



OVANET SARL
115 rue de l'abbé Groult
75015 PARIS
FRANCE
Tel : +33 1 40 59 09 68
Fax : +33 1 45 75 76 13

BGP Community Support in Eurowan's Network **February 2005**

Informational Communities

Transit partners networks : 29415:4000 to 29415:4099

| | |
|------------|-------------------------------------------|
| 29415:4001 | Transit from AS174 (TMP, will be removed) |
| 29415:4002 | Transit from AS3549 |
| 29415:4003 | Not used any more |
| 29415:4004 | Transit from AS3320 |

Public peerings : 29415:4100 to 29415:4299

| | |
|------------|--------------------------------------|
| 29415:4n01 | Peerings at FreelX (FR-PAR-RDB) |
| 29415:4n02 | Peerings at PoulX (FR-PAR-TH2) |
| 29415:4n03 | Peerings at ParlX (FR-PAR-TH2) |
| 29415:4n04 | Peerings at Sfinx (FR-PAR-TH2) |
| 29415:4n05 | Peerings at Linx (UK-LDN-RDB) |
| 29415:4n06 | Peerings at Xchangeport (UK-LDN-RDB) |
| 29415:4n07 | Peerings at Ams-IX (NL-AMS-CTY) |
| 29415:4n08 | Peerings at nl-ix (NL-AMS-CTY) |

n = 1 : Primary peering partners (localpreference 400)

n = 2 : Secondary peering partners (localpreference 300)

Private peerings : 29415:4500 to 29415:4699

| | |
|------------|------------------------------------------|
| 29415:4501 | AS29608 FE private peering at FR-PAR-RDB |
| 29415:4502 | AS174 GE private peering at FR-PAR-RDB |

Customers : 29415:21000 to 29415:29999

Synopsis : 29415:20XXn
XX = Country code
n = Eurowan POP id

| | |
|-------------|-----------------------------|
| 29415:21000 | Static routed customers |
| 29415:20331 | BGP customers at FR-PAR-RDB |
| 29415:20332 | BGP customers at FR-PAR-TH2 |
| 29415:20441 | BGP customers at UK-LDN-RDB |
| 29415:20311 | BGP customers at NL-AMS-CTY |
| 29415:20321 | BGP customers at BE-BXL-ITX |

Policy Tuning Communities

Local Preference setting : 29415:6300 to 29415:6500

| | |
|------------|----------------------------------------------------------------------------|
| 29415:6500 | Set 500 localpreference on Eurowan network (default) |
| 29415:6400 | Set 400 localpreference on Eurowan network (as primary peering partener) |
| 29415:6300 | Ser 300 localpreference on Eurowan network (as secondary peering partener) |

Prepend announced prefixes : 29415:40000 to 29415:49999

Synopsis : 29415:XXXXn
XXXX = Informational community prefix
n = 0 : Not announced
n = 1 : Prepend once «29415»
n = 2 : Prepend twice «29415 29415»

NOTE : Prepend communities doesn't work with customer informational community

Example :

| | |
|-------------|-------------------------------------------------------------|
| 29415:40014 | Prepend twice «AS29415» to AS3320 (T-Systems) announcements |
| 29415:40020 | Do not announce to AS3549 (GBLX) |
| 29415:40021 | Prepend once «AS29415» to AS3549 (GBLX) announcements |

Local announcements settings : 29415:0 to 29415:10

| | |
|----------|-----------------------------------------------------------|
| 29415:1 | No export prefix (stay local to Eurowan network) |
| 29415:10 | No export to transits parteners |
| 29415:0 | Denial of Service Attack Mitigation community (see below) |

NOTE : Please use 29415:0 community with care !

Denial of Service Attack Mitigation

You can use **29415:0** community for black-hole route on all Eurowan border routers.

NOTE : This community accept host route or shorter prefix than your customer's RIR registered assignment.

Your prefixes injected for black-holing are kept local to Eurowan network (included on our no export 29415:1 community). Please note that it is your own responsibility to remove the black-holing request, once you judge the DoS attack is over.

This community accept host route (/32) or shorter prefix within customer's RIR registered assignment.

For example, if you have a denial of service (DoS) attack to 42.43.44.45 server, then you may attach the community 29415:0 to the specific prefix 42.43.44.45/32.

Other communities

Eurowan keep all this partner's (Peering and transit) communities and announce them our BGP customers.

You can also use these communities for informational and policy tuning.

Examples

Case #1 for Foundry Networks routers :

Eurowan AS4242 customer announce 42.42.42.0/24 and 43.43.43.0/24 and don't want to send traffic to Eurowan FreeIX secondary peering partners, and do not want to receive traffic from Eurowan FreeIX primary peering partners for 43.43.43.0/24 subnet

```
!
ip community-list eurowan-freeix-sec seq 1 permit 29415:4201
!
!
ip prefix-list announce-out seq 1 permit 42.42.42.0/24
ip prefix-list announce-out seq 2 permit 43.43.43.0/24
!
ip prefix-list secondary-subnet seq 1 permit 43.43.43.0/24
!
router bgp
  always-compare-med
  dampening
  local-as 4242
  neighbor 21.22.23.24 description EUROWAN-UPSTREAM
  neighbor 21.22.23.24 remote-as 29415
  neighbor 21.22.23.24 password 1 $eS11\@-c
  neighbor 21.22.23.24 route-map in as29415-in
  neighbor 21.22.23.24 route-map out as29415-out
  neighbor 21.22.23.24 prefix-list announce-out out
  neighbor 21.22.23.24 send-community
  neighbor 21.22.23.24 soft-reconfiguration inbound
  network 42.42.42.0 255.255.255.0
  network 43.43.43.0 255.255.255.0
!
route-map as29415-in deny 5
  match community eurowan-freeix-sec
route-map as29415-in permit 10
  set metric 20
  set local-preference 400
!
route-map as29415-out permit 10
  match ip address prefix-list secondary-subnet
  set community 29415:41010
route-map as29415-out permit 20
  set metric 20
!
```

Case #2 for Foundry Networks routers :

Eurowan AS4242 customer announce 42.42.42.0/24 and have a DDOS attack targeted to host 42.42.42.42/32 and want to black-hole this host on his Eurowan upstream.

```
!  
ip prefix-list announce-out seq 1 permit 42.42.42.0/24  
!  
ip prefix-list blackhole seq 1 permit 42.42.42.42/32  
!  
router bgp  
  always-compare-med  
  dampening  
  local-as 4242  
  neighbor 21.22.23.24 description EUROWAN-UPSTREAM  
  neighbor 21.22.23.24 remote-as 29415  
  neighbor 21.22.23.24 password 1 $eS11\@-c  
  neighbor 21.22.23.24 route-map in as29415-in  
  neighbor 21.22.23.24 route-map out as29415-out  
  neighbor 21.22.23.24 prefix-list announce-out out  
  neighbor 21.22.23.24 send-community  
  neighbor 21.22.23.24 soft-reconfiguration inbound  
  network 42.42.42.0 255.255.255.0  
!  
  route-map as29415-in permit 5  
    set metric 20  
    set local-preference 400  
  !  
  route-map as29415-out permit 5  
    match ip address prefix-list blackhole  
    set community 29415:0  
  route-map as29415-out permit 10  
    set metric 20  
  !  
!
```