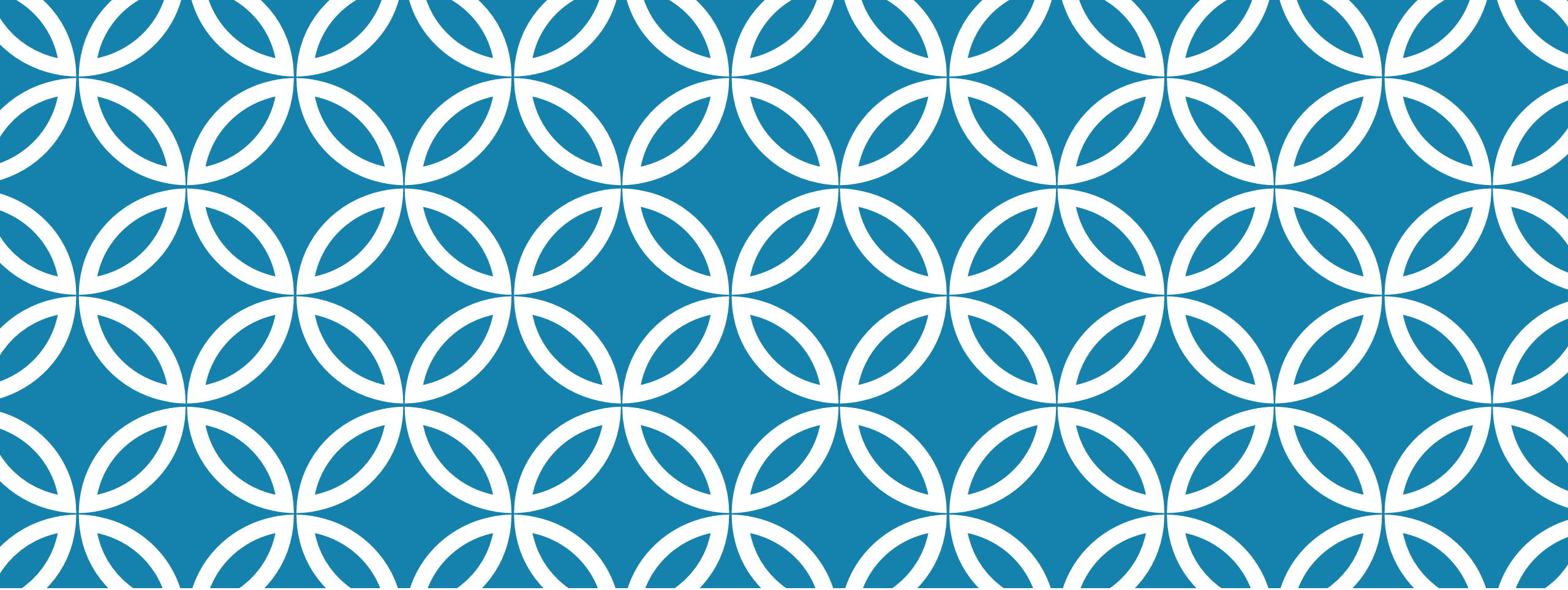

THE GOOD PRACTICE FOR UNDERSTAND BANDWIDTH CONTROL

Presented By :
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Thailand MUM 2015

PRESENTER INFORMATION

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OBJECTIVE

Let everybody as don't know what's bandwidth control working, who are looking for the way understand bandwidth control and how to design and think for them solution about real require for which thing want to manage for bandwidth for every clients and use service like http, ssh, ftp etc..

WHAT'S BANDWIDTH CONTROL

When we are talk about bandwidth everybody be think about only 2 thing (download and upload) but for real uses, everybody be know only for download and every queue will be mention about how to control total bandwidth like

*** I want to limit speed upload/download***

But they are know or not, what's mean for "limit speed" the word as mark mean limit traffic for router outgoing interface.

So for us use bandwidth control we have to talk about only service connection for upload and download if we want to use service bandwidth control but if we want to only say all upload and download don't mind for service just only say for router interface

BANDWIDTH CONTROL CONCEPT

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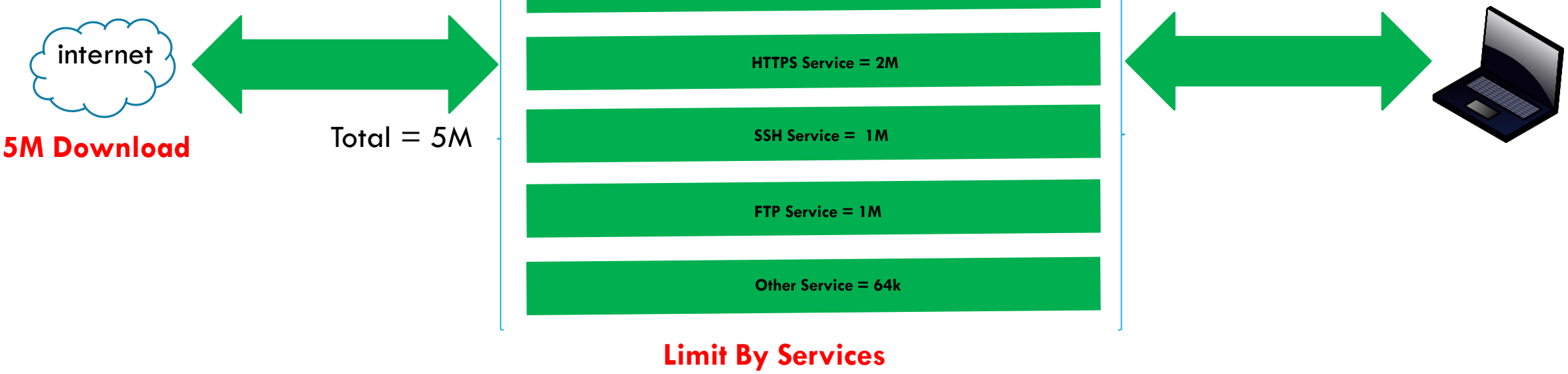
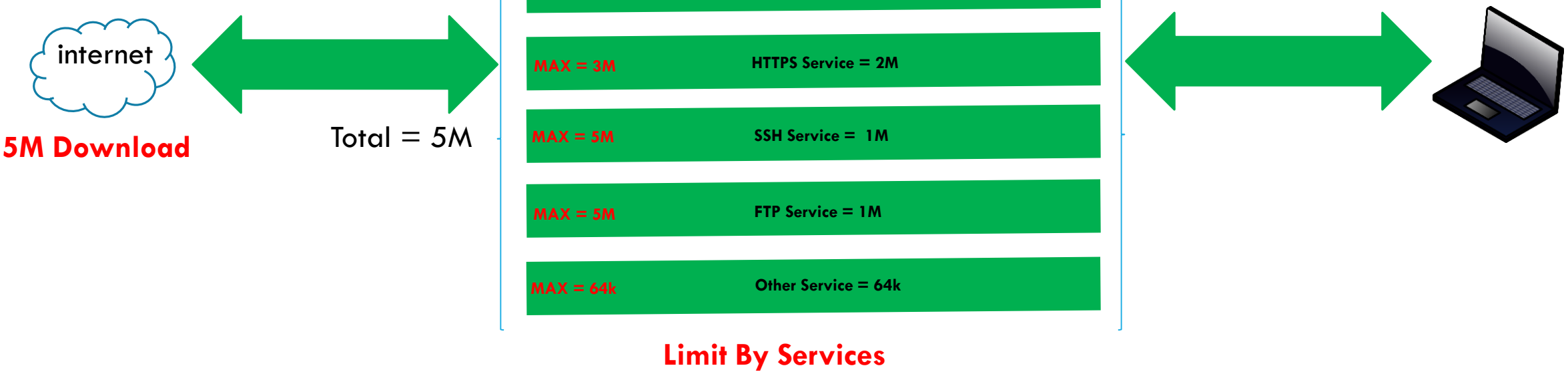
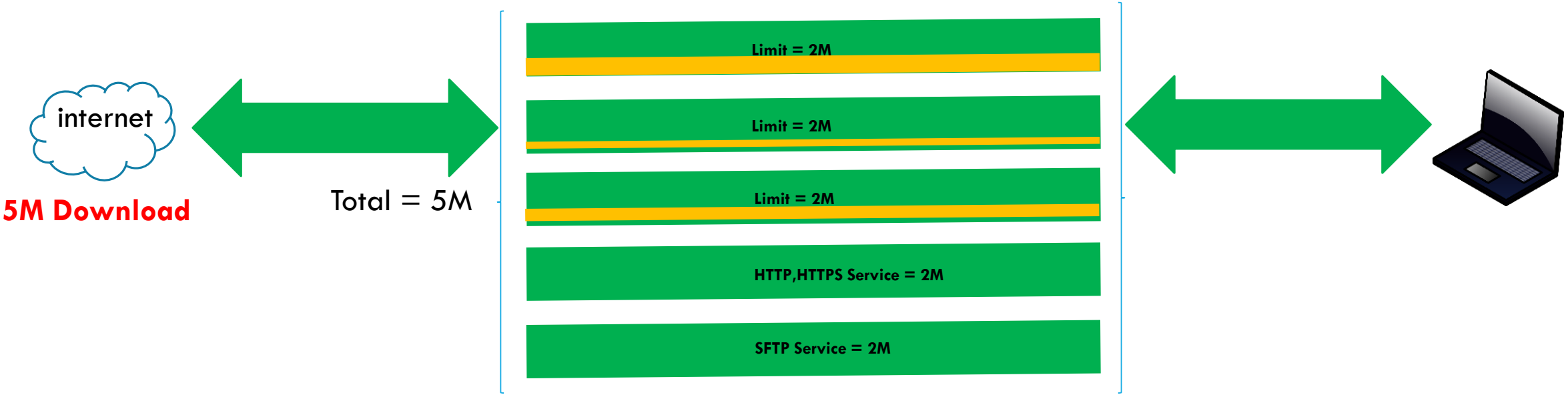


