CUSTOMISABLE REFERENCE DESIGN DATASHEET

Target form factors: IP STB, Digital Media Adaptor, Networked TV Module, Networked DVD, Home Media Gateway

oregan networks

MULTIROOM ENTERTAINMENT IP SET TOP BOX

WITH SECURE MEDIA DISTRIBUTION

Neva SGM-8000 Series

HD Ready / 1080p ✓

Powered by oregan™ MEDIA BROWSER

As the digital media revolution gains momentum, involving all participants of the "Device - Content - Communications" value chain, Oregan recognises the importance of providing pioneering convergence brands with the right tools for faster, easier and more economical creation of digital lifestyle products.

The Neva series of high definition STB reference designs powered by Oregan™ Media Browser forms the basis of Oregan's turnkey device customisation kit that enables CE brands and manufacturers to customise the functionalities, connectivity and content protection options of the resultant device, which can be deployed uniformly across numerous device form factors.

KEY FEATURES

- High Definition MPEG 4 (AVC / H.264 / WMV9 / VC1) video decode
- Wireless 802.11n connectivity
- Unified Graphical User Interface engine, incorporating AJAX / HTML / Adobe Flash / vector graphics rendering capabilities
- Secure multi-room media link to PCs, WiFi mobile handsets, digital cameras and NAS devices
- Integrated with Microsoft Janus / Cardea DRM, DTCP-IP
- Access to premium and user-generated web downloads / subscriptions
- Multiple UI "skins" and user personalization engine

PERFORMANCE

- 300 MHz MIPS CPU
- 200 MHz secure CPU for DRM & link protection
- 256 MB DRAM (max 512 MB)
- 32 MB NOR flash memory (64 MB option)
- HDD storage*
- Dual HD video decoder
- JPEG hardware acceleration
- 32-bit OSD with 2D graphics acceleration
- OS: Linux 2.6 kernel, uCLinux distribution

CONTENT PROTECTION

- Macrovision, CGMS, CSS
- Windows Media DRM 10 / PlaysForSure
- DTCP-IP

EMBEDDED SOFTWARE ARCHITECTURE OREGAN™ MEDIA BROWSER

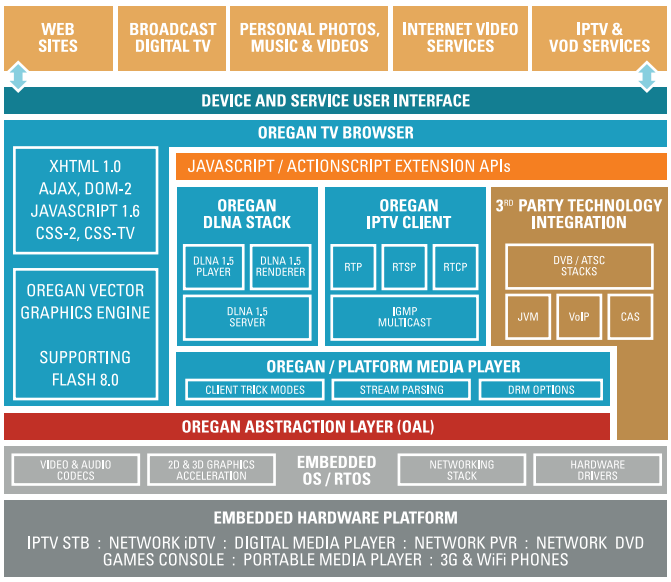

Figure 1. Oregan Media Browser Architecture

Oregan™ Media Browser 4.0 is the powerful and intelligent multimedia delivery engine inside Neva SGM-8000. Its modular architecture incorporates enabling software modules including a TV browser, IPTV video streaming client and home media player and server.

- **Oregan TV Browser** provides the user interface for value-add applications, Internet video and open access web browsing.
- **Oregan IPTV Client** enables multicast and unicast distribution of multimedia over IP.
- **Oregan DLNA Player and Server** module enables interoperable and secure sharing and re-distribution of media over IP networks.

The scalable design of the solution enables service providers to plug in additional applications and offer multiple network multimedia streaming and sharing capabilities in a single device.

