

Title	Version	Release Date
An Introduction to Neuros OSD Multimedia Platform	1.01	02-01-2008



An Introduction to Neuros OSD Multimedia Platform

(draft)

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Revision History

Version	Date	Author	Modifications
1.00	01/28/08	MG	Initial document creation
1.01	02/01/08	MG	Revision to diagrams and use-case addition.

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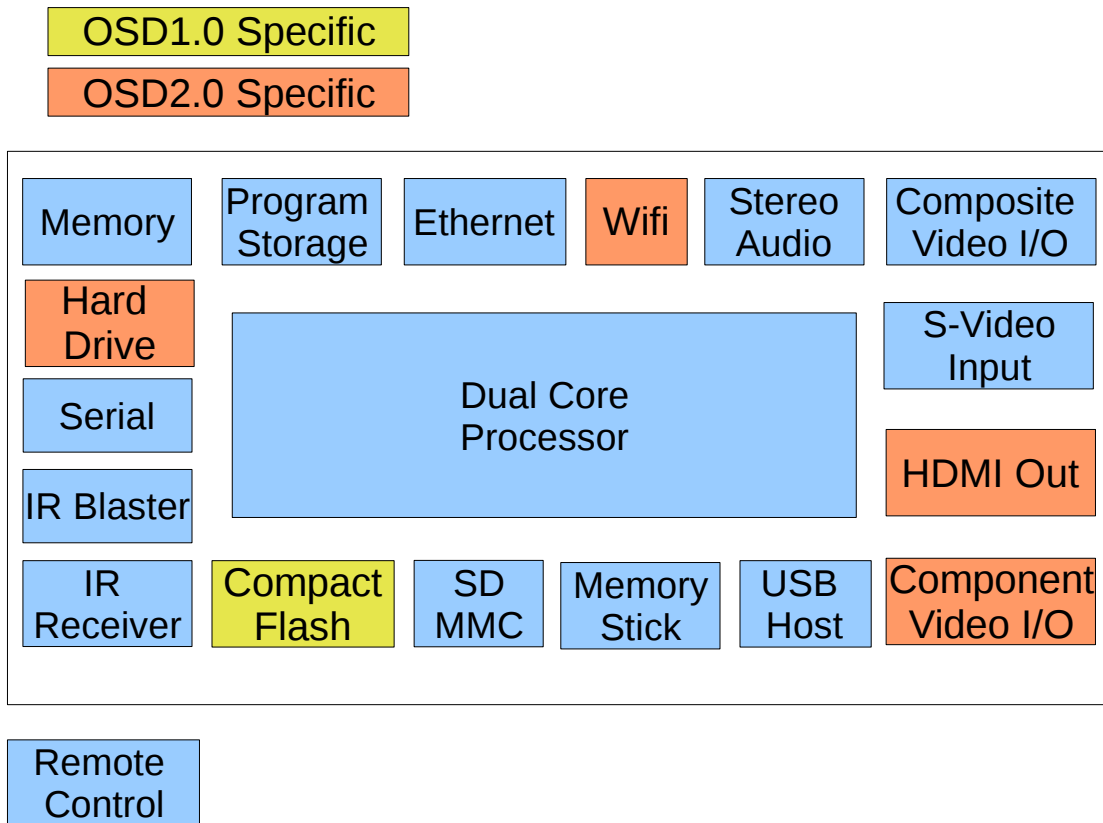
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1 Overview

As one device to Archive, Organize, and easily Play all of your DVDs, VHS, and Video media. Neuros OSD also has the capability to access/stream Internet media contents. OSD's comprehensive multimedia functionality comes from its extensible multimedia Hardware design and software framework.

2 Hardware Design

Running off a dual core processor from Texas Instrument, OSD is designed to have USB host, Network, and various storage interface, in addition to Audio/Video I/O.



OSD HW also comes with an IR remote control and has IR blaster capability to control various multimedia devices such as cable box etc.

