



Advanced Knowledge Guide - V6

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1. History

The Idea to build a System for automatic Supply Ordering came back in 2005. We often used Tools such as HP WebJetAdmin for this, but we found that this Tool was not stable enough. We experienced lots of double Orders and missing Orders from the Printers. This caused lots of additional Work for the Administration and Logistic.

Also when Printers from different Manufacturers are used, each Manufacturer has its own Tool, not compatible in any Way.

In 2006 the first stable Version 1 has been released and has been used with success. Soon other Manufacturers where interested in PSM. They have asked for more Features, such as Error Reporting or Monthly Reporting of Page Counters. In 2007 we released this Features in Version 2 and 3.

With the Inputs from Customers PSM did grow. Additional Knowledge and Ideas where implemented inside PSM to fulfill the Customer needs. In order to not get too expensive, we decided to Split the different Features, so Customers can decide what they need.

2. What is inside PSM

PSM is a built in the PHP programming language. The php program files are encrypted for copyright protection. PSM makes use of the MySQL database engine. PSM will use the apache2 web server (on Linux based editions) or Microsoft IIS 7.5/8.0 (Windows based editions).

PSM is using TCP/IP (SNMP) Communication for all Printer-related Operations and can be controlled and configured using a Standard web browser. The web gui is optimized for Microsoft Internet Explorer 7 and higher, or Firefox Browsers.

3. Target Customers

PSM targets Customers who wants to have a fully controlled and automated Printer Management.

- They don't want to care about Orders, but they want the Consumable right beside the Printer at the Right Time.
- They don't want to waste Time every Month to send out Page Counters to their Printer Dealer.
- They want to know, if there is a Problem on any Printer
- They want to know their Printers / MFP's are used.

PSM is mostly used in two Ways:

- "Install and forget": Customers installing and configuring PSM, and then don't care, since everything is running automatically.
- "Management Application": Customers who have PSM on their Desktop all Day and actively watching what is going on.



4. PSM Main Areas

PSM covers the following Topics

Supply Ordering

Supply Ordering is the original and Main purpose of PSM. Printers can be grouped to send Email Orders to different Suppliers. Each Printer Model can be configured with different thresholds for the various Supplies inside the Printer. The Email is structured Text, and it can be used to Feed an ERP System to automatically Process the Orders.

Within the Basic PSM System there is also a possibility to send out csv Files with the current Page Counters to different Recipients, based upon the Groups where the Printers are configured

Error Message Reporting (Optional Feature)

For Each Printer up to 2 Error Profiles can be assigned and the Messages for Profile 1 and 2 can be routed to different Recipients. The Profiles are fully Customizable in Order to Report only what you are interested in.

Toner Service (Optional Feature)

The Toner Service Feature allows an additional Threshold to be set for each Printer Model. It is intended for Companies where the End-users are not allowed to replace the Consumables. These Companies have their own Organization to exchange Consumables. This Feature only makes sense for Printers who are capable to report the exact Remaining Consumable Levels from 100% - 0%. This is mainly HP.

Reports (Optional Feature)

The Reporting Section allows to Schedule or manually initiate Page Counter Reports and Consumable Usage Reports. These Reports can be defined with a high Number of Filters such as by Group or by Supplier. Also Error Reports are possible to detect Devices with a high Number of Errors.

Stock Management (Optional Feature)

This new Feature, introduced with Version 5, allows Companies, who hold their own Stock of Consumables, the Management of Shipments, Stock and Orders.

Printers assigned to such a Group will not issue an Email Order. The Orders are placed in a Queue. This Queue can be managed by the Stock Inventory Managers and Shipping Lists can be generated to indicate that the Part has been shipped to it's destination.

The Stock Management Section contains:

- A Stock Database with all Parts, gained from the Printer Profiles
- Current Stock Levels, Minimum Holdings, and Open Orders to Suppliers
- A recommendation Screen, which indicates all Parts and Quantities which should be ordered
- A Screen who allows you to book the Parts received from the Supplier
- A Screen who shows all open Orders from Printers, with a Button to Print a Shipping List



5. Why PSM?

To our knowledge there are 3 well known Products on the Market which do more or less the same Job:

- OM Plus
- PrintFleet
- PSM

So why should you use PSM?

OM Plus and PrintFleet are different to PSM in 4 Major Points:

- Both of them are using only an Agent at the Customer Site. This Agent is collecting the Data from the Printers and deliver it to Central Servers who are processing the Data.
- Both of them are Non-Realtime Products. Since the Agent needs to send its Data to Central Servers, all Notifications are delayed.
- Both of them need to have an Internet Connection to deliver the Data to the Central Servers. Customers cannot control, what Data is sent out, and some Customers do not like – or do not allow it at all – that Data is sent out without Control.
- Both of them are much more expensive than PSM.

PSM is in its current Version installed at Customer Site. The whole Intelligence remains at Customer Site, and the only Traffic who can be sent outside is Email Traffic. If a Customer is concerned about Security, he can configure PSM to send the Mails to someone who checks the Email Contents first, and then forward it to the Supply- or Service Partners.

Where are the Weak Points of PSM?

- Since PSM is installed at the Customer Site, it needs to be maintained. The Customer needs to be trained on how to use PSM.
- If a Hardware Appliance is installed, there is a Risk, that it could need Repair.

Since we use html and some Javascript (NO Java!!) PSM is very fast. If you want to have nice Reports you can still do it: PSM delivers Statistics as XLS and CSV Files. These Files can be used in other Applications to generate nice Graphics.



6. Available PSM Versions

PSM is delivered in different Variants. Although the Functionality is the same on all Versions. The operating system base for all of the following appliances is Ubuntu 12.04 LTS

PSM Lite Appliance (V5.35 and higher - 32 Bit)



PSM Lite is a small Box, which has two Ethernet 100 Mbit Network Connectors. It is based upon an Industrial PC, which is also used by the Swiss Police. A Compact-Flash is used as Hard disk. The Power Consumption is very Low, only 12 Watts. PSM Lite can be even hooked between an Existing Printer Connection, or mounted behind a Printer.

PSM Lite is suitable for 10-100 Printers

PSM Rack Appliance (V5.35 and higher - 64 Bit)



The PSM Rack Appliance is made for mounting in a Rack. It uses 1 Height-Unit of Space.

Inside there is a Standard ASUS Motherboard and two mirrored Hard Disks of 80GB each.

The Rack Variant is suitable for 50-5000 Printers.

PSM VMWare Images (V5.35 and higher)

There are two virtual-Appliance Images available which can be imported into existing VMWare Environments using the VMWare Converter.

- PSM VMWare V5.35 (32-Bit) The PSM Image is the same as used in PSM Lite. It fits in environments with medium Security Level, and is suitable for up to approx. 1000 Printers
- PSM VMWare V5.35 (64-Bit) The PSM V5 Image the same as used on the Rack Appliance. It fits in environments with high Security Level, and is suitable for up to approx. 5000 Printers

PSM for Windows (Version 6.00 and higher)

This Version is currently under beta testing and will be released in spring 2013.

Requirements

Windows 2008 R2 (64 Bit) or Windows 2012 (64 Bit). PSM will be delivered with 3 installers. They will install the PHP programming interpreter, the MySQL database service, and of course PSM itself. The installers are designed to do all the system customizing work for you, so you don't need to care about setting up IIS or anything else.



7. PSM Installation and initial Setup

VMWare Appliances can be downloaded from the PSM Forum at http://partner.sysprint.ch/n_forum

All linux appliances are setup with dhcp by default. To determine the current IP address, you have to connect a console (hardware based appliances) / look at the VMWare console (VMWare based appliances).

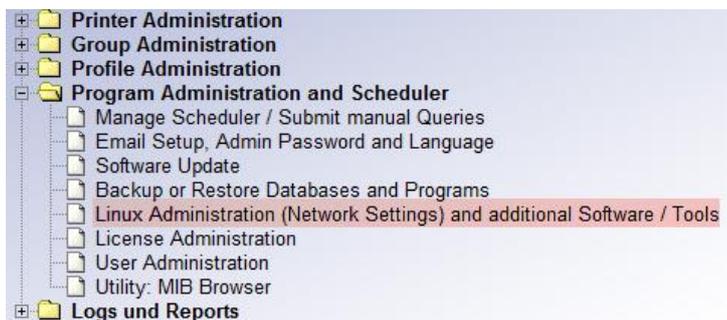
7.1 Network Setup (LINUX appliances ONLY)

```
Current Network Settings:
=====
Current IP Address : 192.168.200.27
Subnet Mask       : 255.255.255.0
Default Gateway   : 192.168.200.11
=====
The following command are valid (Examples):
=====
ip 192.168.200.199 - to change the IP Address to 192.168.200.199
sm 255.255.255.0   - to change the Subnet Mask to 255.255.255.0
gw 192.168.200.11 - to change the default gateway to 192.168.200.11
shutdown          - to shutdown the system
reboot            - to reboot the system

NOTE:
All changes made here are temporary! Connect to http://192.168.200.27 ,login
and change the IP Address permanently over the Administration Menu.
```

The configuration of PSM can be done over the Webbrowser. However, you might not be able to do so, because you cannot access PSM's factory IP Address.

To temporarily change the IP Address you can use the VMWare Console on VMWare based Appliances, or you can connect a VGA Terminal and a Mouse on Hardware based appliances. Please setup the IP Address to be used, and after that connect to this IP Address with your Web Browser.



Once you are able to connect to PSM with your Webbrowser, you can setup the IP Address permanently.

Login using the Userid: admin and Password: psm

From the Program Administration Menu, select Network Setup.

Network Configuration		
Interface: 00:0c:29:0ea0:7b	Permanent Settings	Current Settings
Default IP Address	dhcp	192.168.200.209
Subnet Mask	dhcp	255.255.255.0
Default IP Gateway/Router	dhcp	192.168.200.11
Domain Name Configuration		
Host Name for this Device	psmu1204devel	Leave DNS empty, if you are using dhcp. Otherwise fill in the required addresses
Local Domain Name	sysprint.local	
IP Address of DNS Server 1		
IP Address of DNS Server 2		
Date and Time		
Time Server	swisstime.ee.ethz.ch	
Date (DD-MM-YYYY)	14-05-2012	
Time (HH:MM)	13:23	

Buttons: Back, Reboot, Shutdown, Access Configuration, Save and Apply

Please enter the IP Address Parameters, Host Name, Domain Name and DNS Addresses valid for your Network.

Alternatively you can also enter "dhcp" in the IP Address Field. In this case you will need to find out the DHCP Address provided by consulting your DHCP Server for the MAC Address shown.

Click on "Save and apply" to activate the changes. Please note that it can take a minute or two until the changes are active.

After the the IP Setup is complete we also recommend to setup a Time Server to ensure correct Time Synchronization



7.2 Access configuration (LINUX appliances ONLY)

You can reach the access configuration menu from the network configuration. (See last page, lowest image, lower right corner). The Access configuration menu lets you define how your system can be accessed.

System Service / Access		Action
Current Browser Access Mode : Note: If you change you may need to connect again	http and https	Enable https only Enable http only
Current SSH Remote Access Status : Note: SSH Access always be disabled after rebooting	SSH Status: ssh stop/waiting	Enable SSH
Syslog	<input checked="" type="checkbox"/> Enable local syslog <input type="checkbox"/> Enable remote syslog to syslog server: <input type="text"/>	Save
Current MySQL Remote Database Access Status : Note: changing the Access mode may take up to 40 seconds	MySQL Remote access is disabled	Enable MySQL Access

Browser Access Mode

The browser access is enabled by http and https by default. You can switch to http or https only mode.

SSH Access

By default, SSH is disabled, to prevent unauthorized access to the console. If you need to enable SSH access for some reason, you can click on "Enable SSH". SSH will stay enabled until you don't disable it again, or reboot. A reboot will always switch back SSH to "disabled" mode.

Syslog

By default, Linux system logs are written to disk (/var/log/syslog). The only exception is PSM Lite. PSM Lite is a hardware based appliance with a Compact Flash used as harddrive. To prevent early damage of the CF Card by excessive disk i/o, the logs are disabled on PSM Lite appliances.

If you have a central syslog server, you can choose to send the logs to the syslog server, by specifying the syslog server's ip address/hostname.

MySQL remote access

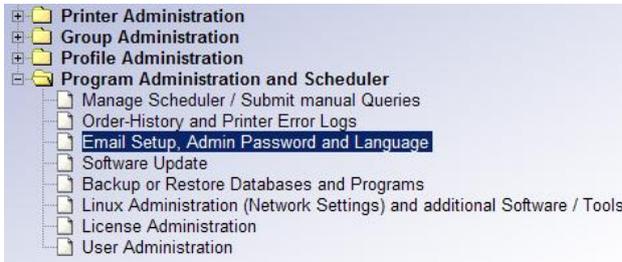
If you need remote access to the psm database, you can enable remote access. Port 3306 will be opened, and you will get an additional menu, which allows you to specify the remote server or workstation, userid and password, to allow read access to the database.

WARNING: You will also see the locally defined users in the menu. DO NOT delete any local users, or else you can screw the psm database!



7.3 Email Parameter Setup

To change the basic Email Parameter Settings, choose



Direct sending (All PSM Models)

All PSM Models can send Email directly to your Internal Email Server, or to the Email Server located at your Internet Service Provider (If PSM is allowed to connect to the Internet without a Proxy). This works similar to Microsoft Outlook, and it allows you to enter Credentials like Userid and Password, to authenticate at the Server.

