

Filtering IMDS Access

```
nft add set inet firewall imds_authorized "{ type uid; flags interval; };"
nft add element inet firewall imds_authorized "{ ssm-user }"
nft add chain inet firewall output '{ type filter hook output priority filter; policy accept;}'
```

```
nft add rule inet firewall output ip daddr 169.254.0.0/16 skuid @imds_authorized log prefix "imds-authorized" group 2 counter accept
```

```
nft add rule inet firewall output ip daddr 169.254.0.0/16 log prefix "imds-unauthorized" group 3 counter drop
```

```
tcpdump -vv -n -e -ttt -i nflog:3 -XX
tcpdump: listening on nflog:3, link-type NFLLOG (Linux netfilter log messages), snapshot length 262144 bytes
00:00:00.000000 version 0, resource ID 3, family IPv4 (2), length 148: (tos 0x0, ttl 64, id 43631, offset 0, flags [DF], proto ICMP (1), length 84)
    192.168.64.5 > 169.254.169.254: ICMP echo request, id 41821, seq 1, length 64
0x0000:  0200 0003 0800 0100 0800 0300 1600 0a00  .....
0x0010:  696d 6473 2d75 6e61 7574 686f 7269 7a65  imds-unauthorize
0x0020:  6400 0000 0800 0500 0000 0002 0800 0b00  d.....
0x0030:  0000 0000 0800 0e00 0000 0000 5800 0900  .....X...
0x0040:  4500 0054 aa6f 4000 4001 3b8f c0a8 4005  E..T.o@.@.;...@.
0x0050:  a9fe a9fe 0800 20d1 a35d 0001 dabc 7e63  .....]....~c
0x0060:  0000 0000 15dd 0600 0000 0000 1011 1213  .....
0x0070:  1415 1617 1819 1a1b 1c1d 1e1f 2021 2223  .....!"#
0x0080:  2425 2627 2829 2a2b 2c2d 2e2f 3031 3233  $%&'()*+,-./0123
0x0090:  3435 3637                                4567
```

```
nft -a list ruleset | tee nft.conf
table inet firewall { # handle 2
    set imds_authorized { # handle 3
        type uid
        flags interval
        elements = { 1001 }
    }

    chain input { # handle 1
        type filter hook input priority filter; policy drop;
        ct state established accept # handle 5
        meta nfproto { ipv4, ipv6 } tcp dport 22 accept # handle 6
    }

    chain output { # handle 2
        type filter hook output priority filter; policy accept;
        ip daddr 169.254.0.0/16 meta skuid @imds_authorized log prefix "imds-authorized" group 2 counter packets 0 bytes 0 accept # handle 11
        ip daddr 169.254.0.0/16 log prefix "imds-unauthorized" group 3 counter packets 375 bytes 31500 drop # handle 12
    }
}
```

Logging

Supports NftLog/ulogd2 and syslog

```
nft insert rule inet firewall input handle 5 meta pkttype multicast log prefix "multicast" group 1
```

```
tcpdump -ni nflog:1 -XX
```

```
18:44:23.134327 IP6 fe80::c095:6dff:fe62:c64 > ff02::1: ICMP6, router advertisement, length 88
```

```
0x0000:  0a00 0001 0800 0100 86dd 0100 0e00 0a00  .....
0x0010:  6d75 6c74 6963 6173 7400 0000 0800 0400  multicast.....
0x0020:  0000 0002 1000 0800 0006 0000 c295 6d62  .....mb
0x0030:  0c64 0000 0600 0f00 0001 0000 0600 1100  .d.....
0x0040:  000e 0000 1200 1000 3333 0000 0001 c295  .....33.....
0x0050:  6d62 0c64 86dd 0000 8400 0900 6006 0600  mb.d.....`...
0x0060:  0058 3aff fe80 0000 0000 0000 c095 6dff  .X:.....m.
0x0070:  fe62 0c64 ff02 0000 0000 0000 0000 0000  .b.d.....
0x0080:  0000 0001 8600 9474 4000 0000 0000 0000  .....t@.....
0x0090:  0000 0000 0101 c295 6d62 0c64 0501 0000  .....mb.d....
0x00a0:  0000 05dc 0304 40c0 0027 8d00 0009 3a80  .....@..'.....:
0x00b0:  0000 0000 fdbf ed26 fb43 e24e 0000 0000  .....&.C.N....
0x00c0:  0000 0000 1903 0000 0000 010e fe80 0000  .....
0x00d0:  0000 0000 c095 6dff fe62 0c64  .....m..b.d
```

```
nft insert rule inet firewall input handle 5 meta pkttype broadcast log prefix "broadcast " log group 1
```

```
journalctl -f
```

```
Nov 23 18:49:16 debian kernel: broadcast IN=enp0s1 OUT= MAC=ff:ff:ff:ff:ff:ff:c2:95:6d:62:0c:64:08:00 SRC=192.168.64.1 DST=192.168.64.255
LEN=84 TOS=0x00 PREC=0x00 TTL=64 ID=62419 PROTO=ICMP TYPE=8 CODE=0 ID=47846 SEQ=0
```