

Debian Video Team: Where Are We Going?

Mini-DebConf 15, Cambridge
8th November 2015

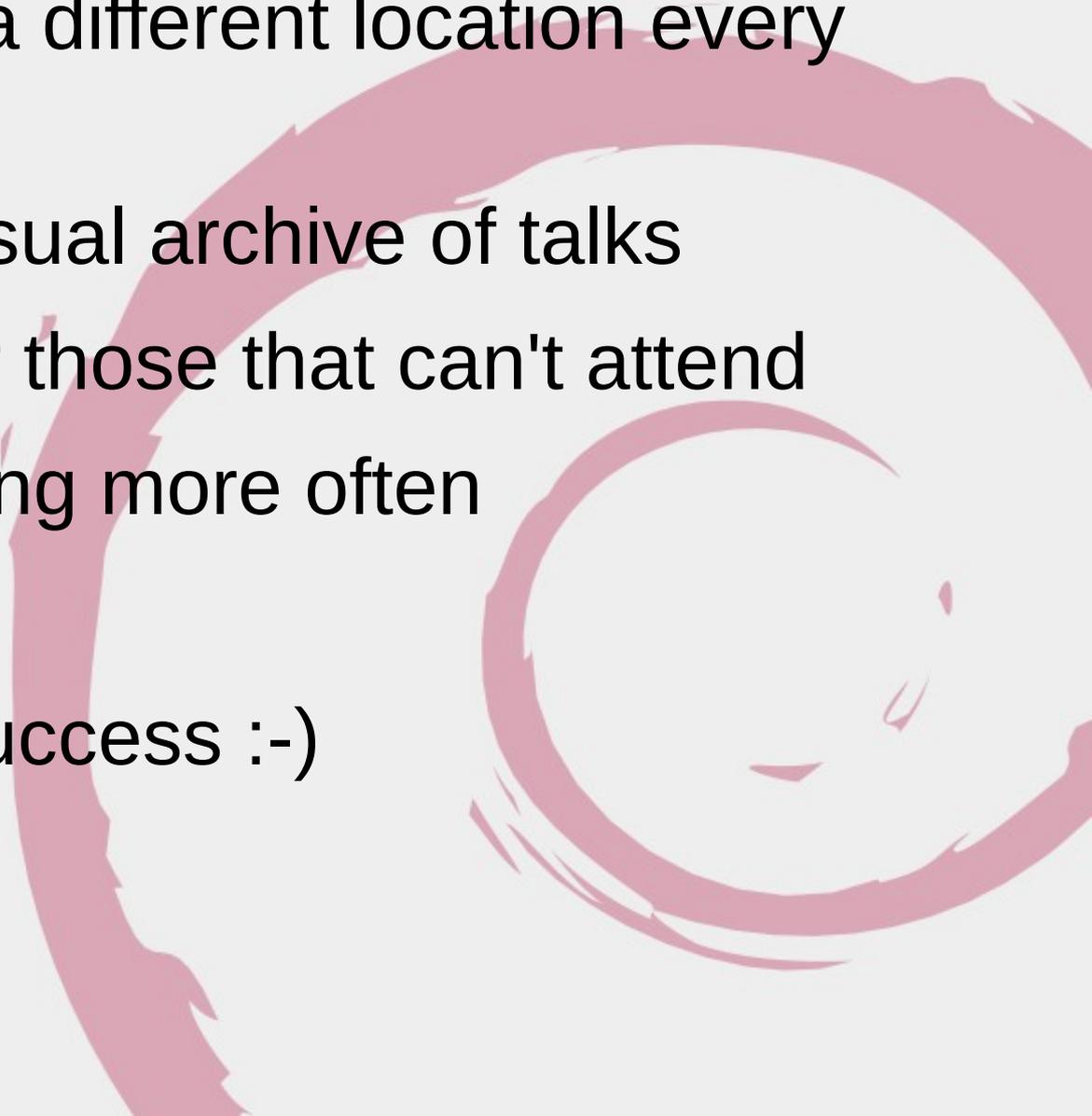


Agenda

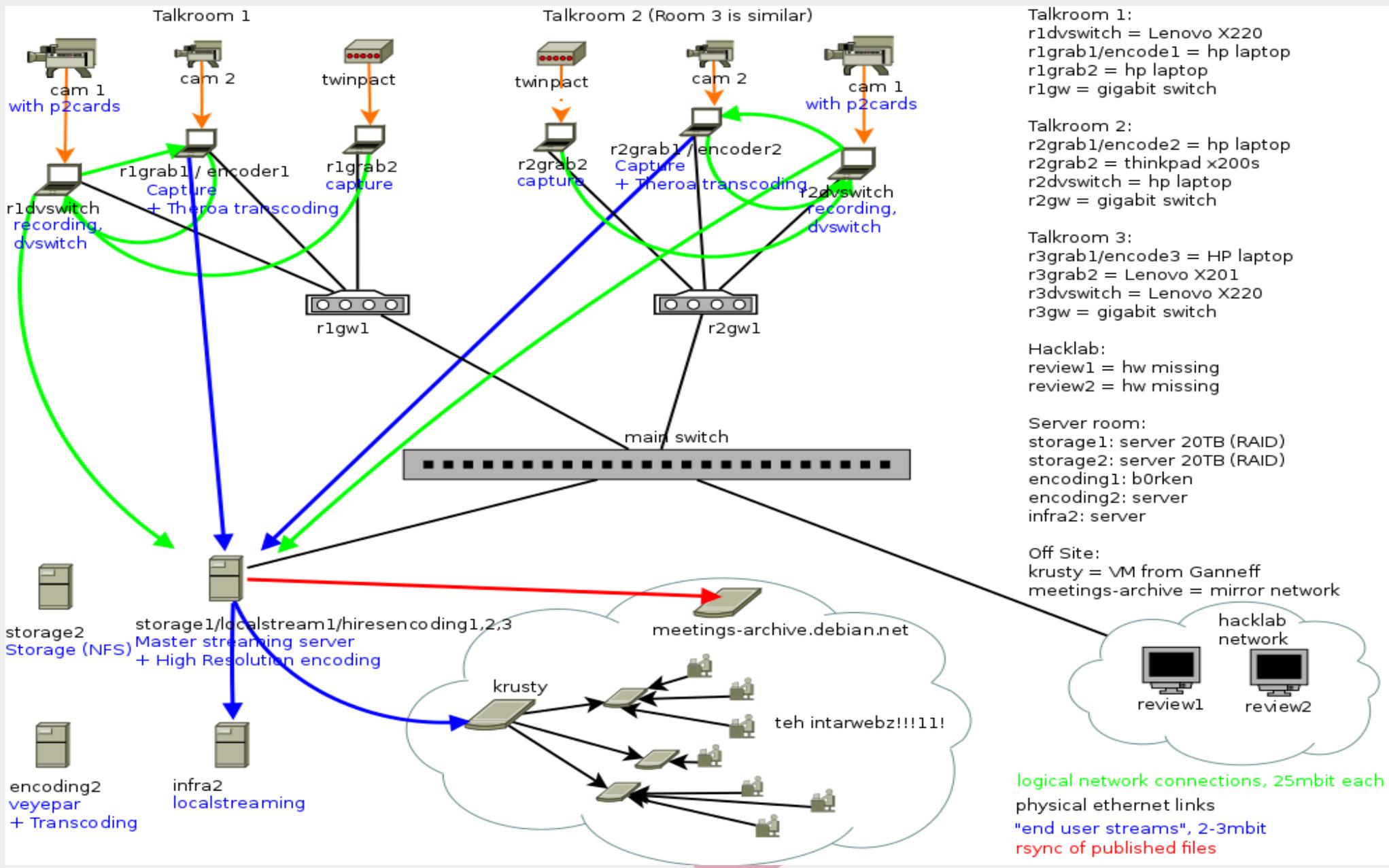
- Background
- Existing Infrastructure
- Why Change?
- Goals
- Examine objectives
- Debconf16



