```
local rchbl;
    :if ([/ping 10.6.3.241 count=2] > 0 || [/ping 10.15.0.193 count=2] > 0) do={:set rchbl 1} else={:set rchbl 0}
    :local rtenable [/ip route print count-only where comment="primary gateway" && distance=1]
    :local msg ""
    :put "rchbl is $rchbl "

    # check the distance of the primary default gateway static route
    :if ($rtenable = 1) do={
      :if ($rchbl = 0) do={
        :set msg "Pings not reachable, switching to secondary gateway with setting distance to 1"
        /ip route set [find comment="primary gateway"] distance=20
        /ip route set [find comment="secondary gateway"] distance=1
      }
    } else={
      if ($rchbl > 0) do={
        :set msg "Pings reachable, switching back to primary gateway with setting distance to 1"
        /ip route set [find comment="primary gateway"] distance=1
        /ip route set [find comment="secondary gateway"] distance=20
      }
    }

    # output/feedback
    :if ($msg != "") do={
      :log info "$msg"
      :put ".:. $msg"
    }
```
This script checks two IP addresses (8.8.8.8 and 8.8.4.4 in this case). If one of them fails to respond there could be a problem with that specific IP address, not with the internet line. When both IP addresses aren't responding the script changes the distance of the primary and secondary route. When one IP address is responding again the distance is changed back to normal.

There are a few additional settings. The primary and secondary routes have to have the comment "primary gateway" and "secondary gateway".

```
/ip route
add comment="secondary gateway" distance=1 dst-address=0.0.0.0/0 gateway=x.x.x.x
add comment="primary gateway" distance=20 dst-address=0.0.0.0/0 gateway=x.x.x.x

/ip route add comment="Force test pings to 8.8.8.8 through primary gateway" dst-address=8.8.8.8 gateway=x.x.x.x
/ip route add comment="Force test pings to 8.8.4.4 through primary gateway" dst-address=8.8.4.4 gateway=x.x.x.x
```
And to be certain that only pings to 8.8.8.8 and 8.8.4.4 go through the primary gateway interface we add two firewall rules:

```
/ip firewall filter add chain=output comment="Drop pings to 8.8.8.8 if they go through secondary gateway" dst-address=8.8.8.8 out-interface=ether2 action=drop
/ip firewall filter add chain=output comment="Drop pings to 8.8.4.4.4 if they go through secondary gateway" dst-address=8.8.4.4 out-interface=ether2 action=drop
```
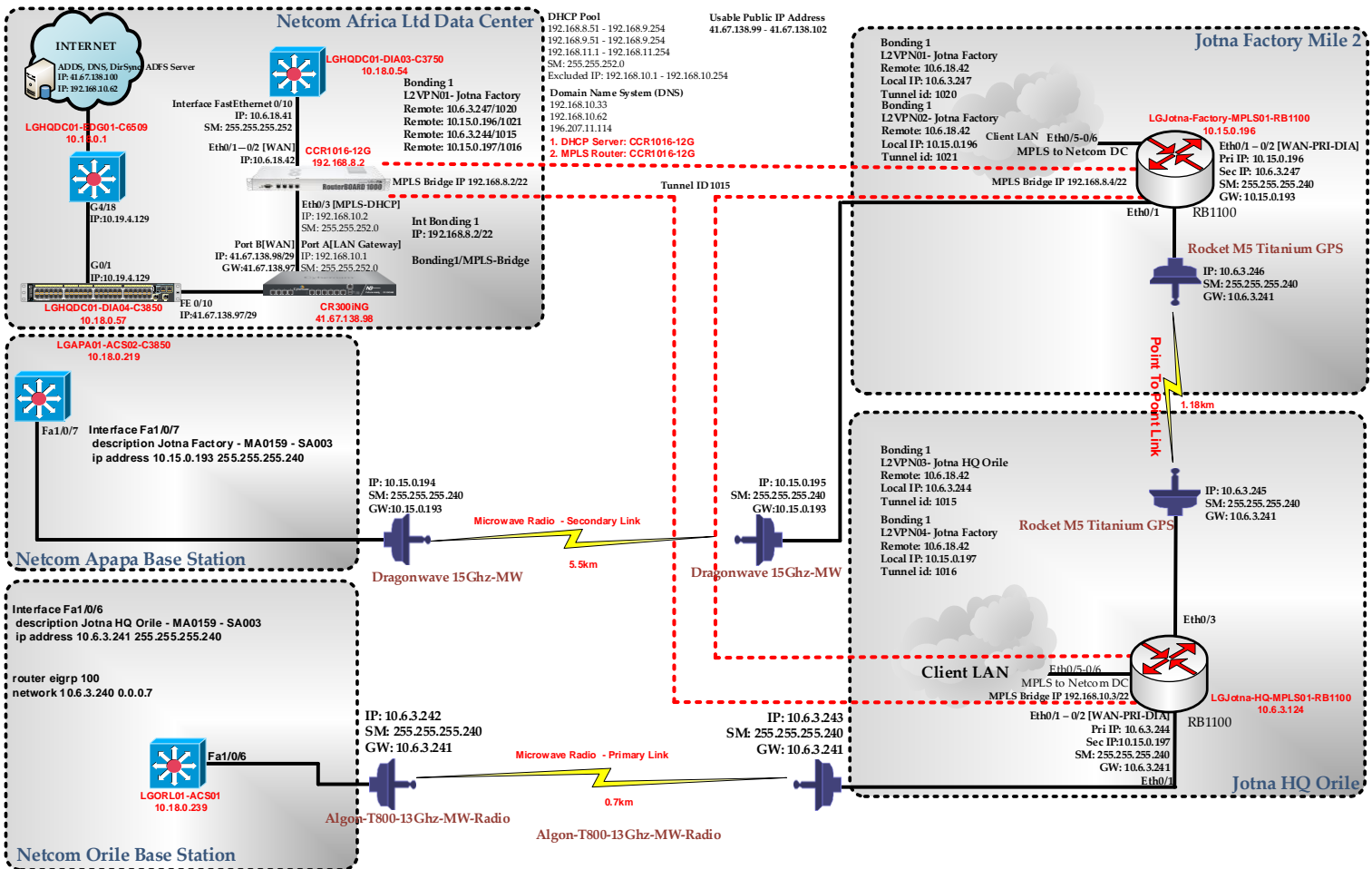You can now test the failover by running the script. After testing you have to add the script to the scheduler:

```
/system scheduler add interval=10s name=failover on-event="/system script run gateway_failover" start-date=Oct/10/2018 start-time=22:18:14
```

