Local printer monitoring with the HP SNMP Proxy Agent



SUMMARY

Print Audit Infinite Device Management (IDM) is designed to monitor network attached printer/scanner/copier devices using the Simple Network Management Protocol (SNMP). Under most circumstances, therefore, it can only be used to monitor printers, scanners and copiers that are:

- 1. Directly attached to the network using either a cable or Wi-Fi
- 2. Provide support for SNMP

Because of these requirements, desktop printers, scanners and MFPs that are locally attached to a PC or server - using either a parallel or, more commonly, a USB cable - cannot normally be monitored by IDM.

Some locally attached HP printers and copiers, however, can be included, by installing the HP SNMP Proxy Agent on the host PC. With this free agent installed IDM can monitor both meters, such as the number of pages printed, and the status of consumables such as toner and printer ink. Smart alerts can also be configured to warn when consumables need to be replaced, just as with network-attached devices.

How it works

The HP SNMP Proxy Agent is installed on the PC to which the printer is connected and, when prompted, will retrieve status information via its parallel or USB connection. It can then relay that information back to the IDM Information Collection Engine (ICE) using the Windows SNMP service, also configured on the host PC.

As far as the ICE is concerned it is dealing with a network printer via SNMP so, in the majority of cases, no changes need to be made to support printers via the HP SNMP Proxy Agent.

Restrictions

The HP SNMP Proxy Agent is only certified to work with a specific set of HP printers (Appendix A). It may also work with other HP devices, indeed the example used in this document (a Photosmart B100 series MFP) isn't listed, but was picked up by the HP SNMP Proxy Agent. However, the only way to know for sure is to try it.

Printers, scanners and copiers from other vendors are unlikely to work with the HP SNMP Proxy Agent.



Obtaining the HP SNMP Proxy Agent software

Please note that the HP SNMP Proxy Agent is **NOT** supplied nor supported by Print Audit.

The HP SNMP Proxy Agent is available as part of an application called HP Web JetAdmin which can be used to manage HP and non-HP printers using the SNMP protocol on a corporate network. You can get both the full Web Jetadmin application and the proxy agent software from the following link:

www.hp.com/go/webjetadmin

You do NOT need the Web Jetadmin software itself in order to use the HP SNMP Proxy Agent. Moreover, when you download the software you will find that HP provides two proxy agents:-

- 1. HP SNMP Proxy Agent
- 2. HP WS Pro Proxy Agent

IDM can only collect information using the first of these – the HP SNMP Proxy Agent – there is therefore no need to install the HP WS Pro Proxy Agent unless you specifically require it for use with HP Web Jetadmin. The HP readme documentation advises installing both, but for IDM this is **NOT** necessary.

Other things to note:

- There is no charge for the software but you will have to register with HP in order to download it.
- The HP SNMP Proxy Agent is available for both 32-bit and 64-bit implementations of Windows and on workstations can be installed on Windows XP or later (not Home editions) and on servers running Windows Server 2003 or above.
- The HP SNMP Proxy Agent can handle multiple printers attached to the same host.

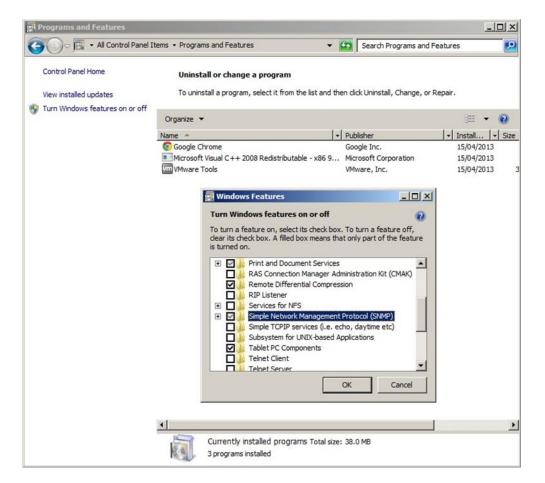


Pre-requisites – Windows SNMP

Before you install the HP SNMP Proxy Agent you must first make sure that Microsoft Windows SNMP service has been configured and started on the PC to which the printer is connected. This service is usually installed as part of Windows but not set to run by default so you will always need to check.

The procedure is similar on all versions of Windows. Here's how it's done in Windows 7:-

- 1. Open the Windows Control Panel and select Programs and features.
- 2. In the left side panel choose the option marked Turn Windows features on or off.



- 3. When the Windows features window opens scroll down the list and click on the box marked Simple Network Management Protocol (SNMP) as in the screenshot above.
- 4. Click the OK button and the SNMP service should be set to start automatically for you.



