



Fox DataDiode
secure one-way communication

Application-Sheet Printing

How to setup ONE printer for classified and unclassified networks without degrading security?

In every organization printing is a valuable asset, on both the classified and unclassified networks. Since these networks usually are not connected, printing on both networks is a separate process, with separate devices and maintenance. The problem is that it's not always clear which printer is for which network and that both printers need to be maintained. This sheet describes how to setup ONE printer for both the classified and unclassified networks together with a Fox DataDiode.

Business Benefits

Setting up ONE printer for both networks creates more clarity since all printing jobs are sent to ONE printer regardless whether this is classified or unclassified information. Instead of buying and maintaining multiple printers, only ONE printer has to be purchased, maintained and monitored.

Technical Details

On the black network set up a SAMBA [Link 1] server and make sure users have access. Then setup a printer share with the 'print command' pointing to a spool processor script.

On the red network set up a CUPS [Link 2] server which can print to a printer attached to the network or to the server directly. Also install a FTP-service to allow for incoming print jobs.

On the client install the network printer from the SAMBA server. When asked for printer drivers install the drivers for the printer. Obtain the drivers from the manufacturer.

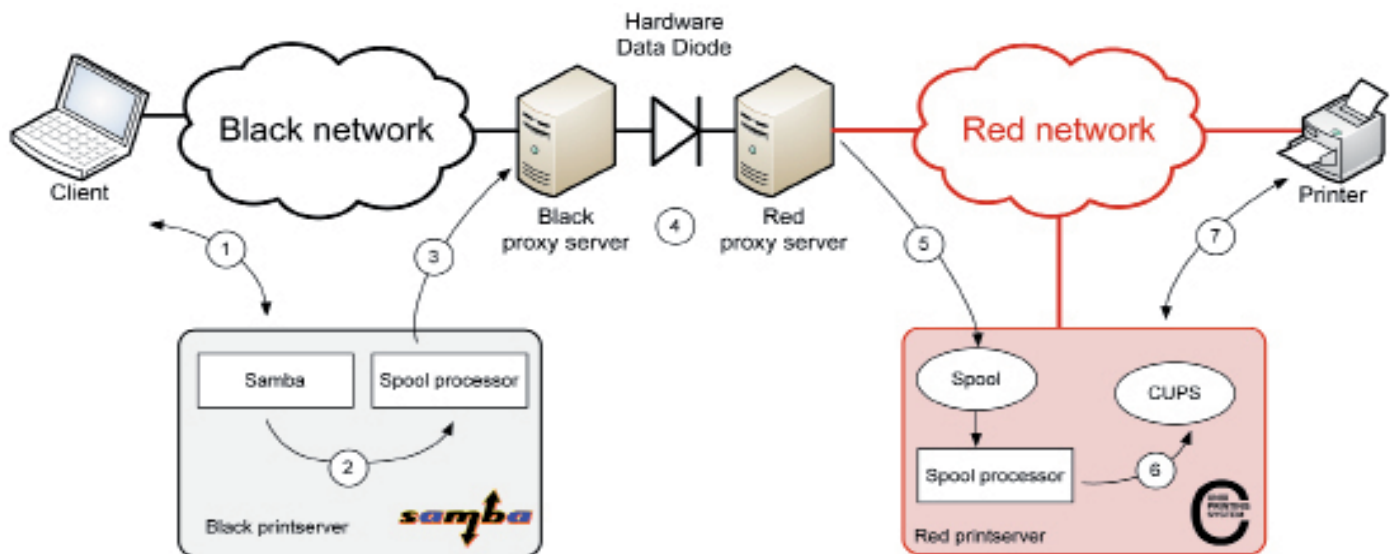
When submitting a print job on the client (1) the SAMBA process spools the entire print job and executes the 'print command' (2). The script referenced by the 'print command' acts as a spool processor and uploads the spool file to the black proxy server (3).

WHAT DO YOU NEED?

- Print Servers in the (un)classified network
- Printer in the classified network
- Fox DataDiode solution:
 - Fox DataDiode software
 - Two proxy servers
 - Hardware Data Diode

LINK

1. Samba: <http://www.samba.org>
2. CUPS: <http://www.cups.org>



The datadiode then transfers the file to red proxy server (4) and then via FTP into the spool directory of the red printserver (5). The spool processor on the red printserver processes the new print job by submitting it to the correct print queue using 'raw' mode (6). This is necessary because the print job is already formatted in the correct format for the printer by the driver on the client. The CUPS daemon processes the raw printjob and sends it to the printer (7).

The Fox DataDiode, a perfect 100% secure solution, transfers data -online, in real-time and continuously- between two networks of varying security levels without compromising the security of the receiving network.

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