

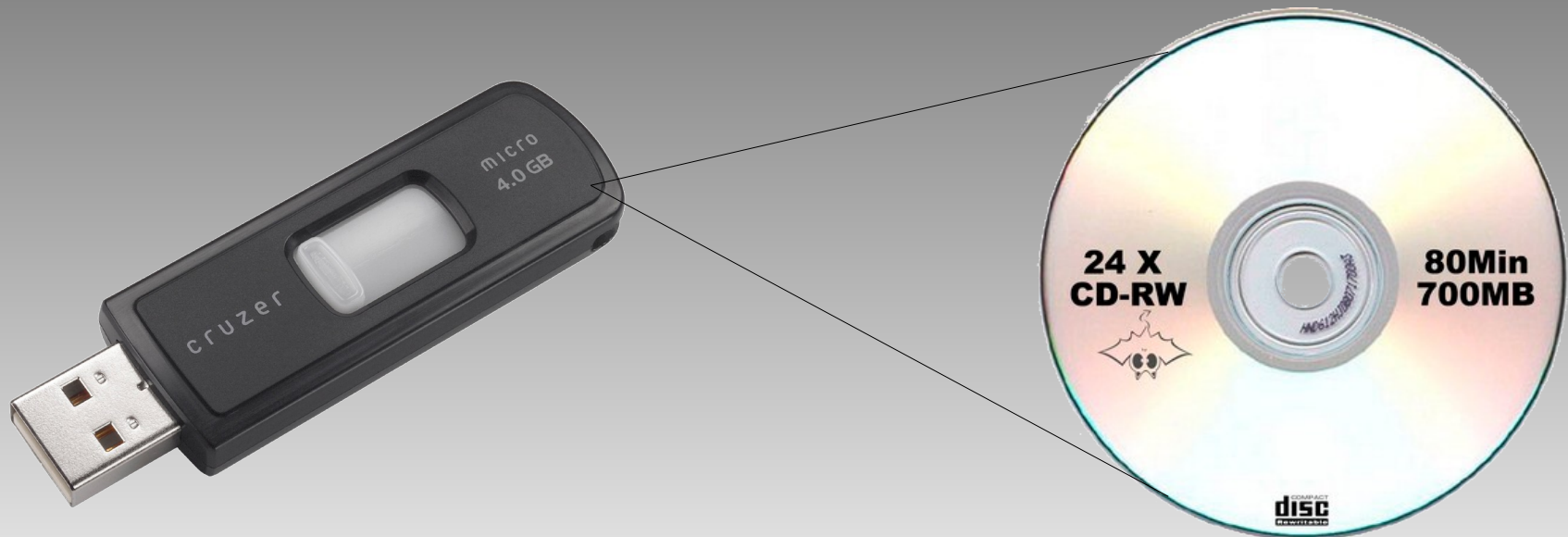
U3 Hacking in Linux



By Bryan Harris

U3 Hacking in Linux

- What is U3?
- How can I use U3 in Linux vs. Windows
- Hands on live demo



The Propaganda

The screenshot shows the SanDisk U3 Software Central website. At the top, there is a navigation bar with links for 'WHAT IS A U3 SMART DRIVE', 'DOWNLOAD U3 SMART SOFTWARE', 'SUPPORT', 'DEVELOPERS', and 'BLOGS'. Below this is a search bar and the text 'Welcome to Software Central'. On the left side, there is a sidebar with 'Overview' and 'Cruzer Program Wizard'. The main content area features a section titled 'Store your data and carry software applications!' with the sub-header 'STORAGE+SOFTWARE=SMART'. Below this is a paragraph describing the benefits of using a U3 smart drive. To the right of the text is a screenshot of the 'U3 LAUNCHPAD' software interface. This interface is divided into two panes: 'U3 SMART PROGRAMS' on the left and 'U3 GAMES (F:)' on the right. The 'U3 SMART PROGRAMS' pane lists various applications like Big Fish Games Sudoku, McAfee VirusScan USB, Skype, and Risk. The 'U3 GAMES (F:)' pane lists 'Explore drive F:', 'Settings >>', 'Add Programs >>', 'Help and Support >>', 'SanDisk U3 Website', 'Disable Security', and 'Games for your drive'. Yellow callout lines connect specific features in the launchpad to text on the right. The text on the right includes: 'The Launchpad makes the drive smart:', 'Carry and access your files easily!', 'Comes with pre-loaded software', 'Get more U3 smart software at software.u3.com', 'Keep your data safe and secure', and a list of features: 'Anti-virus comes bundled on most drives', 'Built-in password protection', and 'Unplug the drive and leave no personal data behind'. At the bottom of the launchpad screenshot, it shows '2.72 GB Free - U3-Launchpad' and the SanDisk logo.

Overview

Cruzer Program Wizard

Subscribe to U3 smart Application Update Headquarters by Email

Store your data and carry software applications!

STORAGE+SOFTWARE=SMART

Imagine carrying your software on the same flash drive that carries your files. That's what you can do with a U3 smart drive. You can plug it into any PC and work, play a game, message friends, send email, edit photos and more. A U3 smart drive makes any PC your own PC. And when you unplug it, it leaves no personal data behind.