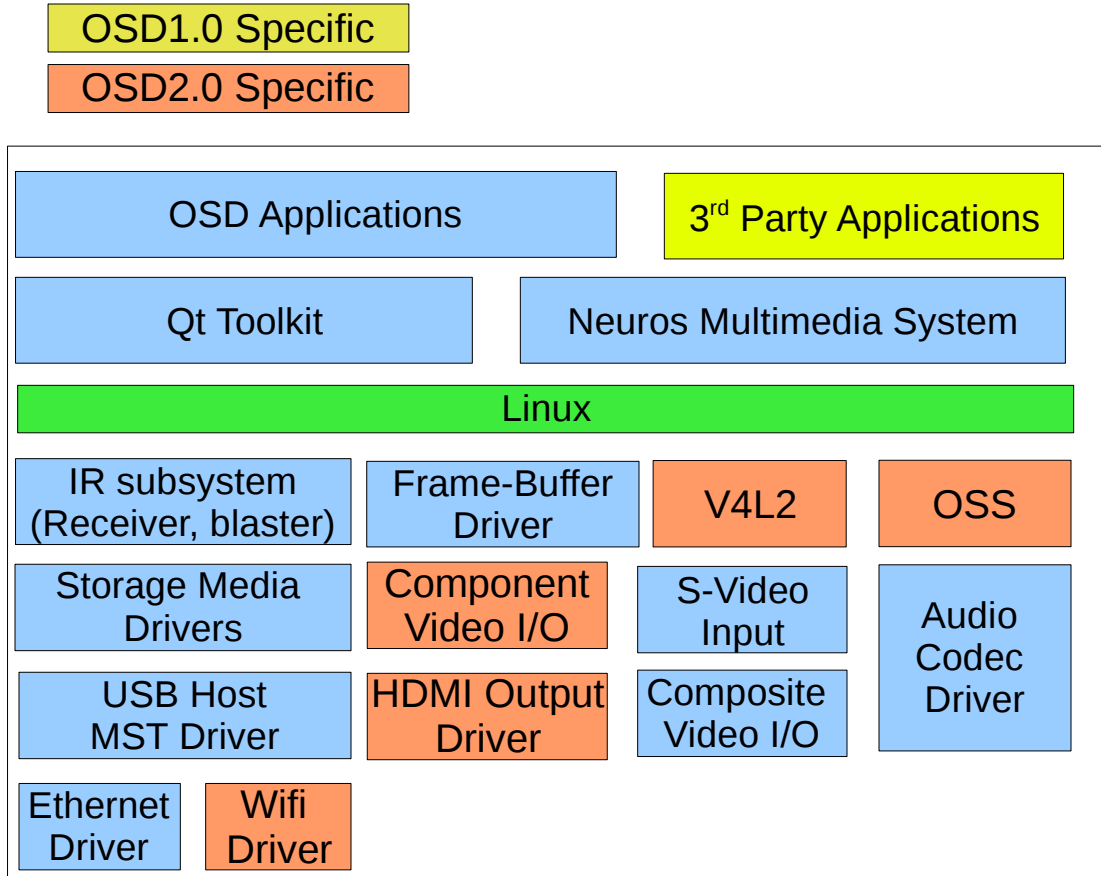
On version 2.0 HW, OSD will have High Definition video support with component and HDMI interfaces.

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3 Software

3.1 System Software

Based on latest Linux (2.6.x) kernel, OSD system software provides complete BSP support and a Qt based GUI application with comprehensive user functions available.