Email Server	mail.sysprint.ch
Email Sender (from) Address	sender@yourcompany.com
Email Userid	ron.todd@yourcompany.com
Email Password	*****
Email Recipient(s) for Statistics	stevie@sysprint.ch
Email Recipient(s) for Printer Errors	
Email Recipient(s) for Orders	

In any case, you should enter the Email Sender Address PSM should use to send Emails, and at least an Email Address for the General Recipient.

Test Email Setup

Email Recipient(s) for Orders	
Email Subject for Orders	Verbrauchsmaterial Bestellung
Email Footer for Orders	
General Email Recipient(s)	orderdesk@yourcompany.com
<input type="button" value="Test Email Setup"/>	
<input type="button" value="Save Changes"/> <input type="button" value="Back"/>	

After you have entered all Parameters, we recommend to Test the Email functionality. First, please click on "Save", then click on "Test Email Setup". You should now receive 2 Emails at the specified Recipients.



8. PSM Concept – Groups and Profiles

You should make a Concept, before you begin to configure anything inside PSM.

To do this, you need to know how PSM works.

The heart inside PSM is the Groups and the Profiles. So it makes sense, if we begin to Plan and define the Groups first. It will be much easier when you are going to add Printers, if the Groups are already present.

8.1 Groups

8.1.2 Groups 1+2

There are 2 Groups (Group 1 and 2) which can be defined for whatever you need it. Most Customers are using Group 1 to Configure the Locations of the Printers, and Group 2 for the Device Type.

Group 1

Group1 Names	Email Recipient(s) for Printer Errors	Email Recipient(s) for Statistics		
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="button" value="Add"/>	
Office London	printer.london@customer.ch		<input type="button" value="Change"/>	<input type="button" value="Delete"/>
Zürich Headoffice	printer.london@customer.com		<input type="button" value="Change"/>	<input type="button" value="Delete"/>

Group 2

Group2 Names	Email Recipient(s) for Printer Errors	Email Recipient(s) for Statistics		
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="button" value="Add"/>	
Color MFPs	<input type="text"/>	<input type="text"/>	<input type="button" value="Change"/>	<input type="button" value="Delete"/>
Color Printers	<input type="text"/>	<input type="text"/>	<input type="button" value="Change"/>	<input type="button" value="Delete"/>
Monochrome MFPs	<input type="text"/>	<input type="text"/>	<input type="button" value="Change"/>	<input type="button" value="Delete"/>
Monochrome Printers	<input type="text"/>	<input type="text"/>	<input type="button" value="Change"/>	<input type="button" value="Delete"/>

8.1.3 Supplier Groups

Supplier Name	Email Recipient(s) for Orders	Email Recipient(s) for Statistics		
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="button" value="Add"/>	
Consumable Partner London	supplyorders@supplier.co.uk	<input type="text"/>	<input type="button" value="Change"/>	<input type="button" value="Delete"/>
Consumable Partner Zürich	supplyorders@supplier.ch	<input type="text"/>	<input type="button" value="Change"/>	<input type="button" value="Delete"/>
Stock Zürich	Inventory	<input type="text"/>	<input type="button" value="Change"/>	<input type="button" value="Delete"/>

Supplier Groups are used to define, where the Supply Orders should be sent. You can define more than one Recipient, separated by Comma.

If you have licensed the "Inventory" Feature, you can also define "Inventory" as marked in the Example above. Printer in this Group will not send Email Orders, but will send Orders to the Inventory Queue. We will explain that later.



8.1.3 Error Notification Groups

Name of the responsible Team/Person	Email Address for the Notification		
		Add	
Helpdesk London	helpdesk.london@customer.com	Change	Delete
Helpdesk Zürich	helpdesk.zurich@customer.com	Change	Delete

This Group will only be present, if you have licensed the “Error Messages” Feature. It allows you to define Recipients for Error Messages. You can define more than one Recipient, separated by Comma.

8.1.4 Toner Service Groups

Name of the responsible Team/Person	Email Address for the Notification		
		Add	
Printer Service London	pservice.london@customer.com	Change	Delete
Printer Service Zürich	pservice.zurich@customer.com	Change	Delete

The Toner Service Group will only be present, if you have licensed the “Toner Service” Feature. It allows you to define where the Notification should be sent to, when the second Threshold has been reached. You can define more than one Recipient, separated by Comma. We will explain more about that Feature later, when we tell you more about the Printer Profiles.

8.2 Profiles

There are 3 different Type of Profiles:

- Counter Profiles
- Error Profiles
- Printer Profiles

All Profiles are containing Information about where to get the relevant Data from the Printer. Since the only Communication which is common to all Network Attached Printers or MFPs is TCP/IP SNMP, the Profiles contain so called Printer MIBs.

There is some Tricky Part about MIBs: They are divided in Public MIBs and in Private MIBs. The Name already says it: Public MIBs are known to the whole world. There are IEEE Rules, what a SNMP Capable Network Printer has to report on the Public MIBs:

- Consumables Type, Maximum Levels, Current Levels
- Error Status and Messages
- Engine Counter
- Printer Information such as Printer Name, Contact Person, Location

MIBs are organized in a similar Way compared to a Windows Folder Structure, but instead of Names, Numbers are used. Such as

.1.3.6.1.2.1.43.11.1.1 which is the MIB Tree for Consumable Parts
 .1.3.6.1.2.1.43.11.1.1.9.1.1 which is the Sub-Location for the Current Consumable Level

Unfortunately the Manufacturers have different Ways of understanding, on how they implement the Data.



8.2.1 Counter Profiles

This is probably the worse thing. The only Counter a SNMP Capable Device HAS TO Report, is the Engine Counter. Since this is constant and required according to the IEEE Rules it is hardcoded in PSM and there is no need to configure it.

When it comes to the Detail-Counters it becomes worse. Each Manufacturer has implemented Detail Counters such as Copy, Color Print, Fax and so on, in a different Location within the PRIVATE MIB. Often this Implementation is different from Printer Model to Printer Model.

Sometimes Manufacturers do not even want to tell, where the Counter MIBs are located, and views do not have Counters other than the Engine Counter implemented.

There are some Counter Profiles already inside PSM, and others can be downloaded from our PSM Forum.

Change Counter Profile		
Description	Value	
Profile Name	Hewlett-Packard	
1 Total Printed Pages	1.3.6.1.2.1.43.10.2.1.4.1.1	
2 Total Pages in Color	1.3.6.1.4.1.11.2.3.9.4.2.1.4.1.2.7.0	
3 A4 Simplex Pages Monochrome	1.3.6.1.4.1.11.2.3.9.4.2.1.1.16.1.1.1.26.0	
4 A4 Simplex Pages Color	1.3.6.1.4.1.11.2.3.9.4.2.1.1.16.3.1.1.26.0	
5 A4 Duplex Pages Monochrome	1.3.6.1.4.1.11.2.3.9.4.2.1.1.16.1.1.3.26.0	
6 A4 Duplex Pages Color	1.3.6.1.4.1.11.2.3.9.4.2.1.1.16.3.1.3.26.0	
7 A3 Simplex Pages Monochrome	1.3.6.1.4.1.11.2.3.9.4.2.1.1.16.1.1.1.27.0	
8 A3 Simplex Pages Color	1.3.6.1.4.1.11.2.3.9.4.2.1.1.16.3.1.1.27.0	
9 A3 Duplex Pages Monochrome	1.3.6.1.4.1.11.2.3.9.4.2.1.1.16.1.1.3.27.0	
10 A3 Duplex Pages Color	1.3.6.1.4.1.11.2.3.9.4.2.1.1.16.3.1.3.27.0	
11 A5 Simplex Pages Monochrome	1.3.6.1.4.1.11.2.3.9.4.2.1.1.16.1.1.1.25.0	
12 A5 Simplex Pages Color	1.3.6.1.4.1.11.2.3.9.4.2.1.1.16.3.1.1.25.0	
13 A5 Duplex Pages Monochrome	1.3.6.1.4.1.11.2.3.9.4.2.1.1.16.1.1.3.25.0	
14 A5 Duplex Pages Color	1.3.6.1.4.1.11.2.3.9.4.2.1.1.16.3.1.3.25.0	
15 Copy Pages	1.3.6.1.4.1.11.2.3.9.4.2.1.2.2.1.63.0	
Description	Value	
16 TOTAL	=1	
17 Total Color	=2	
18 Total Black	=1-2	

There are 15 possible MIB Definitions. Each contains a Name and a MIB, which tells PSM where to look for the Data inside the Printer.

Since there are different Counters for different Manufacturers / Models, there are 3 Additional Columns, where you can define and Calculate the Totals. For example most Color Printers do not have a Black/White Total.

Profile Name	Xerox-6180MFD
Total Impressions	AUTO_XEROX
Black Printed Impressions	AUTO_XEROX
Color Printed Impressions	AUTO_XEROX
Color Impressions	AUTO_XEROX
Black Impressions	AUTO_XEROX
Faxed Impressions	AUTO_XEROX
Network Images Sent	AUTO_XEROX
Email Images Sent	AUTO_XEROX
Black Copied Impressions	AUTO_XEROX
Color Copied Impressions	AUTO_XEROX
Fax Images Sent	AUTO_XEROX
Faxed Impressions	AUTO_XEROX

For Xerox Printers you can use another Method. Since Xerox always has the Description in the Private MIB you can use the exact Description Xerox uses, and specify AUTO_XEROX for the MIB.

PSM will in this Case search for the Description in the MIB Tree and find automatically the MIB where the Counters are located.



A similar Way has been implemented for Ricoh Type Printers (such as Ricoh, Infotec, Nashuatec, Gestetner, and NRG Printers and MFPs). In the following Example, most of the MIBs are searched in the MIB Tree, while other Values are calculated with Formulas. If you are working with Formulas you have to make sure, that the Formula contains only Lines already retrieved. You cannot calculate in Line 1 Values from Line 3 for example.

The Following Example works for most of the above Mentioned Devices. There are however some Devices Ricoh has not manufactured themselves, but bought from another Vendor and sold as OEM. For such Models this Example would not work.

Description	Value
Profile Name	RICOH_AUTO
Counter: Machine Total	AUTO_RICOH
Counter:Print Total	AUTO_RICOH
Counter:Print Full Color	AUTO_RICOH
Counter:Print Black White	AUTO_RICOH
Counter:Print Half Color	=3;-4;-5
Counter:Copy:Total	AUTO_RICOH
Counter:Copy:Full Color	AUTO_RICOH
Counter:Copy:Black White	AUTO_RICOH
Counter:Copy:Single Two-color	AUTO_RICOH
Counter:FAX:Total	AUTO_RICOH
Counter:FAX:Black White	AUTO_RICOH
Counter:Fax 2 Color	=11;-;12
Counter:Black and White Total	=5;+9;+;12
Counter:Color Total	=4;+6;+;8;+;10;+;13

A value of AUTO_RICOH means that the Counter Text is searched in the MIB, and the corresponding MIB Value will be auto-calculated.

DO NOT CHANGE THE TEXT!!
It is important that the Text is matching exactly the Text in the MIB. If it does not match, the corresponding cannot be retrieved.

Ricoh Devices (most of them) do not have a Total Color Counter. Therefore we use a Formula to calculate the Total Color Count. In this Example:

- = Column 4 (Counter:Print Full Color) ;
- + ; Column 6 (Counter:Print Half Color) ;
- + ; Column 8 (Counter:Copy:Full Color) ;
- + ; Column 10 (Counter:Copy:Single Two-color) ;
- + ; Column 13 (Counter:Fax 2 Color)



8.2.2 Error Profiles (Optional Feature)

Error Profiles are used to retrieve the Status of the Printers.

Name of Routine	SNMP OID	Value
If SNMP OID:	1.3.6.1.2.1.25.3.2.1.5.1	.has the value. <input type="text" value="down"/>
...AND		
... if SNMP OID:		.has the value. <input type="text"/>
... or if SNMP OID:		.has the value. <input type="text"/>
then Read the Error Messages out of the MIB-Tree:	1.3.6.1.2.1.43.18.1.1.8.1	
BUT only, if the ErrorMessage contains the Words:	!SC	You can specify Words or sentences, separated by % (Percent). Example: Jam%Tray%No Paper%Warning%
...and DOES NOT contain the Words: ...		You can specify Words or sentences, separated by % (Percent). Example: Jam%Tray%No Paper%Warning%
Report Powered of or unreachable Printers?	<input type="checkbox"/>	If selected, Powered off Printers will be reported. This Setting is only recommended for Printers who should be online all the Time.
Minimum Number of Errors before a Notification is sent:	<input type="text" value="0"/> 1	Enter 0 (zero) if you want to be notified immediately.
Hours before an Error Message is sent:	<input type="text" value="0"/> 2	Enter 0 (zero) if you want to be notified immediately. If you Enter a non-Zero Value, you must also Enter a Number higher than 1 for the Minimum Number of Errors! Example: If you Enter 10 for the Minimum Number of Errors and 24 for the Hours, before an Error is Sent, the Notification will be sent if there are 10 or more Errors within the last 24 Hours.

MIB OID which is queried to get the Error Status of a Device, and Status which is used to trigger, if there is an Error or not.

MIB OID which is queried to read the Error Message.

Filters which can be defined to refine what Text the Error Message must and must not contain.

