HP Remote Monitoring

HP Remote Monitoring is an efficient, secure means of collecting and reporting usage data from your printing and imaging output environment.

Key benefits

- **Data gathering and reporting** – facilitates making print environment management decisions that can save your organisation money, rationalise device utilisation, and boost user productivity.
- **Improved device utilisation** – allows you to move users from over utilised to under-utilised devices, use high-cost-per-page and low-cost-per-page devices appropriately, and position devices for reduced user traffic.
- **Operations control** – offers improvements in working processes, better asset management, reduced supplies inventory, increased hardware reliability, tighter control over costs, and a clearly identified budget for printing operations.
- **Proactive maintenance and replenishment** – provides the assurance of continuous printing and administrative efficiency. There is no monitoring necessary on the part of customer, no unplanned printer downtime, and no need for storage of spare supplies. This reduces overheads resulting from an overstocked supplies inventory and keeps production flowing smoothly by delivering exactly the right supplies and device maintenance at the right time.
- **Proactive support and device monitoring** – monitors your page counts, so you don't have to, and proactively alerts you about preventive maintenance kit replacement needs at prescribed intervals, which increases hardware reliability and uptime, keeps devices working at peak operating conditions and helps extend the life of your printing devices.
- **Online reports and services requests** – all contract details are available to view online at any time and the entire process of managing contracts is fast and efficient. Instead of calling HP, the customer can use the Web-based ordering capabilities to obtain supplies and printer-maintenance kits or to even request for a service. This cost-effective process is considerably more efficient and is available 24/7. Online reports provide valuable device-usage information, allowing the customer to optimise printer-hardware usage. With this vital information you can make better business decisions in real time and enjoy peace of mind.

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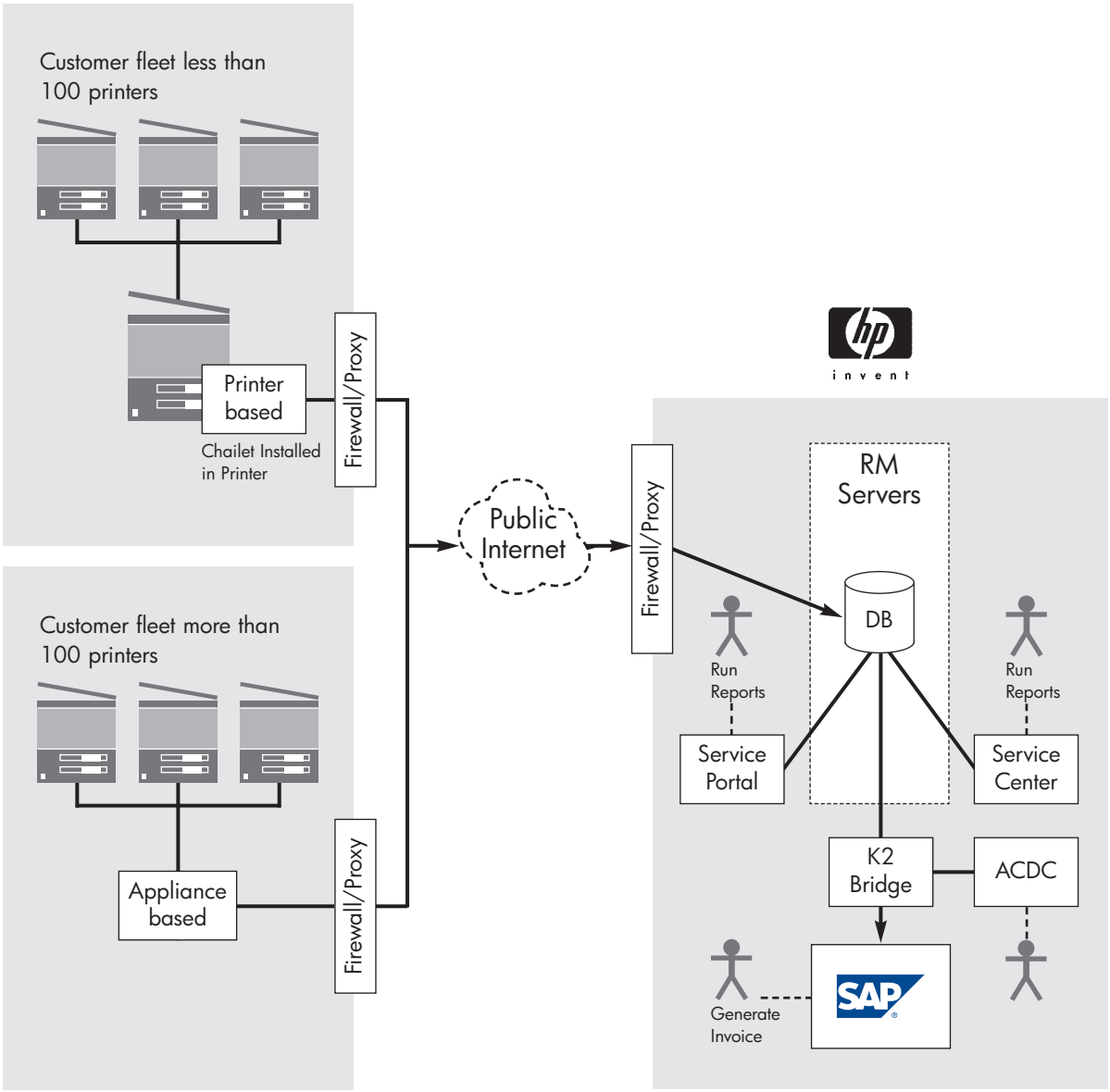

