

# **China Standardization and Implementation Practice of Video/Audio Content Protection Technologies**



**Wang Lei**

**Academy of Broadcasting Science, NRTA, China**



Higher security level

Fit for the evolution of media industry

Interoperability

Easy to be implemented

Low cost

**Content Protection should be the standardized infrastructure of  
video/audio content eco-system**





- 1. Need common content encryption mechanism for H.264/5, AVS, etc.**
- 2. Content encryption mechanism should not make content packetization difficult**
- 3. Server-side content protection system should be componentized and easy to be replaced and scalable**
- 4. Server-side content protection components should be configured flexible to satisfy different business models**
- 5. Client-side should be compatible to most chipsets and operation systems**
- 6. DRM system should support both broadcasting and video-on-demand**



## Digital Rights Management Standards for video audio content distribution

### Core Specification

GY/T 277-2019 Technical specification of digital rights management for video audio content distribution

### Integration Specifications

GY/T 333-2020 Digital rights management for video audio content distribution— Digital rights management system integration for digital cable television

GY/T 334-2020 Digital rights management of video audio content distribution— Digital rights management system integration for OTT TV

GY/T 246-2020 Digital rights management for video audio content distribution— Digital rights management system integration for IPTV

### Test Specifications

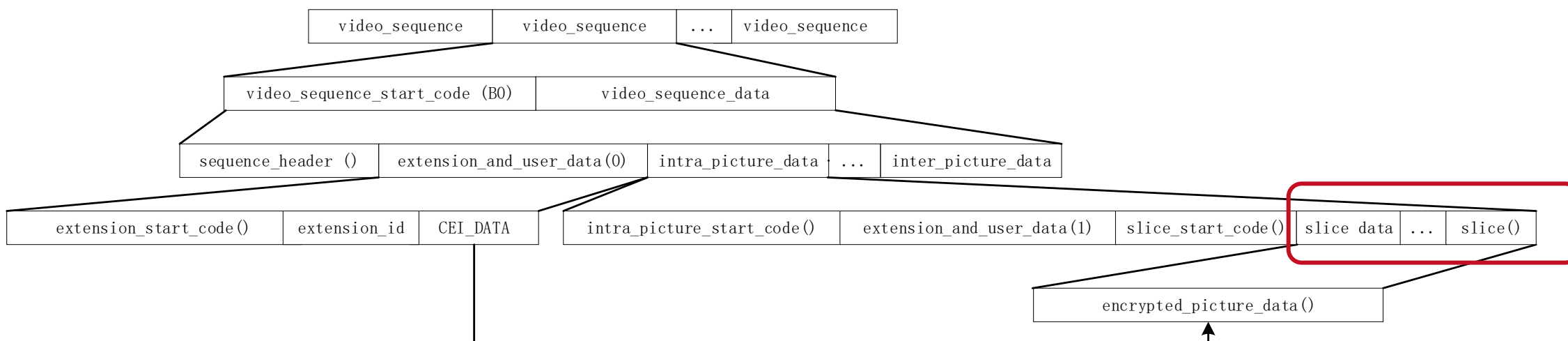
GY/T 335-2020 Digital rights management for video audio content distribution — Standard compliance test

