



OMS

# Business Perspective

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**2008  
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# Topics

- What are OMS and OMS Video?
- Who needs them?
- How we are developing OMS

# The Web Needs A Royalty-Free Codec

HTML 5, W3C Working Draft, Jan 22 2008

“It would be helpful for interoperability if all browsers could support the same codecs. However, there are no known codecs that satisfy all the current players: we need a codec that is

**known to not require per-unit or per-distributor licensing,**  
**that is compatible with the open source development model,**  
**that is of sufficient quality as to be usable,**  
**and that is not an additional submarine patent risk**  
for large companies. This is an ongoing issue and this section will be updated once more information is available.”

# The Web is from Mars. Codecs are from Venus.

- Web
    - > Royalty-free standards processes
    - > No licensing fees
      - No special fees for different business models
  - Ubiquitous =
    - > Web (PC, mobile, TV, embedded, with Web access) everywhere
  - ...
- Codecs
    - > Royalty-bearing standards processes
    - > Value chain license fees
      - Encoders, decoders, content, use fees
  - Ubiquitous =
    - > CE devices (with risky, expensive RAND patent royalties) everywhere
  - ....

# FOSS Needs Royalty Free Codecs

“Half of “RAND” is deceptive and the other half is prejudiced. Standards bodies should recognize that such licenses are **discriminatory**, and drop the use of the term “reasonable and non-discriminatory” or “RAND” to describe them.... I suggest the term “uniform fee only,” or “UFO” for short, as a replacement for “RAND.”

**Richard Stallman**  
**'Patent licenses discriminate'**

<http://techupdate.zdnet.com/techupdate/stories/main/0,14179,2862285,00.html>

# The Problem with RAND ...

“The most frequent, and perhaps most imperfect, example of ex ante disclosure in use today is the commitment to license Necessary Claims on "reasonable and non-discriminatory terms." While simple in concept, this phrase has many shortcomings in practice. Most significantly, **the words "reasonable" and "non-discriminatory" have no precise meaning**, in part because some that participate in the development of SSO policies have resisted defining these terms more precisely. The concept of a "reasonable" royalty or other fee is particularly problematic.”

**"Ex Ante Disclosure: Risks, Rewards, Process and Alternatives"**  
in "The Great Ex Ante Debate", June 2006  
<http://consortiuminfo.org/bulletins/jun06.php>

# “Open” Needs Royalty Free Codecs

- Open Source...
  - > <http://www.fsf.org/news/playogg.html>
  - > <http://www.xiph.org>
  - > <http://dirac.sourceforge.net/>
- ...Open Standards...
  - > Khronos, DCI Movies, Web3D ...
- ...Open Communities
  - > Open media archives
  - > Indexing & annotating communities



# You Need Royalty Free Codecs 1/x

“14. H.264/AVC Notice The iPhone Software and iPhone Software Updates contain AVC encoding and/or decoding functionality, commercial use of H.264/AVC requires additional licensing and the following provision applies: **THE AVC FUNCTIONALITY IN THE IPHONE SOFTWARE AND IPHONE SOFTWARE UPDATES ARE LICENSED HEREIN ONLY FOR THE PERSONAL AND NON-COMMERCIAL USE OF A CONSUMER TO (i) ENCODE VIDEO IN COMPLIANCE WITH THE AVC STANDARD ("AVC VIDEO") AND/OR (ii) DECODE AVC VIDEO THAT WAS ENCODED BY A CONSUMER ENGAGED IN A PERSONAL AND NON-COMMERCIAL ACTIVITY AND/OR AVC VIDEO THAT WAS OBTAINED FROM A VIDEO PROVIDER LICENSED TO PROVIDE AVC VIDEO. INFORMATION REGARDING OTHER USES AND LICENSES MAY BE OBTAINED FROM MPEG LA L.L.C. SEE [HTTP://WWW.MPEGLA.COM](http://www.mpegla.com).”**

iPhone EULA  
retrieved 04/04/08

[http://store.apple.com/1-800-MY-APPLE/WebObjects/AppleStore?node=home/iphone/terms\\_conditions](http://store.apple.com/1-800-MY-APPLE/WebObjects/AppleStore?node=home/iphone/terms_conditions)

# You Need Royalty Free Codecs 2/x

## “ADOBE SYSTEMS INCORPORATED

By using this SWF and FLV File Format Specification (the "Specification"), you agree to this SWF and FLV File Format Specification License Agreement (the "License").

