as “In Production” and then “Delivered”.
- Customers and colleagues are kept informed of a job’s status via the uniFLOW Client installed on a user’s PC.

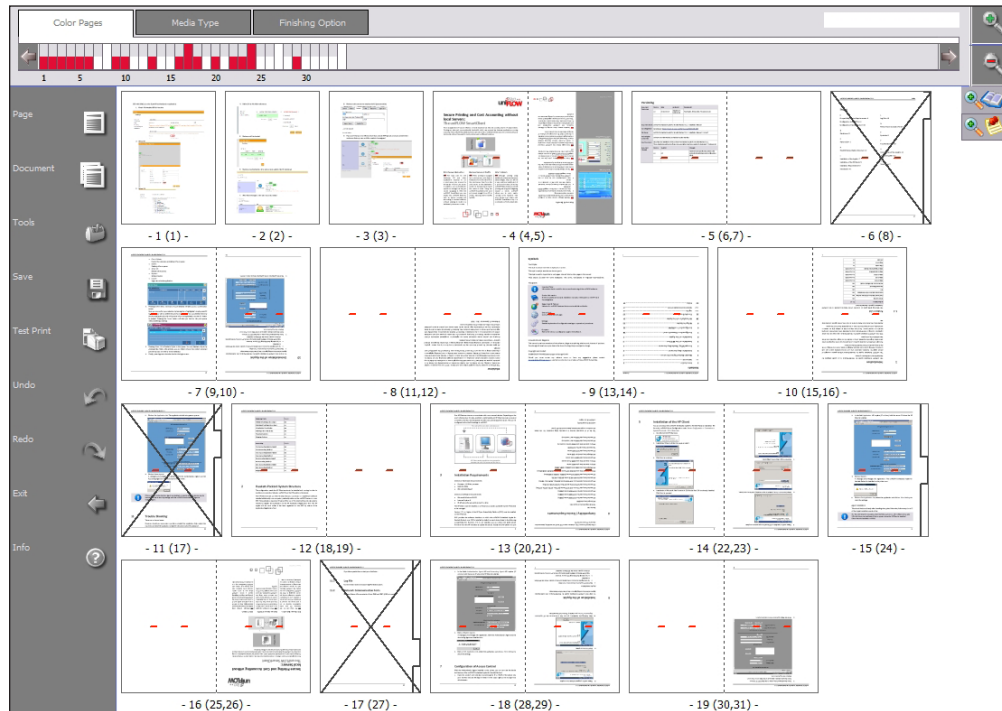
## PrePrint

- PrePrint is a highly graphical and interactive document make-ready tool that allows operators to rearrange the pages in a print job, change pages to colour from monochrome and vice versa, and add finishing options such as hole-punching and stapling. Finishing options can be added to subsets of the document or the full document.

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- PrePrint arranges the pages of a job on screen so that operators can see thumbnail previews of them. The pages can be rearranged using drag and drop, and pages can be inserted or deleted as necessary.



**The PrePrint tool lets operators make documents ready for print easily and efficiently.**

- Changes made to each page are reflected on that pages thumbnail, so a page with a four-hole punch will have four dots on it to show that four holes will be punched into it. Likewise, a pages that are to be stapled will have a staple icon placed where the staple will be physically located when the pages are printed.
- Operators can interact with PrePrint using the mouse to click onscreen controls or by using the right-click context menu.
- The excellent context menu makes it easy to perform many functions. Not just cut, copy and paste, but the ability convert a print job to a booklet print job, set many stapling and hole-punching options, change colour pages to monochrome and vice versa, and lots more besides.
- Operators can denote chapters by placing chapter start flags at various points in the document. These start and end points are added quickly using the context menu. Multiple chapters can also be joined, which comes in handy if two or more distinct chapters should really be one chapter.
- Operators can select individual pages or all pages within a print job and specify if they should simplex or duplex (short edge or long edge).

