APPLICATION NOTES

GRE DE-ENCAPSULATION

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CUBRO

GRE DE-ENCAPSULATION

Virtualisation is a very common approach in data centers, but for monitoring purposes it is not so easy, because the network communication within the hyper visor is not transported over the physical NIC in the server. It is transported over the virtual switch. Thus, there is no access to this trac.

It is common to use virtual TAPs to solve this issue. But these virtual TAPs could not send out the trac straight, they use in most cases a GRE Tunnel.
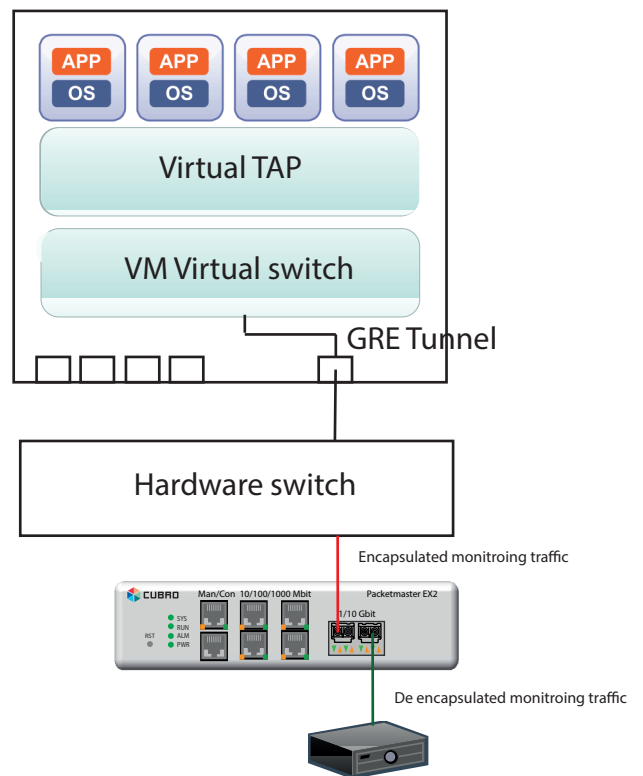
GRE is a L2 transparent tunnel.
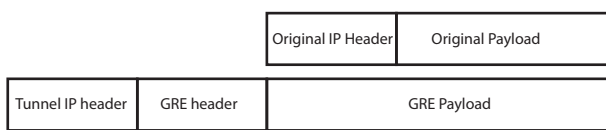
The original IP trac will be encapsulated with the new IP header and the GRE header. This trac can then pass the virtual and in some cases a hardware switch to reach the monitoring device. But this trac cannot be used for monitoring directly. It needs to be first de-encapsulated.

This can be done in an easy way with the Packetmaster, even the smallest unit the EX2 supports GRE de-encapsulation at line rate.

After de-encapsulation the trac looks like the original and can be ltered and forwarded to the monitoring device.

APP OS   APP OS   APP OS   APP OS

Virtual TAP

VM Virtual switch

GRE Tunnel

Hardware switch

Encapsulated monitroing traffic

Man/Con 10/100/1000 Mbit   Packetmaster EX2
1/10 Gbit

De encapsulated monitroing traffic

Highlights

- GRE receiver and originator
- Hardware de-encapsulation
- Line rate up to 40 Gbit
- Multiple GRE streams per unit
- Easy to configure
- Filtering possible afterwards
- Standard feature (no extra charge)

Supported by

Packetmasters

EX2, EX5-2, EX12, EX32

EX20400, EX48400

Before GRE de encapsulation

```
⊞ Frame 1698: 604 bytes on wire (4832 bits), 604 bytes captured (4832 bits) on interface 0
⊞ Ethernet II, Src: Vmware_63:23:42 (00:50:56:63:23:42), Dst: CentecNe_0a:10:16 (00:1e:08:0a:10:16)
⊞ Internet Protocol Version 4, Src: 172.17.1.1 (172.17.1.1), Dst: 172.17.1.2 (172.17.1.2)
⊞ Generic Routing Encapsulation (Transparent Ethernet bridging)
⊞ Ethernet II, Src: IntelCor_5b:b0:9c (60:67:20:5b:b0:9c), Dst: Vmware_aa:c0:d3 (00:50:56:aa:c0:d3)
⊞ Internet Protocol Version 4, Src: 172.16.100.61 (172.16.100.61), Dst: 172.16.101.220 (172.16.101.220)
⊞ Transmission Control Protocol, Src Port: 64008 (64008), Dst Port: 80 (80), Seq: 3827, Ack: 68616, Len: 500
⊟ Hypertext Transfer Protocol
  ⊟ GET /modules/imageframe/frames/flicking/BR.gif HTTP/1.1\r\n
    ⊞ [Expert Info (Chat/Sequence): GET /modules/imageframe/frames/flicking/BR.gif HTTP/1.1\r\n]
      Request Method: GET
      Request URI: /modules/imageframe/frames/flicking/BR.gif
      Request Version: HTTP/1.1
    Host: album.creneco.com\r\n
    User-Agent: Mozilla/5.0 (Windows NT 6.1; WOW64; rv:38.0) Gecko/20100101 Firefox/38.0\r\n
    Accept: image/png,image/*;q=0.8,*/*;q=0.5\r\n
    Accept-Language: en-US,en;q=0.5\r\n
    Accept-Encoding: gzip, deflate\r\n
    Referer: http://album.creneco.com/main.php?g2_view=imageframe.CSS&g2_frames=none%7Cshadow%7Cflicking\r\n
  ⊞ Cookie: GALLERYSID=78cb78dbabb51f330677f4a72c4f22b9\r\n
```

After GRE de encapsulation

```
⊞ Frame 7508: 566 bytes on wire (4528 bits), 566 bytes captured (4528 bits) on interface 0
⊞ Ethernet II, Src: Cisco_73:7e:c2 (00:17:94:73:7e:c2), Dst: Vmware_aa:c0:d3 (00:50:56:aa:c0:d3)
⊞ Internet Protocol Version 4, Src: 172.16.100.61 (172.16.100.61), Dst: 172.16.101.220 (172.16.101.220)
⊞ Transmission Control Protocol, Src Port: 64325 (64325), Dst Port: 80 (80), Seq: 4686, Ack: 100998, Len: 500
⊟ Hypertext Transfer Protocol
  ⊞ GET /modules/imageframe/frames/flicking/BR.gif HTTP/1.1\r\n
    Host: album.creneco.com\r\n
    User-Agent: Mozilla/5.0 (Windows NT 6.1; WOW64; rv:38.0) Gecko/20100101 Firefox/38.0\r\n
    Accept: image/png,image/*;q=0.8,*/*;q=0.5\r\n
    Accept-Language: en-US,en;q=0.5\r\n
    Accept-Encoding: gzip, deflate\r\n
    Referer: http://album.creneco.com/main.php?g2_view=imageframe.CSS&g2_frames=none%7Cshadow%7Cflicking\r\n
  ⊞ Cookie: GALLERYSID=78cb78dbabb51f330677f4a72c4f22b9\r\n
```