nftables

Traffic Shaping with nftables and tc

Using shell commands:

```
nft add table ip filter
nft add map filter deucalion { type ipv4_addr : classid\; }
```

Using nftables file:

deucalion.nft

```
table ip filter {
    map deucalion {
        type ipv4_addr : classid;
        elements = { 1.1.1.2 : 2:2222, 1.1.1.3 : 3:3333 }
    }


    chain input {
        type filter hook input priority 0; policy accept;
        meta priority set ip daddr map @deucalion;
    }
}
```

Patch

This patch is already merged upstream (as of 2018 Archlinux and Ubuntu have it, Debian not yet!):

- https://www.spinics.net/lists/netfilter/msg57694.html
- https://www.spinics.net/lists/netfilter/threads.html#57694

You need it if nft shows this error:

```
<cmdline>:1:45-51: Error: syntax error, unexpected classid, expecting string
or dscp or ecn or mark
add map filter deucalion { type ipv4_addr : classid; }
                                            ^^^^^^^
<cmdline>:1:26-52: Error: map definition does not specify key data type
add map filter deucalion { type ipv4_addr : classid; }
                         ^^^^^^^^^^^^^^^^^^^^^^^^^^
```

nft-classid.patch

```
parser: allow classid as set key

From: Arturo Borrero Gonzalez <arturo@xxxxxxxxxxxxx>

Allow TC classid as set key.

Signed-off-by: Arturo Borrero Gonzalez <arturo@xxxxxxxxxxxxx>
---
 src/parser_bison.y |    1 +
 1 file changed, 1 insertion(+)

diff --git a/src/parser_bison.y b/src/parser_bison.y
index 7016f5b..2918875 100644
--- a/src/parser_bison.y
+++ b/src/parser_bison.y
@@ -1545,6 +1545,7 @@ type_identifier     :    STRING     { $$ = $1; }
             |    MARK     { $$ = xstrdup("mark"); }
             |    DSCP     { $$ = xstrdup("dscp"); }
             |    ECN     { $$ = xstrdup("ecn"); }
+         |    CLASSID { $$ = xstrdup("classid"); }
             ;

 hook_spec      :    TYPE        STRING        HOOK        STRING
dev_spec    PRIORITY    prio_spec
```

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