If you want to have Devices not responding reported as Errors (eg. Powered Off Devices) you can select this Tab.

Normally PSM Triggers the Error as soon as the Filter Matches the Result queried from the Printer. This happens if 1 and 2 are 0 or not defined.

There are however 2 more possibilities.

Number of Times the Error has been detected

If you fill in a non Zero Value in Field 1, PSM triggers the Error and the Device is marked red, but only if the Filter matches 3 Times in a row, an Error Message is sent.

Number of Errors within Timeframe

If you fill in a value higher than one for both Fields 1 + 2, PSM looks for the Number of Errors (1) within the specified Number of Hours (2). If the Threshold is reached, PSM will send an Error Message. No further Message will be sent for the amount of Hours (2) you have specified.

Specifying a Profile this Way makes sense for preventive Maintenance, for example when you decide to send the Error Message to a Service Partner.

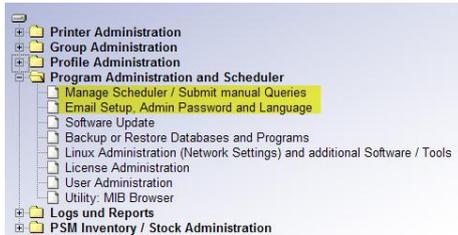
Which Way to use?

Since there can be 2 different Profiles assigned for one Device, we recommend to use a Standard Profile and route the Messages to an Internal Help Desk, and a Profile with "Number of Errors within Timeframe" and route the Messages to a Service Desk.



9. General Settings

There are some General Settings to be defined. First of all you should verify the Email and Administrative Settings.



Description	Value
Admin Password	
Retype Admin Password	
Language	English
CSV Delimiter	:
Enable Query Logs	NO
Global SNMP Read-Community Name	public
Global SNMP Write Community Name	
License Number	
Email Server	192.168.200.21
Email Sender (from) Address	sender@yourcompany.com
Email Userid	user
Email Password	*****
Email Recipient(s) for Statistics	
Email Recipient(s) for Printer Errors	admin@customer.com
Email Recipient(s) for Orders	admin@customer.com
Mask IP Addresses in Reports/Orders	<input type="checkbox"/> If checked, IP Addresses will be masked with XXXXXXXX in all Reports and Email Order
Email Subject for Orders	SUPPLY ORDER%
Email Footer for Orders	Disclaimer....
General Email Recipient(s)	admin@customer.com
Test Email Setup	
<input type="button" value="Save Changes"/> <input type="button" value="Back"/>	

You should change the default Password which is "psm" to something else.

For the Email Setup we recommend to use an existing internal Company Mail-Server, and create a User Account and Password for PSM. Most Email Servers won't let you send Emails to external Destinations without an authenticated User.

We also recommend to specify General Recipients for Orders, General belongings and Errors. In case you forgot to add a Printer to a Group, the Email goes to the General Recipients.

If you have a small installation, it sometimes makes sense to not use any Group at all and only use the General Recipients.

You should specify a Subject for Email Orders. If you put a % sign at the End of the Subject, PSM will insert the Printer Names on the Subject Line. An additional Footnote such as a Disclaimer can be defined, if you wish.

For Security Reason, you can also prevent IP Addresses from being shown in the Email Orders and Report Attachments. PSM will in this case replace the IP Address with XXXXXX.

Description	Value	Last run	Value
Query Interval in Minutes	10	07-10-2009 10:10	Values between 5 Minutes and 300 Minutes (5 Hours) are possible.
1th Order sent at (eg. 14:00)	14:00		Start Time and Interval of captured Orders. The starting Time can be setup individually, the Interval can be set from 5 Minutes to 300 Minutes (5 Hours).
Interval of Email sending in Hours	24	07-10-2009 14:01	
Only Orders for one Printer for each Email	<input type="checkbox"/>		If you choose this Option, PSM will generate one Email for each Printer where there is something to order. If unchecked PSM will concatenate all Orders into a single Email (default).
Daily Test Email	<input type="checkbox"/>		If activated, an Email will be sent to inform you about the Status of the System. This Mail will be sent at the same time selected for Orders.
Email Address for Daily Testmail			
Total Reports at 1th of each month	<input checked="" type="checkbox"/>	08-10-2009 10:30	Monthly Email containing 3 Files: 1 Summary Report in csv Format, 1 html File with the Total Consumables ordered, and 1 html File with detailed Informations about each Printer. These reports are cumulative.
Separate Report for all Group1 Groups	<input type="checkbox"/>	Last run	Same as above, but one Email for each Group Name within Group1 will be sent. This only works for those Groups with defined Email Addresses for Statistic.
Separate Report for all Group2 Groups	<input type="checkbox"/>	Last run	Same as above, but one Email for each Group Name within Group2 will be sent. This only works for those Groups with defined Email Addresses for Statistic.
Separate Report for all Supplier Groups	<input checked="" type="checkbox"/>	Last run	Same as above, but one Email for each Supplier Group will be sent. This only works for those Groups with defined Email Addresses for Statistic.

The Scheduled Task Management lets you define, how often the defined Printers should be queried, and how often Emails with Orders are sent. If you are using the Error Messages Feature we recommend a low Query Interval, such as 30 Minutes. For the sending of Emails usually at 2pm and once a Day is good enough.

Description	Action	Currently running Queries
Manual Printer Query	<input type="button" value="Run now"/>	<input type="button" value="Show Printer Status"/>
Manual Email sending	<input type="button" value="Run now"/>	
Generate Statistics	<input type="button" value="Run now"/>	

You can additionally choose, if PSM should send all Orders in one single Email (per Supplier) or if it should send one Email per Printer. It is also advisable, to specify a Daily Test mail, to ensure that nobody has powered off PSM. Of course you can start all of the above Tasks also manually by Clicking on the Button.



10. Licensing

You cannot do anything without a valid License. If the License has expired PSM will continue to function, but it will not allow you to make any changes. Also a Warning Message will be shown on the Main Screen and inserted in all Email Orders.

A License contains:

- The Number of Licensed Printers
- The Company Name of the Enduser
- License Number
- License Start / End
- Licensed Features

If your License has expired, you will be routed to the License Screen automatically. Once you have received a License File, you can upload it to PSM.

“Owner Information” is not used for the Licensing. However, if specified, it will be sent with every Consumable Order.

License Administration	
Licensed Number of Printers:	0050
Licensed to Company:	Evaluation Demo
License issued:	27.09.2009 / 05:09:13
License valid until:	26.12.2009
License Number:	270909050913
Licensed Options	
Error Message Notifications	<input checked="" type="checkbox"/>
Toner Service Notification (2nd Threshold)	<input checked="" type="checkbox"/>
Reports, Evaluations and Automation	<input checked="" type="checkbox"/>
PSM Inventory / Stock Administration	<input checked="" type="checkbox"/>
Owner Informations	
Company Name	<input type="text"/>
Department	<input type="text"/>
Contact Person	<input type="text"/>
Street	<input type="text"/>
ZIP / Town	<input type="text"/>
Country	<input type="text"/>
Phone Number	<input type="text"/>
Email Address	<input type="text"/>

Save Changes

Add new License File

Choose License File:

11. Software Update

We recommend that you subscribe to our PSM Forum at http://partner.sysprint.ch/n_forum. Subscribed Users will automatically be notified, when we release a new Version. On the Forum you can also Download VMWare Editions of PSM for Free, and some other useful Stuff.

We always recommend checking the Forum for the latest Version, when you install a new PSM.

Updating is very easy: Just download the latest Version (the Files are always around 2MB), store it on a PC and upload it to PSM. Usually updating is a matter of Seconds.

The only Exception is Version 5.04. If you install 5.04 on an existing PSM with many Printers defined, the Update make take up to 10 Minutes, depending on how many Printers you have defined inside PSM.

Starting with Version 6.00 there will be 2 update packages. One for all Linux based appliances (.tar file), and another one for the Windows based PSM (.zip file).

Program Version Update

Databases are in Version 5.04

Select update Package (Vx.x.PSM.tar)



12. Adding Printers



Finally we are now ready to add Printers to PSM!

There are different Methods to add Printers. In any Way: If you add Printers, choose “Add Printers” from the Main Menu

12.1 Defining “Pre-Defined” Ranges

Pre-Defined Ranges can be useful if you have to scan many IP Ranges, it can be useful as well if you want to create some settings Templates.



Name of predefined Query	Value	
Name of predefined Query	Printers London	Save Changes
IP Range	192 . 168 . 200 . 1 to 192 . 168 . 202 . 254	
Resolve IP Hostnames by Reverse DNS query	<input checked="" type="checkbox"/>	
Timeout (100-2000 ms)	50	
Group1 pre Selection	Office London	
Group2 pre Selection	Color MFPs	
Error Notification Group	Helpdesk London	
Toner Service Group	Printer Service London	
Consumables Supplier	Consumable Partner London	
Pre Selected Counter Profile	Ricoh Color Copier with Fax	
Pre Selected Error Profile 1	Ricoh Notify the following Groups in case of Errors <input checked="" type="checkbox"/> Group1 <input type="checkbox"/> Group2 <input type="checkbox"/> Error Notification Group	
Pre Selected Error Profile 2	Ricoh - SC Codes only Notify the following Groups in case of Errors <input type="checkbox"/> Group1 <input type="checkbox"/> Group2 <input checked="" type="checkbox"/> Error Notification Group	
pre-select as Standard Query	<input checked="" type="checkbox"/>	
Printer SNMP Read-Community Name		use only, if different from the global Read-Community Name
Printer SNMP Write Community Name		use only, if different from the global Write-Community Name

Lets assume that we need to define a Search Template for London. We know the IP Range, and we know that there are mostly Ricoh Machines, MFPs with Color and Fax. So we can pre-Define such a Template. When this template is used later for searching Printers, all Printers found will use this Setting (although you still can change some Printers, before adding them).

NB: You will probably have some “ahhh” experience, when you look at the Picture. Here we have assigned 2 Error Profiles and routed the Messages to different Groups. Remember ?

12.2 Scanning Pre-Defined Ranges



The Query will run in the Background. The Processing Time is dependent on the Number of Printers - Process ID: 9416



If you mark the Range(s) to be queried, and Click “Start Query”, PSM will do a Background Scan of all marked Ranges.

PSM will show the Start Time of the Scan. You can Click on Refresh or you can wait for an Email sent to the “General Email Recipients” to arrive, informing you that the Scan has been completed.



Once the Scan has been completed you can Click on “” to show the Scanning Result.



12.5 Adding Printers by Import

Automatic Import of a CSV File from an FTP Server every Night

FTP / Windows Import active	<input type="checkbox"/>	<input type="button" value="Save and Test"/>
FTP Server or Windows Server Share	192.168.200.29	<input type="button" value="Save"/>
Windows Domain (if Windows share is used)		
SSL Encryption	<input type="checkbox"/>	
FTP Port Number (default=21)	21	
User Name	youruser	
Password		
FTP Directory (e.g. /home/user/)	/srv/www/htdocs/downloads/	
Email Notification to the following Address(es):	yourimportManager@yourcompany.com	
Optional: Use the following Template		
Resolve IP Hostnames by Reverse DNS query	<input checked="" type="checkbox"/>	
Ignore Printer Model from CSV and detect Real Printer Model	<input type="checkbox"/>	USE ONLY IF YOU ARE SURE!!
Delete existing Printers who are not in Import File	<input type="checkbox"/>	USE ONLY IF YOU ARE SURE!!

Adding Printers by Import can be done directly by pointing to the Import-CSV File or automatically by specifying an FTP** Server, Userid, Password and Location, where PSM should get the Import File.

If you choose the automatic Import, PSM will import every Night at 0'45am. This Method is useful if you "Feed" PSM for example from an Active Directory Export or from an Inventory List.

Starting with Version 5.35 of psm, you can also specify a windows server share for the import (See Release Notes). If you specify a windows share, be sure that the name of the import file will always be "printerimport.csv".

Regardless of which Method you choose, the Minimum Requirement is to specify the IP Address. The more you specify the better PSM can create the Entry for the Printer. If you omit for Example the Printer Model, PSM will try the IP Address to find out what Printer it is.

If you specify Group Names not existing inside PSM, PSM will auto-Create the Groups.

If you Click on the Question Mark, there is additional Information available, and you will find a download Link for a sample CSV File for the Import.

12.6 Adding printers manually

You can also add Printer manually by specifying all Information. This Method is useful only if you don't have that Printer in the Network yet.

For example, you know that there will be a new Printer delivered while you are in Holliday. You can already add the Printer to PSM, even if it is not yet present.

Description	Value
IP Address / Host Name	192.168.200.53
Printer Name	prt053
Contact Person	Peter Bond
Location	Headoffice Zurich, 1th Floor, Office 103
Asset Number	61577
Association Group1	Zurich Headoffice
Association Group2	
Error Notification Group	Helpdesk Zurich
Toner Service Group	Printer Service Zurich
Consumables Supplier	Stock Zurich
Printer Model	hp color LaserJet 9500 MFP
Profile for the Query of Counters	Hewlett-Packard
Name of Routine 1	Hewlett-Packard Notify the following Groups in case of Errors: <input checked="" type="checkbox"/> Group1 <input type="checkbox"/> Group2 <input type="checkbox"/> Error Notification Group
Name of Routine 2	HP - Errors only Notify the following Groups in case of Errors: <input type="checkbox"/> Group1 <input type="checkbox"/> Group2 <input checked="" type="checkbox"/> Error Notification Group
Printer SNMP Read-Community Name	<input type="text"/> use only, if differ
Printer SNMP Write Community Name	<input type="text"/> use only, if differ
Email Address of Printer Owner	<input type="text"/>
Serial Number	LPVFF06654



13. Logs and Reports

13.1 Order History and Printer Error Logs

This Section is available on all PSM Versions. It does not require any Special Feature License. PSM constantly writes all Events to the Database. There are 3 main Sections to Search and Display Log Entries from the Database.