What is HP Remote Monitoring?

HP Remote Monitoring is an efficient, secure means of collecting and reporting usage data from your printing and imaging output environment. Remote Monitoring is a scalable and equally well suited to small-, medium-, and large-sized enterprise customers. With its automated data collection and convenient reporting features, Remote Monitoring makes it easy for you to manage your imaging and printing environment and make cost-effective decisions about it.

How do I acquire it?

HP Remote Monitoring is a value-added service offered to you when you purchase HP Pay per use for Imaging and Printing.

What types of remote monitoring tools are in use?

There are two types of data collectors used with HP Pay per use for Imaging and Printing; they are appliance-based and printer-based (embedded) remote monitoring technologies. The printer-based remote monitoring is installed within a printer and is suited for small environments with up to 100 devices. The advantage of using this tool is that it helps reduce costs by not requiring an external box at the customer site to perform data collection. The customers need to have a compatible printer to be able to install the printer-based data collector technology inside it. However, with large printing and imaging environments, the customer is better off using the appliance-based tool. The appliance-based data collector is a stateless machine which resides within the customer's firewall and does nothing until it is instructed to collect data from devices. To get its instructions, the data collector contacts the HP data repository every hour. The appliance-based data collector contains no data other than the network configuration required to log on to your network and the HP data repository securely. The appliance-based remote monitoring tool is suited for environments with more than 100 devices. HP experts are always at hand to discuss your remote monitoring needs with you and to recommend the type of remote monitoring tool that would best meet your needs.

And how does it work?

It takes less than an hour to install the data collectors. The appliance and printer-based tool reside inside your firewall, and capture device, consumables, and maintenance-kit usage data from predefined management information bases (MIBs) using simple network management protocol (SNMP) "gets". The data collectors will be configured to send data to HP once it is authenticated. Then, using either the predefined IP addresses or host names of the printers (there is no broadcasting over the network), the data collectors capture usage data from the device and send it back to HP in the same session. The data collected is then used to generate reports that can be viewed and downloaded by the customer.

How do I view reports?

When you are ready to view usage information, simply access the HP services portal through a highly secure URL. You can choose among several report types, including a device usage summary and reports for individual devices by model name, page size, and other attributes. To generate a report, select your preferred report format. (Order history, services history, supply usage history, and supplies per printer reports are available in HTML or CSV formats; usage reports are available in HTML, CSV, or PDF formats.) Then select a report, and the data is pulled from the database and displayed in the report on the Web site for your view and download. You can also specify report start and end dates for those reports that provide for this input, and you can generate online charts and graphs automatically from your reports.

How about my company's security?

HP RM is designed to protect confidential information. The only information contained on the data collector is the networking configuration information that allows it to be on the customer's network, and to securely contact only the HP data repository (to get its printer fleet data collection instructions). The appliance-based and printer-based data collectors contain no knowledge of the installed devices; only the instruction code of how to get usage information from devices and pass the information back to HP (the data repository). The data collector receives work instructions from HP on what devices need data collection and where those devices are. Once the data collector receives work orders from HP, it uses directed packets (specific IP or host name) to route to the appropriate devices. Using "SNMP gets" the data collector queries the device, using predefined MIBs so that they are not "MIB-walking" through the device. The only MIBs queried are those specific to what the device type is, its serial number, page size, page types quantity of pages printed, and consumables levels. Once the data is collected, it is passed back to HP in the same session that was initially opened and the session is then closed.

For greater security, the data collector connects to HP via HTTPS (port 443) the universal standard in secure transactions, using 128-bit encryption and authenticate with HP. Plus, the data collector always initiates communication with the customer's network – communication is never initiated from outside. In addition, with the exception of port 443, all the ports such as SSH, Telnet FTP, and SendMail, are inaccessible (note: these ports are always turned off). Added security comes from the authentication of the data collector prior to communication with the data repository. Also, the customer can set the data collector IP and host name so it will only communicate with specific devices or a range of IPs.