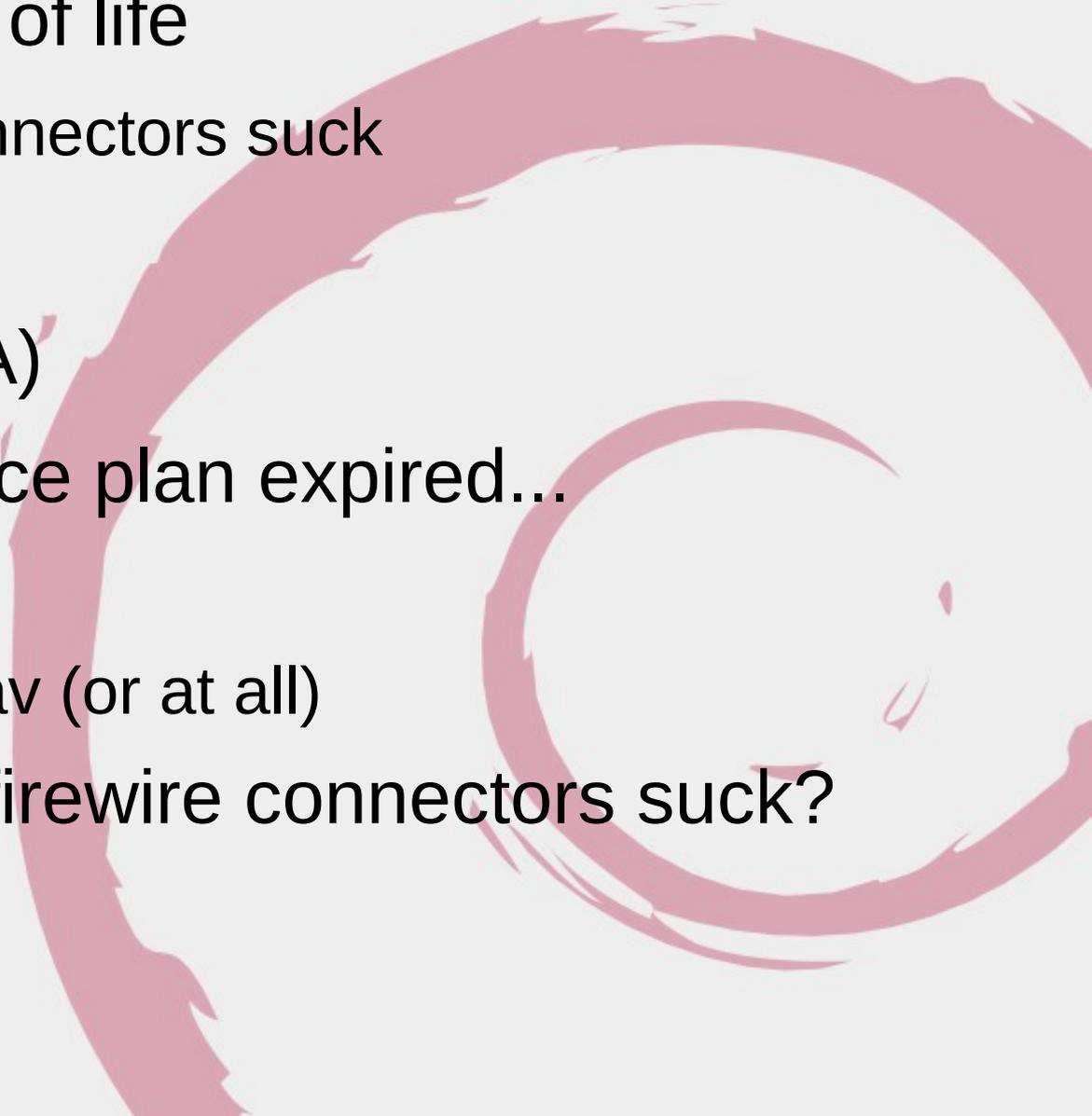
Background

- DebConf is held in a different location every year
 - Provide an audio visual archive of talks
 - Stream talks live for those that can't attend
 - Mini-Confs happening more often
 - Victim of our own success :-)
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Existing Infrastructure



Why Change?

