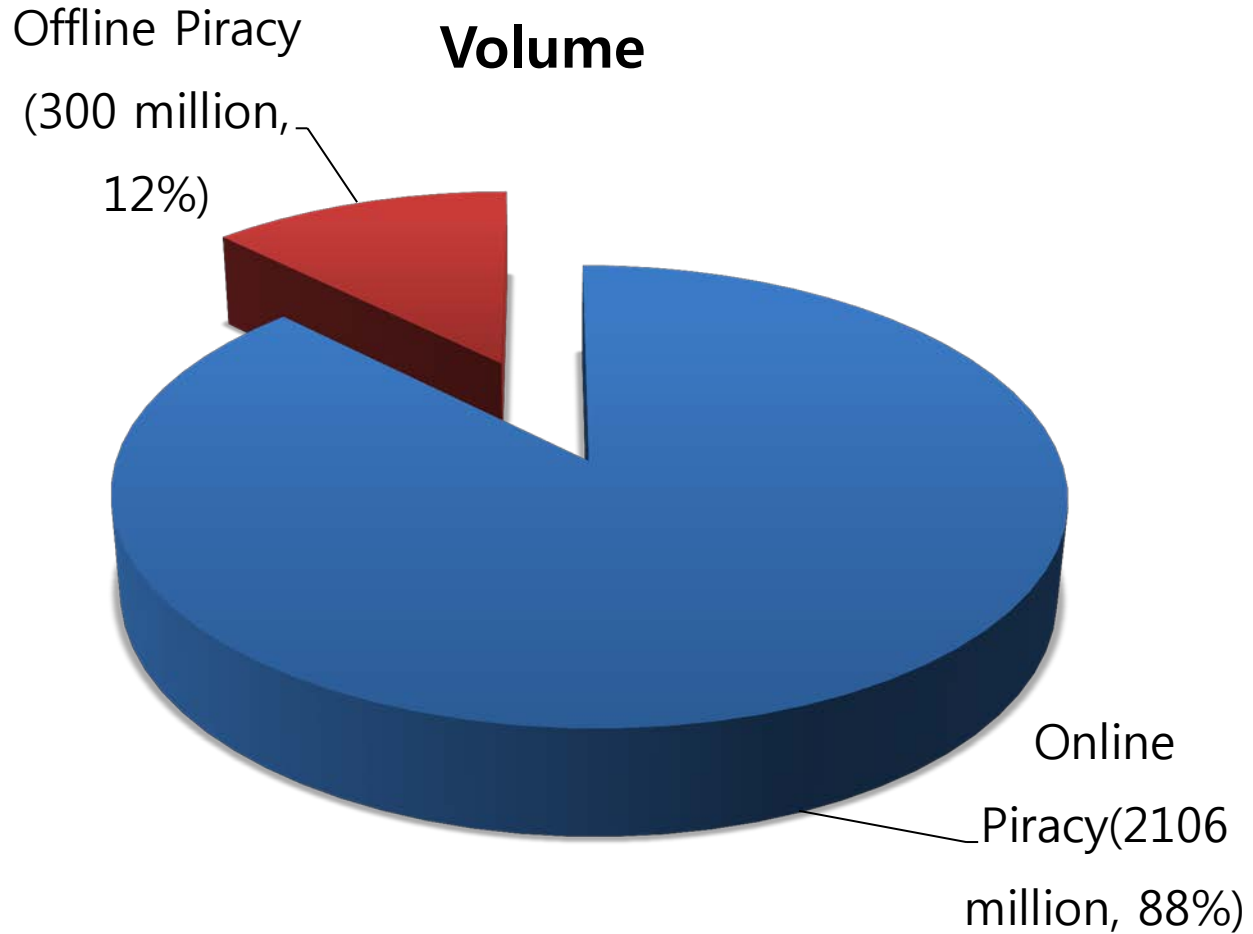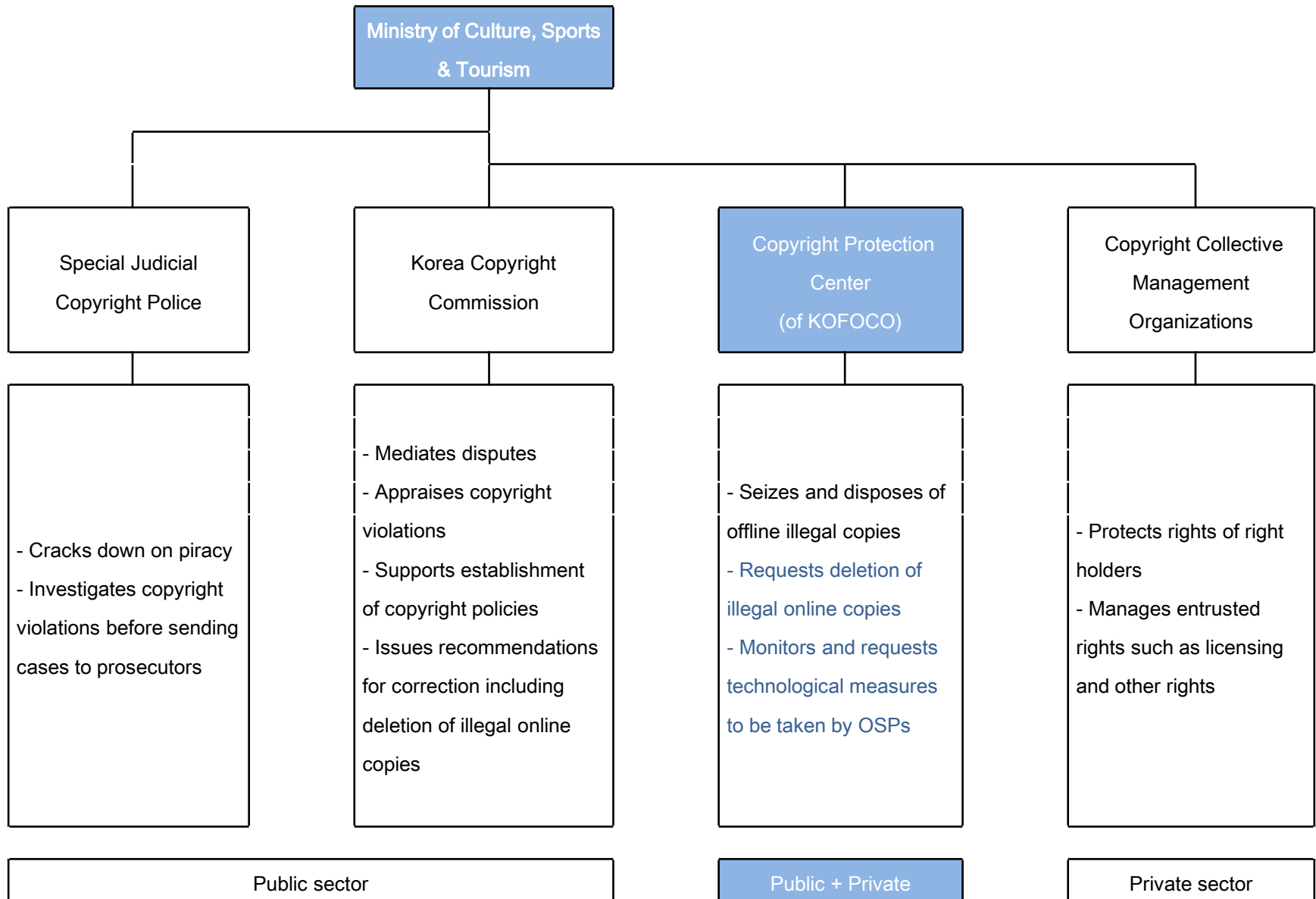# Preventive measures against online infringement

