



White Paper

Optimizing Document Delivery Processes to Reduce Costs and Increase Productivity with Rosetta Technologies Print Manager (RPM)



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Purpose of this White Paper

The purpose of this White Paper is to:

- Identify typical areas of inefficient printing in desktop, back-office and datacenter environments.
- Explain the technology employed by the Rosetta Print Manager (RPM) software.
- Use RPM software to achieve cost savings and efficiency gains.

Intended Audience

This White Paper introduces RPM to personnel responsible for using technology to reduce costs, increase efficiencies, track usage and ensure the reliability of network printing and document workflow processes.

The High Cost of Inefficient Printing and Inefficient Document Distribution

Have you ever seen an office without a scrap paper bin? How about a day go by when you or one of your colleagues doesn't lose a print job or wait for a printer to be fixed? Now think about how much paper and toner is thrown out and how many hours are spent in your organization waiting for print-related issues to be resolved. Both of these examples have tangible costs that decrease your company's bottom line and distract you from your core business goals. Optimizing printer assets is a great start to controlling these costs, but right-sizing printer fleets will not reduce wasted printing and ensure that business critical output is delivered in a timely fashion.

Implementing RPM reduces **total** prints and streamlines document delivery, freeing up your company resources to concentrate on achieving core business goals.

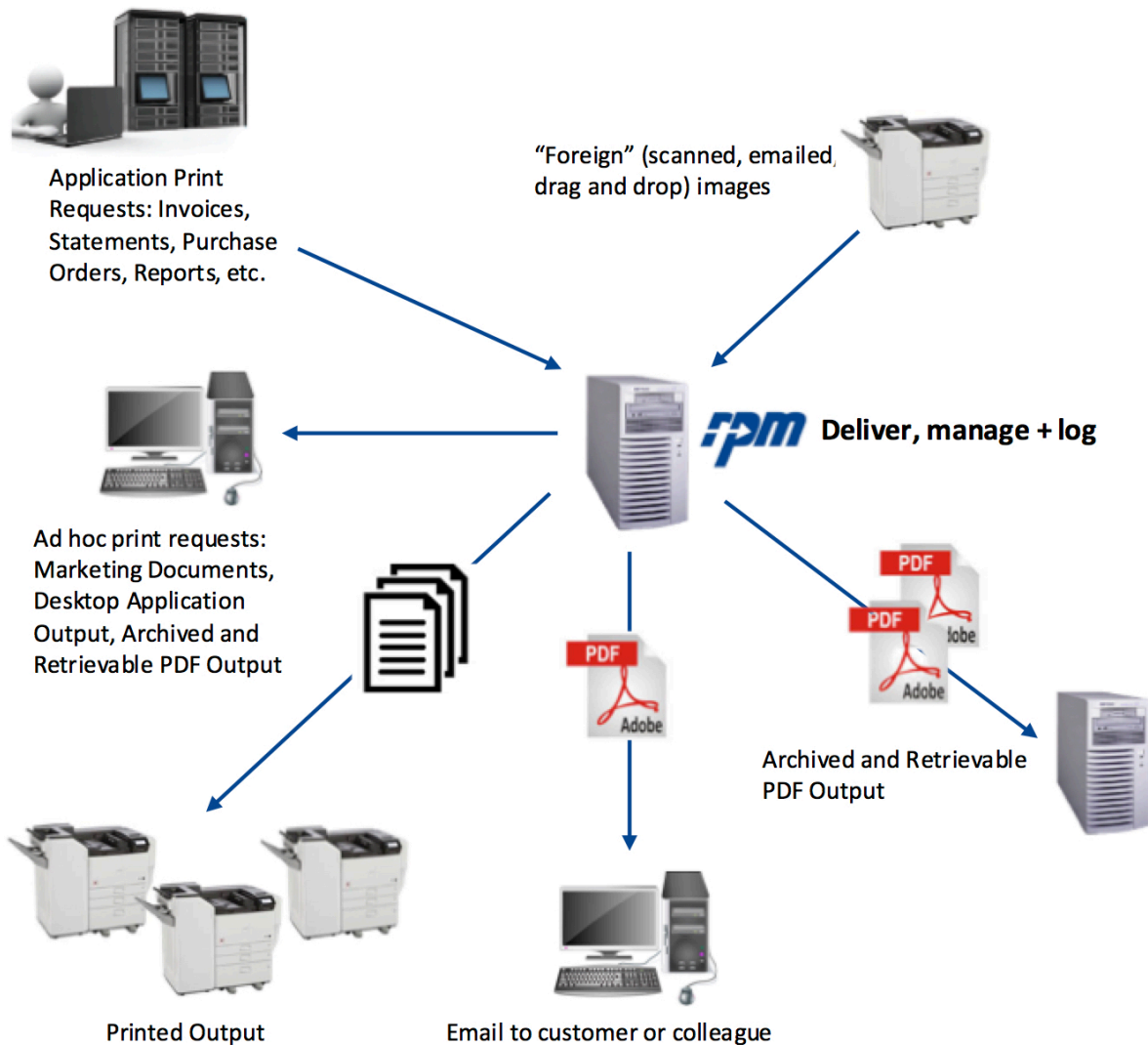
RPM Cost Savings Capabilities

RPM is server-based software that manages the flow of print output, digital information and scanned images. RPM runs on UNIX, Linux, Windows and iSeries (AS/400) servers and can accept print and input from virtually any source. We will focus on several RPM capabilities in this White Paper. Each of the following capabilities can be used to generate tangible cost savings and efficiency gains in any environment:

- Intelligent Routing
- Intelligent Back-Up Printing
- Printing Part of a Document
- Error Detection and Adaptive Printing
- Cluster Printing
- Print Statistics and Metrics Collection
- Cross-Platform, Local and Remote Printing Consolidation
- Intelligent Data Conversions
- Secure Document Delivery
- Barcoding Documents and Application Data Output without Dedicated Printers
- Automatically Creating Document Images for Storage and Retrieval
- Routing Scanned Images or Drag-and-Drop Documents from External Sources

RPM Implementation Considerations

RPM Deliver fits "in-between" the application generating the print request and the printers themselves. Schematically, RPM serves as a distribution point for print and digital information initiated from multiple sources (application servers, desktop PCs, MFPs/scanners etc.):



RPM then provides job routing, delivery, scheduling, printer control and job-splitting using its own printer drivers. The main features of RPM's print and document management are:

- A "global" view of all print jobs currently active.
- Large print files can be split automatically across a user-defined cluster of available printers.
- Automatic print job completion in the event of printer hardware failure.
- Print requests can be moved from one printer to another.
- Schedule of print by priority, load, and class of printer.
- Print requests can be stopped, started, restarted at a given page, and re-queued for later printing.
- Control over paper stock, allowing jobs requiring special paper to be grouped and printed when that paper is loaded on the printer.
- Access to the status of all printers (paper out conditions, network problems, etc.).
- The ability to control access to printers (disable printers, re-route jobs to printers, etc.).
- The ability to route output to non-printer output objects (email gateways, fax gateways, structured output/EDI gateways, etc.).
- The ability to reconfigure printers on-line.
- Access to all administrative printing functions over the Internet.
- View print files online.
- Direct link to printer-imbedded diagnostics (Web Jetadmin, Markvision, or Centerware).
- Delivery notification via email or Windows Messaging.

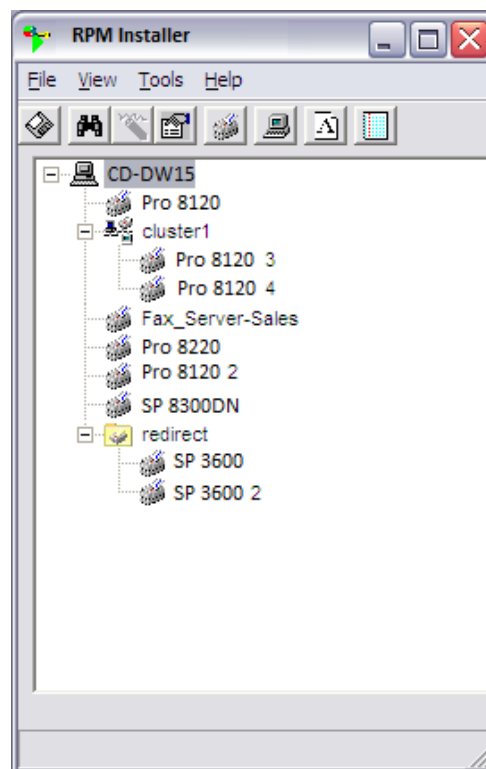
RPM can also receive print requests from any desktop application on the network, from server-side applications, and from other machines with network access (mainframe applications, Novell networks, etc.). Designed as a true client-server application, the RPM Print Service receives information about print requests over the network and provides client machines with access to the print queue over the network. RPM is a true print server and is capable of providing the system administrator with a "single point of control" for controlling printing, scheduling printers, and diagnosing printing problems.

The main administrator configuration interface graphically displays the physical printers as well as the output objects managed with RPM.

Printers and other output objects are added through this interface by authorized IT personnel who access the program through secure login.

