

Re: How do I read/interpret a (netstat) routing table ?

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[http://www.tech-archive.net/Archive/WinXP/microsoft.public.windowsxp.network\\_web/2007-08/msg00030.html](http://www.tech-archive.net/Archive/WinXP/microsoft.public.windowsxp.network_web/2007-08/msg00030.html)

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- *From:* Anand <n.anand.k@xxxxxxxxxx>
  - *Date:* Wed, 01 Aug 2007 23:09:38 -0700
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On Jul 27, 4:23 pm, tho...@xxxxxxxxxx (Thommy Kanther) wrote:

After entering a command

```
netstat -rn
```

on my computer I am getting the following information (see bottom).

Ok, I know this routing table is used to direct TCP/IP packets to their destination.

But how do I interpret this table ?

For example has a routing command line higher priority the lower it is listed in the table ?

Assume on local computer 192.168.0.14 a TCP-IP packet is arriving with the destination 192.168.0.32

Starting with the last entry line and going higher step by step the first line which matches the destination mask of the two first columns is

```
192.168.0.0 255.255.255.0 192.168.0.14 192.168.0.14 30
```

Hmm, from my point of view the routing table says the following: Forward the packet to computer 192.168.0.14 over interface 192.168.0.14. But what makes this for a sense? This is the local computer. Why should the packet be forward to itself ?

Shouldn't be a the entry line as follows:

```
192.168.0.0 255.255.255.0 192.168.0.31 192.168.0.1 30
```

I am a bit confused.

Could someone give me a good explanation or direct my to a web pages with good sample evaluations ?

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Thank ypu  
Thomas

Active Routes:

```
Network Destination Netmask Gateway Interface Metric
0.0.0.0 0.0.0.0 192.168.0.1 192.168.0.14 30
127.0.0.0 255.0.0.0 127.0.0.1 127.0.0.1 1
192.168.0.0 255.255.255.0 192.168.0.14 192.168.0.14 30
192.168.0.14 255.255.255.255 127.0.0.1 127.0.0.1 30
192.168.0.255 255.255.255.255 192.168.0.10 192.168.0.14 30
224.0.0.0 240.0.0.0 192.168.0.10 192.168.0.14 30
255.255.255.255 255.255.255.255 192.168.0.10 192.168.0.14 1
Default Gateway: 192.168.0.1
```

=====  
Persistent Routes:

None

Probably, the routing table what ever you see, I think is not configured properly.

I would like to explain the fields first,

Network Destination --> The one which is outside your subnet, basically it has different subnet mask compared to local.

NetMask --> Makes it easier for the Router (layer 3 device, which isolates 2 subnets). This is used to identify which subnet the packet must go to.

Gateway --> There could be more than one gateway within a network, so to reach the destination we configure which could be the best possible gateway

Interface --> Assuming that we could have more number of interfaces (ethernet interfaces, eth0, eth1, eth2...) and each interface would be assigned an IPAddress,

so this information is required, on how to reach the gateway and through which interface it needs to push the packet.

Metric --> Provides the path cost, basically for static routing the value would be 1 (default, but we can change it) and for dynamic routing (RIP, IGRP, OSPF) it varies.

Assume that we have a packet with destination IP address as w.x.y.z arrives to Router, so now the router checks the Routing table and if it identifies that w.x.y.0/24 is present in the table then it will try to reach the concerned gateway by pushing through the respective interface. Assume that there were two entries of the same with metrics different, then the router has to choose the one which has a lower value. Assume the router did not find any entries in the routing table then it would go to default gateway.

Now assume the other scenario, a packet with the destination IP address k.l.m.n arrives to router, and k.l.m.0/24 is default mask of

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the router, then it implies that the packet is destined to same network and it does not push to outside subnet.

if for further queries search "routing algorithm" in google. you could find many doc's.