

## Install grsecurity kernel security from binary package (without kernel recompile) on Debian and Ubuntu

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GRsecurity is since long time known that it is a next generation armouring against 0 day local kernel exploits as well as various other cracker attacks.

Grsecurity is an innovative approach to security utilizing a multi-layered detection, prevention, and containment model. It is licensed under the GNU GPL.

GRSecurity is linux kernel patch which has to be applied to the kernel before compile time. However we've been lucky and somebody has taken the time and care to prepare [linux image binary deb packages for Debian and Ubuntu](#).

Some of the key grsecurity features are :

- An intelligent and robust Role-Based Access Control (RBAC) system that can generate least privilege policies for your entire system with no configuration
- Change root (chroot) hardening
- /tmp race prevention
- Prevention of arbitrary code execution, regardless of the technique used (stack smashing, heap corruption, etc)
- Prevention of arbitrary code execution in the kernel
- Reduction of the risk of sensitive information being leaked by arbitrary-read kernel bugs
- A restriction that allows a user to only view his/her processes
- Security alerts and audits that contain the IP address of the person causing the alert

To install from the <http://debian.cr0.org/> grsecurity patched kernel image repository use the following steps:

### 1. Include in your /etc/apt/sources.list

```
deb http://ubuntu.cr0.org/repo/ kernel-security/  
deb http://debian.cr0.org/repo/ kernel-security/
```

Directly from the bash command line execute:

```
debian:~# echo "deb http://ubuntu.cr0.org/repo/ kernel-security/" >> /etc/apt/sources.list  
debian:~# echo "deb http://debian.cr0.org/repo/ kernel-security/" >> /etc/apt/sources.list
```

### 2. Add the debian.cr0.org repository gpg key to the trusted repositories key ring

Download the repository's [gpg key](#), check it (it has been signed with the [repository owner GPG key](#).)

Thence from to include the gpg key to the trusted repos key issue:

```
debian:~# apt-key add kernel-security.asc
```

### 3. Install the linux-image-grsec package itself

Currently to install on my x86\_amd64 Debian Squeeze/Sid and possibly on Debian Lenny I've issued:

```
debian:~# apt-get update
debian:~# apt-get install linux-image-2.6.32.15-1-grsec
```

Now simply restarting your system and choosing the Linux kernel patched with the **GRsecurity kernel patch** from Grub should enable you to start using the grsecurity patched kernel. Though this tutorial is targetting Debian it's very likely that the grsecurity hardened kernel installation on Debian will be analogous.