Whitepaper

symtrax

Intelligent printing configuration to cope with SAP Printing **Challenges**

Background

Printing is still a main component to many Corporations. A wide variety of business documents from many different departments are still required to be printed and stored regardless of the advances in recently technology. One major printing process entitles the export of goods which require custom documents including labels. Because of heterogeneous countries laws the industry standard is to exchange documents on paper. Some corporations with sensitive operations are reluctant to go paperless, and some government regulations are not yet relying on a paperless solution.

While there has been a recent push for companies to migrate over to a paperless solution, printing cannot be ignored. The printing process encompasses the creation of a physical document as well as long term traceability and identification, which in some companies cannot be rivaled.

Printing is still a major operation in modern businesses, and is important to control it for the above reasons. The goal of this whitepaper is to help you understand and simplify complex issues in the printing world. We are addressing major problems faced by IT Operations and End Users.

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Table of contents

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Issue #1 - Finding respective print drivers to operate with SAP

Each printer requires a compatible driver for configuration with both SAP and its platform whether IBM, Windows, or Unix. Because of this requirement, adding new devices may be restricted to an existing list of certified printers. The end-user is prevented from making the printer investment of their choice because of compatibility restrictions.

Various printers may handle the print differently, causing rendering issues such as data printed on incorrect fields or overlapping subsequent fields.

Since all printers have the latest driver update released for the Windows environment first, it is more efficient to have the printing process handled by an external Windows output management system. SAP built a protocol named BC-XOM, Business Communication External Output System, for this exact purpose.

The appropriated print driver will always exists for Windows first.

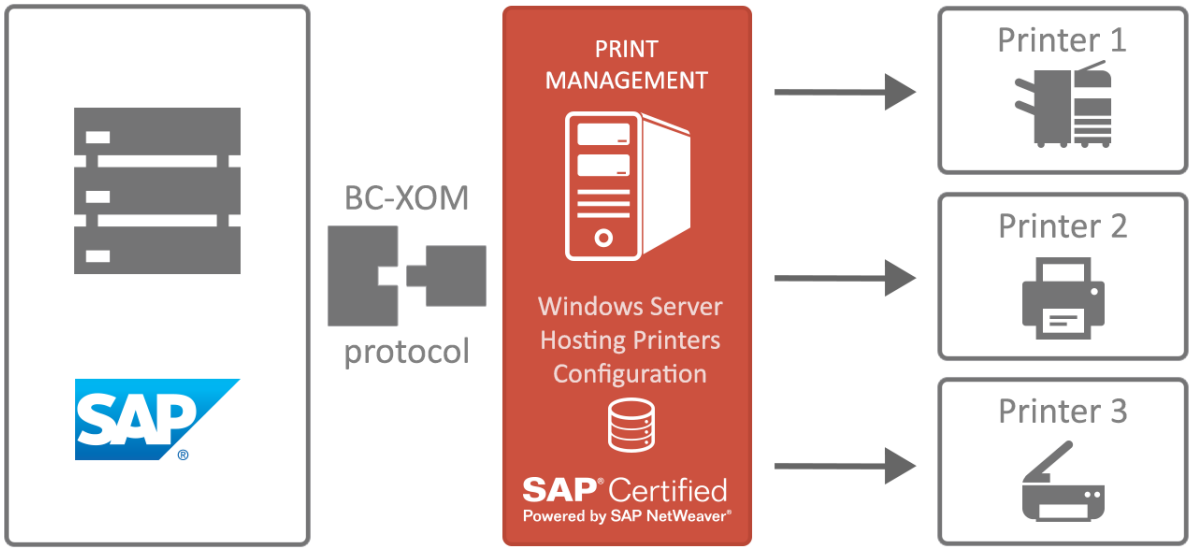

Figure 1: External Windows printing solution to ease driver installation

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Issue #2 - Easily route an SAP print to the correct printer without complex programming or setup

The same type of document is often printed in various locations depending on printing criteria such as user location, company name, or process requirement. If SAP's routing set-up cannot handle all of the cases, additional ABAP programming is required. This added work increases the complexity of daily IT operations and future maintenance.

