Content Protection Summit EU

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29th June, 2021 | 13:00 - 18:00 BST | Virtual

Piracy Monitor
STAY SAFE

Demand = Piracy

About Video Piracy

Subscribe to Piracy Monitor
https://piracymonitor.org/

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Video Piracy: A big problem worldwide

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- ***Video piracy cost the US economy $29B in 2018**, 13% of the $229B generated by the creative and technology industries* (US CofC, 2019)
- ***2022: >$66B WW video revenue lost** to pirates* (Parks, 2020 est.)
- ***Only 28%** of the ~$9B pay TV revenue lost to piracy in 2019 **was due to credential sharing**.* (Parks, 2020 est.)
- ***13% of US consumers knowingly use pirate apps:** half of them get malware. **Ransomware attacks up 148%** just in Q2 2020* (DCA, 2020)
- ***$111M in legit, branded ads placed on pirate sites*** (TAG, 2017)

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Piracy in the UK (2020 Q4)

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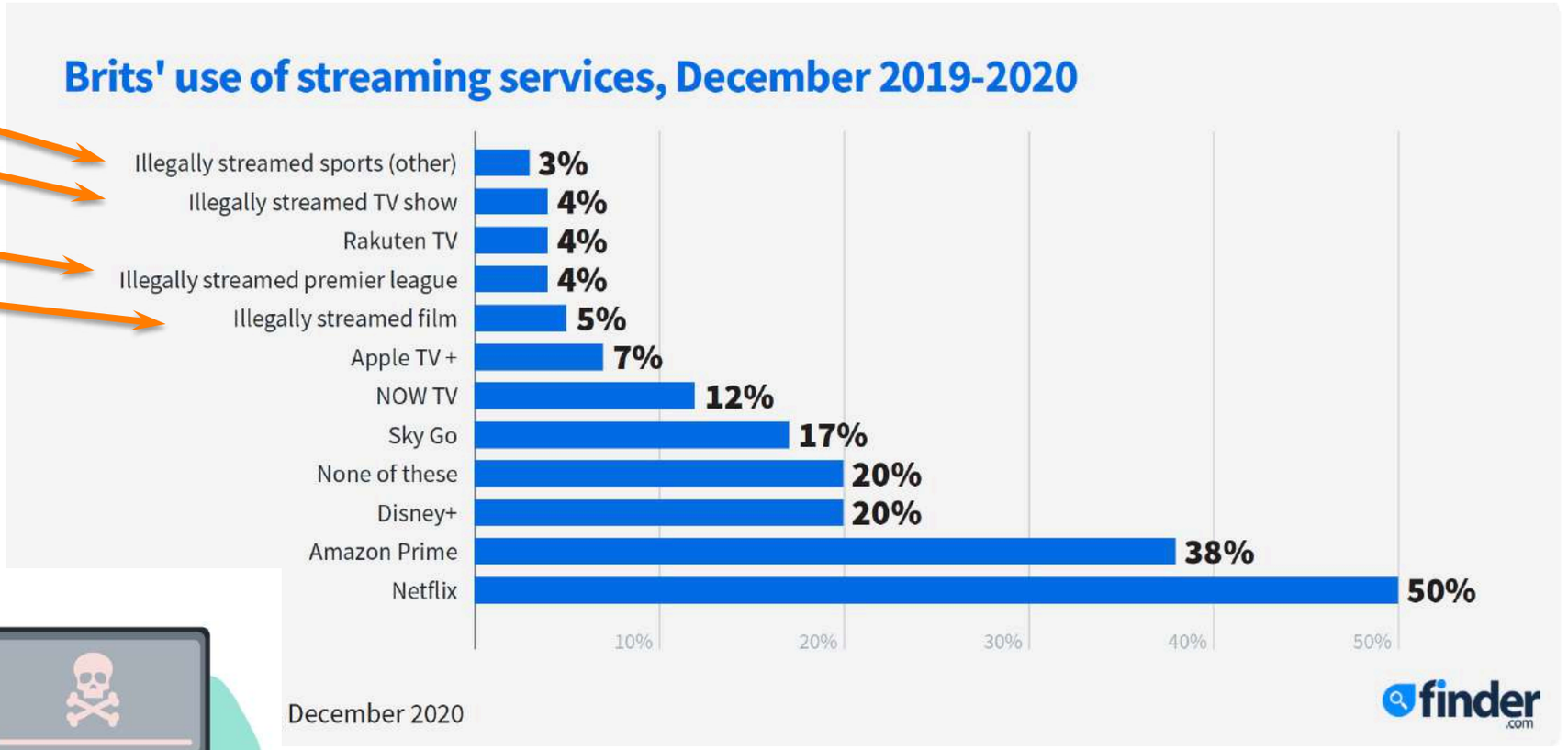

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Availability and discovery remain a challenge