BANDWIDTH CONTROL CONCEPT

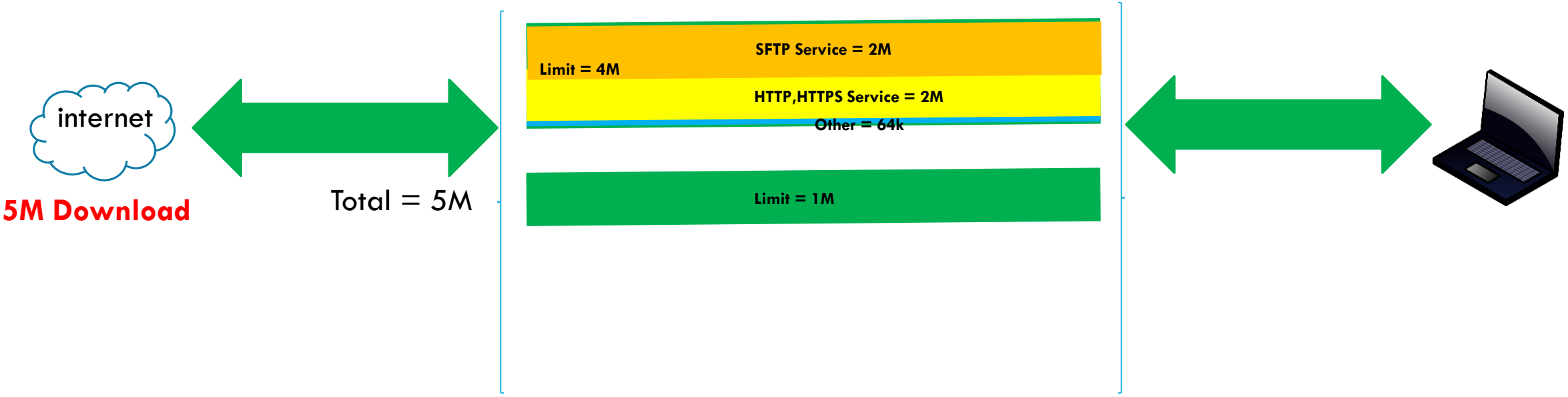


BANDWIDTH CONTROL CONCEPT



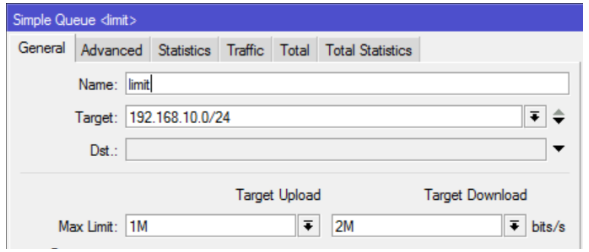
Limit for every Clients and Service Together

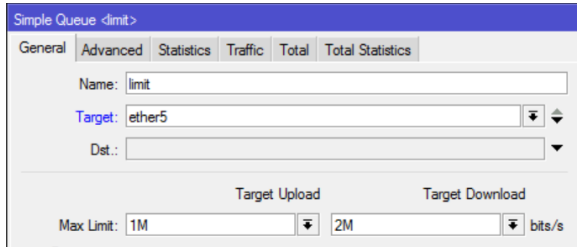
BANDWIDTH CONTROL CONCEPT

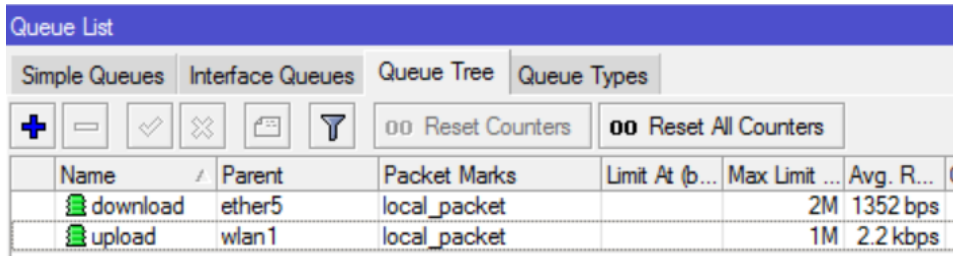


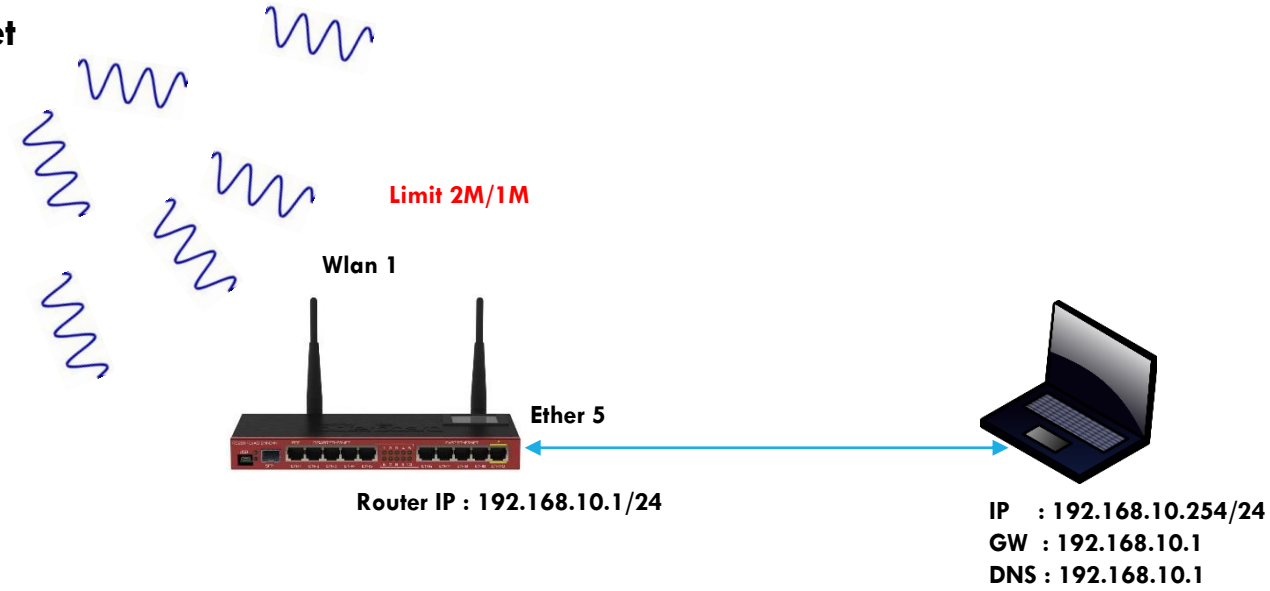
Limit for every Clients and Service Together

IDEA FOR DESIGN TOTAL BANDWIDTH CONTROL

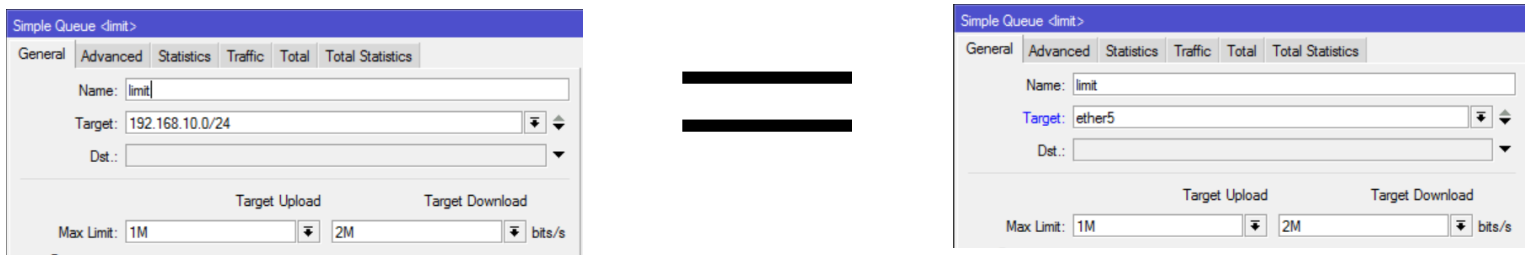






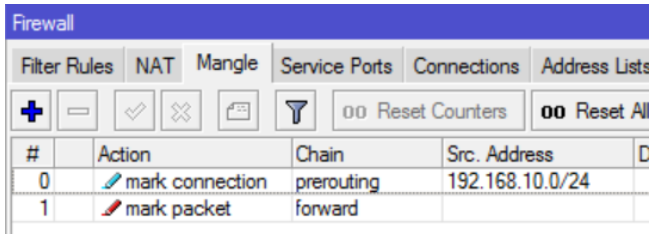


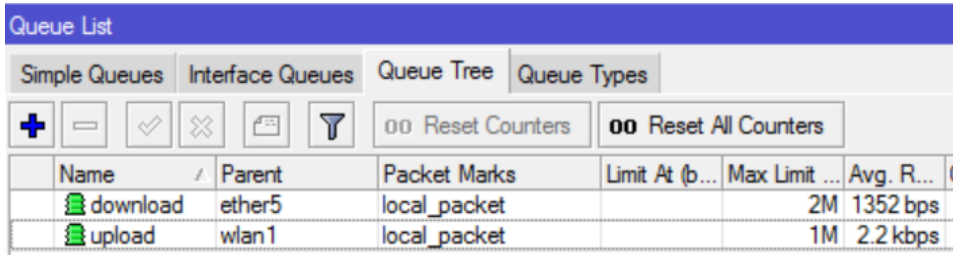
SIMPLE QUEUE CONTROL TOTAL BANDWIDTH



Target can be select local interface or network IP Address the result almost same you can limit upload/download