Search Orders

Search by Order Number (Number or Number-Number) -

Search by Date (Date or Date-Date, e.g. 23-07-2006) -

Search by Printer IP Address or IP Host Name

Only Devices within the following Supplier Group Consumable Partner London
Consumable Partner Zürich
Stock Zürich

Search Printer Errors / Reports

Search by Ticket Number (Number or Number-Number) -

Search by Date (Date or Date-Date, e.g. 23-07-2006) -

Search by Printer IP Address or IP Host Name

Serial Number

Error Message:

Only Devices within the following Group 1 Office London
Zürich Headoffice

Only Devices within the following Group 2 Color MFPs
Color Printers
Monochrome MFPs

Only Devices within the following Group Toner Service Group Printer Service London
Printer Service Zürich

Don't show Offline- or powered off Printers

Do not show Toner Service Alerts

No System System Messages

Display Log of automated Imports

Search by Date (Date or Date-Date, e.g. 23-07-2006) -

Search by Printer IP Address or IP Host Name

Serial Number

Search Orders allows you to search Orders within a specific Timeframe, Supplier Group, Order Number, or Printer Address. The Result will be displayed in a Table.

Printer Error Logs will be searchable at least for the last 3 Months. Depending on the Log File Size, older Log Entries will be deleted.

There are various Filters available to Display only what you are looking for.

Hint: If you are looking for a complete Log of a particular Printer, we recommend to use the Printer Details in the Printer Administration, because this will also search the same Log and already has the correct Filters set.

Log for automated Imports is interesting only if you use the "Auto Import" possibility in the Add Printer Section. In this case the Result of the Imports can be displayed here.

13.2 Reports and Evaluations

This Section is available only, if you have licensed the "Reporting" Feature. The Reporting Section allows you to create as many Report Definitions as you like. The Reports can be automated to be executed every Week, Month, or Year.

If you want to create a new Report Definition Click on "Create/Change".

Run Reports or Evaluations

Query Name	Query Type	Automatic per Week	Automatic per Month	Automatic per Year	Restrict Date (e.g. 01.01.2007 to 31.12.2007)	Results by Email to:	Action
London - Weekly Page Counter Summary	1 - Printed Pages by Device & Number of Errors	Y			<input type="text"/> - <input type="text"/>	accounting-london@	
Zürich - Weekly Page Counter Summary	1 - Printed Pages by Device & Number of Errors	Y			<input type="text"/> - <input type="text"/>	accounting-zurich@	



Define and Manage Reports and Evaluations

Query Name	Query Type	Automatic per Week	Automatic per Month	Automatic per Year	Restrict Date (e.g. 01-01-2007 to 31-12-2007)	Results by Email to:	Action
Zürich - Weekly Page Counter Summary	1 - Printed Pages by Device & Number of Errors	Y				accounting-zurich@customer.com	 
London - Weekly Page Counter Summary	1 - Printed Pages by Device & Number of Errors	Y				accounting-london@customer.com	 

The Report Definition Screen allows you to define copy or delete Report Definitions.

If you want to create an automatic Report, use one of the Checkboxes, to choose if you want to have it weekly, monthly or yearly. Automatic Reports require at least an Email Address.

There are a lot of possible Filters to choose, to refine, which Devices should appear in your Report. If you don't set any Filter, all Devices will appear in your Report. Automatic Reports will be sent as XLS and CSV Mail Attachments.

Important:

Some Users want to know the Results in TOTAL, some others want to have it "within the chosen Time Period". If you want to generate the Report to contain the Absolute Total, then use the Checkbox "Calculate Pages starting from 0". If you do this, the Report will contain the Page Counters from the End-Date.

Reports can be executed anytime, including the automatic Report Definitions. If you want to run an automatic Report manually, you will have to Enter a Start- and an End Date. After you can Click on the "Execute Report" Icon.

Run Reports or Evaluations

Create / Change

Query Name	Query Type	Automatic per Week	Automatic per Month	Automatic per Year	Restrict Date (e.g. 01-01-2007 to 31-12-2007)	Results by Email to:	Action
London - Weekly Page Counter Summary	1 - Printed Pages by Device & Number of Errors	Y				accounting-london@customer.com	 
Zürich - Weekly Page Counter Summary	1 - Printed Pages by Device & Number of Errors	Y				accounting-zurich@customer.com	 

Change a Report Definition (points to Change icon)

Execute a Report (points to Execute icon)

A Page Counter Summary Report could look like this:

Hostname / IP Address	Printer-Name	Number	Contact	Location	Printer Model	Serialnumber	Creation Date	Number of Errors	Times gone Offline	Current Engine Counter	Engine Counts	Total	Total Color	Total Monochrome	Average utilization
XXXXXX	CHP8110	8110	Helpdesk Zürich	Zürich Head Office 1th Floor	MP 4500	M2873401111	24.08.2008	0	0	271194	7198	7198			82%
XXXXXX	CHP8111	8111	Helpdesk Zürich	Zürich Head Office 2nd Floor	MP 4500	M2873101112	10.04.2009	0	0	725705	27441	27441			236%
XXXXXX	CHP8112	8112	Helpdesk Zürich	Zürich Head Office 2nd Floor	MP 3500	M2763601113	24.08.2008	0	0	175493	7313	7313			75%
XXXXXX	CHP8113	8113	Helpdesk Zürich	Zürich Head Office 2nd Floor	MP 4500	M2873301114	17.10.2008	0	0	293991	13997	13997			120%
XXXXXX	CHP8114	8114	Helpdesk Zürich	Zürich Head Office 2nd Floor	MP 3500	M2773301115	24.08.2008	0	0	208135	5406	5406			55%
XXXXXX	CHP8115	8115	Helpdesk Zürich	Zürich Head Office 2nd Floor	MP 4500	M2873301116	24.08.2008	0	0	319519	12341	12341			108%
XXXXXX	CHP8116	8116	Helpdesk Zürich	Zürich Head Office 1th Floor	MP 4500	M2873301117	24.08.2008	0	0	323788	14518	14518			125%
XXXXXX	CHP8118	8118	Helpdesk Zürich	Zürich Head Office 2nd Floor	MP 4500	M2873401118	24.08.2008	2	0	344489	14491	14491			124%
XXXXXX	CHP8117	8117	Helpdesk Zürich	Zürich Head Office 2nd Floor	MP 3500	M2763601119	24.08.2008	0	0	85742	2839	2839			29%
XXXXXX	CHP8101	8101	Helpdesk Zürich	Zürich Head Office 2nd Floor	MP 3500	M2763601120	24.08.2008	0	0	134320	3172	3172			32%
XXXXXX	CHP8120	8120	Helpdesk Zürich	Zürich Head Office 2nd Floor	MP C4500	L9074201121	24.08.2008	0	0	406904	15403	15403	12217	3186	109%
XXXXXX	CHP8221	8221	Helpdesk Zürich	Zürich Head Office 2nd Floor	MP C4500	L9083701122	15.06.2009	0	0	123574	14321	14321	5088	9233	102%
XXXXXX	CHP8321	8321	Helpdesk Zürich	Zürich Head Office 1th Floor	MP C4500	L9084201123	16.10.2008	0	0	278488	20461	20461	5977	14484	145%
XXXXXX	CHP8233	8233	Helpdesk Zürich	Zürich Head Office 2nd Floor	MP C4500	L9074601124	24.08.2008	0	0	193722	10032	10032	3843	6189	71%
XXXXXX	CHP8512	8512	Helpdesk Zürich	Zürich Head Office 2nd Floor	MP C4500	L9074600125	24.08.2008	0	0	498285	17670	17670	7380	10290	126%
XXXXXX	CHP9987	9987	Helpdesk Zürich	Zürich Head Office 2nd Floor	MP C4500	L9074601284	24.08.2008	0	0	302544	12361	12361	4621	7740	88%
XXXXXX	CHP5990	5990	Helpdesk Zürich	Zürich Head Office 1th Floor	MP C4500	L9074401525	24.08.2008	0	0	418714	17102	17102	4888	12214	122%
XXXXXX	CHP3222	3222	Helpdesk Zürich	Zürich Head Office 2nd Floor	MP C4500	L9074604844	24.08.2008	0	0	261422	13285	13285	10168	3117	94%
XXXXXX	CHP5778	5778	Helpdesk Zürich	Zürich Head Office 2nd Floor	MP C4500	L9074608548	24.08.2008	0	0	335246	10403	10403	6870	3533	74%
TOTAL								2	0	5701275	239754	239754	61052	69986	



A Summary of used Consumable could look like this:

Quantity	Part Number	Consumable Description
4	DT4500BLK	Toner
4	DTC4500BLK	Toner Schwarz
3	DTC4500CYN	Toner Cyan
2	DTC4500YLW	Toner Gelb
1	TDB3000	Resttoner 1

A Summary of Errors for the chosen Group / Time Period could look like this. It is basically the same as if you would use the "Log" Section to query for Errors.

Total results found: 10

Ticket-Number	Date	Time	Affected Printers - IP Address or IP Host Name	Serial Number	Page Count	Details
1276155	2009-09-30	19:42:00	10.0.0.1	1	35950	Papierstau: Interne Ausgabe {42001} Papierstau: Duplexeinheit {42009}
1275707	2009-09-30	16:42:00	10.0.0.1	1	35947	Papierstau: Interne Ausgabe {42001} Papierstau: Duplexeinheit {42009}
1275567	2009-09-30	15:48:00	10.0.0.1	1	35947	Papierstau: Interne Ausgabe {42001} Papierstau: Duplexeinheit {42009}
1271440	2009-09-29	11:00:00	10.0.0.5	5	51301	Papierstau: Einzugsmagazin {42000} Nicht erkannt: Einzugsmagazin {41200}
1271303	2009-09-29	10:06:00	10.0.0.5	5	51301	Papierstau: Einzugsmagazin {42000}
1262544	2009-09-26	16:02:00	10.0.0.1	1	270615	No Paper: Tray 2 {13300} No Paper: Tray 3 {13400} Paper Misfeed: Finisher {42005}
1248318	2009-09-22	10:02:00	10.0.0.5	5	45543	Paper Misfeed: Internal/Output {42001} Paper Misfeed: Input Tray {42000}
1245693	2009-09-21	15:11:00	10.0.0.2	2	27466	Papierstau: Interne Ausgabe {42001} Papierstau: Duplexeinheit {42009}
1223111	2009-09-15	02:17:00	10.0.0.5	5	334202	Kein Papier: Magazin 1 {13200} Papierstau: Einzugsmagazin {42000}
1212056	2009-09-11	22:01:00	10.0.0.5	5	333284	Papierstau: Einzugsmagazin {42000}



14. PSM Inventory / Stock Administration

As mentioned earlier, this is one of the Optional Features within PSM. In order to get this Section in the Main Menu, at least one Supplier Group must be set to "Inventory", and you need to have the License for this Feature.



Supplier Name	Email Recipient(s) for Orders	Email Recipient(s) for Statistics		
			Add	
Consumable Partner London	supplyorders@supplier.co.uk		Change	Delete
Consumable Partner Zürich	supplyorders@supplier.ch		Change	Delete
Stock Zurich	Inventory		Change	Delete

The Feature is useful only, if you have your own Stock of Consumables, at least for one Printer Brand. You can mix using this Feature and using Standard Email Orders, as indicated above in the Right Picture. In this Example, Printers who have the Consumable Partner London or Zürich assigned, will order by Email, while Printers who have the Supplier Group "Stock Zürich" will order over the "PSM Inventory" Feature.

Before you start using this Feature, you should go into "Manage Stock/Inventory". The Part Numbers you will find there are the ones, which are in the Printer Profile. If you don't find a Part Number, please check the Printer Profiles.

First step will be to count the Parts you currently have on Stock and fill the Quantity into the appropriate "Current Stock" Field. After that you should define the Minimum Quantity you want to have on Stock, until PSM recommends to Order the Part.

Part Number	Consumable Description	Printer Model	Current Stock	Minimum Stocking	Open Orders at Supplier	Open Orders from Customers	
AOSP4100	Toner	NRG SP 4100N	0	0	0	0	Change
DT145CYRHY	Toner Cyan	NRG SP C420DN	0	0	0	0	Change
DT145YLWHY	Toner Gelb	NRG SP C420DN	0	0	0	0	Change
DT145BLKHY	Toner Schwarz	NRG SP C420DN	0	0	0	0	Change
DT145MGTHY	Toner Magenta	NRG SP C420DN	0	0	0	0	Change
DTDB145	Restoner	NRG SP C420DN	0	0	0	0	Change

14.1 Printer Orders

Needed Consumables (Parts from Printers below the Threshold for Ordering) will be put into the "Customer Orders / Parts delivery to the Printers" Section. This is done usually once a Day at the same you have defined in the Scheduler for the Email Ordering. Parts needed to be shipped to Customers/Printers are shown like this:

Printer Order Number	Printer Orderdate	Shipping Date	IP Address / Host Name	Printer Name	Contact Person	Location	Serial Number	Printer Model	Part Number	Consumable Description	Print Shipping List	Mark as delivered
100012	01-10-2009	--	10.1	Hidden for Privacy Reasons			0478	xerox 5638 mfp	006R1046	Toner Bottle CRU		

You can Print a Shipping List for every Order, by Clicking on the Printer Icon. After you have packed the Material you can Click on the Truck-Icon, to tell PSM, that the Part is shipped. Once you do that, PSM will Count -1 of from the Stock. If you need to know, which Parts have been shipped already, you can Click on the "Finished Shipments" Button.

