

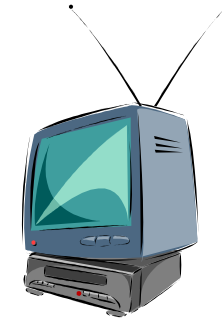
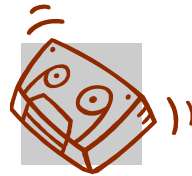
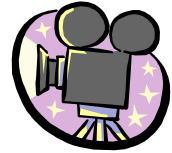
# How an Open Source Project Creates A Level Playing Field in the Media Industry



Presentation at COSS/Open Mind

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# Media industry value-chain



**Creation**  
 Authors, actors,  
 athletes,  
 musicians,  
 developers

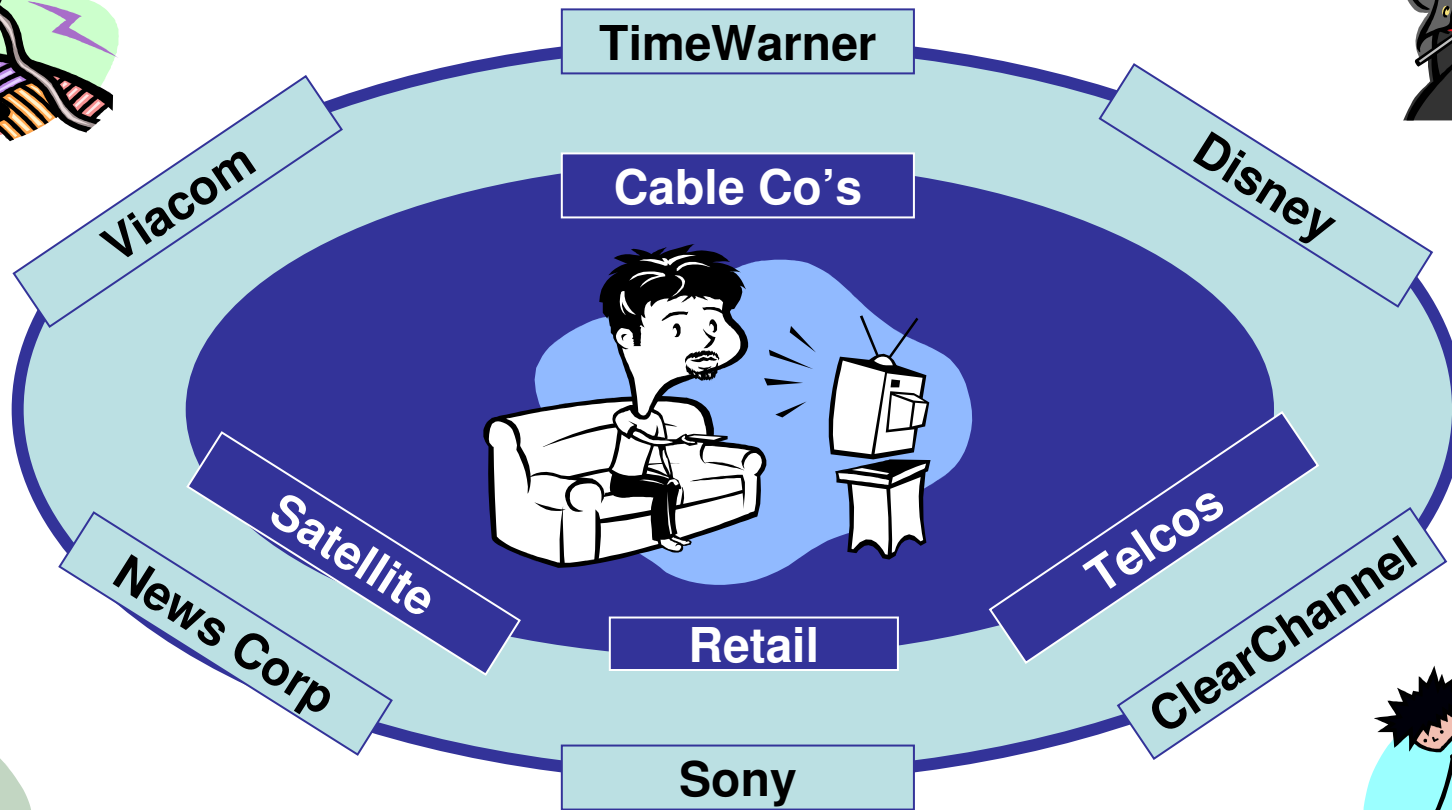
**Production**  
 Studios, labels,  
 publishers

**Aggregators**  
 Broadcast  
 networks, Cable  
 channels (HBO,  
 Showtime)

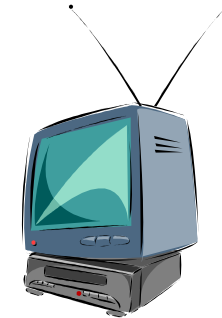
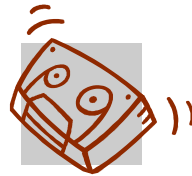
**Channels**  
 DBS/MSOs,  
 Theaters,  
 Blockbuster,  
 Broadcast  
 networks, BestBuy

