

Linux Mint: A Second Look



(A goal-based adventure)

STLLUG
February 2017



Or, Updating the Cataloger's Workstation – a Linux Success Story

About Me

This is the first production Linux Mint system I have set up, but I have set up other Linux workstations and servers since about 1998.

I work as an independent consultant performing system and small network administration, and writing specialized technical documentation.

Acknowledgments

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Outline

- The Cataloger's Workstation
- The motivating events
- New hardware
- New software

Usage and Requirements

Lead cataloger at Project Gutenberg – more than 30,000 bibliographic records updated.

Personal use – artwork, music, writing.

'High availability' – 'identical' cold spare.

Somewhat cost-sensitive.

Workstation – hardware history

1999: no-name AMD K6-2

2003: IBM Intellistation 1GHz P3s

2010: Dell Precision 390s

Old hardware details

Dell Precision 390's (2007-2008) –
3 systems from DFS, about \$300 ea.

Nvidia Quadro FX 3450

Core 2 6420 @2.13 GHz, 4 MB cache
4 GB ECC memory

Old hardware details



Workstation – software history

- Red Hat
- Pink Tie
- Debian
- Ubuntu
- Ubuntu 10.04 LTS – the shark jumps
- First Mint explorations
- Precise Pangolin (Gnome) – Ubuntu's last gasp

Mint Project

The purpose of Linux Mint is to produce a modern, elegant and comfortable operating system which is both powerful and easy to use.

Started in 2006, Linux Mint is now the 4th most widely used home operating system behind Microsoft Windows, Apple Mac OS and Canonical's Ubuntu.

Many Flavors of Mint

- Cinnamon
- Mate
- Xfce
- KDE

Cinnamon Mint 17 – Live DVD Test

LoC catalog timeouts – fixed

Youtube videos – fixed

PDF fonts in browser – fixed

Streaming audio (.m3u) fails

Fans run full speed

Getting Google was a pain

Cinnamon Mint 17 Installed

- With the recommended but NOT default video driver:

Banshee can play streaming audio

Setting up Google for default search better

Turns down video card fan, but not all fans

- Figured out Precise Pangolin with Gnome
 - abandoned Mint. For now.

Motivating Events

Memory failure in workstation

Video failure in backup system

Disk errors in workstation

New hardware details



New hardware details

EGlobal Fanless MiniPC

about \$400

Intel Core i5 5200U – max TDP 15W

16GB Ram, 256GB SSD

2 HDMI, 2 Gigabit Ethernet

New hardware details

4 USB 3.0, 2 USB 2.0

Dual antenna wireless

Intel Iris 6100 Graphics

& Gigabyte BR1X as spare
(\$200 on CL)

New hardware disadvantages

Hard to purchase

Would not recognize LG USB 2.0
external DVD GE24NU40 – used IDE
DVD and USB adapter.

Cinnamon Mint 18

- Uneventful install
- Still won't recognize LG external DVD
- Mouse button not recognized after waking from hibernation.

Cinnamon Mint 18 – post install

- Difference: flash drives mount as /media/username/XXXX-XXXX, instead of /media/XXXX-XXXX. Requires change to backup script.
- Find packages I need to install:
deborphan -a -p 2 | sort > old.txt
deborphan -a -p 2 | sort > new.txt
diff new.txt old.txt | grep ">" >listToGet.txt

Cinnamon Mint 18 – post install

- Canon printer support?
- Install
LinuxUFRII_PrinterDriver_V320_us_EN.tar
- Not where I found it last time
- Hard to find, look on Canon Europe or Canon Australia site

Lessons

- Linux works well on old hardware; it works best on mainstream hardware.
- Unexpected hardware incompatibilities can bite you at any time.
- Avoid Canon printers for use with Linux
- More than one way to solve a problem – hardware vs. software
- Live DVDs are a useful but not perfect test



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Linux Mint: STLLUG meeting, February 2017; Ken Johnson (contact-point@pobox.com)

I gave a Linux Mint presentation about 2 years ago, when it looked very likely that I would update the system that is describe here to Mint.

This tells you how things actually turned out. The system I will describe has been in use about four months.



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RedHat, Pink Tie, Debian, Ubuntu, Mint

XML or SGML based mil-spec documents

Run the Visual C++ debugger or read a switchbox schematic.

Generate 'picture books' for custom test program sets using Python and MS Word.

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Here's what we'll cover...

I provide technical support for the lead cataloger of Project Gutenberg.

What prompted this second round of Mint exploration

What new hardware I used

What new software I used

Usage and Requirements

Lead cataloger at Project Gutenberg – more than 30,000 bibliographic records updated.

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Subjects, authors, LoC Class number, content notes, etc.

Informal measurements show increased downloads after cataloging.

This system has a backup of /home and /etc 1/month, three rotating backup media.

No, it doesn't use Bacula.

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Or Better – specs from weakest system.

Aquired 2010

Old hardware details



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Large tower, big power supply

Easy to work on

Hard to move

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Pink Tie was from CheapBytes – a Red Hat based distro.

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This message brought to you by the number 7 and the letter G.

Many Flavors of Mint

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- Xfce
- KDE

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Mint was on Release 17.

Cinnamon most popular.

The other versions get less developer attention.

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1.2 GB

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Some problems fixed by video driver install.

<https://bugs.launchpad.net/linuxmint/+bug/1330300>

and 1330301

Lesson: Live DVDs are are useful, but not perfect test run tool.

Motivating Events

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New hardware details



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Hold up highlighter.

Hold up BRIX.

Inspired by 3 Feb 16 Blog entry at 'Coding Horror'
titled 'The Scooter Computer'

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Purchasing from AliExpress with my credit card was a major challenge – Tried customer service, then fraud prevention, and finally travel department made it happen.

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Hibernation matters less with very low power consumption.

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Ask for questions and discussion.