Note the variety of both printers and output objects displayed:

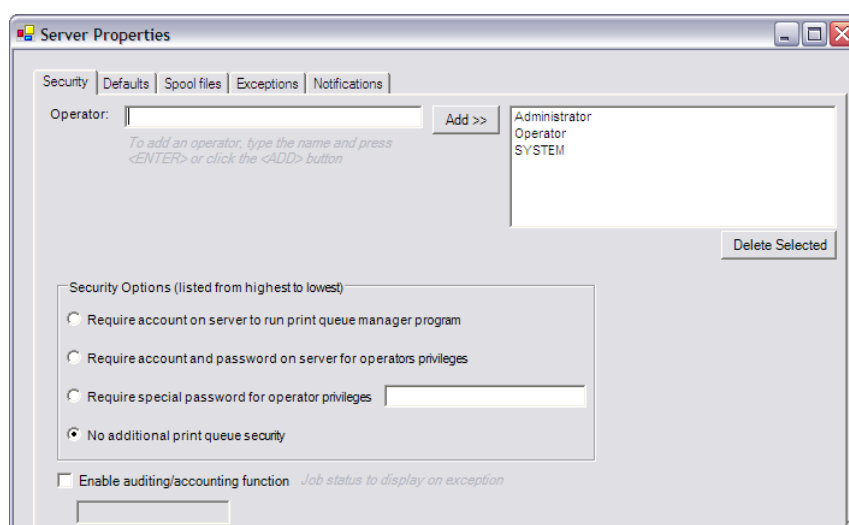
- Physical printers Pro 8220M, SP 8300DNM, etc.)
- Cluster printers (cluster1, Color Cluster)
- Routing objects (redirect)
- Online output objects (RPM-PDF Printer, Mail Server-Invoice)
- Fax output object (Fax Server-Sales)



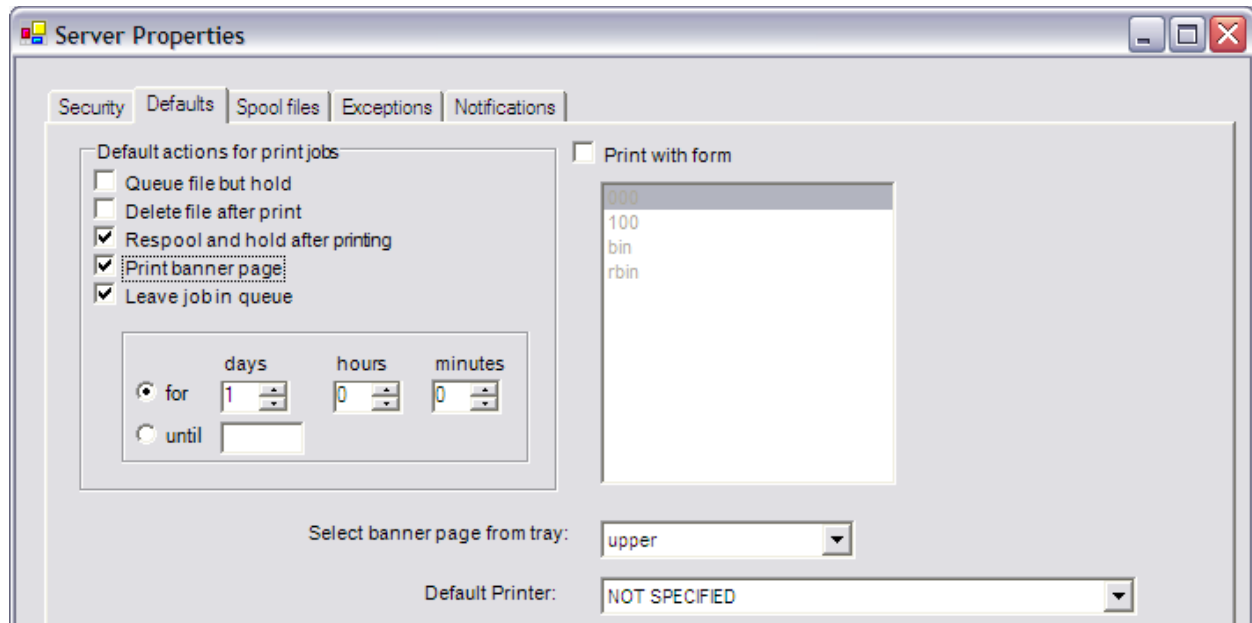
Each one of the above objects can be as simple as a binary pass through print destination or as robust as a forms-enabled program that accesses scripts to distribute output based on data-driven variables.

A number of Server level options can be set at this point, including Security, job parameter Defaults, Spool file directories, auto-failover Exceptions, and automatic Notifications.

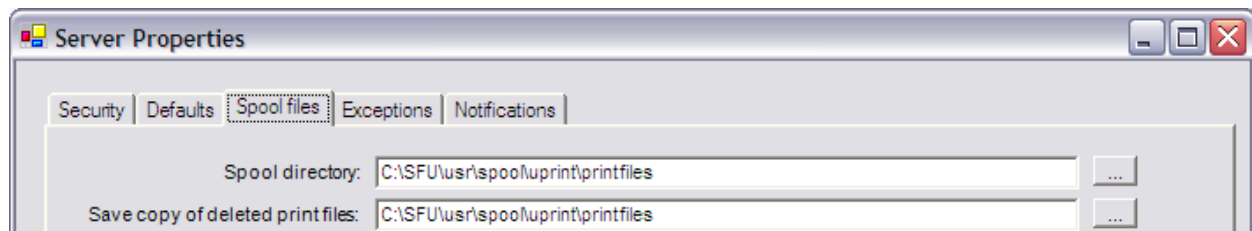
Security options include additional user login, user privileges and enabling or disabling auditing and accounting metrics collection.



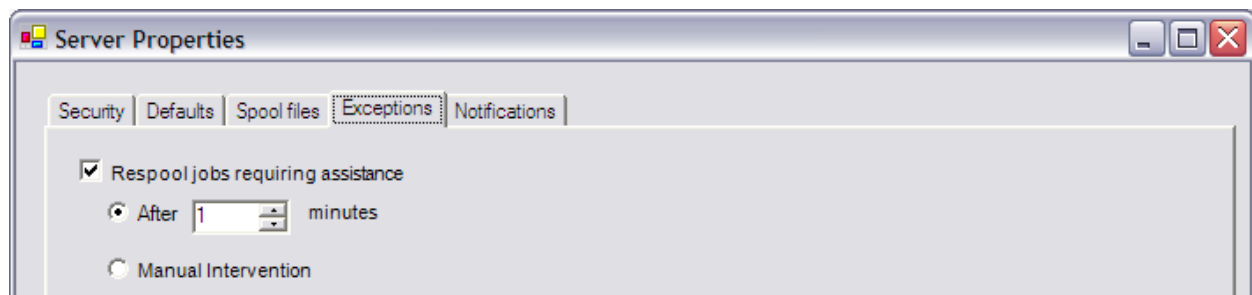
Default parameters include job disposition settings, re-spool options and banner page options (banner pages can be customized as well to include data-driven elements).



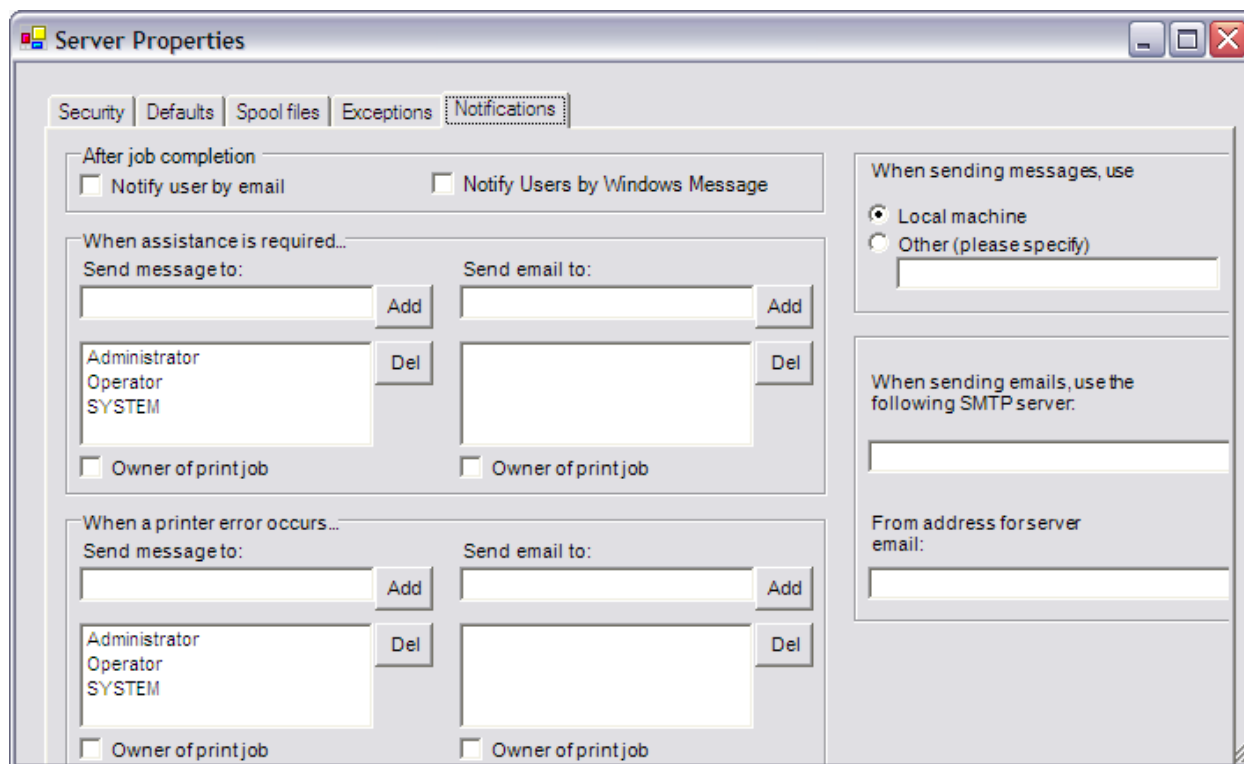
Spool file parameters define where jobs get stored while on the queue:



