

在P2P網路以片段資料污染來保護版權檔案(Copyright Files Protection by Pieces
Pollution in P2P Networks)

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摘要

In P2P networks, the typical methods of copyright files protection are to distribute false files with similar key words, the same file size and so on as the copyright files or publish volumes of error messages to declare the location of nonexistent copyright files. These ways lead to the difficulty in getting the copyright files for abnormal users. But these methods can not be applied to the P2P networks such as eMule and BitTorrent with commentaries mechanism on the shared files because users can sift the true files from the false files or error location of the shared files by the commentaries. In this paper, a new protection against copyright files by polluting pieces of files is proposed. We distribute false pieces with the same authentication key as normal pieces but their contents are different, which is called the false pieces with authentication collision. The abnormal users will keep sharing the false pieces of copyright files they have since the false pieces can not be identified. People may have fun to download the copyright files but they can not get the correct copyright files. Due to the high cost of finding authentication collision for false pieces, the way of embedded the found authentication collisions in the copyright files is also proposed. Extend simulations show approximately 100% protection of copyright files can be reached when the associated false pieces are distributed early in time once the sharing of copyright files happened.

關鍵字：P2P networks, pollution, authentication collision