Printer Order Number	Printer Orderdate	Shipping Date	IP Address / Host Name	Printer Name	Contact Person	Location	Serial Number	Printer Model	Part Number	Consumable Description	Print Shipping List	Cancellation
100011	01-10-2009	01-10-2009	10.1	Hidden for Privacy Reasons			04	xerox 7345 mfp	006R01170	Yellow Toner (Y) Cartridge		
100010	01-10-2009	01-10-2009	10.1	Hidden for Privacy Reasons			02	xerox 7345 mfp	006R01177	Magenta Toner (M) Cartridge		



The Layout of the Shipping List can be Customized according to the Customer needs. Also you can upload a Logo.

		Left Position in Pixels	Top Position in Pixels	Font Pointsize
Coordinates for the Address		<input type="text" value="490"/>	<input type="text" value="185"/>	<input type="text" value="13"/>
Coordinates for the Title		<input type="text" value="10"/>	<input type="text" value="380"/>	<input type="text" value="24"/>
Sender Address / Coordinates	<input type="text" value="Customer AG"/> <input type="text" value="Examplestreet 1a"/> <input type="text" value="CH-9999 Zurich"/> <input type="text" value="Switzerland"/>	<input type="text" value="10"/>	<input type="text" value="175"/>	<input type="text" value="11"/>
Greeting / Coordinates	<input type="text" value="Kind Regards"/> <input type="text" value="Logistics and Delivery"/>	<input type="text" value="10"/>	<input type="text" value="800"/>	<input type="text" value="13"/>
Logo / Coordinates	<input type="text" value="example.jpg"/>	<input type="text" value="250"/>	<input type="text" value="20"/>	
Logo Height in Percent	<input type="text" value="50"/>			
Logo width in Percent	<input type="text" value="55"/>			

The Test-Button allows you to see how your Shipping List will look like.

Please Note: The Printing Window is html formatted. Please switch off header and trailer in the Internet Explorer Printing Preferences and use the smallest possible offset.

14.2 Order Proposals

Order Proposals are calculated by PSM. If one or more Parts are below the Setting you made for "Minimum Holding" in the Stock Administration, PSM will show them under "Order Proposals".

Part Number	Consumable Description	Printer Model	Current Stock	Minimum holding	Open Orders at Supplier	Open Orders from Customers	Order Proposals
006R01176	Cyan Toner [C] Cartridge	Xerox 7345 MFP ADF	9	10	0	0	<input type="text" value="1"/>
006R01177	Magenta Toner [M] Cartridge	Xerox 7345 MFP ADF	9	10	0	0	<input type="text" value="1"/>

You also see the amount of Parts already Ordered, and Open Orders from Customers on that Screen. That allows you to forecast the amount you guess you will need, and you can change the Order Quality if needed.

Once you Click on "Generate Orders" PSM will generate an Order Summary and allows you to download that as an XLS File or to Print it.

Also PSM will write to the Database and stores your Order.

The Order has been booked. Please send the Order to your Supplier asap.

Order Number	Order Date	Part Number	Consumable Description	Printer Model	Order Qty
20090002	08-10-2009	006R01177	Magenta Toner [M] Cartridge	Xerox 7345 MFP ADF	1
20090002	08-10-2009	006R01176	Cyan Toner [C] Cartridge	Xerox 7345 MFP ADF	1

Please Note: You will have to Order at your Supplier yourself!



14.3 Open Orders / Part receipt

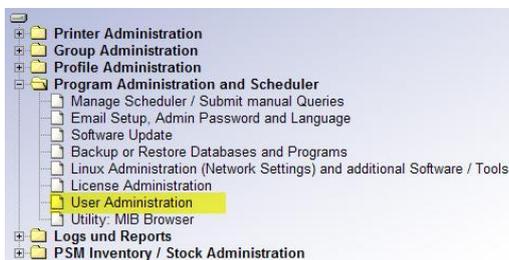
In this Section you will see all Parts you have already ordered already. The Orders are grouped according to the Order Number. If your Supplier sends you the Parts, you can book them to your Stock. The Order will remain open, until all Parts have been Booked.

Order Number	Order Date	Part Number	Consumable Description	Printer Model	Ordered	shipped so far	Open	Receipt Qty	
20090002	08-10-2009	006R01177	Magenta Toner [M] Cartridge	Xerox 7345 MFP ADF	1	0	1	1	<input type="text"/> <input type="button" value="Book"/>
20090002	08-10-2009	006R01176	Cyan Toner [C] Cartridge	Xerox 7345 MFP ADF	1	0	1	1	<input type="text"/> <input type="button" value="Book"/>
20090001	30-09-2009	008R13056	Fuser Assembly	Xerox 7346 MFP	2	0	2	2	<input type="text"/> <input type="button" value="Book"/>
20090001	30-09-2009	113R00724	Magenta-Tonerkart., Phaser 6180	Xerox 6180 MFP	10	0	10	10	<input type="text"/> <input type="button" value="Book"/>
20090001	30-09-2009	008R12903	Waste Bottle	Xerox 7345 MFP ADF	10	0	10	10	<input type="text"/> <input type="button" value="Book"/>
20090001	30-09-2009	006R1046	Toner Bottle CRU	Xerox 5638 MFP	10	0	10	10	<input type="text"/> <input type="button" value="Book"/>
20090001	30-09-2009	008R13028	Fuser Assembly	Xerox 7345 MFP ADF	5	0	5	5	<input type="text"/> <input type="button" value="Book"/>

15. PSM User Administration

15.1 Local PSM users

If you want to define additional Users inside PSM, you can do this in the Administration Section.



Super Users have the same Rights as the Admin itself. However Super Users cannot restore PSM and they cannot change any System Settings. Users other than Super Users can be restricted to Certain Areas or Functions inside PSM, and they can be restricted to see only Printers defined in the Groups you want. (The only Exception is the Inventory / Stock Management Section: Group Restrictions will not apply there.

Every User can have a different Language assigned.

Users can change their own Password and Language only.

User Administration

User Name:

	Value
User Name	<input type="text"/>
Password	<input type="text"/>
Menu Language	English <input type="button" value="v"/>
Super User	<input type="checkbox"/>
Printer Admin Rights	<input type="checkbox"/>
Group Admin Rights	<input type="checkbox"/>
Printer Profile Admin Rights	<input type="checkbox"/>
Counter Profile Admin Rights	<input type="checkbox"/>
Error Profile Admin Rights	<input type="checkbox"/>
PSM Inventory	<input type="checkbox"/>
Group 1 Rights	ALL Office London Zurich Headoffice
Group 2 Rights	ALL Color MFPs Color Printers Monochrome MFPs
Supplier Group Rights	ALL Consumable Partner London Consumable Partner Zürich Stock Zurich
Toner Service Group Rights	ALL Printer Service London Printer Service Zürich



15.2 Authenticating via LDAP

PSM Hard- and Software Images based on Ubuntu 9.04 and later have been enhanced with LDAP capabilities. You can check after the upgrade to 5.31 if your Version is LDAP capable. If you see the following enhancements in the network setup screen, your Version is LDAP capable. Windows based PSM will have LDAP available always.

Network Configuration		
Interface: 00:	Permanent Settings	Current Settings
Default IP Address	192.168.200.199	
Subnet Mask	255.255.255.0	
Default IP Gateway/Router	192.168.200.11	
Domain Name Configuration		
Host Name for this Device	psmille	
Local Domain Name	sysprint.local	
IP Address of DNS Server 1	192.168.200.21	
IP Address of DNS Server 2	192.168.200.22	<input type="button" value="Save and Apply"/>
Date and Time		
Time Server		
Date (DD-MM-YYYY)	28-11-2011	
Time (HH:MM)	22:31	<input type="button" value="Save and Apply"/>
<input type="button" value="Back"/> <input type="button" value="Reboot"/> <input type="button" value="Shutdown"/>		

If you see "LDAP Authentication" below the usual Network Setup Screen, your PSM Version is capable of using LDAP Authentication.

If you want to use LDAP (active Directory) Authentication, you need to specify the Domain Logon Server, Port, and you need to specify a User Account with read access on the directory. Also you need to specify the base DN and the domain (User) suffix.

In Order to successfully activate LDAP Authentication, you need to also specify a test user and password. PSM will allow you to enable / activate LDAP Authentication only, if the test was successful.

LDAP Authentication (optional)		
	Permanent Settings	Remarks
Activated	<input checked="" type="checkbox"/>	<small>If checked, LDAP Access has been tested and verified</small>
LDAP Servername or IP Address	sysprint-vmsrv.sysprint.local	<small>usually the Domain Controller Hostname</small>
LDAP Server Port	389	<small>usually 389</small>
SSL	<input checked="" type="checkbox"/>	<small>use SSL Encryption</small>
Service User	steve	<small>Service User with the right to query the LDAP Server</small>
Service User Password (already set)		<small>Leave empty if already set</small>
Base DN	CN=users,DC=sysprint,DC=local	<small>Base DN, eg. CN=users,dc=mydomain,dc=local</small>
User Suffix	@sysprint.local	<small>Suffix for the Userid (eg. @mydomain.local). If not entered, the Users need to enter the full login eg. myuser@mydomain.local</small>
Enter Userid to test the LDAP Access		<small>In order to activate LDAP Access you need to enter a Userid and Password to test the LDAP Query</small>
Password		<input type="button" value="Test and Save"/>

Notes:

- LDAP Authentication has been tested with Windows active Directory (AD) only. We cannot guarantee if other LDAP Systems will work as well.
- The User "admin" is always excluded from this authentication Method.
- A Mixed Mode is possible. If LDAP Authentication is enabled, and the authentication is not successful for a specific user account, PSM tries to authenticate the user locally

LDAP / Active Directory Requirements for User Accounts

In order to allow a non-local user account to be authenticated, the User Account must be in one of the following windows groups (means, that you also have to create groups). The user can also be in more than one group.

Windows Group

- psmusers
- psmprinteradmin
- psmprofileadmin
- psmerroradmin
- psmcounteradmin
- psmgroupadmin
- psmlogistics
- psmsuperusers

Access Rights

- read only access, no specific rights
- =psmusers + write access to create / change / delete printers
- =psmusers + write access to create / change / delete printer profiles
- =psmusers + write access to create / change / delete error routines
- =psmusers + write access to create / change / delete counter profiles
- =psmusers + write access to create / change / delete groups
- =psmusers + write access to the logistic menu (if feature present and configured)
- write access to all psm admin functions except network setup and restore

What if you want to restrict access to certain groups only, for non-superusers?

If you want to restrict access to non superuser accounts to certain groups only, you will still need to add the user account locally inside PSM. In this case, PSM will authenticate and assign the user rights using LDAP, and add the restrictions defined locally to the user.

Mixed Mode

If you already have local users, they will still continue to work. If PSM cannot authenticate the User over LDAP, it will try it locally. Care should be taken: this means that the "old" local password AND the LDAP password will work.

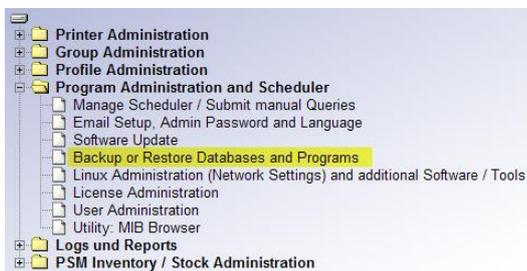


16. Backup and Restore

As every System, PSM should be backed up from Time to time. Backups can be executed manually from the Admin Userid or from every User with Super User Rights, while a Restore always requires the Admin Userid. The Size of the Backup File varies depending on how many Printers defined and how big the Log Files are.

Usually a Backup consumes approximately up to 10MB. However, on large installations with 1000 printers and more, the backup file can grow up to a 100MB or more.

Please note, that the license will not be backed up. In case you do a restore, you will need to have your license file ready and load it after you did a restore.



Backup and Restore

The Quick Backup and Restore Option allows to quickly Backup and Restore Databases and Program Files. The Backup File will be stored in a compressed Linux-TAR Format and contains your Database and the Programs of this Version. System Parameters (Network Parameters and Email Server Address) will not be saved. Restoring a Backup File will erase the current Database replace the current Programs, so BE CAREFULL! After a Restore you should do a reboot immediately, to ensure proper operation!