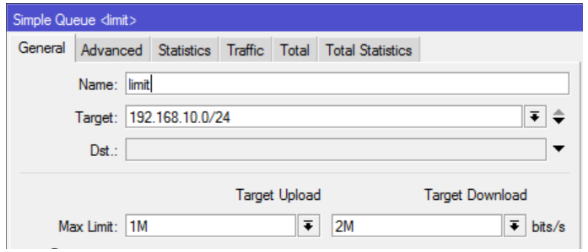
QUEUE TREE CONTROL TOTAL BANDWIDTH

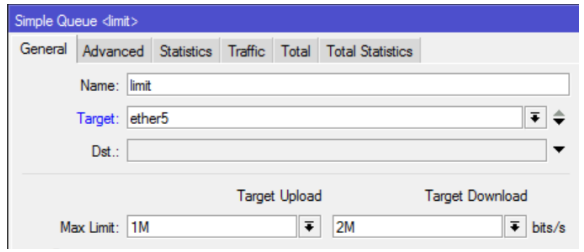


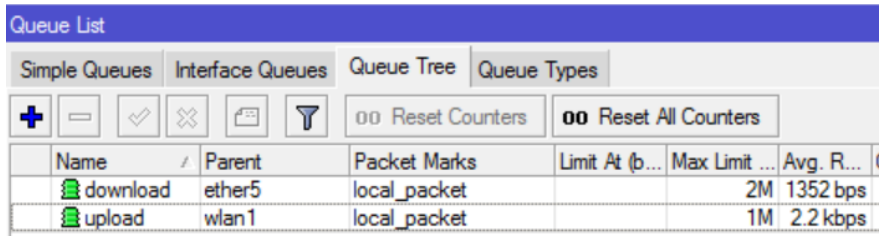


We have to mark connection and use that to mark packet before use in queue tree

COMPARE THE WAY CONTROL BANDWIDTH

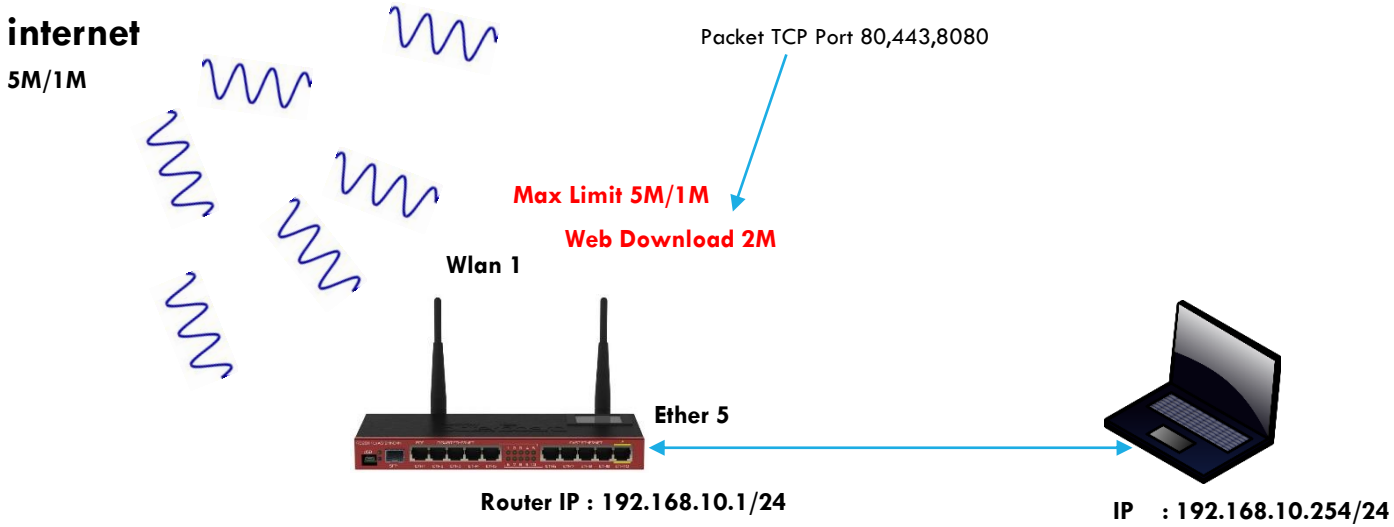






We can use 3 way for control total bandwidth/traffic, so the simple way if you require control total bandwidth Simple Queue be easy for use

IDEA FOR DESIGN SERVICES BANDWIDTH CONTROL



Firewall

Filter Rules | NAT | Mangle | Service Ports | Connections | Address Lists | Layer7 Protocols

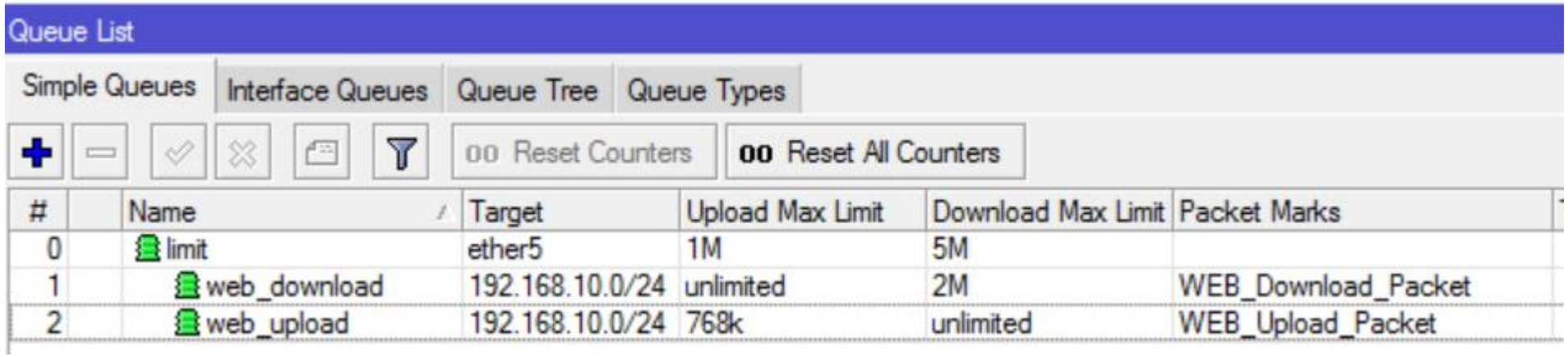
00 Reset Counters | 00 Reset All Counters

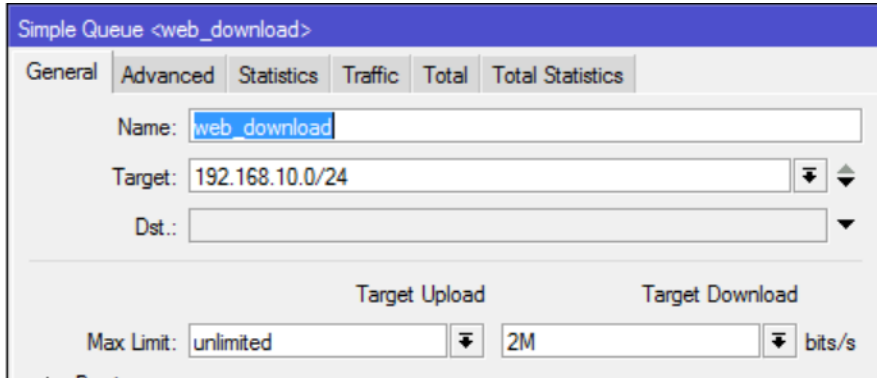
#	Action	Chain	Src. Address	Dst. Address	Protocol	Src. Port	Dst. Port	In. Inter...	Out. Int...	New Packet Mark
0	mark packet	forward			6 (tcp)	80,443,8080				WEB_Download_Packet
1	mark packet	forward			6 (tcp)		80,443,8080			WEB_Upload_Packet

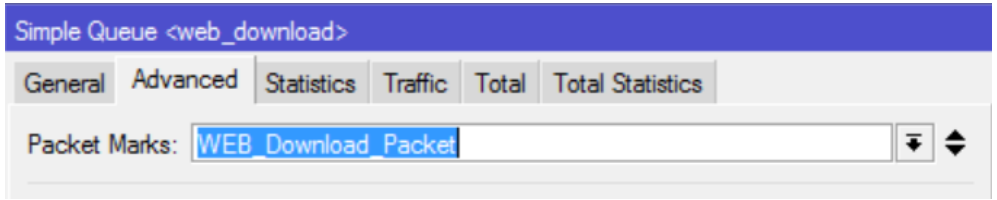
POPULAR SERVICE PORT FOR USE

Port Number	Service Name
20 & 21	File Transfer Protocol (FTP)
22	Secure Shell (SSH)
23	Telnet remote login service
25	Simple Mail Transfer Protocol (SMTP)
53	Domain Name System (DNS) service
80	Hypertext Transfer Protocol (HTTP) used in the World Wide Web
110	Post Office Protocol (POP3)
119	Network News Transfer Protocol (NNTP)
143	Internet Message Access Protocol (IMAP)
161	Simple Network Management Protocol (SNMP)
465	SMTP Secure (SMTPS)
443	HTTP Secure (HTTPS)

