



A MAGYARORSZÁGI **DIGITALIZÁCIÓ** SZOLGÁLATÁBAN

**show/watch/display/view/diff
executed on “sho interface xxx full”**

Bonus: table mode xxx...

Summary: everything is a table, cli is useful....

Soon: more | filters like uniq, sort, etc....

<http://freertr.nop.hu/>

Show interface eth1

```
Session Manager
local x safe x nas x
nas#
nas#
nas#
nas#
nas#
nas#
nas#
nas#
nas#
nas#
nas#
nas#
nas#
nas#
nas#
nas#
nas#
nas#
nas#
nas#
nas#terminal timestamps
2018-07-29 09:33:46
nas#terminal width 130
2018-07-29 09:33:47
nas#terminal length 35
2018-07-29 09:33:49
nas#show interfaces ethernet1.186
2018-07-29 09:34:31
ethernet1.186 is up (since 2d2h, 1 changes)
description: nop
type is ethernet, hwaddr=0000.a5a5.fa52, mtu=1496, bw=100mbps, vrf=inet
ip4 address=10.1.1.122/30, netmask=255.255.255.252, ifcid=10014
ip6 address=2001:db8:43::2/64, netmask=ffff:ffff:ffff:ffff::, ifcid=10014
received 11230115 packets (4572698177 bytes) dropped 18 packets (6317 bytes)
transmitted 14636322 packets (15851189012 bytes) promisc=false macsec=true
nas#
```

Sho int eth1.186 ?

```
Session Manager
✓ local x  ▲ safe x  ✓ nas x
nas#show interfaces ethernet1.186
ethernet1.186 is up (since 2d2h, 1 changes)
description: nop
type is ethernet, hwaddr=0000.a5a5.fa52, mtu=1496, bw=100mbps, vrf=inet
ip4 address=10.1.1.122/30, netmask=255.255.255.252, ifcid=10014
ip6 address=2001:db8:43::2/64, netmask=ffff:ffff:ffff:ffff::, ifcid=10014
received 11230323 packets (4572744545 bytes) dropped 18 packets (6317 bytes)
transmitted 14636555 packets (15851232320 bytes) promisc=false macsec=true

nas#watch interfaces ethernet1.186
<cr>
counters          - counters
drhistory         - historic drop byte counters
drphistory        - historic drop packet counters
ethertypes        - ethernet types
full              - full listing
history           - historic byte counters
numhist           - numeric historic byte counters
numphist          - numeric historic packet counters
packetsizes       - packet sizes
phistory          - historic packet counters
protocols         - protocol numbers
rates             - traffic rates
realtime          - realtime counters
rxhistory         - historic rx byte counters
rxphistory        - historic rx packet counters
trafficclasses    - traffic classes
txhistory         - historic tx byte counters
txphistory        - historic tx packet counters

nas#watch interfaces ethernet1.186 a
```

```
Session Manager
local x safe x nas x nas (1) x
bvi3      up
bvi4      up
ethernet1 up    switch
ethernet1.181 up  szeged
ethernet1.185 up  safe
ethernet1.186 up  nop
ethernet20001 up  linux

nas#show interfaces eth1.186 full
<cr>
| - output modifier

nas#show interfaces eth1.186 full |
begin      - only lines from match
count      - count entities
csv        - level hierarchy in csv
end        - only lines to match
exclude    - hide lines that match
first      - only first some lines
headers    - only section headers
html       - level hierarchy in html
include    - only lines that match
last       - only last some lines
level      - raw level hierarchy
linenumbers - prepend lines with numbers
raw        - unfiltered
redirect   - redirect output to file
regbeg     - only lines from match regular expression
regend     - only lines to match regular expression
regexc     - hide lines that match regular expression
reginc     - only lines that match regular expression
regsec     - only sections that match regular expression
section    - only sections that match
viewer     - display in viewer

nas#show interfaces eth1.186 full |
```

Sho int eth1.186 ?