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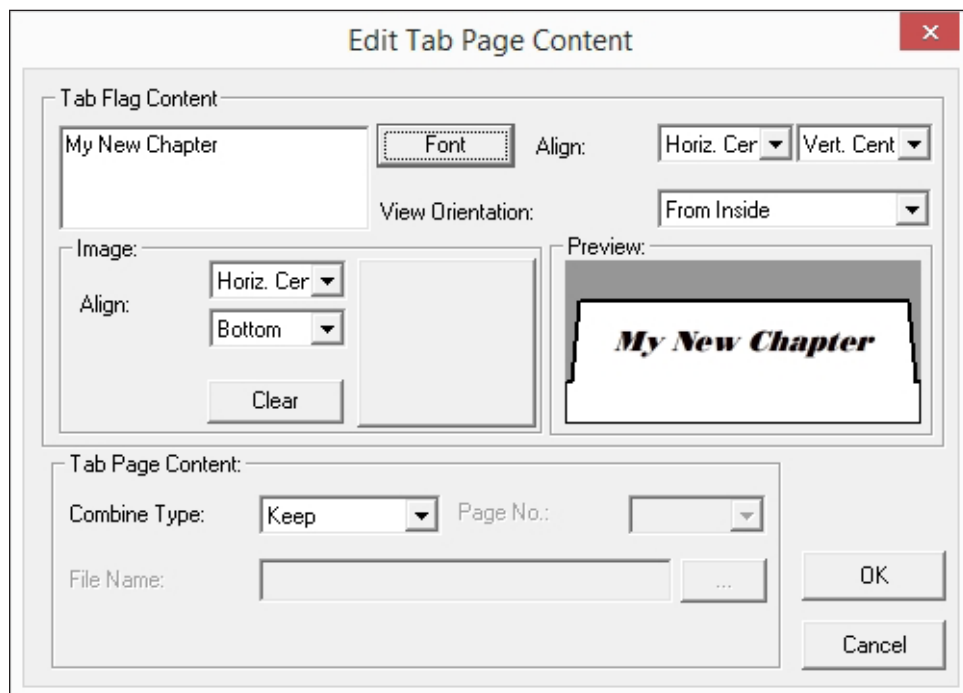
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- Operators can embed another job within the job currently displayed in PrePrint. The user can select the place where the job is to be inserted and then select the job to be embedded from a list (filters can be used to find the document needed more easily). This function can be performed quickly and easily using the left-hand menu or the right-click context menu.
- Typically, only jobs in an Operator Dashboard print queue can be embedded, but operators can also insert a PDF into a job from anywhere using a regular Windows file dialog.
- Hole punches can be applied to individual pages or all pages. 2-, 3- and 4-hole punches can be specified, along with 'professional punch'. Pages to be punched are marked on the page previews.
- Operators can change the media type of individual pages within documents, perhaps to print one or more pages on heavier paper, but they can't change the media size.
- PrePrint provides a range of stapling options, although the target device must, of course, support them. Staples can be added to the left side of the page (upper and lower), right side (upper and lower), and operators can also specify saddle stitch and double stapling (left and top). Pages to be stapled are marked on the page previews.
- Operators can insert tabbed pages into documents, and can change the content on the tabs. Operators can specify the font, size and weight of any text, and see a preview of their changes. There are various alignment options for the tab content, too.



**Operators can customize tabs in many different ways.**

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- It's possible to perform a test print of a job. Operators select a printer and then apply a print profile, specify the page range to be printed and change the print profile settings, if necessary.
- Operators with access to Adobe Acrobat can open documents in that solution from within PrePrint in order to edit them.
- It's worth noting PrePrint requires an ActiveX control to be installed in order to use it, and this pretty much limits the browser choice to Internet Explorer and the operating system to Windows. This shouldn't be a problem for most print rooms.

## Software Integration

- uniFLOW integrates with a wide range of user management services including Active Directory, LDAP, Novell NetWare and others, which eases the initial setup and ongoing user management.
- uniFLOW can import and export user, group and cost center data via XML files or the SQL connector.