### 1. Definitions ...

d. "FLV" means the file format designated by .FLV and compatible for playback in the Adobe Flash Player software. ...

### 3. Restrictions

a. **You may not use the Specification in any way to create or develop a runtime, client, player, executable or other program that reads or renders SWF files. ...**

### 8. Indemnity

You will indemnify and hold Adobe harmless from any third party claim, loss, or damage (including attorney's fees) related to your use of the Specification or your inclusion of SWF or FLV into your Product(s).”

**SWF and FLV File Format Specification License Agreement**  
retrieved 04/04/08

<http://www.adobe.com/licensing/developer/fileformat/license/>

# You Need Royalty Free Codecs 3/x

**“What type of license for use of H.264 technology is provided when I buy Adobe products?”**

**The end-user license for Flash Player allows users to play back H.264 content for their own noncommercial use. Commercial use of Flash Player to decode H.264 video may require a separate license. Licensing terms for H.264 are available on the MPEG LA website (H.264) and the Via Licensing website (HE-AAC).”**

<http://www.adobe.com/products/hdvideo/faq/>  
retrieved 04/04/08

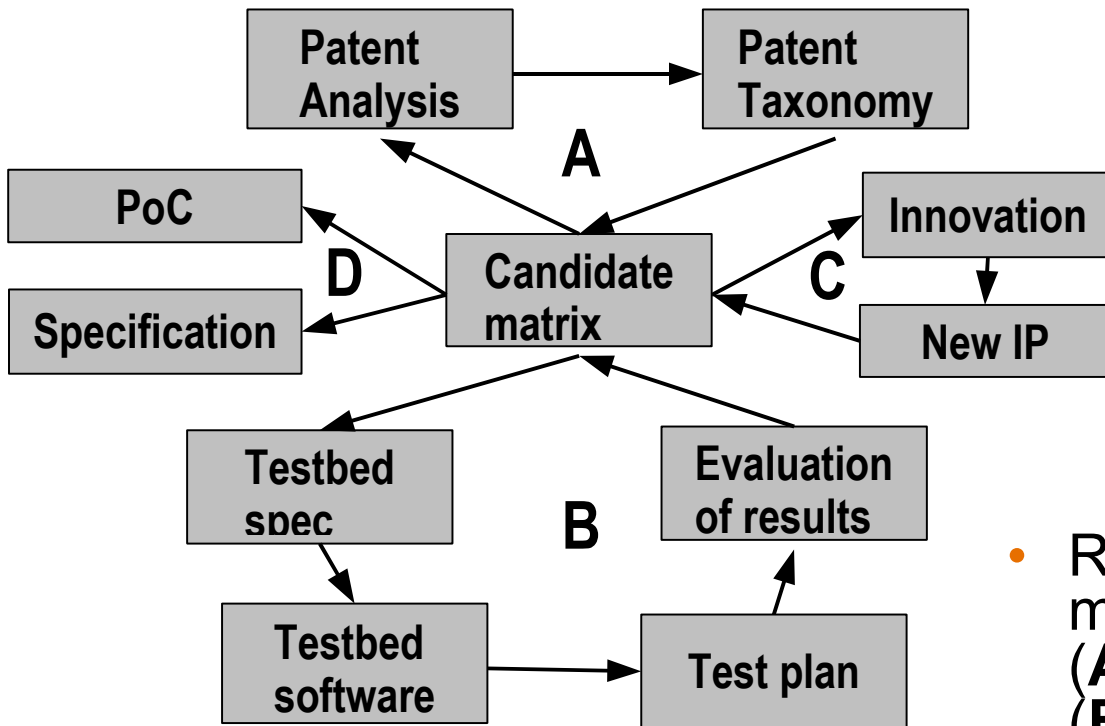
# Sun Open Media Commons (OMC)

- Announced August 2005 as an open source community project to develop royalty-free open solutions for digital content, in particular codecs and digital rights management (DRM) solutions.
- Seeks to drive cross-industry growth and prosperity as well as promote both intellectual property protection and user privacy.
- OMC's Goals:
  - > Develop open, royalty-free digital rights management and codec solutions.
  - > Promote the creation, duplication and distribution of digital content and assure that creators and owners get compensated.
  - > Collaborate with like-minded open-source communities.
  - > Influence standards organizations.
- OMC's Principles:
  - > Innovation flourishes through openness - open standards, reference architectures & implementations.
  - > All creators are users and many users are creators.
  - > Content creators and holders of copyright should be compensated.
  - > Respect for users' privacy is essential.
  - > Code (both laws & technology) should encourage innovation.