Sungyeol KIM

Deputy Director

Culture & Trade Team, MCST

Republic of Korea

Why online infringement?

Copyright Protection System

Ministry of Culture, Sports & Tourism

Special Judicial Copyright Police	Korea Copyright Commission	Copyright Protection Center (of KOFOCO)	Copyright Collective Management Organizations
- Cracks down on piracy - Investigates copyright violations before sending cases to prosecutors	- Mediates disputes - Appraises copyright violations - Supports establishment of copyright policies - Issues recommendations for correction including deletion of illegal online copies	- Seizes and disposes of offline illegal copies - Requests deletion of illegal online copies - Monitors and requests technological measures to be taken by OSPs	- Protects rights of right holders - Manages entrusted rights such as licensing and other rights
Public sector		Public + Private	Private sector

Illegal Copyrights Obstruction Program
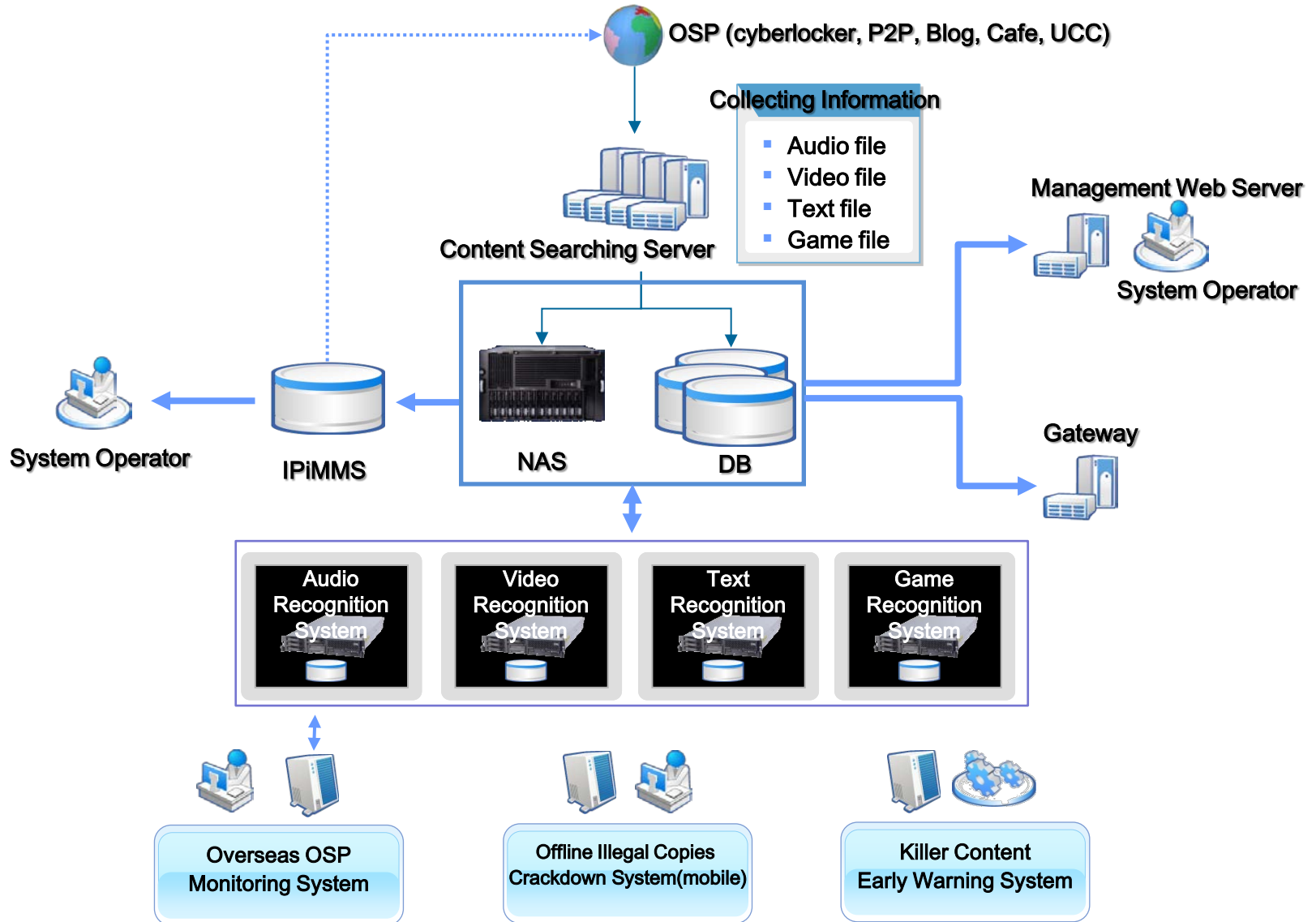
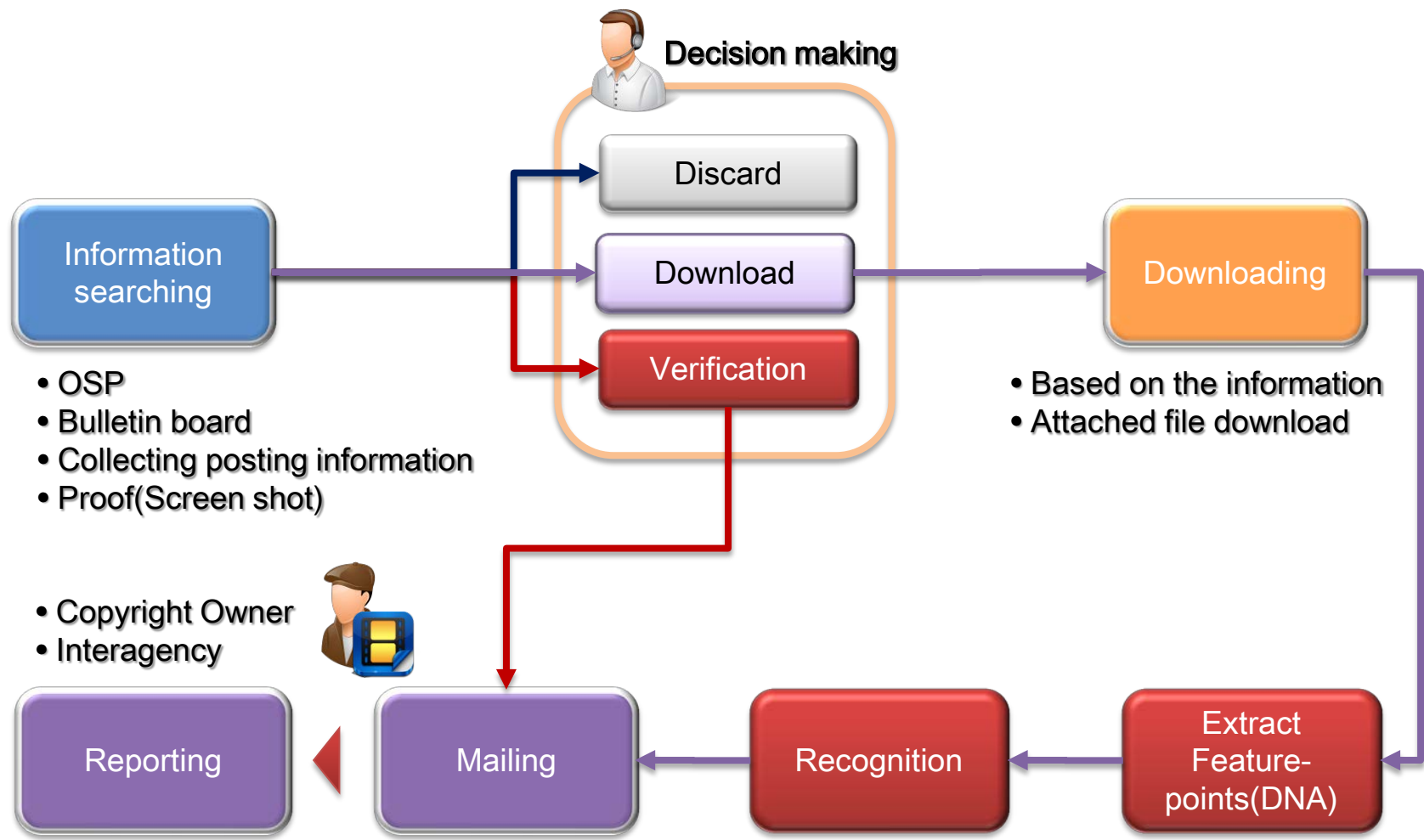| [ETRI] Content recognition based on feature-point	➕	[CPC] Content searching Monitoring know-how

