



*Alchimie* 7

*Le Weekend de la création numérique*

2-3-4 Novembre 2007

# Porting and integration of Open Sound System to **Be**OS and Haiku

# Haiku

- Operating System
- Free as in speech (BSD/MIT Licence)
- Compatible with BeOS
- Desktop focused

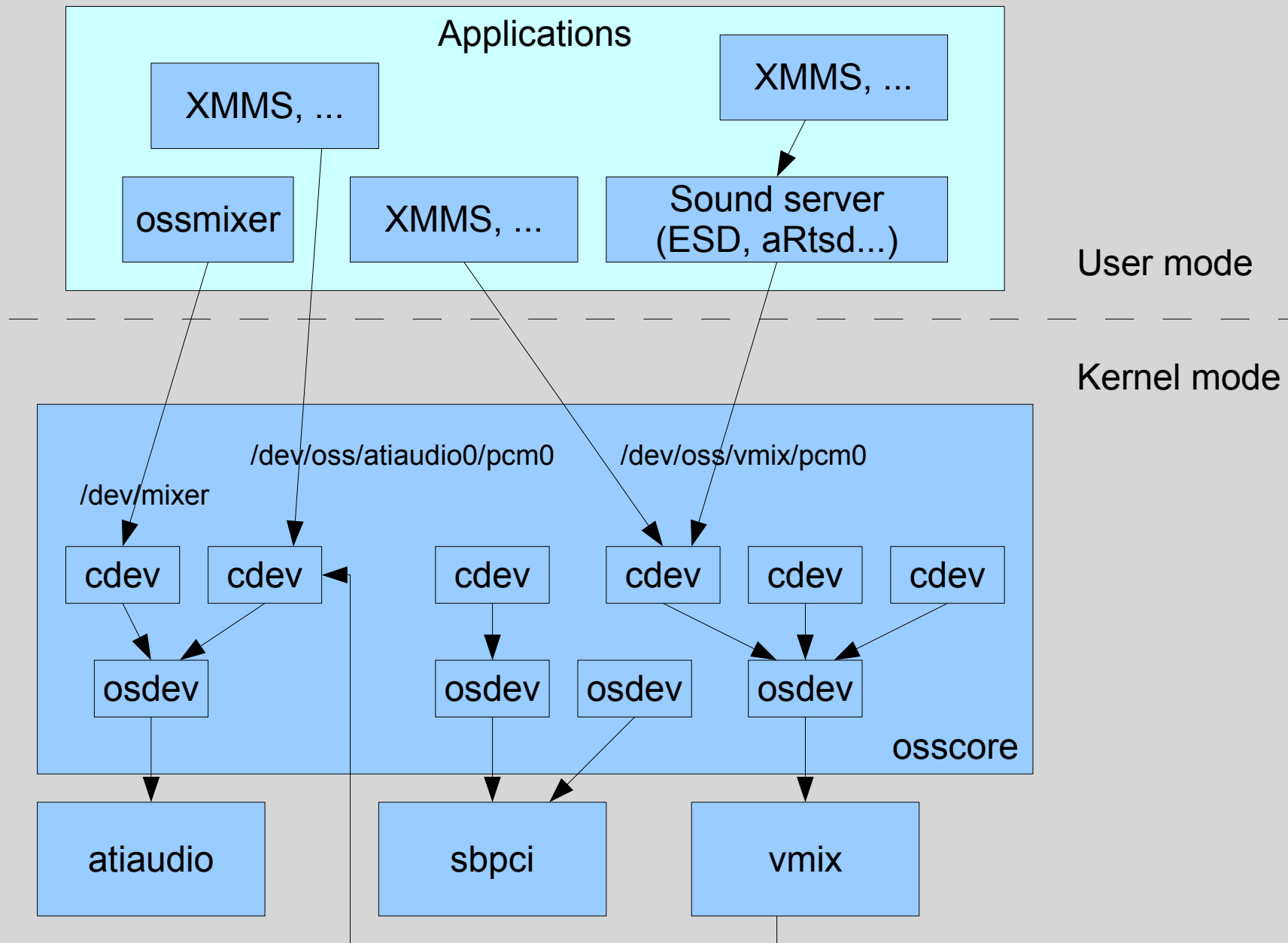
# OpenSound System v4

- First audio driver for Linux
- Large number of supported cards
- Closing sources (Linux → ALSA)
- Ports to other Unices
  - Solaris,
  - HP/UX, ...
- Version 4:
  - New functionalities (VMix, ALSA emulation, ...)
  - Re-opening of sources (june 2007)
    - BSD and GPL

