

NAME

wolpd – Wake-On-LAN proxy daemon

SYNOPSIS

wolpd [*OPTION*]...

DESCRIPTION

Wake-on-LAN (WOL) is an Ethernet computer networking standard that allows a computer to be turned on or woken up by a network message. The message is usually sent by a simple program executed on another computer on the local area network.

WOL packets are not forwarded by routers, which is where **wolpd** comes into play, by proxying WOL packets from one network to another.

WOL packets can be sent either over UDP transport or in a raw Ethernet frame. **wolpd** can listen to one or both kinds on an *input interface* and forward them to an *output interface* which must be specified respectively with **--input-interface** and **--output-interface** options.

By default, **wolpd** only listens for Ethernet frames with Ethertype *0x0842* which is the standard Ethertype for raw WOL packets. The Ethertype can be changed with the **--ethertype** option. Listening for raw Ethernet frames can also be disabled with the **--no-ether** option.

wolpd can also listen for UDP-encapsulated WOL packets if the **--udp** or **--port** options are used. Just using **--udp** will turn on listening to UDP packets on **any** UDP port. Using the **--port** option (with or without the **--udp** option) will turn on UDP listening only on the given UDP port.

OPTIONS

-C, --chroot=*DIRECTORY*

chroot(2) to *DIRECTORY*.

-e, --ethertype=*ETHERTYPE*

Listen for WOL packets with given ethernet type. (Default: 0x0842)

-E, --no-ether

Do not listen for raw ethernet WOL packets.

-f, --foreground

Don't fork to background.

-h, --help

Print this help, then exit.

-i, --input-interface=*IFACE*

Source network interface.

-o, --output-interface=*IFACE*

Destination network interface.

-p, --port=*PORT*

UDP port used for WOL packets. Implies **--udp**.

-P, --promiscuous

Put the input interface in promiscuous mode.

-s, --setuid=*USER*

Change the process user if to *USER* after initialization. (Default: keep running as root)

-u, --udp

Listens to UDP WOL packets. Unless a *PORT* is specified with **--port**, listens to **all** UDP ports.

-U, --no-udp

Do not listen for WOL packets on UDP. (default)

-v, --version

Print version number, then exit.

PROMISCUOUS MODE

The **--promiscuous** option sets the input interface specified with **--input-interface** in promiscuous mode. This is only necessary:

- when listening for raw Ethernet WOL frames, if unicast WOL packets are used.
- when listening for UDP WOL packets, if the machine running **wolpd** is not the default router on the network.

If the WOL packets don't get forwarded by **wolpd**, you may want to try the **--promiscuous** option.

SECURITY

For best security, run **wolpd** with both **--chroot** and **--setuid** options.

Create an empty directory (eg. `/var/empty/wolpd`), owned by root.

Create a dedicated **wolpd** user and group.

Then run **wolpd** with:

```
wolpd --chroot /var/empty/wolpd --setuid wolpd [other-options]
```

wolpd logs every packet it forwards to **syslog(3)** (or to standard error instead if running in the **--foreground**) and the messages look like:

```
wolpd[pid]: magic raw Ethernet packet from XX:XX:XX:XX:XX:XX to
YY:YY:YY:YY:YY:YY WOL ZZ:ZZ:ZZ:ZZ:ZZ:ZZ
```

```
wolpd[pid]: magic UDP packet from XX:XX:XX:XX:XX:XX/xx.xx.xx.xx port sport
to YY:YY:YY:YY:YY:YY/yy.yy.yy.yy port dport WOL ZZ:ZZ:ZZ:ZZ:ZZ:ZZ
```

where:

- `XX:XX:XX:XX:XX:XX` is the source Ethernet address of the received WOL frame,
- `YY:YY:YY:YY:YY:YY` is the destination Ethernet address of the received WOL frame,
- `xx.xx.xx.xx` and `sport` are the source IP address and UDP port of the received WOL frame,
- `yy.yy.yy.yy` and `dport` are the destination IP address and UDP port of the received WOL frame,
- `ZZ:ZZ:ZZ:ZZ:ZZ:ZZ` is Ethernet address of the host to be awoken (the WOL payload field).

Errors are also logged to **syslog(3)** (or to standard error instead if running in the **--foreground**).

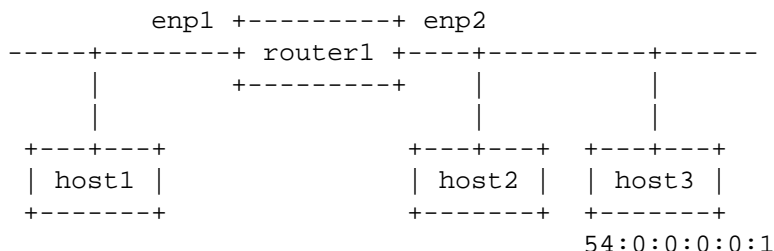
PERFORMANCE

wolpd uses socket filters (BPF) on its input raw socket(s) to inspect the frames and validates the full WOL payload. Only valid WOL frames are returned to user-space, and the invalid ones are discarded in the kernel.

However note that using the **--promiscuous** option may negatively affect networking performance.

EXAMPLES

Assuming the following network:



You do not need **wolpd** to send WOL packets from host2 to host3 since they are on the same network. But **wolpd** is needed if you want to sent WOL packets from host1 to host3:

wolpd --input-interface enp1 --output-interface enp2

will forward broadcast raw Ethernet WOL frames with the standard WOL Ethertype of *0x0842* from enp1 to enp2. You can then WOL host3 from host1 by running on host1:

ether-wake -b 54:0:0:0:0:1

Note that **-b** is required when invoking ether-wake since **wolpd** is not running in promiscuous mode.

wolpd --input-interface enp1 --output-interface enp2 --promiscuous

will forward any raw Ethernet WOL frames with the standard WOL Ethertype of *0x0842* from enp1 to enp2. You can then WOL host3 from host1 by running on host1:

ether-wake 54:0:0:0:0:1

wolpd --input-interface enp1 --output-interface enp2 --ethertype 0x8088

will forward any Ethernet WOL frames with the custom Ethertype of *0x8088* from enp1 to enp2.

wolpd --input-interface enp1 --output-interface enp2 --no-ether --udp

will forward any WOL UDP packet on *any* UDP port from enp1 to enp2.

wolpd --input-interface enp1 --output-interface enp2 --no-ether --port 9

will forward any WOL UDP packet on port 9 from enp1 to enp2.

wolpd --input-interface enp1 --output-interface enp2 --port 9

will forward both broadcast raw Ethernet WOL frames with the standard WOL Ethertype of *0x0842* and WOL UDP packets on port 9 from enp1 to enp2.

REPORTING BUGS

Report bugs on the GitHub Issues page (<https://github.com/F-i-f/wolpd/issues>).

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SEE ALSO

ether-wake(8).