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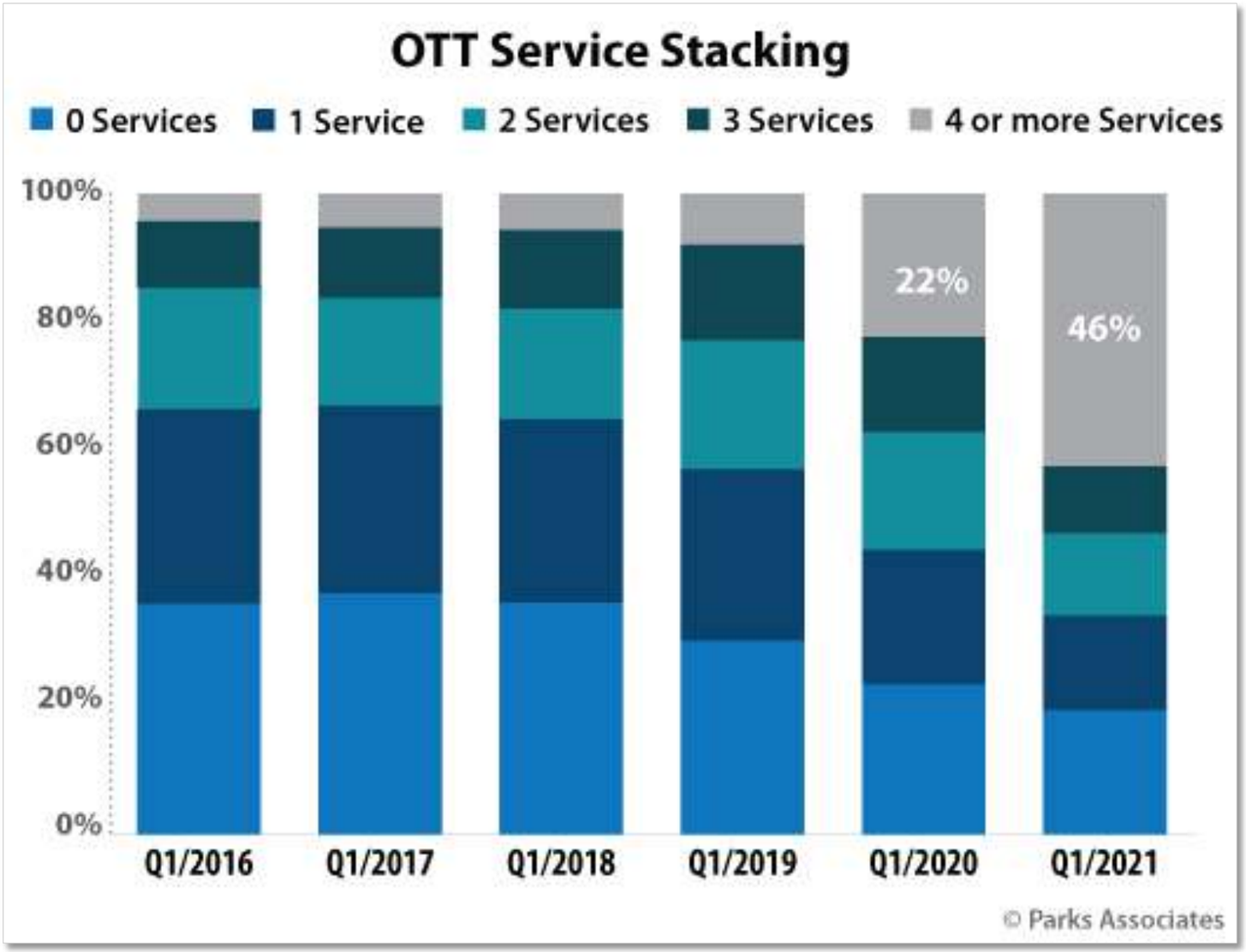
OTT Churn is 35%
(Parks 2020)

"Even with four or more subscriptions, I still can't find or watch (fill in the blank)"



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Video providers can only protect within managed distribution

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NO Protection

Before Distribution

Vulnerable to theft:

- Live sports, events
- Original Programming
- Digital cinema
- Production copies

Protected

Legal distribution

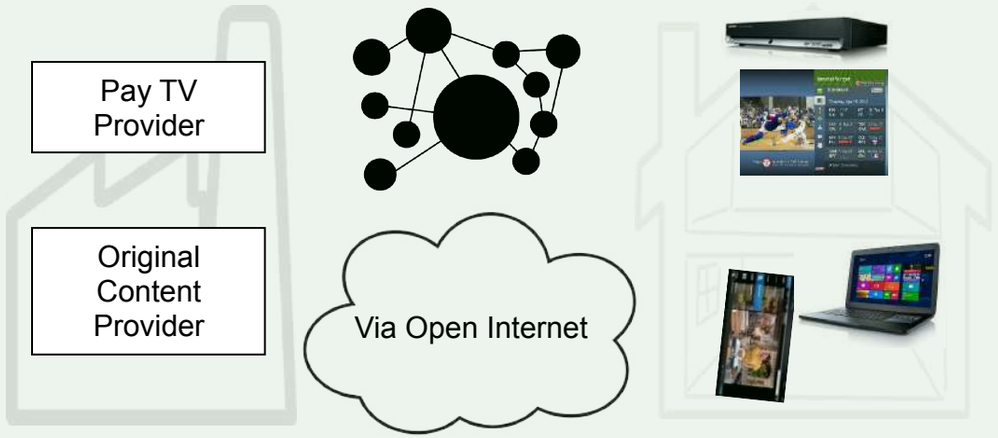
Pay TV/DVB (CA/CAS), Streaming (DRM)

Production & Packaging

Distribution

via Managed Network

Authentication & Playback



NO Protection

Beyond the consumer

Vulnerable to theft:

- Live streamed events
- Series programming
- Cinematic releases
- Personal information
- Software integrity
- Device integrity

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Where is it stolen? (excluding pre-release & physical media)