A more practical approach:

- ✓ When SAP predefined routing rules are not addressing advanced routing, externalize the routing process (so long as it is secured and controlled from SAP) for greater flexibility.

- ✓ Give end-users the routing choice by letting them select the preferred printer among local USB or network printers.

Consider the choice of developing specific routing rules in SAP versus assigning and controlling routing work with an external solution.

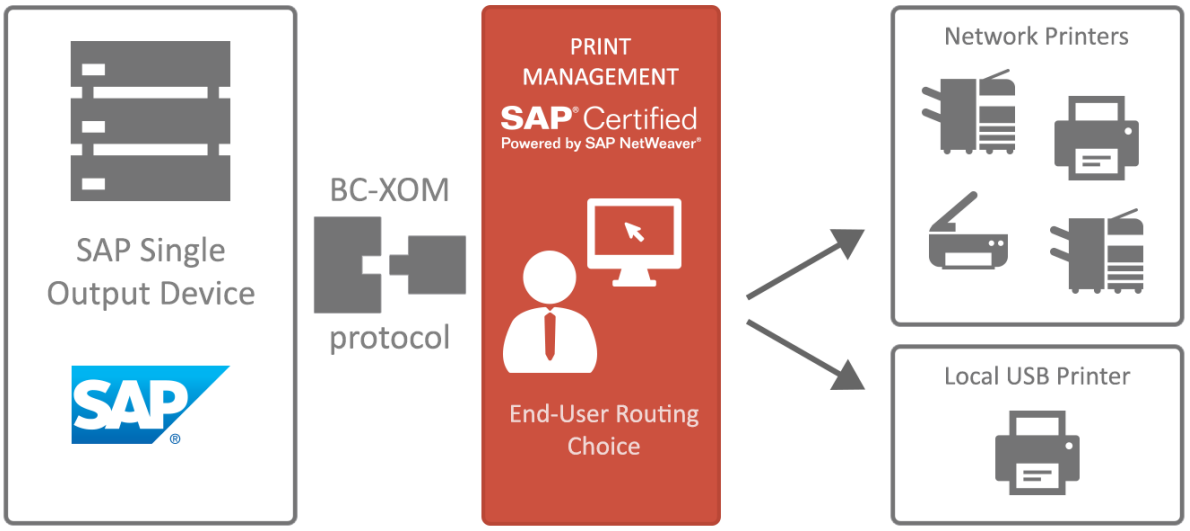

Figure 2: Decentralized printing solution

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Issue #3 - Quickly address a defective printer problem and easily allow for a backup printer to take over

When an SAP process is set with a defined printer, IT or users can route the print to another printer when the default one is unavailable. Transaction SP01 reassigns to another printer, but the process is manual. And must be reproduced for all output requests not completed. Furthermore, determining which outputs have and have not been printed is extremely tedious and time consuming. Some companies deal with this problem while others have idle, duplicate, printers to physically substitute the defective printer.

Not only is an external Windows based output management system a more effective solution, but back-up printer automation is critical for some printing processes. Assigning a new printer to take over automatically eases IT operation. An external Windows print solution offers individual back-up options to each printer. Switching to the back-up printer is automatic and requires no involvement of the end-user.