Choose Backup File (psmbackup.tar)

Automatic Backup to an external FTP Server

Description	Value	
Activate automatic Backup after midnight	<input type="checkbox"/>	
FTP Server or Windows share	YourFTPServer.company.com	eg 192.168.200.20 or //servername/sharename
SSL Encryption	<input type="checkbox"/>	Parameter valid for FTP only
Windows Domain Name		eg YOURDOMAIN, valid for Windows only
FTP Port Number (default=21)	21	Parameter valid for FTP only
User	YourFTPUser	
Password		
Directory path	/	

Manual restore

A restore can only be performed by the user "admin" for security reasons. Please note, that a restore clears the database contents. All previous data is lost! The backup file name has to be "psmbackup.tar" (or "psmbackup.zip on the Windows version). Other file names are not accepted.

Choose the file to be restored and then click on the "Restore" button. After the restore has been performed, PSM will ask you to reboot.

Manual Backup

Performing a manual backup is simple. Just click on the "backup" button and you will get a download link after a view seconds (depending on the size of the backup). Right-click the download link and save the backup file to a save location.

Automatic Backups

The automatic backup capabilities are dependent on the Platform, where PSM is installed. On the next page the automatic backup capabilities are described in detail.



Automatic backup to local file system (all PSM Versions)

The automatic backup to the local file system will store a database dump, the data file and the PSM Programs to a tar/zip file inside PSM. In order to not fill up the disk space, PSM will only keep the last 7 backups.

To activate the automatic backup to local file system on Linux based PSM, fill in the following fields:

Description	Value	
Activate automatic Backup after midnight	<input checked="" type="checkbox"/>	
FTP Server or Windows share	localhost	eg 192.168.200.29 or //servername/sharename
SSL Encryption	<input type="checkbox"/>	Parameter valid for FTP only
Windows Domain Name		eg: YOURDOMAIN, valid for Windows only
FTP Port Number (default=21)	21	Parameter valid for FTP only
User	n/a	
Password	local	
Directory path	/srv/www/htdocs/downloads	

To activate the automatic backup to local file system on a Windows based PSM:

just check the "Activate Backup" checkbox and click on "Save and Check".

Description	Value	
Activate Backup	<input checked="" type="checkbox"/>	Backup / Counterdata will be generated at 11:30 pm

In case of Linux, backups will be stored on /srv/www/htdocs/downloads.

In case of Windows, backups will be stored in the IIS wwwroot sub folder \psm\downloads.

To restore a local backup:

In the backup / restore menu you will see the last 7 backups. Just click on the backup you would like to restore, confirm the warning, and you're done.

Local automatic Backups restorable directly from here (just click on the File):
Evaluation-Steve_Test_ÄÖÜ_öäü_05-02-2013-psmbackup.zip
Evaluation-Steve_Test_ÄÖÜ_öäü_06-02-2013-psmbackup.zip
Evaluation-Steve_Test_ÄÖÜ_öäü_07-02-2013-psmbackup.zip
Evaluation-Steve_Test_ÄÖÜ_öäü_08-02-2013-psmbackup.zip
Evaluation-Steve_Test_ÄÖÜ_öäü_09-02-2013-psmbackup.zip
Evaluation-Steve_Test_ÄÖÜ_öäü_10-02-2013-psmbackup.zip
Evaluation-Steve_Test_ÄÖÜ_öäü_11-02-2013-psmbackup.zip



Automatic backup to an external FTP Server (All Linux based PSM)

Check the "Activate automatic Backup" checkbox, fill in the server name or address, choose whether or not to use SSL encryption (SFTP), the Port Number, User, Password and directory. Then click on "Save and Check". PSM will check the connection and informs you if it was successful. If not, the automatic Backup will be disabled and you have to correct the wrong values.

Description	Value	
Activate automatic Backup after midnight	<input checked="" type="checkbox"/>	
FTP Server or Windows share	i4k-ap01.sysprint.local	eg 192.168.200.29 or //servername/sharename
SSL Encryption	<input type="checkbox"/>	Parameter valid for FTP only
Windows Domain Name		eg: YOURDOMAIN, valid for Windows only
FTP Port Number (default=21)	21	Parameter valid for FTP only
User	steve	
Password	•••••	
Directory path	/backupdir/	

Automatic backup to a Windows Shared Folder (newer Linux based PSM only)

Check the "Activate automatic Backup" checkbox. Fill in the Server and share name (eg. //myserver/share), the Netbios Domain Name, User, Password and the Path within the share. Then click on "Save and Check". PSM will check the connection and informs you if it was successful. If not, the automatic Backup will be disabled and you have to correct the wrong values.

Description	Value	
Activate automatic Backup after midnight	<input checked="" type="checkbox"/>	
FTP Server or Windows share	//sysprint-vmsrv/daten	eg 192.168.200.29 or //servername/sharename
SSL Encryption	<input type="checkbox"/>	Parameter valid for FTP only
Windows Domain Name	SYSPRINT	eg: YOURDOMAIN, valid for Windows only
FTP Port Number (default=21)	21	Parameter valid for FTP only
User	steve	
Password		
Directory path	/daten/steve/smbtest/	

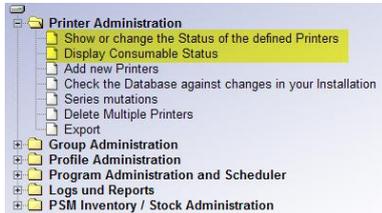
Optional exports

On Windows PSM and on the Windows Shared Folder backup in Linux PSM you can optionally save all order files, alert files, and error message files to the same folder. PSM will create a subfolder structure. Optionally you can also choose to export a CSV File with the main counters to be exported each night.

Export orders?	<input checked="" type="checkbox"/> Path: C:/inetpub/wwwroot/srv/www/htdocs/downloads/orders	
Export Toner Service Alerts?	<input checked="" type="checkbox"/> Path: C:/inetpub/wwwroot/srv/www/htdocs/downloads/toneralerts	
Export Error messages?	<input checked="" type="checkbox"/> Path: C:/inetpub/wwwroot/srv/www/htdocs/downloads/errors	
Export Page Counters?	<input checked="" type="checkbox"/> TOTAL column: 1 COLOR column: 2 Path: C:/inetpub/wwwroot/srv/www/htdocs/downloads/counters	Warning: Check that the selected columns match the counter profiles!



17. Printer Administration



The Printer Administration will show you the Printers defined and their Status. They are two possibilities to see the Status. Both will show you the Status, but the first Choice shows more Information about the Device, while the Second Choice shows more Information about the Consumable Status.

It is up to you which one you choose to work with.

Choice 1: "Show or change the Status of the defined Printers"

If you choose this View, PSM will show you Information about the Printer and about the Toners. You can Sort according your need and you can also use Filters to only see the Devices you want to see. You can also choose to Display Printers with Errors or Warnings first by clicking the Checkbox.

IP Address / Host Name	Printer Name	Contact Person	Location	Serial Number	Printer Model	Page Counter	Last successful Query		
1.2.3.4	CHP99327	Martha Mantaler		124324525	xerox 5638 mfp	111463	02-10-2009 / 07:32		
1.2.3.5	CHP99837	Armin Amstutz		3632124871	xerox 5638 mfp	79553	02-10-2009 / 07:30		
1.2.3.8	CHP973676	Mike Cohan		46764747	xerox 5638 mfp	74253	02-10-2009 / 07:30		

Choice 2: "Display Consumable Status"

This view works the same Way, but it will show you less Information about the Device and more about the Consumable Status. If you move your Mouse over a certain Part, PSM displays you the Part Number and Description. You can also make notes for Parts below one of the Thresholds. This can be for example a Code, indicating that the Part has been delivered to the Printer. PSM will automatically delete the Field, once the Part has been replaced.

IP Address / Host Name	Contact Person	Location	Bemerkungen/Remarks	Printer Model	Page Counter	Last successful Query														
1.2.3.4	Martha Mantaler			xerox 5638 mfp	111463	02-10-2009 / 07:32	75.9%													
1.2.3.5	Armin Amstutz			xerox 5638 mfp	79553	02-10-2009 / 07:30	86%													
1.2.3.8	Mike Cohan			xerox 5638 mfp	74253	02-10-2009 / 07:30	80.9%													

Both Views:

- If the whole Line has a red Background this indicates that this Printer has an Error
- If the whole Line is yellow this indicates that at least one Consumable Part is below threshold (If you use the "Display Consumable Status" View, PSM also indicates, which Part is below threshold. If the "Toner Service" Feature is used, a yellow Part means that the Part is below threshold for Ordering, while a red Part means that the second threshold has been reached and the Part is nearly empty).
- Both views have the following Filtering possibilities:

Group 1 Filter	<input type="text"/>	Group 2 Filter	<input type="text"/>
Toner Service Group	<input type="text"/>	Consumables Supplier	<input type="text"/>
Generic Free Search Filter (eg. *laser*)	<input type="text"/>	<input checked="" type="checkbox"/> Show Printers with Warnings first <input type="checkbox"/> Show only Printers not reachable today	



Printer Details View

If you click on the Lens-Icon, you can get a Detailed Status of the Printer, and you can change all Settings

Printer Name :	
IP Address / Host Name	192.168.200.51
Printer Name	prt053
Contact Person	Peter Bond
Location	Headoffice Zurich, 1th Floor, Office 103
Asset Number	81577
Association Group1	Zurich Headoffice
Association Group2	
Error Notification Group	Helpdesk Zurich
Toner Service Group	
Consumables Supplier	Stock Zurich
Printer Model	hp LaserJet 4350
Profile for the Query of Counters	Hewlett-Packard
Error Routine 1	Hewlett-Packard <small>Notify the following Groups in case of Errors <input checked="" type="checkbox"/> Group1 <input type="checkbox"/> Group2 <input type="checkbox"/> Error Not</small>
Error Routine 2	HP - Errors only <small>Notify the following Groups in case of Errors <input type="checkbox"/> Group1 <input type="checkbox"/> Group2 <input checked="" type="checkbox"/> Error Not</small>
Email Address of Printer Owner	<input type="text"/> <small><input type="checkbox"/> No copies of Consumable Orders <input type="checkbox"/> No Error Notification</small>
Total Pages printed	91765
Serial Number	CNCF15886
Printer SNMP Read-Community Name	<input type="text"/> <small>use only, if different from the global Read-Community Name</small>
Printer SNMP Write Community Name	<input type="text"/> <small>use only, if different from the global Write-Communit Name</small>
Last successful Query	08-10-2009 / 20:16
Overall Printer-History	

The first Section shows you the current Settings of the Printer You can change the Group assignments, and every other setting here, if you have Admin, Super User or Printer Admin Rights.

Clicking on the Lens will give you a full History of the Printer

Consumables ordered so far

Part Number	Consumable Description	Quantity	Last remaining	Date of last replacement	Page Count at last Replacement	Average replaced at	Consumables History
Q5942X	Black Cartridge HP Q5942X	<input type="text"/>	n/a	n/a	n/a	0 %	
Q5422A	Maintenance Kit HP 110V-Q5421A, 220V-Q54	<input type="text"/>	n/a	n/a	n/a	0 %	
Consumables History							

This Section shows you how many Parts have been ordered so far. By clicking on the Lens you can get Details about every Part.

Consumable Status Report

Part Number	Consumable Description	Threshold Value (%) (for Orders)	Part below Threshold? (for Orders)	Order sent Date	Remaining Capacity	Remaining Capacity (%)	Maximum Capacity
Q5942X	Black Cartridge HP Q5942X	30	X		5200	26 %	20000
Q5422A	Maintenance Kit HP 110V-Q5421A, 220V-Q54	20	N		199182	88.5 %	225000

This Section show you the current Consumable Status

Status on printer, detected during last Query (Error Routine 1)

Error detected	Errormessage sent	Error Messages (Messages regarding Consumable orders can be ignored)
N		No Error detected

Status on printer, detected during last Query (Error Routine 2)

Error detected	Errormessage sent	Error Messages (Messages regarding Consumable orders can be ignored)
N		

If there is a Printer Error detected by one of the two assignable Profiles, it will be displayed here

Page Counter Statistic

Description	Pages
Total Printed Pages	91765
Total Pages in Color	0
A4 Simplex Pages Monochrome	78269
A4 Simplex Pages Color	0

The last Section shows the current Page Counters of the Device, if you have assigned a valid Counter Profile

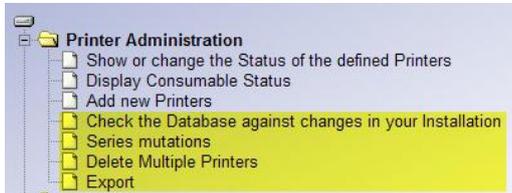
Resetting an Order

You can reset an order by clicking the red X below the "Y". Note, that if the part is below threshold, this would trigger a new order again!

Canon C-EXV 29 Cyan Toner	20	X	17-01-2013	969	17 %	5700
---------------------------	----	---	------------	-----	------	------



Other Printer Administration Features



There are several other possibilities to manage the Printers defined in the Database, such as Series Mutation, Deletion, and Export.

Check the Database against changes in your Installation

This Feature allows you to check, if the Printers defined inside PSM are really the ones you think they are. It helps to find out, if Printers have been changed without your knowledge. It is always a good Idea to run this Function from Time to Time. If you call this Function you can choose between the following Options:

Notify about changed Printer Descriptions/Names	<input type="checkbox"/>
Notify about changed Contact Persons	<input type="checkbox"/>
Notify about changed Locations	<input type="checkbox"/>
Notify about changes of the Printer Model	<input type="checkbox"/>
Detect changes of an IP that is resolved by DNS	<input type="checkbox"/>

There are several things you can check. Regardless of what you choose: PSM will always scan for changed Serial-numbers. What we recommend is to choose to Scan for changes of the Printer Model! If you run that Scan PSM will show you the Printer which do not match your Database.

