DIGITAL RIGHTS MANAGEMENT
AND ITS DEBATING CONSEQUENCES
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INTRODUCTION

As technology advanced, it became easier to copy, regenerate, and redistribute the pieces from the Internet. Sometimes, the illegal usage of it can contribute to several problems. For example, it would undermine the potential profits the owner can make. This is why we must develop a regulation obeyed by all human beings involving digital content. Therefore, Digital Rights Management (DRM) was created.

The term digital rights management (DRM) broadly refers to a set of policies, techniques and tools that guide the proper use of digital content. A high-level view of the flow of content from the creator to the consumer via the producer is shown in Fig. 1. [1]
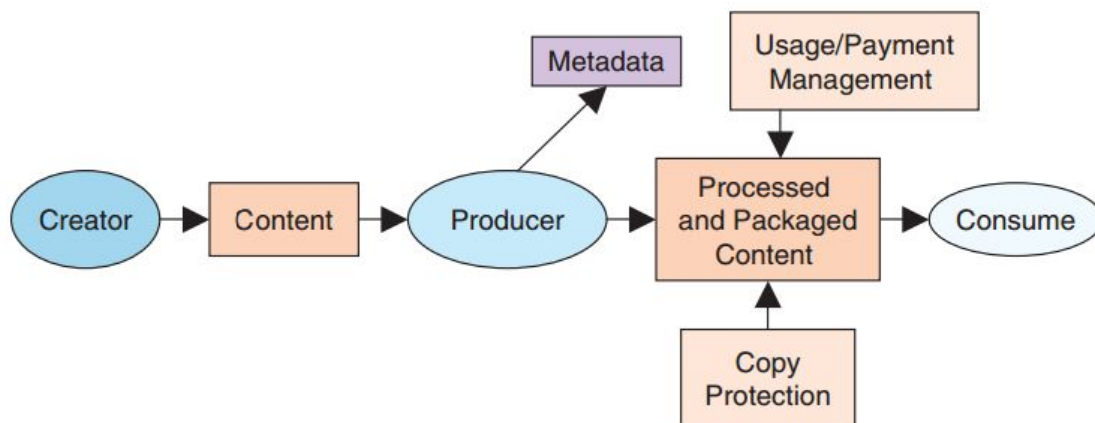

Fig. 1 Broad overview of flow of content from creator to consumer

[2]

As you download digital content from the Internet, people rarely think about the copyright of it. For example, it's normal to pay if you buy a real CD, but it seems to be a hard concept to

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[1] Subramanya, S. R., & Yi, B. K. (2006). Digital rights management. P.31
[2] Subramanya, S. R., & Yi, B. K. (2006). Digital rights management. Potentials, IEEE, 25(2), P.31 Fig.1

some of those to understand if they download the CD from the Internet. Things are not to be free just because someone took it from the genuine CD and posted it on the Internet.

 As the figure shows above, when originally creator have a masterpiece done, the piece will then be sent to the producer, and the producer will make it processed. They will merge the Usage and Payment Management as well as the Copy Protection Mechanism into the work. By doing so, people without permission cannot access to the content at will. For instance, if you download a music mp3 from a reliable source such as itunes and you pay for it, the computer will download the license from the server. After retrieving was done, the computer can successfully play your content. The whole process could be explained more clearly from the figure below.