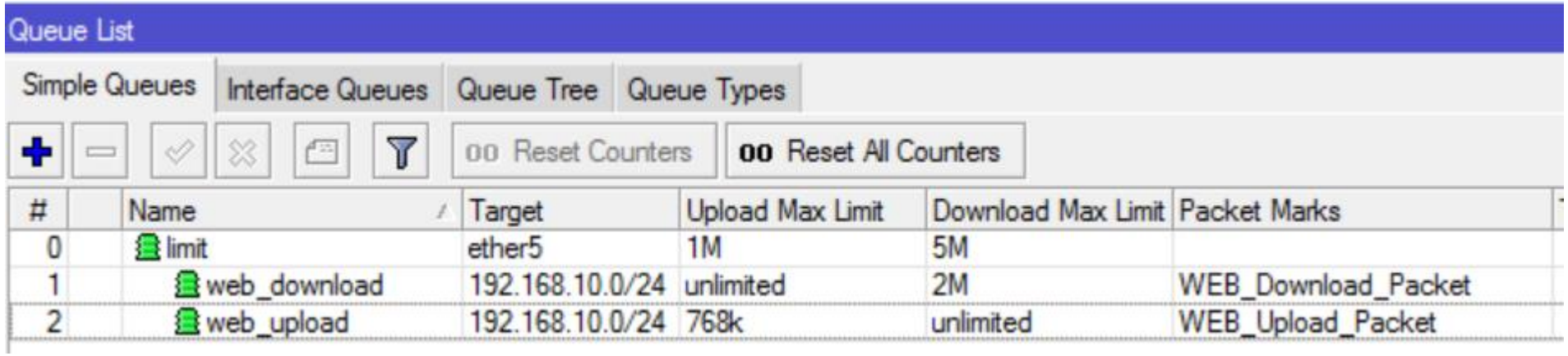
SIMPLE QUEUE CONTROL SERVICES BANDWIDTH

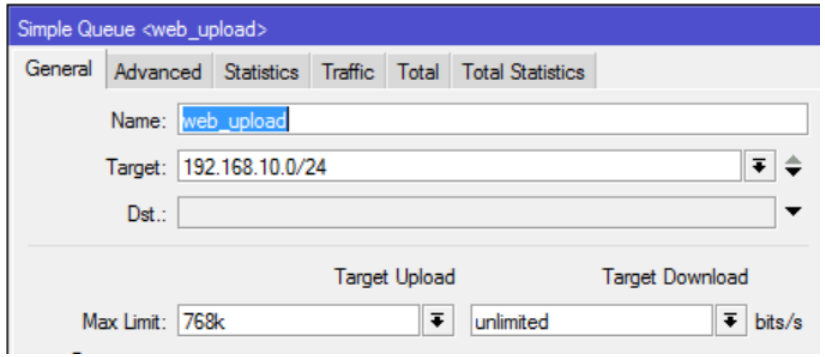


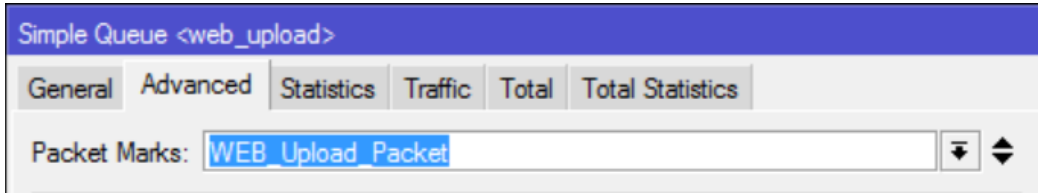




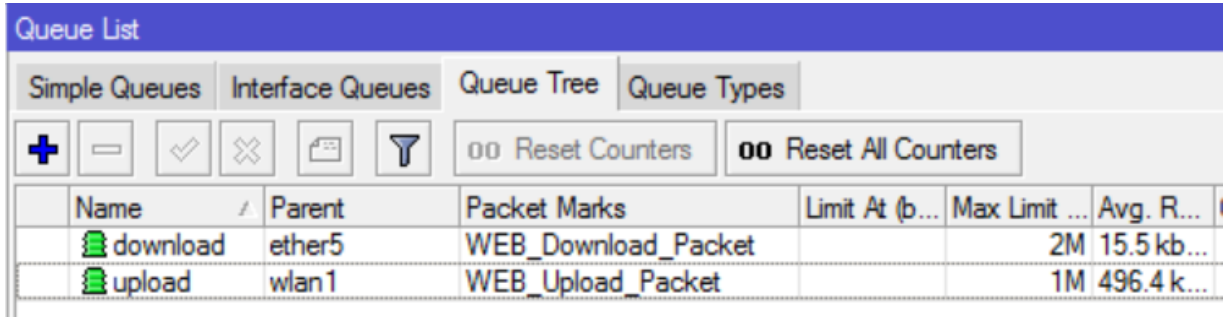
SIMPLE QUEUE CONTROL SERVICES BANDWIDTH



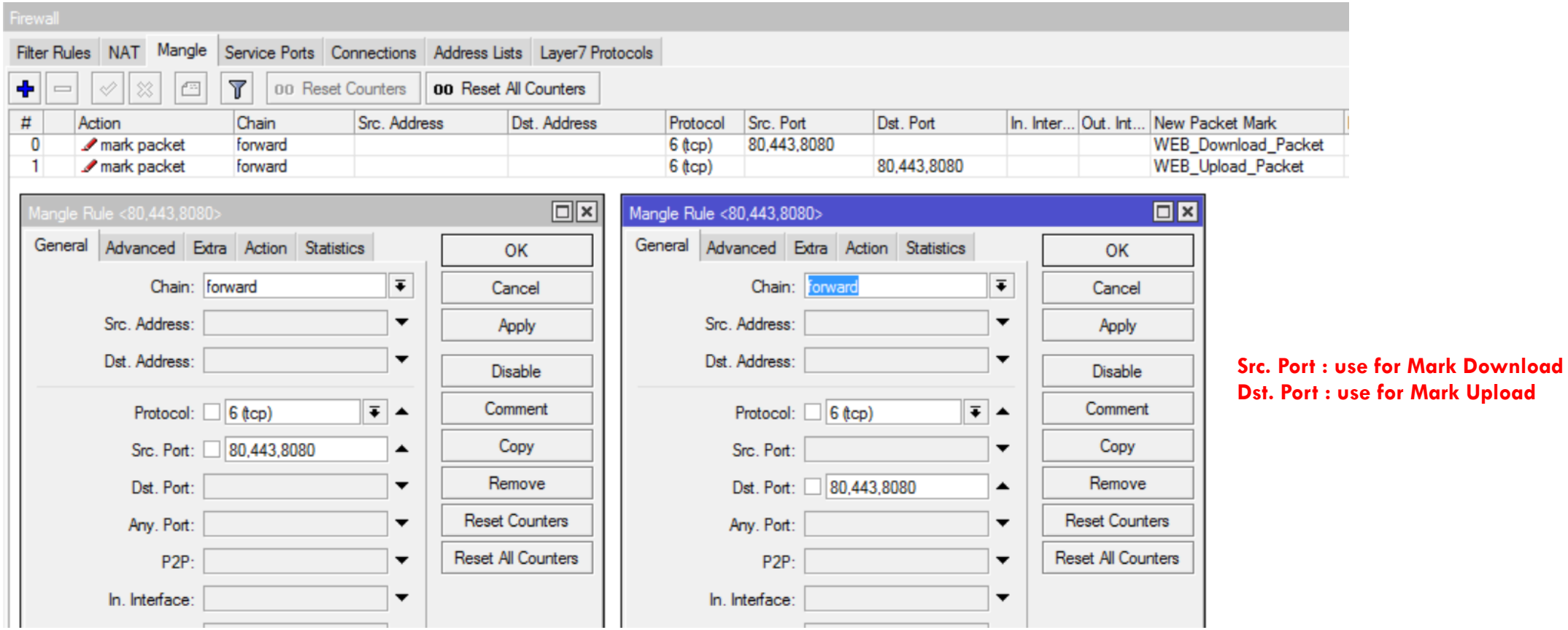




QUEUE TREE CONTROL SERVICES BANWIDTH

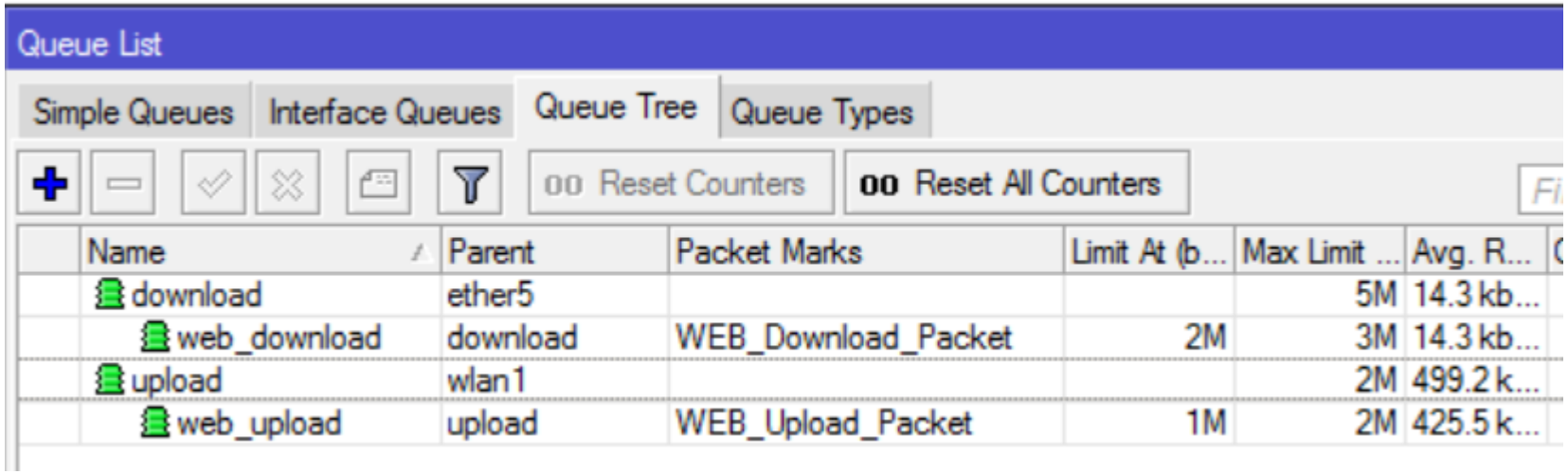


TRICK FOR MARK SERVICE PACKET

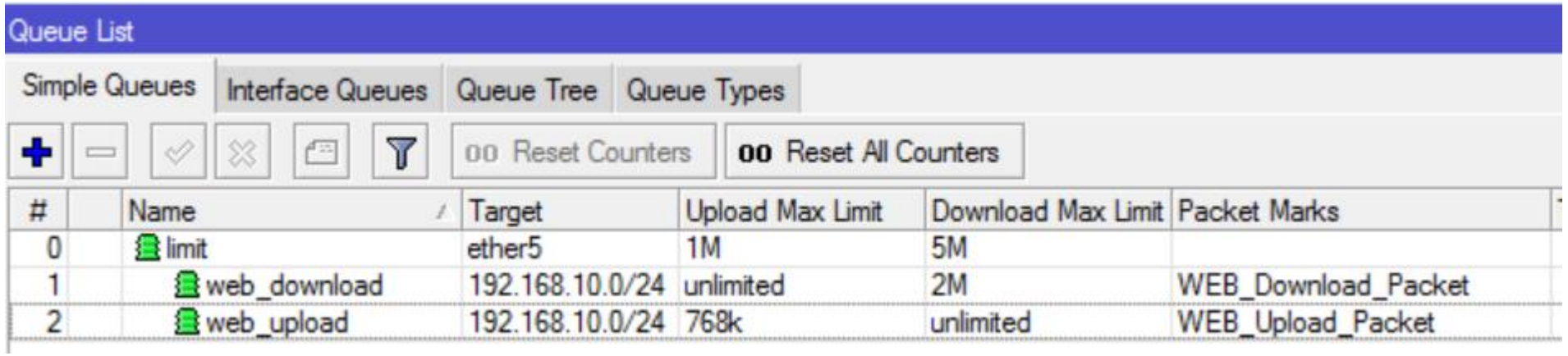


Src. Port : use for Mark Download
Dst. Port : use for Mark Upload

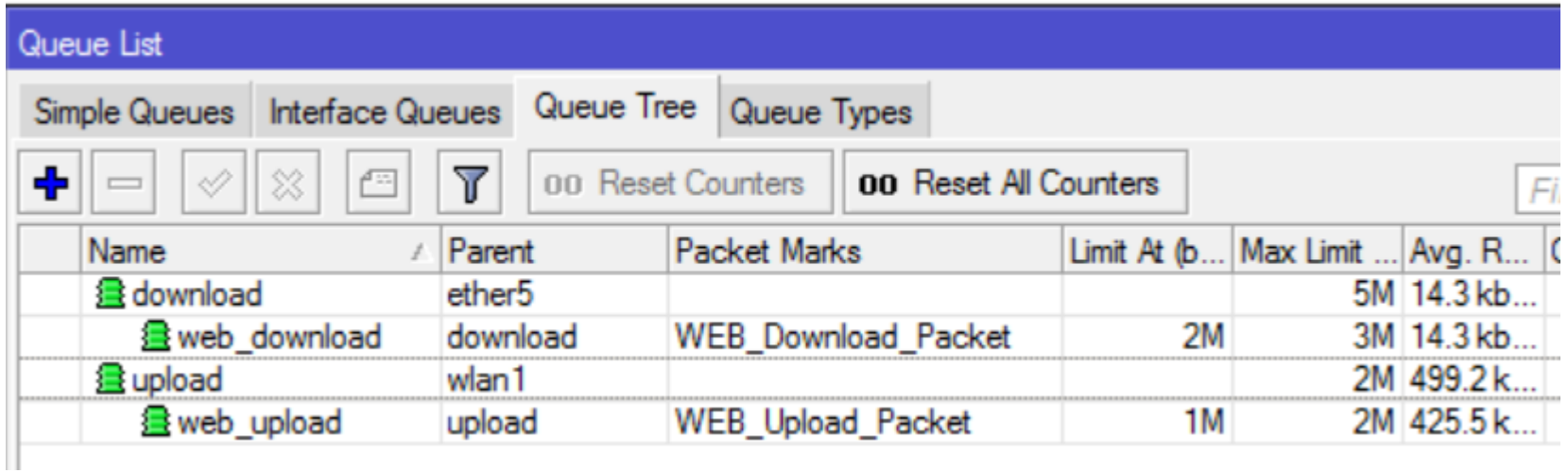
QUEUE TREE CONTROL SERVICE BANDWIDTH



