Ubuntu IP Masquerading

Server Guide Documentation

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The purpose of IP Masquerading is to allow machines with private, non-routable IP addresses on your network to access the Internet through the machine doing the masquerading. Traffic from your private network destined for the Internet must be manipulated for replies to be routable back to the machine that made the request. To do this, the kernel must modify the *source* IP address of each packet so that replies will be routed back to it, rather than to the private IP address that made the request, which is impossible over the Internet. Linux uses *Connection Tracking* (conntrack) to keep track of which connections belong to which machines and reroute each return packet accordingly. Traffic leaving your private network is thus "masqueraded" as having originated from your Ubuntu gateway machine. This process is referred to in Microsoft documentation as Internet Connection Sharing.

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Instructions For IP Masquerading

This can be accomplished with a single iptables rule, which may differ slightly based on your network configuration:


```
sudo iptables -t nat -A POSTROUTING -s 192.168.0.0/16 -o ppp0 -j MASQUERADE
```

The above command assumes that your private address space is 192.168.0.0/16 and that your Internet-facing device is ppp0. The syntax is broken down as follows:

-t nat -- the rule is to go into the nat table

-A POSTROUTING -- the rule is to be appended (-A) to the POSTROUTING chain

-s 192.168.0.0/16 -- the rule applies to traffic originating from the specified address space

-o ppp0 -- the rule applies to traffic scheduled to be routed through the specified network device

-j MASQUERADE -- traffic matching this rule is to "jump" (-j) to the MASQUERADE target to be manipulated as described above

t table, and where most or all packet filtering occurs)
ou are creating a firewall in addition to a gateway
o DROP or REJECT, in which case your masqueraded
FORWARD chain for the above rule to work:

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CCEPT

nections from your local network to the Internet and all
eturn to the machine that initiated them.

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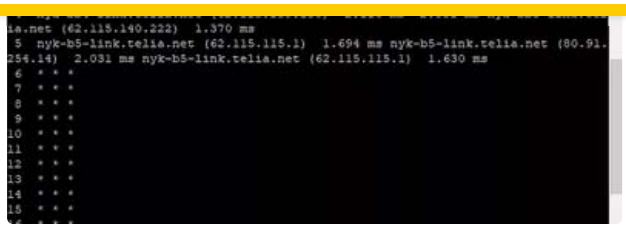

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