



Audio Video Graphics Working Group Session

San Jose meeting

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WG chair



AVG WG – today's objective:

	Audio	Video	2D	3D
Renesas, Mitsubishi, Conexant			DirectFB	
Philips, Samsung		UH API		
Philips			Multi-FB	
...				OpenGL
...				
...				



Recall: 25th/26th Presentations

- **DirectFB** - Dennis Oliver Kropp; Convergence
 - <http://www.directfb.org/>
- **OpenGL ES, OpenVG and OpenMAX** - Ed Plowman; ARM
 - <http://www.khronos.org/>
- **Graphics APIS for Linux** - Matsubara, Hagiwara, Hisao Munakata; Renesas
- **Creating GTK+ based UI's for embedded devices** - Markku Ursin, Movial
 - <http://www.gtk.org/>
- **Linux DVB** - Michael Hunold; Convergence
 - <http://www.linuxtv.org/>
- **UHAPI (AV streaming) tutorial** - John Vugts; Philips/Samsung
 - <http://www.uhapi.org/>



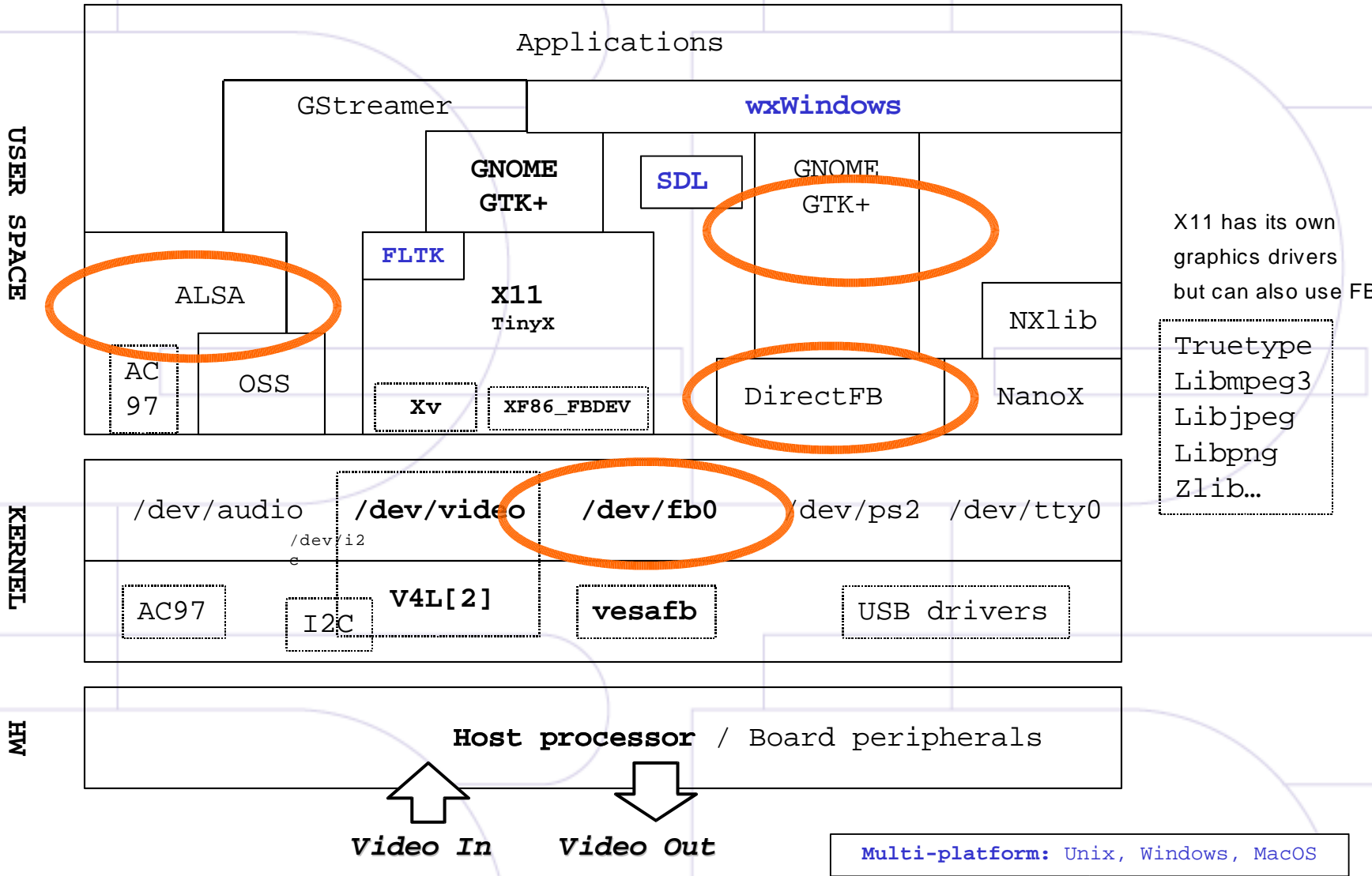
Recall: Jan. 25th Demos

- **FB** (Multi-framebuffer)
 - Philips: PNX8550 running Linux; dual framebuffer and AV accel.
- **DirectFB**
 - Conexant: DVD processor running CELF Linux with DirectFB.
 - Mitsubishi: ARIB plane model emulated on DirectFB window system
 - Mitsubishi: MPEG4 Player (via GTK+) running on Renesas SH-4
 - Renesas: GTK+ and GUI without X11
- **UHAPI** (AV streaming):
 - Philips open source demo on PC
- **DTV**
 - Toshiba America/Europe: DTV reference solution and Home Gateway.
- **3D** graphics
 - Renesas: demo by SI-Electronics on SH-4 and Power VR
 - Pioneer: OpenGL