# OMC IPR/Patent Methodology Considers Variety of Art & Initiatives

- Available art from expired patents, known older methods and product/systems, and art originally in the public domain
  - > may provide 'patent-clear' paths for technical specifications and architectural aspects
  - > may also reveal strategies for appropriately avoiding issues involving patents that may be of questionable novelty or scope
- Thorough review & taxonomy of active patents
  - > important for identifying potential 'patent thickets' & developing appropriate solutions for avoiding issues they may present
- Leverage off of & cooperate with entities & initiatives having similar royalty free objectives
  - > can establish industry support & momentum for objectives, & provide an opportunity for leveraging existing royalty free standards & cross-licensing where applicable
- Proactively file patents to defensively protect the specification
- Patent Commons

# OMC IPR Development Methodology



- Royalty-free development methodology - based on
  - (A) IPR analysis,
  - (B) engineering development,
  - (C) innovation (new IP)
  - (D) Proof of Concept / spec development

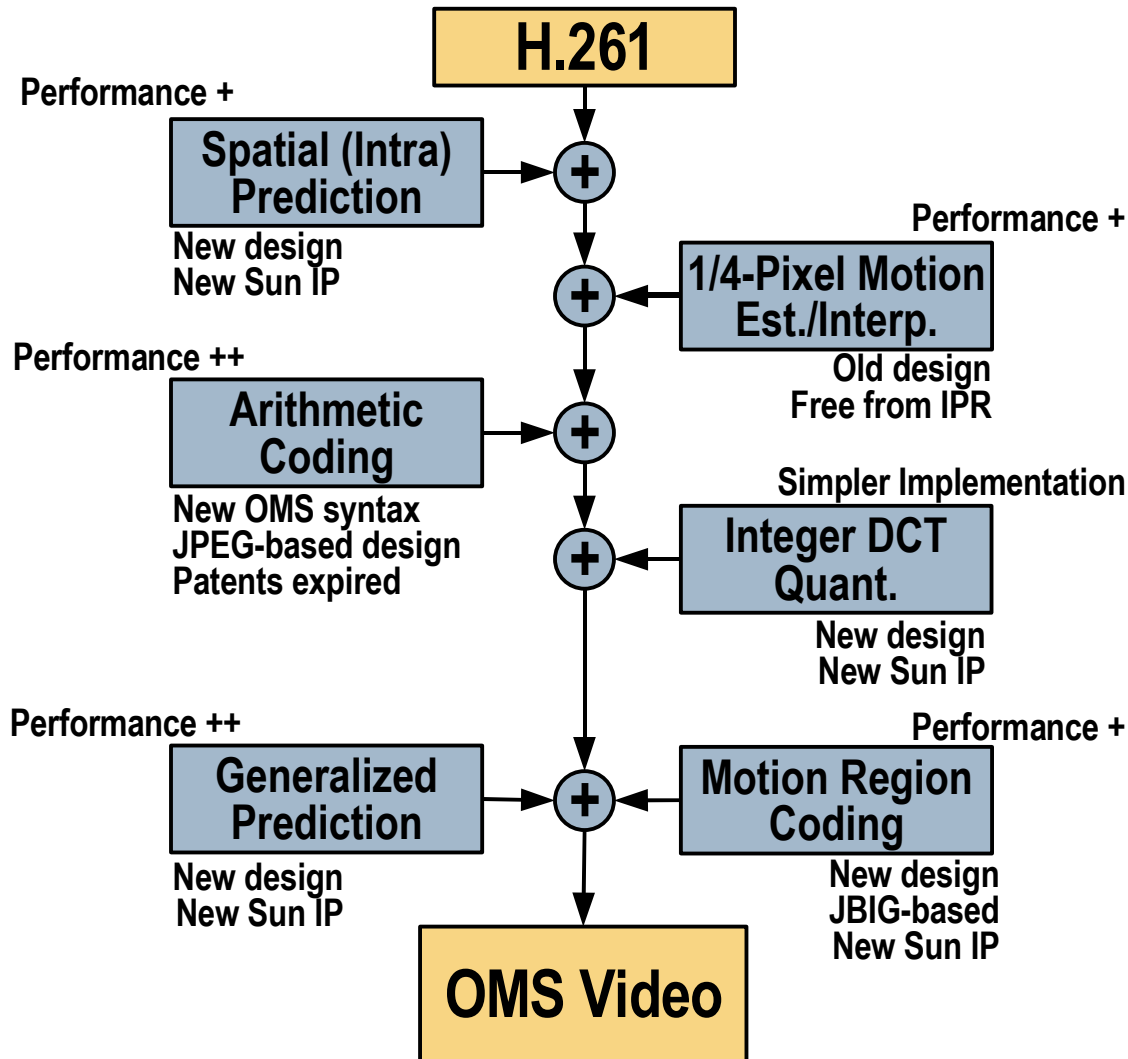
# Open Media Stack

Video	Audio	Control
Transport		
Content security		

- An activity of Sun's Open Media Commons initiative to provide a **free** (open-source and royalty free) complete media solution
  - > Video, audio, transport, control, content security
  - > An “Open Media System”

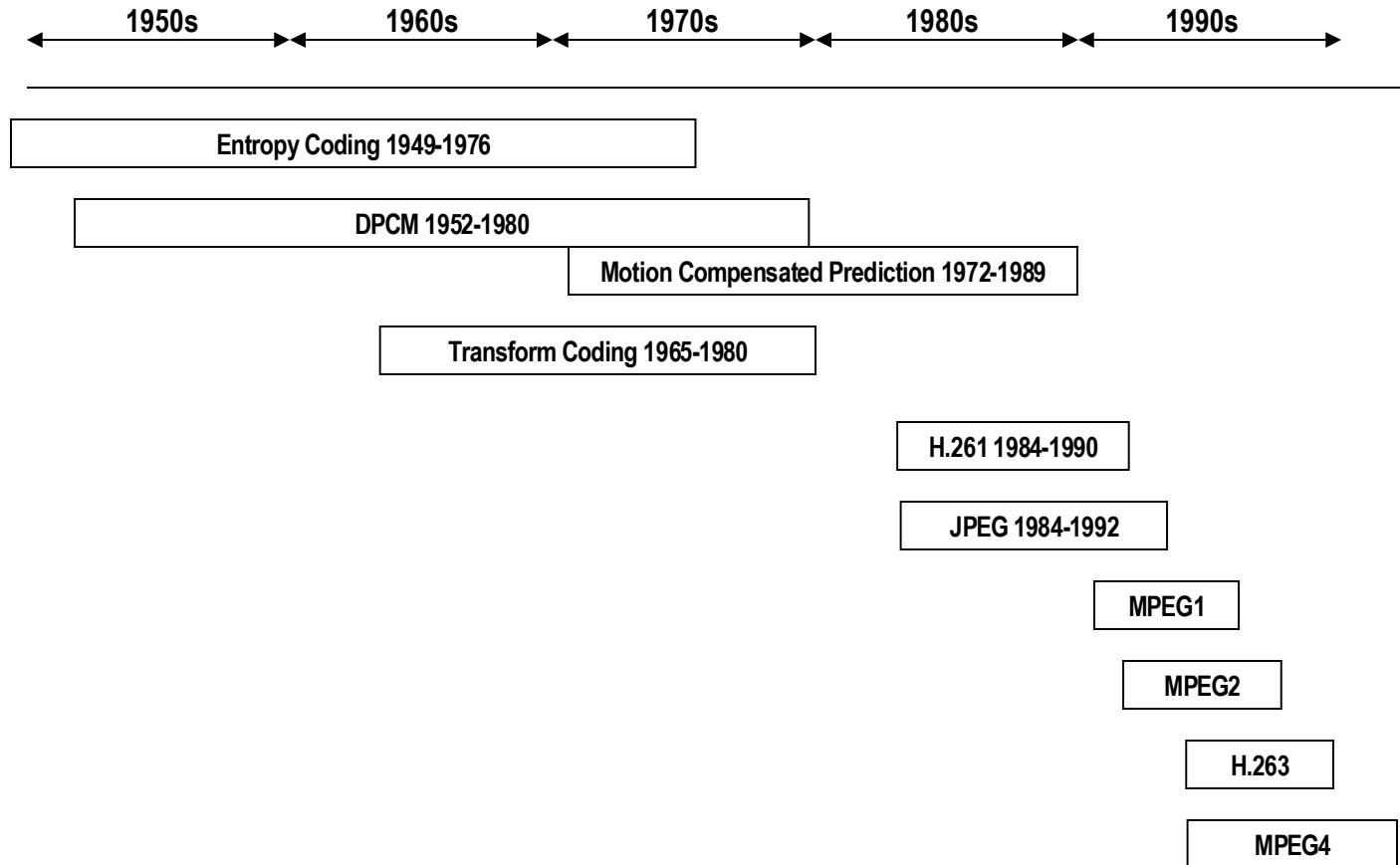
	Apple	Microsoft	Adobe	MPEG	OMS
<b>Codec</b>	H.264/AAC +	WMV/WMA, VC-1 +	Flash V/A - On2/VP6, H.264	MPEG2/1 h.264	<b>OMS Video OMS Audio (Vorbis)</b>
<b>Transport</b>	RTP, HTTP	RTP, MMS	RTMP	MPEG TS	<b>RTP+</b>
<b>Control</b>	RTSP, SDP	RTSP, ActiveX ASF/WPL	ActionScript	DSM-CC	<b>RTSP, SIP....</b>
<b>Content security</b>	FairPlay, Qtaccess	Windows Media DRM	Adobe Flash Media Rights Management	Simulcrypt	<b>DReaM DreaM-CAS DReaM-MMI</b>