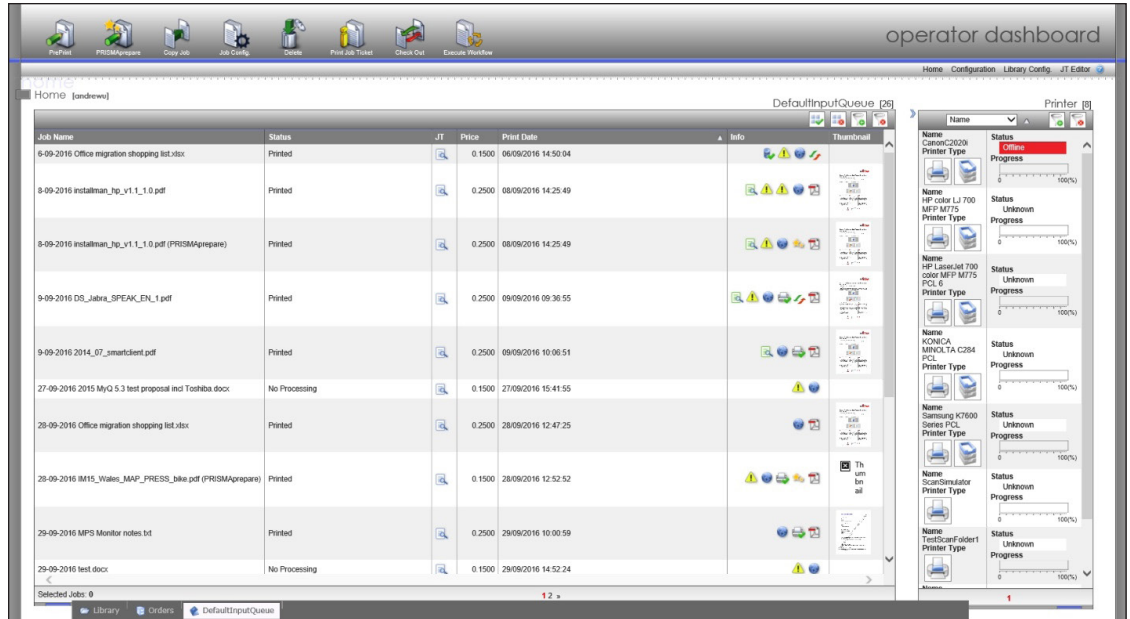
## Usability

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The Operator Dashboard and PrePrint web apps are very well organized and provide operators and users with an easy to use and intuitive means of completing their tasks. The Operator Dashboard provides users with a main screen that's divided into one or more print queues, a list of printers and a toolbar across the top of the screen. Operator Dashboard is very interactive, and operators can drag and drop elements and click icons to open dialogs. The interface is pretty intuitive and it doesn't take long to become accustomed to the way it works. The utility makes good use of icons to denote the status and nature of print jobs, an example being the use of a globe to denote a job submitted via the web and an exclamation mark in a yellow triangle to state that a job cannot be printed with the current settings applied.

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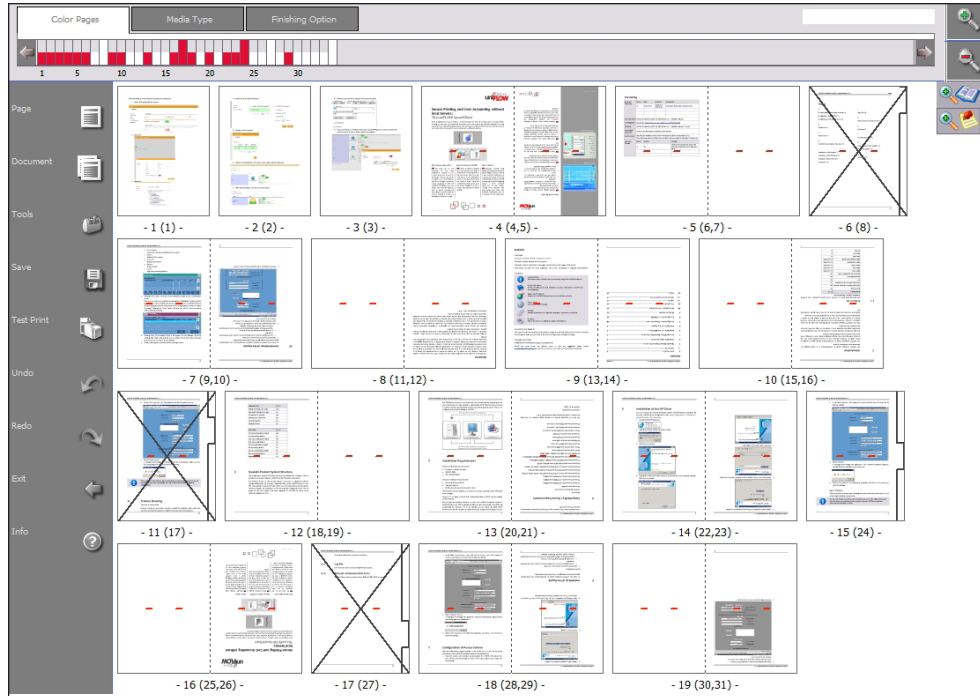


**The Operator Dashboard is a very interactive tool that makes good use of graphics and icons to impart the state of jobs and devices.**

The PrePrint utility presents users with a graphical representation of a document's pages and the finishing options applied to each page. Operators can see at a glance which pages are in colour and which are monochrome thanks to a strip located at the top of the web page. This strip also shows the media type used and the finishing options. A menu at the left-hand side of the page allows operators to perform various functions, such as inserting another job within the current document, adding stapling and performing a test print. A right-click context menu also provides quick access to a wealth of options. Individual pages can be moved by dragging and dropping them, too. All this makes using PrePrint a quick, easy and natural experience.

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**PrePrint is a powerful document 'make-ready' tool that is highly interactive.**

## IT Admin & Security

### Installation / Configuration

- As with most solutions in this class, the initial configuration of uniFLOW can be complex due to the sheer breadth of functionality and the wealth of settings for each managed area. However, the installation and setup routines have become simpler with every new version.
- Installation and setup tasks are typically performed by the authorized reseller that sold the system, although training is very much recommended for those charged with administering and supporting uniFLOW in order to get the most out of the system.
- As with most competing solutions, a uniFLOW installation requires an SQL Server database at the back end. uniFLOW can use an existing SQL Server database, but if you don't have one the included Microsoft SQL Server 2008 R2 Express Edition can be installed during setup.
- ActiveX controls must be installed in order to use PrePrint, but the user is prompted to install any controls when they try to access a web page that requires them.
- Internet Explorer must be installed on every PC that will be used to access uniFLOW or any one of its components, as no other browser is supported.