Exception settings define the events that trigger mid-print job auto-failover actions:



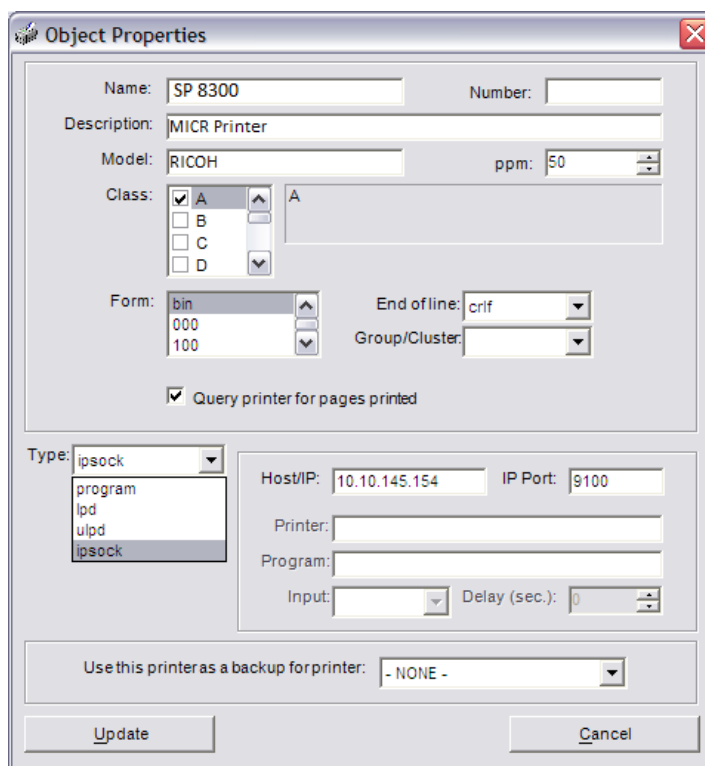
Finally, Notifications are set to alert users and Administrators of environment changes and intelligent printing events:



The **Server Properties** dialog box is shown with the **Notifications** tab selected. It contains several sections for configuring notifications:

- After job completion:**
 - ☐ Notify user by email
 - ☐ Notify Users by Windows Message
- When assistance is required...:**
 - Send message to:** A list box containing Administrator, Operator, and SYSTEM, with Add and Del buttons.
 - Send email to:** A text field with an Add button.
 - ☐ Owner of printjob
- When a printer error occurs...:**
 - Send message to:** A list box containing Administrator, Operator, and SYSTEM, with Add and Del buttons.
 - Send email to:** A text field with an Add button.
 - ☐ Owner of printjob
- When sending messages, use:**
 - ☒ Local machine
 - ☐ Other (please specify): [text field]
- When sending emails, use the following SMTP server:** [text field]
- From address for server email:** [text field]

Individual printer properties are also user defined, including cluster participation and printer details. Note the extensive configuration options available, including the different "Type" options and the "Program" field which enable the use of virtually unlimited output object destinations and scripts. The "Form" field enables automatic watermarking and advanced laser form printing, which is especially useful for batch printing invoices, checks, purchase orders, pick tickets and other business critical documents.



The **Object Properties** dialog box is shown with the following configuration:

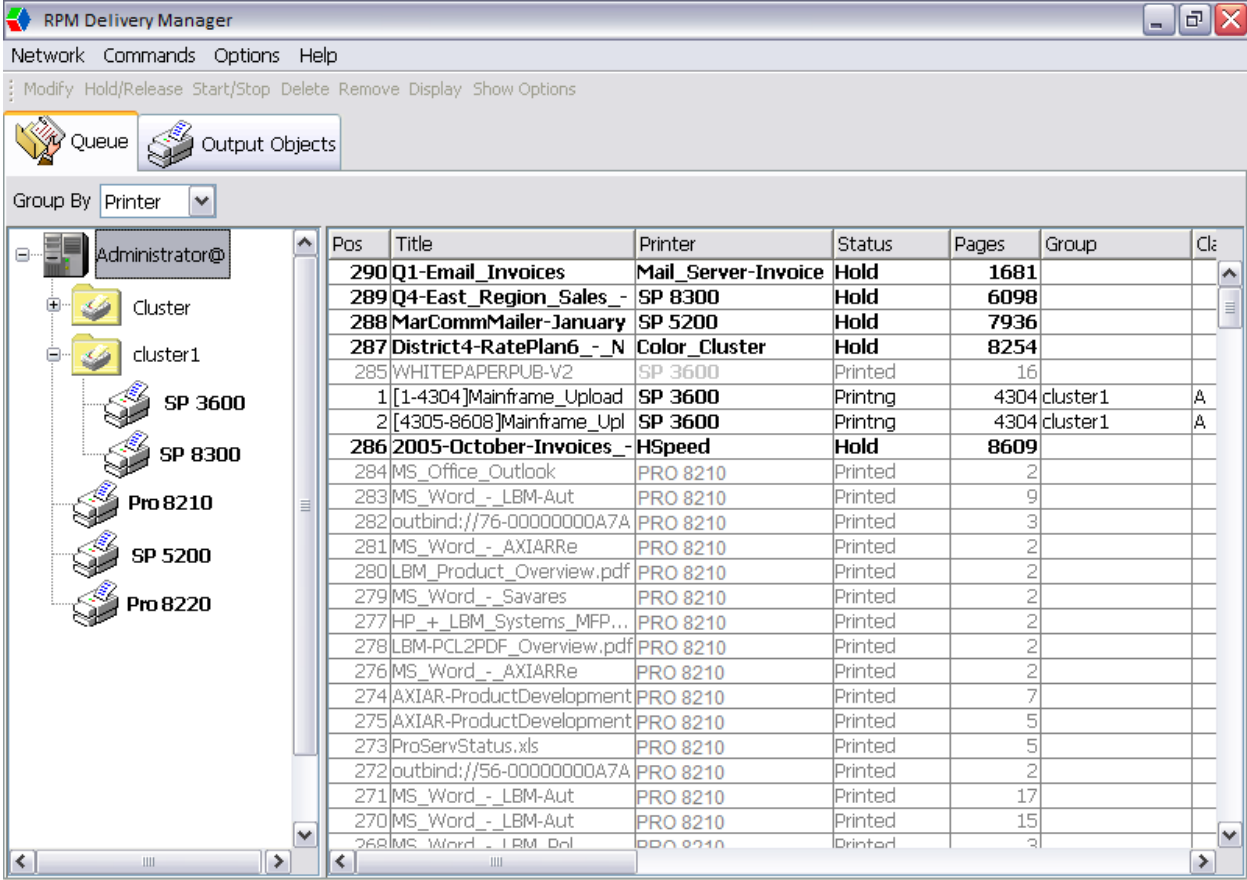
- Name:** SP 8300
- Number:** [empty]
- Description:** MICR Printer
- Model:** RICOH
- ppm:** 50
- Class:** A (selected from A, B, C, D)
- Form:** bin (selected from 000, 100)
- End of line:** crlf
- Group/Cluster:** [empty]
- ☒ Query printer for pages printed
- Type:** ipsock (selected from program, lpd, ulpd, ipsock)
- Host/IP:** 10.10.145.154
- IP Port:** 9100
- Printer:** [empty]
- Program:** [empty]
- Input:** [empty]
- Delay (sec.):** 0
- Use this printer as a backup for printer:** - NONE -

Once defined, the printers and output objects can be made available to users by creating a Windows printer and sharing it. This is accomplished within the RPM configuration and does not require RPM client components to make the printers available.

In the next section, we will discuss the Output Manager interface that graphically displays print and document traffic as well as a graphical display of the entire printer and output object environment configured in RPM.

RPM Output Manager

The picture below shows the RPM Output Manager interface. The main window of the manager applet provides a complete menu of control functions for jobs:



The screenshot displays the RPM Delivery Manager application window. The interface includes a menu bar (Network, Commands, Options, Help) and a toolbar with buttons for Modify, Hold/Release, Start/Stop, Delete, Remove, Display, and Show Options. Below the toolbar are tabs for Queue and Output Objects. A 'Group By' dropdown menu is set to 'Printer'. On the left, a tree view shows the printer hierarchy: Administrator@, Cluster, cluster1, SP 3600, SP 8300, Pro 8210, SP 5200, and Pro 8220. The main pane displays a table of print jobs.

