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Bandwidth throttling in OS X

Tue, Jan 22 2008 at 7:30AM PST •



Contributed by: [jaquarcy](#)

Advanced OS X users know that Darwin comes with `ipfw`, which can be used to set up a custom firewall. This same service however can be used to also limit bandwidth on specific ports.

Example:

```
sudo ipfw pipe 1 config bw 15KByte/s
```

creates a pipe that only allows up to 15KB/s to go through.

Then:

```
sudo ipfw add 1 pipe 1 src-port 80
```

will attach that pipe to the outgoing traffic on port 80, effectively limiting the outgoing traffic of the web server.

```
sudo ipfw delete 1
```

will remove the pipe from the port.

[[kirkmc adds](#): I haven't tested this. Just make sure you remember to turn this off when you no longer need it!]



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Bandwidth throttling in OS X

Authored by: [diamondsw](#) on Tue, Jan 22 2008 at 7:58AM PST

Once you have a set of rules that do what you want, it's pretty simple to create a shell script to create those, and a launchd plist to run it on boot. I actually just did [something like this](#) on my home network.

(Be nice to my poor Mini, and note that it's under the same bandwidth throttling that's described here!)

Bandwidth throttling in OS X

Authored by: [phoopee3](#) on Tue, Jan 22 2008 at 5:09PM PST

Is this because the rules clear every time the computer reboots? Just curious. I'm looking to use this in an office environment to single out some people who download stuff and hog my bandwidth :)

When you do things right, people won't be sure you've done anything at all.

Real-time Changes

Authored by: [lullabud](#) on Tue, Jan 22 2008 at 8:08AM PST

One awesome thing about this is that the changes are made in real-time, so if somebody is hogging your bandwidth you can do this trick without having to restart your network or even lose connection of open sockets. This is great for when torrents are killing your surfing speeds, when somebody begins leeching your web-share, etc., because you don't have to kill those active connections to gain the benefit of throttling. This also allows you to use a real-time graph to view the difference your rule is making so you can tweak if necessary.

Bandwidth throttling in OS X

Authored by: [zeb](#) on Tue, Jan 22 2008 at 8:52AM PST

That's awesome! I've always wanted to know how to limit my bandwidth so I can test how my websites are loading at dial-up speeds.

Great tip!

...: Zeb :..

What's New in the Forums?

- TCPView equivalent for Mac
- SMB Symlinks
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- HP Help Files
- Filevault issues - unable to turn filevault off
- Rich Text Formatting - Microsoft Exchange to other client
- help with do shell script AppleScript
- Fool a Mac into thinking its CPU is faster?

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Here are some of my (robg) other projects...

- The Robservatory
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- Mac OS X Power Hound
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- Inside iWork
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- Review: Voices for iPhone
- Survey: iPad may take bite out of e-book rivals
- FCC wants existing phone subsidies to go to broadband
- Android largely unharmed in Google-China row
- reMail search app returns as open source code
- Intel to launch eight-core Nehalem-EX this month

The macosxhints Poll

iPad_poll_#1

- Which, if any, model of iPad will you be buying?
- None of them
 - 16GB: Wifi [\$499]

zebellis.com

Bandwidth throttling in OS XAuthored by: [picoscope](#) on Wed, Apr 30 2008 at 2:22PM PDT

This is a great tip, but does anyone know of a way to limit individual users' TOTAL bandwidth over time? For instance, limit Joe User to download 100MB over 24 hours?

Bandwidth throttling in OS XAuthored by: [macshome](#) on Wed, Jan 23 2008 at 11:21AM PST

For those of you wanting more...

We've got a pretty detailed article about dummynet on AFP548.com. I think that MacGeekery.com does as well.

<http://www.afp548.com>

Breaking my server to save yours.

Bandwidth throttling in OS XAuthored by: [robleach](#) on Wed, Jan 23 2008 at 1:32PM PST

Well, this is cool. I've been using 'throttled', but I think I may like this technique better because when I watch the network activity, I'm not sure throttled is working very well. The graph in the network monitor definitely goes above the limits I set occasionally. I thought I remembered it working really well when I first set it up, but now I tend to get page stalls when browsing during a period of a lot of network activity (up/downloads going on on my mini). I've been assuming that my issues may stem from wireless network interference, but running iStumbler shows the interference is low. Ah well. I'll try this out. How do I limit bandwidth on all outbound (and separately inbound) ports instead of just one port?

Thanks,
Rob

Bandwidth throttling in OS XAuthored by: [redguy](#) on Wed, Jan 23 2008 at 1:52PM PST

One can Waterproof, a very nice frontend that exposes a lot of these features.

