



Pioneering a Digital Rights Management Solution for Digital Video & Rich Media



- Required extensive understanding of RealNetworks® products & DRM technology
- Solution entirely conceptualized & implemented by Celstream
- Generated a patent application for the client

Situation

The advent of easy-to-use, digital video creation and editing tools, and the availability of inexpensive storage and network bandwidth have driven the explosion of digital video and rich media content on the Web. Protecting and managing the rights of the owners of such content is an important issue in sustaining a viable, Web-based, content commerce model. There arose a need to develop a solution to protect digital video content and rich media to service multiple delivery, distribution and consumption models.

Challenge

The solution was to be implemented using RightsEdge™ Digital Rights Management (DRM) technology to handle the RealNetworks® RealMedia™ format. The challenges involved in developing the solution were:

- Protecting video content in the live streaming mode was complex, as the available DRM technology had to be extended to support this requirement.
- Developing a solution required an in-depth understanding of the:
 - RealMedia™ architecture and streaming media format
 - Usage of different software development kits from RealNetworks®
 - Encryption of individual data packets

The solution to be developed required the users to obtain a license to view or play the protected video or music file on a customized RealPlayer®.

Celstream Response

Working offshore, Celstream's engineers responded with an innovative solution. The solution was compatible across various Microsoft® Windows® operating systems and also, supported the offline, online and live consumption mode requirements.

Celstream's final solution included:

- An application to protect RealMedia™ files,
- Server side plug-ins to stream out protected RealMedia™ files,
- A plug-in component for RealPlayer® to play protected RealMedia™ files on the client side, within or outside the browser player,
- An application to protect and play MP3 files.

The content protection application supported multiple consumption devices. It was offered as a:

- Console application for developers and integrators,
- GUI application providing user-friendly interfaces for protecting RealMedia™ content,
- COM DLL embedded in a Web-based protection application.

Browser plug-ins, were also developed to acquire and store licenses. These were packaged in different installation executable formats.

Enabling Innovation

Celstream's innovative solution to protect digital video content on the Web represented a pioneering implementation of DRM technology in the area of "streaming media", and resulted in a successful patent application for the client.

With little prior experience, Celstream's engineers mastered the intricacies and complexities of a technology area. They conceptualized, architected, developed and deployed a solution that exceeded all expectations.

Thorough testing by Celstream's engineers ensured that the final deliverables were of highest quality ensuring total customer satisfaction.

Technology

In developing this solution, Celstream used the following software platforms:

- ContentGuard™ RightsEdge™ SDK
- RealMedia™ SDK
- RealSystem® Producer SDK
- Microsoft® Visual Studio®



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