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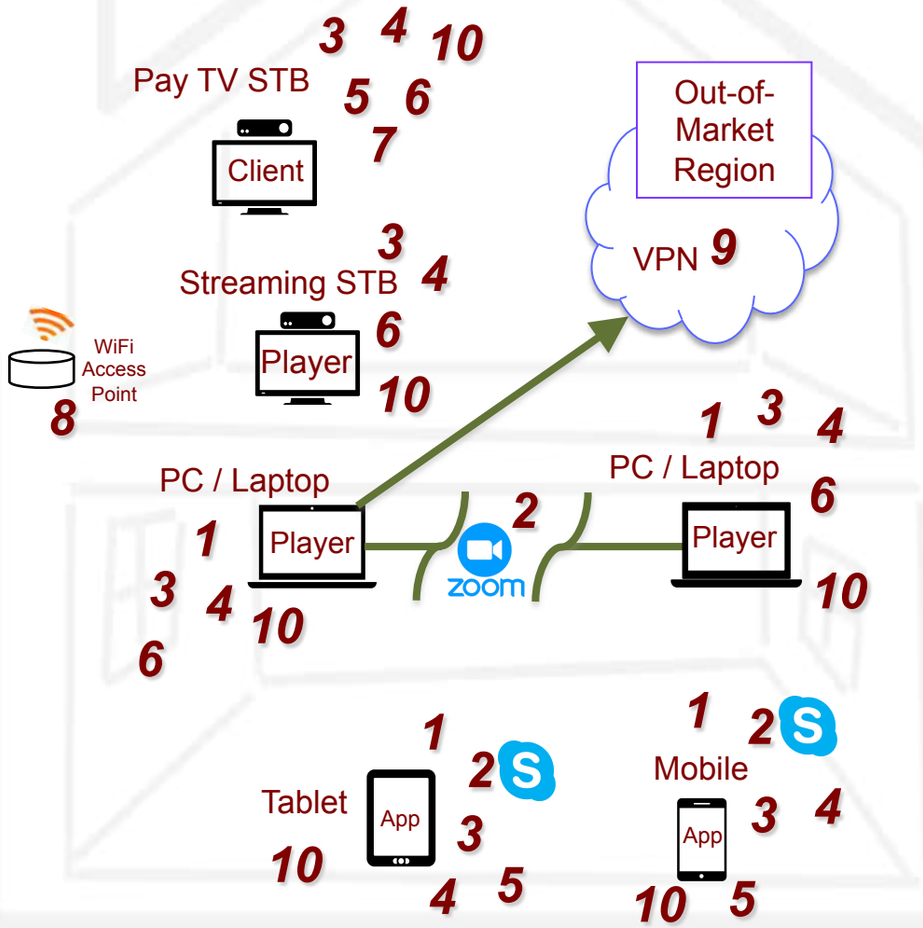

1) Screen recording during live broadcast

2) Capture from a screen-share session

3) Tampering with video player software

4) Breach to device's video pipeline

5) O/S breaches (e.g. Open Source - Linux, Android)

6) Interception at a connection (HDMI, USB, etc)

7) Breach a watermark, collusion attack

8) Interception over Network ("Man in the Middle")

9) Access from out-of-market locations (VPN)

10) Capture from Network DVR (captured, restreamed)

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Demand = Piracy > < Fraud

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Six types of piracy

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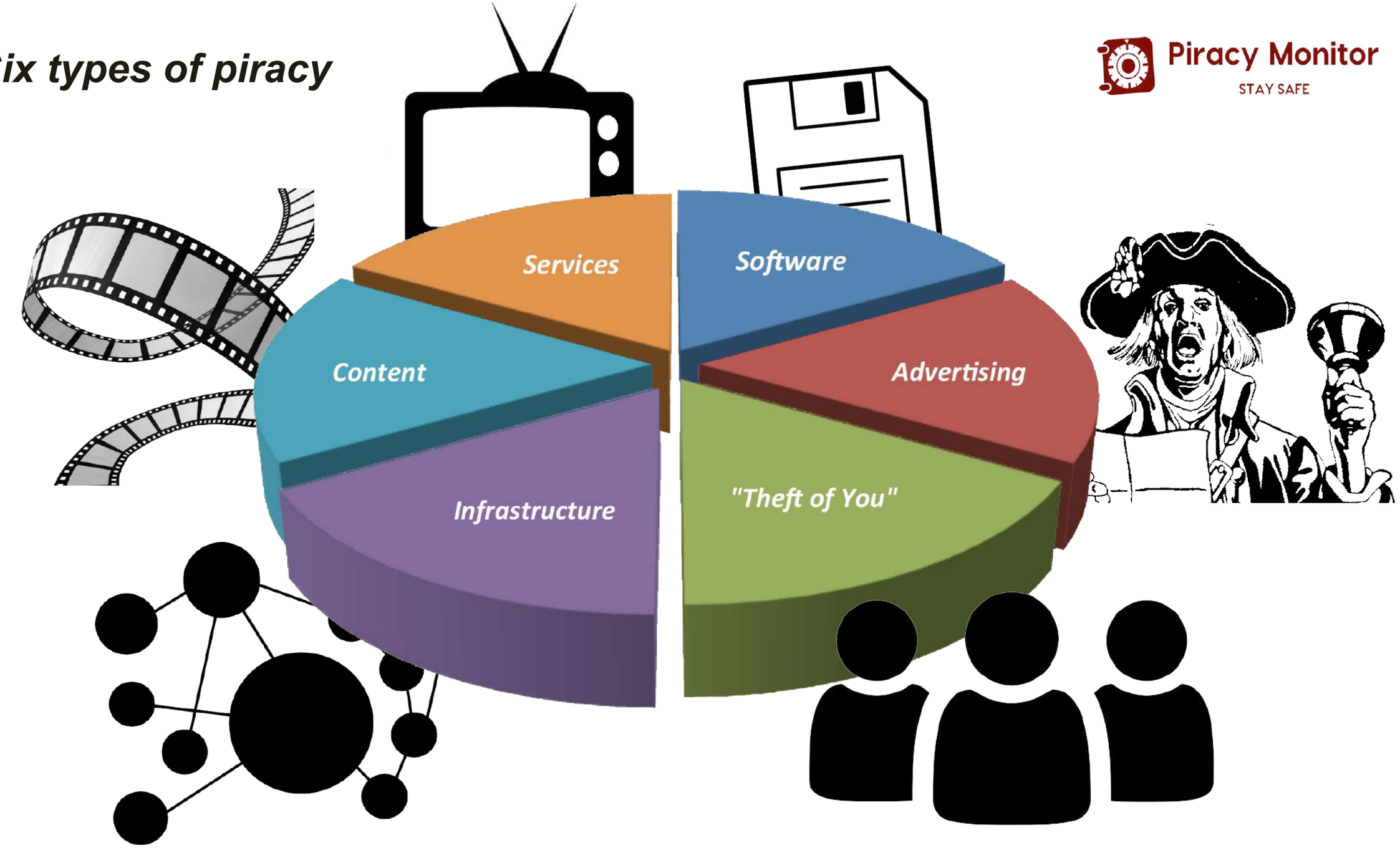