Pos	Title	Printer	Status	Pages	Group	Cl:
290	Q1-Email_Invoices	Mail_Server-Invoice	Hold	1681		
289	Q4-East_Region_Sales_-	SP 8300	Hold	6098		
288	MarCommMailer-January	SP 5200	Hold	7936		
287	District4-RatePlan6_-N	Color_Cluster	Hold	8254		
285	WHITEPAPERUB-V2	SP 3600	Printed	16		
1	[1-4304]Mainframe_Upload	SP 3600	Printng	4304	cluster1	A
2	[4305-8608]Mainframe_Upd	SP 3600	Printng	4304	cluster1	A
286	2005-October-Invoices_-	HSPEED	Hold	8609		
284	MS_Office_Outlook	PRO 8210	Printed	2		
283	MS_Word_-LBM-Aut	PRO 8210	Printed	9		
282	outbind://76-00000000A7A	PRO 8210	Printed	3		
281	MS_Word_-AXIARre	PRO 8210	Printed	2		
280	LBM_Product_Overview.pdf	PRO 8210	Printed	2		
279	MS_Word_-Savares	PRO 8210	Printed	2		
277	HP_+_LBM_Systems_MFP...	PRO 8210	Printed	2		
278	LBM-PCL2PDF_Overview.pdf	PRO 8210	Printed	2		
276	MS_Word_-AXIARre	PRO 8210	Printed	2		
274	AXIAR-ProductDevelopment	PRO 8210	Printed	7		
275	AXIAR-ProductDevelopment	PRO 8210	Printed	5		
273	ProServStatus.xls	PRO 8210	Printed	5		
272	outbind://56-00000000A7A	PRO 8210	Printed	2		
271	MS_Word_-LBM-Aut	PRO 8210	Printed	17		
270	MS_Word_-LBM-Aut	PRO 8210	Printed	15		
269	MS_Word_-LBM-Dol	PRO 8210	Printed	3		

There are several notable features of RPM designed to make the system administrator's life easier:

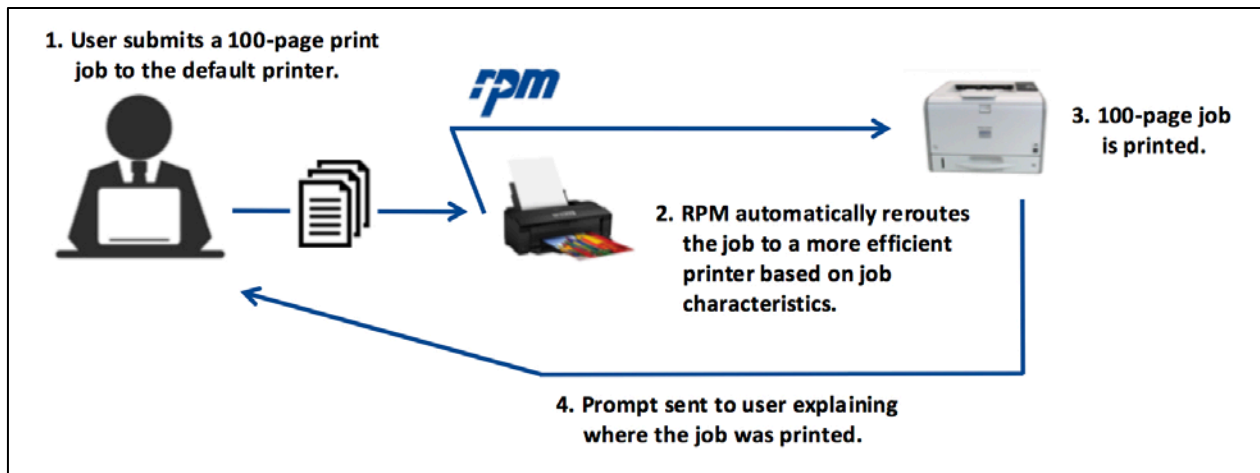
- In Windows environments, printers can be set-up in RPM without having to install the same printer in Windows - in other words, RPM has its own set of printer device drivers and the RPM-defined printers do not have to be "known" to the Windows print system.
- Users can send print requests using RPM server as their main print server, the queue manager can use the Windows Account authorization system to allow or restrict control over the jobs in the queue.
- The display can be sorted using any column heading (in the example above, "Date" is used; additional column headings are accessed by scrolling the interface).
- RPM is completely compatible with any standard (lpr/lpd) printing software – it can receive print requests and send print requests. This means that it is easy to centralize all network printing on the Windows, Unix, Linux or AS/400 print server that is running RPM, including printing from a mainframe, Unix networks, etc.
- RPM can be configured to automatically detect printer errors and re-route print jobs without operator intervention.
- Users can receive email or Windows Messaging reports detailing the delivery of their print jobs.
- Print metrics are automatically collected and can be analyzed for more efficient print job distribution and print cost tracking purposes.
- RPM interfaces with printer device management utilities such as embedded Web Servers, giving administrators and help desk personnel end-to-end control over print streams and print devices.

Intelligent Routing

Issue/symptom: Users send output to printers without considering the cost per page of the intended printer. For example, large print jobs are sent to inefficient inkjet printers or small desktop laser printers, not cost-efficient high-speed printers.

Resolution with RPM: RPM can be configured to identify print jobs based on job characteristics (such as size or color) and reroute them from printers with a higher Cost-Per-Page (CPP) to more CPP efficient printers.

- RPM can be configured to identify print jobs based on job characteristics (such as size or color) and reroute them from printers with a higher Cost-Per-Page (CPP) to more CPP efficient printers.
- Users do not need to choose the correct printer; RPM does this for them.
- Users receive Windows Messages and/or emails with print job delivery notification.
- Jobs can be rerouted automatically or held on the queue for manual intervention and/or review.
- RPM can automatically route different file types to different printers and/or output objects based on most cost-efficient device availability.



In the example above RPM Deliver routes a document based on the number of pages. The criteria established for routing documents can be managed by the network administrator and is completely customizable. Of course, media type is taken into consideration also, so a job will not be sent to a printer that does not have the job-specified media available.

The end user can be notified of redirection three ways: email can be delivered to creator of the job, a banner page can print on the destination and redirection printers, or via a windows pop-up message.

The advantage of routing documents with RPM based upon the number of pages is cost savings. If end users are sending documents to expensive printers, those documents can easily be routed to less expensive printers. Manufacturers release Cost Per Page for each unit, which is usually composed of the cost of cartridge divided by the yield of the cartridge. One can

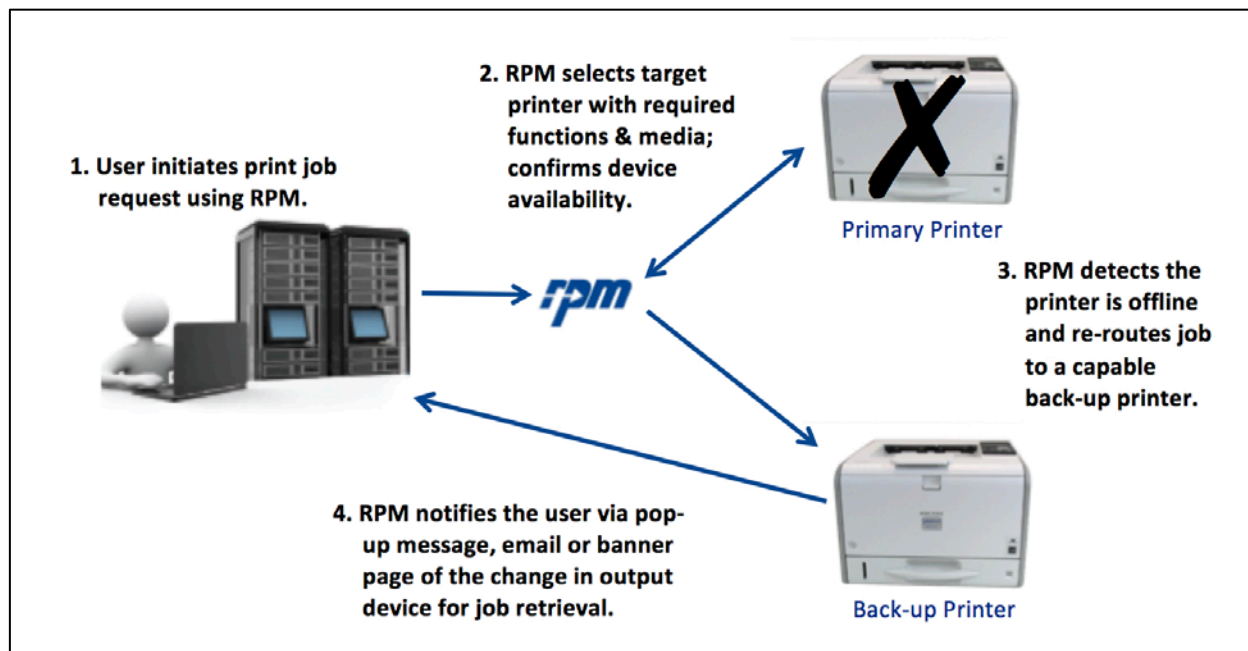
determine which printer is more expensive to print from and then use RPM to route documents to the less expensive printer.

Back-Up Printers

Issue/symptom: Users send print jobs to printers without verifying if the printer is online. Jobs stack up on offline printers and then print when the printer is brought back online. In the meantime, users send the same jobs to a different printer, adding to the total wasted print count. In addition, IT staff is pulled from other tasks to immediately address down printers.

Resolution with RPM: RPM automatically detects printer status and sends jobs only to online, viable printers. With RPM:

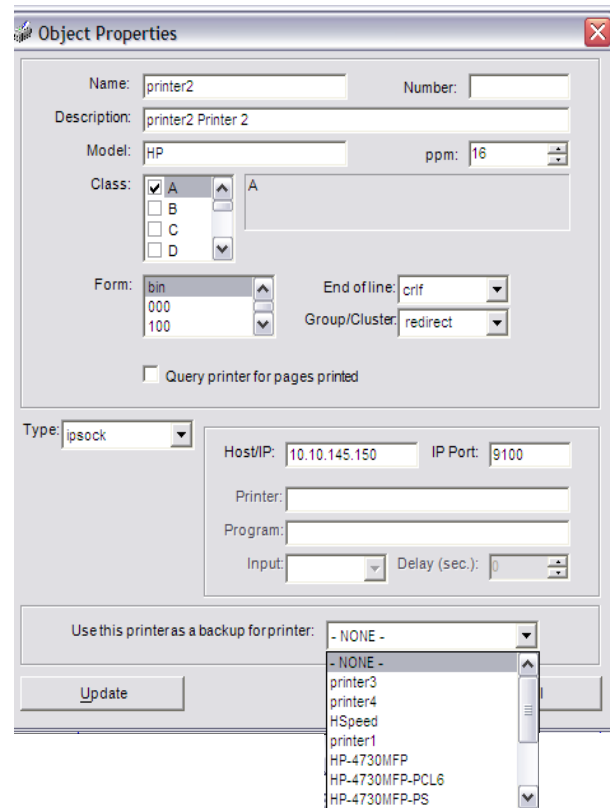
- Bi-directional communication with printers determines a printer's status and provides ensured delivery of print jobs.
- Automatic rerouting upon device error eliminates extra printing by users and reduces time spent looking for lost print jobs.
- Windows Message and/or email alerts prompt users to pick up jobs at the printer.
- IT managers can view device dispositions remotely to verify printer availability.



