

LOGIN:
MythTV

Mark Wallis

What is
MythTV

Deployment
and Hardware

Installation

Configuration

Usage

Other
Frontends

Alternatives

LOGIN: MythTV

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September 10, 2007

What is MythTV ?

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- PVR - Personal Video Recorder
- but also:
 - DVD Player / Ripper
 - RSS news feeds
 - Digital Video player
 - Image view
 - Music player
 - and much more

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What can a PVR do for me ?

- Record live TV to disk
- Record multiple channels at once (hardware dependent)
- Timeslip
- EPG - Electronic Program Guide

But why ?

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Why should I care ?

- Smart recording (fight against commercial station programming)
- Series link
- Portable recordings

- Rugby World Cup !

So, what do I need ?

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You've convinced me. What do I need to get started ?
That depends on how you want to 'deploy' MythTV.

MythTV Components

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The MythTV system can be broken into the following two components

- Back-end
 - Recording
 - Format conversion
 - Storage
- Front-end
 - Playback
 - Scheduling
 - all other interactive tasks

The all-in-one solution

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Alternatives

- You can deploy the MythTV back-end and front-end on the same physical machine
- Common solution
- Requires a single machine capable of decent playback and storage

The split solution

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Alternatives

- Deploying the back-end and front-end on separate machines
- Solves a lot of issues
- Introduces network concerns though

Back-end system

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Alternatives

- Hardware requirements
 - Storage capacity
 - Digital (or analogue) video capture card
 - Optional dedicated hardware encoding
 - If encoding, powerful CPU

Front-end system

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- Hardware requirements
 - Video output capability - component, s-video, etc
 - Audio output capability - stereo, SPDIF, optical
 - Medium power CPU (for rendering)
 - Small form factor

The capture card

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Alternatives

- We use the DVB-T specification in Australia
- USB/PCI/PCMCIA all supported
- Chipset is anything supported by Linux TV
 - www.linuxtv.org/wiki/index.php/DVB-T_Devices
- Standard Linux hardware support issues
- Recommended: DViCO FusionHDTV
 - www.itee.uq.edu.au/~chrisp/Linux-DVB/DVICO/
- Most cards will require a little 'work'

Does my card work ?

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- Check if the driver is loaded - `lsmod`
- Check that the driver has initialised
 - `ls -l /dev/dvb/adapter*`
- Check for errors - `dmesg | grep dvb`

Does my card work ?

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- Next step: dvb-apps package
- Scanning for channels
 - `dvbscan au-Newcastle > channels.conf`
 - www.markwallis.id.au/login/au-Newcastle
- Check out the channels.conf contents.

MythTV Installation

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- Prereq's: LAME, XMLTV
- Either package installation or source compilation
 - www.mythtv.org/docs/mythtv-HOWTO-5.html
- mythtv-setup todo the initial backend configuration

MythTV Backend Configuration

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main

1. General

2. Capture cards

3. Video sources

4. Input connections

5. Channel Editor



Backend - General

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- Lots of random configuration settings
- of specific note:
 - TV format: PAL
 - Channel frequency table: australia

Backend - Capture Cards

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Alternatives

- This is where you tell MythTV about your card
- It SHOULD be autodetected (make sure your driver is loaded first)
- Set the card type to:
 - DVB DTV capture card

Backend - Video Sources

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Alternatives

- This is where you tell MythTV about your "sources"
- i.e. 'Free to air' or 'Satellite'
- Set the XML listing grabber to:
 - Australia (more to come on this)

Backend - Input Connections

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- This is where you connect your "source" and "card" together
- Once selected you can kick off a scan from MythTV
- Select the "Full Scan" option

Backend - Channel Editor

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- Allows you to inspect what channels were found
- What if a channel is missing ?
- You can also delete channels you don't want

The EPG Saga

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- Situation is grim in Australia
- Commercial stations not coming to the party
- But there are solutions
 - OzTivo
 - IceTV

EPG from OzTivo

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- Step 1: Create an account on the OzTivo website
 - [minnie.tuhs.org/twiki/bin/view /TWiki/TWikiRegistration](http://minnie.tuhs.org/twiki/bin/view/TWiki/TWikiRegistration)
- Step 2: Login to OzTivo and set your user preferences to 'XMLTV format'. Also select your channels.
 - minnie.tuhs.org/tivo-bin/tvguide.pl
- Step 3: Get the 'grabber'

EPG from OzTivo

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At the command line:

```
wget http://www.cse.unsw.edu.au/~willu/xmltv/tv_grab_au.reg
chmod 755 tv_grab_au.reg
ln -s /usr/local/bin/tv_grab_au.reg /usr/local/bin/tv_grab_au
tv_grab_au --configure --config-file ~/.mythtv/FTA-Oz.xmltv
```

Final EPG steps

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- Edit `~/.mythtv/FTA-Oz.xmltv` and check your username/password
- Also delete either the `icetv` or the `tvguide (oztivo)` line depending on your source
- Run the grabber - `/usr/local/bin/tv_grab_au --config-file ~/.mythtv/FTA-Oz.xmltv`
- You should get LOTS of XML data flush to your terminal

Last EPG step, promise

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- Go back to mythtv-setup and enter the Channel Editor
- Marks the channels as having guide data and enter the XMLTV tag
- XMLTV tag is what you selected on the OzTivo website in your channel listing
- Finally, run mythfilldatabase
- Either run it daily from cron or natively using mythfrontend

So, what did that actually all do ?