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Piracy Model: Hosting sites and cyber-lockers

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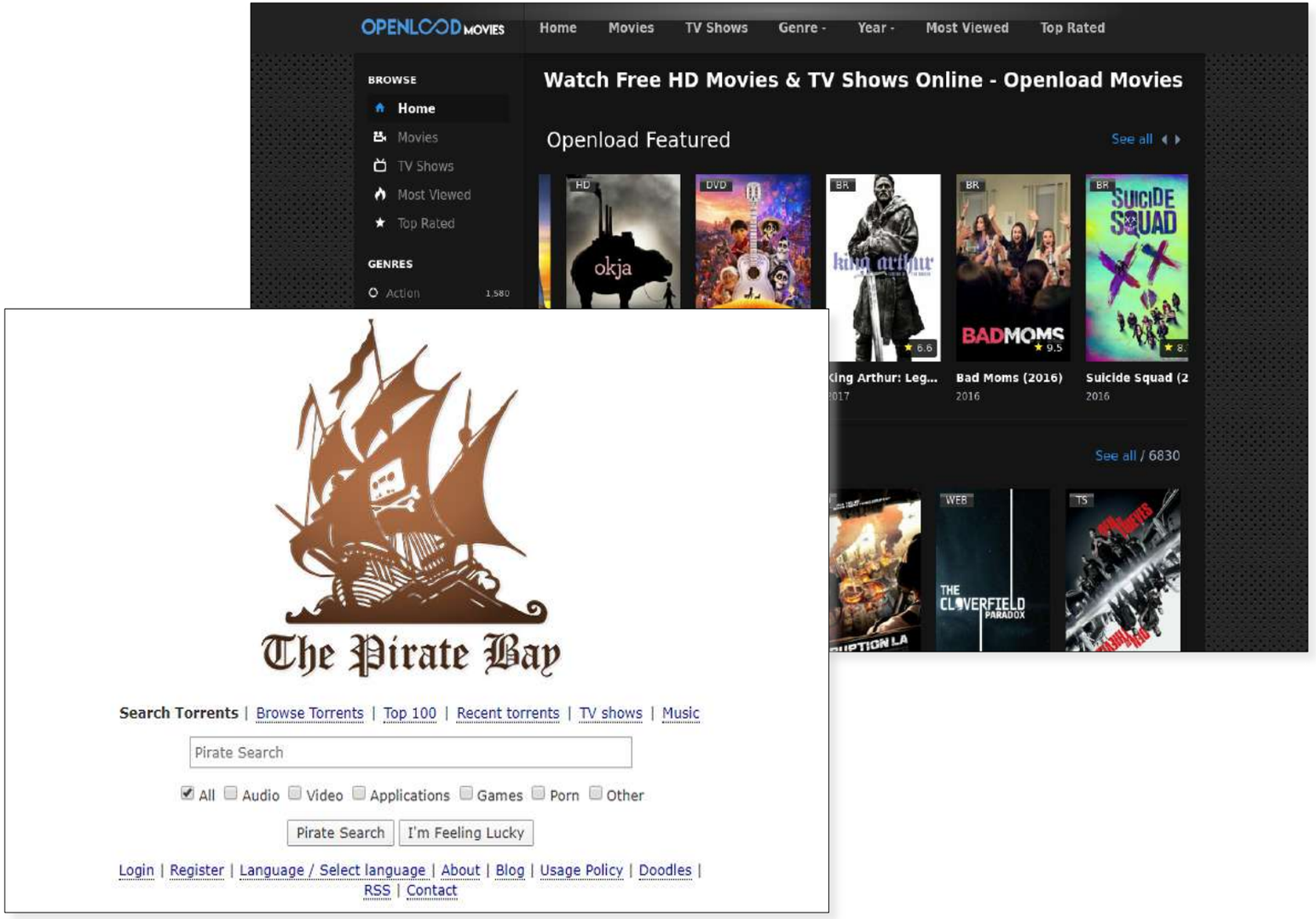
C2C: Sharing sites where consumers upload videos for others to download

B2C: Hosting sites that feed consumers via torrents (Pirate Bay).