In the example above, when the job arrives at the printer RPM determines that an error exists with the printer. Then RPM reroutes the print job to a designated back-up printer. Back-up printers can be established by the network administrator in the Object Properties dropdown, as displayed at the bottom of the screen shot to the right.

The screen shot to the right shows how simple it is to set up a back-up printer in the RPM configuration interface. An administrator simply opens the properties of one printer, and then assigns a different printer as a back-up.

RPM then monitors the printers and print jobs and intelligently determines where to send print jobs based on device availability. Users no longer need to wait for printers to be fixed and users no longer need to send redundant print requests.



Partial Range Printing

Issue/symptom: Many jobs are printed in their entirety when only certain pages are actually required. The extra documents are discarded, incurring unnecessary paper/toner costs and device wear and tear.

Resolution with RPM: By retaining jobs on RPM's queue, users can reprint any page range without regenerating the document from the application source. This is particularly useful for large reports and other business critical output that may need to be stored in a user-ready format for a defined period of time.

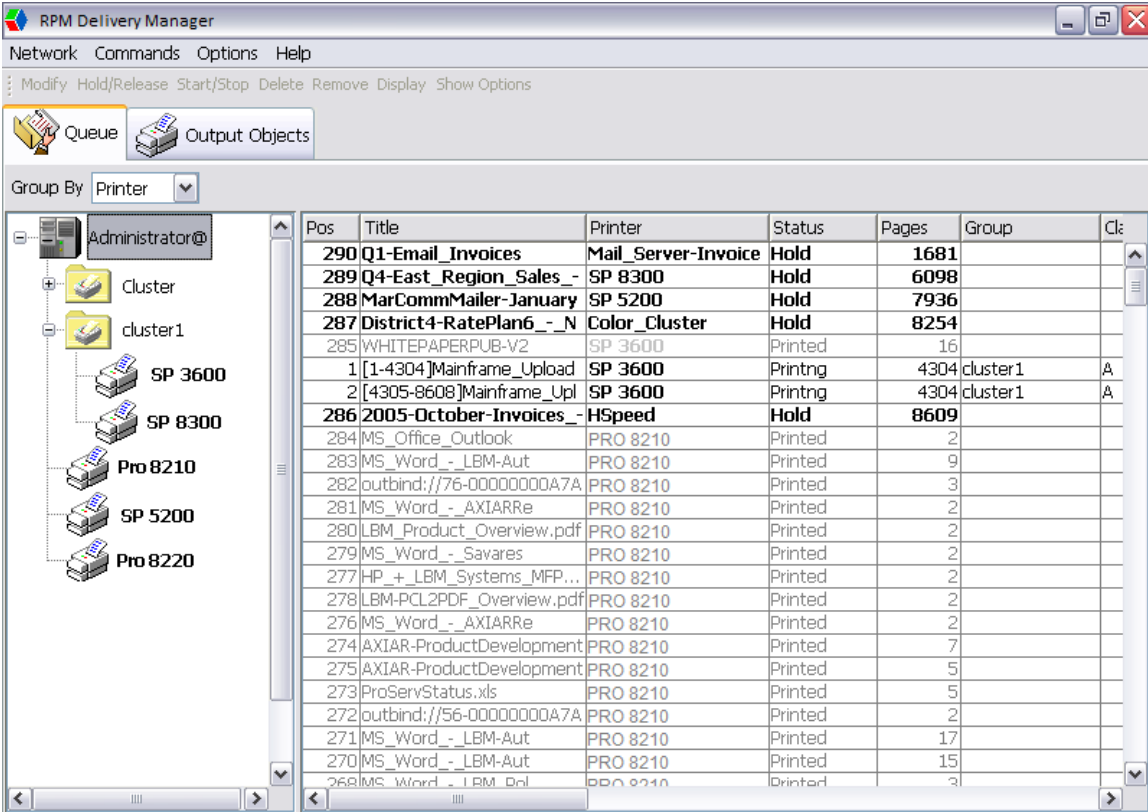
Users simply open up a job in the queue management interface and modify the disposition by selecting the appropriate Start and End page. RPM contains a document viewer that displays print files for print previews.

Error Detection and Adaptive Printing

Issue/symptom: When print jobs become lost or printers go down, users immediately contact IT staff and help desk personnel for resolution. In business-critical and time sensitive print environments, every minute of printer downtime costs real dollars in either lost opportunities or lost wages while users scramble for lost jobs. In addition, the costs of IT/help desk personnel and fast response Service Level.

Agreement fees must be considered when assessing the real cost of malfunctioning printers and lost print jobs.

Resolution with RPM: RPM is capable of detecting printer errors before jobs are sent to the offline printers. Once an error has been discovered RPM can route all print jobs away from the printer with the error to the designated back-up printer. RPM can notify the network administrator via email about the problem. This will allow the network administrator to prioritize tasks, while printing can still continue without generating discontent from the end users. RPM adapts to the printing environment dynamically and ensures that print jobs are delivered in a timely fashion.



The screenshot shows the RPM Delivery Manager application window. The interface includes a menu bar (Network, Commands, Options, Help), a toolbar with icons for Queue and Output Objects, and a 'Group By' dropdown menu set to 'Printer'. On the left, a tree view displays the network structure, including 'Administrator@', 'Cluster', 'cluster1', and several printers: SP 3600, SP 8300, Pro 8210, SP 5200, and Pro 8220. The main pane displays a table of print jobs.

Pos	Title	Printer	Status	Pages	Group	Cl:
290	Q1-Email_Invoices	Mail_Server-Invoice	Hold	1681		
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288	MarCommMailer-January	SP 5200	Hold	7936		
287	District4-RatePlan6_-N	Color_Cluster	Hold	8254		
285	WHITEPAPER-PUB-V2	SP 3600	Printed	16		
1	[1-4304]Mainframe_Upload	SP 3600	Printng	4304	cluster1	A
2	[4305-8608]Mainframe_Upl	SP 3600	Printng	4304	cluster1	A
286	2005-October-Invoices_-	HSPEED	Hold	8609		
284	MS_Office_Outlook	PRO 8210	Printed	2		
283	MS_Word_-_LBM-Aut	PRO 8210	Printed	9		
282	outbind://76-00000000A7A	PRO 8210	Printed	3		
281	MS_Word_-_AXIARRe	PRO 8210	Printed	2		
280	LBM_Product_Overview.pdf	PRO 8210	Printed	2		
279	MS_Word_-_Savares	PRO 8210	Printed	2		
277	HP_-_LBM_Systems_MFP...	PRO 8210	Printed	2		
278	LBM-PCL2PDF_Overview.pdf	PRO 8210	Printed	2		
276	MS_Word_-_AXIARRe	PRO 8210	Printed	2		
274	AXIAR-ProductDevelopment	PRO 8210	Printed	7		
275	AXIAR-ProductDevelopment	PRO 8210	Printed	5		
273	ProServStatus.xls	PRO 8210	Printed	5		
272	outbind://56-00000000A7A	PRO 8210	Printed	2		
271	MS_Word_-_LBM-Aut	PRO 8210	Printed	17		
270	MS_Word_-_LBM-Aut	PRO 8210	Printed	15		
268	MS_Word_-_LBM_Pol	PRO 8210	Printed	3		

In the example above, the display is sorted by the condition of the printer/output object. Authorized personnel can quickly review the overall printing landscape with RPM, route jobs, take printers online and offline and use RPM to access embedded Web Servers on printers and/or open up printer Device Management tools.

Cluster Printing

Issue/symptom: Many organizations purchase high-speed printers or outsource large print jobs to address specific print runs that may only occur once a month (billing runs, payroll runs, monthly reports, etc.), once a quarter (quarterly reports, report cards, etc.) or even once a year (tax printing, annual sales meeting documents, etc.). The cost of these high-speed devices and outsourcing is often very expensive and adds an unnecessary level of complexity.

Resolution with RPM: RPM is designed to create virtual printers that consist of multiple printers. When a job is submitted to the virtual printer, it is split across the printers in the cluster to deliver a printing system that is as fast as the combined engine speeds of the devices in the cluster. For example, four 50-ppm printers deliver a 200-ppm system. Printers can be used in or out of the cluster at any time and printers are easily added or removed from clusters in seconds using the RPM configuration interface.

- Automatic job-splitting allows rapid printing of large print files across desktop/workgroup level printers.
- Bi-directional communication with printers determines a printer's status and provides ensured delivery of print jobs.
- Automatic re-routing ensures print job delivery.
- Windows Message and/or email alerts prompt users to pick up jobs at the printer.
- IT managers can view remote device dispositions with RPM to verify printer availability.