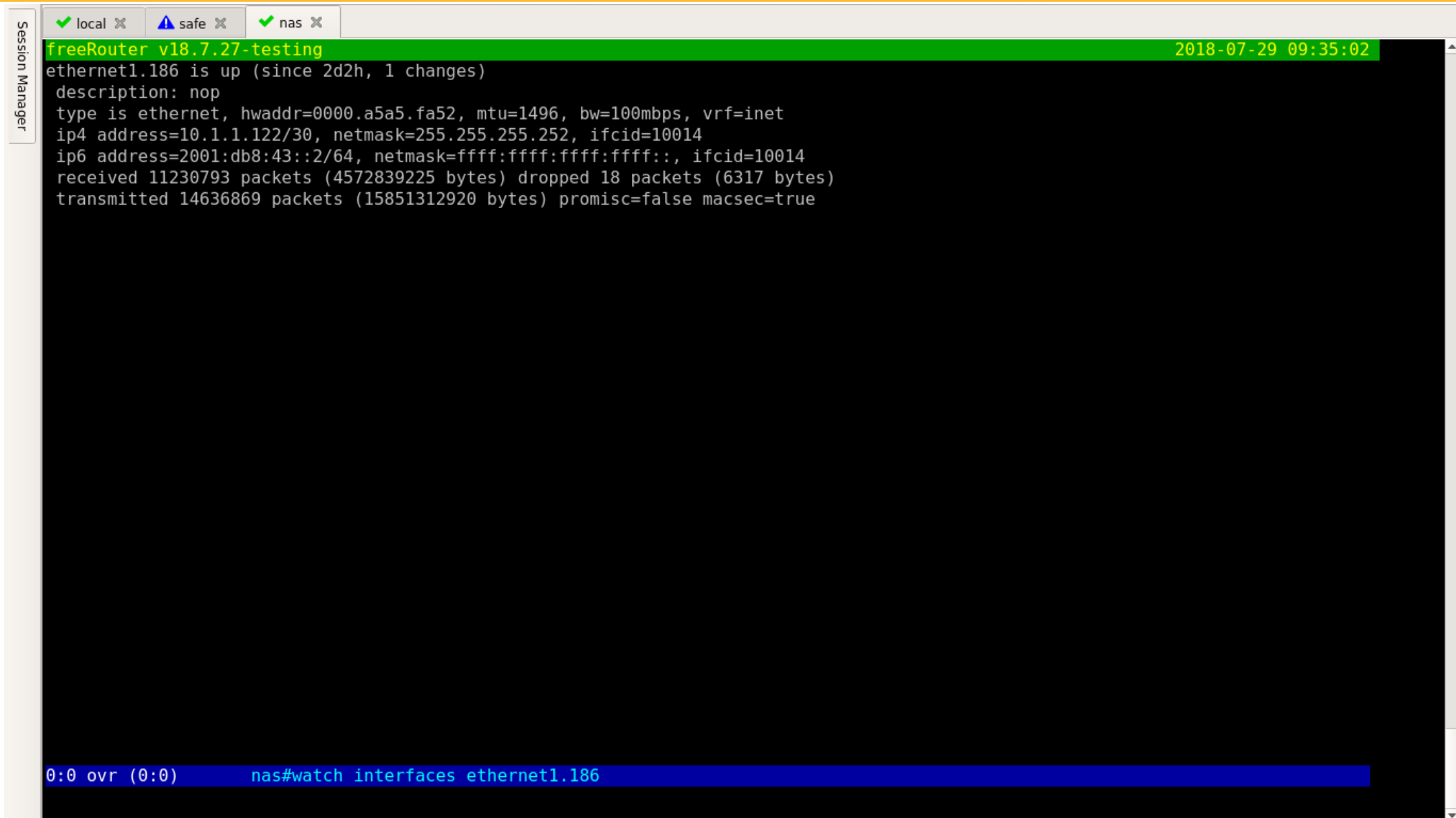
```

Session Manager
local x safe x nas x
history      - historic byte counters
numhist     - numeric historic byte counters
numphist    - numeric historic packet counters
packetsizes - packet sizes
phistory    - historic packet counters
protocols   - protocol numbers
rates       - traffic rates
realtime    - realtime counters
rxhistory   - historic rx byte counters
rxphistory  - historic rx packet counters
trafficclasses - traffic classes
txhistory   - historic tx byte counters
txphistory  - historic tx packet counters

nas#display interfaces ethernet1.186
<cr>
counters      - counters
drhistory     - historic drop byte counters
drphistory    - historic drop packet counters
ethertypes    - ethernet types
full          - full listing
history       - historic byte counters
numhist      - numeric historic byte counters
numphist     - numeric historic packet counters
packetsizes  - packet sizes
phistory     - historic packet counters
protocols    - protocol numbers
rates        - traffic rates
realtime     - realtime counters
rxhistory    - historic rx byte counters
rxphistory   - historic rx packet counters
trafficclasses - traffic classes
txhistory    - historic tx byte counters
txphistory   - historic tx packet counters

nas#display interfaces ethernet1.186