Private social groups as video clubs

But is it piracy: Yes, if the content is not licensed for this form of distribution



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Piracy Model: Credential resellers

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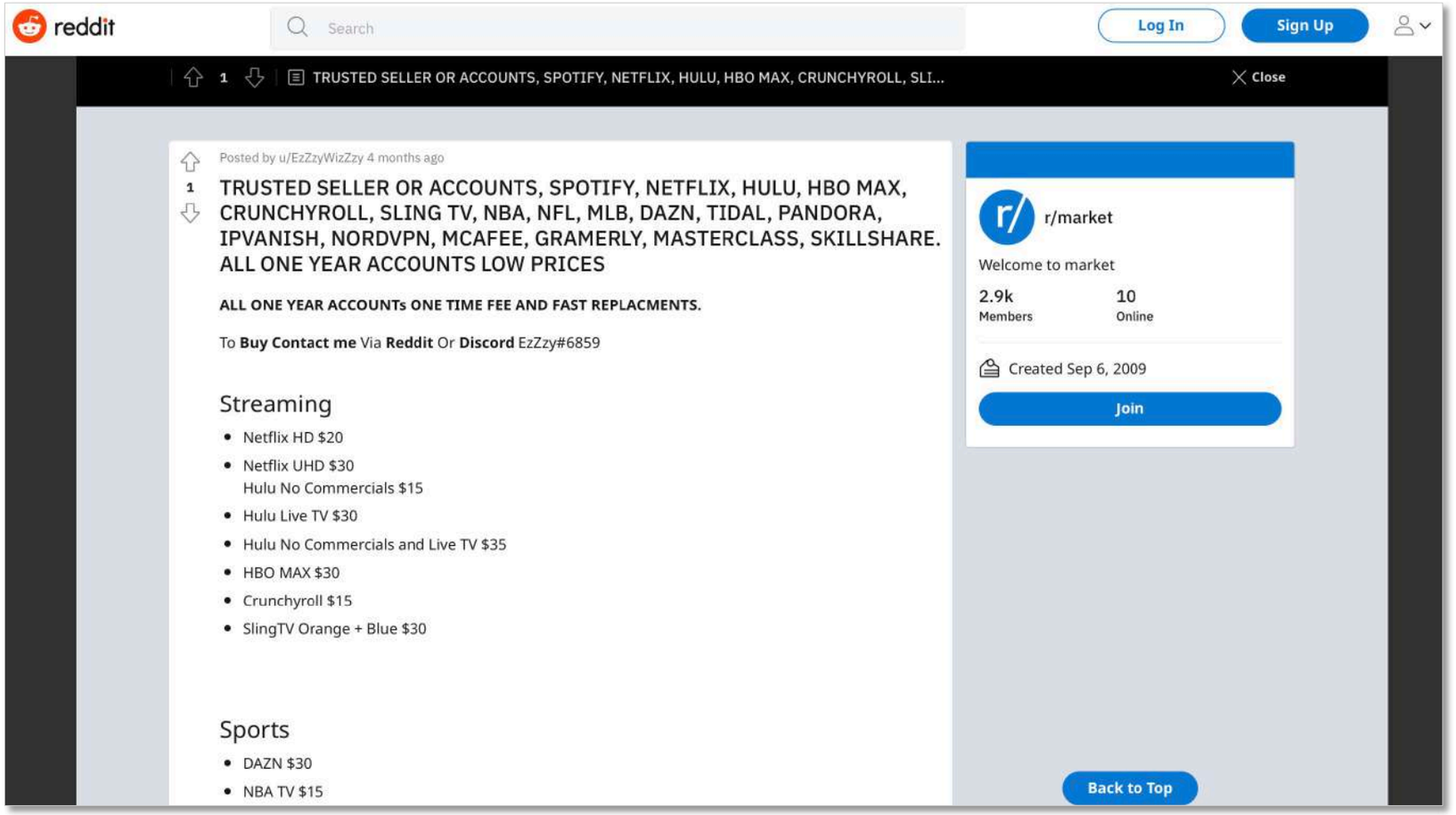
B2C: Sharing sites where consumers buy account access (harvested credentials)

B2B: Entities that buy and mine databases for working credentials, then sell them in bundles to B2C resellers.

Is it piracy: Yes, if the seller doesn't have distribution rights



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Piracy model: Software and Devices

