MIXED BROADBAND AND DEDICATED INTERNET

FOR COWORKING AND HOSPITALITY

MUM-ID 2021, Indonesia – November 24, 2021

Speaker Profile

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  - Weligama Bay – Srilanka | SiemReap – Cambodia | Bali – Indonesia

Highlights

- Typical Coworking & Hospitality Service
  - Guest / Users comes from Various job or background needs
  - Speedtest are their measurement test
  - Require an stable connection for some important traffic
  - Beside selling space, actually they sell internet service
  - Bad internet means they will loosing sales / loosing customer
  - Due to pandemic COVID'19 situation with less occupancy, we have to keep maintain the reliable service with minimum budget as low as possible.
  - Mixing Broadband and Dedicated internet service are the ideal solution instead of having only one of them.

Highlights

- Why MikroTik
  - MikroTik are powerful router with rich networking feature.
  - MikroTik have various type of router that we can choose
    - Choose based on our needs
    - With our without wireless feature
    - Wider option from SOHO routers to Enterprise class router
  - MikroTik Custom Policy Routing are easy to setup and maintain
  - Fast and Instant Deployment
  - Easy to Troubleshoot
  - We can backup – restore, undo – redo without worry on

Highlights

- Dedicated Internet Service
  - High SLA 99.5 and up.
  - Stable and Reliable
  - But its costly (expensive)
  - we still need dedicated bandwidth to ensure that we always have the reliable internet service for some important traffic and also used as backup internet when the broadband internet are fails.
  - Instead of paying more on high capacity dedicated internet, better we pay small dedicated bandwidth and mixed it with broadband.
- Broadband Internet Service
  - High Speed Internet
  - Cheap and Affordable
  - But NO SLA Service

What we need to do ?

- Assume we already have 2 Internet Source Installed
  - One Dedicated 20 megs
  - One Broadband 100 Megs
- Setup Dedicated Internet as a Default Gateway
- Download NICE.rsc List for Domestic Address List
- Make an address List for heavy internet traffic For
  - Google Prefix
  - Facebook Prefix
  - Less Priority Traffic (Custom)
- Make Ip Firewall NAT Masquerade for Both ISP

Custom Mangle

- Mark connection of any traffic, with firewall mangle based on :
  - Protocol are TCP also UDP
  - Destination are goes to the address-list that we have
  - Source from Users (LAN)
  - New-Connection-Mark = CONN_BROADBAND
- Make a custom Routing with :
  - Dst-address = 0.0.0.0/0
  - Gateway = ISP Broadband
  - Mark-Routing = VIA_BROADBAND
- Make a Mark Routing mangle based on :
  - Mark Connection = CONN_BROADBAND
  - New-Routing-Mark = VIA_BROADBAND

Goals

- Domestic Traffic will goes trough Broadband Internet
- Social Media and Streaming Service will goes trough Broadband Service
- SpeedTest
  - Most of the test by default looking for nearby speedtest server
  - Speedtest traffic test will goes trough Broadband because domestic network already routed to broadband.
  - Speedtest IP will remain using Dedicated ISP, because Speedtest IP Check are international traffic.
  - User will feels having dedicated service with high speed internet
- International Access and High Priority traffic
  - Will Remain goes trough dedicated service as it's a default gateway

Step By Step
Configuration

Download & Import NICE.rsc

- Nice.rsc are Indonesian prefix domestic address list.
- fetch the nice.rsc file from new-terminal
  - /tool fetch url="http://ixp.mikrotik.co.id/download/nice.rsc" mode=http
- Import the nice.rsc file from new-terminal
  - /import nice.rsc

