

1 EXECUTIVE SUMMARY

The music, movie and distribution industries are at a crossroad.

On one hand, digital distribution of music and movie files offers new channels to market, and new revenue opportunities for the industry, while satisfying the desire of millions of consumers to digitally consume entertainment content. On the other, this same copyrighted content can easily be converted to compressed files, known as "ripping," and these compressed "ripped" files are easy to distribute in peer-to-peer (P2P) environments without systems in place to identify copyrighted content or to ensure the content owners receive proper payment.

Digital watermarks provide a solution to this problem, enabling content identification that gives the media & entertainment industry a means to enforce their rights while offering consumers access to legitimate content, when and where they want. Using digital watermarks, content owners can embed secure copyright data into the music or movie content. Since the digital watermark data inherently survives the ripping process and format conversions, copyrighted songs can be identified on a P2P system even after that content has been ripped.

In such a system, the content owners embed the copyright data, and P2P software detect the copyright data on the user's computer during the indexing process that P2P software currently needs to perform. The copyright data held in the digital watermark can be used to enable multiple usage models, including (1) identifying copyrighted songs such that only non-copyrighted songs can be shared, (2) enabling copyrighted songs to be secured and licensed on P2P systems if agreed to by the content owner, and (3) enhancing content that can be shared. Using digital watermarks is more efficient than using audio fingerprints and both more efficient and more secure than using file names and header data. Digital watermarking can also easily be applied to enhance other distribution methods in both audio and video.