

Re: /etc/alternatives

Source: <http://linux.derkeiler.com/Mailing-Lists/RedHat/2004-08/0256.html>

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To: golharam@umdnj.edu, General Red Hat Linux discussion list <redhat-list@redhat.com>
Date: Wed, 11 Aug 2004 07:56:23 +0100

On Wednesday 11 August 2004 04:05, Ryan Golhar wrote:

- > *I installed the java SDK RPM from java.sun.com.*
- >
- > *Recently, however, I noticed that /usr/bin/java, /usr/bin/javac, and*
- > */usr/bin/jar point to scripts in /etc/alternatives.*
- >
- > *I figured out that these replacements are from libgcj. It doesn't look*
- > *like I can until this other RPM as there are others that depend on it.*
- > *My question is why do they replace a legitimate program (java) with a*
- > *script that doesn't do anything. That just seems to break everything.*
- > *I remove the link so the real java program is picked up correctly. Does*
- > *anyone know what this is for and why its done?*

the alternatives system is there to allow you to install several services/packages that provide the same functionality (and very often the same program names) and switch between them without uninstalling either. Its most common use is to switch between sendmail and postfix, but links can be set up to cater for any package at all.

How does it work?

okay, the postfix/sendmail example:

many programs look for a 'sendmail' binary when they want to, well, send mail.

unfortunately both the sendmail and postfix packages normally provide a binary of this name, which means that if you want to switch from sendmail to postfix you would normally have to uninstall sendmail and then install postfix instead, which will involve at the very least a certain amount of downtime. On a Redhat system, these packages have been 'hacked' to provide sendmail.sendmail / sendmail.postfix (among other) binaries, so that this problem no longer exists, but how do apps know which one to call?

a series of symbolic links are set up:

```
/usr/sbin/sendmail -> /etc/alternatives/mta -> /usr/sbin/sendmail.postfix
```

why three links instead of two?

well, the other programs with clashing names also have to be dealt with, This is done using a series of 'slave' links which are automatically switched over when you change the master 'mta' link.

try the alternatives command:

```
[root@behemoth root]# alternatives --display mta
```

```
mta - status is manual.
```

```
link currently points to /usr/sbin/sendmail.postfix
```

RedHat: Re: /etc/alternatives

```
/usr/sbin/sendmail.sendmail – priority 90  
slave mta-pam: /etc/pam.d/smtp.sendmail  
n
```