Once the SNMP Service is started you will also need to make a couple of changes to the way the SNMP service is configured, as below:

- 1. From the Start button menu right-click on **Computer** and select **Manage** to open the **Computer Management** window.
- 2. In the left-hand pane select **Services**.
- 3. Scroll down the list of services displayed and double-click on **SNMP Service** to edit its properties (ignore the SNMP Trap service).

File Action View Help									
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Computer Management (Local)	Name 🔺	Description	Status	Startup Type	Log On As			Actions	
🗉 🎁 System Tools	Remote Desktop Se		Started	Manual	Network S			Services	-
	Remote Desktop Se		Started	Manual	Local System			More Actions	
Event Viewer Shared Folders	Remote Procedure		Started	Automatic	Network S			More Actions	
B Shared Polders A Local Users and Groups	Remote Procedure			Manual	Network S			SNMP Service	
	Remote Registry	Enables re		Manual	Local Service				
Device Manager	Routing and Remot			Disabled	Local System			More Actions	
E Storage	RPC Endpoint Mapper			Automatic	Network S				
🔤 Disk Management	SeaPort	Enables th	Started	Automatic SNMD Gamuic	Local System e Properties (Lo	cal Consoutor)		X	
Services and Applications	Secondary Logon	Enables st		SIMPLEMENT	e Propercies (Lo	careomputer)	10		
🤹 Services	Secure Socket Tun			General	og On Recovery	Agent Traps Si	curity Deper	ndencies	
i WMI Control	Security Accounts		Started				-	. []	
	Security Center	The WSCS	Started	Send	authentication trap				
	Server Shell Hardware Det	Supports fil	Started Started	2.2%					
	Smart Card		Started		ed community name				
	Smart Card Remov	Manages a			nunity	Rights			
	SNMP Service	Enables Si	Started	publi		READ	JNLY		
	SNMP Trap	Receives tr	Scarced						
	Software Protection								
	SPP Notification Ser								
	SOL Active Director				Add	Edit	Remove		
	SOL Full-text Filter		Started						
	SOL Server (SOLEX		Started	· Ac	cept SNMP packet:	s from any host			
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	SOL Server Browser		Started	~	soprorum pucket	s nom a loso nosta		×	
	SOL Server Reporti		Started						
	SQL Server VSS Wri		Started						
	SSDP Discovery	Discovers	Started						
	Superfetch	Maintains a	Started		1				
	System Event Notifi		Started		Add	Edit	Remove		
	Tablet PC Input Ser		startoa						
	Task Scheduler	Enables a	Started	Learn mo	re about SNMP				
	TCP/IP NetBIOS He		Started	zoanimo	o about <u>orthin</u>				
	Telephony	Provides T							
	Extended > Standard	/		_		OK	Cancel	Apply	

- 4. Click on the **Security** tab and add an "Accepted community name". The name to add should be **public** with **READ ONLY** rights.
- 5. You will also need to tell the SNMP service to accept SNMP packets from the ICE when it is scanning for printers. The easiest way of doing this is to click and select the option marked **Accept SNMP packets from any host**, but if preferred you can specify the host name or IP address of the computer hosting the ICE.



Pre-requisites - Printer driver

In order for the HP SNMP Proxy Agent to discover locally connected devices, a supported printer driver is needed to enable communication between the device and client machine.

For most devices you should use a driver that provides an HP DOT4 port connection - whether the connection is via USB or LPT. You can see what ports a Windows driver has available to it from its properties, an example of the correct port type is DOT4_001 as in the screenshot below:-

	osmart B110 series	
Print to the followir checked port.	ıg port(s). Documents will p	print to the first free
Port	Description	Printer
TS003	ALAN-PC: PRN5	Fax (redirected 1)
TS002	ALAN-PC: PRN7	Adobe PDF (redirected 1)
TS001	ALAN-PC: PRN6	Brother HL-5280DW (redire
DOT4_001	HP Photosmart B110 s	HP Photosmart B110 series
192.168.1.100	Standard TCP/IP Port	Brother HL-5280DW
XPSPort:	Local Port	Microsoft XPS Document \
Π πτnovti	I'm InTouch Dort	<u> </u>
Add Port	Delete Port	Configure Port
a Marina ang kanang sana	nal support	

If the port type is different (e.g. LPT1 or USB001), then you should investigate whether this can be fixed by rerunning the printer setup program.

Another alternative is to install the HP Universal Print Driver (version 4.7 or greater is required). Note, however, that before changing any printer driver you should discuss the impact with the user of the computer as the print options may be altered as a result.