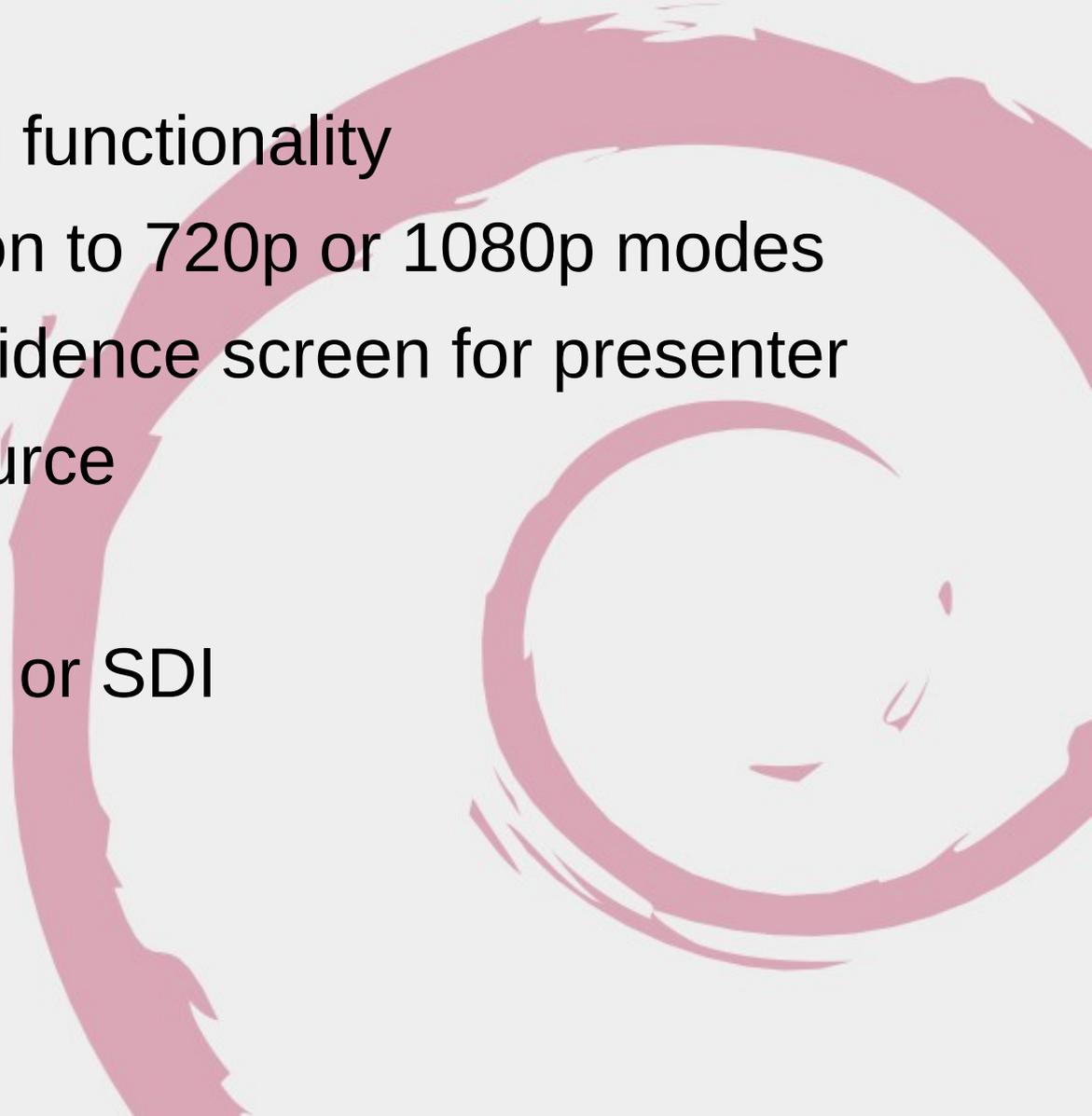
- DV & Firewire at end of life
 - And 4-pin firewire connectors suck
 - Resolution
 - Analogue video (VGA)
 - DVSwitch maintenance plan expired...
 - Unable to bribe Ben
 - Doesn't build with libav (or at all)
 - Did we mention that firewire connectors suck?
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Many things we would like to do...