<http://www.hanynet.com/waterroof/>

Bandwidth throttling in OS XAuthored by: [regulus](#) on Sat, Jan 26 2008 at 8:34AM PST

This is not working for me. I tried it out on a filesharing (AFP) connection between 2 computers on my home network. From one computer I mounted the hard drive of the second computer. I then transferred a 65 MB file and found that I was getting a transfer speed of over 20 MB/s on my gigabit ethernet network. Then I tried the commands to limit the transfer speed as follows ...

```
sudo ipfw pipe 1 config bw 1MByte/s
sudo ipfw add 1 pipe 1 src-port 548
```

I then transferred the file again and my transfer speed dropped

- 16GB: Wifi + 3G [\$ 629]
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- 32GB: Wifi + 3G [\$ 729]
- 64GB: Wifi [\$699]
- 64GB: Wifi + 3G [\$ 829]
- Waiting for next generation

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dramatically, but it dropped to 5 MB/s instead of 1 MB/s. I played around with the commands but no matter what speed I set it always transfers at 5 MB/s. When I delete the rule and the pipe my transfer speed again shoots to over 20 MB/s, so it is doing something but it does not limit the transfer speed as set.

Any thoughts or suggestions?

Bandwidth throttling in OS X

Authored by: [jaguarcy](#) on Tue, Jan 29 2008 at 9:43AM PST

Are you measuring the speed in megaBytes, or megabits? 1MByte/s is about 8Mbits/s... That could be one explanation.

Bandwidth throttling in OS X

Authored by: [TalonGold](#) on Thu, Nov 5 2009 at 3:39PM PST

I've tried ALL of the ones listed here, AFP simply seems to NOT listen to the ipfw...

All i want to do is regulate AFP bandwidth on my network, anybody have a way to do that?

Bandwidth throttling in OS X

Authored by: [regulus](#) on Wed, Jan 30 2008 at 4:56AM PST

Thanks for the suggestion, but that's not it. No matter what speed I set in the shell command (i.e. 1 MB/s or 10 MB/s) it always throttles it to the same speed of 5 MB/s. So even if I did confuse mb with MB I still would have seen a difference when changing speeds... but I don't.

Bandwidth throttling in OS X

Authored by: [jaguarcy](#) on Thu, Jan 31 2008 at 4:14AM PST

How about adding the pipe to `dst-port 548` as well, or to `dst-ip ...`
Strange, really strange.

Bandwidth throttling in OS X

Authored by: [mauldus](#) on Tue, Oct 14 2008 at 4:57PM PDT

Note: You may need to set the `net.inet.ip.fw.one_pass` variable so the packet doesn't pass through to the next firewall rule.

```
sudo sysctl -w net.inet.ip.fw.one_pass=1
```

You can also issue the config command again with different bandwidth settings to fine tune the limit without tearing it down and rebuilding it.

What about just iTunes

Authored by: [josephaw](#) on Thu, Oct 16 2008 at 10:05AM PDT

I want to only throttle the iTunes application. The above tip works fine with iTunes with port 80 but what if I want my other applications to have full access to my bandwidth?

Is there a way from the command line to just limit specific applications?

Thanks, Joe

What about just iTunesAuthored by: [HarleyDavidson01](#) on Sat, Dec 13 2008 at 3:02PM PST

Lighthouse will let you select an app, forward info from the normal port to another internal port, and when used with the script described before, and the internal port number, you can slow a specific app down, while leaving the others to use as much bandwidth as there is left over. This type of solution would work even better if you could define similar behavior by ip adress from inside an airport router, but apple hasn't seen fit to make that part of their software. Still, lighthouse is a great app for this type of control. You can redirect traffic from any number of ports to a single port, and set how much bandwidth the internal port has using these scripts. You can even schedule it using the latest iCal in Leopard if you save these as terminal scripts. If you can find freeware for redirecting by application, please post. I'd love to be able to try it.

Bandwidth throttling in OS XAuthored by: [HarleyDavidson01](#) on Sat, Dec 13 2008 at 3:12PM PST

Hello everybody,
I've seen applications that forward ports based on the application you specify. You could forward information for any app through these, set one specific port, then use the commands at the top of this thread to limit bandwidth to that port. Remember, when you use these commands you are specifying the internal destination; and if you've routed one port to another for a specific application, the only port you need to worry about is which one the application will "see" or use. This will allow you to limit bandwidth to that internal port, and it will "pull" information through the outer one at the limit you've defined. I've tried lighthouse, great for this, but I believe there are others that are freeware. I hope this helps somebody.


Bandwidth throttling in OS XAuthored by: [TalonGold](#) on Thu, Nov 5 2009 at 3:39PM PST

I've tried ALL of the ones listed here, AFP simply seems to NOT listen to the ipfw...

All i want to do is regulate AFP bandwidth on my network, anybody have a way to do that?

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