Installing the HP SNMP Proxy Agent software

Once you have made sure that the pre-requisites above have been satisfied you can install the HP SNMP Proxy Agent.

First download the software by going to <u>www.hp.com/go/webjetadmin</u>, click **Download Now**, and follow the instructions.

The download will come in the form of an executable archive - simply run the download to un-zip the files.

Tip – The default location for un-zipping will be a hidden directory, so when asked specify your own target folder instead.

Things to note:

- You install the HP SNMP Proxy agent on the PC to which the printer/s are attached.
- You can install the HP SNMP Proxy Agent before or after installing any printer drivers.
- You can install the HP SNMP Proxy Agent on the same PC as the IDM ICE, but this isn't a requirement.
- You will require admin rights to install the HP SNMP Proxy Agent on the host PC but the process requires very little intervention and takes just a few seconds.
- A re-boot is not usually required.

There are separate installers for 32-bit and 64-bit Windows platforms, in the version (10.3) used for this guide the download contained the following files:

HP SNMP Proxy_32_10_3_0010.msi HP SNMP Proxy_64_10_3_0010.msi

HPWSProxyService_10_3_1.msi *this is NOT required



The installers are all .msi files for use with the integrated Windows Installer (Msiexec) which means they can be run simply by double-clicking the relevant .msi file. The Windows Installer will then start automatically and prompt you for information using dialog boxes, as below:-

1. Start the installer.

🙀 HP SNMP Proxy - InstallSh	ield Wizard	×
E	Welcome to the InstallShield Wizard for HP SNMP Proxy	
	The InstallShield(R) Wizard will install HP SNMP Proxy on your computer. To continue, click Next.	
2	WARNING: This program is protected by copyright law and international treaties.	
	<back next=""> Cancel</back>	

3. Click when ready.

🙀 HP SNMP Proxy - InstallShield Wizard	×
Ready to Install the Program	4.
The wizard is ready to begin installation.	
Click Install to begin the installation.	
If you want to review or change any of your inst exit the wizard.	allation settings, dick Back. Click Cancel to
InstallShield	
< <u>8</u>	ack Install Cancel

2. Accept the license terms.

Please read the following license agreer	nent carefully.		
14. 37			
ATTENTION NOTICE			
ATTENTION: USE OF THE SO SOFTWARE LICENSE AND WARR USING THE SOFTWARE INDICA LICENSE TERMS. BY CONTINU	ANTY TERMS	DISPLAYED CCEPTANCE O	BELOW. F THESE
PRINT DATA SENDER PROGRAM, PROGRAM, OR BY PLACING OR COMPUTER HARD DRIVE, YOU A	COPYING T	HE PROGRAM	ONTO YOUR
TERMS OF THIS AGREEMENT.		O NOT ACCEP	
I accept the terms in the license agreen	nent		
I do not accept the terms in the license	agreement		
stallShield			

4. Let the installer do its work.

🙀 HP SNMP Proxy - InstallShi	eld Wizard	×
	InstallShield Wizard Completed	
	The InstallShield Wizard has successfully installed HP SNMP Proxy. Click Finish to exit the wizard.	
1.		
	<back cancel<="" finish="" th=""><th></th></back>	

Alternatively you can perform a silent install without any prompts and, with the right tools also push the agent out over the network. Information on how to perform these installs is available in the HP SNMP Proxy Agent readme file available <u>from this download link</u>.

The readme file also explains the installation in more detail and contains useful troubleshooting tips for when it fails to work as expected.



Handling the HP SNMP Proxy Agent in IDM

On most networks no changes will need to be made to IDM or the Information Collection Engine (ICE) to monitor local printers via the HP SNMP Proxy Agent.

The only requirement is to make sure that the IP address of the PC running the Proxy Agent is included in the range scanned by the ICE.

From the IDM portal:-

- 1. Click on the Administration tab and select Customers
- 2. Find the customer and click on the site required
- 3. Click the Information Collection Engine tab
- 4. Scroll down to Scan Settings

Discovery Scan:	720	(m	inutes)	
Quick Scan:	60	(m	inutes)	
Scan Range:	🔘 Default Sca	n Range		
	Custom Sca	an Range(s)		
Custom Scan Range(s)	Scan From	Scan To	Subnet Mask	
Custom Scan Range(s)	and the subscription of the second	Scan To 192.168.1.255	Subnet Mask 255.255.255.0	Delete

If the ICE is configured to use the **Default Scan Range**, no changes are normally required.

If the ICE is configured for **Custom Scan Range(s)**, you need to make sure the address of the host PC is included in one of the custom ranges specified.



