Region Free DVD Playback with VLC
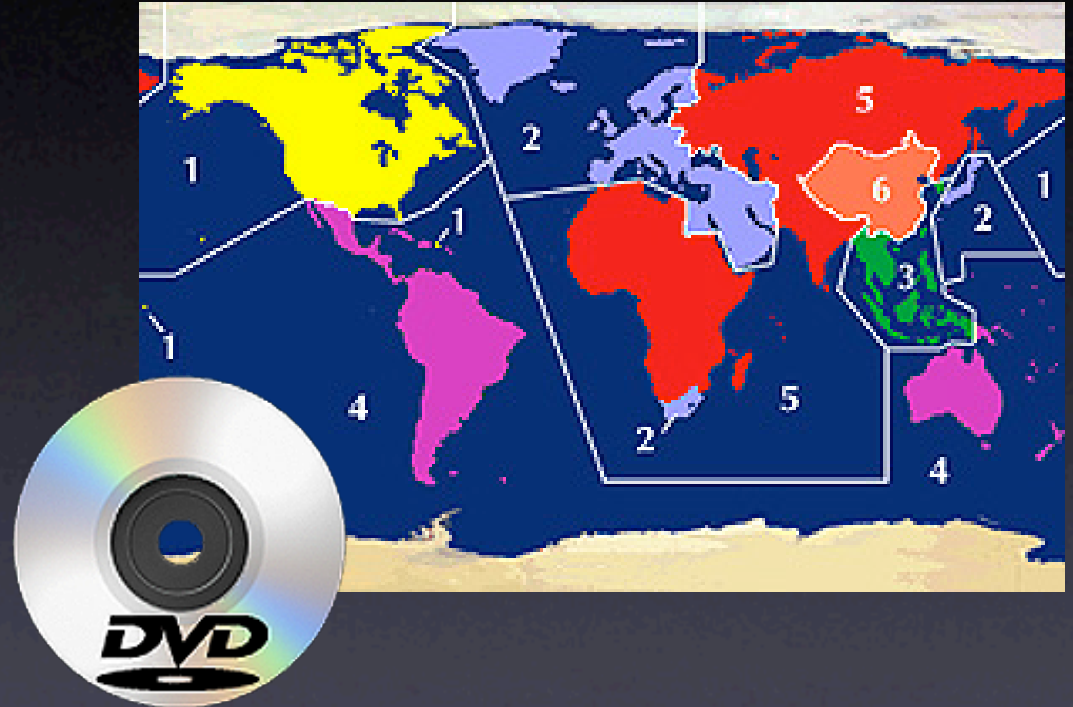
By
Mikio Moriyasu

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Region Basics

- What Are Regions?

  - Arbitrary system of eight global zones

  - Used to ID DVDs origin

  - Restrict playback of DVDs to their zone of origin.

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Region Basics

- How Is DVD Playback Restricted?

  - DVDs encoded to play in specific region.

  - Playback managed by DVD drive hardware (firmware) and playback software.

- Why Is This A Problem?

  - Archives, libraries, & educational institutions have no easy access to unique video resources.

Region Basics

- How Do You Get Around "Regions"?

  - Update DVD drive firmware making it "Region Free".

  - Use third-party utility to work around Region Management software.

- Are There Any Issues?

  - Firmware updates are invasive, risky & void warranties.

  - In Mac OS X, region changes require administrative rights.
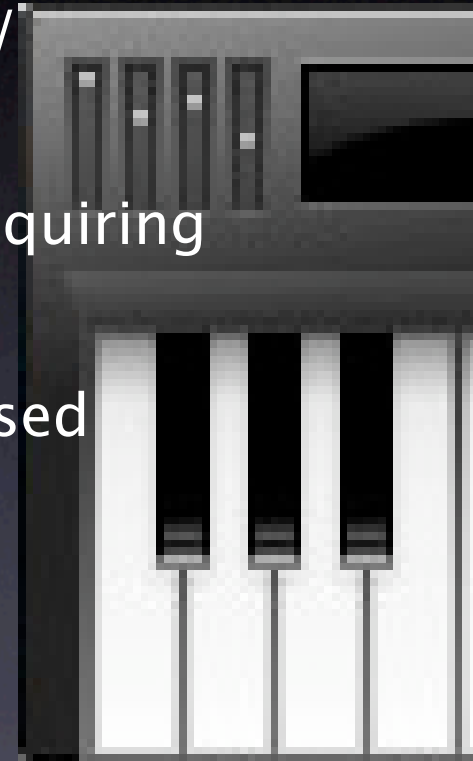
Core Audio Basics

- Core Audio Hardware Extraction Layer:

    - Provides low latency communication between apps and I/O devices.