Production Printing

Issue/Symptom: Many print centers, be they in-house data centers, service bureaus or print-for-pay operations, typically have a large number of production-class printing devices. These devices may all be in a central location and/or distributed across a number of physical locations. These devices must be managed efficiently, easily and accurately, in order to maintain productivity levels, control costs and meet customer demands.

Especially important for production print environments are:

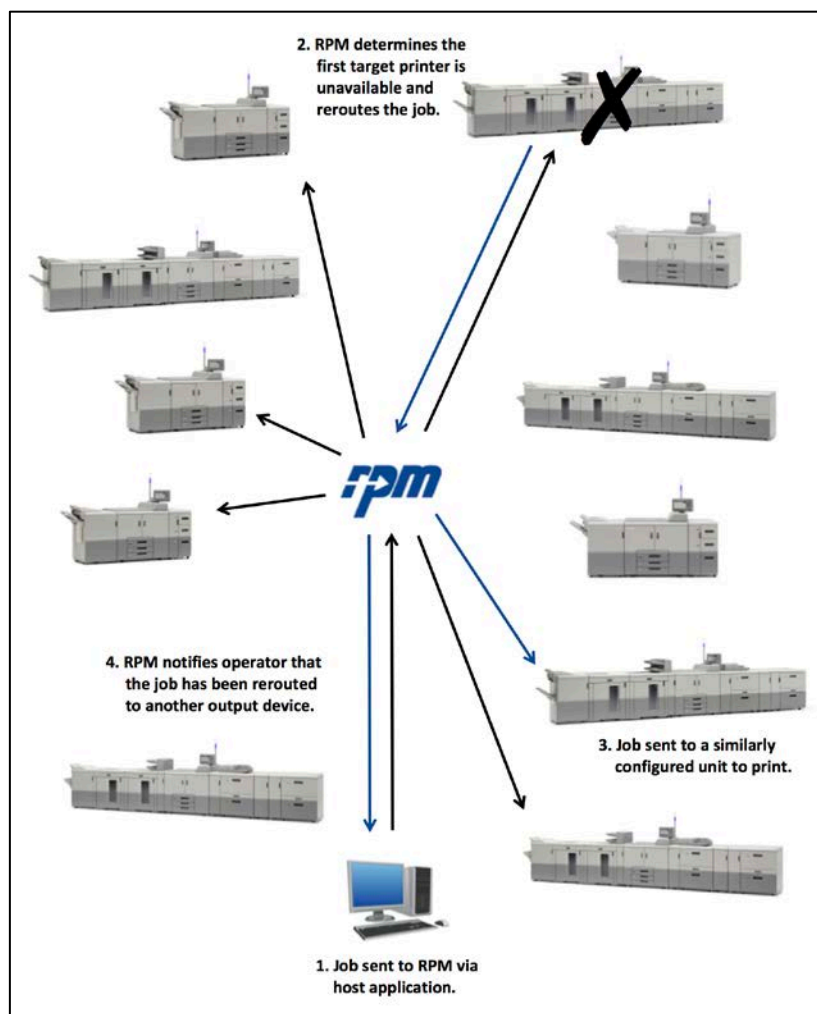
- High uptime across the fleet.
- Fast fail-over and re-routing of jobs.
- Device Redundancy- downtime is costly.
- Job Management down to the media and device level.
- Easy, informative monitoring of job status and printer status.
- Logging of jobs completed, pages printed, and error conditions.
- Close integration of print management software and the print engines.

Resolution with RPM: RPM has the ability to manage numerous print devices across a network, either internally and/or remotely. Jobs can be routed to printers based on selectable parameters, such as paper type, media type, color or B&W, etc. RPM can automatically route these jobs to the correct printer. It also monitors the progress of the job and the current status of the printer. If a printer is unavailable, RPM can automatically route the job to another printer with the same media type, for instance and notify the operator as to where the job is being printed.

RPM also displays alerts from the printers it controls on the RPM GUI, so operators can respond quickly.

In this example, a production print installation at a large service bureau has twelve high speed printers, all running two shifts per day and printing on different media types. RPM knows what media types are in which paper trays on any given printer. It also knows which printers are available and ready to print. RPM can also be configured to balance print loads across the devices, so that one printer is not printing more pages in a given period than others, thus avoiding overage charges. Printer status is easily observed through the RPM GUI, also, alerting operators to paper-out

conditions, low toner, or other conditions that may interfere with the timely printing of jobs. Automatic failover can be set up with RPM, so if a printer becomes unavailable, the job can automatically be routed to a ready printer.



RPM can manage many printers and print jobs at once. Printing can be automatic through the robust set up options RPM provides, so an operator does not need to release jobs, RPM will do that according to the job tickets assigned to each type of job. For instance, if an incoming job requires 8.5x11 inch, 24# stock and that stock resides in Printer 3 and in trays 1 and 2 and the printer is available, RPM will automatically send the job to Printer 3. Other parameters can be brought into play, such as current volume on Printer 3. If RPM sees that Printer 3 is approaching its monthly volume limit, it can select another printer with the same media available and route the job to it.

Print Statistics and Metrics Collection

Issue/symptom: In many environments, there is no way to track user printer resource usage. Without this information it is difficult to establish chargeback policies for departments and/or users that heavily use printer resources but pass the bill along to IT. In addition, users with no awareness of costs tend to over- use resources without considering how this impacts on the bottom line of their organization.

Resolution with RPM: By routing print jobs through RPM, metrics can be collected to identify user resource usage and allocate costs to users or departments. RPM generates a log file, which can be up-loaded into a variety of different databases to create graphical representations of print data. At the completion of a print job, the print spooler checks to see if there is an executable file called "chkend" in the spooler directory. If that program exists, then RPM runs that program and passes to it the following eleven arguments:

- Total number of pages printed.
- User ID.
- Printer.
- Path of the file printed.
- Name of local system (the print server).
- Time and date the print request was made.
- Time and date the print request finished.
- Job title.
- Copies.
- Form used.
- Options requested.

Intelligent Data Conversions

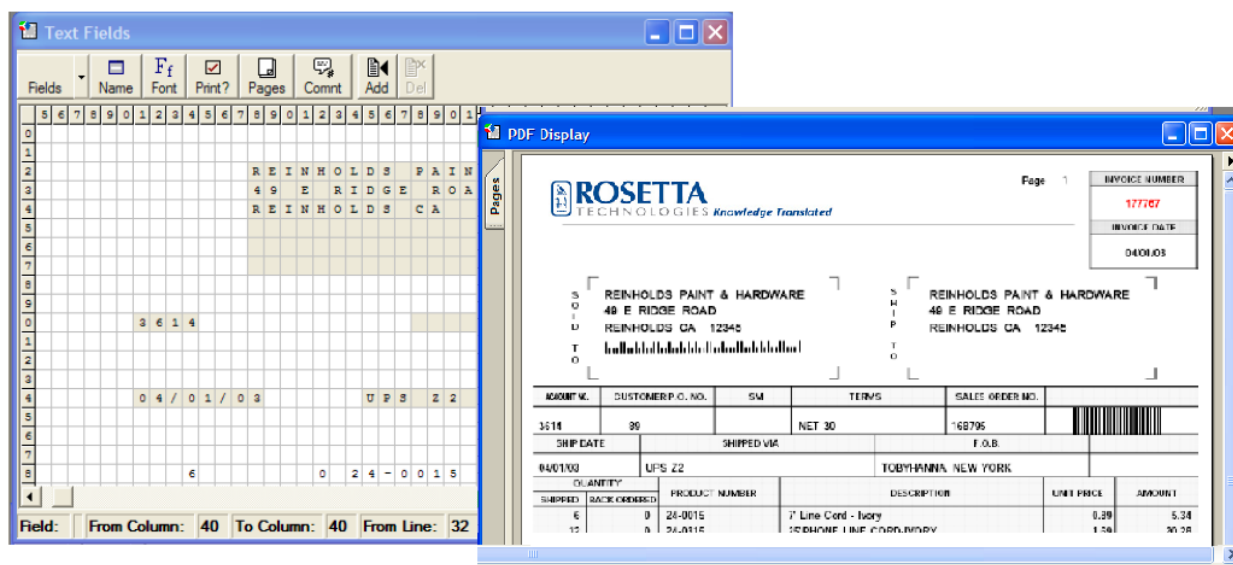
Issue/symptom: Many business applications create printer-ready output with only basic font, layout and form characteristics. This forces users to implement costly pre-printed forms, restricts data-driven customizations and restricts the ability to format and deliver documents digitally without extensive manual intervention.

Resolution with RPM: RPM contains PCL, Postscript and PDF conversion capabilities that allow data-driven form creation. As the following diagram illustrates, with a single print request, multiple documents are created, each with data-defined variable elements (such as barcodes, logos, marketing messages, etc.) and extensive layout selection:

RPM's conversion technology:

- Accepts raw or printer-ready data (PCL, PS or ASCII format) from any business application running on any system (Unix, Windows, Linux, mainframe, AS/400, HP3000, VAX, VS, etc.).
- Eliminates the need for expensive pre-printed forms, enabling immediate ROI.
- Creates customized output based on data for personalized documents.
- Custom formats application data such as invoices, purchase orders, checks, reports etc. from application vendors such as Oracle/PeopleSoft, SAP, QAD, etc.
- Provides complete control over the format of the system output - fonts (barcodes, MICR fonts, Postnet codes, UPCs), logos, images, orientation, margin, duplexing, collation, paper selection, graphs & charts.
- Utilizes dynamic overlays for tag mapping to data fields (no need to learn proprietary overlay building software).
- Features a form composer tool that allows form fine-tuning at many levels (see next page).
- Offers both a programmer interface and an advanced output queue management interface.
- Seamlessly sends formatted output to a host of RPM modules (print, web, email, fax, wireless, archive, and structured output).