- Replace twinpact (slide capture)
 - Replace DVswitch
 - Clean up Streaming
 - Replace / expand AV equipment
 - BoF rooms
 - Improve Logistics
- 

Objective 1: replace twinpact

Goals

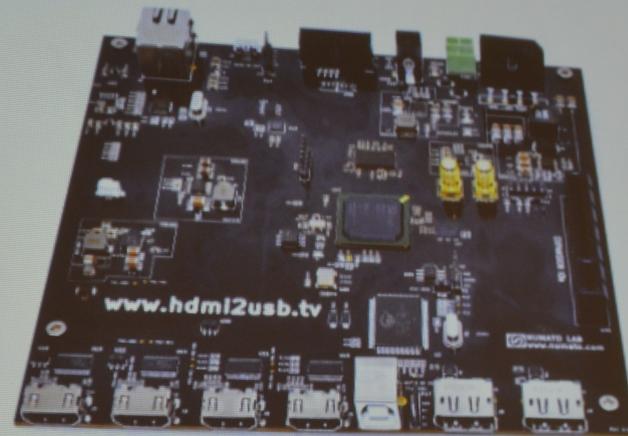
- Replicate existing functionality
 - Increase resolution to 720p or 1080p modes
 - Independent confidence screen for presenter
 - Remote video source
 - Audio in and out
 - Direct to Ethernet or SDI
 - Digital all the way
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FLOSS OSH Grabber

Introduction
Hardware
Postprocessing
Live streaming
Operation
WiP

votomix
hdmi2usb.tv
Questions
References

- Firmware supporting two boards (more in future!):
 - Atlys FPGA development board
 - Numato Opsis, first FOSS hardware
- Designed for debuggability!
- Maybe full "hardware" mixer in future?
Help out!



Look Mar No Twinpact!