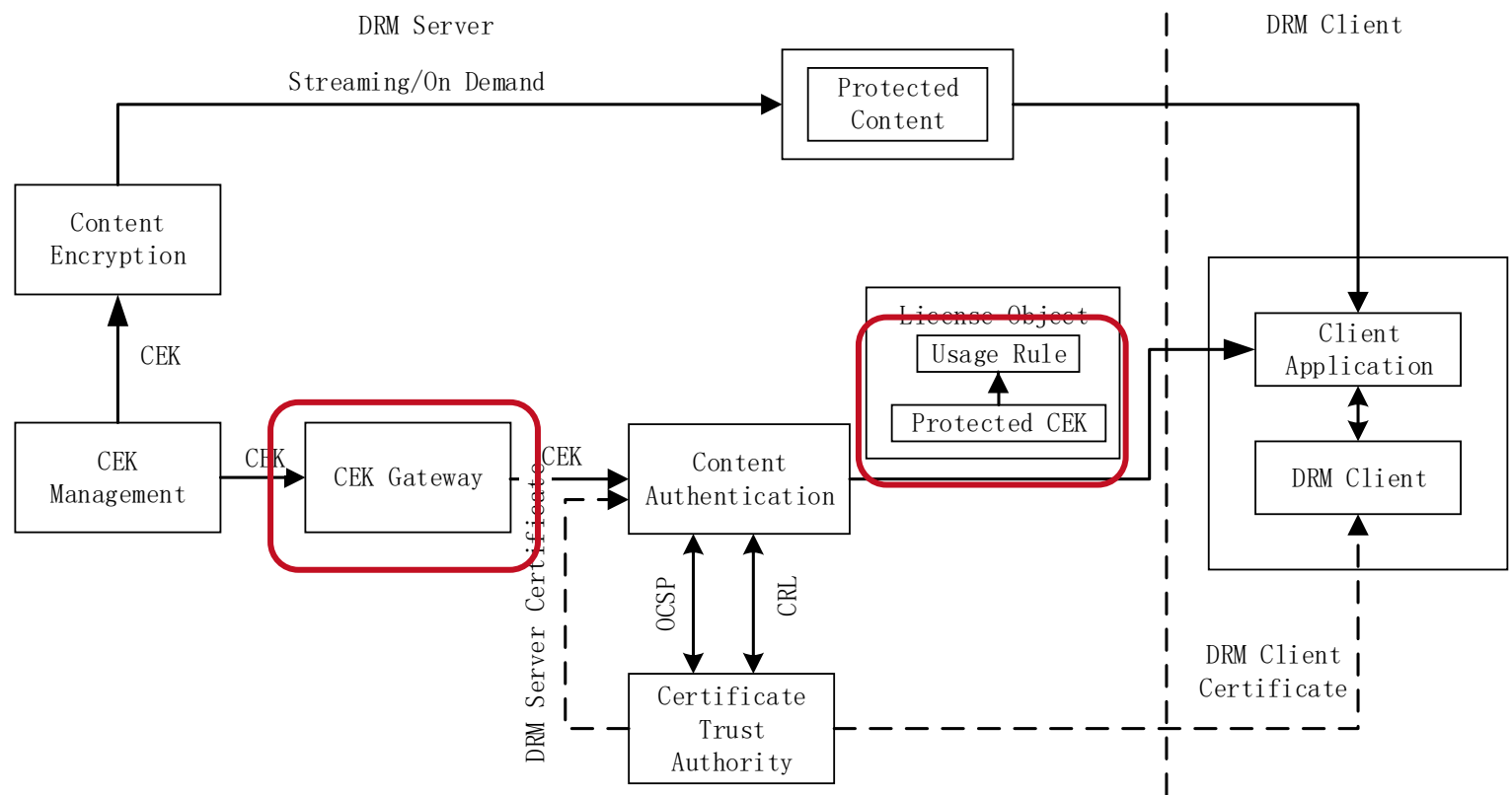
GY/T 336-2020 Digital rights management of video audio content distribution— System compliant requirements



## 1. Common content encryption mechanism

- ✓ Do the encryption at encoded video/audio data layer, the package related data not encrypted
- ✓ Add Content Encryption Information as extended data for encoded media data
- ✓ Compatible with CENC
- ✓ Encrypted content can be transferred from TS to HLS, and from HLS to CMAF, etc.

