



IEEE CCNC 2005

**Workshop on Digital Rights Management
Impact on Consumer Communications**

CES 2005 Session V15

**Theoretical and Practical Aspects of DRM -
*The Search for Balance***

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DRM What is it?

- It is all about "locking up" content with encryption and restricting access to it?
- The primary purpose of copyright is to protect authors against those who would steal the fruits of their labor?
 - To promote the progress of knowledge and learning, by securing for *limited times* to Authors/Inventors the exclusive Right to their respective Writings/ Discoveries. – from Constitution of United States

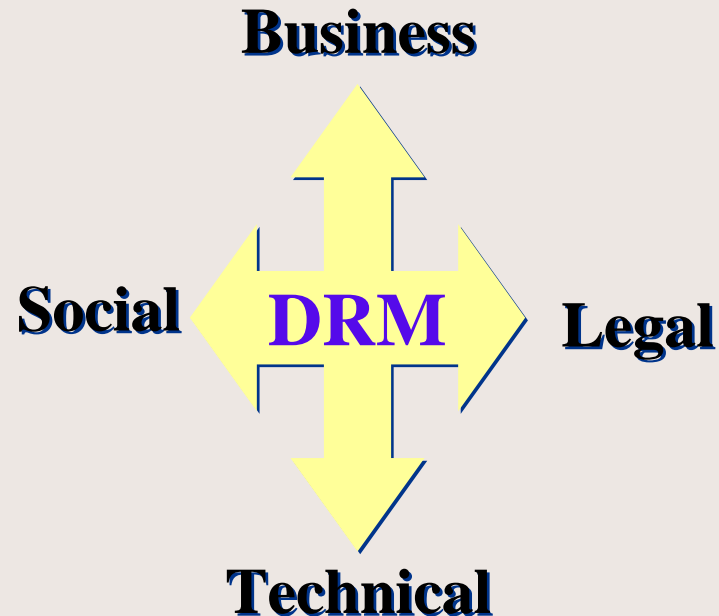
DRM What is it?

- Definition?

- DRM involves the description, identification, trading, protection, monitoring, and tracking of all forms of rights usages
- Digital management of use rights to content by linking specific user rights to media to control access, viewing, duplication, and sharing.
- An enabling infrastructure, built from a mixture of legal, commercial, and technical tools, that will promote e-commerce business and improve the consumers fate too.

DRM What is it?

- Multiple perspectives



Requirements of DRM Systems

- Security
 - Rights protection, authentication, data confidentiality and integrity, non-repudiation, trust infrastructures, etc.
- Interoperability
 - Access content from different sources and in different formats without needing different hardware or DRM software to do so
- Rights specification language
- Rights persistence
 - Consumer should have continued access to content

Requirements of DRM Systems

- Support protection of consumer privacy, fair use etc.
- Support asynchronous (off-line) operations
- Logging/tracking capability
- Support multiple business models
- Choice of multiple security levels
- Support different content compression formats, data types

Other Considerations

- **Scalability**
- **End user acceptability**
- **End user transparency**
- **User expectations** for convenience, performance
- **Cost effectiveness**
- **Impact on performance** and use on low cost constrained end user devices
- **Adaptability** to different security paradigms
- **Renewability** from a security perspective

Question

How to balance information protection, usability, and cost to provide a beneficial environment for all parties involved?

Additional Information

- Workshop presentation files will be available at CCNC website <http://www.ieee-ccnc.com/index2.html>
- ICCE/CES 2005, Tutorial
Multimedia Security Technologies for Digital Rights Management

Room N264

2:30 PM - 6:00 PM, Saturday, Jan. 8.

Dr. Heather Yu, Panasonic Digital Networking Lab;
Prof. Wenjun Zeng, University of Missouri-Columbia;
Dr. Ching-Yung Lin, IBM T. J. Watson Research Center