- Automatic Content Searching System
- Content recognition based on feature-points
- Automatic mailing for content deletion

System Configuration

Operating Process

Decision making

Information searching

- OSP
- Bulletin board
- Collecting posting information
- Proof(Screen shot)

Discard

Download

Verification

Downloading

- Based on the information
- Attached file download

- Copyright Owner
- Interagency

Reporting

Mailing

Recognition

Extract Feature-points(DNA)

Automatic Content Searching

- Automatic searching for closed-type OSP(cyberlocker and P2P)

- Excel script editor for searching scenario modification

- Automatic searching for open-type OSP (UCC, blogs, and cafe)

- Collect posting information and proofs(screen shot)

- Content downloading function

- Automatic decompression

- Disk image file(iso) decompression, Special format(.xxx) file decoding
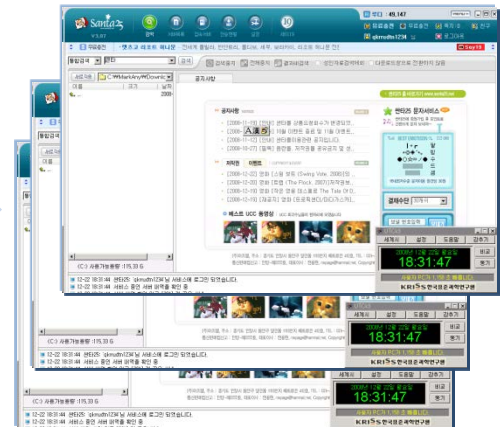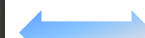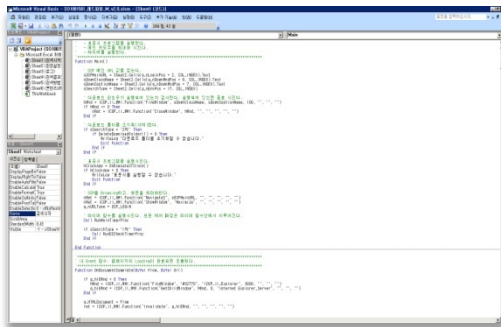
Content Recognition

- Extract feature-points(DNA) from Audio using centroid of frequency domain

- Extract feature-points(DNA) from Video using spatial and temporal information

- Extract feature-points(DNA) from analysis of structure sentence

- Recognition of Game S/W using hash and file feature

- Content recognition using whole or part of content
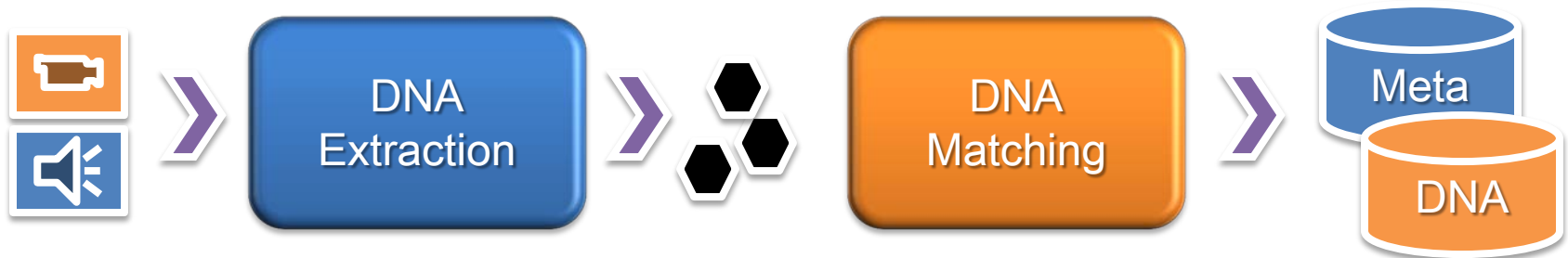
ICOP Monitoring screen

ICOP DB screen

ICOP Statistics screen

ICOP Report

Settings

kechoi
Level.1

NAVIGATION

★ Dashboard
⚙ Management
⊘ 단속현황
🏆 실적통계
📊 분석그래프
🖥 리소스모니터링

불법복제물 추적관리 시스템 종합 통계 정보 (ICOP Statistics Report)

2015/07/07 (화), 10:50:32 AM

OSP 전체 OSP 모니터링 수 **1,412**
최근 등록 OSP
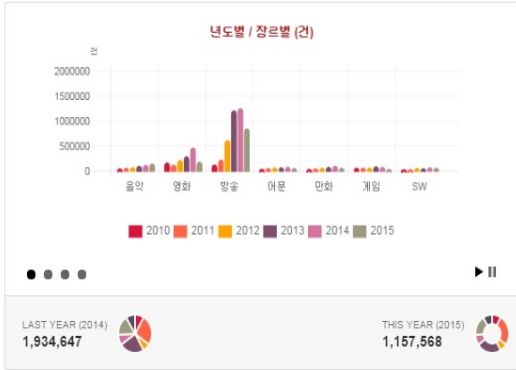핑크티브 2015/06/30
오디케이미디어 2015/06/30

국내 OSP 1,040 국외 OSP 372

서비스 전체 SERVICE 모니터링 수 **1,628**
최근 등록 SERVICE
졸라바다(토) 2015/07/06
빅토렌(토) 2015/07/06

국내 SERVICE 1,432 국외 SERVICE 196

콘텐츠 금일 모니터링 게시물 현황 **46,348**

음악	영화	방송	어문	만화	게임	SW
2,933	15,344	17,098	4,313	4,624	1,627	409

년도별 / 장르별 (건)