**Devices**  
 TV, VCR, DVD,  
 Set-top Boxes,  
 MP3 Players, Tivo

# Media industry consolidation



# Media with Web 1.0 (late 90s)



<p><b>Creation</b></p> <p>Authors, actors, athletes, musicians, developers</p>	<p><b>Production</b></p> <p>Studios, labels, publishers</p>	<p><b>Aggregators</b></p> <p>Broadcast networks, Cable channels (HBO, Showtime)</p>	<p><b>Channels</b></p> <p>Cable, Theaters, Blockbuster, Broadcast networks, BestBuy</p>	<p><b>Devices</b></p> <p>TV, VCR, DVD, Set-top Boxes, MP3 Players, Tivo</p>
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# Web 2.0 emerges (2001-present)

- Apple: Creation tools available to everyone
- Publishing: Blogging, BitTorrent
  - Mass democratization
  - Freedom of speech no longer limited to those who can afford a printing press or broadcast tower
- Online Community Leaps Forward: Social networks, P2P
  - Harnessing collective resources of users, community as an app
- Dot-com bust, while AOL & Yahoo are sleeping...
  - Google: Algorithmic aggregation, comprehensiveness

# Media industry with Web 2.0



**Big Media**

**Aggregators**



**Independent Media**

**IP Conduit**

**Amateurs**

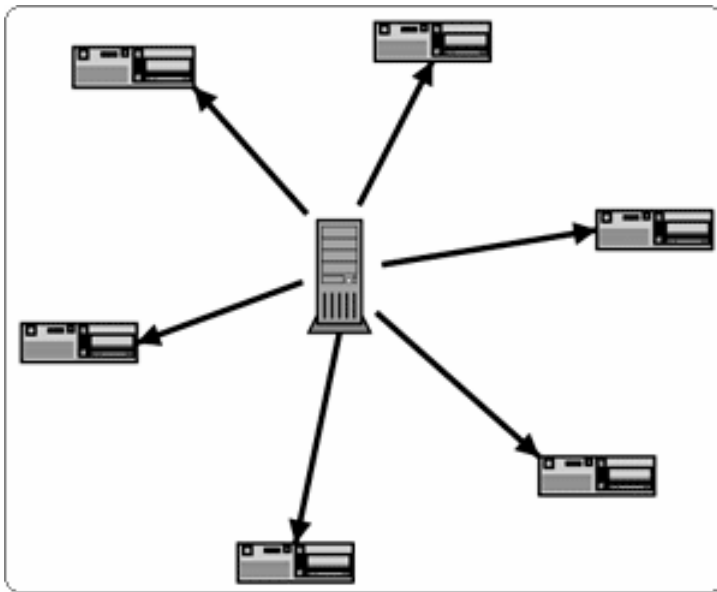


# The BitTorrent Mission

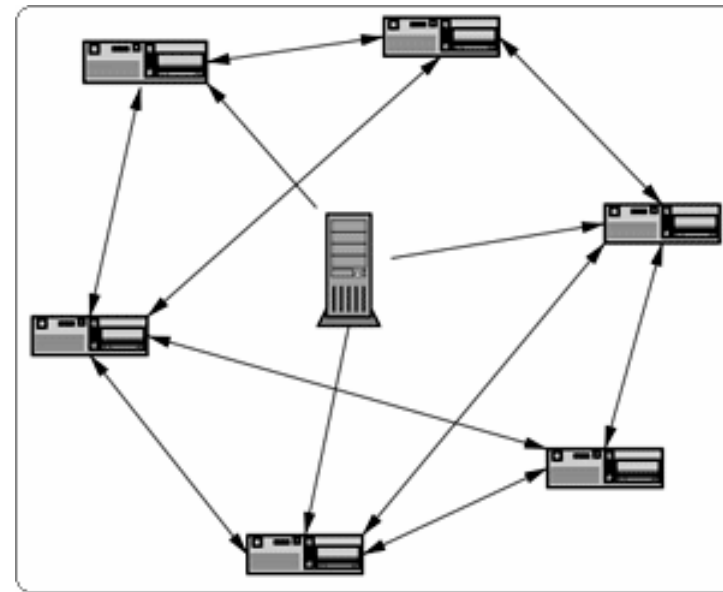
- Make the Web effective for digital distribution
  - Connect publishers of digital content with their users online
    - Paid, Ad-supported, or Free

# Architecture: Cooperative Distribution

HTTP://



BitTorrent



# BitTorrent: Cooperative Distribution

- When BitTorrent is employed, as popularity increases:
  - Download performance improves
  - Bandwidth costs fall
- BitTorrent harnesses abundant, unused (P2P) resources
- Torrents live on the web
  - No central or proprietary network
  - Torrents are files hosted, pointing users to the tracker which creates an ad hoc network around each publication = “swarm”
- Easy to monitor and manage
  - Tracker servers maintain file integrity, provide usage data, offer some security

# Evidence of success

- Protocol accounts for 40%+ of all IP traffic
- Mainline client software used by 50+ million users (other distributions push total users over 100 million)
- BitTorrent enjoys fierce loyalty of coders, independent publishers, open-source community, media enthusiasts
  - Good content sees the light of day: open source software, independent video/audio, public projects

# Rapidly growing user base

- BitTorrent mainline users now exceed 50 million through organic demand, viral publicity