    - More efficient than previous solutions.

    - Multiple apps can share same device.

- Multitiered set of API Services including:

    - Low-level access to particular audio devices.

    - Extensive management & manipulation services for MIDI data flow.

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Core Audio Basics

- API services presented in frameworks

  - A bundle packaging a dynamic shared library w/ required resources.

  - Code can be shared by multiple apps without requiring their own copy.

  - Implemented in C and C++ and present a C-based function API.

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VLC Media Player

- ## What Is VLC?

  - Freeware developed by VideoLAN project

  - Cross-platform multimedia player: GNU/LINUX, BSD, BeOS, Solaris, QNX, Mac OS X, & Windows

  - QuickTime, Windows Media, AVI, DivX, MPEGs 1, 2 & 4

  - Digital TV channels (satellite & landline), & Streamed unicast/multicast video
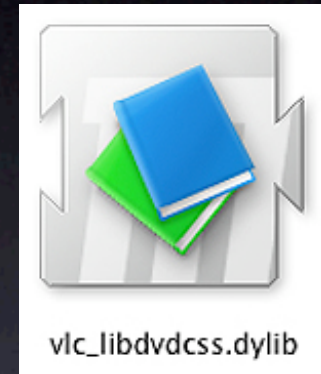
  - DVDs from any region

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VLC Media Player

- ## Why Use VLC?

    - Hardware/Software restrictions part of decryption process.

    - VLC uses a library (libdvdcss) that accesses a DVD like a block device.

    - This bypasses decryption process altogether.

    - No firmware updates or region-changing utilities needed for "Region Free" playback.

vlc_libdvdcss.dylib

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VLC Media Player

- Why Use VLC?

  - Education need for non-Region 1 viewing

  - No region changes needed

  - No administration access.

  - Ideal for educational setting like a lab.

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Foreign DVDs and VLC Demo

- System Preferences

  - Disable Apple DVD Player

- VLC Settings

  - Modify setting for Core Audio

- VLC Playback

  - Using the "Controls" menu vs controller

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Issues

- Media Related

  - Single Region DVDs

    - Least problematic

    - Plays like Region 1 DVD

  - Multi Region DVDs

    - Most problematic

    - Did not play in certain drives

    - No audio playback in other drives

    - Apple Core Audio conflicts

Issues

- ## Legacy Hardware

  - ### No support for Region Free DVD playback on some Macs

    - Had limited access to hardware configurations for tests

  - ### Playback success varies from drive to drive.

    - libdvdcss has known issues with how some drives set regions.

    - Long load times

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Issues

- ## Hardware Based

  - ### Versions older than 0.8.0 problematic with:

    - Power Mac G5s and Mac OS X Core Audio.

    - Affects multi-region DVDs vs single-region DVDs.

  - ### iMac G5 optical drives:

    - Do not allow software to read DVDs raw.

    - Could be an issue with all new hardware.
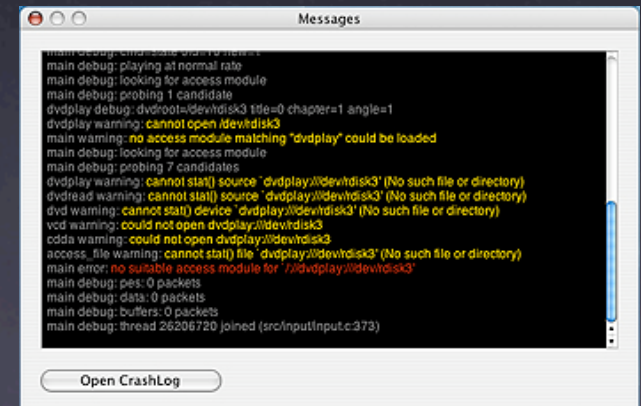
    - No immediate solution offered.

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Support

VLC Error Feedback

- ### Operational issues
  - Will display error with any operational issue.

  - ### "Messages Window"
    - Gives comprehensive list of operations.
    - Color coded to highlight issues.
    - Useful for error/bug reporting.

Support

- VideoLAN: http://www.videolan.org/

- Discussion Forums: http://forum.videolan.org/viewforum.php?f=2

  - Primary form of support

  - Provides contact with developers & other users

  - Many tips, tricks, and issues are discussed and resolved here.

- Bug Reporting: http://www.videolan.org/support/bug-reporting.html

- Users Guide: http://www.videolan.org/doc/vlc-user-guide/en/vlc-user-guide-en.html

- FAQ: http://www.videolan.org/doc/faq/en/videolan-faq-en.html

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Question & Answer

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