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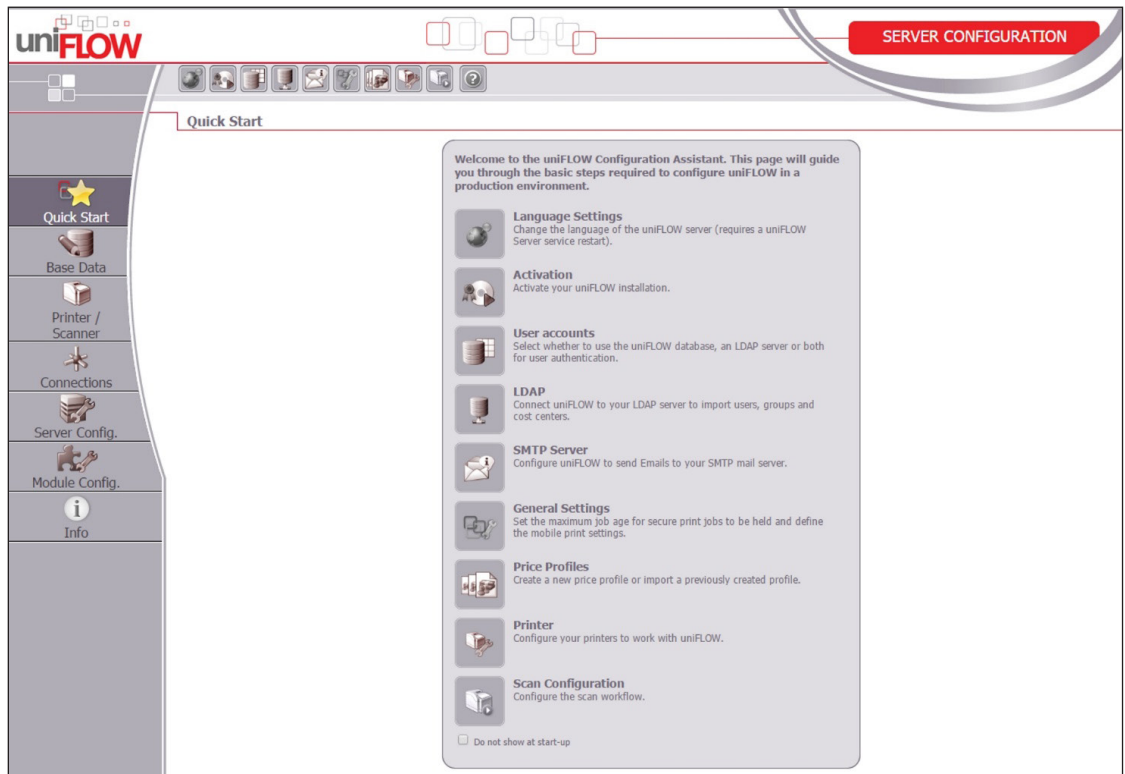
## Ongoing Administration

- There isn't much ongoing administration to be done with the Job Ticketing, Operator Dashboard, or PrePrint tools directly beyond setting up any new printers that must be added and specifying new media types, but there is some ongoing administration for the solution on which these tools are based. The rest of this section covers this ongoing administration, including printer setup.
- Day-to-day management of the server can be conducted via the web utility, which uses a "Quick Start" page with a graphical menu to list the most common configuration tasks, with options such as Activation, LDAP, User Accounts, General Settings, Price Profiles, and Printers, among others.
  - Clicking an option opens a wizard that walks the reseller or administrator through the most common settings of that particular area of configuration.
  - NT-ware claims that the vast majority of the functions needed by most customers are addressed by the wizards, which saves administrators from having to delve into the Advanced tab (which is still there, for more granular customization).
  - A prime example is the wizard for adding new output devices to the system. To get started, a user clicks the Printer entry on the Quick Start page, selects New and then chooses whether the printer to be added is a single printer, multiple printers from a template or a printer that needs to be discovered.
- A sidebar at the left-hand side of the screen provides users with access to various functions via menu icons. (Quick Start, Base Data, Printer, Connections, Server Configuration and Module Configuration). Administrators will spend most of their time working with options in the Base Data menu, where they can set up users, groups, cost centers and price profiles, manage budgets and create reports (if they have the Statistics module installed).
- The Base Data menu contains eight options: User, Groups, Cost Centers, Budget, Price Profiles, Media Type, Articles/Services and Statistics. Clicking the User button displays a table of users and their attributes.
  - Here, Administrators can create new users, cluster users in groups, allocate cost centers to bill against, assign budgets to users, assign pricing profiles to devices, and create customized workflows. All these things can be done easily.
  - The same actions can be applied under Groups, but are aided by the filter feature, which allows the administrator to filter users by various criteria (including number, name, logon, standard group and standard cost center). Once information is filtered, the administrator can take advantage of the Change All feature, which allows changes to be made across all the filtered entries in a single action, which greatly streamlines management, budget updates and changes in cost center allocations.
  - Entering cost center and group names into the filter requires manual free text entry, however; BLI would prefer a drop-down selection be offered to save time and reduce the chance of data entry errors.