The CheckStream form design tool easily sets the commands for these data driven elements in a user-friendly graphical design environment.



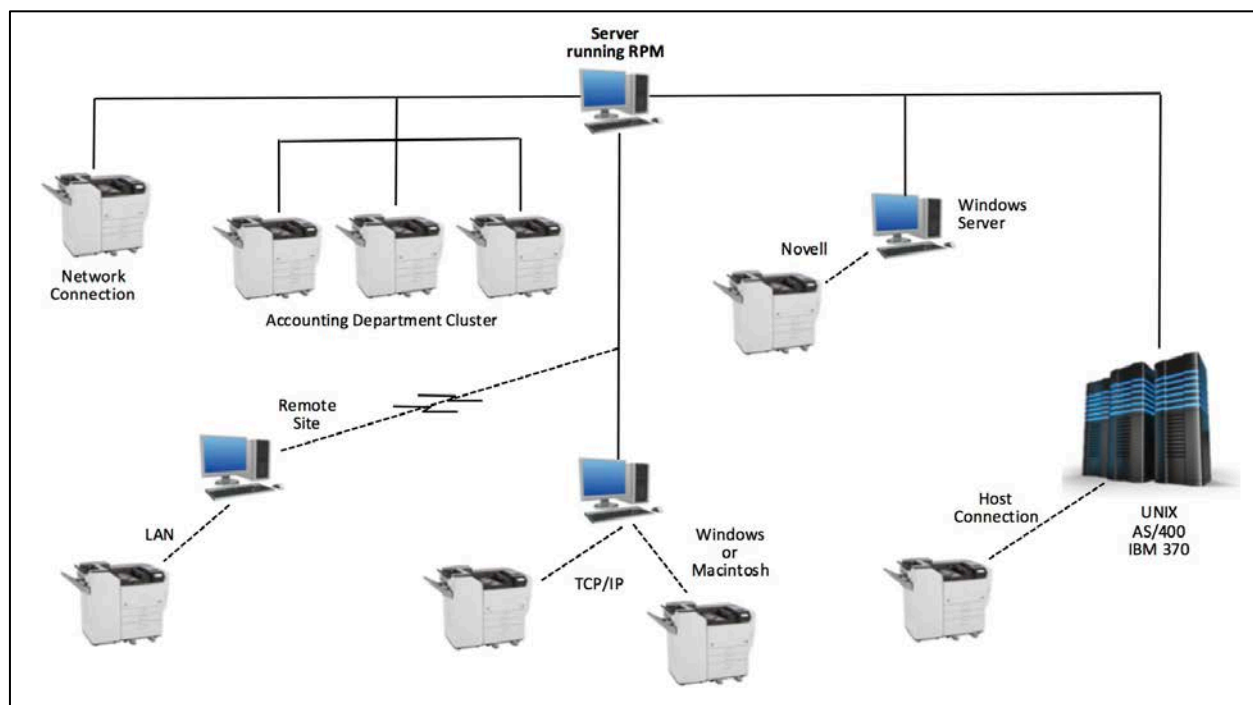
Note the extensive list of form element and data-naming options that are available through the easy-to-use tree structure and the variety of design screens available to speed form design and edits.

Cross-Platform, Local and Remote Printing Consolidation

Issue/symptom: Many environments demand that IT personnel support printing on UNIX, Windows, Linux, AS/400 and other platforms. Routing print jobs across networks to deliver output to stakeholders is often a time-consuming and difficult process. Often, paper is used as the most common means of information delivery, which leads to toner and paper costs as well as distribution costs as paper is moved inefficiently throughout the organization.

Resolution with RPM: Because RPM resides on UNIX, Linux, Windows or AS/400 servers and can access any printer on the network, IT personnel can control printing resources and print streams across platforms types. RPM's Java GUI manager screen even allows secure access through a Web browser, giving IT personnel access to print management through PDAs and laptops.

In the example below, RPM communicates bi-directionally with network print devices and output objects to monitor cross-platform environment health. In addition, applications and users on any OS can submit jobs to RPM for routing to any output destination, regardless of availability to the OS originating the job. In this manner, mainframe reports can be printed to local LANs, eliminating the need to transfer paper from datacenters to stakeholders.



RPM's cross-platform flexibility is a vital part of consolidating printer fleets and managing document workflows across disparate OS's and remote locations. Using RPM, IT personnel can:

- Centralize network printer management to allow secure system-wide access to print queues.
- Remotely enable/disable printers and check device status from single screen.
- Re-route and cancel jobs from the queue with no need for hands-on access to the printer.
- Access RPM's print and output queue management interface securely from a web browser from any location.

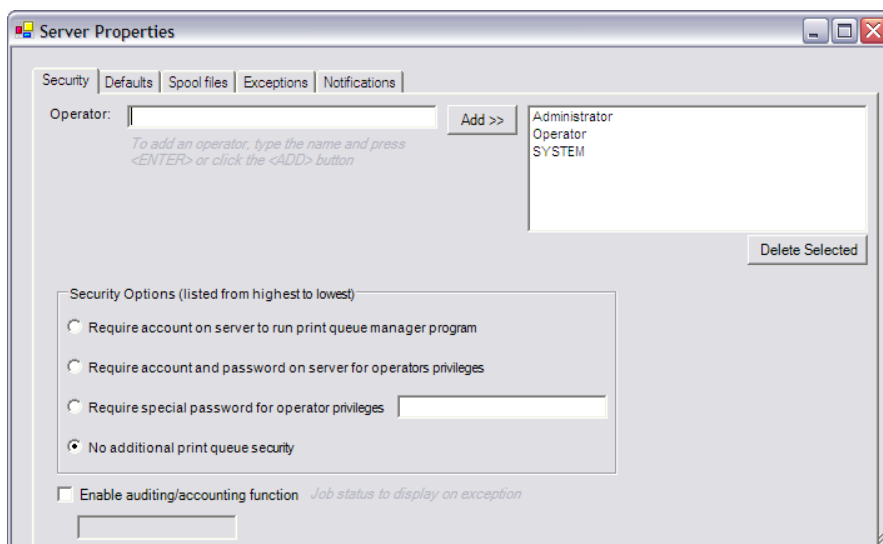
Securing Documents and Restricting Printer Access

Issue/symptom: Most organizations have extensive security routines for keeping people out of their networks, but often overlook securing internal print processes and printed output. This risk is especially dangerous when personnel records, payroll information, trade secrets and customer records are printed. Another potential risk is document manipulation post-production, which can lead to security violations as well as confusion and inaccuracies as versions are modified post-creation. All of these print-related risks can result in serious security breaches if steps are not taken to deter malicious activity. Finally, many print environments do not track user activity for security and compliance purposes, which makes it virtually impossible to determine who is violating printing security guidelines.

Resolution with RPM:

RPM implements several layers of security, including document-level capabilities and server-based security and access rights.

RPM can restrict user access to certain printers and/or forms so that even if sensitive data is



captured, it cannot be properly formatted and delivered without access rights. RPM also keeps a log of all user activity and job dispositions for auditing print environments and identifying security breaches related to document production and distribution. With this information, security and compliance officers can review user behavior and rapidly discover violations or threats.

At the document level, RPM can add watermarks based on user profiles to record who has printed what. In addition, RPM's automatic PCL to PDF conversions (without the need for full-version Acrobat) create non-modifiable documents that deter document manipulation post-production. From the user perspective, sending a document to PDF through RPM is as simple as selecting a printer from the local drop-down printer list.

RPM collects print metrics for all jobs submitted and routed through RPM. Therefore, it is easy to create reports that display printing behavior, identify prohibited printing activity and verify who printed what. For more information on this topic, please review the section called [Print Statistics and Metrics Collection](#).

Printing barcodes, MICR and other fonts without dedicated printers

Issue/symptom: Documents or labels are printed on specialized barcode printers, creating an extra burden on IT staff and incurring a separate service cost for specialized printers. Adding barcodes to desktop documents for tracking purposes is time and labor intensive and prone to manual errors.

Resolution with RPM: Using any PCL laser printer, RPM can easily add virtually any barcode or font (such as UPC, Codabar, PostNet, MICR, etc.) to any document based on data-driven variables.


Without RPM, barcode printing is often a complicated and fragmented routine: each business unit that needs barcodes must purchase and implement a solution unique to its needs; this often requires extra steps to merge printed documents with barcodes which can lead to errors and costly reprints. Some of the business processes that use barcodes and routinely require dedicated, isolated and costly print environments include:

- Pick tickets and shipping documents (UPC, Code 39, Code 128, Codabar, etc.)
- Bin tags and shelf labels (UPC, EAN, MSI/Plessey)
- Accounts payable for checks (MICR)
- Blank Checks
- Payroll for checks (MICR)
- Mail rooms for bulk mailings (PostNet)
- Inter-office document tracking (Code 39, Code 128, Codabar, etc.)
- Event registration/scanning (PDF417/2-Dimensional)
- Product labeling (UPC, EAN)

Now consider that all of the above processes can be addressed using RPM. IT staff can centrally manage barcode and font standards and ensure that the amount of hardware devices they are required to support are kept to a manageable minimum. In addition, since RPM does not require cumbersome DIMMs or other hardware-resident components, documents that require barcodes can be sent to any network PCL printer. No more lost print jobs or delays waiting for dedicated printers to be fixed.

The example below is printed from a single print request on a laser printer. Notice the inclusion of a PostNet code to reduce mailing costs and a barcode to speed document processing upon return.

