NAME
>   **sane−airscan** – SANE backend for AirScan (eSCL) and WSD scanners and MFP

DESCRIPTION
>   The **sane−airscan** is the universal backend for "driverless" document scanning. Currently it supports two protocols:

>   1. eSCL, also known as AirScan or AirPrint scan
>   2. WSD, also known as WS−Scan

CONFIGURATION
>   The sane−airscan loads its configuration files from the following places:

>   1. /etc/sane.d/airscan.conf
>   2. /etc/sane.d/airscan.d/*

>   The configuration file syntax is very similar to the .INI file syntax. It consist of sections, each section contains some variables. Comments are started from # or ; characters and continies until end of line

>     ```
>     # This is a comment
>     [section 1]
>     variable 1 = value 1  ; and another comment
>     variable 2 = value 2
>     ```

>   Leading and trailing spaces of variable name and value are striped. If you want to preserve them, put name or value into quotes ("like this").

CONFIGURATION OF DEVICES
>   If scanner and computer are connected to the same LAN segment, everything expected to "just work" out of box, without any need of manual configuration.

>   However, in some cases manual configuration can be useful. For example:

>   1. If computer and scanner are connected via IP router
>   2. There are a lot of devices on a corporate network, but
>   only few of them are interesting
>   3. Automatic discovery works unreliable

>   To manually configure a device, add the following section to the configuration file:

>     ```
>     [devices]
>     "Kyocera eSCL" = http://192.168.1.102:9095/eSCL, eSCL
>     "Kyocera WSD" = http://192.168.1.102:5358/WSDScanner, WSD
>     "Device I do not want to see" = disable
>     ```

The **[devices]** section contains all manually configured devices, one line per device, and each line contains a device name on a left side of equation and device URL on a rights side, followed by protocol (eSCL or WSD). If protocol is omitted, eSCL is assumed. You may also disable particular device by using the **disable** keyword instead of URL.

In addition, you can manually configure a device by directly passing its URL in a device name without adding it to the configuration file. This takes the format **protocol:Device Name:URL**. The examples above could be written as **escl:Kyocera eSCL:http://192.168.1.102:9095/eSCL** and **wsd:Kyocera WSD:http://192.168.1.102:5358/WSDScanner**.

To figure out URLs of available devices, the simplest way is to run a supplied **airscan−discover** tool on a computer connected with scanner to the same LAN segment. On success, this program will dump to its standard output a list of discovered devices in a format suitable for inclusion into the configuration file.

If running **airscan−discover** on same LAN segment as a scanner is not possible, you will have to follow a hard way. Your administrator must know device IP address, consult your device manual for the eSCL port, and the URL path component most likely is the "/eSCL", though on some devices it may differ. Discovering WSD URLs doing this way is much harder, because it is very difficult to guess TCP port and URL path, that in a case of eSCL.

For eSCL devices, the URL can also use the unix:// scheme, such as unix://scanner.sock/eSCL. The "host" from the URL is a file name that will be searched for in the directory specified by socket_dir (see below). When connecting to the scanner, all traffic will be sent to the specified UNIX socket instead of a TCP connection.

CONFIGURATION OPTIONS

Miscellaneous options all goes to the **[options]** section. Currently the following options are supported:

```
[options]
; If there are a lot of scanners around and you are only
; interested in few of them, disable auto discovery and
; configure scanners manually
discovery = enable | disable

; Choose what SANE apps will show in a list of devices:
; scanner network name (the default) or hardware model name
model = network | hardware

; If device supports both eSCL and WSD protocol, sane−airscan
; may either choose the "best" protocol automatically, or
; expose all variants for user, allowing manual protocol selection.
; The default is "auto"
protocol = auto | manual

; Discovery of WSD devices may be "fast" or "full". The "fast"
; mode works as fast as DNS−SD discovery, but in some cases
; may be unreliable. The "full" mode is slow and reliable.
; This is also possible to disable automatic discovery
; of WSD devices. The default is "fast".
ws−discovery = fast | full | off

; Scanners that use the unix:// schema in their URL can only specify a
; socket name (not a full path).  The name will be searched for in the
; directory specified here. The default is /var/run.
socket_dir = /path/to/directory
```

BLACKLISTING DEVICES

This feature can be useful, if you are on a very big network and have a lot of devices around you, while interesting only in a few of them.

```
[blacklist]
model = "Xerox*"      ; blacklist by model name
name  = "HP*"         ; blacklist by network name
ip    = 192.168.0.1    ; blacklist by address
ip    = 192.168.0.0/24 ; blacklist the whole subnet
```

Network names come from DNS−SD, WS−Discovery doesn´t provide this information. For filtering by network name to work, Avahi must be enabled and device must be discoverable via DNS−SD (not necessarily as a scanner, it´s enough if WSD scanner is discoverable as a printer via DNS−SD).

Blacklisting only affects automatic discovery, and doesn´t affect manually configured devices

DEBUGGING

sane−airscan provides very good instrumentation for troubleshooting without physical access to the problemmatic device.

Debugging facilities can be controlled using the **[debug]** section of the configuration file:

```
[debug]
; Enable or disable console logging
enable = false | true

; Enable protocol trace and configure output directory
; for trace files. Like in shell, to specify path relative to
; the home directory, start it with tilda character, followed
; by slash, i.e., "~/airscan/trace". The directory will
; be created automatically.
trace = path

; Hex dump all traffic to the trace file (very verbose!)
hexdump = false | true
```

FILES

/etc/sane.d/airscan.conf, **/etc/sane.d/airscan.d/***
> The backend configuration files

/usr/LIBDIR/sane/libsane−airscan.so
> The shared library implementing this backend

ENVIRONMENT

SANE_DEBUG_AIRSCAN
> This variable if set to **true** or non−zero numerical value, enables debug messages, that are printed to stdout

SANE_CONFIG_DIR
> This variable alters the search path for configuration files. This is a colon−separated list of directories. These directories are searched for the airscan.conf configuration file and for the airscan.d subdirectory, before the standard path (/etc/sane.d) is searched.

BUGS AND SUPPORT

If you have found a bug, please file a GitHub issue on a GitHub project page: **https://github.com/alex-pevzner/sane−airscan**

SEE ALSO

sane(7), scanimage(1), xsane(1), airscan−discover(1)

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