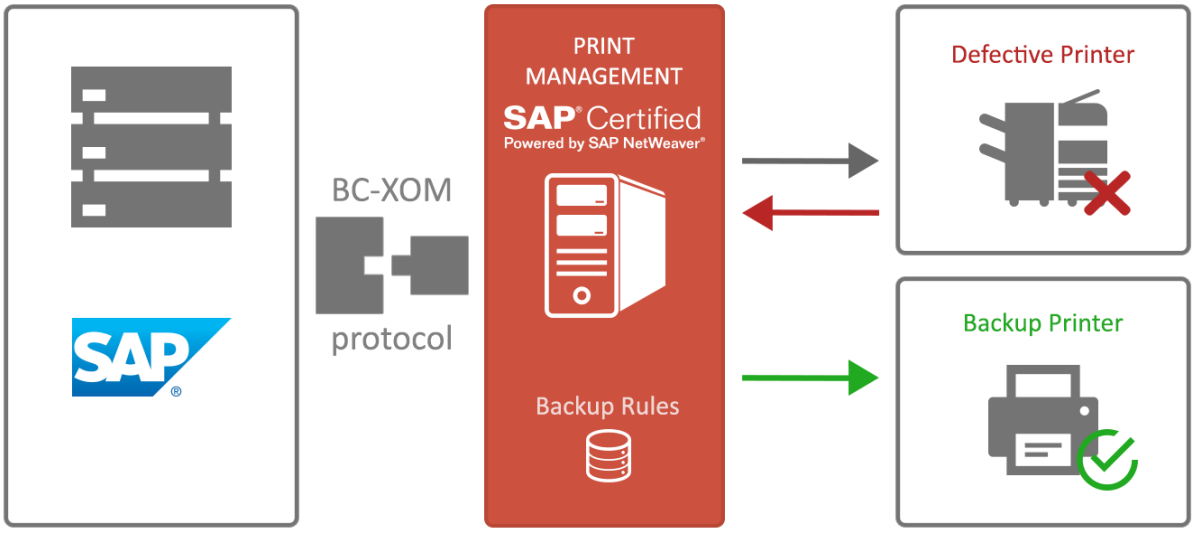

Figure 3: Back-up printer automation

Issue #4 - Manage bandwidth bottleneck issues caused by large prints

A single page graphic file created by SAP using formats such as OTF, Smart, SapGof, or PDF, may range between 200KB to 400 KB. When the print file is created and sent to the printer, this size can easily expended 10 times. The amount of bandwidth required to handle multiple or large spool files can create issues.

A 1Mb/s line, will deliver the print in between 20 and 40 seconds. (*) [1]

Obviously delivering the output file on the network and transforming it in a larger print file when reaching the local printer will save a lot of bandwidth.

Before

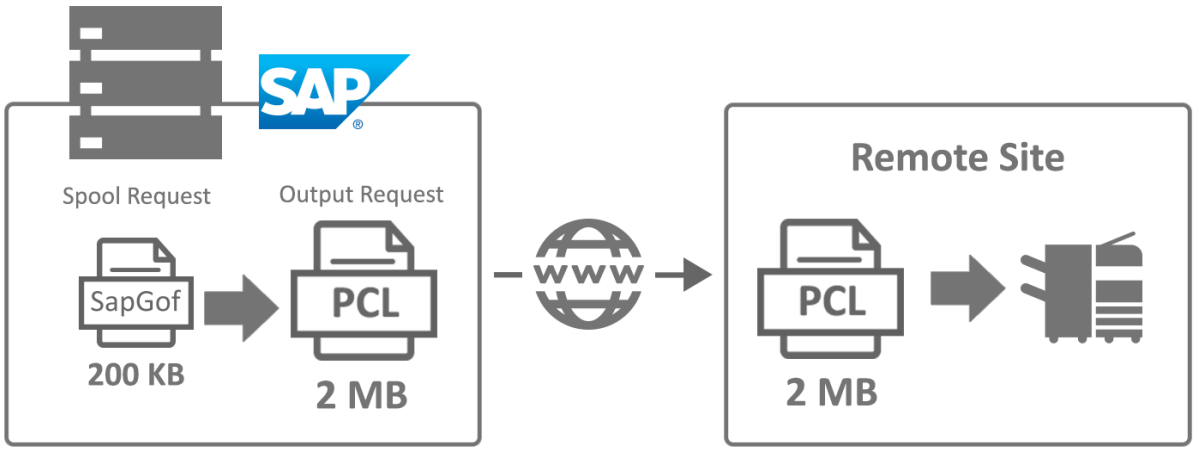

Figure 4a: Printing process without an external Windows printing solution

The ability to have the print driver installed on the local Windows machine at the remote site, prevents having to transport heavy print language spool files over the network to the printer.

