

The configuration of Static NAT-PT In MSR Series

**Keywords:** NAT-PT;MSR;IPv6

**I Requirement for the diagram**

Based on NAT-PT, Using static NAT-PT address transform, for PC\_A which with IPv6 address can communicate with PC\_B which with IPv4 address.

Device List: 1 MSR; 2 PC;

CMW Version: Version 5.20, Beta 1106

**II Network topology**



Figure 1 static NAT-PT

Device	Interface	IPv4 address	Interface	IPv6 address
RTA	E0/0	3001::1/64	E0/1	4.0.0.1/24
NAT-PTprefix		1000::		
PC_A	Adapter	3001::2/64	Maped address	5.0.0.1
PC_B	Adapter	4.0.0.2/24	Maped address	1000::0001

**III Steps of configuration**

- 1) Connecting device as showed above;
- 2) Config as below:

**RTA:**

//Configuring interface address, enable NAT-PT

**[RTA]ipv6**

[RTA]interface Ethernet0/0

[RTA-Ethernet0/0]ipv6 address 3001::1/64

**[RTA-Ethernet0/0]natpt enable**

[RTA-Ethernet0/0]quit

[RTA]interface Ethernet0/1

[RTA-Ethernet0/1] ip address 4.0.0.1 24

**[RTA-Ethernet0/1]natpt enable**

[RTA-Ethernet0/1]quit

**[RTA] natpt prefix 1000:: // Configuring NAT-PT prefix**

//Mapping IPv4 address to indirect IPv6 address

//Make sure do not at the same subnet with 3001::

**[RTA] natpt v4bound static 4.0.0.2 1000::0001**

//Mapping IPv6 address to indirect IPv4 address

//Make sure do not at the same subnet with 4.0.0.0/24

**[RTA] natpt v6bound static 3001::0002 5.0.0.1**

//Add default routing on PC\_A with the next hop to router interface. In command below, 5 is the adapter index of PC\_A

**C:\>ipv6 rtu ::0 5/3001::1**

**3. Testing Result:**

Method 1:

From PC\_B ping the 5.0.0.1 (IPv6 host mapped address) , the result is below:

C:\>ping 5.0.0.1

Pinging 5.0.0.1 with 32 bytes of data:

Reply from 5.0.0.1: bytes=32 time=2ms TTL=127

Reply from 5.0.0.1: bytes=32 time=2ms TTL=127

Reply from 5.0.0.1: bytes=32 time=2ms TTL=127

Reply from 5.0.0.1: bytes=32 time=2ms TTL=127

Ping statistics for 5.0.0.1:

Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),

Approximate round trip times in milli-seconds:

Minimum = 2ms, Maximum = 2ms, Average = 2ms

Similarly, From PC\_A ping the address that PC\_B mapped IPv6, can be reachable either. Here, the static NAT-PT has configured success.

Method 2:

We can check NAT-PT session on the router:

1) Ping every indirected address of one PC, reachable;

2) Checking the session table now:

```
[RTB]dis natpt sess all
```

NATPT Session Info:

No	IPV6Source	IPV4Source	Pro
	IPV6Destination	IPV4Destination	
1	3001::0002^ 0	5.0.0.1^ 0	ICMP
	1000::0001^ 0	4.0.0.2^ 0	

From the table above we can see: address 3001::2 mapped to 5.0.0.1, and address 4.0.0.2 mapped to 1000::1

#### IV Key notes in the configuration

1) All the indirect address should not at the same subnet with target address;

2) When check the session info, it is a dynamic info, and will changing by the time. So every time, you should ping first.