음악 영화 방송 어문 만화 게임 SW

■ 2010 ■ 2011 ■ 2012 ■ 2013 ■ 2014 ■ 2015

LAST YEAR (2014) 1,934,647
THIS YEAR (2015) 1,157,568

월별 / 장르별 (건) 기준 통계 - 전반기

	1月	2月	3月	4月	5月	6月
음악	649	3,912	30,439	27,978	15,466	29,100
영화	9,489	13,094	49,396	53,121	6,139	13,120
방송	16,389	23,045	118,421	132,323	217,599	220,919
어문	539	4,411	5,752	1,384	3,664	4,969
만화	1,260	2,470	7,716	4,666	3,995	4,722
게임	24	375	1,737	1,329	976	1,035
SW	501	2,492	7,656	4,996	4,172	4,562

9.6% 음악	12.7% 영화	70.5% 방송	1.9% 어문	2.4% 만화	0.5% 게임	2.4% SW

월별 / OSP유형별 (건) 기준 통계 - 전반기

	1月	2月	3月	4月	5月	6月
P2P	109	1,412	5,526	7,124	17,750	6,789
웹하드	28,420	39,863	82,964	91,770	50,190	46,252
포털	70	4,907	39,292	32,149	20,659	37,044
UCC	30	2	905	839	857	832
토렌트	209	3,340	28,910	32,272	74,969	97,422
스트리밍	13	275	63,520	61,643	87,586	90,088

3.7% P2P	30.9% 웹하드	12.2% 포털	0.3% UCC	23.7% 토렌트	29.1% 스트리밍

장르별 모니터링 비율
6.3% 음악

모니터링 Top 서비스
파일홍 (26%)
엠파일 (21%)
파일노리 (18%)
파일즈 (18%)
온디스크 (17%)

모니터링 Top 업로더
가무* (28%)
우수컨텐츠 (24%)
안산** (21%)
진파료사용.. (16%)
wlajjsfkl (11%)

모니터링 Top 서버
192.168.0.38 (26%)
192.168.0.13 (21%)
210.108.46.140 (18%)
210.108.46.141 (18%)
192.168.0.42 (17%)

금일 모니터링 게시물 (등록일시 기준)

#	서비스	게시물	업로더	등록일자
1	엠파일	140701 희망콘서트 시크릿 전효성 직캠	어홍**	2015-07-07 10:15:48
2	엠파일	140925 베스티 K-POP EXPO in ASI...	어홍**	2015-07-07 10:15:42
3	엠파일	[pure] 비욘드 Live in Japan 1966 ...	vnt**	2015-07-07 10:15:36
4	엠파일	일본 게임 Devil May Cry 4 OST 모음	rnr**	2015-07-07 10:15:04
5	엠파일	오락파일~!!!!	asr**	2015-07-07 10:13:09
6	엠파일	[pure] Lambada 함바다 - Kaoma (...	vnt**	2015-07-07 10:12:21
7	엠파일	[직캠] 141008 EXID(하니,정화) 파...	어홍**	2015-07-07 10:11:18
	엠파일	[직캠] 141006 한국대 축제 - EXID	어홍**	2015-07-07 10:11:04

History

2014
- ICOP Expand operations(Target OSP add)

2013
- Launch integrated ICOP Operation Center

2012
- Killer content warning system
- Offline crackdown App
- Overseas OSP monitoring system

2011
- Open API
- Distributed processing
- Publication(text) and Game S/W recognition

2009-2010
- Automatic content searching system for open-type OSP(Portal/UCC)
- Feature-based video content recognition

2008
- Automatic content searching system for closed-type OSP(P2P/cyberlocker)
- Feature-based audio content recognition

ICOP Operation center

ICOP Severs

Infringement prevention of scale by ICOP

	Postings	Files
Audio	4,426	363,204
Movie	87,243	91,660
TV Show	131,278	335,533
Text	6,377	8,763,932
Game	10,597	13,432
Comic	13,779	46,301,790
S/W	2,166	2,228
TOTAL	255,866	55,871,779
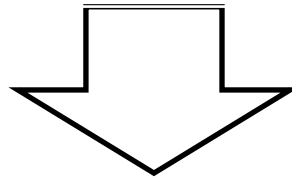
Infringement prevention of scale : $ 914,356

* $\sum$(Unit price of licensed products x Postings)

Thank you

sungyeolk@korea.kr