[1] (*) Line speed 1Mb / s → handles an output file 100KB / s → delivers a print file 1MB in 10 seconds

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After

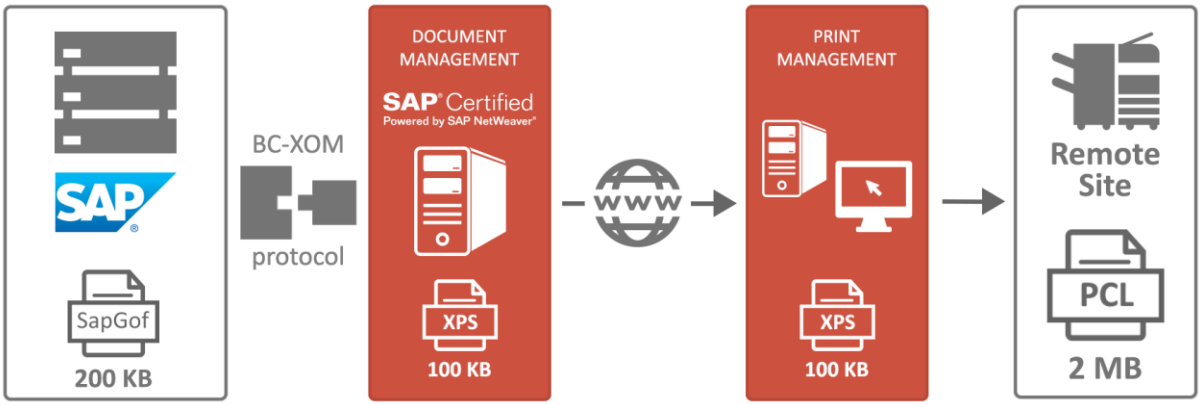

Figure 4b: Printing process with an external Windows printing solution

PCL is the most common print language format.

Issue #5 - Dealing with secure print requiring a printer badge for delivery

A badging solution secures the printing process, requiring users to be present at the printer to get a paper print. Secured print may be handled simultaneously by multiple printers.

The main issue with implementing a badge printing solution in SAP is how to match the identity of users picking up the paper with the one who requested the print. Spool traceability is the only way to achieve this. As long as the spool owner or user id is carried on to the group of printers, then a badging solution based on the Windows user ID works. Spool attributes contain the information, it's a matter of a print management solution's ability to carry on properties with the print file, and associating the SAP Login with the Windows login.

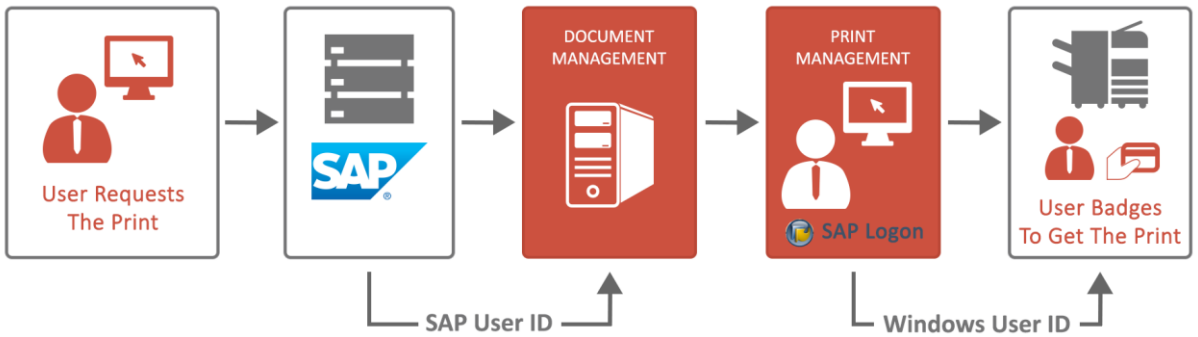

Figure 5: A secured printing process requiring printing badge

Issue #6 - Instantly replace a defective printer with a new one, regardless of brand

Replacing a printer requires SAP configuration changes to set up the new printer parameters. A new Printer definition is easily specified in SPAD, however the final page layout is questionable. It requires testing and adjustment.