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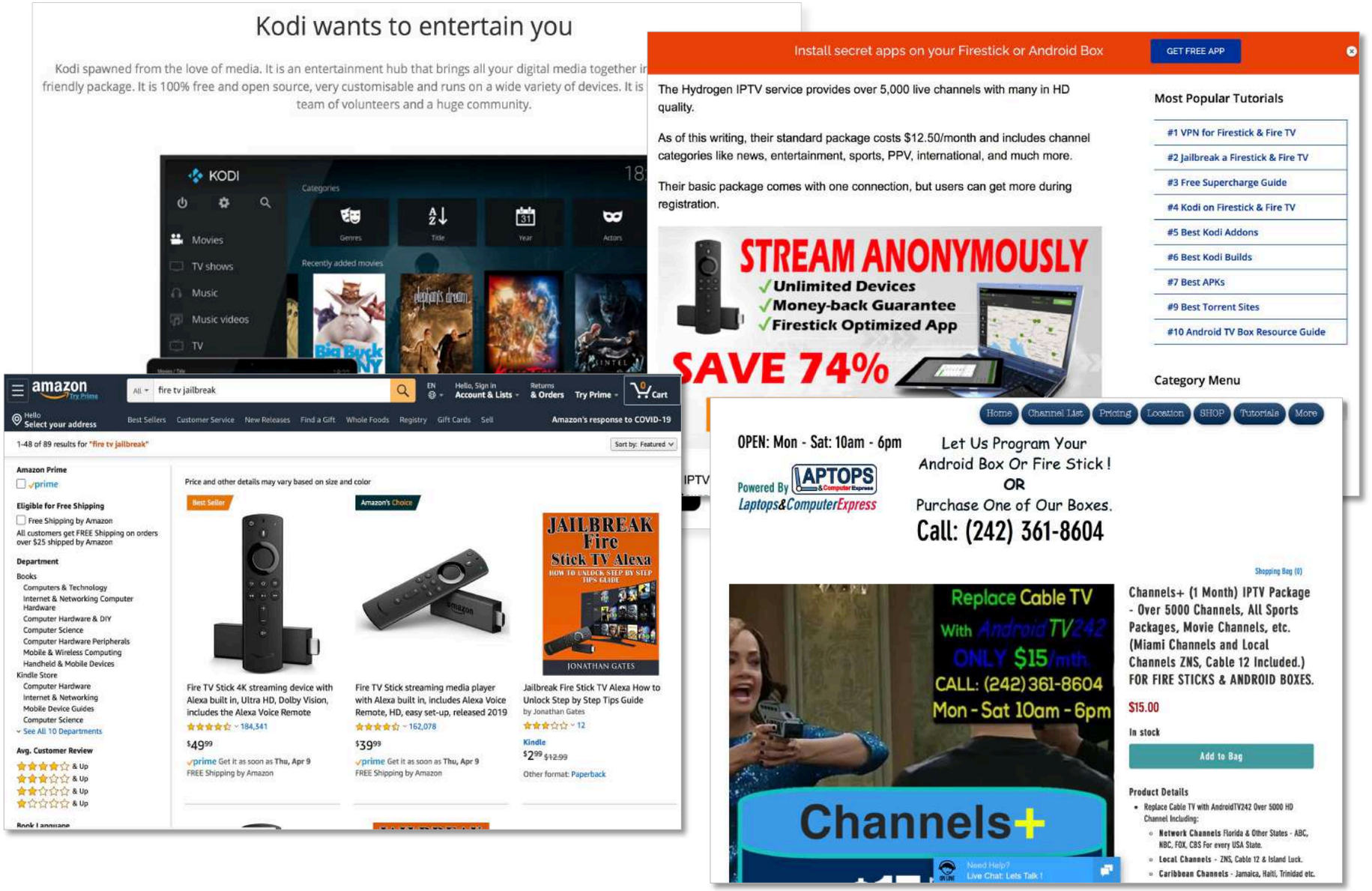
B2C: Browser extensions, media centers (Plex/Kodi), jailbroken devices, fraudulent apps on legit devices, illicit streaming devices

Yes it's piracy: If it distributes unlicensed content



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Piracy model: Wholesale pirates

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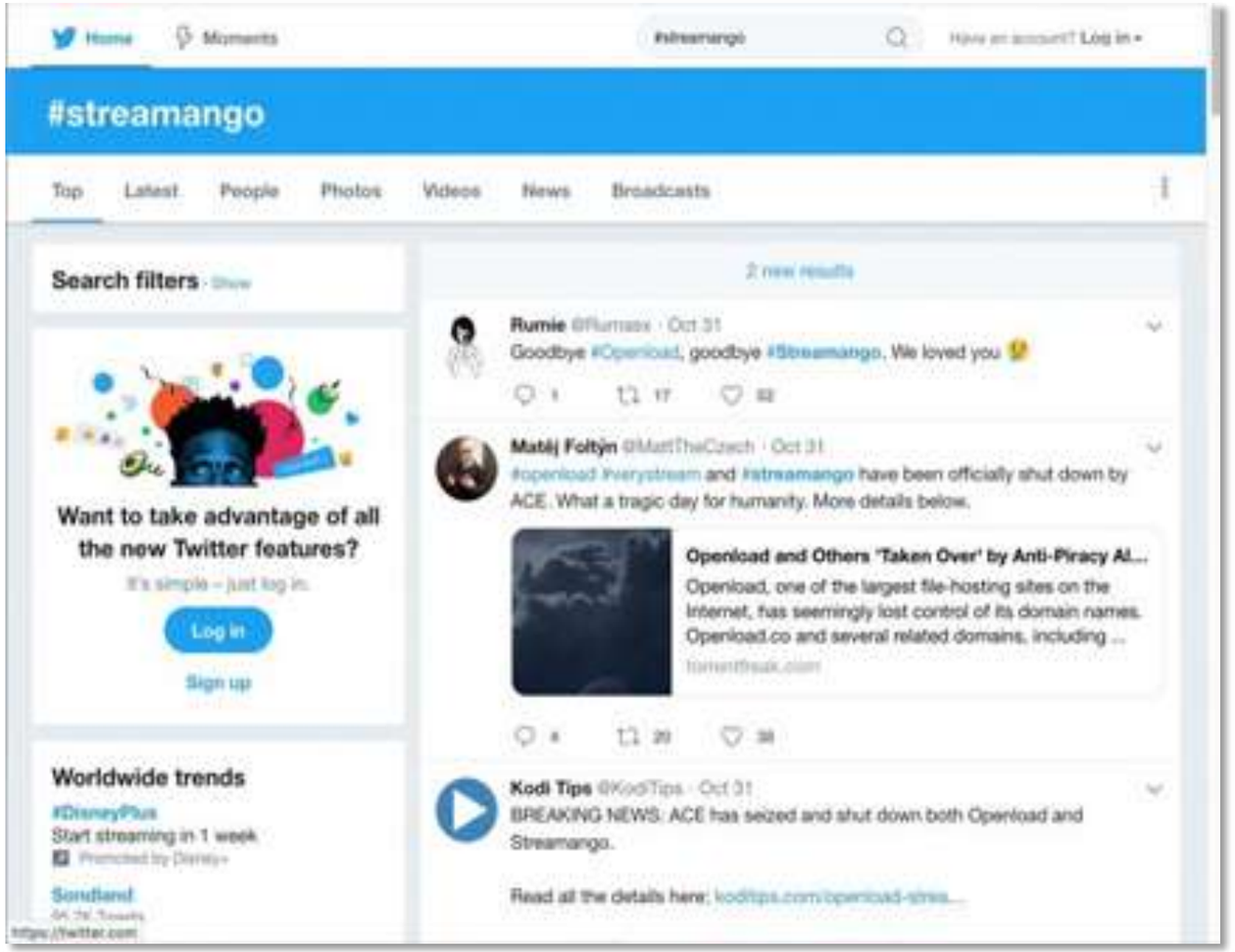
B2B: Hosting sites that feed content to illegal streaming and linking sites