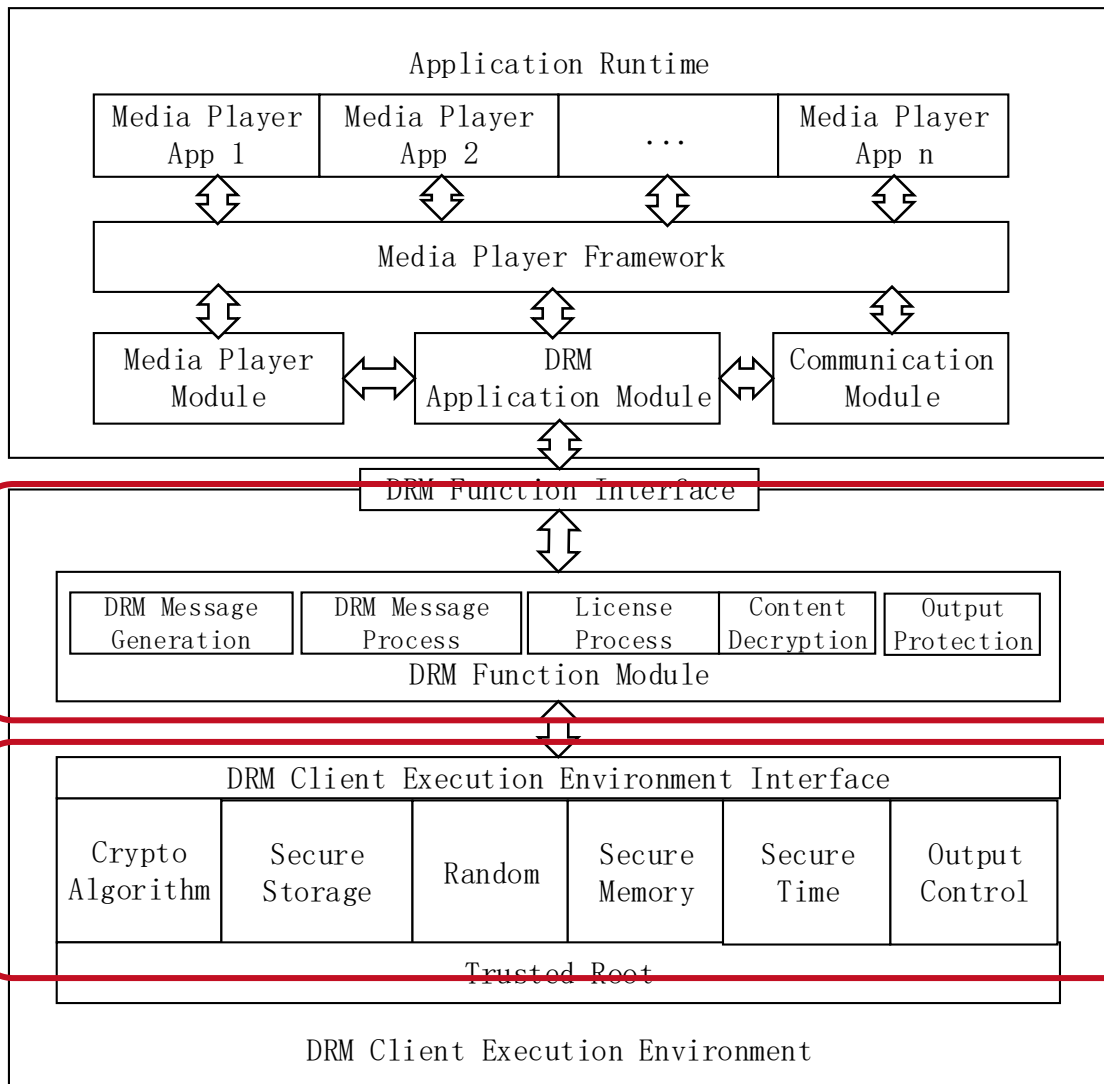




**Define key usage rules bound to keys to realize the content usage limitations**

**Design content encryption key gateway to do the management and secure distribution of content encryption keys, encourage content providers and service providers to design flexible business models**