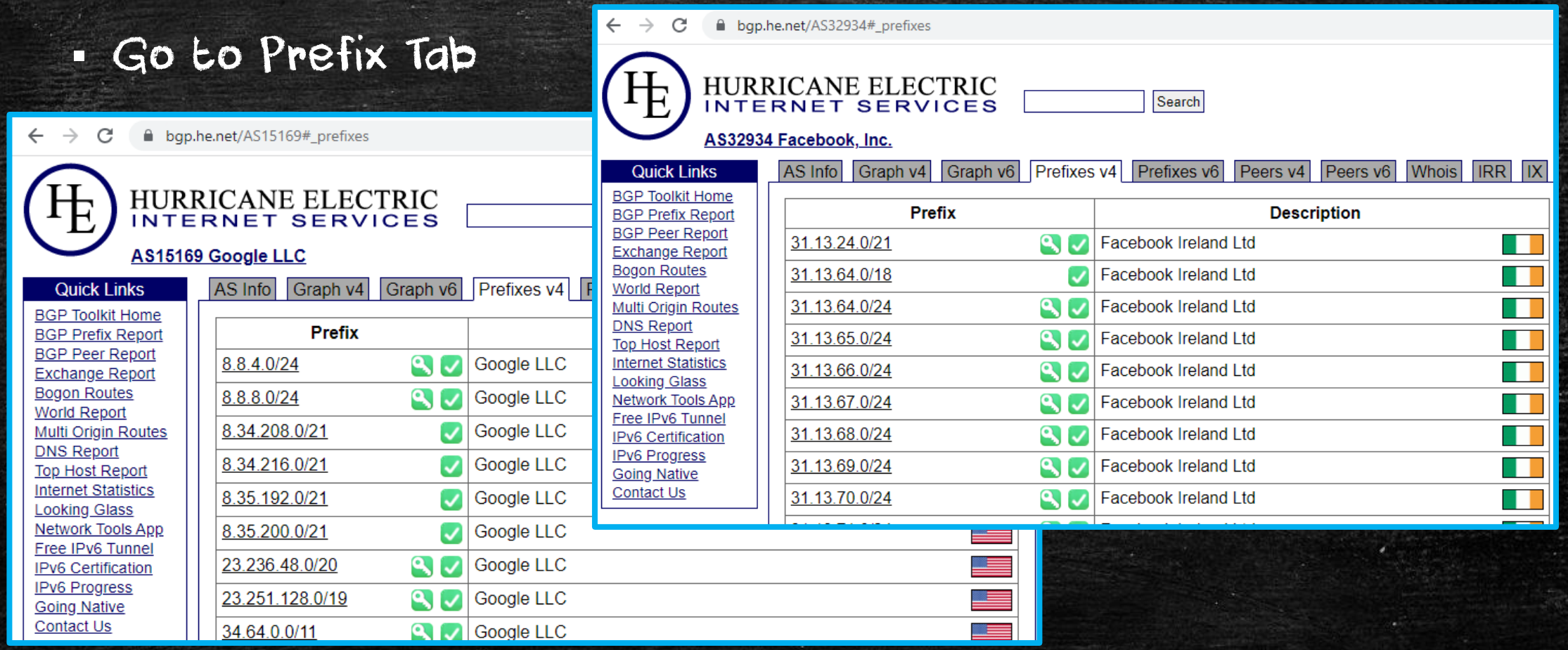
```
[adhielesmana@Outpost>Yarralumla>Router] > /tool fetch url=http://ixp.mikrotik.co.id/download/nice.rsc mode=http
      status: finished
  downloaded: 218KiBz pause]
       total: 218KiB
    duration: 1s

[adhielesmana@Outpost>Yarralumla>Router] >
```

Get Facebook & Google Prefix

- Finds Google & Facebook Prefix on https://bgp.he.net
  - Google AS Number : 15169, 139190
  - Facebook AS Number : 32934