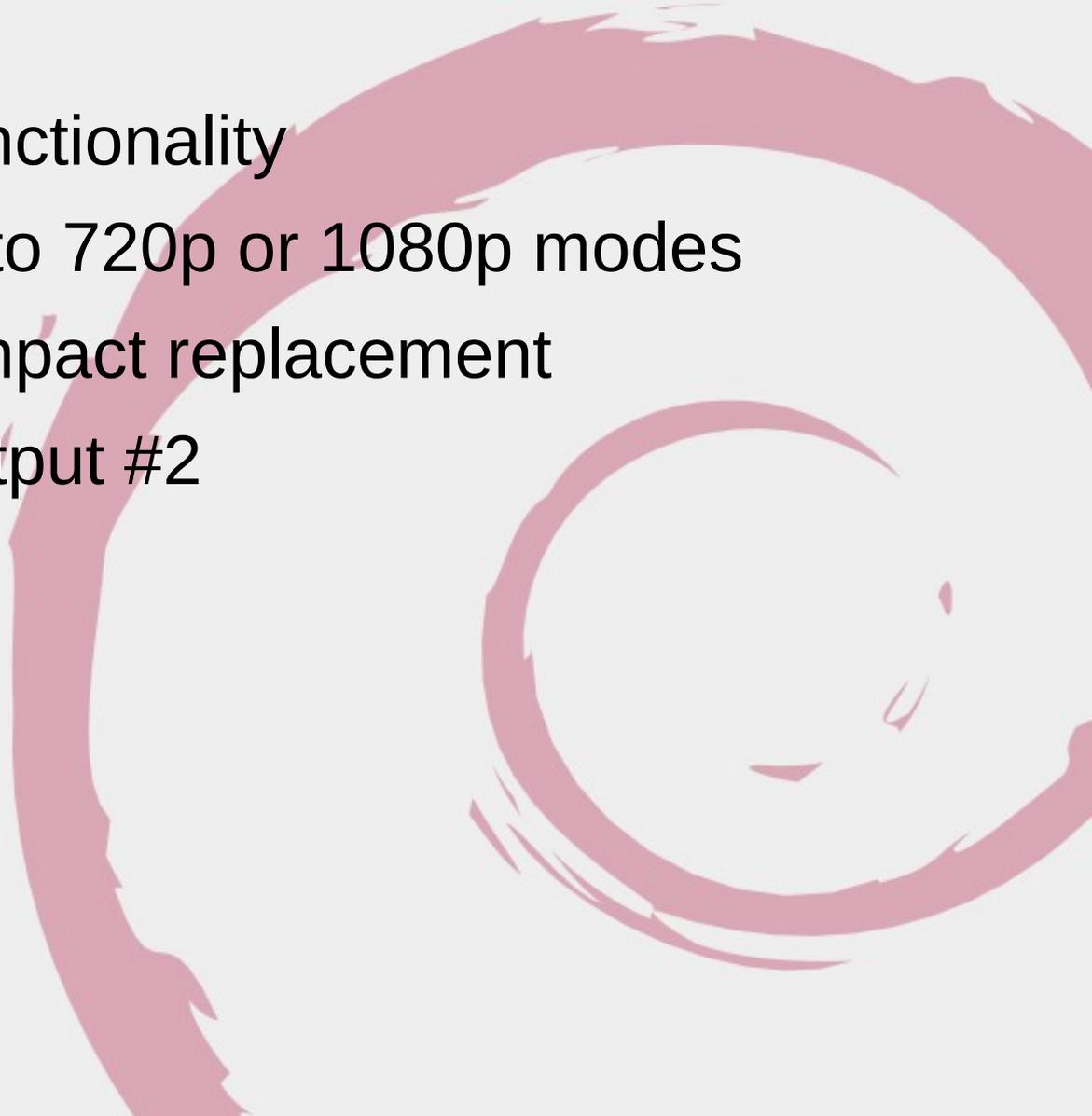


A long way to go yet...

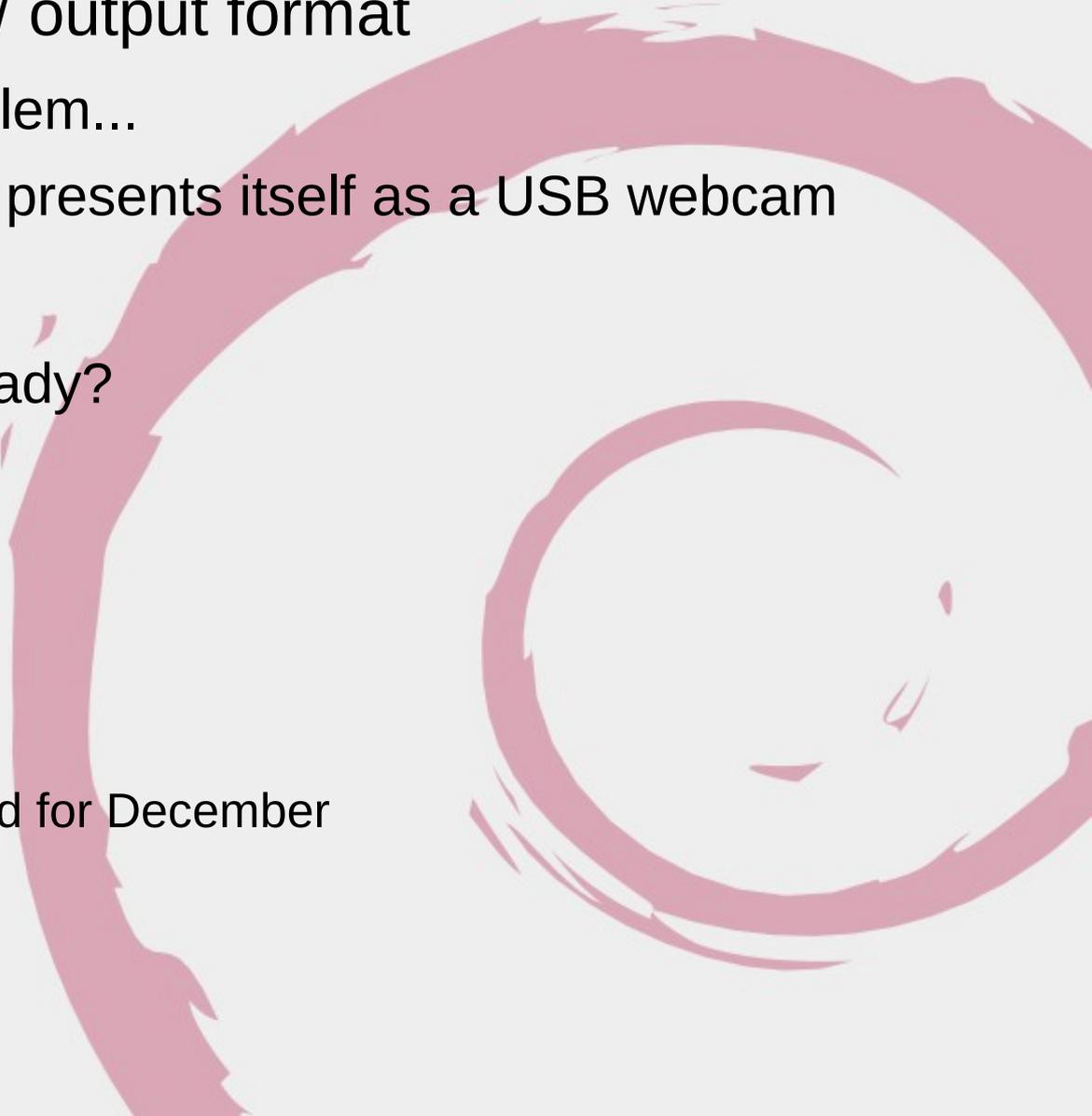
- More testing
 - Packaging
 - Ethernet
 - Via BeagleBone Black
 - From on-board gigabit port
 - Audio
 - VGA in / out daughter-board
 - Enclosure / Production hardware
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Objective 2: replace DVswitch

