

HowTo invite applications to use IPv4 or IPv6

Introduction

IPv6 is not really news, but unfortunately there may still be situations where an application tries to make a particular connection using IPv6 although only IPv4 is set up usable.

The following config snippets should help to enforce a particular IP variant in dual-stack setups or situations.

IPv4/IPv6 priorities of operating systems

Be aware that applications may ignore the following settings, or only respect them when the application is restarted.

Linux

To have most applications use IPv4 connections, uncomment the following line in `/etc/gai.conf`:

```
precedence ::ffff:0:0/96 100
```

MacOS, Windows

TBD.

IPv4/IPv6 priorities of applications

Application	Command line options	Config file options	Config file names, Remarks
apt-*	<code>-o Acquire::ForceIPv4=true</code> <code>-o Acquire::ForceIPv6=true</code>	<code>Acquire::ForceIPv4 "true";</code> <code>Acquire::ForceIPv6 "true";</code>	Suggestion: <code>/etc/apt/apt.conf.d/99force-ipv4</code> apt ignores <code>gai.conf</code>
Java JVMs	<code>-Djava.net.preferIPv4Stack=[true false]</code> <code>-Djava.net.preferIPv6Addresses=[true false]</code>	<code>java.net.preferIPv4Stack = [true false]</code> <code>java.net.preferIPv6Addresses = [true false]</code>	<code>java.net.preferIPv*Stack</code> are actually JVM system properties
OpenSSH	<code>[-4 -6]</code>	<code>AddressFamily any inet inet</code>	<code>/etc/ssh/ssh*_config, ~/.ssh/config</code>
Postfix		<code>inet_protocols = all inet4 inet6</code>	<code>/etc/postfix/main.cf</code>

Probably obsolete, from 2009: Java in Ubuntu/Debian: Sometimes these JVM parameters are not enough. As documented in [Ubuntu bug 486215](#) and [Eclipse bug 298515](#) it may also be required to set `net.ipv6.bindv6only` to 0 using `/sbin/sysctl net.ipv6.bindv6only=0` respectively editing `/etc/sysctl.d/bindv6only.conf`

TBC ...