

A BNF for Paris-Traceroute output

v0.1–August 1, 2011

Abstract

This short document provides a BNF (Backus Naur Form) for the `paris-traceroute` command output, which can be used as a basis to build a robust parser. It is based on the analysis of the source code of the `traceroute` command offered by the Debian source package as of version 0.92-dev.

1 BNF for paris-traceroute output

```

paris-traceroute ::= text | raw

text ::= header { hop }

algo ::= STRING /* todo */

header ::= "traceroute [(%s:%d) -> (%s:%d)], protocol %s, algo %s, duration %d s\n",
           opts->src_addr, opts->src_port,
           opts->dst_addr, opts->dst_port,
           opts->protocol, opts->algo, results->duration()/1000000

hop_exh ::= ENTIER "P(" ENTIER "," ENTIER ")" { probe_ext [ mplsext ] }
           ttl      nb_replies  nb_probes

hop_nexh ::= ENTIER { probe_nexh [ mplsext ] }
           ttl

probe_exh ::= interface interface2

probe_nexh ::= "*" | [ STRING [ "(" STRING ")" ] ] interface2
              ip      dns/ip

interface ::= STRING [ "(" STRING ")" ] [ ":" ENTIER { ";" ENTIER } ] [ "=" | "<" ]
ip         dns         fid         fid         1=flow 2=pk ??

interface2 ::= DECIMAL "ms" [ icmperr ] [ "!T" INTEGER ] [ "{" INTEGER "}" ] [ "[" INTEGER "
              strange ttl         ip_id         original tt

icmperr ::= "!H" | "!N" | "!Q" | "!" ENTIER /* | "*" ifdef BRICEBRICE */

mplsext ::= "MPLS" "Label" mplstack { "," mplstack } ]

mplstack ::= ENTIER "TTL=" ENTIER { "|" ENTIER }
            stack[0]      ttl      stack[>1]

```

Figure 1:

```

raw ::= headerraw { hopraw }

headerraw ::= "traceroute [(%s:%d) -> (%s:%d)], protocol %s, algo %s\n"

hopraw ::= ENTIER { proberaw }

proberaw ::= STRING DECIMAL "ms" [ "!T" INTEGER ] [ "{" INTEGER "}" ] [ "[" INTEGER "]" ]
             hostaddress           strange ttl           ip_id           original ttl

```

Figure 2:

2 Concluding remarks

As a first draft, this BNF might be subject to errors and changes in subsequent release of **paris-traceroute**. Please, don't hesitate to share any error or comment about it; especially when related to disambiguations of the grammar.