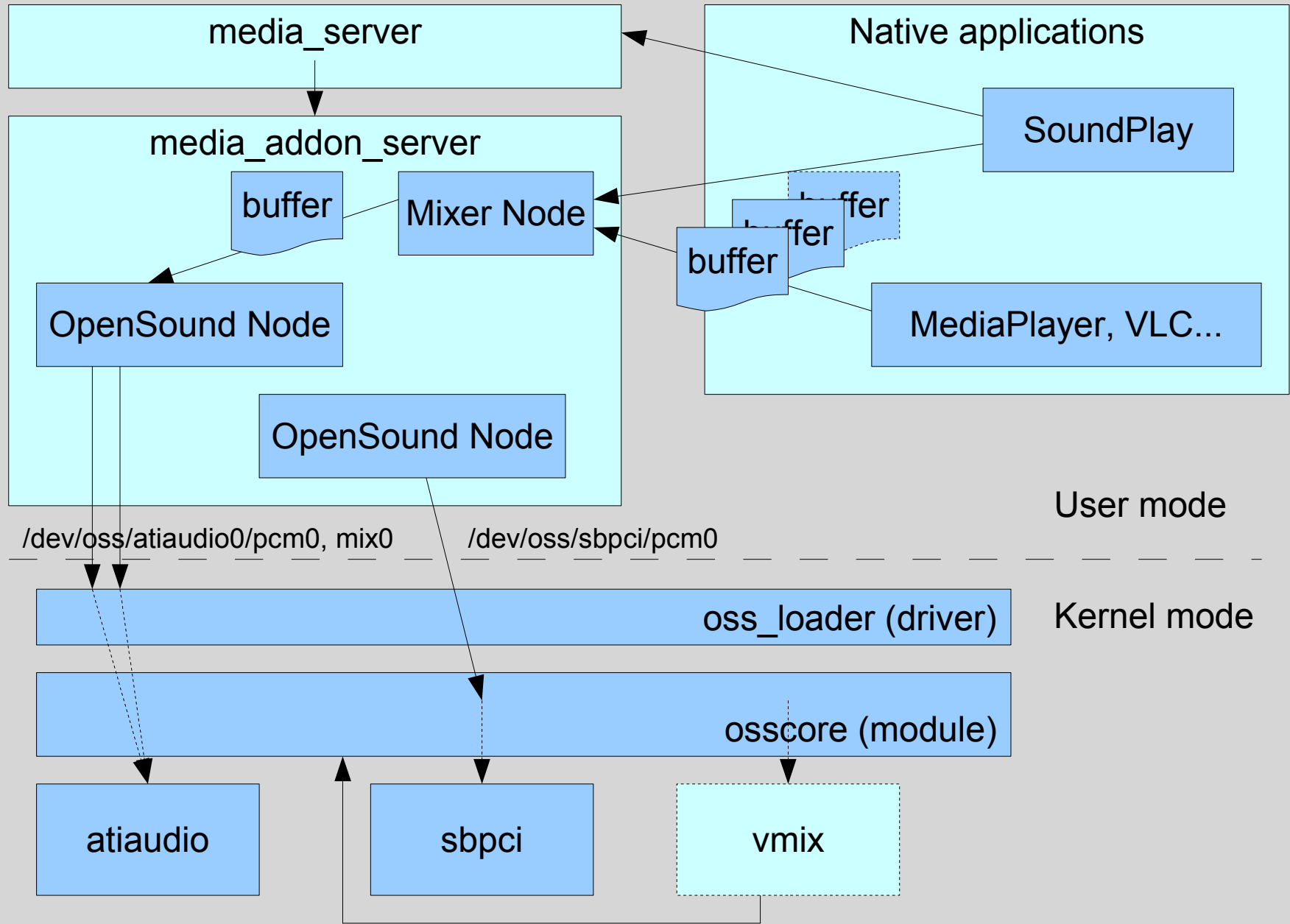
# Motivations

- Need for more hardware support
- Number of OSS-supported cards
- Being able to watch videos on my laptop ;-)
- Porting time  $\ll N \times$  Time to write a driver
- OSS on many platforms  $\rightarrow$  easier port

# Architecture of OSS under Unix



# Architecture under Haiku



# Porting Issues

- Build system (make + script + .c + make...)
  - Examples of other platforms helped
- Abstraction Layer
  - Mutex, allocation, interruption, timer,... → OK
  - Serialisation of access → benaphore :-)
- Loading of modules
  - Driver → osscore → modules
- Publication of items in /dev
  - Added to a list returned to the kernel
- « return -EINVAL; » → RETERR(EINVAL);

# Bugs

- Some remaining bugs
  - Incorrect latency handling
  - Single binary containing kernel modules.
  - No PCI resource reservation → Conflict with native drivers



# More Infos

- Haiku
  - <http://haiku-os.org>
- OpenSound System
  - <http://developer.opensound.com/>
- François Revol
  - <mailto:revol@free.fr>