BOTH WAY FOR BANDWIDTH CONTROL



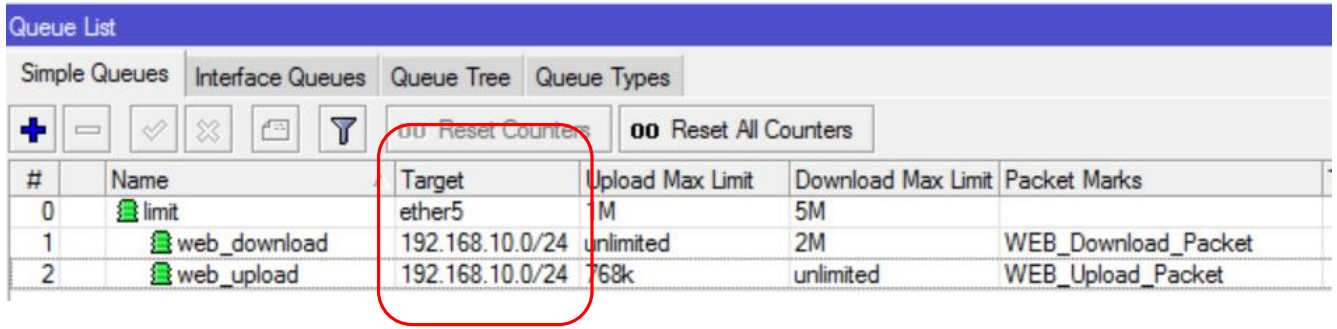
#	Name	Target	Upload Max Limit	Download Max Limit	Packet Marks
0	limit	ether5	1M	5M	
1	web_download	192.168.10.0/24	unlimited	2M	WEB_Download_Packet
2	web_upload	192.168.10.0/24	768k	unlimited	WEB_Upload_Packet



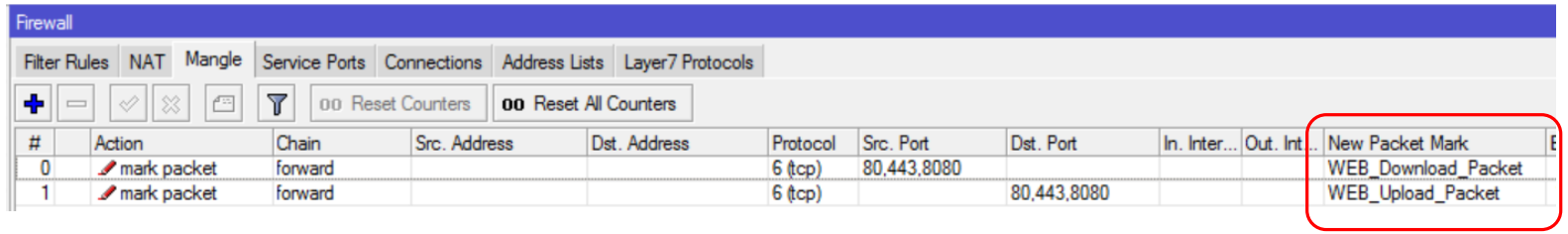
Name	Parent	Packet Marks	Limit At (b...	Max Limit ...	Avg. R...
download	ether5			5M	14.3 kb...
web_download	download	WEB_Download_Packet	2M	3M	14.3 kb...
upload	wlan1			2M	499.2 k...
web_upload	upload	WEB_Upload_Packet	1M	2M	425.5 k...