# OMS Video



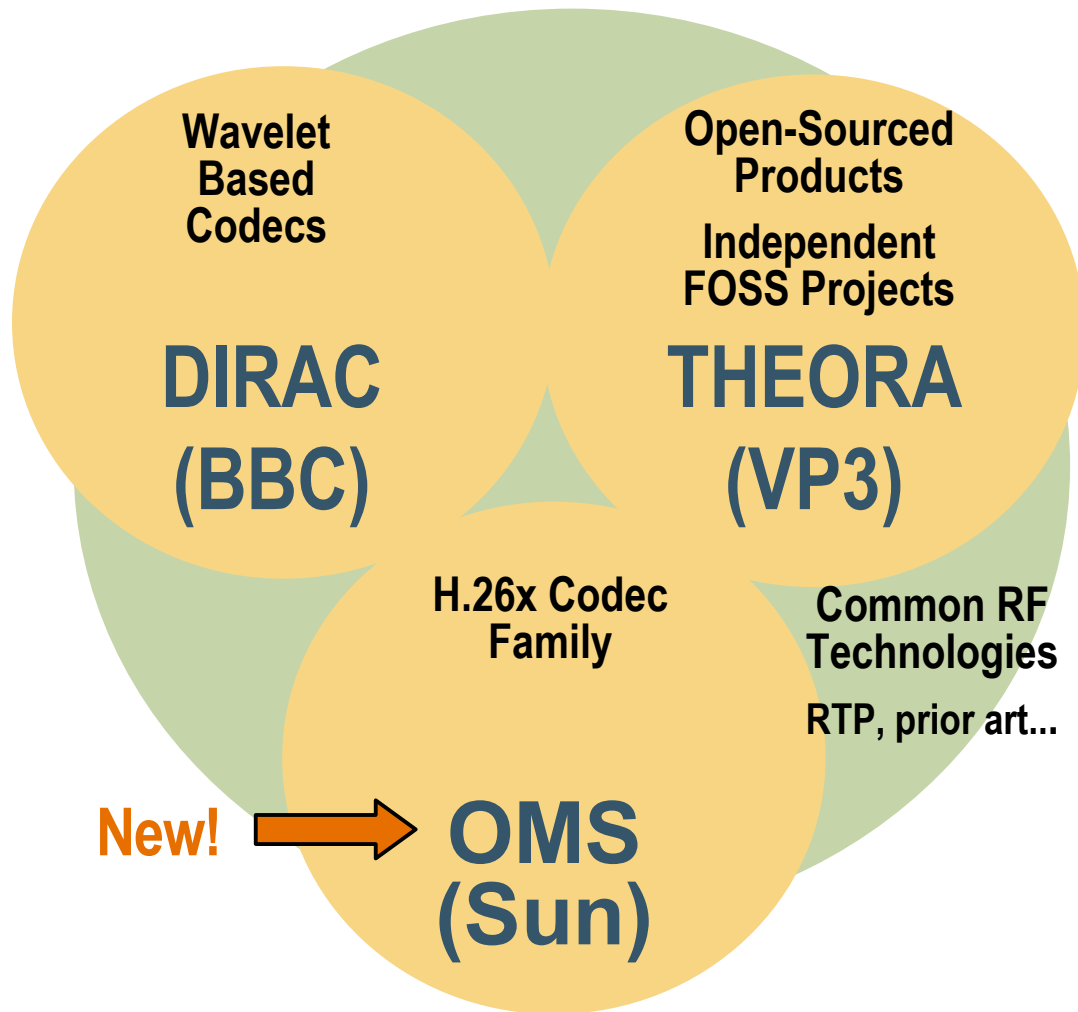
- A royalty-free codec loosely based on the h.26x codec family
  - > “h.261 + new tools & optimizations”
- Designed with Open Media Commons IPR methodology
- Element of the “Open Media Stack”