Yes it's piracy

Streamango operated more than 1,000 servers in Romania, France and Germany and "generated more traffic than… Hulu, HBO Go, Sky, and the Web sites for CBS News and NBC News."



Source:Twitter

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Piracy model: Pirate "IPTV service"

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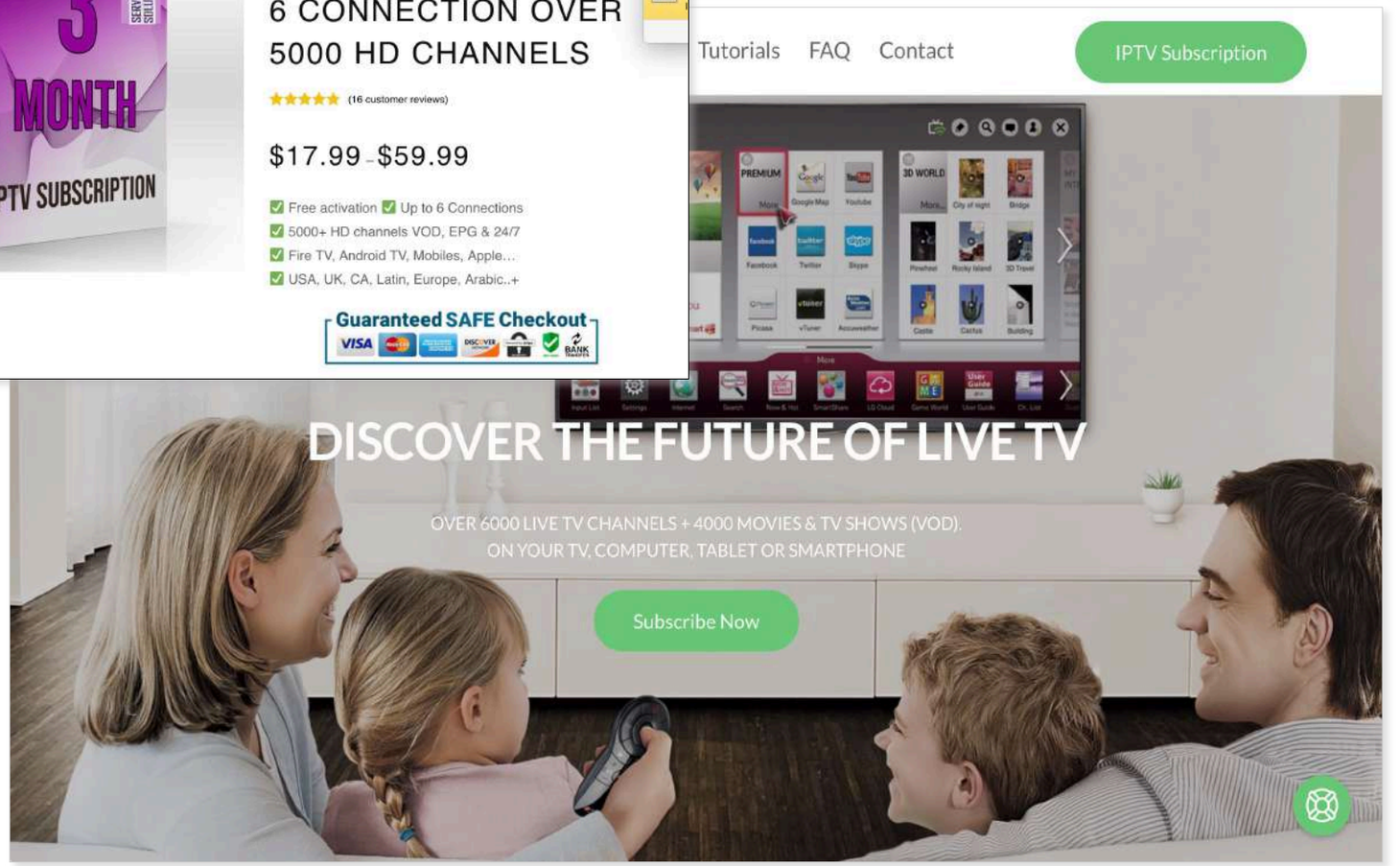
Pay TV's and OTT's biggest competition