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- Your backend is now setup with EPG data and the capability to record
- You now need a frontend to be able to schedule and access your recorded shows
 - Multiple front-ends are supported (i.e. different rooms ?)
 - Not limited to the official MythTV frontend -
uPNP/VLC/SMB

MythTV Frontend

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MythTV Frontend

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- Frontend is 'themeable'
- Supported on many operating systems (backend tends to be Linux only)
- Requires a decent video card

MythTV playing some TV

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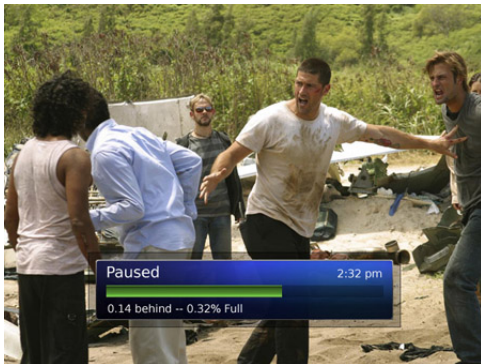
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MythTV showing the EPG

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Law & Order

"Kid Pro Quo"




Wed Apr 30, 10:00 pm - 11:00 pm

Several people are suspects when the head of admissions for a private school is killed.



10:23 pm

Not Recording

	Wed	10:00 pm	10:30 pm	11:00 pm	11:30 pm
 70		The World's Worst Driver...		The Practice (Crime)	
73	<	World Poker Tour (Travel)		Top Ten Predators Up Clo...	
TRAV		Law & Order (Crime)		Channel 3 Ne...	The T... >
 3					
WKYC					
4		Action News at Te...	Sp...	Seinfeld ()	Seinfeld ()
WUAB					
 5	<	... Extreme Makeover (M...		Newschanne...	Nightlin...
WEWS					

MythTV Web

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I am becoming more and more convinced that intellectual property is on a collision course with personal liberty.

- Posted on Slashdot

Go To: [MythTV](#) | [MythMusic](#) | [MythVideo](#) | [Settings](#) [advanced]

MythTV: [Listings](#) | [Movies](#) | [Recording Schedules](#) | [Scheduled Recordings](#) | [Recorded Programs](#) | [Backend Status](#) Fri, Mar 26, 08:32 PM

Currently Browsing:: Fri, March 26, 2004, 8:30 PM

	08:30 PM	08:45 PM	09:00 PM	09:15 PM	09:30 PM	09:45 PM	10:00 PM	10:15 PM	10:30 PM	10:45 PM	11:00 PM	11:15 PM
2 NWCN	Evening Magazine	NWCN: The 9 O'Clock News	Northwest Sports Tonight			Northwest News Tonight	Northwest News Tonight	Gardening With Ciscoe				
3 KWPX	GarboTalks (1984, PG-13, **½)							Diagnosis Murder: Being of Sound Mind				
4 KOMO	Married to the Kellys: The Plan	Hope & Faith: The Wedding (Rerun)	Life With Bonnie: Don't Stress, Express			The D.A.: The People vs. Patricia Henry		KOMO 4 News				
5 KING	Dateline NBC					Law & Order: Criminal Intent: Stray (Rerun)		KING 5 News				
6 KONG	NBA Basketball: Denver Nuggets at Seattle Sonics			KING 5 News at 10		Northwest Sports Tonight	EXTRA					
7 KIRO	College Basketball: Duke vs Illinois	Paid Programming		Paid Programming		Access Hollywood	Entertainment Tonight	KIRO 7 E.W. News at 11PM				
8 DSCP	The Repossorsors 2	American Chopper: Tool Bike 1			American Hot Rod: Alumab 5		The Repossorsors 2					

Web browser streaming

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- You can stream from MythWeb using the MythStreamTV module
- Excellent for viewing on your laptop
- Stream in either DIVX or WMV2

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Alternatives

- Recent MythTV versions support basic uPNP functionality
- Various hardware devices exist that support uPNP
 - Zensonic Z500
 - Dlinks DSM-520, Netgear EVA700
- Abit experimental, but getting better

Other PVR software

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- KnoppMyth - live CD based on Knoppix
- Freevo - about as old as MythTV
- Sage - commercial backing
- LinuxMCE - PVR+alot more