



Combating Internet Piracy: Technologies and Case Study

Sheau Ng, Vice President
NBC Universal
June 12, 2008

Outline

- Internet Piracy
- Technological Solutions
- Beijing Olympics Update

Where Does Pirated Content Originate?

• CamCorders

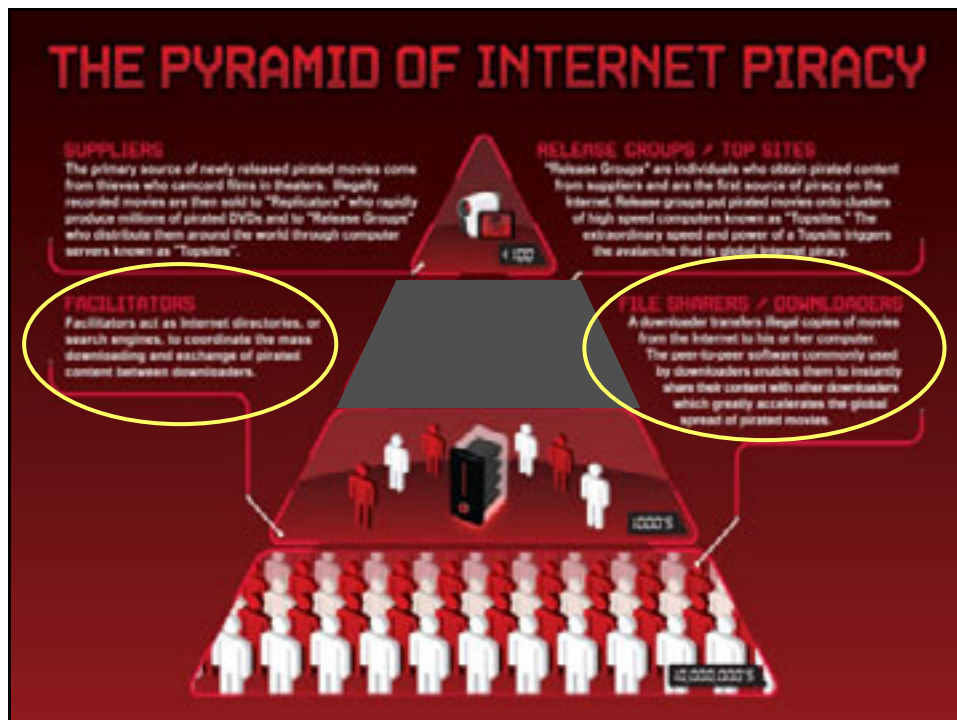
- Records movies during a movie showing/adv. screening via video camera w/the help of
- “Blocker(s)” who strategically situates themselves in seats near “cammer” to min. noise and gain wider/full recording angle for “cammer”
- Supplies copy of “master” for an “upcoder” to upload on to a “top site”

• DVD Rips

- De-CSS removes content protection
- On the Net, drives out lower quality cammer copies

• Broadcast TV

- Recorded, edited, posted (often w/i 30 minutes)



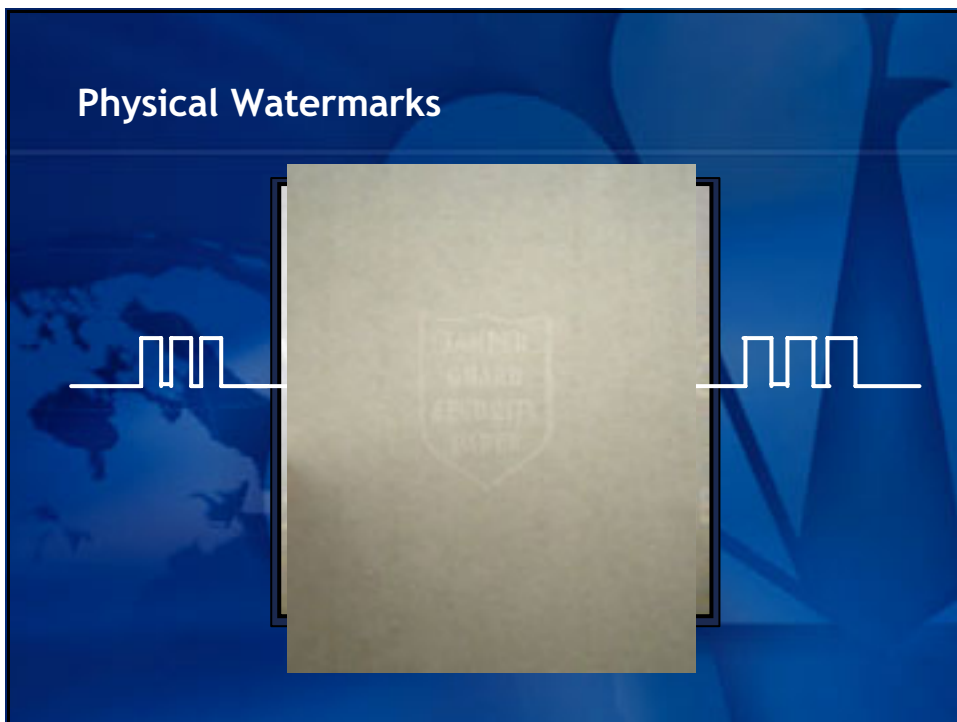
Types of Content Piracy

- “Hard disk” piracy
 - Pirated DVD, e.g. **62%**
- “Rent-n-Rip” piracy
 - Copies made from legit content and “shared”
- Internet file-sharing piracy **38%**
 - File sharing - P2P (excluding streaming)

How To Reduce Internet Piracy?