Fig. 2 High-level architecture and major components of a typical DRM system
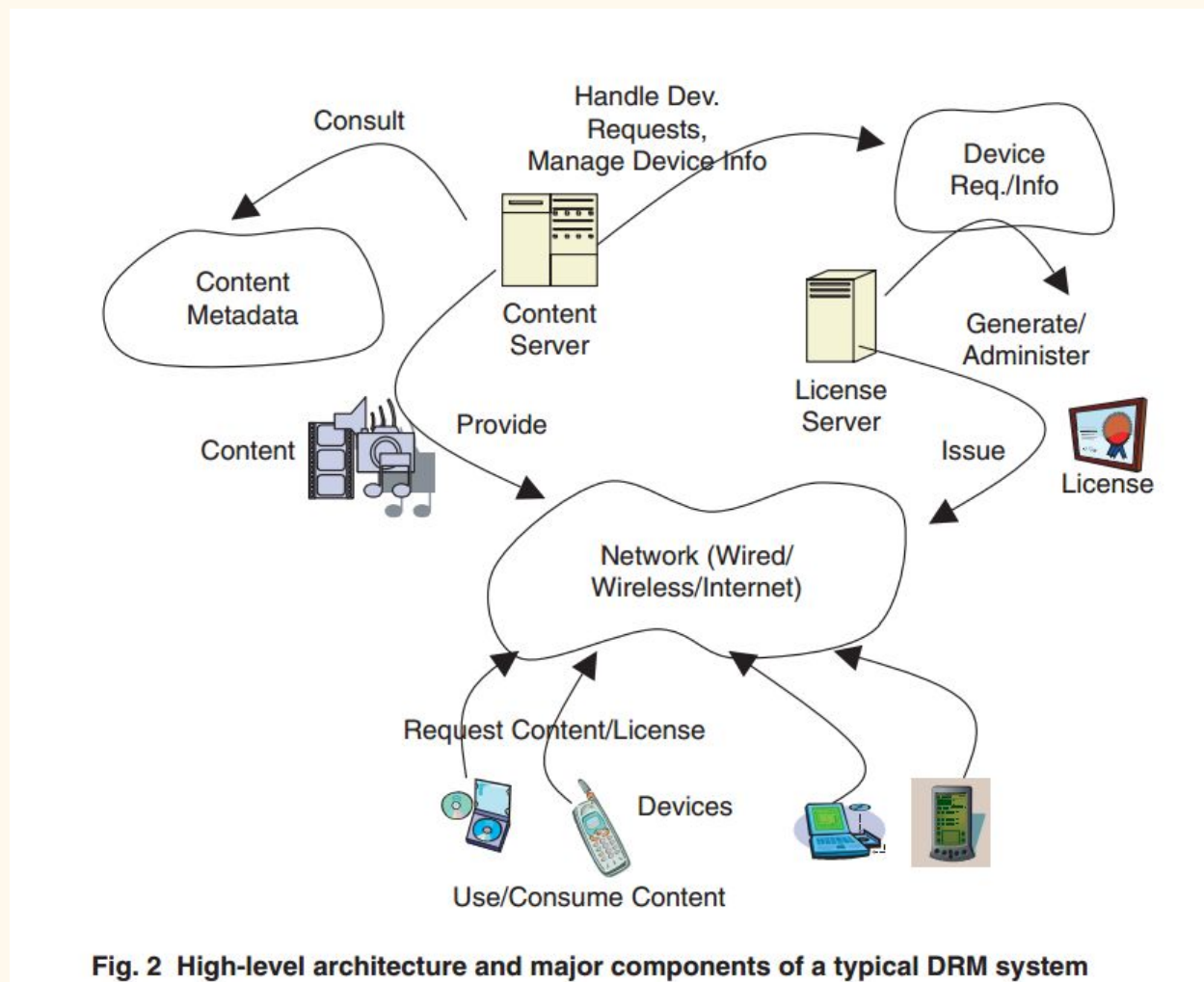
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3 Subramanya, S. R., & Yi, B. K. (2006). Digital rights management. Potentials, IEEE, 25(2), P.32 Fig 2.

To take a deeper look inside the encrypting, it's necessary to mention metadata.Metadata contains information such as content type, content ID, encryption details, and information about the rights. The metadata is used for locating the content and management of content usage. This is the key of encrypting the data. Here is how it works.

First, the content metadata goes from content server to license server. The data is ready for licensing. Second, the device, which is your phone, try to retrieve datas from the server, and the device info and license request sent to license Server. When the rights object is created, the license is going to be created. As soon as the license is created, it's ready to go. [4]

However, the concept seems to be a perfect idea at first, but because of its technical issues. It may be inconvenient for legal purchaser. For example, the buyer cannot play a game without Internet connection. Also, the user cannot backup their music on the other device due to restrictions. On the other hand, despite getting the content for free, one of the reasons for privacy is to get rid of these restrictions. Although it's not thee only reason for privacy, but it's often criticized for frustrating legal buyers.

In conclusion, the world needs DRM. It provided a framework and a regulation. It would be a wonderful rule for the owner of the content. However, there are still many issues regarding to DRM, and there were still looking for solutions. DRM is still enhancing from time to time. It could be possible that after a few years, DRM is going to be a standard regulation regarding to digital content, and every devices could obey to the same portal. In the near future, we're going to conquer every difficulties and take a good advantage of it.

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[4] Subramanya, S. R., & Yi, B. K. (2006). Digital rights management. Potentials, IEEE, 25(2), P.32 Fig 4.