What IDM will display

Printers discovered via the HP Proxy Agent will be displayed and handled exactly the same way as others that are directly attached to the network. As in the screenshot below which shows a USB attached HP Photosmart B110 MFP (note that the comment field has been completed manually).

Device Name:	Photosmart B110 series		
	Fliotosillart B110 selles		Device Model UNKNOWN Color Device
Model:	official color befice	 Report Missing Model 	
Manufacturer:			
Location:			
Serial Number:	CN14C4T7MP05J8		
Asset Number:			
IP Address:	192.168.1.68 Edit		Im _
MAC Address:	00-1D-09-12-6E-42		
Device Display:			
Purchase Date:	Tuesday, December 31, 2013		712
Firmware Version:			
Custom Field #1:			
Custom Field #2:			
Comments:	Locally attached and monitore	d using the HP SNMP Proxy Agent	
First Scan Date:	Locally attached and monitore Tuesday, December 31, 2013 : Thursday, January 02, 2014 2;		
First Scan Date: Last Scan Date: Meters Supplies Costs	Tuesday, December 31, 2013 : Thursday, January 02, 2014 2: History Smart Alerts	.ii 1:07 PM (GMT Standard Time) 54 PM (GMT Standard Time) Service Alerts	
First Scan Date: Last Scan Date: Meters Supplies Costs Type Information L	Tuesday, December 31, 2013 : Thursday, January 02, 2014 2: History Smart Alerts evel Projected Depletion D	.::) 1:07 PM (GMT Standard Time) 54 PM (GMT Standard Time)	
First Scan Date: Last Scan Date: Meters Supplies Costs Type Information L Ick Toner black ink	Tuesday, December 31, 2013 : Thursday, January 02, 2014 2: History Smart Alerts evel Projected Depletion D 30%	.ii 1:07 PM (GMT Standard Time) 54 PM (GMT Standard Time) Service Alerts	
First Scan Date: Last Scan Date: Meters Supplies Costs Type Information L ck Toner black ink an Toner cyan ink	Tuesday, December 31, 2013 : Thursday, January 02, 2014 2: History Smart Alerts evel Projected Depletion D 30% 69%	.ii 1:07 PM (GMT Standard Time) 54 PM (GMT Standard Time) Service Alerts	
First Scan Date: Last Scan Date: Meters Supplies Costs Type Information L ick Toner black ink	Tuesday, December 31, 2013 : Thursday, January 02, 2014 2: History Smart Alerts evel Projected Depletion D 30%	.ii 1:07 PM (GMT Standard Time) 54 PM (GMT Standard Time) Service Alerts	

The IP and MAC addresses are for the host PC to which the printer is attached.

On some MFP products and where multiple printer drivers are installed, multiple instances of a device may be discovered by IDM. You can work around this issue by choosing just one of the instances to manage from the IDM dashboard.



Appendix A. Devices supported by the HP SNMP Proxy Agent

HP Colour LaserJet 2550 series HP Colour LaserJet 2605 HP Colour LaserJet 2700 HP Colour LaserJet 2700n HP Colour LaserJet 2820 series HP Colour LaserJet 2830 series HP Colour LaserJet 2840 series HP Colour LaserJet 3000 HP Colour LaserJet 3500 HP Colour LaserJet 3550 HP Colour LaserJet 3600 HP Colour LaserJet 3700 HP Colour LaserJet 3800 HP Colour LaserJet 4600 HP Colour LaserJet 4610 HP Colour LaserJet 4650 HP Colour LaserJet 4700 HP Colour LaserJet 4730 MFP HP Colour LaserJet 5550 HP Colour LaserJet 9500 MFP HP Colour LaserJet CM 1512nfi HP Colour LaserJet CM1312 HP Colour LaserJet CM2320 HP Colour Laserlet CM 4540 MFP HP Colour LaserJet CM 6040 MFP HP Colour LaserJet CP 1505 HP Colour LaserJet CP1515/18 HP Colour LaserJet CP202x HP Colour LaserJet CP2025 HP Colour LaserJet CP3505 HP Colour LaserJet CP3515 HP Colour LaserJet CP3525 HP Colour LaserJet CP4005 HP Colour LaserJet CP5520 HP Colour LaserJet CP6005 HP Colour LaserJet CP9505 HP Deskiet 450 HP Deskjet 5400 series HP Deskjet 5900 series HP Deskjet 6600 series HP Deskjet 6800 series HP Deskjet 6980 HP Deskjet 9800 HP Deskjet D1600 HP Deskjet D2600 HP Deskjet F300 series HP Deskjet F4100 HP Deskjet F4180 HP Deskjet F4400 HP LaserJet 1010 HP LaserJet 1012 HP LaserJet 1015 HP LaserJet 1150