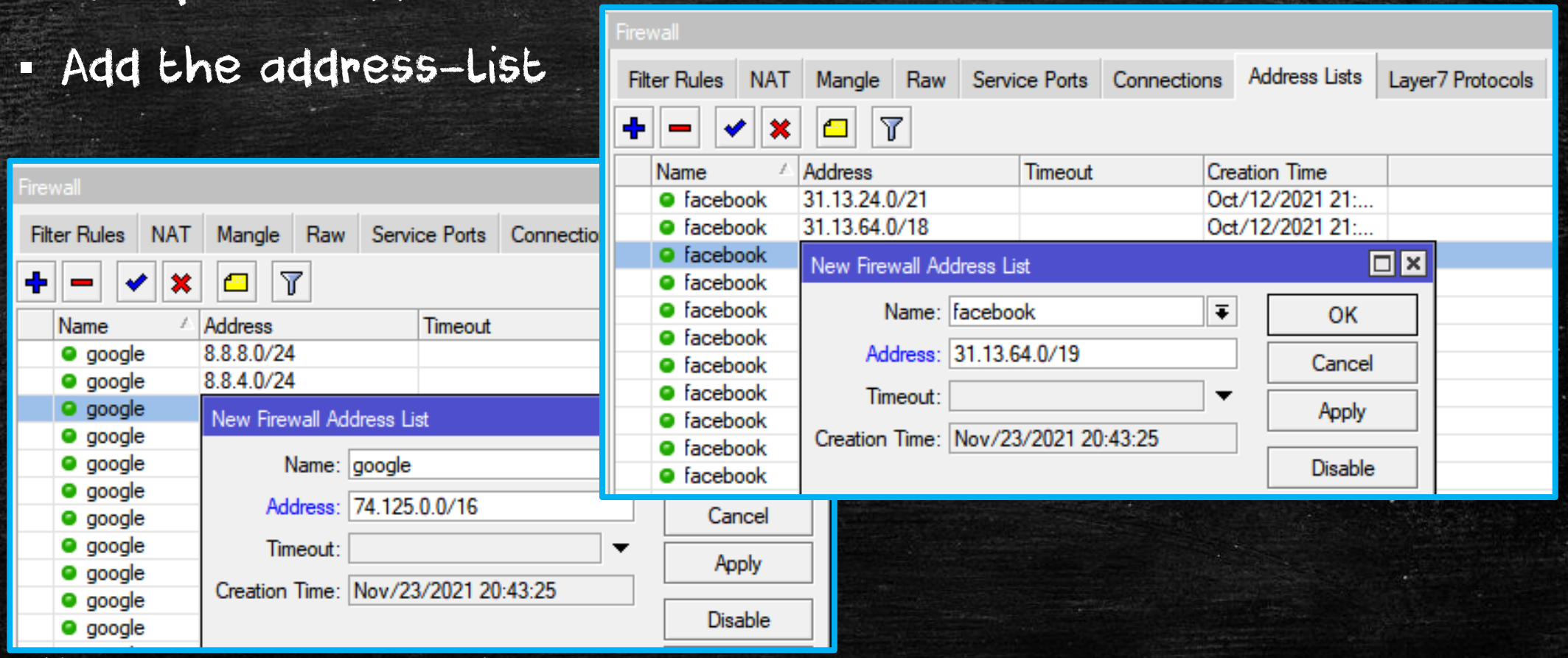
Get Facebook & Google Prefix

- Go to Prefix Tab



Add Address-List

- Group The Address on the same List
- Add the address-List

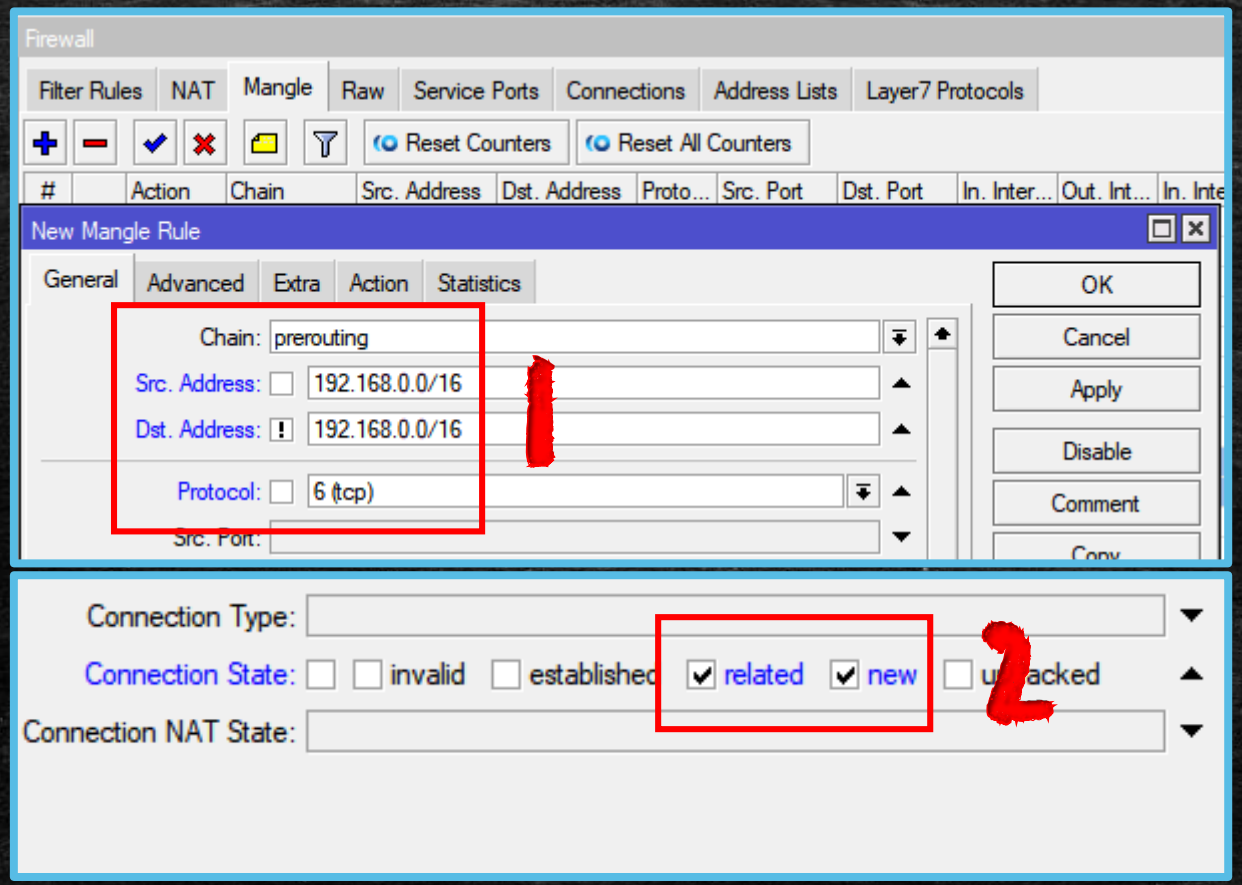


Routing Policy & NAT