```



The screenshot shows a terminal window with three tabs: 'local', 'safe', and 'nas'. The active tab is 'nas'. The terminal output shows the configuration and statistics for the interface 'ethernet1.186'. The statistics indicate that the interface has received 1,123,079 packets (457,283,922 bytes) and transmitted 1,463,686 packets (158,513,129 bytes). The terminal prompt is 'nas#watch interfaces ethernet1.186'.

```
freeRouter v18.7.27-testing 2018-07-29 09:35:02
ethernet1.186 is up (since 2d2h, 1 changes)
description: nop
type is ethernet, hwaddr=0000.a5a5.fa52, mtu=1496, bw=100mbps, vrf=inet
ip4 address=10.1.1.122/30, netmask=255.255.255.252, ifcid=10014
ip6 address=2001:db8:43::2/64, netmask=ffff:ffff:ffff:ffff::, ifcid=10014
received 11230793 packets (4572839225 bytes) dropped 18 packets (6317 bytes)
transmitted 14636869 packets (15851312920 bytes) promisc=false macsec=true

0:0 ovr (0:0)      nas#watch interfaces ethernet1.186
```

Display int eth1.186 full

```

Session Manager
local x safe x nas x
freeRouter v18.7.27-testing 2018-07-29 09:35:07
ethernet1.186 is up (since 2d2h, 1 changes)
description: nop
type is ethernet, hwaddr=0000.a5a5.fa52, mtu=1496, bw=100mbps, vrf=inet
ip4 address=10.1.1.122/30, netmask=255.255.255.252, ifcid=10014
ip6 address=2001:db8:43::2/64, netmask=ffff:ffff:ffff:ffff::, ifcid=10014
received 11230924 packets (4572861373 bytes) dropped 18 packets (6317 bytes)
transmitted 14636988 packets (15851340204 bytes) promisc=false macsec=true
time  send  receive  drop  send  receive  drop
lsec  10508  6484    0     25   35       0
lmin  6218   4861    0     22   24       0
lhour 35497  43246   0     53   59       0
type  value  handler  tx      rx      drop  tx      rx      drop
ethtyp 0800   ip4      209596  210910  0     12266908 16211425 0
ethtyp 0806   arp4     1010    1011    0     30300    30330    0
ethtyp 86dd   ip6      213971  215249  0     17024020 20885240 0
ethtyp 8847   mplsUni  14200234 10797679 0     14998710580 3990577644 0
ethtyp 8848   mplsMulti 0        0        0     0        0        0
ethtyp 88cc   lldp     6058    0        0     975338   0        0
snap   0000000c cdp      6058    6057    0     836004   872208   0
proto  pack  byte
6      13037207 15547957476
17     751071 139432116
0      646140 124185164
4      106374 23412056
1      91647 15739300
58     4549 614092
size  tx      rx      drop  tx      rx      drop
0-255 3444154 8035242 0     471272872 1093588120 0
256-511 281761 908550 0     103419964 367275781 0
512-767 9598 9490 0     6003144 6216824 0
768-1023 3114 2761 0     2862312 2406684 0
1024-1279 93299 80360 0     106998084 92129472 0
1280-1535 10805062 2194521 0     15160783448 3011244492 0
0:0 ovr (0:0)  nas#watch interfaces ethernet1.186 full