Netcom Africa Ltd Data Center

INTERNET

ADDS, DNS, DirSync ADFS Server
IP: 41.67.138.100
IP: 192.168.10.62

LGHQDC01-BDG01-C6509
10.15.0.1

G4/18
IP:10.19.4.129

G0/1
IP:10.19.4.129

LGHQDC01-DIA04-C3850
10.18.0.57

LGHQDC01-DIA03-C3750
10.18.0.54

Interface FastEthernet 0/10
IP: 10.6.18.41
SM: 255.255.255.252

Eth0/1 – 0/2 [WAN]
IP:10.6.18.42

CCR1016-12G
192.168.8.2

RouterBOARD 1000

MPLS Bridge IP 192.168.8.2/22

Eth0/3 [MPLS-DHCP]
IP: 192.168.10.2
SM: 255.255.252.0

Port B[WAN]
IP: 41.67.138.98/29

Port A[LAN Gateway]
IP: 192.168.10.1
SM: 255.255.252.0

CR300iNG
41.67.138.98

FE 0/10
IP:41.67.138.97/29

Bonding 1
L2VPN01- Jotna Factory
Remote: 10.6.3.247/1020
Local IP: 10.15.0.196/1021
Remote: 10.6.3.244/1015
Remote: 10.15.0.197/1016