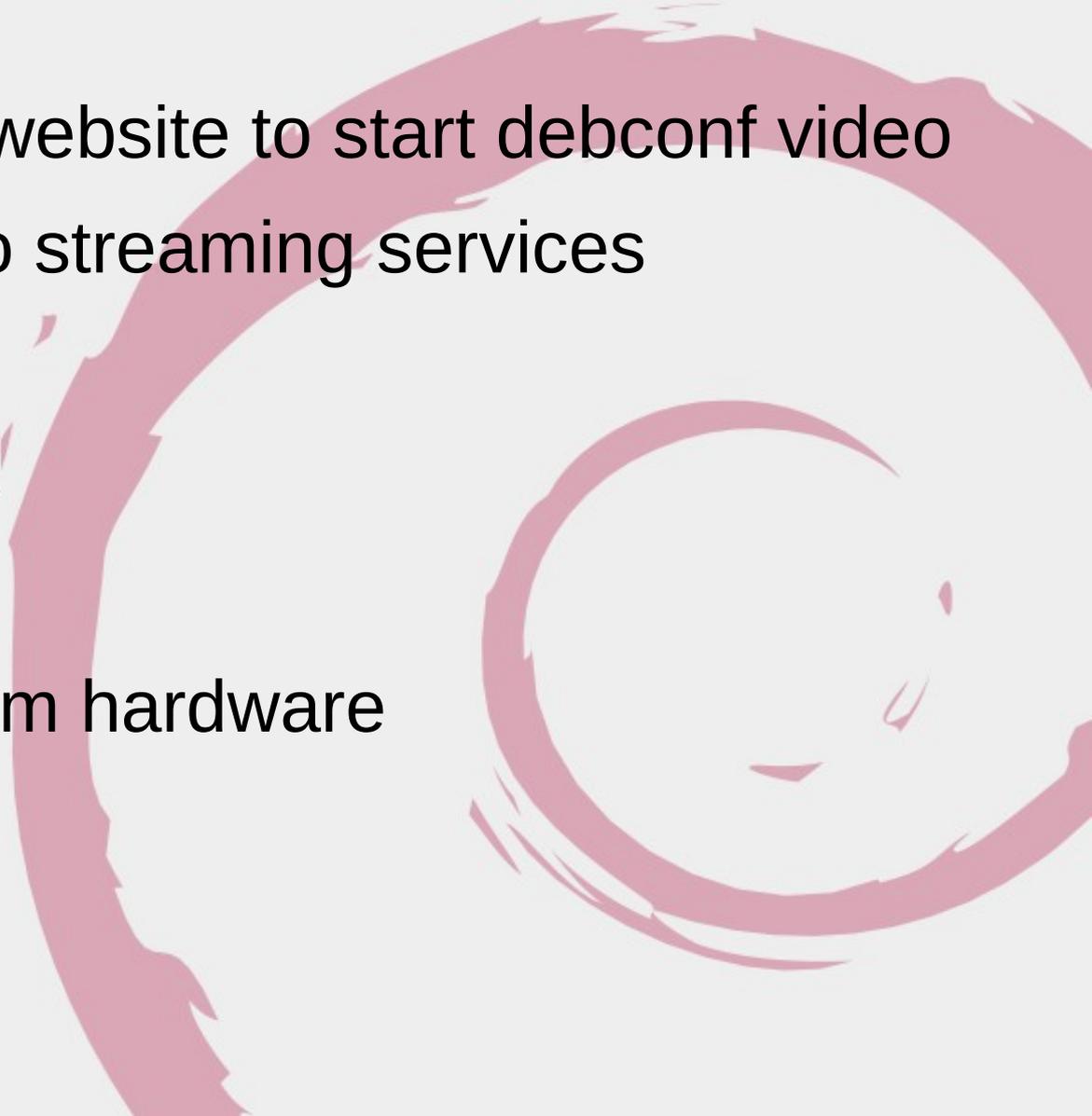
Goals

- replicate existing functionality
 - increase resolution to 720p or 1080p modes
 - select output on twinpack replacement
 - select source for output #2
 - record all inputs
 - record all edits
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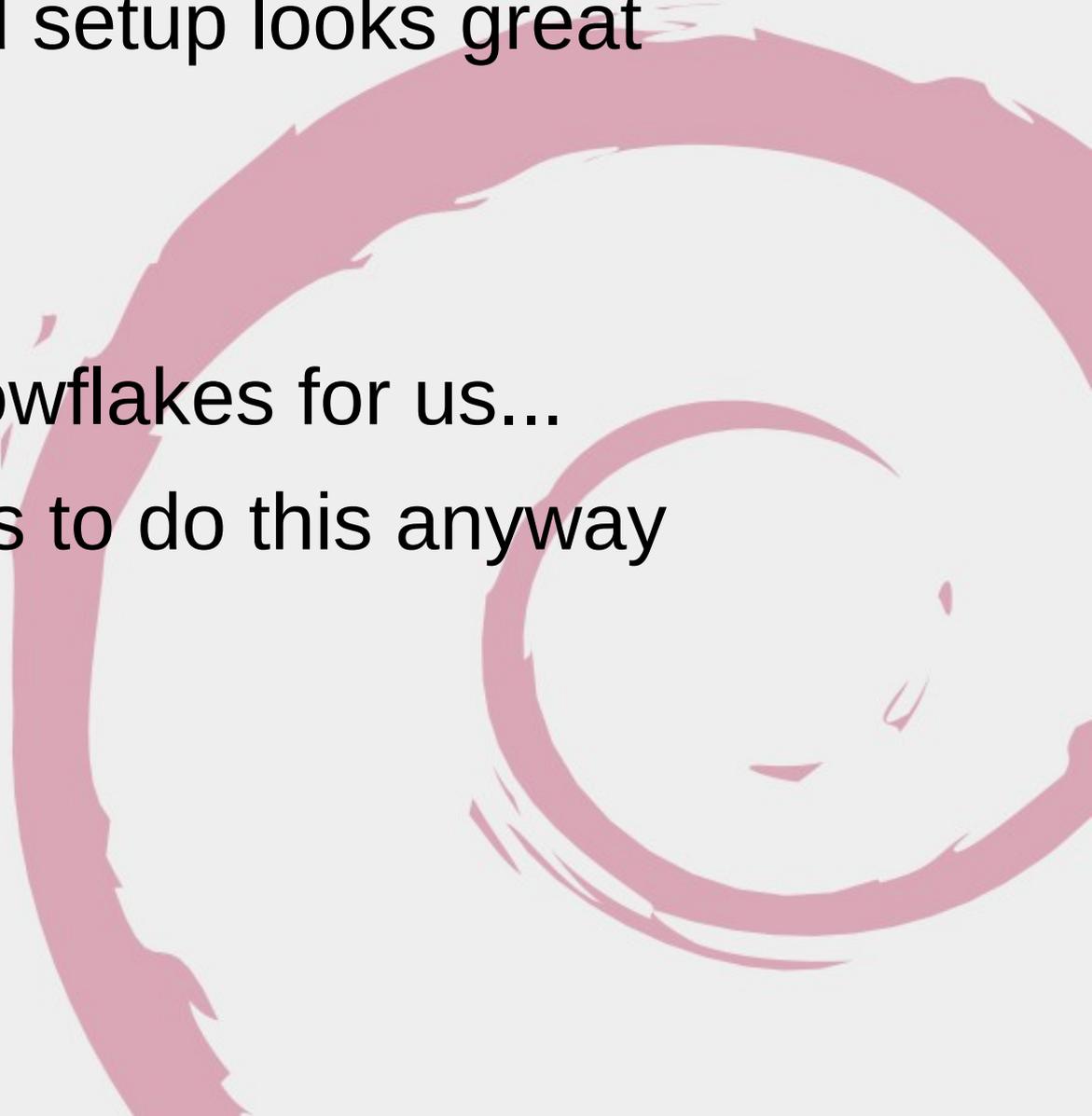
Gstreamer based solution

- Doesn't care about input / output format
 - Latency may prove a problem...
 - The grabber we are using presents itself as a USB webcam
 - GST-Switch
 - Possibly dead / dying already?
 - VoctoMix
 - Looks promising!
 - CCC Testing
 - 'file' feed is stable
 - First use in anger scheduled for December
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Objective 3: Improve streaming