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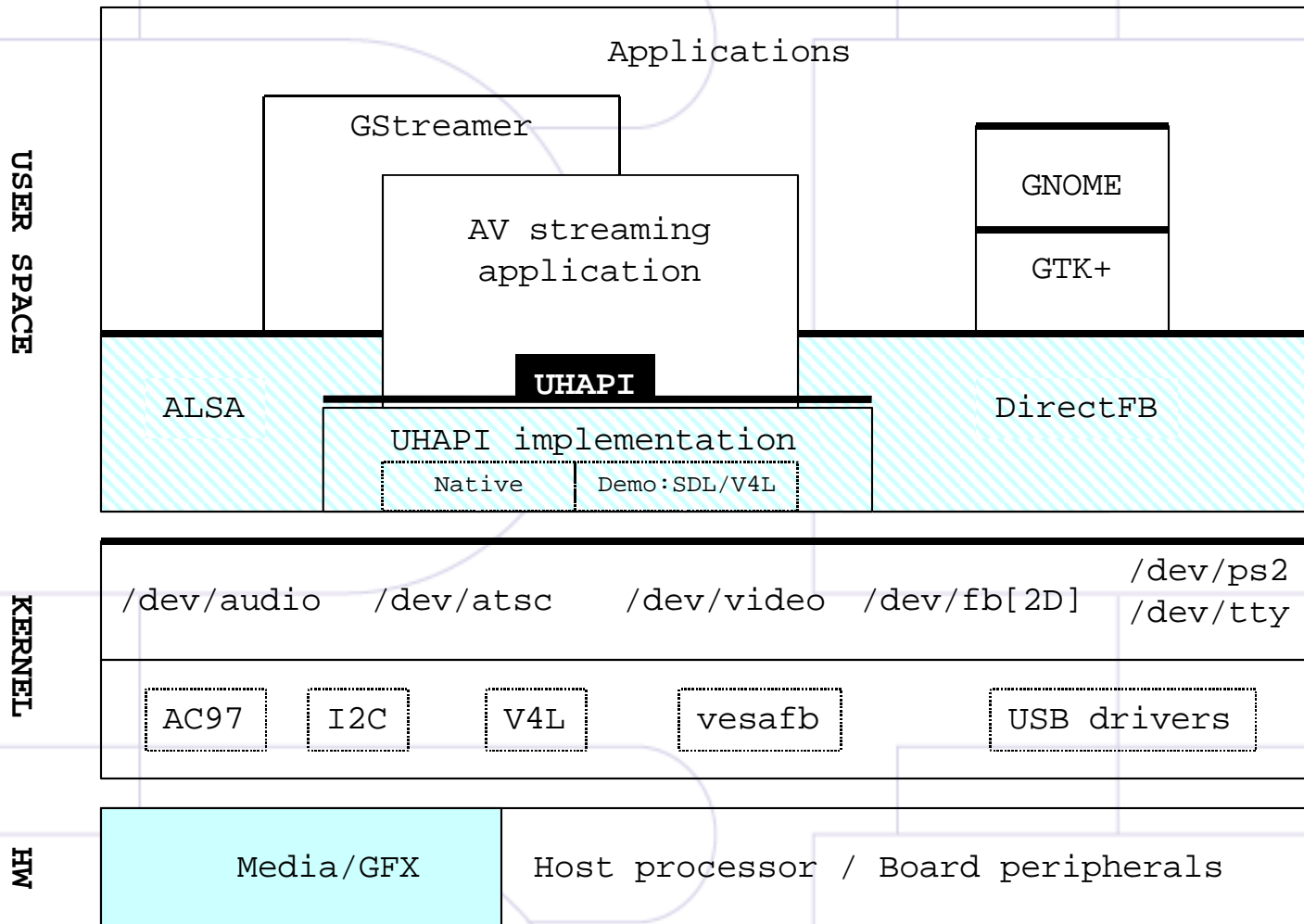
Linux APIs (2004/6 status) & CELF V1.0 focus





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Linux API focus with Media/GFX Hardware





AVG WG project-list

	Audio	Video A/D	2D	3D
Renesas, Mitsubishi, Conexant, Philips			DirectFB	
Philips (2), Samsung 2 nd phase: Renesas, Mits.	UH	API (A+D TV)		
Philips (interim sol).			Multi-FB	
Renesas, Mits., IMG?				OpenGL [ES]
Renesas, Mits., Toshiba Europe, LG	DTV -	DVB - ARIB		
None	ALSA??			
ETRI, Renesas			GTK+	



Output: task list

- LinuxDVB - add documentation, extensions to support analog, higher level API, Q1-2
- Make OS implementation (incl. DVB V4?) of UHAPI PC available, Philips
- DirectFB: Acceleration, consider API extensions,...
- AVG/Khronos group: OpenGL ES relation to DirectFB
- UHAPI team: detailed look at DVB & DirectFB

- T.b.d. Set timeline for studies & evaluations