HP LaserJet 1160 series HP LaserJet 1300 HP LaserJet 1300n HP LaserJet 1312 MFP HP LaserJet 1320 series HP LaserJet 2200 HP LaserJet 2300 HP LaserJet 2300L HP LaserJet 2410 HP LaserJet 2420 HP LaserJet 2430 HP LaserJet 3015 HP LaserJet 3020 HP LaserJet 3027 HP LaserJet 3030 HP LaserJet 3050 HP LaserJet 3050z HP LaserJet 3052 HP LaserJet 3055 HP LaserJet 3380 HP Laserlet 3390 HP LaserJet 3500 HP Laserlet 4200 HP LaserJet 4240 HP Laserlet 4250 HP LaserJet 4300 HP Laserlet 4350 HP LaserJet 500 Colour MFP M575 HP LaserJet 500 Colour M551 HP LaserJet 500 MFP M525 HP Laserlet 5200 HP LaserJet 5200lx HP LaserJet 600 M601 HP LaserJet 600 M602 HP LaserJet 600 M603 HP LaserJet 700 MFP M725 HP Laserlet 8150 HP LaserJet 9000 HP LaserJet 9040 MFP HP LaserJet 9050 HP LaserJet 9050mfp HP LaserJet 9500 HP LaserJet CM1410 Series HP LaserJet CP1520 Series HP LaserJet M1530 Series HP LaserJet M2727 MFP HP Laserlet M3027 MFP HP LaserJet M3035 MFP HP LaserJet M4345 MFP HP LaserJet M4555 MFP HP LaserJet M5025 HP LaserJet M5035 MFP HP LaserJet M9040/50 MFP HP LaserJet P2015 HP LaserJet P2015d

HP LaserJet P2055/P2035 HP LaserJet P3004 series HP LaserJet P3005 series HP LaserJet P4014/15 HP LaserJet M1522 nf HP Officejet 4100 HP Officejet 4105 HP Officejet 4200 series HP Officejet 4300 series HP Officejet 5500 series HP Officejet 5600 series HP Officejet 5700 HP Officejet 6100 HP Officejet 6200 series HP Officejet 6300 series HP Officejet 7200 series HP Officejet 7300 series HP Officejet 7400 series HP Officejet 7580 HP Officejet 7680/7780 HP Officeiet 9100 series HP Officejet J2100 series HP Officejet Pro K5300 HP Officejet Pro K5400 series HP Officejet Pro K5600 HP Officejet Pro K8600 HP Officejet Pro L7300 HP Officejet Pro L7500 HP Officeiet Pro L7600 HP Officejet Pro L7700 HP Photosmart 140 series HP Photosmart 240 series HP Photosmart 2570 series HP Photosmart 2600 series HP Photosmart 2700 series HP Photosmart 3100 series HP Photosmart 3200 series HP Photosmart 330 series HP Photosmart 3300 series HP Photosmart 380 series HP Photosmart 420 series HP Photosmart 440 HP Photosmart 470 series HP Photosmart 7200 series HP Photosmart 7600 series HP Photosmart 7700 series HP Photosmart 7800 series HP Photosmart 7900 series HP Photosmart 8000 series HP Photosmart 8200 series HP Photosmart 8700 HP Photosmart A310 HP Photosmart A430 series HP Photosmart A510 series HP Photosmart A610 series HP Photosmart A710 series

HP Photosmart C3100 series HP Photosmart C4100 series HP Photosmart C4200 HP Photosmart C4500 series HP Photosmart C5100 series HP Photosmart C6100 series HP Photosmart C6300 series HP Photosmart C7100 series HP Photosmart D5060 HP Photosmart D5100 series HP Photosmart D6100 series HP Photosmart D7100 series HP Photosmart D7200 series HP Photosmart D7300 series HP Photosmart Pro B9100 series HP PSC 1000 HP PSC 1100 HP PSC 1200 HP PSC 1300 series HP PSC 1310 series HP PSC 1358 HP PSC 1400 series HP PSC 1500 series HP PSC 1600 series HP PSC 2100 HP PSC 2150 HP PSC 2170 HP PSC 2200 HP PSC 2300 series HP PSC 2350 series HP PSC 2400 series HP PSC 2500 series HP Scanjet 7000n HP Scanjet 8500 HP Scanjet 9120

NB. This list is from the HP SNMP Proxy Agent readme document. Other devices may be supported but this is not quaranteed.