Int Bonding 1
IP: 192.168.8.2/22

Bonding1/MPLS-Bridge

DHCP Pool
192.168.8.51 - 192.168.9.254
192.168.9.51 - 192.168.9.254
192.168.11.1 - 192.168.11.254
SM: 255.255.252.0
Excluded IP: 192.168.10.1 - 192.168.10.254

Domain Name System (DNS)
192.168.10.33
192.168.10.62
196.207.11.114

1. DHCP Server: CCR1016-12G
2. MPLS Router: CCR1016-12G

Usable Public IP Address
41.67.138.99 - 41.67.138.102

Jotna Factory Mile 2

Bonding 1
L2VPN01- Jotna Factory
Remote: 10.6.18.42
Local IP: 10.6.3.247
Tunnel id: 1020
Bonding 1
L2VPN02- Jotna Factory
Remote: 10.6.18.42
Local IP: 10.15.0.196
Tunnel id: 1021

Client LAN   Eth0/5-0/6
MPLS to Netcom DC

MPLS Bridge IP 192.168.8.4/22

LGJotna-Factory-MPLS01-RB1100
10.15.0.196

Eth0/1 – 0/2 [WAN-PRI-DIA]
Pri IP: 10.15.0.196
Sec IP: 10.6.3.247
SM: 255.255.255.240
GW: 10.15.0.193

Eth0/1
RB1100

Rocket M5 Titanium GPS
IP: 10.6.3.246
SM: 255.255.255.240
GW: 10.6.3.241

Tunnel ID 1015

Point To Point Link

1.18km

Netcom Apapa Base Station

LGAPA01-ACS02-C3850
10.18.0.219

Fa1/0/7

Interface Fa1/0/7
description Jotna Factory - MA0159 - SA003
ip address 10.15.0.193 255.255.255.240

IP: 10.15.0.194
SM: 255.255.255.240
GW:10.15.0.193

Microwave Radio - Secondary Link
5.5km

Dragonwave 15Ghz-MW

IP: 10.15.0.195
SM: 255.255.255.240
GW:10.15.0.193

Dragonwave 15Ghz-MW

Bonding 1
L2VPN03- Jotna HQ Orile
Remote: 10.6.18.42
Local IP: 10.6.3.244
Tunnel id: 1015
Bonding 1
L2VPN04- Jotna Factory
Remote: 10.6.18.42
Local IP: 10.15.0.197
Tunnel id: 1016

IP: 10.6.3.245
SM: 255.255.255.240
GW: 10.6.3.241

Rocket M5 Titanium GPS

Eth0/3

Netcom Orile Base Station

Interface Fa1/0/6
description Jotna HQ Orile - MA0159 - SA003
ip address 10.6.3.241 255.255.255.240

router eigrp 100
network 10.6.3.240 0.0.0.7

IP: 10.6.3.242
SM: 255.255.255.240
GW: 10.6.3.241

LGORL01-ACS01
10.18.0.239

Fa1/0/6

Microwave Radio - Primary Link
0.7km

Algon-T800-13Ghz-MW-Radio

Client LAN   Eth0/5-0/6
MPLS to Netcom DC
MPLS Bridge IP 192.168.10.3/22

LGJotna-HQ-MPLS01-RB1100
10.6.3.124

Eth0/1 – 0/2 [WAN-PRI-DIA]
Pri IP: 10.6.3.244
Sec IP:10.15.0.197
SM: 255.255.255.240
GW: 10.6.3.241

Eth0/1
RB1100

Jotna HQ Orile

IP: 10.6.3.243
SM: 255.255.255.240
GW: 10.6.3.241

Algon-T800-13Ghz-MW-Radio

LGHQDC01-BDG01-C6509
10.15.0.1

			Project Name	Advanced Load-balancing Jotna Factory and HQ with Scriptings and failover
Netcom		Client Name		Advanced Load-balancing Jotna Factory and HQ with Scriptings and failover

Rev No.	DESCRIPTION	DATE	Revised By	Drawn By	Reviewed By	Approved By	Page of Pages
01	Advanced Load-balancing Jotna Factory and HQ with Scriptings and failover	2018-04-29	Ehi	Ehi	Ehi	MKN	1 OF 1

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