Series Mutations

This Function allows you to do changes such as changing Group Assignments, assign Error Profiles and similar things. The Left Side of the Screen allows you which Devices you want to change, while the Right Side allows you to tell PSM what should be changed.

The following Example would find all Devices assigned to the Error Group "Helpdesk London" and assign them to "Helpdesk Zürich". Additionally it would set the Error Profile and the Error Notification Group.

Filter	>>>	Target Settings
Filter Devices with Host Name / IP Address		
Filter Devices with Printer Name		
Filter Devices with Profile (Model)	New Value: (-- = unchanged):	--
Filter Devices with Profile (Model) (e.g. HP*)		
Filter Devices with Contact Person	New Value: (-- = unchanged):	--
Filter Devices with Location	New Value: (-- = unchanged):	--
Filter Asset Number	New Value: (-- = unchanged):	--
Filter Email Address of Printer Owner	New Value: (-- = unchanged):	--
Filter Devices in Group 1	New Value: (-- = unchanged):	--
Filter Devices in Group 2	New Value: (-- = unchanged):	--
Error Notification Group	New Value: (-- = unchanged):	Helpdesk Zürich
Filter Devices in the Toner Service Group	New Value: (-- = unchanged):	--
Filter Devices in the Supplier Group	New Value: (-- = unchanged):	--
Filter Devices with Counter Profile	New Value: (-- = unchanged):	--
Filter Devices with Error Control Profile 1	Alarmierung: unchanged with:	Ricoh - SC Codes only Notify the following Groups in case of Errors: <input type="checkbox"/> Group1 <input type="checkbox"/> Group2 <input checked="" type="checkbox"/> Error Notification Group
Filter Devices with Error Control Profile 2	New Value: (-- = unchanged): Alarmierung: unchanged with:	New Value: (-- = unchanged): Notify the following Groups in case of Errors: <input type="checkbox"/> Group1 <input type="checkbox"/> Group2 <input type="checkbox"/> Error Notification Group
Filter Devices with SNMP Read-Community Name	New Value: (-- = unchanged):	--
Filter Devices with SNMP Write-Community Name	New Value: (-- = unchanged):	--

Also this Function will show the Results in a Table. You can decide to exclude some Devices from the change, or to cancel. Only if you later Click on "Save" the changes will be saved.

Delete / Export Printers





	Filter
Filter Devices with Host Name / IP Address	
Filter Devices with Printer Name	
Filter Devices with Profile (Model)	HP Color LaserJet2840
Filter Devices with Profile (Model) (e.g. HP*)	
Filter Devices with Contact Person	
Filter Devices with Location	
Filter Asset Number	
Filter Email Address of Printer Owner	
Filter Devices in Group 1	
Filter Devices in Group 2	
Error Notification Group	
Filter Devices in the Toner Service Group	
Filter Devices in the Supplier Group	
Filter Devices with Counter Profile	
Filter Devices with Error Control Profile 1	
Filter Devices with Error Control Profile 2	
Filter Devices with SNMP Read-Community Name	
Filter Devices with SNMP Write-Community Name	

This function will show you the same Screen as if you would choose the Series Mutation, but only the left Part of it. It will allow you to Filter which Devices you want to Delete or Export.

If you choose to delete, you will get a List first, and you have to confirm the Deletion.



18. Q&A – PSM Tips and Tricks

The License does not work – what's wrong?

PSMs Licensing System is based upon the Date. License Files are Time-Stamped and are only valid from a specific Date until a specific Date. If a License File does not work, the System Date might be wrong. Please check on the Admin Section and set the Date correctly. We also recommend specifying a Time Server. Usually Customers have a Windows Domain Controller, where the NTP (Time Service) is running. If this is the case, we recommend specifying the Time Server IP Address to be used.

PSM is acting Slow on some Screens, such as “Add Printers” – Why?

PSM tries to find out the PC's IP Hostname. This Function goes over DNS. If your DNS Server is not responding or if you did not specify a DNS Server to be used by PSM, things will go slow, because there is a Timeout. We highly recommend specifying a valid DNS Server in the System Setup of PSM.

I've lost access to PSM / I don't know PSMs current IP Address – what can I do?

Connect a VGA Display and a Keyboard directly to PSM. The connectors are located at the Back.
(On VMWare: Use the VMWare Console)
Press “Enter” one Time. This will give you the following Screen:

```
Current Network Settings:
-----
Current IP Address : 192.168.200.29
Subnet Mask       : 255.255.255.0
Default Gateway   : 192.168.200.11

The following command are valid (Examples):
-----
ip 192.168.200.199 - to change the IP Address to 192.168.200.199
sm 255.255.255.0  - to change the Subnet Mask to 255.255.255.0
gw 192.168.200.11 - to change the default gateway to 192.168.200.11
shutdown         - to shutdown the system
reboot           - to reboot the system

NOTE:
All changes made here are temporary! Connect to http://192.168.200.29 ,login
and change the IP Address permanently over the Administration Menu.
```

You can use the Commands as indicated on the Screen to change the temporary Settings.

Once you have access over the Browser again, you should use the Link in the Administration Section to make the changes permanent.



I have Negative Numbers in the Reports for Consumables used or Page Counters – Why?

Negative Numbers in Consumable Reports could have happen, if the Printer has been added within the Query Timeframe of the Report. This is fixed in Version 5.04 and above.

Negative Numbers in Page Counter Reports could have happen, if somebody has exchanged the Printer or some technical Parts in the Printer. If the old Counter values are not set in the replaced or repaired Printer, it would start Counting from Zero. If a Query Timeframe is within that Time, of course this would give negative Numbers. In Version 5.04 we have implemented a Program to detect such a Situation and handle it. However, if this would have happened more than once within a Query Timeframe, you still would get negative Numbers.

In any Case: Please advice the technicians, that they should configure the correct Page Counters again after the repair.

I want to take Printers out of the Network, and use them again later at another Place. What should I do to not loose the History of that Printer?

You can rename the Printer and prefix the IP Address/Hostname Field with one of the following:

- Stock_printername
- Lager_printername
- Entsorgt_printername
- Disposed_printername
- éliminés_printername

If you rename a Printer with one of the above Prefixes, PSM will treat these Printers as “inactive” and will no longer Query them. The History will be kept. If you place the Printer somewhere else later, you can rename it again to the correct IP Address/Hostname and PSM will start Query again.

Is it possible to configure the Printer from within PSM?

No. PSM is no Management Application. The Configuration of Printers is too much dependent on every single Printer Model. It would be a lifetime Job just maintaining it! You should use the Manufacturer Tools to Configure Printers.

However you have the possibility to configure the Host Name, Contact Person and Location from PSM. If you enter the SNMP Write Community in the Admin Section or at Printer Level, PSM tries to write back the above mentioned Fields to the Printer. There will be no guarantee that it works, but it does in most of the cases.

Anyway: PSM will be slower, especially with Series Mutation, since SNMP Write Commands to the Printers are often slow.

There is however one Practical use. If you did not configure Printer Name, Contact Person and Location inside the Printers, but you did it in PSM, you can put in the SNMP Write Community Name in the Admin Section, do a Series Mutation (without changing anything) and store the Resulting List. This will write back the configured Values to the Printers. Once you done it, you can remove the Write Community again.



I want to Enter the full delivery Address of a Printer inside PSM. How do I make a New Line?

Since Version 5 of PSM there is a Full-Text Field when you go over the Printer Administration and display the detail Status of a Printer (by clicking on the "Lens").

192.168.200.51
prt053
Peter Bond
Headoffice Zurich, 1th Floor, Office 103
81577
Zürich Headoffice
Helndesk Zürich

The Location Field can be used to write a Text Block. This is especially useful, if you are using the PSM Inventory Feature, for printing the Shipment List. Just press enter to get a new Line.

If you want to Import Printers, you will have to use html Coding to create a Line-Break. The Code is: `
`

To get the Textblock in this example you would use:
Headoffice Zurich
1th Floor
Office 103

PSM will also use the new Lines in the Printer Administration:

192.168.200.51	Peter Bond	Headoffice Zurich, 1th Floor, Office 103		hp laserjet 4350	91772	09-10-2009 / 13:10	26%			88.5%
----------------	------------	--	--	------------------	-------	-----------------------	-----	--	--	-------

Please Note, that this will not be used with Email Orders. PSM will replace the New Line with a Comma! This is because of compatibility Reasons to previous Version.

I don't find the Information about the MIB's to create a Counter Profile. What can I do?

Some Manufacturers don't want to make their MIB's available to the Public, for whatever Reason, and not all Devices have MIB's for the Counters other than the Engine Counter.

➤ There is a Trick to find the correct MIB, if you don't have the Manufacturers Information.

- Step 1:
 - o Connect to the Device with a Webbrowser (Or print a Settings Page on the Device)
 - o Note all Counters you can find over the Webbrowser or on the Test Page
 - o Use a MIB Browser (there is one inside PSM in the Admin Section, however this does not work for all Devices. If it is not working for your Device use one of the freely available MIB Browsers on the Internet, such as the one from www.ireasoning.com .
 - o Do a MIB Walk on the Device.
- Step 2:
 - o Search the Counter values you have over the Webbrowser within the MIB Walk Results
 - o To be sure you found the Correct Location inside the MIB Tree, we recommend repeating Step 1 at least one Time again.
- Step 3:
 - o Write the MIB Value into a new Profile

If you don't find the values in the MIB Tree you can be sure, that the Device doesn't support any Page Counter Queries by SNMP.

On the following Page we show you an Example.



19. PSM Technical Data / Security

19.1 PSM Rack Appliance V5.35 / PSM VMWare V5.35 (64 Bit Image)



- PSM 19 Inch Rack Appliance, 2 GB RAM, 80GB Raid 1 Disks (VMWare: Dependent on what you assign to the VM Machine)
- Operating System: Ubuntu 12.04 LTS 64 Bit
 - o Apache 2 Webserver
 - o PHP 5.2
 - o MySQL 5.5
 - o Zend Decoder

PSM does not Deal with Customer Business Data at all. PSM does only Request Page Counter Data and Consumable Status / Error Message Data from the Printer by using SNMP V1/2 GET Requests.

This SNMP Requests will be sent out in Intervals from 5 Minutes to 5 Hours to each Printer, depending on the Configuration of the Scheduler.

SNMP Traffic: Average 30 Queries per Device (can be reduced by 50% if "low network load" mode is used).

PSM sends out Emails with the Printer Orders and/or Error Messages. Printer IP Addresses in all outgoing Communication (Email Orders / Reports) can be masked.

A DIRECT COMMUNICATION OR VPN OVER THE INTERNET IS NOT NEEDED !

Outgoing Communication

PSM is using the following Ports for Outgoing Communication:

<u>Port</u>	<u>Protocol</u>	<u>Service</u>	<u>Description</u>
123	TCP	NTP	used to synchronize with a Time Server
160/161	UDP/TCP	SNMP	used to gather Informations from the Printers
53	UDP/TCP	DNS	DNS Queries to get the Printer Hostnames
25	TCP	SMTP	used to send Emails with the Orders and Reports

Incoming Communication

PSM accepts incoming Communication on the following Ports:

<u>Port</u>	<u>Protocol</u>	<u>Service</u>	<u>Description</u>
80	TCP	http	used for PSM Configuration and Operation. Login=PSM Password
22	TCP	ssh	For Linux OS access. DISABLED BY DEFAULT

Configurable Communication Options:

SMTP Email

The SMTP Server used for sending Alerts can be configured within PSMs Web Gui. However, the Mailserver must be accessible on Port 25. The Security depends on the Mailserver. If the Mailserver allows for unauthenticated Mail sending, then PSM can send Emails to the outside World.

We recommend to configure the Mailserver, to not allow unauthenticated Mail Sending. You can assign a Userid/Password inside PSM and configure that inside PSM to allow authenticated Mail Sending.

The Destination Email recipients for Orders/Alerts can be configured in the PSM Administration > Email Setup, on the Groups, or on each configured Printer inside PSM.



FTP

An outgoing FTP connection by PSM is made, if one or both of the two Options is configured:

- Automatic Backup by FTP (in the PSM Administration > Backup/Restore)
If configured, PSM will try to send a .tar File containing the MySQL Database and the PSM Program Files to the configured Destination
- Automatic Import (in the Printers > Add Printer Section)
If specified, PSM tries to import a csv File containing the Printers for import into PSM from the Source Address configured.

DNS

- Up to 2 DNS Servers can be configured to allow Name Resolution. The Name Servers can be configured in the PSM Program Administration > Network Setup Section

NTP

- To allow Time Synchronization, you can configure a Time Server. This can be done in the PSM Program Administration > Network Setup Section

Security Considerations / Risks

The 64 Bit Version of PSM is very restricted in terms of access. The only incoming Port allowed is Port 80, which is used to configure and Monitor PSM. All other Services are either disabled, or restricted to console access only. The Console (VMWare Console if VMWare or VGA Port if Rack Appliance) is restricted as well. Only the configuration of IP Address, Shutdown and Reboot is possible from there.

Security Advice:

We recommend to change the PSM admin Password as soon as possible, and use a complex password for the Userid "admin". Since the http communication runs unencrypted, you may want to allow access to PSM only from a certain IP Addresses and protect it with a Firewall. However you have to make sure, that PSM is still able to query all configured Printers by SNMP, and that it has access to the Mailserver.