With an external print management solution, the printer definition is the only step that needs to be completed. Windows layout is standard.

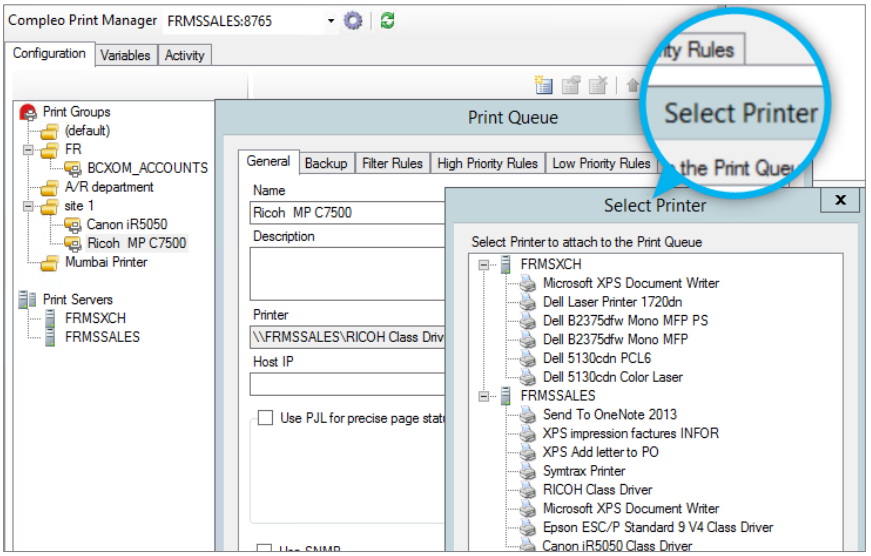

Figure 6: Printer selection window

Issue #7 - Define an advanced configuration, or multiple advanced configurations, for the same printer

The advanced configuration is used to define the paper tray in input or output, color or black and white, duplex page, etc. SAP set up has limitations in these areas.

The benefit of a Windows print manager is to give access to all printer options at once. It is easy to specify as many Windows print tickets as the advanced configurations require. On top of that, rule definitions may assign the right print ticket based on print attributes such as spool name or page number, etc. Adjusting Print settings to match document display or text length is much easier.