Because RPM prints directly on blank paper using data values to create barcodes, forms with barcodes are created perfectly every time. Furthermore, since there are no DIMM or hardware-resident requirements, the output is easily routed to any network PCL printer for optimal print production.



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Page 1

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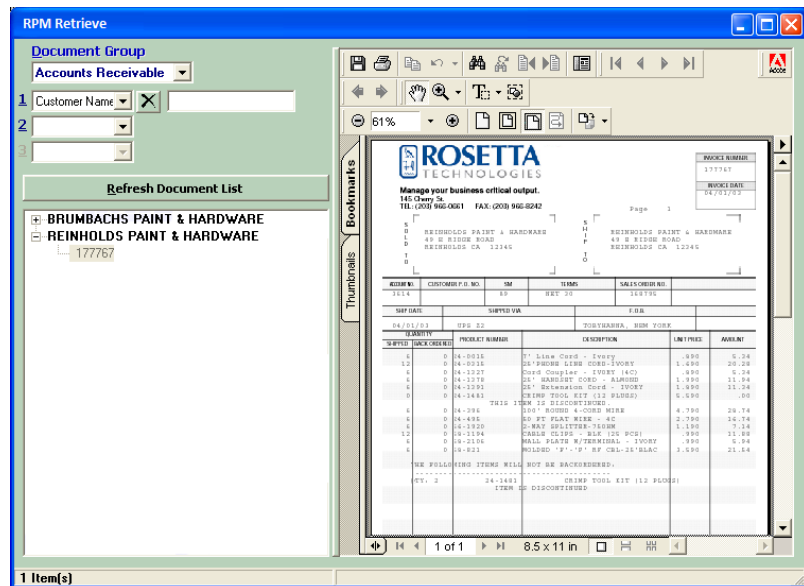
ACCOUNT NO.	CUSTOMER P.O. NO.	SM	TERMS	SALES ORDER NO.	
3614	89		NET 30	168795	
SHIP DATE		SHIPPED VIA		F.O.B.	
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QUANTITY		PRODUCT NUMBER	DESCRIPTION	UNIT PRICE	AMOUNT
SHIPPED	BACK ORDERED				
6	0	24-0015	7' Line Cord - Ivory	0.89	5.34
12	0	24-0315	25'PHONE LINE CORD-IVORY	1.69	20.28
6	0	24-1327	Cord Coupler - IVORY (4C)	0.89	5.34

Automatically Creating Document Images for Storage and Retrieval

Issue/symptom: Many companies maintain extensive paper filing cabinets to store and access business critical documents. Accessing the documents is often difficult due to geographic limitations and the documents are not easily shared if someone has taken them home.

Resolution with RPM: RPM supports the creation, routing, storing and retrieval of document images. RPM contains a complete document image storage system that stores images with up to six search keywords. Images can be accepted from RPM-initiated print processes, TWAIN-compliant scans or drag-and-drop insertion. Users can view, reprint and email documents from a simple GUI.

- Seamless integration with business applications.
- ODBC database compliant.
- Reduce manual filing.
- Eliminate scanning errors.
- Network document and file storage eliminates intra-company faxing and document duplication.
- Centralize document and image storage.
- Department specific indexing and retrieval.
- Departmental level user security.
- Drag and drop document and image acquisition.
- Supported formats include PDF, TIFF, html, MS Word, MS Excel, etc.



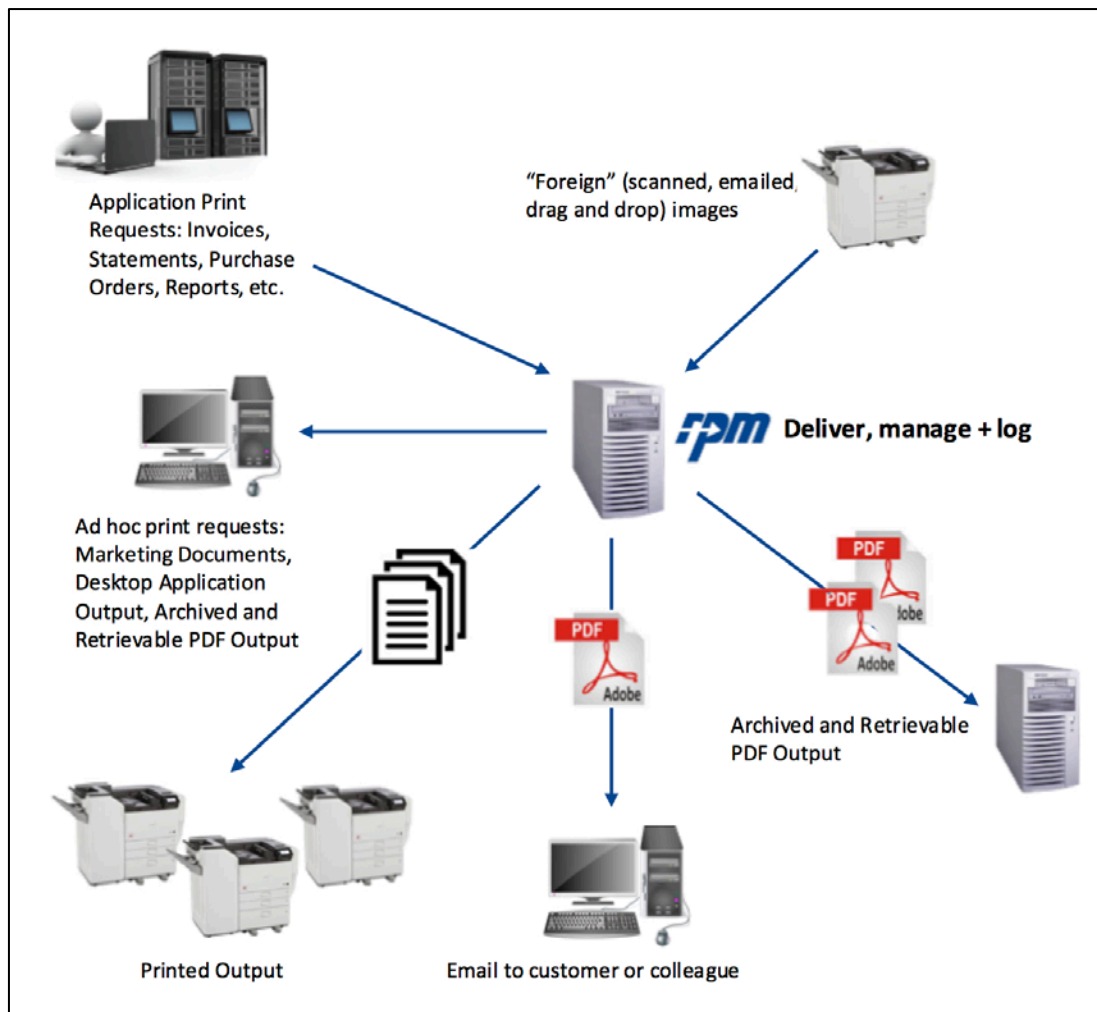
Alternatively, RPM can create images and extract keywords and deliver the payload to other document management systems or archives. This delivery can be customized per user requirements.

Routing Scanned or Drag-and-Drop Documents from External Sources

Issue/symptom: In many organizations, documents are received from external sources and manually distributed to various stakeholders. During this process, copies are often made and the documents are easily misplaced or lost. No digital copies of the information exist, making the information contained on the documents extremely susceptible to risk of loss.

Resolution with RPM: RPM accelerates document input delivery in two significant ways:

1. RPM automatically routes images “off the glass” with specific MFP models (check with Rosetta Technologies for device support). This capability is user-configurable, allowing both the routing and keyword indexing to be captured at the scan point.
2. RPM also can store drag-and-drop images, also with user-configured keyword routines, so that emailed documents can be rapidly incorporated into the RPM integrated document archive and retrieval system.



RPM's archiving and retrieval capabilities can support any browser-supported format, so imaging and archiving is not limited to documents only.

In the example above, an RPM client component resides on the MFP on the left. When a document is scanned, an RPM interface is opened on the MFP. Users input routing and keyword information into this customizable interface and the document is routed through RPM to its destination. Typically, the destination is the RPM integrated document archive and retrieval system, from which users can digitally access and share the documents using the RPM archive interface.

RPM's MFP components can also be customized to provide MFP-based controls, such as user login access for copies/scans.

Conclusions

An inefficient printing and output management environment costs your company time and money. Rosetta Technologies offers a variety of customer-proven methods to control these costs and accelerate business critical print and output processes. The solutions we describe are just a glimpse into the capabilities of the RPM suite of software.

What other print process improvements might benefit your company? We encourage you to contact us if you have any areas that need further exploration. In addition to software development, Rosetta Technologies also offers a range of Professional Services that enable rapid deployment of the solutions described in this paper. Rosetta Technologies services can provide:

- Assessments
- Implementation and Integration
- Customized Scripts
- Updates
- Migrations
- Printer Consolidation Assistance
- Printer configuration and integration
- Onsite Service

About Rosetta Technologies:

Founded in 1987, Rosetta Technologies is dedicated to developing and marketing the world's most technically advanced printers, consumables, and software for magnetic ink character recognition (MICR) applications. Rosetta provides production-class and workgroup MICR printers, plus post-processing equipment, supplies, and 24x7 support. The company also offers comprehensive software packages for IRD and check printing. Located in Tampa FL, Rosetta is a standing member of the American National Standards X9AB committee. For more information, visit www.rosettatechnologies.com or follow us on Twitter at www.twitter.com/rosettatech.