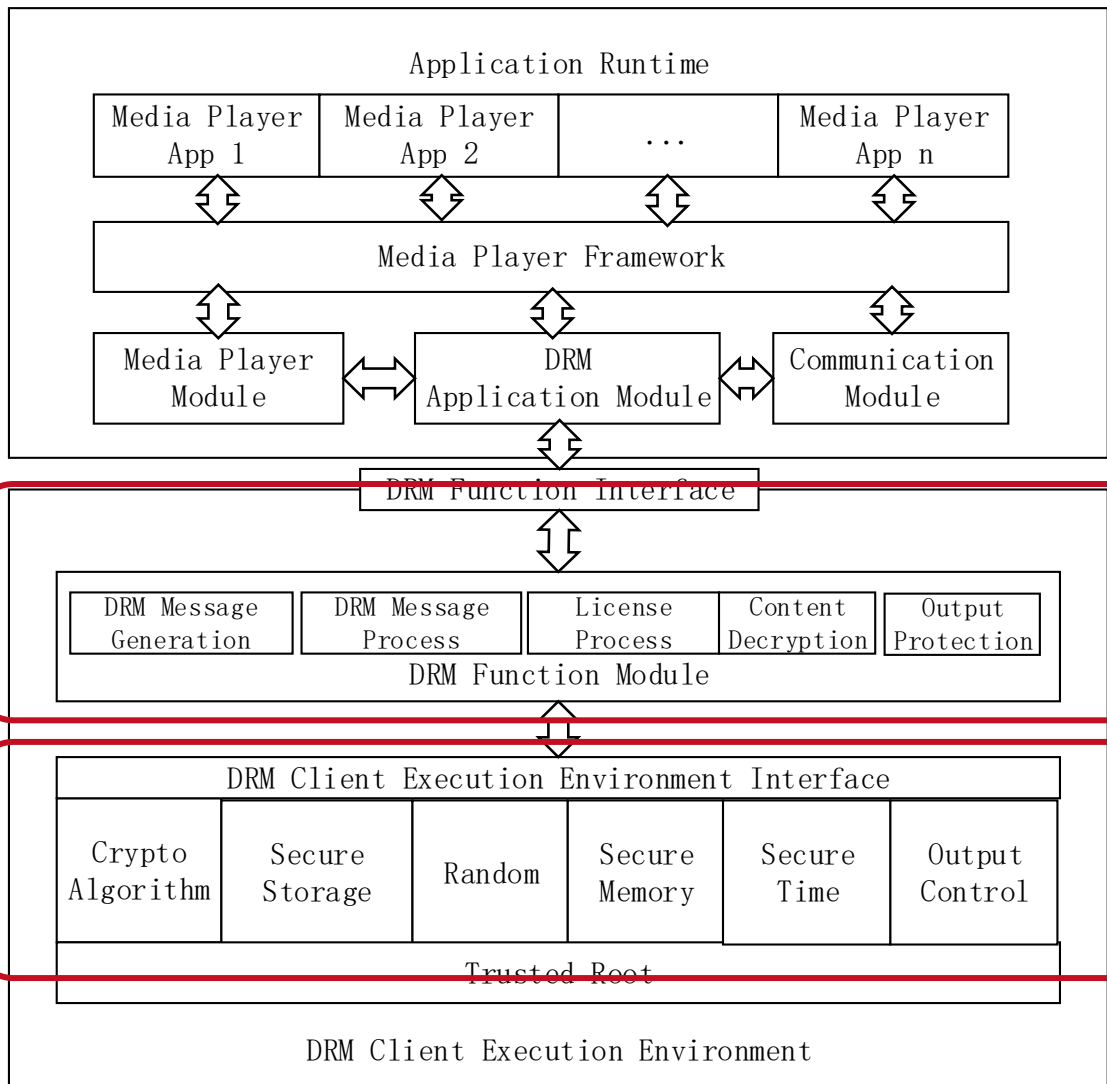




**Define the core functions of DRM client model, and standardize the interface of DRM client**

**Define DRM client execution environment, standardize the core functions and interface of DRM client execution environment**





## Software security level

the implementation of some or all DRM client runtime based on software security mechanism;

## Hardware security

the implementation of DRM client execution environment based on hardware security mechanism;

## Enhanced hardware security level

upon hardware security level DRM client execution environment should also have capabilities like side channel attack defense, forensics watermark, etc.





## Spiral rising loop ecology

98 members including domestic and international companies like MPA, Riscure, etc.

Develop the unified DRM client SDK

Compatible tests and security assessment

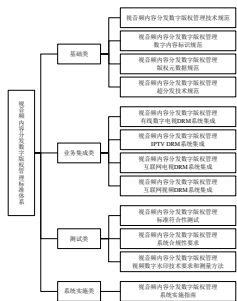
Build trust for the eco-system

Find vulnerabilities and enforce continuous upgrade

Granted by CNCA (Certification and Accreditation Administration of the People's Republic of China) to certify DRM services to enforce the standardized and correct implementation



### Standardization



ChinaDRM



### Industrialization



Unified DRM client SDK



Open DRM server side sample codes



Anti-piracy

### Enforcement



Trust Authority



DRM Assessment



DRM Certification



### Internationalization





# ChinaDRMLAB

数字媒体内容保护技术研究实验室

## China DRM implementations



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# ChinaDRM Eco-syetem

Broad industry chain support

Unified DRM standards

Replaceable DRM server side components

Unified definition of DRM client execution environment

Unified trust and security architecture

Unified assessment and certification

Interoperable DRM products and services

Coordination of technologies, standards, and management



ChinaDRMLAB

数字媒体内容保护技术研究实验室



**Website**

[www.chinadrmlab.org](http://www.chinadrmlab.org)



**Mailbox**

[chinadrmlab@chinadrmlab.org](mailto:chinadrmlab@chinadrmlab.org)

[wanglei@abs.ac.cn](mailto:wanglei@abs.ac.cn)



**Official Wechat**

[chinadrm-lab](https://www.wechat.com/qrcode?qr=chinadrm-lab)



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**Thanks**