```


Display int eth1.186 full – pgdn

```

local x safe x nas x
freeRouter v18.7.27-testing 2018-07-29 09:35:10
lmin 6218 4861 0 22 24 0
lhour 35497 43246 0 53 59 0
type value handler tx rx drop tx rx drop
ethtyp 0800 ip4 209601 210915 0 12267159 16211676 0
ethtyp 0806 arp4 1011 1011 0 30330 30330 0
ethtyp 86dd ip6 213975 215257 0 17024309 20885845 0
ethtyp 8847 mplsUni 14200571 10797793 0 14998871297 3990589490 0
ethtyp 8848 mplsMulti 0 0 0 0 0 0 0
ethtyp 88cc lldp 6059 0 0 975499 0 0
snap 0000000c cdp 6059 6058 0 836142 872352 0
proto pack byte
6 13037421 15548111100
17 751083 139433796
0 646247 124205632
4 106388 23414480
1 91649 15739644
58 4549 614092
size tx rx drop tx rx drop
0-255 3444371 8035354 0 471310756 1093600856 0
256-511 281769 908566 0 103423164 367282037 0
512-767 9599 9490 0 6003892 6216824 0
768-1023 3117 2761 0 2865132 2406684 0
1024-1279 93419 80360 0 107131972 92129472 0
1280-1535 10805062 2194521 0 15160783448 3011244492 0
1536-1791 0 0 0 0 0 0
1792-65535 0 0 0 0 0 0
class cos exp prec cos exp prec
0 14635895 14635895 14635895 15851309344 15851309344 15851309344
1 0 0 0 0 0 0
2 0 0 0 0 0 0
3 0 0 0 0 0 0
4 0 0 0 0 0 0
5 1442 1442 1442 209400 209400 209400
9:0 ovr (9:0) nas#watch interfaces ethernet1.186 full
  
```

Display int eth1.186 full – pgdn

```

Session Manager
  local x safe x nas x
freeRouter v18.7.27-testing 2018-07-29 09:35:12
snap 0000000c cdp 6059 6058 0 836142 872352 0
proto pack byte
6 13037562 15548216072
17 751087 139434340
0 646247 124205632
4 106388 23414480
1 91650 15739816
58 4549 614092
size tx rx drop tx rx drop
0-255 3444426 8035428 0 471318904 1093609424 0
256-511 281772 908571 0 103424416 367284065 0
512-767 9601 9490 0 6005068 6216824 0
768-1023 3120 2761 0 2867760 2406684 0
1024-1279 93502 80360 0 107224456 92129472 0
1280-1535 10805062 2194521 0 15160783448 3011244492 0
1536-1791 0 0 0 0 0 0
1792-65535 0 0 0 0 0 0
class cos exp prec cos exp prec
0 14636041 14636041 14636041 15851415032 15851415032 15851415032
1 0 0 0 0 0 0
2 0 0 0 0 0 0
3 0 0 0 0 0 0
4 0 0 0 0 0 0
5 1442 1442 1442 209400 209400 209400
6 0 0 0 0 0 0
7 0 0 0 0 0 0
777k|
699k| #
622k| # #
544k| # #
466k| # #
388k| ## #
311k| ## #
18:0 ovr (18:0) nas#watch interfaces ethernet1.186 full
  
```

Display int eth1.186 full – live traffic monitoring @ cli

Session Manager

local safe nas

freeRouter v18.7.27-testing 2018-07-29 09:35:15

```

768-1023    3129      2761      0      2876044    2406684    0
1024-1279   93644     80360     0      107382736  92129472   0
1280-1535   10805062  2194521   0      15160783448 3011244492 0
1536-1791   0          0          0      0           0           0
1792-65535  0          0          0      0           0           0
class  cos      exp      prec     cos      exp      prec
0      14636309 14636309 14636309 15851602904 15851602904 15851602904
1      0         0         0         0           0           0
2      0         0         0         0           0           0
3      0         0         0         0           0           0
4      0         0         0         0           0           0
5      1442     1442     1442     209400     209400     209400
6      0         0         0         0           0           0
7      0         0         0         0           0           0

835k|
752k| # #
668k|# # # #
584k|# # # #
501k|# # # #
417k|# # ## #
334k|# # ## #
250k|# # ## #
167k|# ##### # ## #
83k|##### ## # #
0|#####
bps|0-----10-----20-----30-----40-----50----- seconds
50m|
45m|
40m| *
35m| * *
30m| * * *
25m| * * **
20m| * * **

30:0 ovr (30:0) nas#watch interfaces ethernet1.186 full

```

Term table ?

```
Session Manager
✓ local x  ▲ safe x  ✓ nas x
nas#
nas#
nas#
nas#
nas#terminal tablemode
  csv   - select csv mode
  fancy - select fancy mode
  html  - select html mode
  normal - select normal mode
  raw   - select raw mode
  table - select table mode

nas#terminal tablemode fancy
2018-07-29 09:35:25
nas#
```