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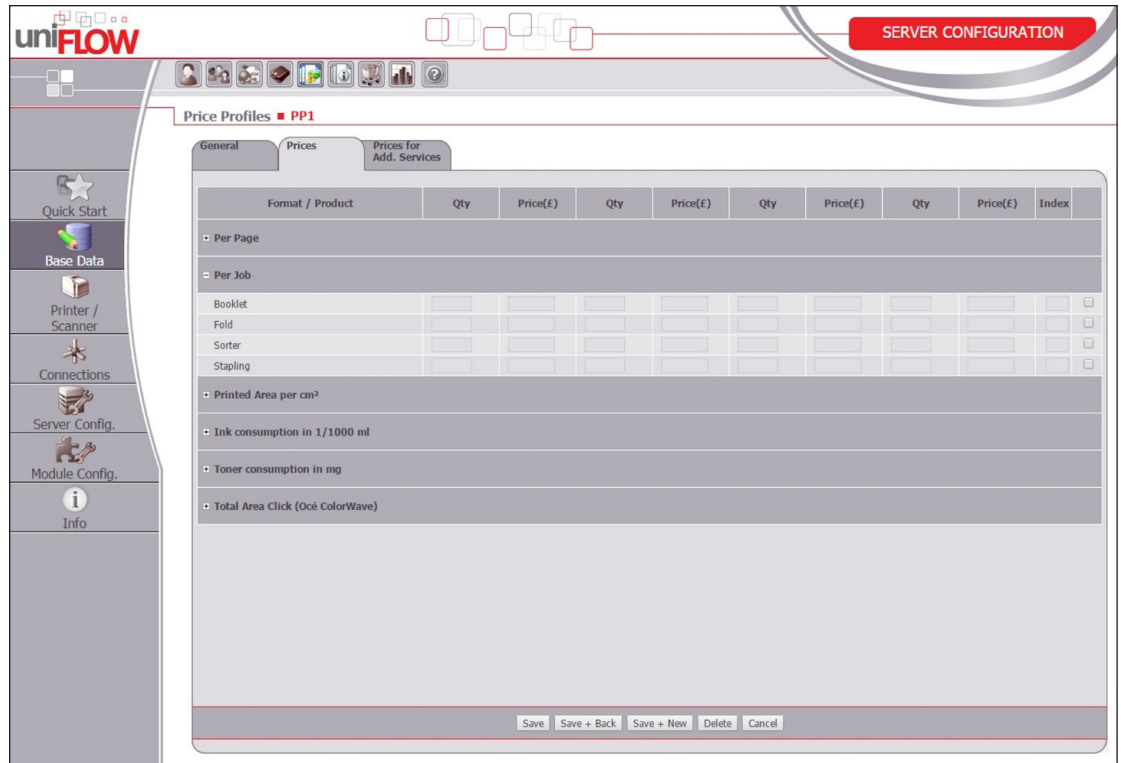
- o Administrators can take advantage of uniFLOW's ability to integrate with LDAP, allowing new users included in Active Directory to be added to the uniFLOW database and automating a lot of the manual user/cost center management administration.
- The Cost Centers menu lets administrators create cost centers, allocate a manager, and assign budget and pricing profiles. Administrators can set up multi-tiered cost centers, which can be a great help in complex project work, cost tracking, or for billing of clients with multiple divisions or departments.
- Within the workflow composer, the administrator can set up a rule whereby large print jobs have to be authorized by the cost center manager prior to release. BLI found this Boolean rules-based programming intuitive and quick to set up. According to NT-ware, the process will be more wizard-driven in later releases, making it even more intuitive.
- The Budget screen lets administrators allocate funding at a user, group and cost center level with auto-reload conditions, and set up different warnings and actions to occur when thresholds are approached or have been exceeded. Actions include the ability to raise a warning pop-up but allow continued operation, or prevent copying and printing until further budget is secured, among others.
- BLI would like to see a screen where all users' jobs are listed together with essential data such as owner, date created and so on, and can be paused, deleted or pushed to a specific printer by the administrator as needed.



**The handy Quick Start menu and underlying wizards make configuring uniFLOW much easier.**

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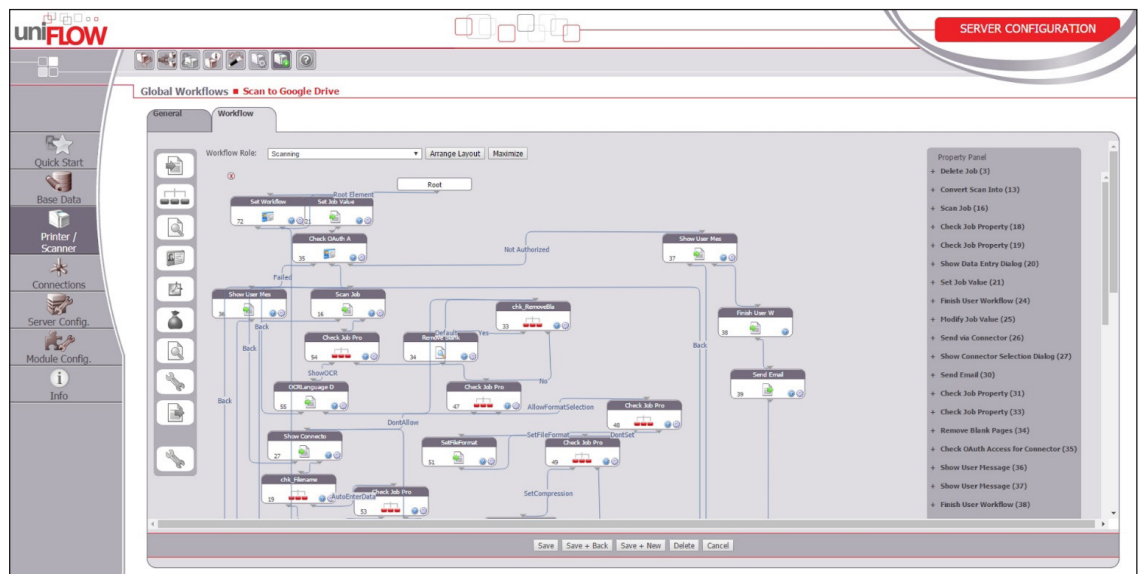