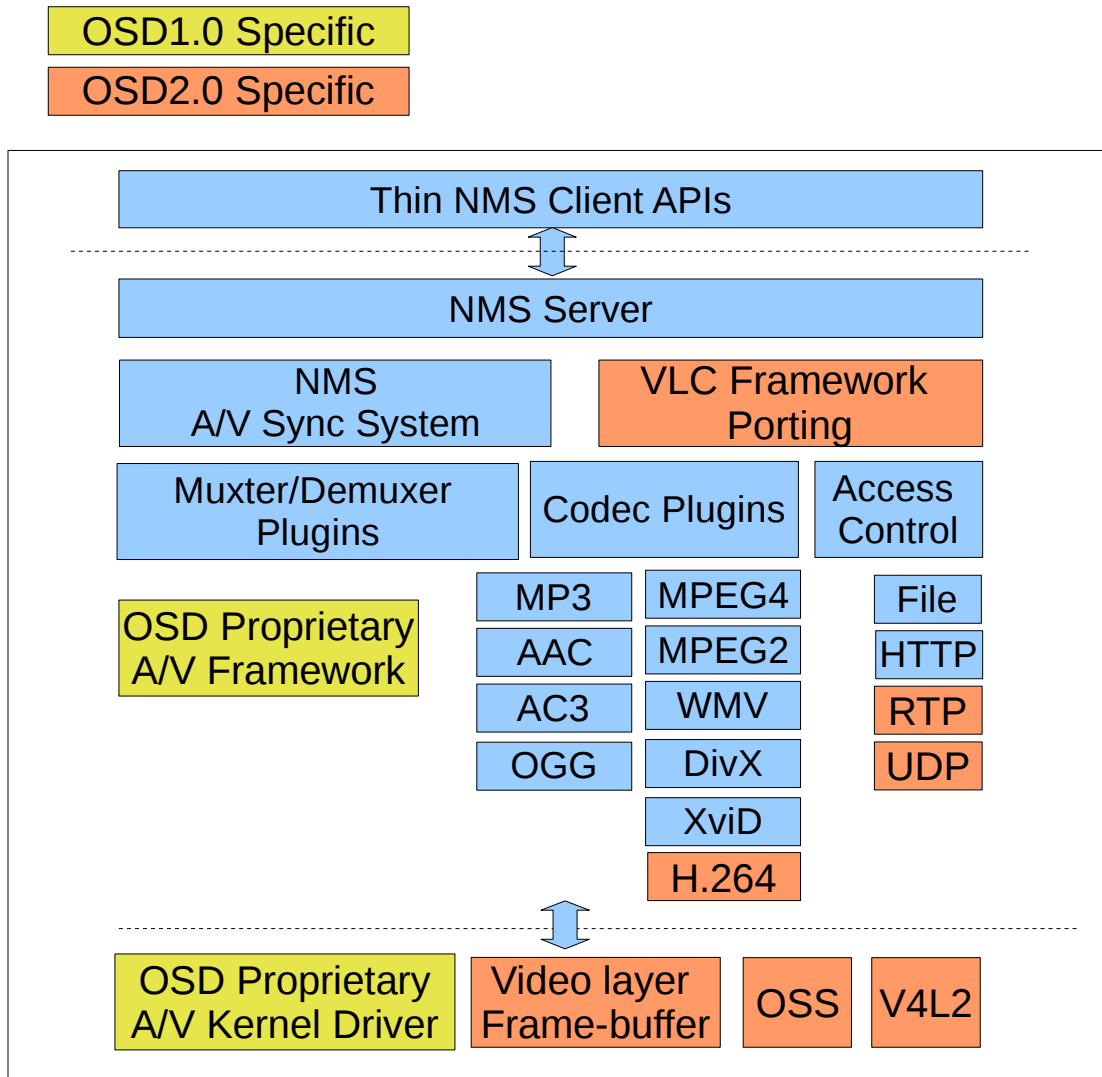


Through Neuros Multimedia System and Neuros Qt Porting, 3rd party applications can be easily ported to OSD. With the Neuros Qt Window manager, 3rd party application can be run stand-alone.

3.2 Multimedia Framework

As a core part of the OSD software, the multimedia framework is designed with a plugin architecture, where different file format, codec, and HW can be supported with additional plugin without changing/rebuilding the framework code and the application system on top of the framework. As most popular software system does, plugin based architecture also provides OSD with flexibility and extensibility where OSD can be easily customized to specific application requirement.

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OSD multimedia system opens a thin set of client APIs to application programmer, which will significantly ease the application design and programming.