Term tabl fancy // display int eth1.186 full

```

local x safe x nas x
freeRouter v18.7.27-testing 2018-07-29 09:35:29
ethernet1.186 is up (since 2d2h, 1 changes)
description: nop
type is ethernet, hwaddr=0000.a5a5.fa52, mtu=1496, bw=100mbps, vrf=inet
ip4 address=10.1.1.122/30, netmask=255.255.255.252, ifcid=10014
ip6 address=2001:db8:43::2/64, netmask=ffff:ffff:ffff:ffff::, ifcid=10014
received 11231767 packets (4572990737 bytes) dropped 18 packets (6317 bytes)
transmitted 14638297 packets (15852106456 bytes) promisc=false macsec=true

|-----|-----|-----|-----|-----|-----|-----|
| time   | send   | receive | drop   | send   | receive | drop   |
|-----|-----|-----|-----|-----|-----|-----|
| 1sec   | 51036  | 7292    | 0      | 61     | 53      | 0      |
| 1min   | 14719  | 4909    | 0      | 32     | 27      | 0      |
| 1hour  | 35497  | 43246   | 0      | 53     | 59      | 0      |
|-----|-----|-----|-----|-----|-----|

|-----|-----|-----|-----|-----|-----|-----|-----|
| type   | value  | handler | tx      | rx      | drop   | tx      | rx      | drop   |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| ethtyp | 0800   | ip4     | 209623  | 210936  | 0      | 12268327 | 16212785 | 0      |
| ethtyp | 0806   | arp4    | 1011    | 1011    | 0      | 30330    | 30330    | 0      |
| ethtyp | 86dd   | ip6     | 213995  | 215278  | 0      | 17025713 | 20887323 | 0      |
| ethtyp | 8847   | mplsUni | 14201489 | 10798466 | 0      | 14999411260 | 3990662859 | 0      |
| ethtyp | 8848   | mplsMulti | 0      | 0      | 0      | 0      | 0      | 0      |
| ethtyp | 88cc   | lldp    | 6059    | 0      | 0      | 975499   | 0      | 0      |
| snap   | 0000000c | cdp    | 6059    | 6058    | 0      | 836142   | 872352   | 0      |
|-----|-----|-----|-----|-----|-----|-----|-----|

|-----|-----|-----|
| proto | pack  | byte  |
|-----|-----|-----|
| 6     | 13038304 | 15548687664 |
| 17    | 751149  | 139442604  |
| 0     | 646247  | 124205632  |
| 4     | 106390  | 23415272   |
| 1     | 91658   | 15741192   |
|-----|-----|-----|
0:0 ovr (0:0) nas#watch interfaces ethernet1.186 full

```

Display int eth1.186 full – fancy live traffic monitoring @ cli

Session Manager

local x safe x nas x

freeRouter v18.7.27-testing 2018-07-29 09:35:36

0-255	3445029	8036503	0	471405196	1093732516	0
256-511	281872	908695	0	103462080	367333025	0
512-767	9651	9490	0	6037188	6216824	0
768-1023	3168	2761	0	2911456	2406684	0
1024-1279	94394	80360	0	108219480	92129472	0
1280-1535	10805062	2194521	0	15160783448	3011244492	0
1536-1791	0	0	0	0	0	0
1792-65535	0	0	0	0	0	0

class	cos	exp	prec	cos	exp	prec
0	14637734	14637734	14637734	15852609828	15852609828	15852609828
1	0	0	0	0	0	0
2	0	0	0	0	0	0
3	0	0	0	0	0	0
4	0	0	0	0	0	0
5	1442	1442	1442	209400	209400	209400
6	0	0	0	0	0	0
7	0	0	0	0	0	0


```

1428k|
1285k| # ##
1143k| # ##
1000k|## ##
857k|## ##
714k|### ##          # #
571k|### ##          # # # # #
428k|### ## #       ### ## # ## #
285k|### ## #       ### ## # ## #
142k|##### #      # ### ## ##### # ## #
0|#####