Security Level

If you want to use PSM in a High-Security Environment, this is the Version you may want to use, since it is the most restrictive Variant of PSM.



19.2 PSM V5 Lite / 32-Bit VMWare Appliance



- PSM Microspace MPC20 Appliance, 256MB RAM, 4GB CF Disk
- Ubuntu 12.04 LTS (32 Bit)
 - o Apache 2 Webserver
 - o PHP 5.2
 - o MySQL 5.5
 - o Zend Decoder

PSM does not Deal with Customer Business Data at all. PSM does only Request Page Counter Data and Consumable Status / Error Message Data from the Printer by using SNMP V1/2 GET Requests.

This SNMP Requests will be sent out in Intervals from 5 Minutes to 5 Hours to each Printer, depending on the Configuration of the Scheduler.

SNMP Traffic: Average 30 Queries per Device (can be reduced by 50% if "low network load" mode is used).

PSM sends out Emails with the Printer Orders and/or Error Messages. Printer IP Addresses in all outgoing Communication (Email Orders / Reports) can be masked.

A DIRECT COMMUNICATION OR VPN OVER THE INTERNET IS NOT NEEDED !

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25	TCP	SMTP	used to send Emails with the Orders and Reports

Incoming Communication

PSM accepts incoming Communication on the following Ports:

<u>Port</u>	<u>Protocol</u>	<u>Service</u>	<u>Description</u>
22	TCP	SSH	For Linux OS access. DISABLED BY DEFAULT
80	TCP	http	used for PSM Configuration and Operation. Login=PSM Password

Configurable Communication Options / Services:

SMTP Email

The SMTP Server used for sending Alerts can be configured within PSMs Web Gui. However, the Mailserver must be accessible on Port 25. The Security depends on the Mailserver. If the Mailserver allows for unauthenticated Mail sending, then PSM can send Emails to the outside World.

We recommend to configure the Mailserver, to not allow unauthenticated Mail Sending. You can assign a Userid/Password inside PSM and configure that inside PSM to allow authenticated Mail Sending.

The Destination Email recipients for Orders/Alerts can be configured in the PSM Administration > Email Setup, on the Groups, or on each configured Printer inside PSM.



FTP

An outgoing FTP connection by PSM is made, if one or both of the two Options is configured:

- Automatic Backup by FTP (in the PSM Administration > Backup/Restore)
If configured, PSM will try to send a .tar File containing the MySQL Database and the PSM Program Files to the configured Destination
- Automatic Import (in the Printers > Add Printer Section)
If specified, PSM tries to import a csv File containing the Printers for import into PSM from the Source Address configured.

DNS

- Up to 2 DNS Servers can be configured to allow Name Resolution. The Name Servers can be configured in the PSM Program Administration > Network Setup Section

NTP

- To allow Time Synchronization, you can configure a Time Server. This can be done in the PSM Program Administration > Network Setup Section

Webmin

- Webmin is a open Source Software which allows the configuration of almost every aspect of the Linux OS. Webmin watches the Scheduler of PSM (make sure that it is always started). Webmin can be accessed with the Webbrowser at Port 10000 of the IP Address of PSM. It is protected by Linux Passwords.

Security Considerations / Risks

Compared to earlier Versions of PSM Lite, the latest build is more restrictive in terms of security. Webmin is no longer used, and the SSH access is disabled by default.

Security Advice:

We recommend to change the PSM admin Password as soon as possible, and use a complex password for the Userid "admin". Since the http communication runs unencrypted, you may want to allow access to PSM only from a certain IP Addresses and protect it with a Firewall. However you have to make sure, that PSM is still able to query all configured Printers by SNMP, and that it has access to the Mailserver.

To make PSM more Secure you can disable the SSH Service from within Webmin, and restrict access to Webmin by an IP Policy or disable the WebAccess to Webmin completely.

Security Level

The Security Level of PSM Lite / VMWare V4 32-Bit can be considered as high.



19.3 PSM for Windows (V6.00)



- Operating System: Windows Server 2008 R2 64 Bit or 2012 64 Bit
- PSM will be delivered with 3 installers, for PHP, Mysql and PSM itself
- PSM will make use of the Windows IIS Web Server Service
 - o PHP 5.3 NTS
 - o MySQL 5.5
 - o IonCube Decoder

PSM does not Deal with Customer Business Data at all. PSM does only Request Page Counter Data and Consumable Status / Error Message Data from the Printer by using SNMP V1/2 GET Requests.

This SNMP Requests will be sent out in Intervals from 5 Minutes to 5 Hours to each Printer, depending on the Configuration of the Scheduler.

SNMP Traffic: Average 30 Queries per Device (can be reduced by 50% if "low network load" mode is used).

PSM sends out Emails with the Printer Orders and/or Error Messages. Printer IP Addresses in all outgoing Communication (Email Orders / Reports) can be masked.

A DIRECT COMMUNICATION OR VPN OVER THE INTERNET IS NOT NEEDED !

Outgoing Communication

PSM is using the following Ports for Outgoing Communication:

<u>Port</u>	<u>Protocol</u>	<u>Service</u>	<u>Description</u>
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Incoming Communication

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Configurable Communication Options:

SMTP Email

The SMTP Server used for sending Alerts can be configured within PSMs Web Gui. However, the Mailserver must be accessible on Port 25. The Security depends on the Mailserver. If the Mailserver allows for unauthenticated Mail sending, then PSM can send Emails to the outside World.

We recommend to configure the Mailserver, to not allow unauthenticated Mail Sending. You can assign a Userid/Password inside PSM and configure that inside PSM to allow authenticated Mail Sending.

The Destination Email recipients for Orders/Alerts can be configured in the PSM Administration > Email Setup, on the Groups, or on each configured Printer inside PSM.



DNS

- The Windows DNS configuration will be used by PSM

NTP

- Time synchronization is based on what is setup on your Windows Server

Security Considerations / Risks

PSM is using IIS, the web site is setup with the default IUSR (user level account). All functions which need higher privileges are executed by the PSM scheduler service, which runs under "local system". The only privileged function triggered by this, is a admin initiated reboot, which is needed after an upgrade has been installed.

Security Advice:

We recommend to change the PSM admin Password as soon as possible, and use a complex password for the Userid "admin". Since the http communication runs unencrypted, you may want to allow access to PSM only from a certain IP Addresses and protect it with a Firewall. However you have to make sure, that PSM is still able to query all configured Printers by SNMP, and that it has access to the Mailserver.

If you want to use https instead of http, you can reconfigure the IIS default website to allow only https access.

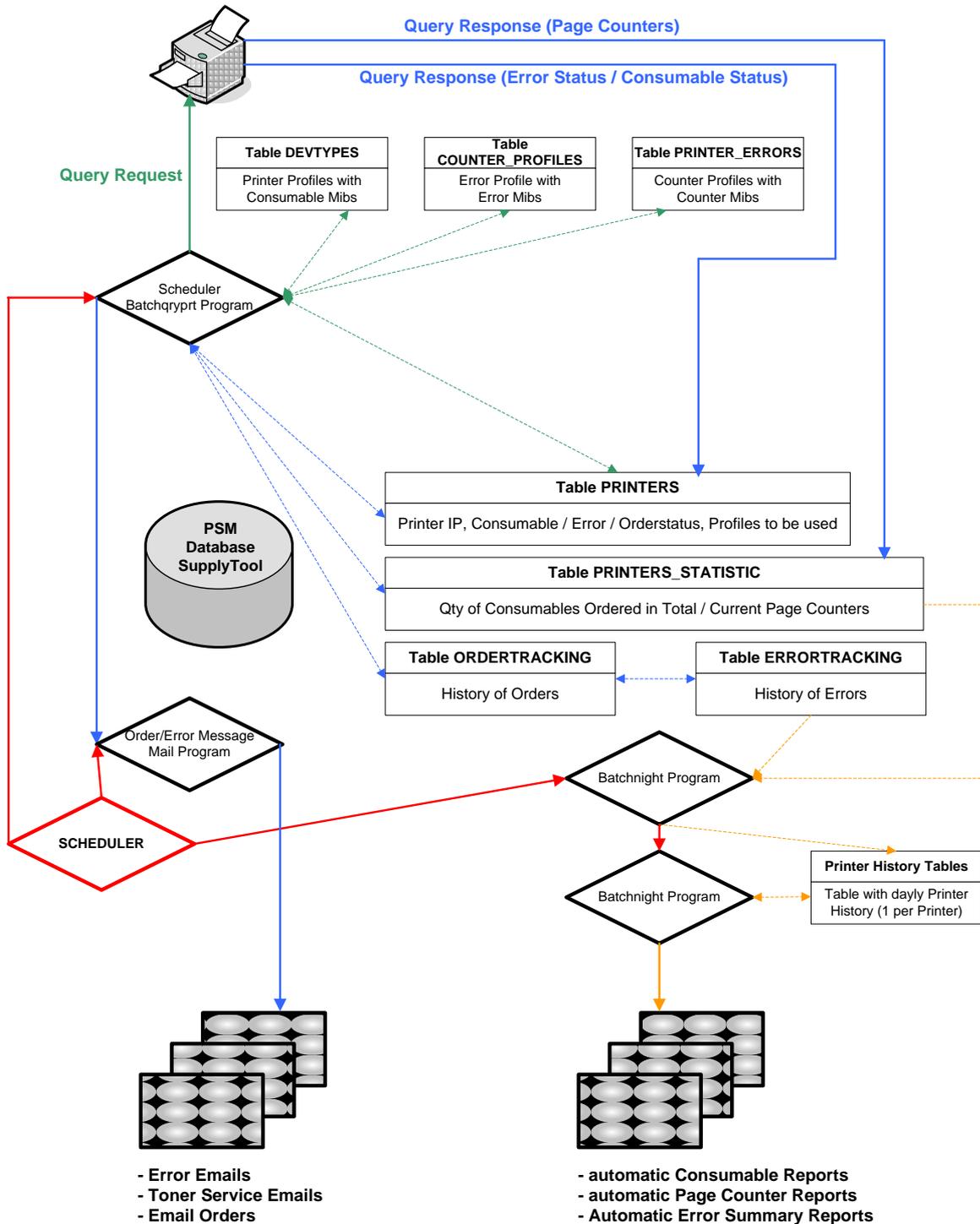
Security Level

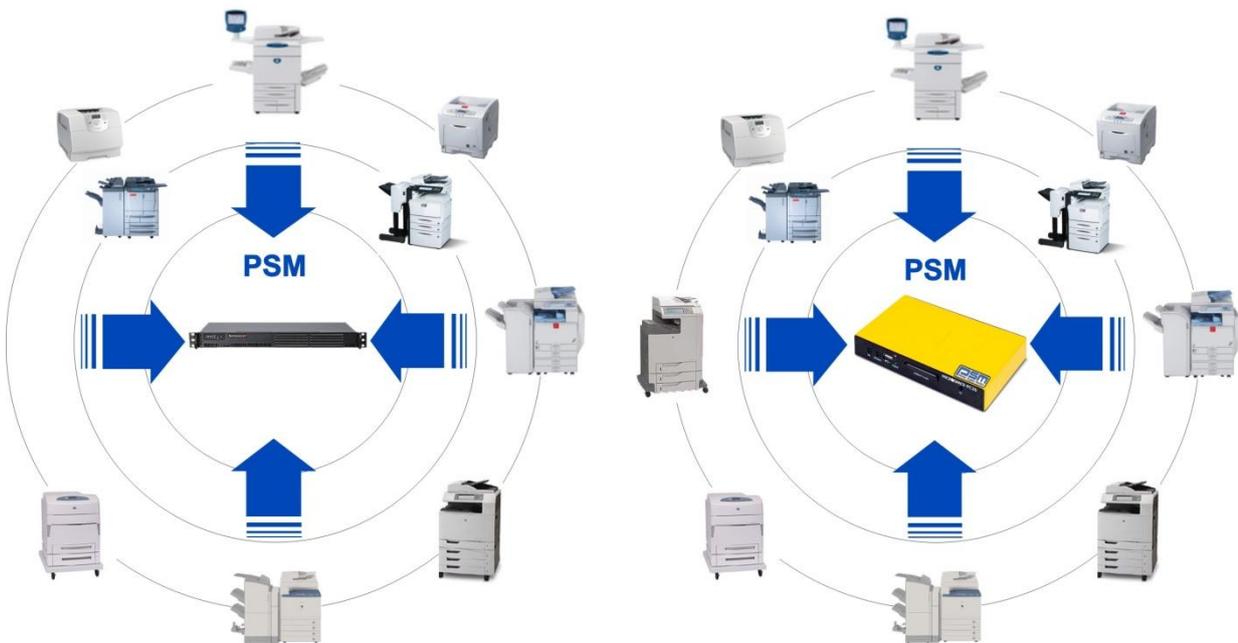
The PSM programs are encrypted to prevent from tampering the code. The security of the PSM programs itself can be considered as high. However, security is also dependent on the way you have secured the Windows server to prevent direct access to the file system.



20. PSM Dataflow

PSM DATAFLOW DIAGRAM





Are you already a Member of the PSM Forum? If not, please register at

http://partner.sysprint.ch/n_forum

Registration is Free. Registered Users will automatically receive all PSM News and Updates!