IMPORTANT FOR QUEUE

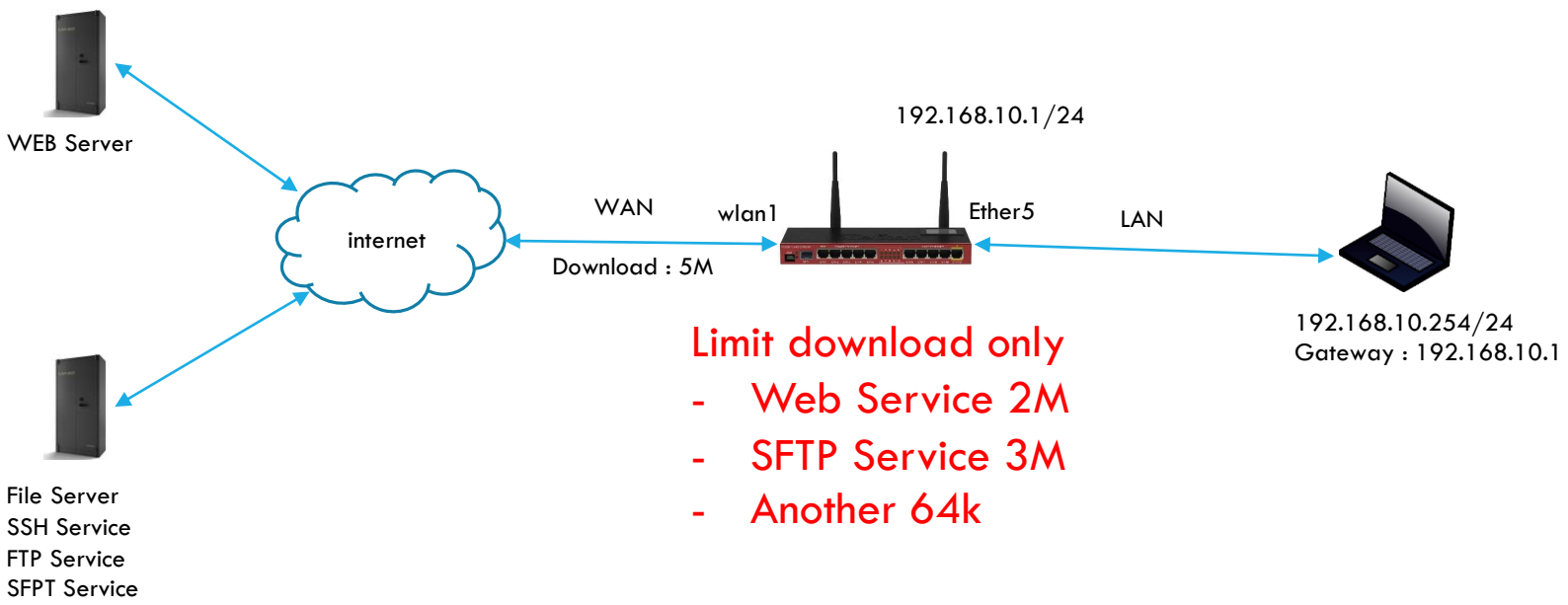
Simple Queue



Queue Tree



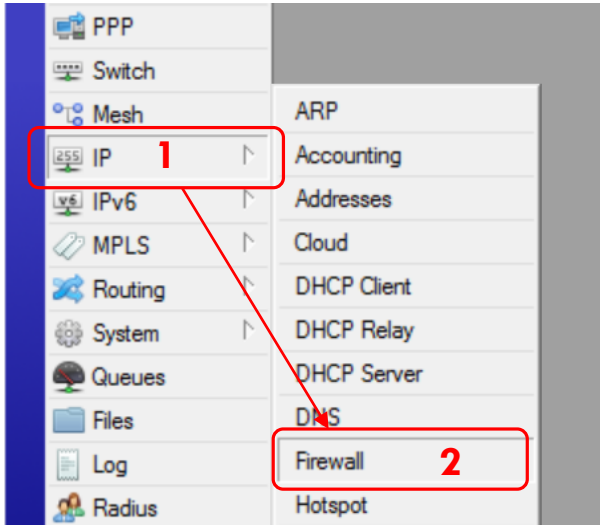
SOLUTION FOR SIMPLE CONTROL BANDWIDTH

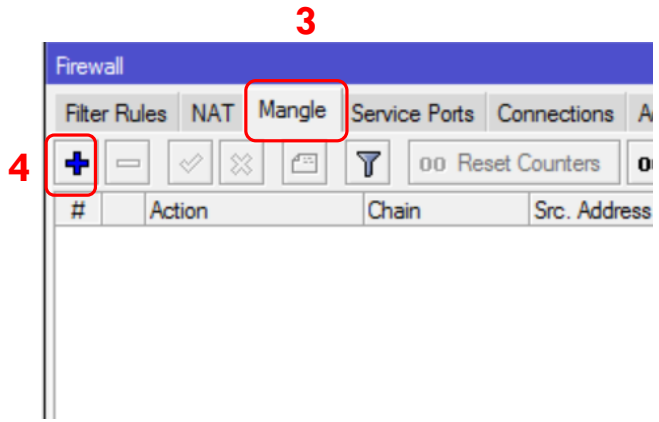


Limit download only

- Web Service 2M
- SFTP Service 3M
- Another 64k

QUEUE CONFIGURATION FOR SOLUTION





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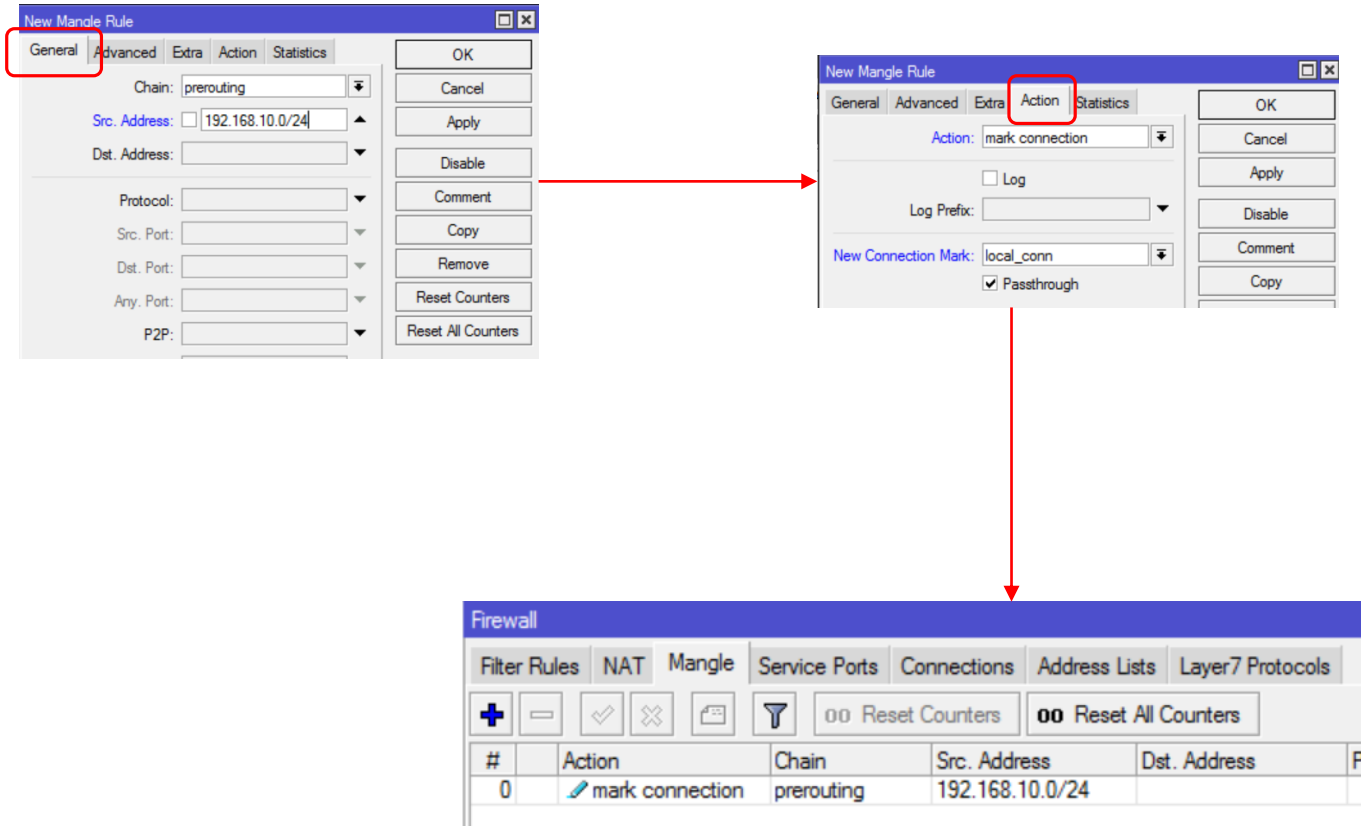

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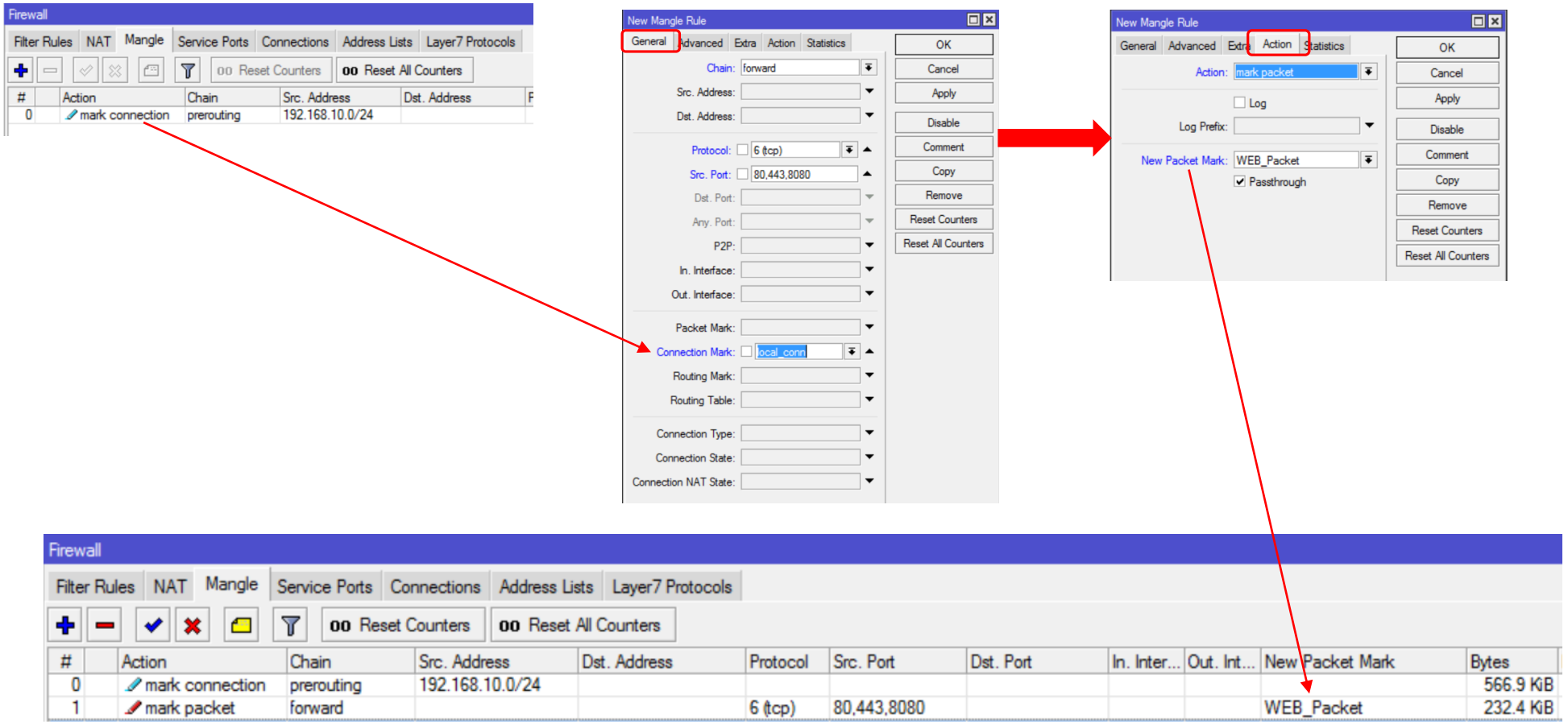

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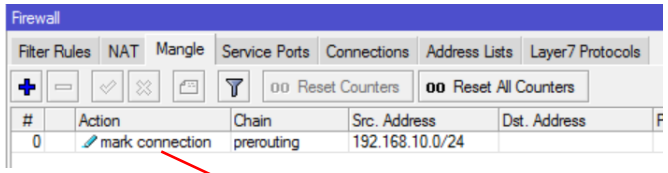