```

37:0 ovr (37:0) nas#watch interfaces ethernet1.186 full

fancy // display int eth1.186 full – pgup

Session Manager

local x safe x nas x

freeRouter v18.7.27-testing 2018-07-29 09:35:32

ethyp	0800	ip4	209624	210937	0	12268381	16212839	0
ethyp	0806	arp4	1011	1011	0	30330	30330	0
ethyp	86dd	ip6	213996	215279	0	17025787	20887397	0
ethyp	8847	mplsUni	14201880	10798709	0	14999713971	3990682994	0
ethyp	8848	mplsMulti	0	0	0	0	0	0
ethyp	88cc	lldp	6059	0	0	975499	0	0
snap	0000000c	cdp	6059	6058	0	836142	872352	0

proto	pack	byte
6	13038659	15548996692
17	751185	139454556
0	646247	124205632
4	106390	23415272
1	91660	15741536
58	4549	614092

size	tx	rx	drop	tx	rx	drop
0-255	3444909	8036204	0	471387580	1093699680	0
256-511	281845	908676	0	103451580	367325469	0
512-767	9626	9490	0	6021256	6216824	0
768-1023	3153	2761	0	2897644	2406684	0
1024-1279	94095	80360	0	107885892	92129472	0
1280-1535	10805062	2194521	0	15160783448	3011244492	0
1536-1791	0	0	0	0	0	0
1792-65535	0	0	0	0	0	0

class	cos	exp	prec	cos	exp	prec

17:0 ovr (17:0) nas#watch interfaces ethernet1.186 full

```

Session Manager
local x safe x nas x
nas#
nas#
nas#
nas#
nas#
nas#
nas#terminal tablemode
  csv   - select csv mode
  fancy - select fancy mode
  html  - select html mode
  normal - select normal mode
  raw   - select raw mode
  table - select table mode

nas#terminal tablemode csv
2018-07-29 09:35:43
nas#show interfaces summary
2018-07-29 09:35:50
interface    ;state;tx           ;rx           ;drop
loopback0    ;up    ;339360            ;0             ;0
loopback65535;up    ;339360            ;0             ;0
bvi1         ;up    ;1302900           ;22844148      ;0
bvi2         ;up    ;1302900           ;22826078      ;0
bvi3         ;up    ;1302900           ;22817614      ;0
bvi4         ;up    ;1302797           ;22812130      ;0
ethernet1    ;up    ;16531347319;12317241830;0
ethernet1.181;up    ;353727567        ;7395196977    ;0
ethernet1.185;up    ;246332748        ;273366356     ;24844
ethernet1.186;up    ;15852908392;4573125729 ;6317
ethernet2001;up    ;10727811255;14837971885;0

nas#

```


Csv imported & sorted in 3 clicks... :)

Activities LibreOffice Calc Sun 09:36

zzz.csv - LibreOffice Calc
Sort Ascending

File Edit View Insert Format Styles Sheet Data Tools Window Help

Liberation Sai 10

A1:E12 fx Σ = tx

	A	B	C	D	E	F	G	H	I	J	K
1	interface	state	tx	tx	drop						
2	loopback0	up	339360		0						
3	loopback659	up	339360		0						
4	bvi4	up	1302797	22812130	0						
5	bvi1	up	1302900	22844148	0						
6	bvi2	up	1302900	22826078	0						
7	bvi3	up	1302900	22817614	0						
8	ethernet1.18	up	246332748	273366356	24844						
9	ethernet1.18	up	353727567	7395196977	0						
10	ethernet200	up	10727811255	14837971885	0						
11	ethernet1.18	up	15852908392	4573125729	6317						
12	ethernet1	up	16531347319	12317241830	0						
13											
14											
15											
16											
17											
18											
19											
20											
21											
22											
23											
24											
25											
26											

Sheet 1 of 1 | 12 rows, 5 columns selected | Default | English (USA) | Average: 2521401557.75758; Sum: 83206251406 | 100%

Interactive (*) live demo at <http://wwwin.nop.hu/iface.tcl> with term tab html....

Example recording showing some of telephony features with display inspect and interface in action:

<https://files.fm/u/vetm335c> (if link expires, ask for DSCN1401.MOV from summer of 2018)

More slideshows soon.... :)

Feel free to ask for narration if needed...:)

*: feel free to look around.... :) mostly online, if not, try again later.....:)))

Köszönöm a figyelmet!

www.kifu.gov.hu

Thanks for watching!

Questions?



A MAGYARORSZÁGI **DIGITALIZÁCIÓ** SZOLGÁLATÁBAN