Table Of Contents

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Home > Faq > CentOS

Linux Configure Jumbo Frames to Boost Network Performance / Throughput

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Q. Jumbo frames are Ethernet frames with more than 1500 bytes of payload MTU. Does Linux support jumbo frames? If so how do I set frames to 9000 bytes under Linux operating systems?

A. Most modern Linux distros (read as Linux Kernel 2.6.17+) does support frames larger than 1500 bytes. This can improve the performance. First, make sure your network driver supports custom MTU. Second you need to have a compatible gigabit NIC and switch (such as Cisco Catalyst 4000/4500 Switches with Supervisor III or Supervisor IV) that is jumbo frame clean. If you are not sure about requirements, please refer to your product documentation.

[1]

Jumbo frames can reduce **server overhead** such as a big **decrease in CPU usage when transferring larger file**. Also you should see some increase in network throughput.

Configure eth0 interface for Jumbo Frames

> ⚠ **WARNING!** These examples may not work with your setup as it depends upon a compatible network gear such gigabit Ethernet switches and gigabit Ethernet network interface cards

Simply type the following command at a shell prompt to set new MTU (Jumbo Frames):

```
# ifconfig eth0 mtu 9000
```

Make changes permanent

Edit the network configuration file for eth0 interface - for example, /etc/sysconfig/network-script/ifcfg-eth0 (CentOS / RHEL / Fedora Linux):

```
# vi /etc/sysconfig/network-script/ifcfg-eth0
```

Append the following configuration directive, which specifies the size of the frame in bytes:

```
MTU 9000
```

A note about Debian / Ubuntu Linux user:

Debian / Ubuntu Linux user should add MTU=9000 to /etc/network/interfaces configuration file.

Close and save the file. Restart the Interface eth0:

```
# /etc/init.d/networking restart
```

To confirm the MTU used between two specific devices. use ip command as follows:

```
# ip route get {IP-address}
# ip route get 192.168.1.1
```

Output:

```
192.168.1.1 dev eth0  src 192.168.1.100
    cache  mtu 9000 advmss 1460 hoplimit 64
```

Application Protocol Tunning

You may need to tune the application / network protocol such as NFS and SMB to take advantage of Jumbo Frames.

Updated for accuracy.

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