The Launchpad makes the drive smart:

- Carry and access your files **easily!**
- Comes with **pre-loaded software**
- Get more U3 smart software at software.u3.com
- Keep your data **safe and secure**
 - Anti-virus comes bundled on most drives
 - Built-in password protection
 - Unplug the drive and leave no personal data behind

U3 LAUNCHPAD

U3 SMART PROGRAMS

- Big Fish Games Sudoku
- McAfee VirusScan USB
- Skype
- CruzerSync U3 Edition
- SignuShield Passwords
- YouSendIt
- Risk
- Magic Wines

More Programs

Download Programs

U3 GAMES (F:)

- Explore drive F:
- Settings >>
- Add Programs >>
- Help and Support >>
- SanDisk U3 Website
- Disable Security
- Games for your drive

2.72 GB Free - U3-Launchpad SanDisk Eject

It's a (really irritating) auto-run
software tool

What's is U3 supposed to do?

- Install portable applications
- Password protect your secret files
- Work as a regular thumb drive
- Best thing since sliced bread



Does it do these things out of the box?

- Install portable apps
- Password protect your secret files
- Work as a regular thumb drive
- Best thing since sliced bread? hmm..
- Only in M\$ Windows
- Only in M\$ Windows
- Sorta
 - Auto-run stuff in windows
 - Annoying extra partition in Linux

Only in M\$? What will we do?

- Borrow a M\$ Windows box and run the uninstaller. :-)
 - Windows in a VM might work?
- u3-tool :-)
 - u3-tool.sourceforge.net/ (Yay!!)



U3 isn't just for Windows any more

Tool for controlling USB flash devices that conform to the U3 specifications. This program can control the following features:

- * Replacing of CD image
- * Changing of virtual CD allocated size and completely removing it
- * Enabling and disabling Security
- * Unlocking and changing password of secured U3 device
- * Obtaining various device information

U3 is actually a virtual CDROM

```
dmesg |grep CD-ROM
[  1.628540] scsi 3:0:0:0: CD-ROM          TSSTcorp CDDVDW SH-S223F  SB02
PQ: 0 ANSI: 5
[  1.631727] Uniform CD-ROM driver Revision: 3.20
[  1.631792] sr 3:0:0:0: Attached scsi CD-ROM sr0
[104631.202975] scsi 19:0:0:1: CD-ROM          SanDisk SanDisk Cruzer  8.02 PQ:
0 ANSI: 0
[104631.208603] sr 19:0:0:1: Attached scsi CD-ROM sr1

ls -l /dev/sr*
brw-rw----+ 1 root cdrom 11, 0 2010-01-15 08:37 /dev/sr0
brw-rw----+ 1 root cdrom 11, 1 2010-01-16 13:40 /dev/sr1
```

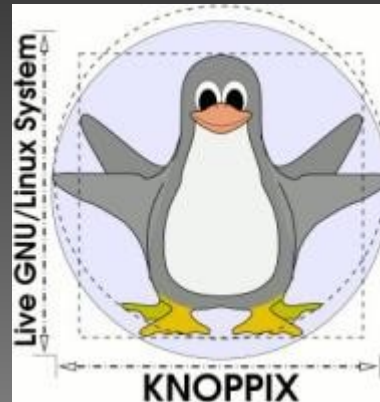
The *hardware* thinks it's really a CD-ROM.

The U3 CD-ROM partition is:

- Hard to write (Good for storing things you don't want changed, utilities, certificates?, etc)
- Bootable (without modifying the iso)
- A separate “virtual device” from the read-write disk portion
- Treated as a CD for auto-run policy

Live CD's

- Knoppix
- Ubuntu Install CD
- Slax
- UBCD
- Puppy
- Tiny Core
- <http://www.livecdlist.com/>



Tiny Core

Live Demo

Get u3-tool

```
wget -c
```

```
http://downloads.sourceforge.net/project/u3-tool/u3-tool/0.3/u3-tool-0.3.tar.gz
```

```
tar zxvf u3-tool-0.3.tar.gz
```

```
./configure
```

```
make
```

```
sudo make install
```

Grab an iso to put on the drive:

```
wget -c
```

```
http://distro.ibiblio.org/pub/linux/distributions/tinycorelinux/2.x/release/tinycore\_2.7.iso
```

Figure out how big the image is:

```
ls -l *.iso
```

Make the CD “partition” just big enough:

```
sudo [path to]/u3-tool -p 10615784 /dev/[sdd1]
```

Double check the drive letter:

```
sudo fdisk -l
```

Write the new image:

```
sudo [path to]/u3-tool -l tinycore_2.7.iso /dev/[sdd1]
```

Check out you new bootable image!

```
kvm -cdrom /dev/scd1
```



Conclusion

- U3 may be useful after all
- Netbooks without CDRROM
- Store “read-only” diagnostic tools
 - Memtest, disc utilities, etc
- Good way to play with LiveCD's without creating a million coasters
- Thanks!