- uniFLOW gives very granular control over cost-per-page settings, allowing administrators to create custom pricing profiles (example shown above).
- Administrators can create pricing profiles that can be applied to users, groups, cost centers, or individual devices as required. Jobs can be priced at a very granular level, and uniFLOW provides among the most comprehensive pricing options that BLI has seen.
- Multiple price plans can be created to meet the different needs of the various parts of an organization and its users. As an example, administrators can set different prices for items, such as an A4 printed page, depending on the quantity purchased.
  - Administrators can specify four different prices depending on quantities by default, but can add up to 10 if necessary.
- Pricing options are broken down into per document, job, or page items.
  - The per-job prices are calculated cumulatively with each page printed that satisfies the pricing condition (one page in a document might be colour, for example, while the rest are monochrome, and the presumably higher cost of the colour page will be added to the cost of the rest of the document).
  - Per-job costs can be specified for items such as stapling, booklets and sorting. Organizations using large-format printers can also charge for options by printed area per cm<sup>2</sup>, ink consumption per 1/1000ml and toner consumption in milligrams.

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- o Conveniently, uniFLOW provides a handy calculator for computing the base values of the large-format pricing options.
- o Users of Océ ColorWave devices can calculate pricing based on total area clicks (TACs).
- The printer tab lets administrators add new printers to the system, create least-cost routing workflows and printer clusters among many other things, all aided by a comprehensive wizard utility.
- The administration software includes wizards for more than 30 different printer configurations and associated workflows. Experienced uniFLOW resellers typically have a library of common workflows they have built over time, and those can be imported and customized as required to meet an organization’s specific needs. Users can access a wide range of functionality to automate printing and scanning jobs.
- Workflows can be global (made public to all users) or private (only available to designated users or user groups).



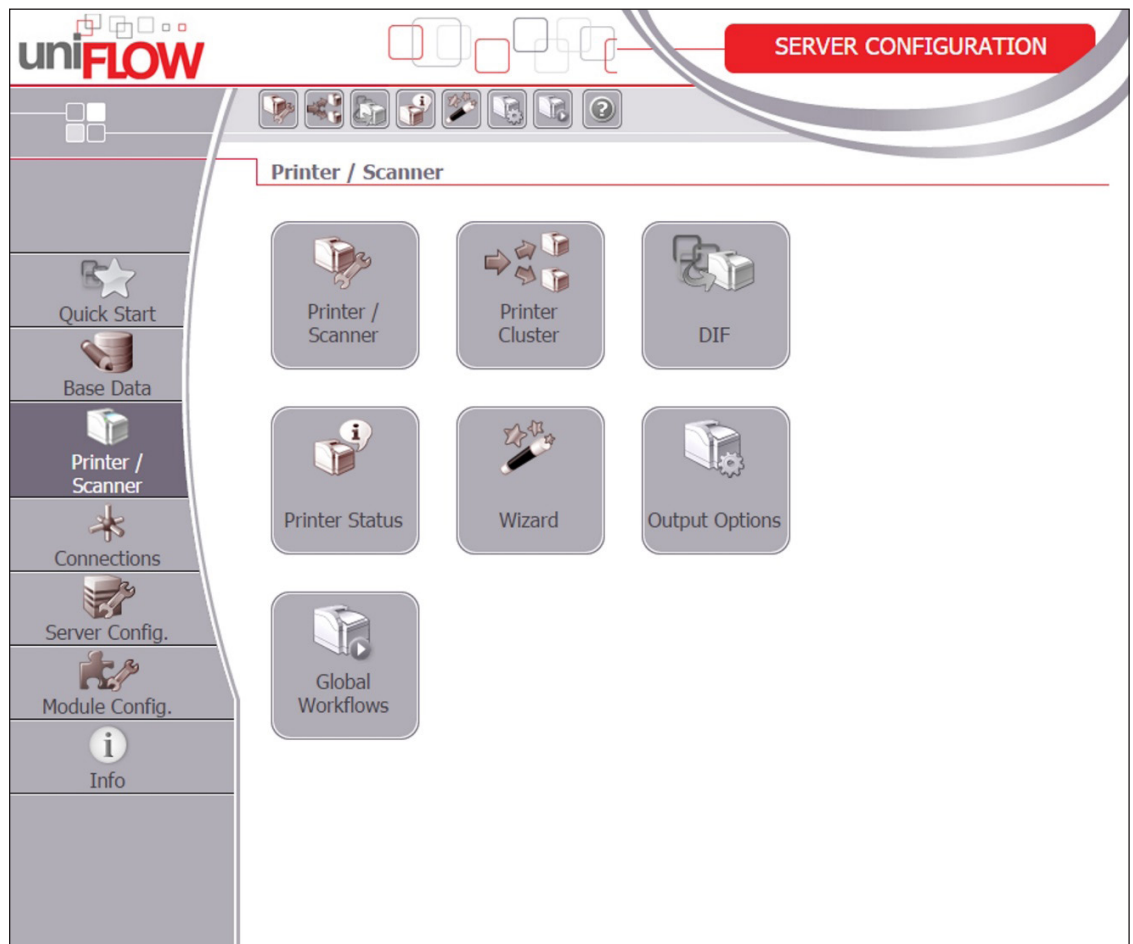
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**uniFLOW’s Workflow Designer allows administrators to create, print, and scan workflows.**

