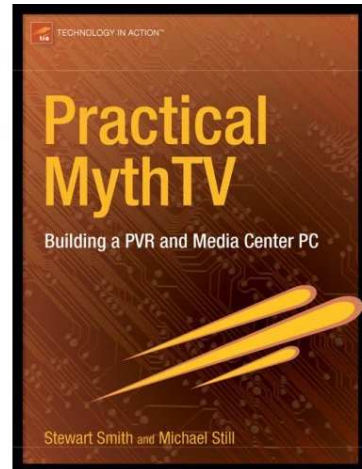


linux.conf.au 2007

Practical MythTV

Michael Still
Stewart Smith



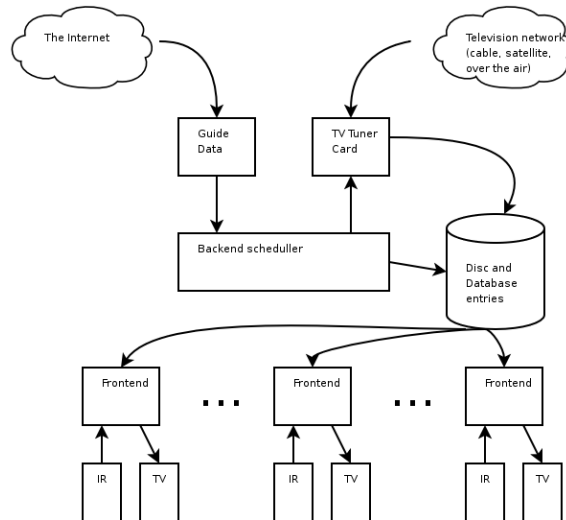
Agenda

- Have we all done the homework?

<http://lca2007.linux.org.au/MythTutorial>

<http://lca2007.linux.org.au/MythUrls>

What are the moving parts?



3

MIKAL

Make sure to mention:

- You can have more than one back end
- You can have more than one front end
- Data is stored on disc for videos, and in a SQL DB for basically everything else

Demonstration

- What does a fully configured MythTV look like?

4

MIKAL

- Start at the top menu
- Watch some live TV
- Pause
- Rewind
- Skip forward
- Go to Media Library -> Watch Recordings
- Play a recording
- Skip ahead
- Leave
- Play again to show place saving (must be enabled)
- Show making a recording schedule
- Title search for "Daily Show"
- Show the DVD plug in and weather plug in

DVD playback

- Now several ways to play DVDs in MythTV
- Use External player
 - xine
 - mplayer
 - CoolMultiMediaSuperFashionableCoolPlayer(TM)
- We recommend the built-in player
 - based on mplayer
 - rather good now

5

MIKAL

DVD Playback

- Key commands are common to the rest of myth
- Menu, arrow keys, enter
- PgDown skips right through pesky things
- Menus work
- Easy to navigate through menus for subtitles etc

6

MIKAL

Playing Encrypted DVDs

- Let's setup playback for encrypted DVDs
- Note, check with a lawyer before doing this :)

```
$ sudo apt-get install libdvdread3
```

```
$ sudo /usr/share/doc/libdvdread3/examples/install-css.sh
```

7

MIKAL

Cut lists

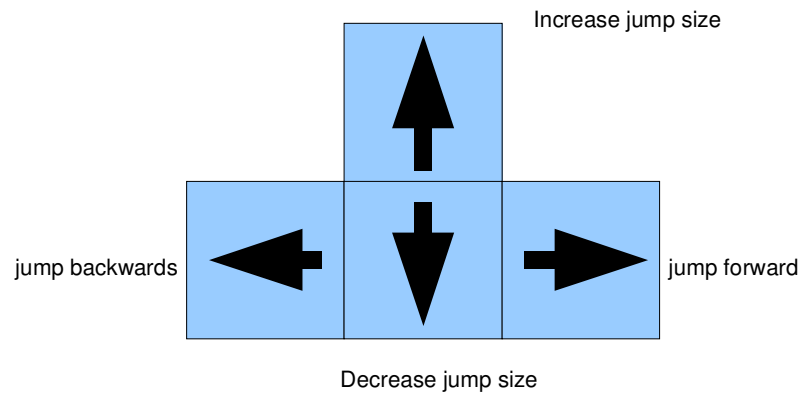
- When viewing a recording, there's a **menu**
- Edit Recording
 - Cut out bits you don't want
 - e.g. result of commercial detection
 - start and end of recording (before and after program)
- Transcoding can remove the cut parts from disk
 - saving disk space!