DETAILED SPECIFICATIONS

HARDWARE

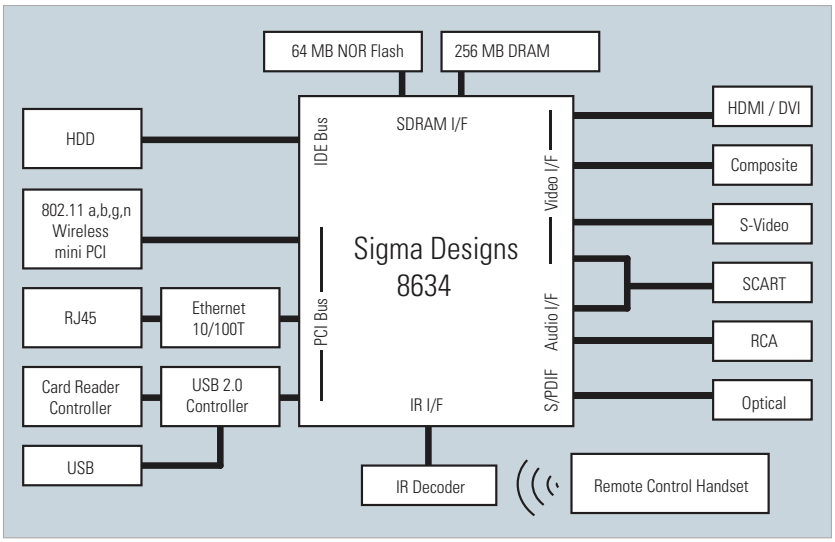

Figure 2. Scalable Hardware Design for Low-cost IP Set Top Box with HDD

CHIPSET: Sigma Designs SMP 8634 / 35

CONNECTIVITY
- Digital TV: DVB terrestrial, DSL / IP, compliant with ATSC, SMPTE VC-1, UPnP / DLNA standards compliance
- Network / Peripherals: 100bT Ethernet controller, USB 2.0, 2 x IDE interface, 4 x PCI peripherals, WiFi 802.11 a, b, g, n

VIDEO / GRAPHICS
- Picture in picture support
- Dual MPEG-2 MP@HL decode
- Formats: MPEG-1, MPEG-2, MPEG4 (SP and ASP), DivX, XviD, MPEG-4 AVC / H.264, WMV-9, VC-1
- Images: JPEG, TIFF, BMP, PNG, GIF
- Output: HDMI, SCART, S-Video, Component (YPbPr), Composite

AUDIO
- Formats: MP3, WMA 9, WMA 9 Pro, MPEG-1 layer I/II, MPEG-2 layer II, MPEG-2 AAC, MPEG-4 AAC, LC 2 & 5.1 channel, MPEG-4 AAC+SBR 2 & 5.1 channel, Dolby® Digital EX, Pro Logic® II, MLP™
- Output: Optical (Toslink), Electrical SPDIF

CUSTOMISATION & SYSTEM INTEGRATION ENVIRONMENT

Oregan's Neva SDK allows manufacturers and system developers to easily integrate the vital parts of the client-side content delivery system. DRM and CAS technologies can be easily "plugged in" within the architecture, as required by a specific operator or CE vendor.

The SDK provides the following facilities:
- Adaptation of low level hardware drivers
- Customisation of User Interface logic and branding
- System Integration via JavaScript APIs with customer-specified DVB, PVR, DRM and head-end technology solutions
- Remote upgrade facility

Email **info@oregan.net** to discuss your project requirements

OREGAN MEDIA BROWSER SOFTWARE

HARDWARE RESOURCE REQUIREMENTS:
- Embedded code footprint: approx. 6 MB, including High Definition Graphical User Interface
- Execution memory usage: approx. 20 - 30 MB DRAM, including application space for rendering of typical online content portals

TV BROWSER & UI ENGINE
- XHTML 1.0, HTML 4.01, JavaScript 1.6, DOM 2, CSS 2 Adobe® Flash® 8.0 compatibility, SSL 3.0, CEA – 2014

- INTERNATIONAL LANGUAGE SUPPORT
  Input and display technology for US and European languages, Chinese, Japanese, Korean, Thai and Arabic.

- UNIFIED MEDIA ACCESS FRAMEWORK
  Unified user interface and media player for network-based, local and USB mass storage media, including digital cameras, MP3 Players, portable hard drives and flash memory cards.

- APPLICATIONS
  AJAX / HTML / Adobe®Flash® Electronic Programming Guide (EPG), video search / recommendation engines, web-based multi-player arcade gaming & karaoke, YouTube / Skype / MySpace / Google Maps

IPTV CLIENT FEATURES
- RTP & RTSP client for video stream control and trick modes (PAUSE / REW / FF)
- MS-HTTP, MS-RTP and MS-RTSP
- Multicast IGMP support
- Telco grade VOD server support includes Kasenna MediaBase, Sun Streaming Server, Microsoft Server

DLNA PLAYER & SERVER
- Applicable device classes: Digital Media Player (DMP), Digital Media Renderer (DMR) and Digitial Media Server (DMS)
- Home network connectivity: WiFi with WEP / WPA support*, Powerline networking*

PLAYLISTS AND SLIDESHOWS
- M3U, ASX, PLS and WAX playlist formats
- Customisable screensaver
- User controlled photo slideshows with audio
- Photo zoom, rotation, pan and scan

*optional specifications

Detailed information is available at **www.oregan.net**

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