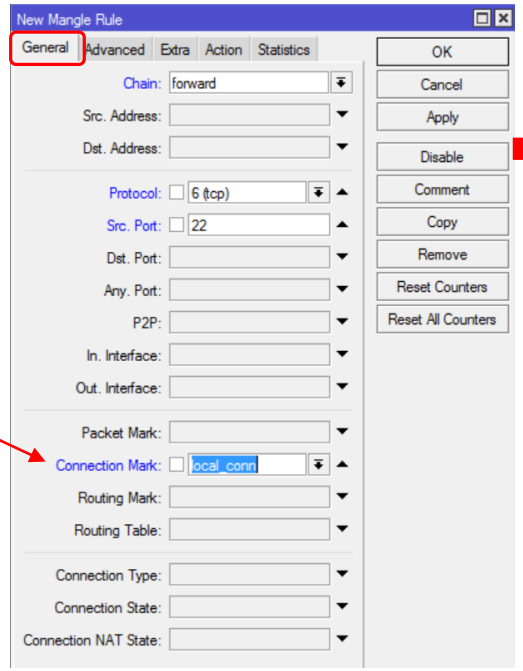

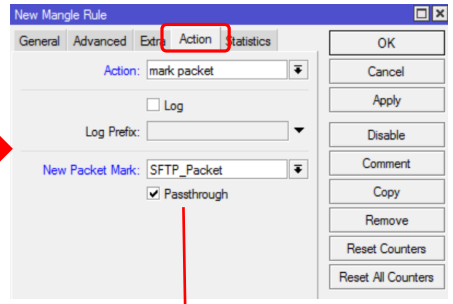

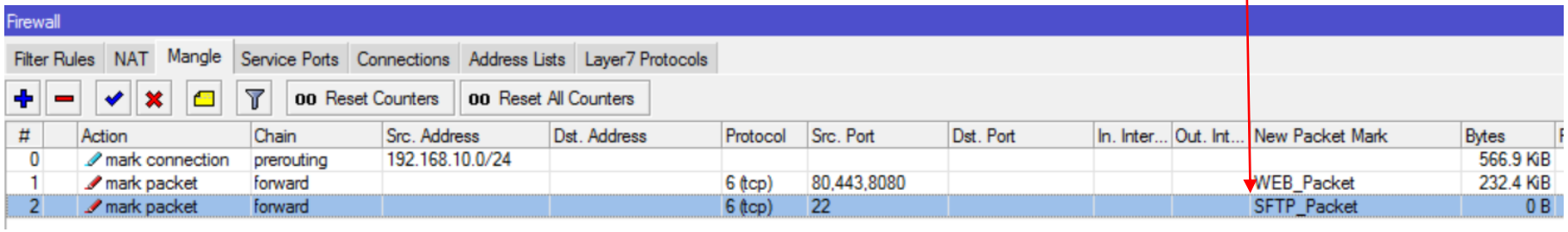

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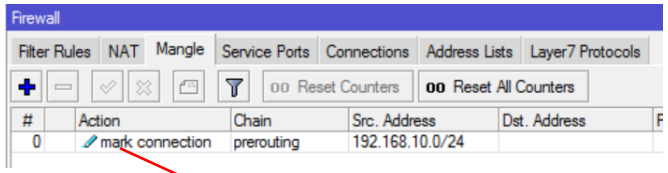

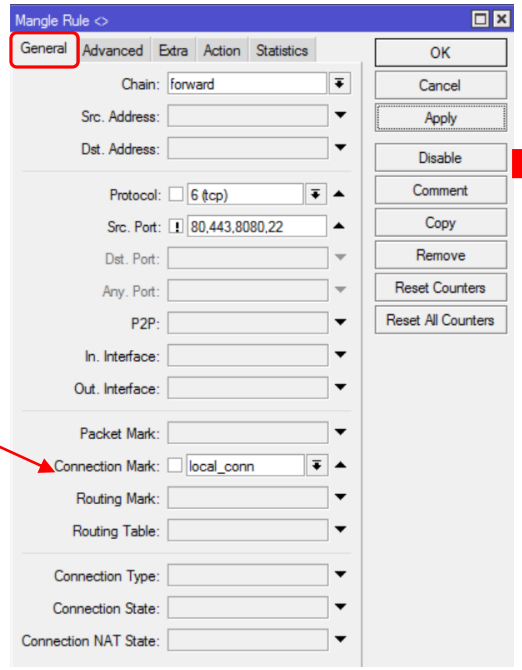

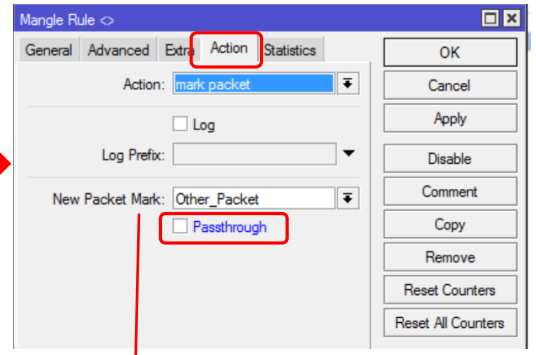

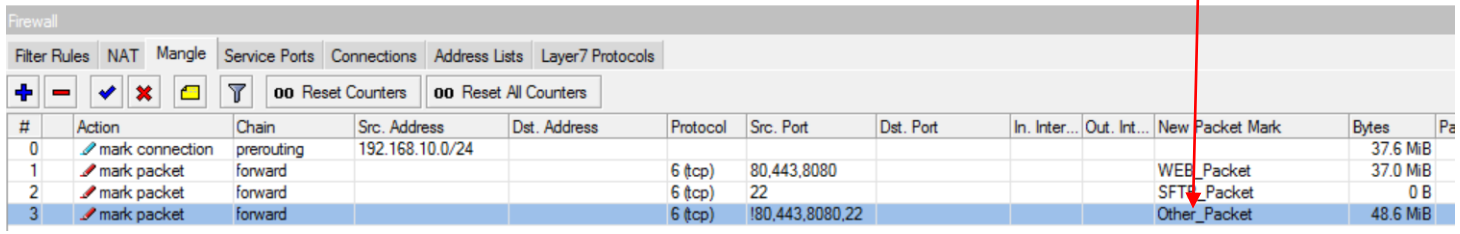

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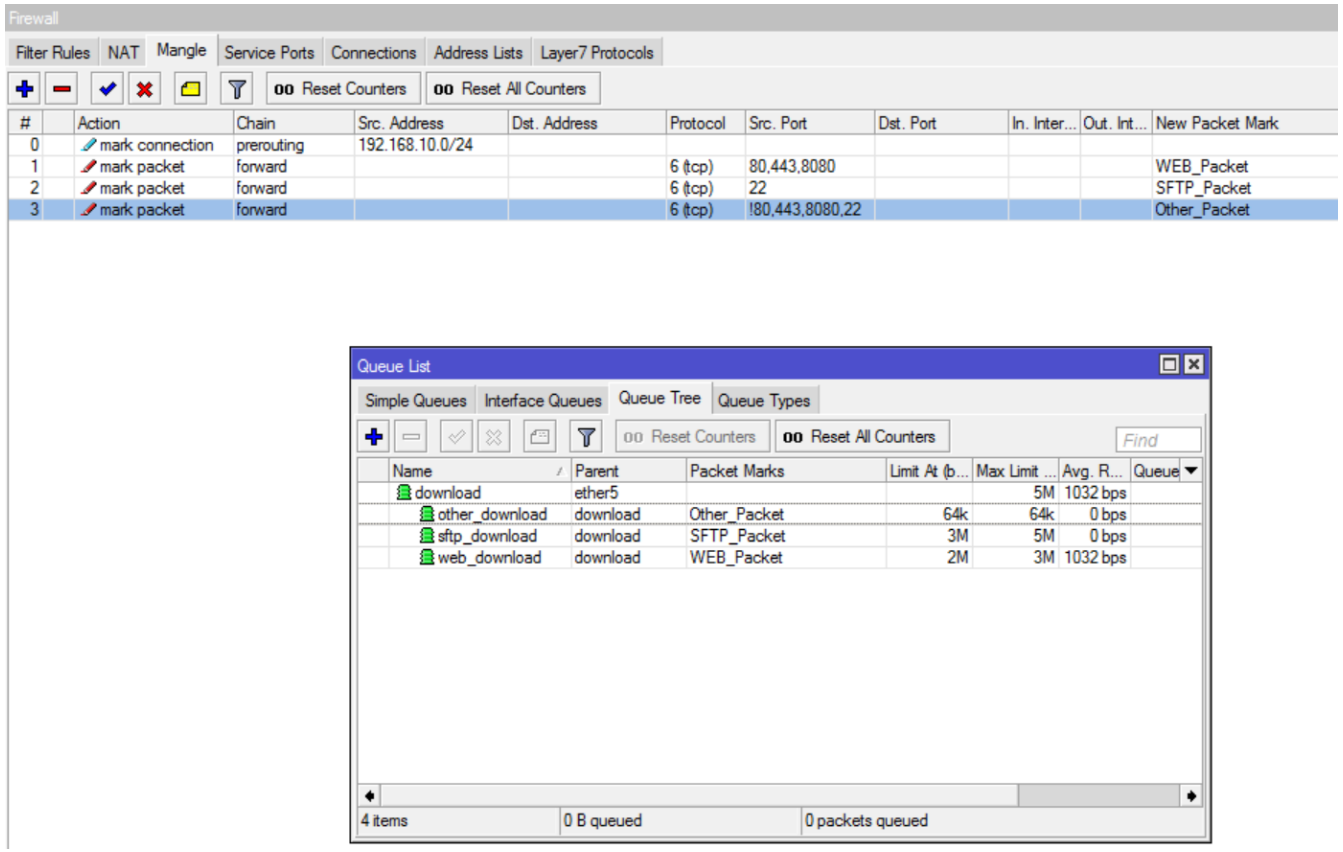