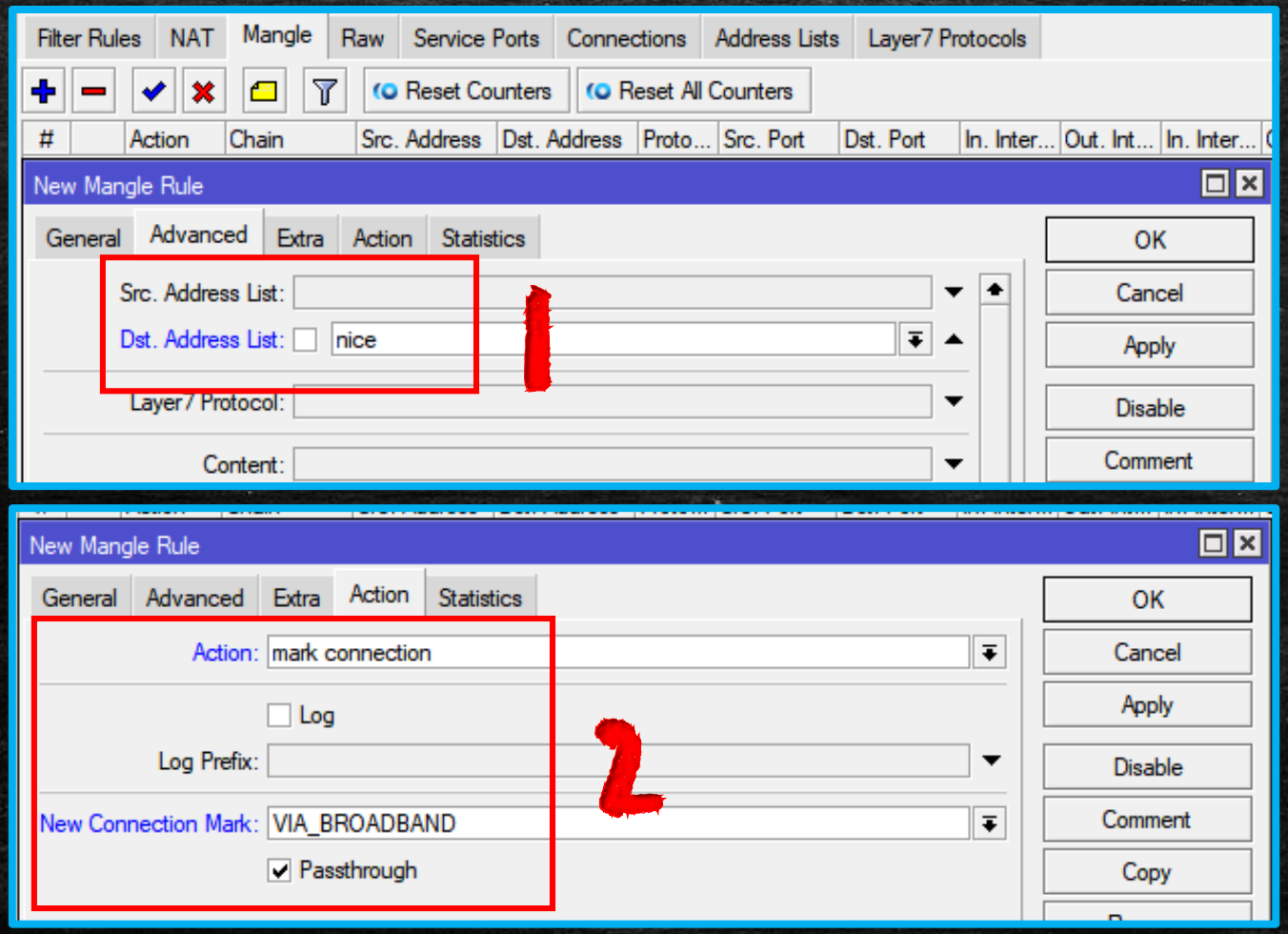
- Default Gateway via ISP Dedicated
  - /ip route add gateway=XX.XX.XX.XX (Gateway ISP Dedicated)
- Custom Routing Mark VIA_BROADBAND
  - /ip route add gateway=XX.XX.XX.XX routing-mark=VIA_BROADBAND

