**升級到 openssh 7.8p1 後 ssh 連接報錯 packet\_write\_wait: Broken pipe**

今天升級 macOS VMware 裏的 Fedora 28 虛擬機後 ssh 連接出現下面報錯：

$ ssh -v 192.168.1.11

......

debug1: Next authentication method: publickey

debug1: Offering public key: RSA SHA256:emH3b5VRiPrFjzd1 /home/user/.ssh/id\_rsa

debug1: Server accepts key: pkalg rsa-sha2-512 blen 535

debug1: Authentication succeeded (publickey). # <-- 認證成功

Authenticated to 192.168.1.11 ([192.168.1.11]:22).

debug1: channel 0: new [client-session]

debug1: Requesting no-more-sessions@openssh.com

debug1: Entering interactive session.

debug1: pledge: network

debug1: client\_input\_global\_request: rtype hostkeys-00@openssh.com want\_reply 0

debug1: Sending environment.

debug1: Sending env LANG = en\_US.UTF-8

debug1: Sending env XMODIFIERS = @im=ibus

debug1: Sending env LANGUAGE =

packet\_write\_wait: Connection to 192.168.1.11 port 22: Broken pipe

debug 顯示已經成功認證，但最後連接被斷開。

開始以為是 ~/.ssh/config 配置文檔有問題，重命名配置文檔後還是一樣無法連接。

在 macOS 下測試 ssh 是正常的，説明服務端沒有問題。

google 搜索了一下報錯信息，有位用 ArchLinux 的大哥升級到 openssh 7.8p1 後遭遇類似問題：

[FS#59826 - [openssh] cannot connect, read from master failed: broken pipe 2018-08-27](https://hk.saowen.com/rd/aHR0cHM6Ly9idWdzLmFyY2hsaW51eC5vcmcvdGFzay81OTgyNg==)

Note that this is a **client issue, not a server issue** . To fix it, add:

Host \*

IPQoS lowdelay throughput

to ~/.ssh/config ( **not** sshd\_config ).

[OpenSSH 7.8p1 drops SSH connection with “Broken Pipe” IMMEDIATELY after successful login 2018-08-29](https://hk.saowen.com/rd/aHR0cHM6Ly9saXN0cy5taW5kcm90Lm9yZy9waXBlcm1haWwvb3BlbnNzaC11bml4LWRldi8yMDE4LUF1Z3VzdC8wMzcxNjMuaHRtbA==)

If the VM host is VMWare Fusion, see

[https://lists.mindrot.org/pipermail/openssh-unix-dev/2018-August/037145.html](https://hk.saowen.com/rd/aHR0cHM6Ly9saXN0cy5taW5kcm90Lm9yZy9waXBlcm1haWwvb3BlbnNzaC11bml4LWRldi8yMDE4LUF1Z3VzdC8wMzcxNDUuaHRtbA==)

wherein it appears to have a bug in its networking stack that chokes

on the new default (valid) DSCP markings. If so you can work around

it by overriding the defaults, but the problem is within VMWare (maybe

in general, or maybe just the Fusion product).

[sshd 7.8p1 close connection from VMware Fusion NAT Port Forwarding 2018-08-28](https://hk.saowen.com/rd/aHR0cHM6Ly9saXN0cy5taW5kcm90Lm9yZy9waXBlcm1haWwvb3BlbnNzaC11bml4LWRldi8yMDE4LUF1Z3VzdC8wMzcxNTEuaHRtbA==)

上面幾篇文章提到是 **VMware NAT 網絡模式** 的鍋。

手動指定 ssh 參數 -o 'IPQoS=lowdelay throughput' 測試能修復連接失敗的問題：

$ ssh -v -o 'IPQoS=lowdelay throughput' root@192.168.1.11

......

debug1: Next authentication method: publickey

debug1: Offering public key: RSA SHA256:emH3b5VRiPrFjzd1 /home/user/.ssh/id\_rsa

debug1: Server accepts key: pkalg rsa-sha2-512 blen 535

debug1: Authentication succeeded (publickey).

Authenticated to 192.168.1.11 ([192.168.1.11]:22).

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debug1: Sending env LANGUAGE =

Last login: Fri Aug 31 10:06:06 2018 from 10.20.3.5

[root@centos ~]#

用户 ~/.ssh/config 配置文檔添加 IPQoS lowdelay throughput 選項：

$ head -n 3 ~/.ssh/config

StrictHostKeyChecking no

UserKnownHostsFile /dev/null

IPQoS lowdelay throughput

針對全局 ssh 客户端可以修改 /etc/ssh/ssh\_config.d/05-redhat.conf 配置：

# emacs -nw /etc/ssh/ssh\_config.d/05-redhat.conf

Host \*

GSSAPIAuthentication yes

# Fix openssh 7.8p1 under VMware VM with NAT network caused "packet\_write\_wait: Connection to IP port 22: Broken pipe"

IPQoS lowdelay throughput

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ssh 客户端的問題算是解決了。

sshd 服務也有類似的問題，在 /etc/ssh/sshd\_config 添加 IPQoS lowdelay throughput 選項即可。