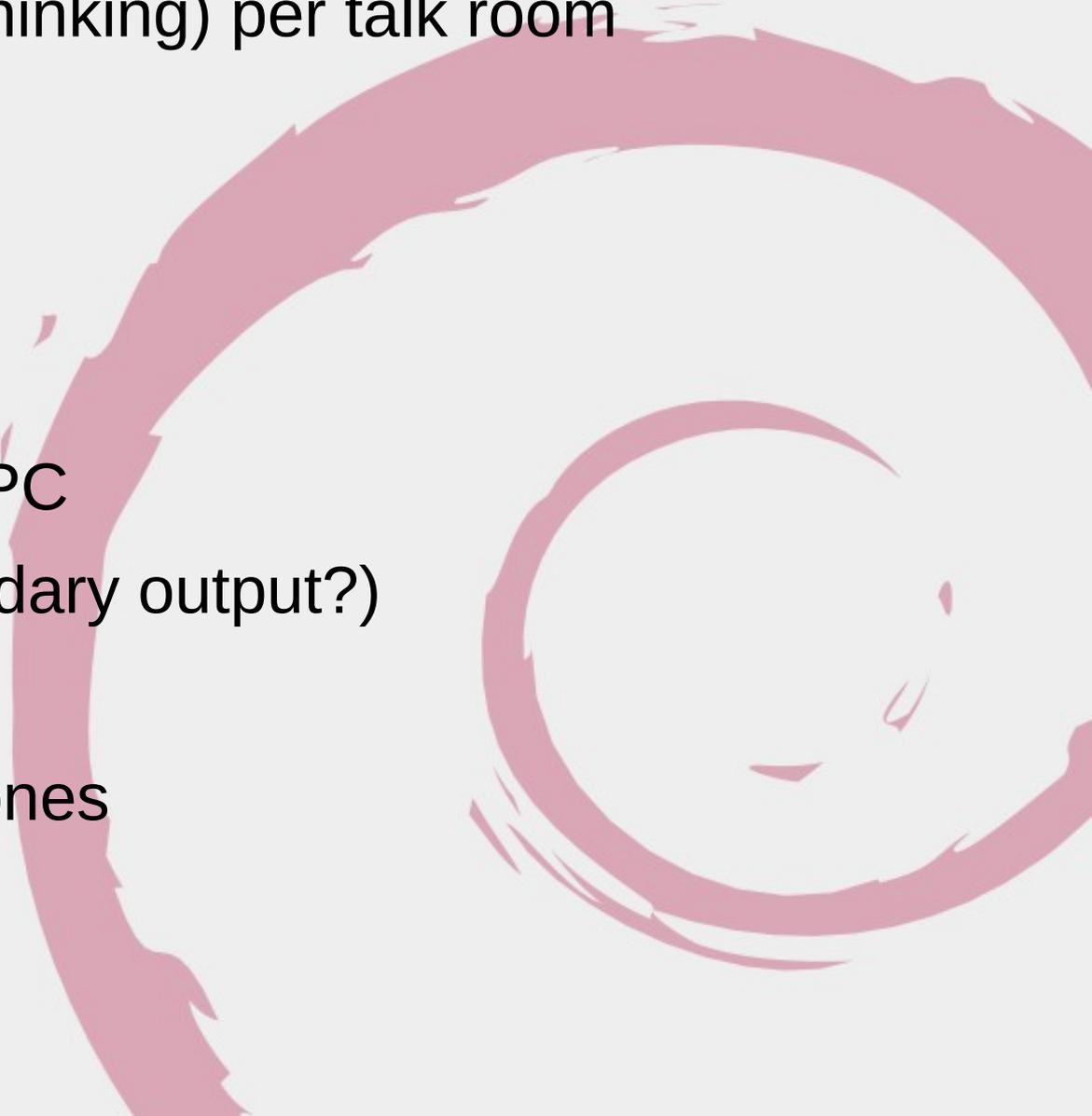
- All 'push' from venue
 - single domain name, website to start debconf video
 - point "local" capture to streaming services
 - log stats
 - list and name streams
 - single stream out
 - encode stream on room hardware
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Sharing is a thing...

- CCC's workflow and setup looks great
 - Inherit this
 - Package for Debian
 - May need a few snowflakes for us...
 - They are keen for us to do this anyway
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Objective 4: Replace / expand AV equipment

New Kit required (current thinking) per talk room

- Workstation PC
 - SDI capture
 - Video mixing
 - local record & encode
 - Laptop for remote UI of PC
 - 2 cameras SDI (+ secondary output?)
 - Opsis frame grabber
 - Sound mixer & Microphones
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Objective 5: BoF Rooms

We are investigating options to handle BoFs differently

- 1 Operator maximum / Preferably automated
- Video conferencing camera / microphone setup
- Frame grabber for slides / Gobby feed
- Permanent feed configured with split screens on-top of an event specific background

Objective 6: Logistics

- Organise equipment by room
- Each room independent in our infrastructure
- Kit must be kept in a deployable state
- Andy will act as quartermaster
- Check-lists for each box
- Set-up a lab with separate equipment for development and release

DO NOT CHANGE ANYTHING ON THE PRODUCTION KIT

Debconf16

- We plan to offer 3 rooms
 - 2 rooms with existing DV switch + 1 Vocto mix
 - Opsis Frame grabbing in all rooms
- We **MAY** want to run SDI source for some cameras as well...

* Depending on *

- How CCC got on in December

* AND *

- Our testing of new system



Questions?

Volunteers Wanted....

debconf-video@lists.debconf.org

IRC #debconf-video OFTC