- Network Traffic Inspection
 - Can be implemented at points within network. E.g., within enterprise or campus network
 - Requires high-speed packet inspection devices commonly used to protect network from viruses and other attacks
 - A less-sophisticated method involves using protocol detector that is visible at the data packet header
- Upload Content Inspection
 - Inspection of content by hosting sites (e.g., YouTube, MySpace, ToDou, YouKu, etc.)
 - Usually as part of content formatting process at host sites.

Both approaches require pirated content to be identifiable



Sampling of Commercial Watermarking Companies



Digital Fingerprinting



Where Are These Technologies Used Today?

workintopost.com

Video-Sharing Web Site to Combat Piracy With Digital-Fingerprinting Technology Wall Street Journal, May 11, 2007
By KEVIN J. DELANEY
May 11, 2007, Page B1
Foster's Distribution LLC says...
The move represents an effort...
for availability of pirated clips...

BusinessWeek | Search | Register | Sign In

HOME | INVESTING | COMPANIES | TECHNOLOGY | INNOVATION | MARKETING | SMALL BUSINESS | D-SCHOOLS | ASIA


Current Issue | Past Issues | Cover Story Podcasts | Figures of the Week | SmartBuy Register | SmartTV | Subscribe | Feedback

THE OLYMPICS | May 20, 2008, 12:01 PM EDT | Web site: | T

Video Piracy's Olympic Showdown

Beijing is finally tackling video piracy. China wants to prove it can protect the lucrative broadcasting rights for the Summer Games.

By Peter Dinkels



PERFORMANCE: STAFF OUT THEIR INSIDE 100 DAYS AHEAD OF THE BEIJING SUMMER GAMES. PHOTO: J. BOWEN/GETTY IMAGES

THIS ISSUE

- Hot Growth Companies
- First Housing, Not Oil
- The Trouble with Background Checks
- News You Need to Know
- Housing: The Recovery Wrecker

June 9, 2008
Oil & The Economy

HERITAGE

USA TODAY Home News Travel Money Sports Life Tech

Life » TV/Media • TV Listings • Nielsen Ratings • Critic's Corner • 'Idol' Chatter

NBC Universal's Olympics coverage will make a big splash

"In what's being called the most ambitious single media project in history, NBC will swamp the airwaves and cyberspace with a whopping **3,600 hours** of coverage from Aug. 8 to 24.

Updated 46 21h ago | Comment | Recommend

By Gary Strauss, USA TODAY

While the bulk will be live streaming video on NBCOlympics.com, **1,400 hours** will air on NBC and sister stations USA Network, Oxygen, MSNBC, CNBC and Telemundo (in Spanish), plus high-definition coverage on USA HD and Universal HD cable channels.

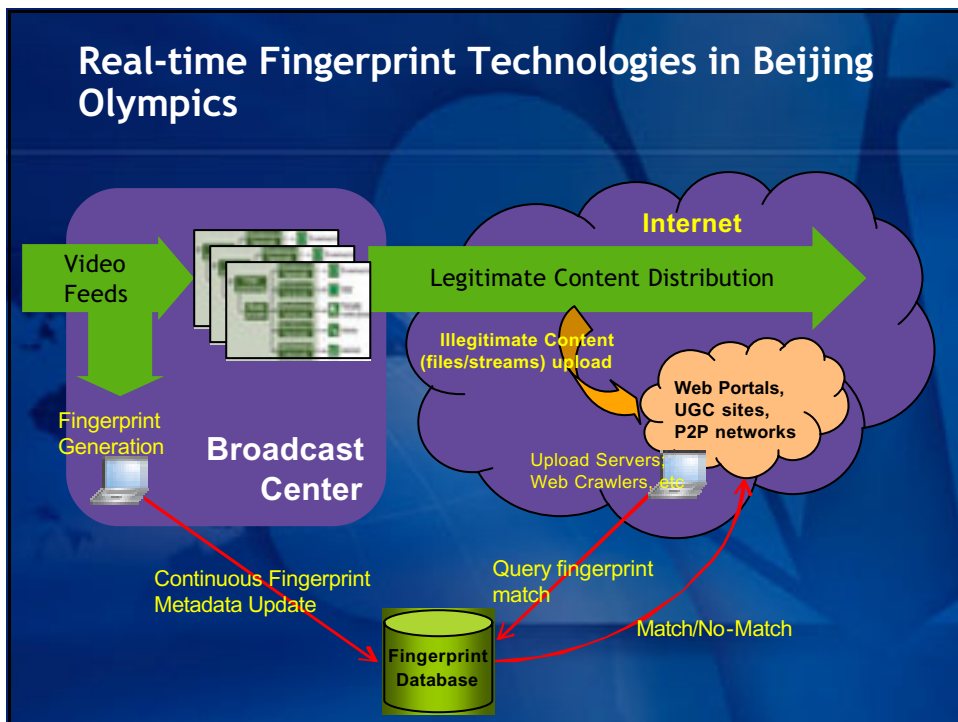
In what's being called the most ambitious

All told, there'll be more hours of coverage in Beijing than the combined total of every previous Summer Olympics televised in the USA. Covering **28 sports** and **302 events** will be virtually 24/7, providing a "home for everything," says veteran NBC sports programmer David Neal, who has worked on six Olympics. "There won't be enough hours in the day for anyone to watch all the offerings," he says. ..."

2008 SUMMER OLYMPICS

Walk-to-wall coverage from Beijing.

SUMMER TV PREVIEW



Summary

- Digital is affecting all of us: good and bad
- Broadcast Content Identification Technologies are ready for prime time
- Types of technology depend on content
 - Pre-recorded vs Live
- Content/service providers benefit from UGC upload filtering
- Home Network need to be provide measures against illegal content



THANK YOU