4 Open Standard and Easy Customization

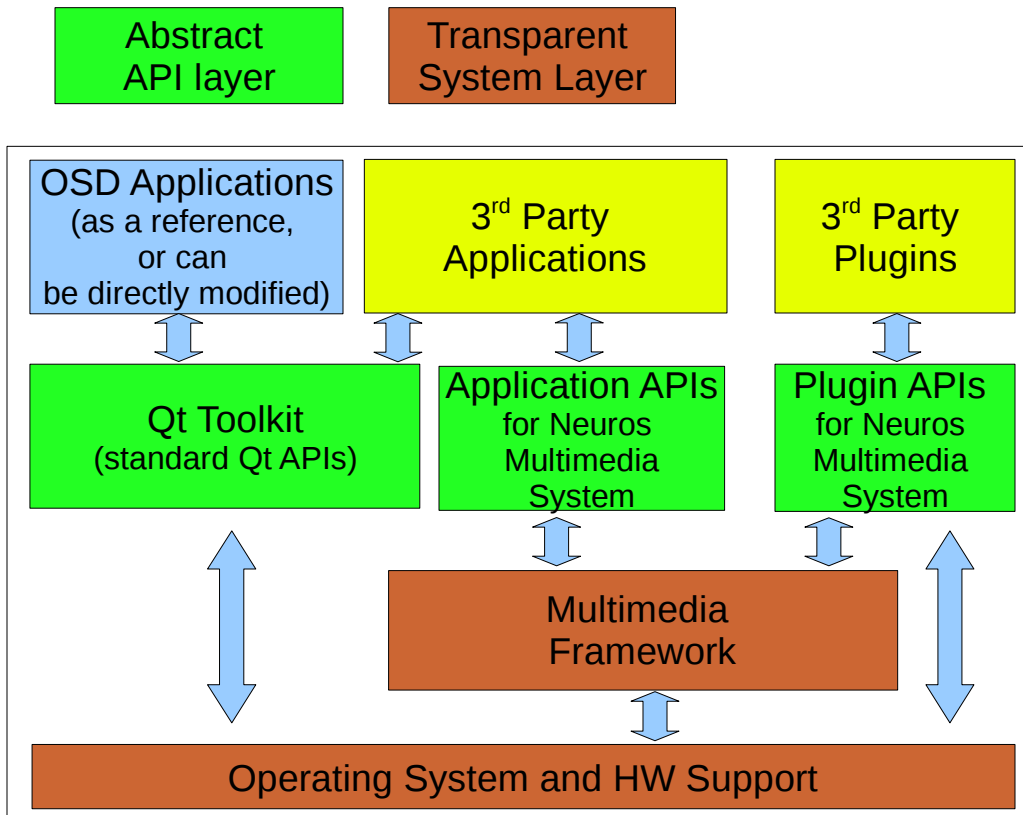
Open solution significantly eases the customization, existing application can be directly modified to achieve different behavior or newer functionality, or it can be used as a reference to build a brand new application from scratch. 3rd party application can be either executed as part of the existing system or completely replace the existing system.

OSD multimedia platform builds with open standard by both porting existing widely adopted multimedia/GUI framework and open source development itself. Platform eases

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the customization by taking a plugin based architecture and providing well defined APIs to encapsulate the multimedia complexity.

Below diagram shows what a typical 3rd party application/plugin designer faces when trying to customize OSD.



In general, 3rd party application can be designed without knowing any of the complexity of multimedia itself, while advanced features addition such as different access method support, different codec support etc can be done by providing additional plugins.

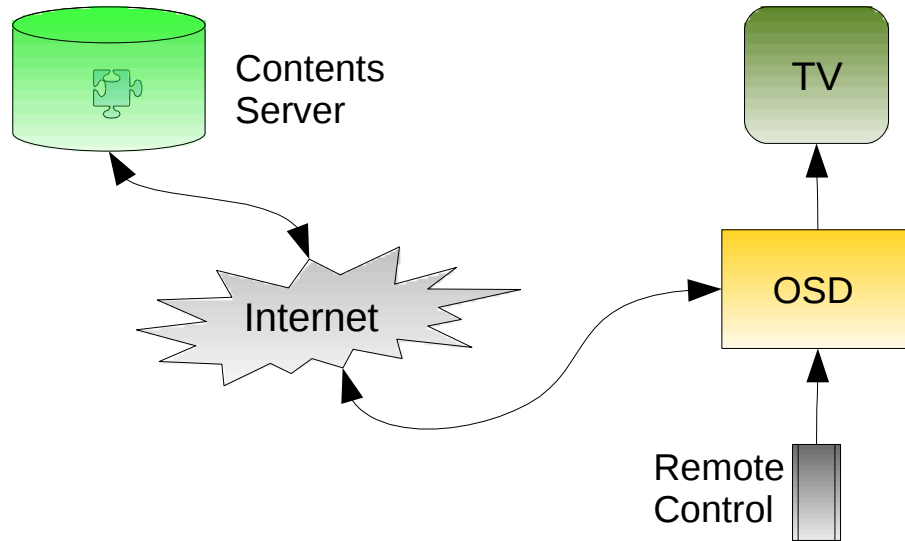
5 Appendix: use case --- OSD as a streaming client

As an demonstration of OSD customization, the following digram shows the use case of using OSD as a streaming client to bring Internet multimedia to TV.

5.1 Hardware

With OSD's Network capability, a streaming solution can be easily built up as showing below,

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5.2 Software Customization

As described in section 4, OSD on-board application itself already supports streaming and playing back a variety of multimedia contents, the open architecture allows easy customization in either building a dedicated client application, or proving proprietary access control etc.