# Main Codec Tools & Standards



Source: Cliff Reader, reader.com

# Royalty Free Codecs Community



- OMS seeks to bring an updated royalty-free variant from the h.26x lineage to the open source / RF community
- Open source / RF codec community:
  - > Collaborates through shared interests and common RF technologies
  - > Unleashes innovation and updates outmoded RAND standardization process to Web speed

# OMS Video FAQ 1/2

- **Why have you started from h.261?**
  - > H.261 was finalized in 1989, outside the (17-year) patent window. Key tool strategies and prior art were already established in that era.
- **What do you plan to use for an audio format?**
  - > We expect to include Xiph Vorbis.
- **Why not just use a profile of h.264?**
  - > Sun was a part of the 2003 IMTC alliance of the 20+ companies that urged publicly a royalty-free baseline for h.264, which was ultimately not adopted.
- **Can you be sure that you are not violating anyone's patents?**
  - > In royalty-free, process equals result. Open Media Commons' IPR process is based on sound, conservative patent law principles accepted by the legal practitioners and the courts. Open Media Commons' IPR process has a proven track record & is even more thorough than other open initiatives that have also successfully produced royalty-free results.

# OMS Video FAQ 2/2

- Are you planning an open source implementation? Wavelet mode? A file format?
  - > **Yes, maybe, yes.**
- Would you consider contributing OMS Video for standardizing by ITU or other group?
  - > **Yes, if there is a robust royalty-free IPR process (mutual non-asserts, etc) in place that would assure that the standardized result remains royalty free.**
- Would you consider contributing OMS Video for standardizing by MPEG?
  - > **See above, only under processes that would assure a royalty free outcome.**
- How do you view other open source / RF codecs like Vorbis, Theora, and Dirac?
  - > **Collaborators in a common community. We believe we bring particular competencies from Open Media Commons and we seek to bring an updated royalty-free variant from the h.2.6x lineage to the open source / RF community**
- How can I get more information / help / test OMS Video?
  - > **Please visit [www.openmediacommons.org](http://www.openmediacommons.org) for more info.**
- Do I have to sign the contributor agreement in order to contribute?
  - > **Yes, this is for the protection of all.**

# Conclusion

- OMS and OMS Video offer an **open, royalty-free** path to harness **BOTH**
  - > the **IPR process rigor** of Open Media Commons that **meets and exceeds the IPR diligence of legacy RAND standards**
  - > and the **creative and collaborative power of open source communities**
- and offers a way forward to **unleash the innovation of open communities to overcome the inadequacies of existing proprietary and patent-bearing codec models.**



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