- NAT Masquerade for BOTH ISP
  - /ip firewall nat add action=masquerade chain=srcnat out-interface=Ether_To_ISP_Dedicated
  - /ip firewall nat add action=masquerade chain=srcnat out-interface=Ether_To_ISP_Broadband

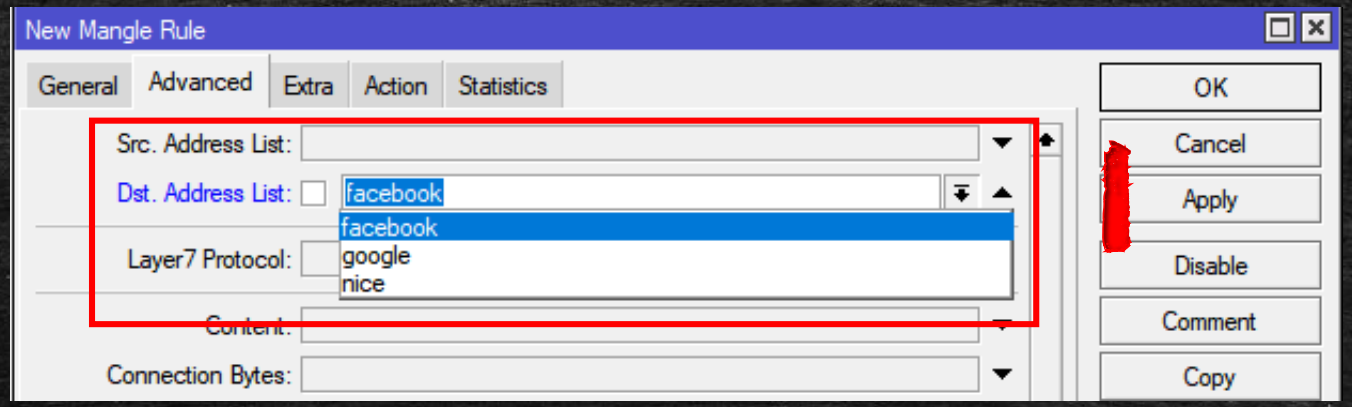
Mark Connection in Mangle

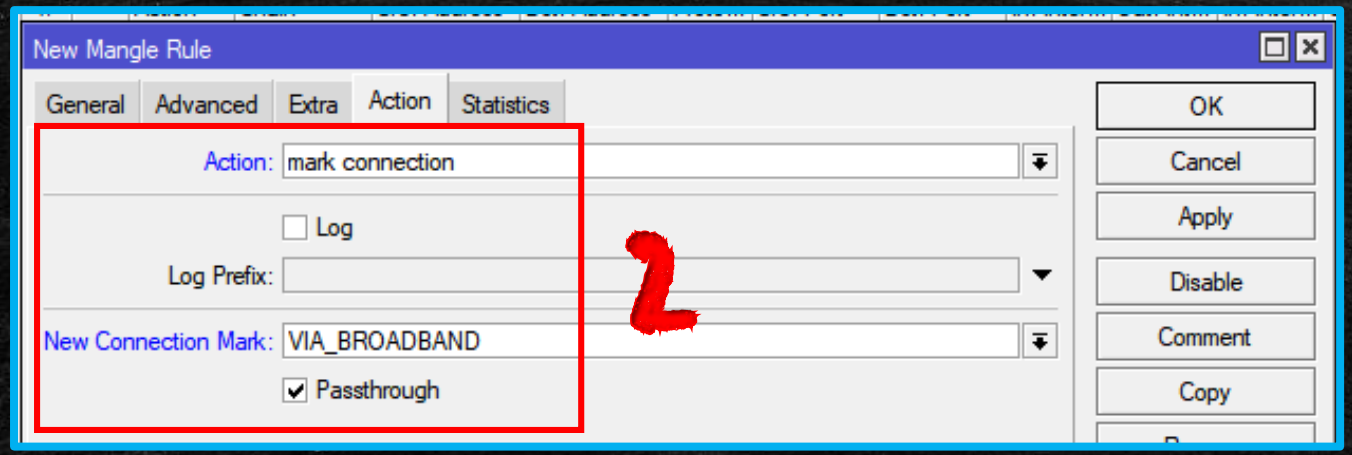


Mark Connection in Mangle

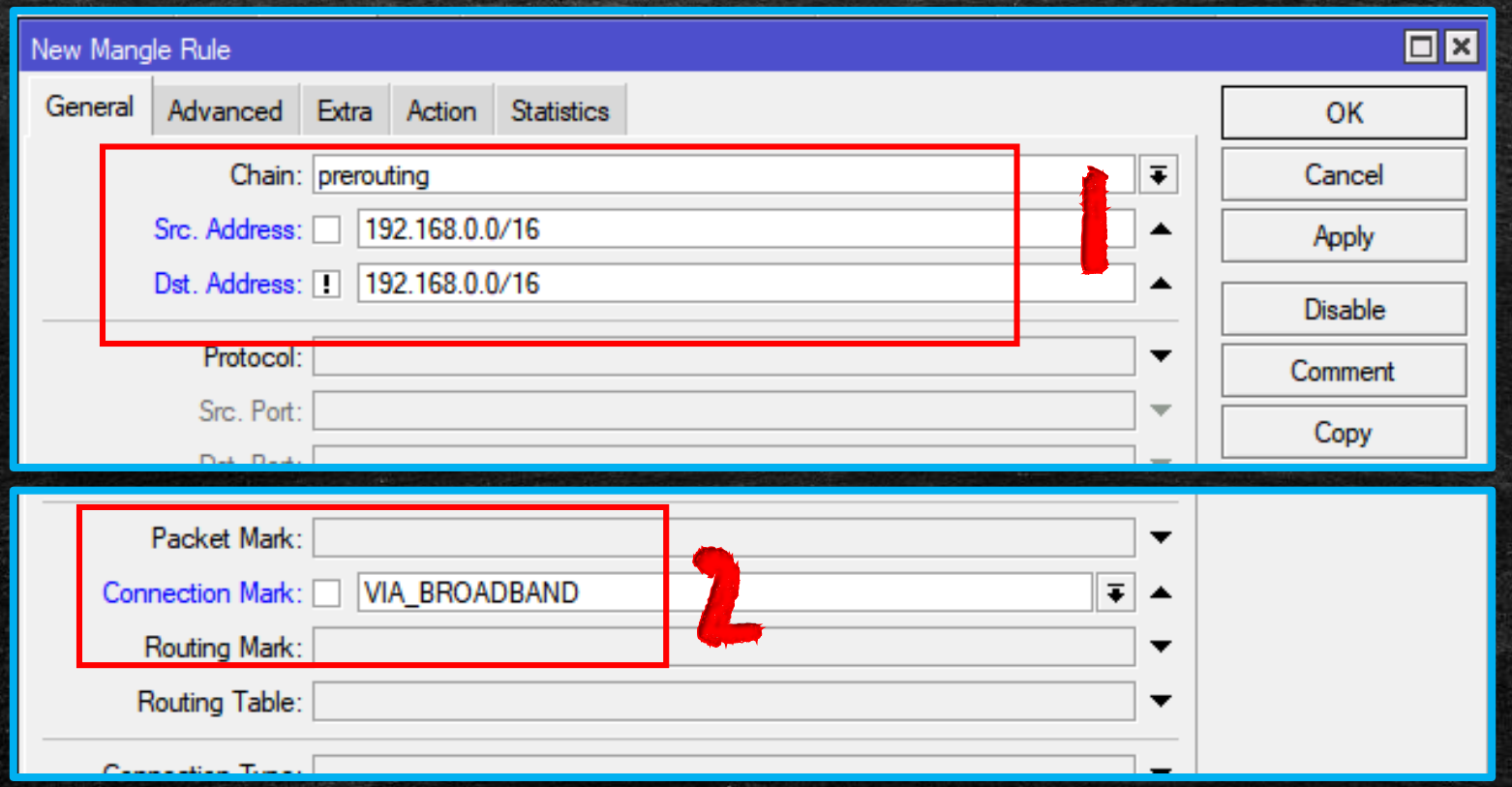