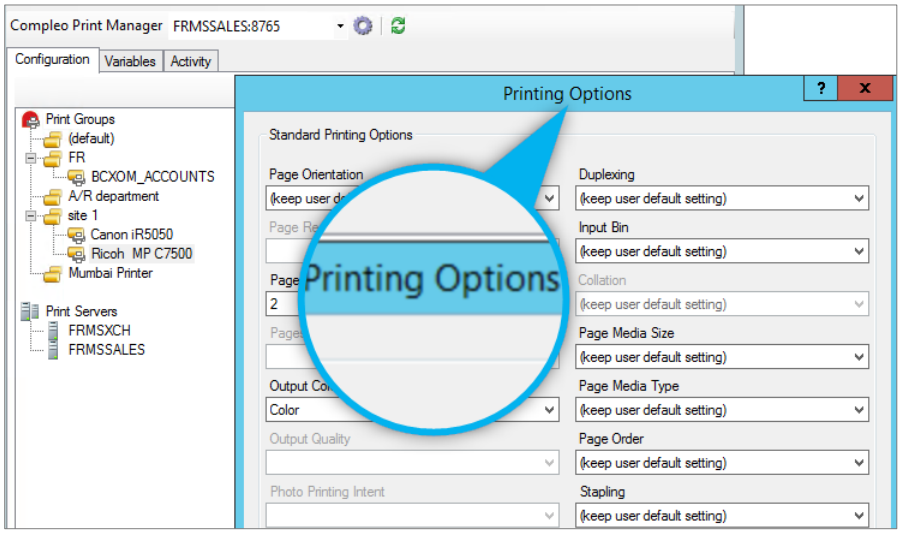

Figure 7a: Printing options configuration

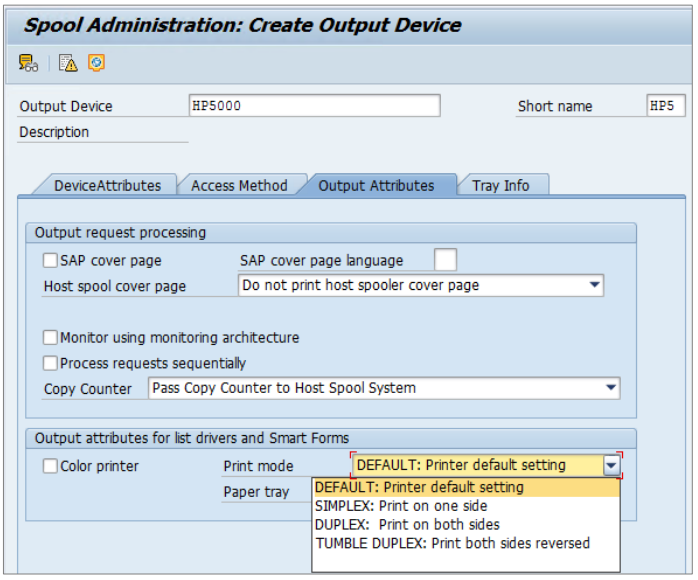

Figure 7b: SAP spool administration

Issue #8 - Detect and restart operations without page duplication or a missing page in case of print failure

The SAP system is not aware of page number failure, printer communication only checks the error status. When a print job fails, it is required to reprint the whole document again. An external Windows print management system has the ability to investigate in depth the SNMP protocol error status codes. Therefore it provides the end user the error page number, allowing a retry at page+1 or routing page X to Y onto another printer.