- A key difference between uniFLOW and rival products is the degree of customization available. Once a workflow is established, the administrator can go back to the workflow, change the wizard to Advanced Printer Configuration and then gain access to the Workflow Editor. The scope of the options available is determined by the modules installed.
  - o Canon recommends that the majority of workflow configuration should ideally be completed by Canon or the reseller at installation, as creating workflows can be complex.

- o The wizard allows administrators to add, remove and edit individual steps in the workflow process.
- o BLI technicians were impressed by the flexibility offered but feel that users would benefit from a higher level of guidance in order to be able to customize workflows more easily.



Under the Printer tab in the admin console, administrators can add printers, deploy workflows, view device statuses and more.

- The creation of new printers is best conducted via the wizard, which walks the administrator through the process. The number of options is determined by the modules installed. Wizards range from the basic printer installation to complex interactive rules-based routing printer workflows.
- Administrators can select, edit and create new device information files (DIFs) to associate with printers on the system. DIFs associate print command instructions in the device PPD native file with the printer output options found within the uniFLOW Universal Driver.

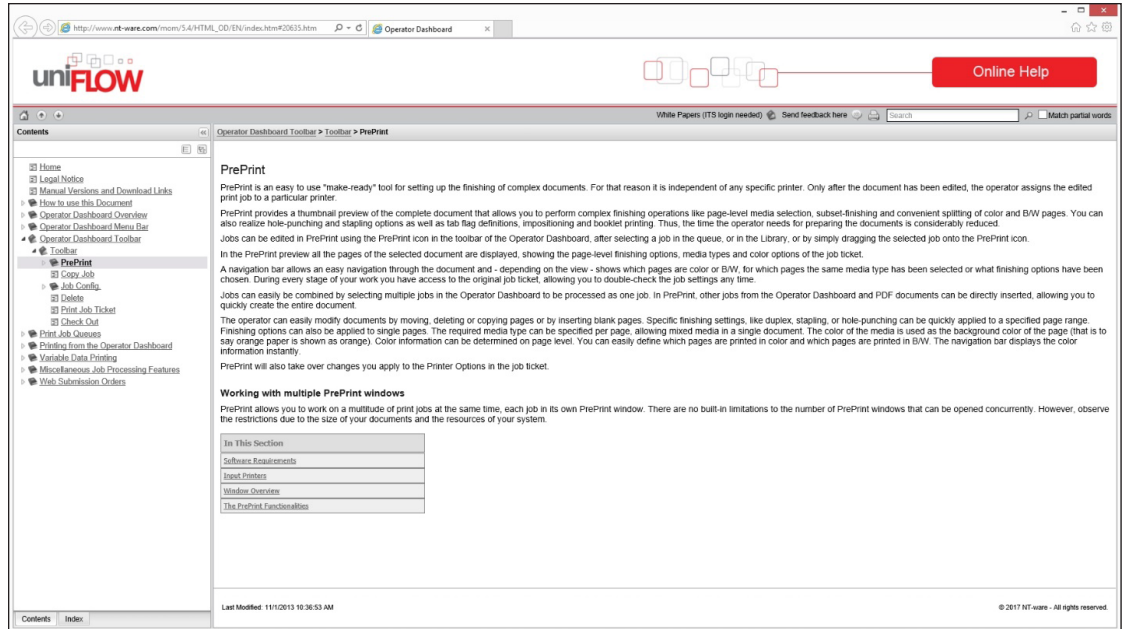
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- o uniFLOW is more reliable and errors are less likely to occur for mixed fleets with DIF files installed on devices, as the uniFLOW Universal Print Driver can then be utilized.
- o Rival solutions rely on individual OEM drivers, which means that jobs are submitted to the central server from the native printer driver, and this can result in errors when the destination printer does not utilize the same print instruction coding as the driver.
- o DIFs for all Canon devices (with a few exceptions) and all HP single-function printers are included as standard and are locked (that is, they cannot be changed). New DIFs can be created for devices not supported out of the box via the DIF Creator utility, and NT-ware provides a web portal ([www.nt-ware.net/difportal](http://www.nt-ware.net/difportal)) where new DIFs are posted in between Service Releases of uniFLOW for new Canon and third-party manufacturer devices.
- o Under Output Options, the administrator can view the list of all devices, and by clicking on the entry can make changes to the DIF settings and specify media in each of the output locations.
- uniFLOW comes with a comprehensive user manual (it's a whopping 2,184 pages long) that's available in English, French, Italian, German and Spanish.
  - o Administrators can choose to view the user manual within the program or download the document to the desktop. The manual is well laid out with a comprehensive index.
  - o BLI technicians found the instructions well written, with helpful screenshots to guide users through setup tasks. The manual has a table of contents at the front which is fully hyperlinked to the relevant area of the manual, and hyperlinks in the main body of the manual refer the user to other areas of the manual that cross-reference an issue.
  - o There is an online facility that can be accessed from the solution by selecting the Help button on the top menu bar. This content is dynamic and the user is taken to the Help section that's relevant to the area of the uniFLOW they're in at the time.
  - o The manual has little troubleshooting information, and BLI would also like access to an online knowledge base to help resolve issues and learn more about the solution.

