



Fleet Security

Monitor
Service
Manage
Control



WHY PRINTERCARE

- MULTI BRAND SUPPORT.
- VERY QUICK INSTALLATION.
- LOGISTIC INTEGRATION.
- CLOUD BASED.
- 128 BIT ENCRYPTION.
- MULTI LANGUAGE.
- CUSTOMIZABLE.
- EASY TO USE.
- EXTENSIVE REPORT GENERATOR.
- INTEGRATION CAPABILITIES.

Security is our first priority

PRINTERCARE SAAS

PrinterCare SaaS service is a secure solution for monitoring your company printer fleet . PrinterCare ensures complete data security on the client network, the server side and communication between components. The platform consists of three components:

- **PrinterCareCloud (CC)** - cloud application hosted on servers located in one of the most advanced data center in the world (Polcom).
- **PrinterCare Monitor (PCM)** - client application that implements communication with print devices on the client network, responsible for collecting information about the monitored devices in PrinterCare® SaaS service.
- **CareCloud Web Interface**- web based application allows management of the fleet service .



CONNECTION BETWEEN PRINTERCARE MONITOR AND CARECLOUD

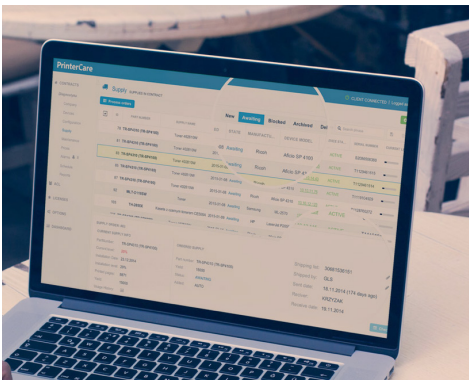
The connection between the PrinterCare Monitor and CareCloud is secured using TLS with mutual authentication. Certificates in the PrinterCare Monitor is based on the X509 architecture .

Information encoded in certificates allows CareCloud to address a particular instance of the client application.

A public key certificate ensure that PrinterCare Monitor is connect-
ed to the appropriate CareCloud server, and guarantees the integ-
rity and confidentiality of the data. The certificates are encrypted
in a key, and integrated into the application.

Cancellation of certificates causes the inability to connect by
PrinterCare Monitor to the CareCloud.

COMMUNICATION BETWEEN PRINTERCARE MONITOR AND MONITORED DEVICES



Polling devices monitored by
PrinterCare Monitor is based
on commands received from
the CareCloud server. Polling
schedules can be set by the
system administrator through
the CareCloud Web Interface.
For device parameters polling
PrinterCare Monitor uses the
following protocols:

- SNMP (v1 oraz v2, port 161 i 162),
- NPAP (port 9300),
- ICMP
- HTTP (port 80).

Printer Care Monitor implements drivers (individual for device model), descri-
bing communication and gathered parameters from the device.

COMMUNICATION BETWEEN PRINTERCARE MONITOR AND CARECLOUD

Secure communication between the Printer Care Monitor installed in customer's
network and the application running in the data center CareCloud is two-way
with double encryption communication. The server will provide following com-
mands to the Monitor:

- Device status query (to IP addresses(hostnames) only from devices list
added to the system, OID - Object ID in Printer MIB table)
- Discover print devices query (discovery is performed on address range de-
ned by the network administrator, OID - Device Description).

SECURITY THE DATE COLLECTED BY PRINTERCARE MONITOR®

- IP address (or hostname),
 - Device Description
 - Device Model and
Manufacturer
 - Serial Number,
 - The MAC address,
 - Inventory number,
 - Device Location ,
 - Firmware version,
 - Device status
 - Counters
- Information about errors that
occured on the device,
- Levels of toners and drums,
 - Maintenance status,
 - Levels of other supplies,
- The serial numbers of toners
and drums.

NO COLLECTIION OF
INFORMATION ABOUT
PRINT JOBS OF THE
DEVICE. COLLECTED
INFORMATION CAN'T

CARECLOUD WEB INTERFACE

Access to the web interface is secured by a SSL certificate. Each user requires an account which is defined by end-user administrator privileges.

DISCOVER NEW DEVICES IN NETWORK

Discover new printing devices in network is performed, according to the schedules, configured through a CareCloud Web Interface. PrinterCare Monitor tries to pool information from devices only in the address range defined by the customer. Discovery is done by sending SNMPv1 requests to each IP address in range and verify implementation of RFC3805 standard, which describes network printers.

COMMUNICATION BETWEEN PRINTERCARE MONITOR AND CARECLOUD

Volume of network traffic generated by PrinterCare Monitor is determined by the number of monitored devices and the frequency of polling. PrinterCare minimizes network traffic which the client application uses to collect data from devices by pooling only small number of parameters from printer.

The traffic generated by PrinterCare Monitor is compared with traffic generated by opening a single site through web browser.

Task	Traffic on the internal network Client	Traffic on the internet
open a single web page	-	60 KB
Scanning IP addresses without device connected to address	5 KB	20 KB
Query 100 monochrome devices (on average)	500 KB	620 KB
Query 100 color devices (on average)	800 KB	935 KB
A discovery task of single sub-network (254 addresses)	25KB	220 KB

Network traffic is also related to the type of polling device. The total size of the entire request to one device should not exceed 15 KB.



Hoogoorddreef 9
1101 BA Amsterdam
The Netherlands

Tel: +31 85 800 1200
Fax: +31 85 800 1209

Email: info@printercare.com
Internet: www.printercare.com