Audio Mini-Conf - Linux Audio Demos

Linux kernel

* Getting real time sound processing to work was a nightmare in 2.4
* Trivially easy in 2.6

ALSA

* Provides a standard application programming interface to sound hardware
* Standard in kernel 2.6
* USB audio interfaces well supported
* FireWire devices not well supported, exotic hardware not supported
* Insanely difficult to use, asynchronous API

JACK

* Callback based - Synchronous
* Stable API, not continuously changing
* Optimised for soft real-time
* Audio streams are synchronised by the JACK transport
* Audio can be passed between programs - useful for building audio processing chains
* qjackctl makes connecting programs with jack much easier

Virtual studio concept

* Produce music entirely inside the computer
* Sequencer
* Software synthesizers/samplers
* Software effects - LADSPA plugins

Sequencer

* rosegarden4 - audio/MIDI sequencer, designed to compete with Cubase and friends

* seq24 - realtime, performance oriented

Drum machine

* hydrogen - Sample based drum machine
* Stock samples suck rocks
* You can load your own drum samples
* Integrated effects processing

Synthesizers

* Many software synthesizers, some of which you'll get to hear today
* alsamodularsynth - emulates modular analog synthesizers, right down to the control voltages

Effects processing

* LADSPA plug-in standard - a standard API for effects plug-in writers

* No GUI standard, so every LADSPA host displays LADSPA plug ins completely differently

* freqtweak - Frequency band based efffects processing

* jack-rack - Build chains of effects, apply them in real time. Parameters are MIDI controllable.

Now James will talk about ardour