8

STEWART

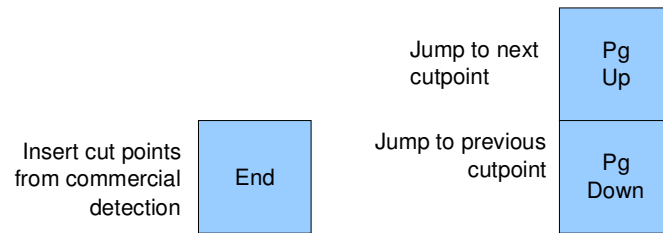
- Use “German News”
- Cut start and end
- Transcode from the menu

Cut lists (Edit Recording)



STEWART

Edit Recording (cont)



STEWART

Cut lists

- Demonstrate creating a cut list

STEWART

Commercial Detection

- MythTV can automatically detect advertising in recordings
- These detected adverts can be marked as regions to automatically skip over during playback
- You can convert also automatically and permanently remove these adverts to save disk space

12

STEWART

- Recording with commercials (use “Blizzard: Race to the Poles”)
- Edit the cut list
- Page Down
- Set off a manual transcode from the menu

Commercial Detection

- Demonstration of commercial detection

STEWART

Guide Data (Australia)

- Do this now so that everybody is ready later
- <http://www.tvguide.org.au>
- Create an account
- Ack the confirm email

STEWART

Guide Data (Australia)

- Let's request the account we'll need later...
- <http://www.tvguide.org.au>

15

STEWART

Guide Data

- Makes the list of programs appear
- There is over-the-air guide data with DVB
 - in Australia, it's utter \$EXPLETIVE
 - only current and next program
- TV Channels don't want you to watch them
 - very protective of the guide data
 - obfuscate it on www
- Luckily, OzTiVo has a community constructed feed that we can use and contribute to

16

STEWART

- Mention the commercial IceTV data and the D1 stuff as well

Configure tvguide.org.au

- Log in, select channels

STEWART

Guide Data Config

- Let's get guide data working on your machine
- Step 1:
 - Get the grabber:

http://www.cse.unsw.edu.au/~willu/xmltv/tv_grab_au_reg

- put it in /usr/local/bin
- chmod +x
- name it tv_grab_au

18

STEWART

Guide Data Config (.mythtv/freetoair.xmltv)

```
<?xml version="1.0"?>
<config>
  <login provider="tvguide" user="UserName"
password="password" filter="false" />
</config>
```

19

STEWART

- This is the config for a video source as setup in mythtv-setup
- Now run `tv_grab_au --config-file`

Guide Data Config

- Step 2:
 - Test
 - `tv_grab_au --config-file .mythtv/freetoair.xmltv`
 - You'll see an XML file scroll past

STEWART

Guide Data Config

- *This bit requires a capture card, so might not work on your laptop*
- In mythtv-setup Channel Editor
 - Specify correct xmltv id for the channels you have
 - By default, same name as on tvguide.org.au
- mythfilldatabase
- Browse program guide

21

STEWART

- Show mythtv-setup channel editing

User Jobs

- The MythTV back end can run user defined jobs
- These jobs are just scripts with command line arguments
- The command line arguments can be things like the name of the video file to process, it's title, and so forth
- This makes some pretty cool things possible

22

MIKAL

User Jobs: nuvexport

- One cool thing is nuvexport
 - Transcode to the right format for iPod and PSP
 - As well as AVI, MPEG, SQL backups, and more
- I needed to patch it to get it working
- Oh, and a newer version of ffmpeg (that was in the homework)
- Let's do that now

23

MIKAL

- The original version of the homework compiled ffmpeg without some needed flags and dependancies, so you might be a bit sad about all of this...