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uniFLOW provides good online Help pages, and users can search for keywords, too.

## Security

uniFLOW LTS 2018 provides a high level of security, with users having to provide authentication in order to print. This allows administrators to trace every job back to its owner and provide an audit trail for compliance purposes.

The solution can also restrict users' access to functions via Access Control Lists (ACL). Administrators can create these with a list of users and groups who are allowed to use the functions and a list of those who are denied access. These lists can be associated with specific functions within the access control menu such as colour printing and so on. The ACL can be applied across the entire fleet of devices or applied on a device-by-device basis. A wide range of authentication methods are supported, including PC login, PIN or user login entered at the device or via multiple card reader options such as magnetic strip, Smart/RFID proximity cards (including Legic, Mifare, HID and Hi-tag).

uniFLOW includes a number of other security features, including optional direct integration with Canon imageWARE Secure Audit Manager (SAM), which provides a complete audit history of all device activity linked to the user, so that any security breaches can be traced back to the guilty party.

In the event of a device error (such as a paper jam or no paper in the tray) uniFLOW will delete the job from the queue and notify the user. With some other systems, a spooled job will be printed once the device error is cleared. In addition, security and network traffic can be improved with the built-in encryption and compression of print jobs in transit.

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## Support & Training

Canon and NT-ware provide customer support for uniFLOW via a number of means, including telephone and email, while onsite training is available through Canon via a professional services agreement.

- Phone, onsite and web-based technical support for end-users is dependent upon the individual Canon operating company. For example, in the U.S, phone support is provided on business days between 9 am and 5 pm Eastern time, and email support is also available.
  - However, NT-ware provides third- and fourth-level support to supplement that provided by Canon across three areas (Europe, U.S. and Singapore) for round-the-clock response, so there is always someone available to help.
- Unfortunately, NT-ware does not provide end-users with access to its online knowledgebase; it is reserved for resellers that have a valid login. Some rival vendors provide their users with such a knowledge base, as it is a handy means of resolving issues and supporting self-learning.
- Customer technical support and training is provided by Canon and its channel partners through a professional services agreement.
- Users can access an online manual.

## Value

Overall, uniFLOW is excellent value. As detailed in this sub-report, it provides much more than just print management features, and its extensibility means that organizations can add features as and when they need them. Indeed the modular makeup of uniFLOW means that a basic deployment can be installed at a relatively low cost per user into a small business or department within a larger organization, with customers able to upgrade to larger license packages or add more modules as required.

- uniFLOW is available in a range of editions, each including a different number of concurrent licenses (all prices are MSRP for the U.S.; pricing in other regions may vary):
  - Workgroup Edition costs \$2,546 and includes 50 concurrent user licenses, with each additional module costing \$1,409.
  - Business Edition costs \$5,456 and allows 250 concurrent users, with each additional module costing \$1,746.

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- o Corporate Edition costs \$9,819 and allows 500 concurrent users, with each additional module costing \$3,495.
- o Enterprise Edition costs \$19,092 and allows an unlimited amount of users to use the system, with each additional module costing an extra \$5,579.
- In addition to the user licenses, these packages include the core server software, one year's support for an unlimited number of devices, and one module of the customer's choosing. Additional modules are charged at varying rates depending on the license edition chosen.
- uniFLOW is priced on a floating-license model rather than on a per-seat basis as found in most rival systems. This model is very similar to a concurrent user license except that each account is locked for 15 minutes after a user logs off. The floating-user license model means a company with more employees than the total number of licenses could still use the system effectively, especially in environments where some per-seat licenses would otherwise be under-utilized.

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