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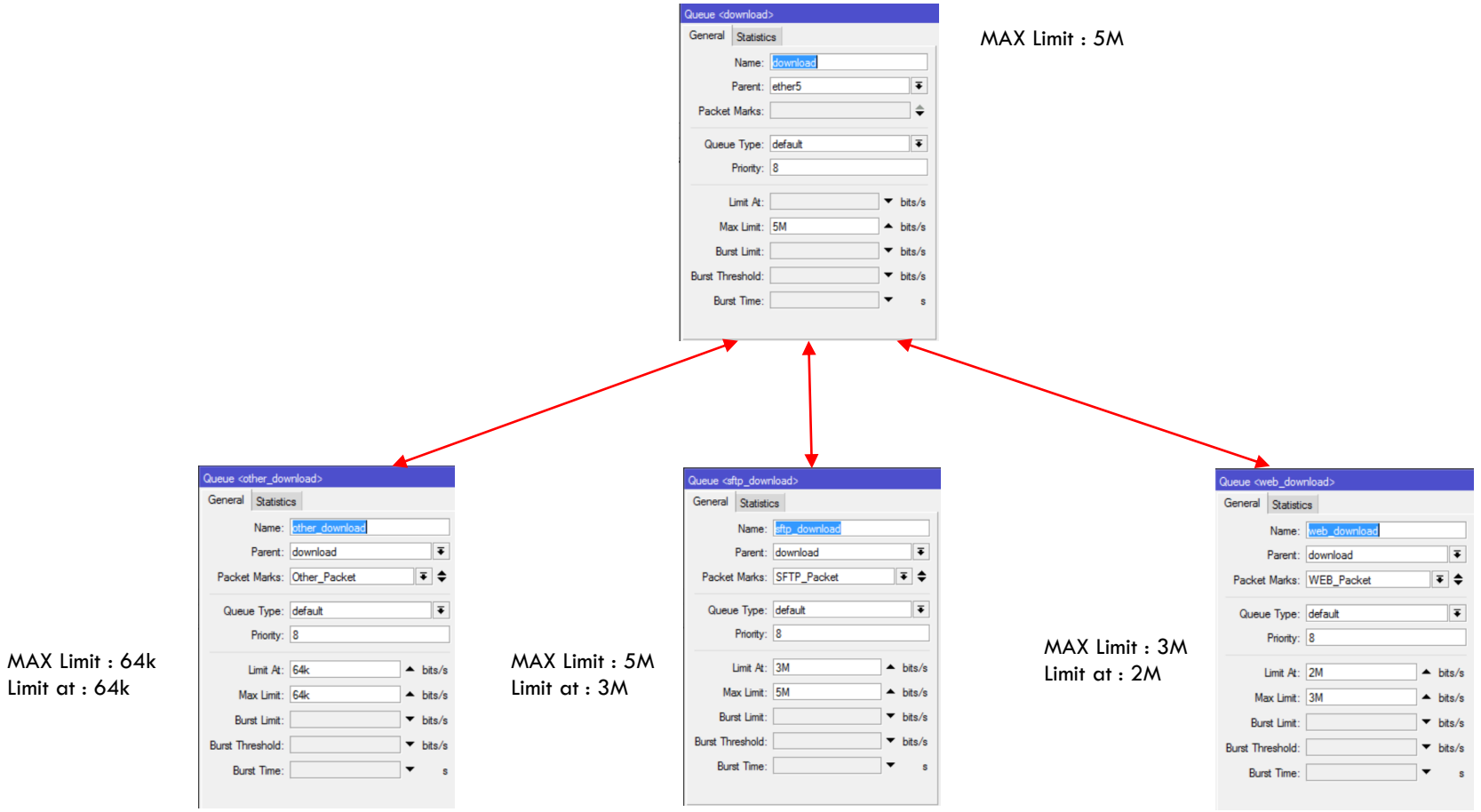

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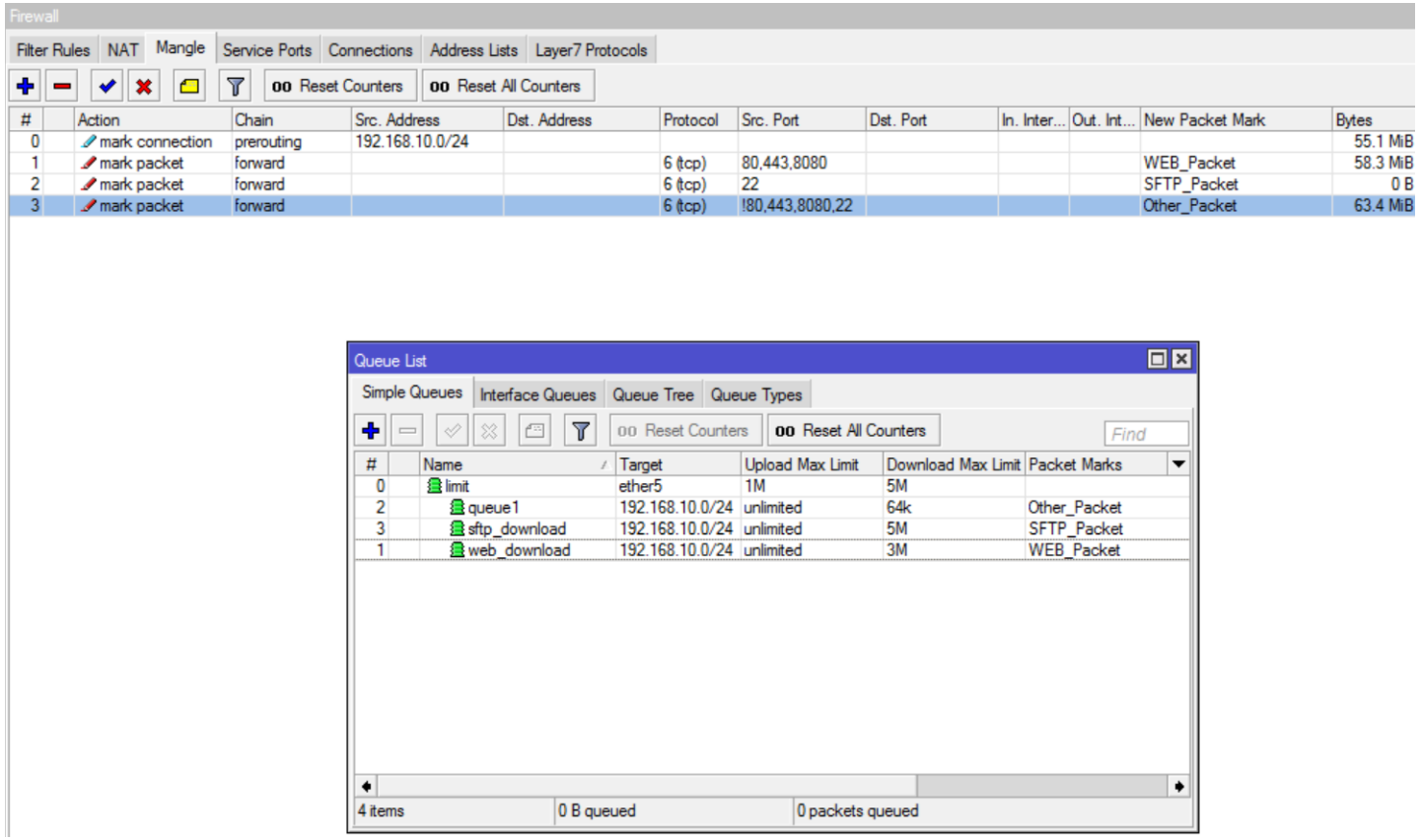

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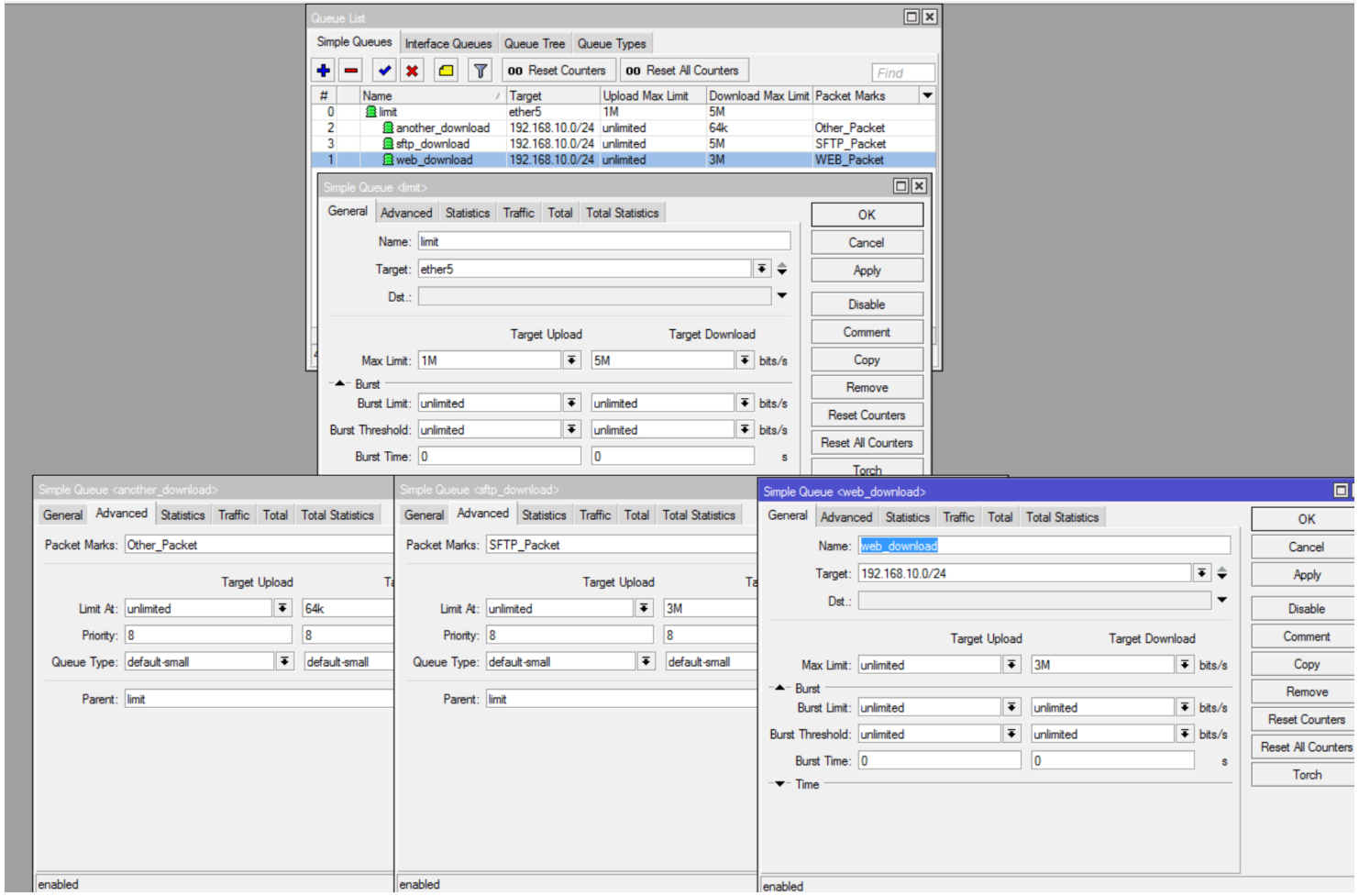

THANKS YOU

Question !!!!

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