Mark Connection in Mangle

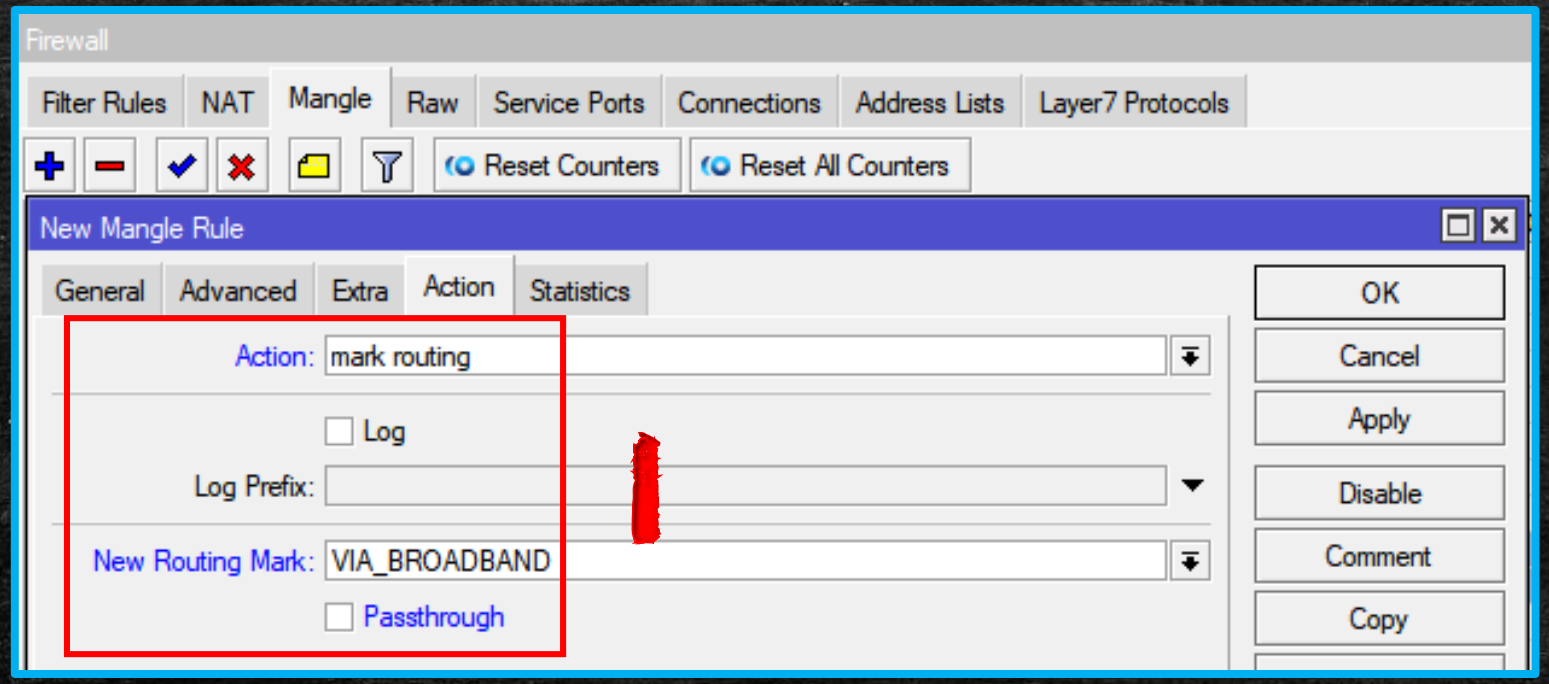




Mark Routing in Mangle



Mark Routing in Mangle



Q & A

Thank You

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