B2C: Consumer pays subscription; PPV, xVOD are add-ons

Access via Web/PC, Mobile, Streaming CPE, ISD

B2B: Portal provider acts as a link-aggregator, or links directly to hosted content

Is it piracy?: Yes, services distributing unlicensed content are pirates



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Piracy model: Advertising fraud

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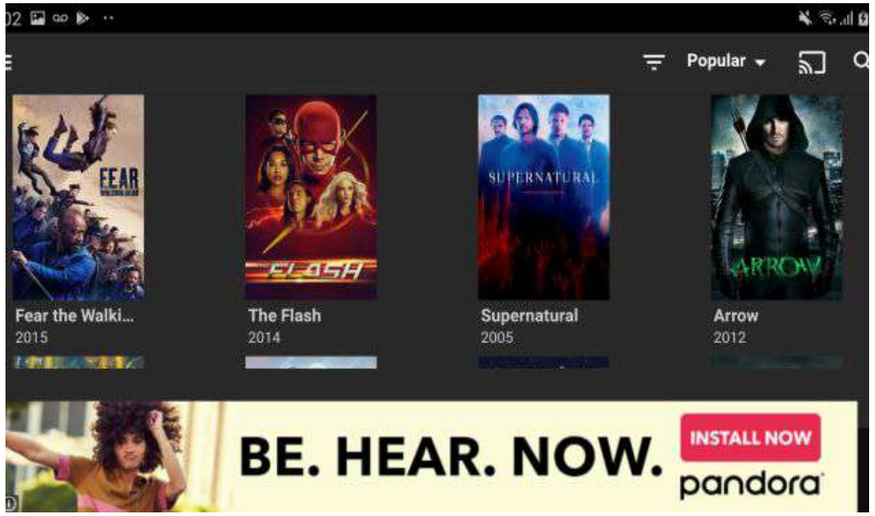
B2B2C: Fraudulent sites and apps running legitimate ads

- Tea TV
  - Pirated streams of major movie releases and premium TV shows.
  - Ads come from ad inventories intended for programmatic placement.
- Business model
  - Free to consumer; funded by payments from advertisers.

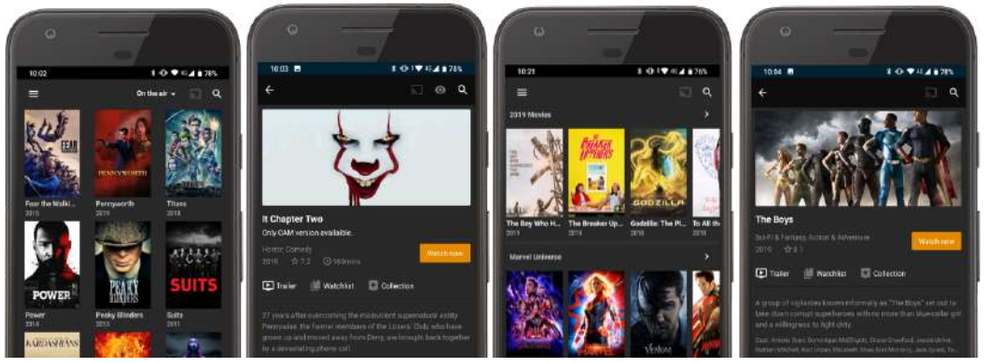
Yes it's piracy: The advertising is presented in fraudulent apps without the advertiser's knowledge

But do advertisers look the other way?



Source: CNBC

Source: Google Play app store



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Piracy (fraud) model: Theft of You

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- **Phishing…**
  - "*Please re-set your password*"
    - End user opens mail, accesses account, re-sets password
    - Pirate captures access details, can access other PII, financial accounts
    - Pirate can resell the account, steal content, steal bandwidth and services…
- **Ongoing access…**
  - "*A Software Update is Now Available*"
    - Resembles legitimate app with legitimate advertising but is fraud in disguise
    - Installs malware and triggers a ransom attack
    - Uses CPE cycles for bitcoin-mining
    - The pirate site splits the profits with the malware author

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Tools to fight video piracy

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Non-technical countermeasures

- Marketing (Compelling consumer offers)
- Online partners (Search, Social, ISPs…)
- Media industry (MESA/CDSA, CPs, SPs…)
- Antipiracy orgs (AAPA, FACT, MPA/ACE…)
- Law Enforcement (Europol, Interpol, Nat'l, Local)
- Governmental (Regulators, policymakers)
- Financial partners (stop money flow)
- Consumer education (risks, personal steps)

For more details, see Breakout Session 4

Technical countermeasures

- Enforce service parameters (business rules)
- Traditional multiscreen security (CAS, DRM)
- Usage monitoring & analytics (anomalies)
- Content identification (watermark, monitor)
- Network test & source verification
- Feature & service administration (SDP, OVP)

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