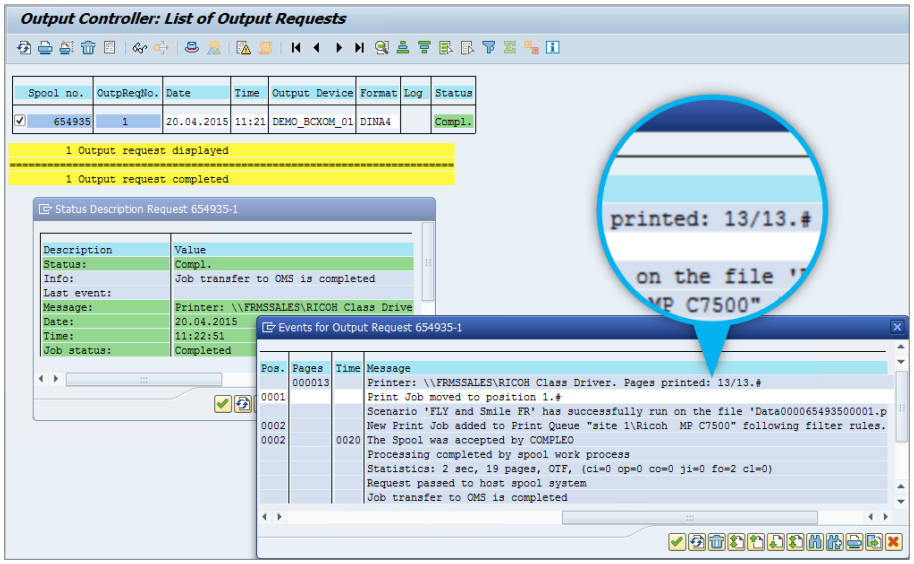

Figure 8a: SAP printing control panel

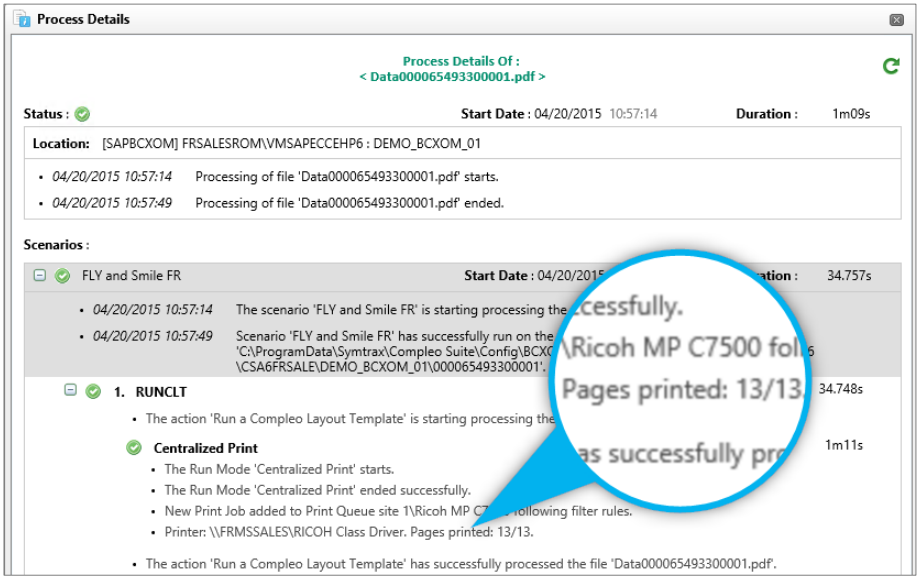

Figure 8b: Windows printing control panel

Issue #9 - Avoid "spool overflow error" without hurting performance

Spool requests are stored in SAP. When the defined space size is reached, the spool overflow causes an internal spool error. It is recommended to limit spool requests in order to not directly impact database performance. Because SAP users may need their spool request to remain available for a while, a decentralized architecture to preview or save spool outputs locally gives better control.

All users' spool requests, printed or not, are at their disposal with print preview on their private local windows folder.

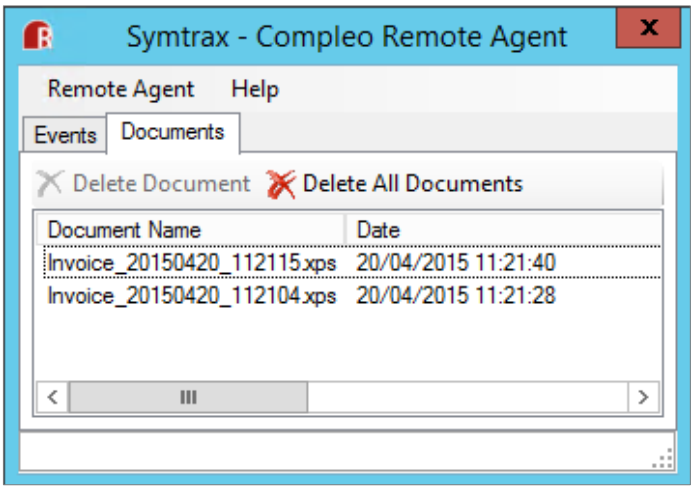

Figure 9: Windows print history

Issue #10 - Monitor all SAP printer statuses in real-time from a single interface

Real time printer statuses such as "out of toner", "out of paper", or "unavailable" to name a few, is available when SNMP protocol is activated in SAP. However, the monitoring of multiple printers connected to different SAP systems is not handled in a central place.

Having the ability for an SAP Admin or an IT Network Manager to control and monitor all printers, using a graphic interface, and whatever SAP system they are being accessed from, can save a significant amount of time.