User Jobs: nuvexport

- Let's patch nuvexport so it works with MythTV 0.20
- Download nuvexport from <http://www.forevermore.net/files/nuvexport-latest.tar.bz2>
- Download the patch from <http://www.stillhq.com/mythtv/nuvexport.002.patch>

24

MIKAL

- Download nuvexport
- Download the patch
- Patch nuvexport:
 - `patch -p0 < ../nuvexport.002.patch`
- `sudo apt-get install transcode mjpegtools`
- `sudo make install`
- Run nuvexport

User Jobs: nuvexport

- Demo running nuvexport interactively

MIKAL

User Jobs: nuvexport

- nuvexport can also run as a user job
- Let's setup nuvexport as a user job

%DIR% = Path to the directory containing the video file

%FILE% = The filename of the video file

%TITLE% = The show title

%SUBTITLE% = The show subtitle

26

MIKAL

- Set the path in the .nuvexportrc
- nuvexport -infile %DIR%/FILE% --mode psp

User Jobs: nuvexport

- Demo running a user job manually, and specifying it to always run

MIKAL

User Jobs: mythtranscode

- nuvexport is overkill if all you want to do is reduce the resolution of a video, permanently remove advertising or deleted content from a cutlist
- Use mythtranscode
- This can be run from the command line

User Jobs: mythtranscode

- Let's run mythtranscode from the command line

29

MIKAL

- `mythtranscode -i %FILE% --honorcutlist --mpeg2`

Remote Front Ends

- Many front ends
 - TVs
 - computers
- In mythtv-setup
 - Point db and master back end to <MAGIC IP
HERE>

STEWART

Remote Front Ends

- Let's all point our front ends at the demonstration back end and take the wireless network down!

31

STEWART

Slave Back Ends

- You can also have more than one back end, if you want to do a lot of transcoding, or have more tuners than will fit in one machine

STEWART

Network control

- You can also control your front end via telnet or IM
- This makes some forms of remote work much nicer

33

MIKAL

- Need to turn network control on
- Restart front end if it's not turned on already
- telnet localhost 6546
- jump playbackbox
- key right
- key down
- key down
- key down
- key enter
- key escape

Network control

- Demonstrate the telnet interface

MIKAL

On screen displays

- You can also display text on screen, as long as playback is currently happening

MIKAL

On screen displays

- Demonstrate mythtvosd

36

MIKAL

- Start a video playing
- Go to terminal
- `mythtvosd --template=alert alert_text='This is some sample text'`

Network control

- Let's setup gtalkbot so we can IM our front end
- `sudo apt-get install python2.4-pyxmpp
m2crypto`
- Create a config file:
`connectwith <account>`
`password <password>`
`plugindir <pathtoplugins>`

37

MIKAL

- Nerdy, huh?
- <http://www.stillhq.com/gtalkbot/source/gtalkbot-1.0.tgz>
- `tar xvzf gtalkbot-1.0.tgz`
- `sudo mkdir -p /usr/local/share/gtalkbot`
- `sudo vim /usr/local/share/gtalkbot/passwd`
- add mikalstill@gmail.com
- `sudo chown mythtv /usr/local/share/gtalkbot/passwd`
- Sign up for a gtalk account, or run a jabber server for the front end
- `./gtalkbot ~/.gtalkbotrc`
- Start gaim and login (auth g00gl3)
- Send some IMs

MythWeb

- A Web Based UI for MythTV
- Point your browser to <http://magic-ip-here/>
- This is MythWeb on our back end
- You can schedule shows, stream recorded programs, check upcoming, edit key bindings
- No real security (.htaccess to the rescue!)

38

STEWART

MythWeb

- A Web Based UI for MythTV
- Point your browser to <http://magic-ip-here/>
- This is MythWeb on our back end
- You can schedule shows, stream recorded programs, check upcoming, edit key bindings
- No real security (.htaccess to the rescue!)

39

STEWART

Setting up MythWeb

- apt-get install apache2 php5 php5-mysql
- edit /etc/apache2/sites-enabled/default
 - change “AllowOverride None” to All
 - /etc/init.d/apache2 restart
- copy mythplugins-0.20/mythweb to /var/www/
- edit /var/www/mythweb/.htaccess
 - set database connection options
- Browse to <http://localhost/mythweb/>

Conclusion

- Questions?