Key features of the data collectors technology:

- The data collector resides within your firewall and initiates communication back to HP over HTTPS port 443 using 128 bit encryption
- It takes one hour or less to install and configure the data collector
- When instructed to work, the data collector captures usage data from devices and then sends it back to HP in the same session
- Supports most HP network printers and some multi-vendor products. (Note that non-network HP printers can potentially be supported by manually collecting and submitting printer information.)
- The data collector set is scalable for small, medium, and large enterprises
- Reports are accessed from the HP Service Portal through a highly-secured URL using a browser
- Reports generated include device-usage summary reports and installed-device reports by model name, by colour, mono, and duplex, and by page size
- The data collector set can support a single device or thousands of devices
- The data collector contains only configuration information; no customer data or device usage data resides on the data collector

Network traffic generated:

- 437Kb of external daily traffic (HTTPS) to check for work with backend
- The average daily traffic generated per device in the fleet to do a data collection and send the information to HP is:
  - Business InkJet printers: 34Kb of internal (SNMP) and 41K of external (HTTPS)
  - Black & white LaserJet printers: 33Kb of internal (SNMP) and 39K of external (HTTPS)
  - Black & white multifunction printer: 33Kb of internal (SNMP) and 40K of external (HTTPS)
  - All-in-one printers: 4Kb of internal (SNMP) and 4K of external (HTTPS)
  - Color LaserJet printers: 65Kb of internal (SNMP) and 78K of external (HTTPS)
  - Color multifunction printer: 91Kb of internal (SNMP) and 109K of external (HTTPS)
  - Personal black & white LaserJet printers: 2Kb of internal (SNMP) and 2K of external (HTTPS)

Additional features of embedded/printer-based technology:

- **Implemented as a chailet-based printer plug-in (software)**
  - Chailet is HP's implementation of Java available in many HP LaserJet printers.
  - The chailet needs to be installed and configured on one of the printers in the fleet.
  - Embedded Web Server (EWS) MUST be enabled for the printer hosting the tool to work.
- **Automated tool failure detection**
  - Tool fully recovers from power cycles of host device.
  - Automatic failover mechanism if tool installed in more than one device in the fleet.
  - Loss of communication generates an event that can be viewed in service centre.
- **Automatic software update**
  - New versions of the tool are detected and downloaded to the printer for installation.
  - New binaries are installed and the tool is restarted to invoke the new version.
  - Software updates typically include support for new devices and defect fixes.
- **Viewing data collections**
  - Data sent to HP for the last three data collections is maintained on the device and can be viewed by the customer through the tool user interface via the EWS.

- **Viewing log files**
  - Tool maintains its own local log on the hard disk and records all transactions.
  - Log is accessible to HP personnel only through the tool interface via EWS.
- **Note that the printer-based technology will only power cycle the printer under the following conditions:**
  - Only when an update has been completed (typically once every six weeks) or communication has stopped will we try to recover.
  - When the printer has been idle for 1hour – If this "1-hour idle" condition is not reached within 24 hours of it needing a reboot, we wait for the current job (if any) to be finished and then reboot.

Why is it recommended to migrate from RPM to RM?

HP RM provides all the benefits that exist in RPM plus the following:

- **Data security:**
  - HP RM is more secure in terms of data transport and its ability to better protect access to the data collector. This is where customers are using SMTP as a means of transport
- **Authentication:**
  - Certificates are used between the data collector and the backend
  - Username and password are authenticated
  - PIN code that is authenticated
- **Asset tracking/asset management:**
  - Trend analysis via historical usage information
  - Device physical location that have been moved (requires ACDC to be updated and maintained)
- **Manual data entry capability:**
  - Data entry can be done for MV
  - Data must be entered into the service centre once the customer has provided the information to HP
- Future printers are going to be developed around RM and no further development with RPM.
- **Future technology road map:**
  - Built around RM, which means RM will continue to grow and expand with the HP Services portfolio

Customer requirements for appliance-based data collector

In order to use the Appliance-based tool, you must provide the following:

- Host name
- Fully qualified domain name
- IP address
- DNS entries (primary and secondary)
- Subnet mask
- Default gateway
- Proxy name and port number (if required for Internet access)
- Port 443 access
- No SNMP traffic blocks for the "gets"
- Suitable host device (if printer based) with administrator password for the installation

To learn more about HP Remote Monitoring and the HP Pay per use for Imaging and Printing solution, contact your local HP sales representative or visit our Web site at
www.hp.com/eur/tpm and **www.hp.com/hps/printer/pr_payperuse.html**

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