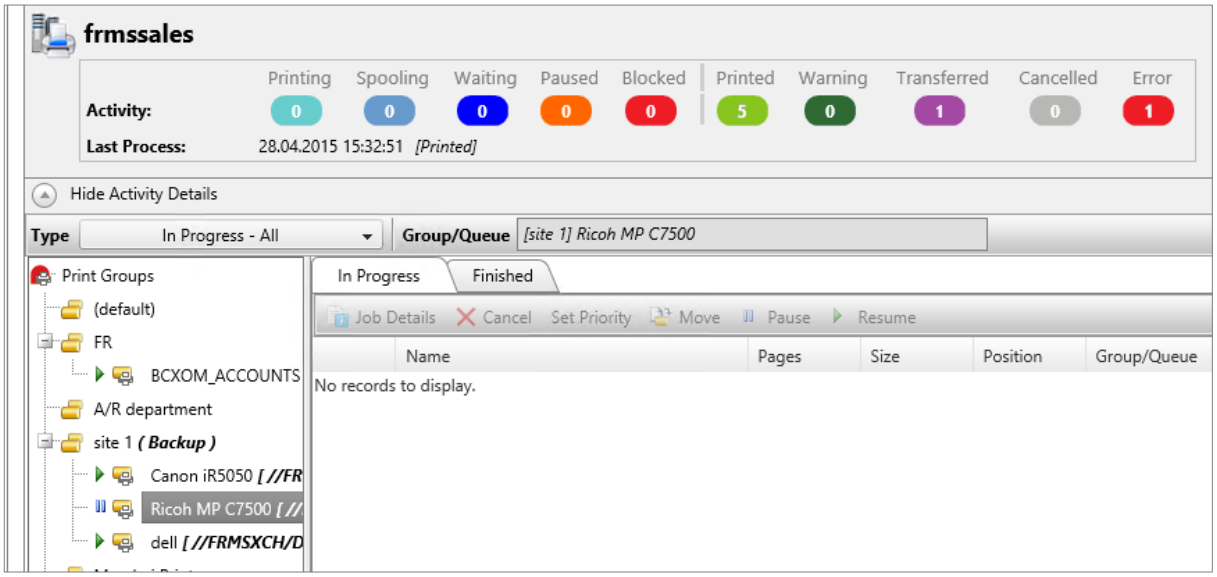

Figure 10: Print monitoring web interface

Conclusion

We have addressed a very common challenge regarding connecting ERP printing requests to the ever changing printing world. The ability to bridge centralized business document creation with ever changing ways to deliver them is an important user need. Along with SAP Admin, we have been questioning the best place to implement document print management to better handle all print requests.

In conclusion, the external windows system is a better choice while specifically not overloading the SAP core system, for faster implementation, to reduce the risk when handling printer's changes, to reduce IT workload, and because SAP made a standard to better handle it with the BC-XOM protocol.

The way to produce business documents, tracking devices, or identification cards will change in the future and may not require printing paper, but the process will remain. Paper may become stickers or labels, RFID or Chips, 3D printing, audio or video, but process creation and control will remain. We addressed this process throughout this whitepaper.

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About the Authors

Sébastien Garcia - SAP project manager

Sébastien has 8 years of experience in Document Management. He has managed several projects at an international scale, and with large economic issues. Sébastien has previously worked in the past on Symtrax BI and Output Management Solutions working on various platforms including SAP, JDE, IBM'S, and UNIX in about 200 companies. These experiences have allowed him to know the strengths and weaknesses of each ERP and always make the most of our solutions.

Matthew Botelho - US Marketing Manager

Matthew has 5 years of experience in Document Management. He spent 3 years working as a Customer Engineer implementing our products and providing on-site training to customers. During that time, he worked with a variety of platforms including SAP, JDE, IBM iSeries, and UNIX. Most recently, Matthew has served as the US Marketing Manager and a Solutions Consultant providing him with a wide knowledge base of the issues facing our customers and how our solutions can provide an efficient and effective solution.

About Symtrax

Symtrax is a worldwide software company specialized in Data and Document Management solutions. Our business intelligence software provides companies with the ability to analyze business data efficiently. Our document management software values & delivers business documents electronically.

*Symtrax **'Print Management'** software are Compleo Print Manager and/or Compleo Remote Agent.*

*Symtrax **'Document Management'** software is Compleo Supervisor.*

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