

## Video Internet Ecosystem

William B. Norton

Executive Director, Internet Strategy Consultant

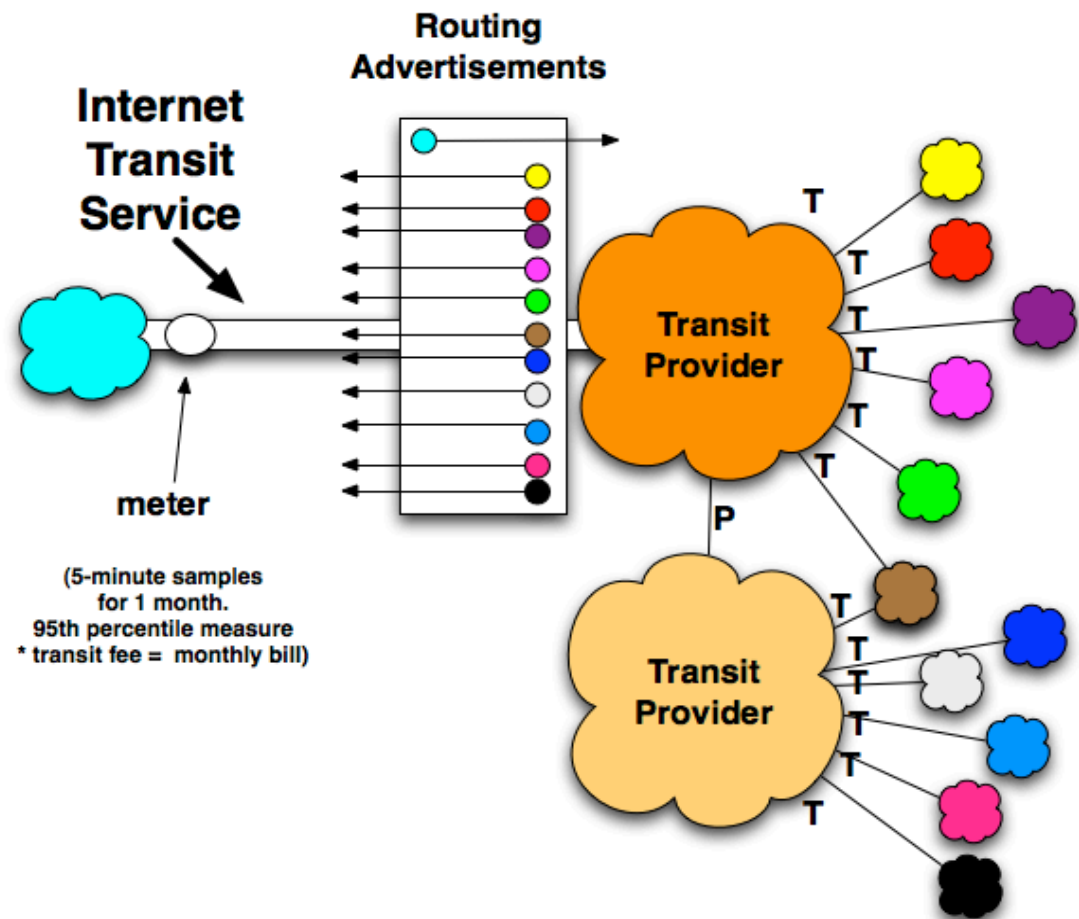
DrPeering International

<http://DrPeering.net>

DigiWorld Summit, Montpellier, Nov 17, 2010

# + Internet Transit

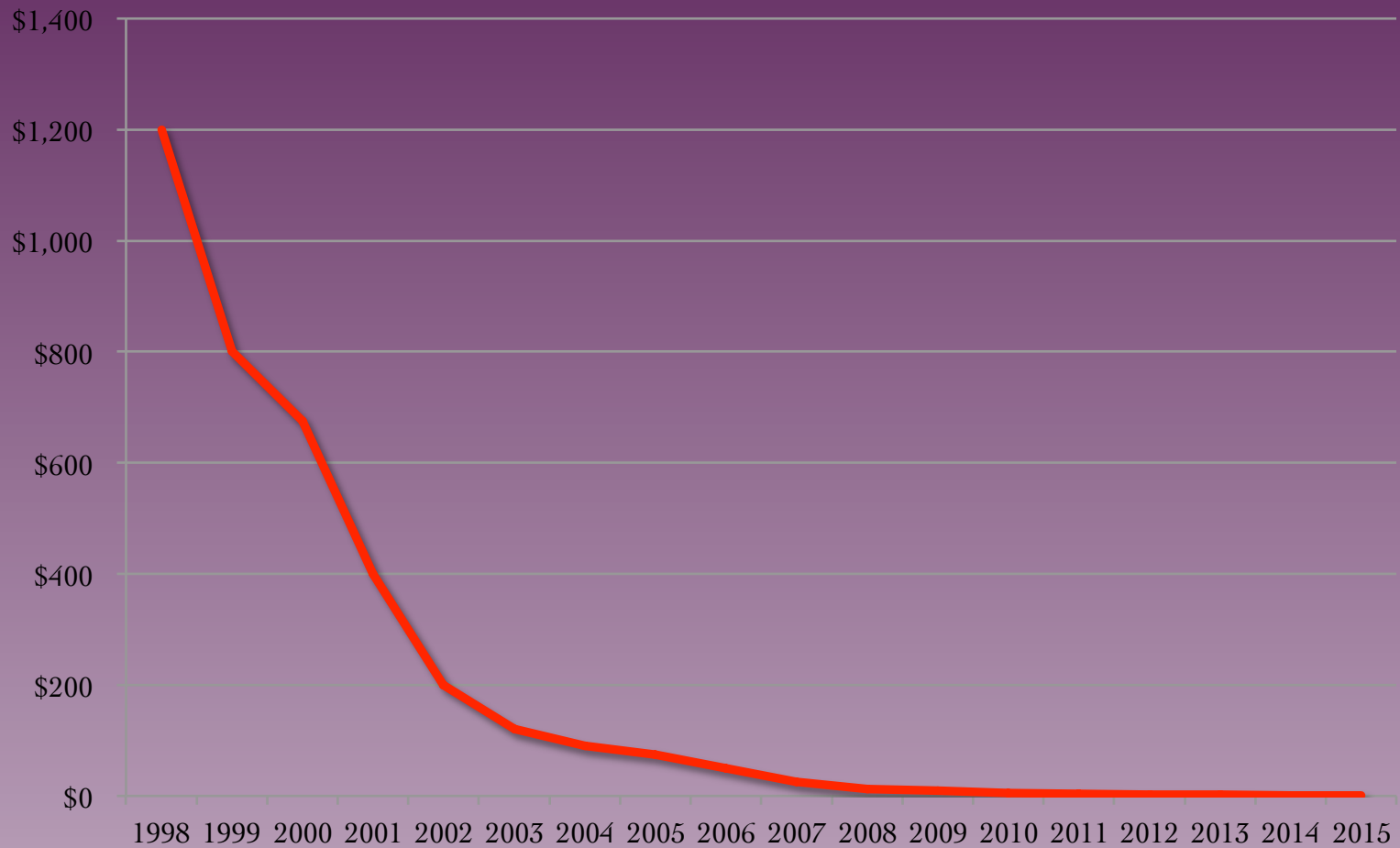
- A Business relationship whereby an Internet Service Provider (ISP) provides (usually sells) access to the Internet.
- Priced: \$/Mbps 95<sup>th</sup> percentile of month's 5min samples
- Pipe in the wall  
“→Internet This Way”



And Transit Price Declines

# + Prices of Transit Decline

Internet Transit Pricing (U.S. Historical and Projected)



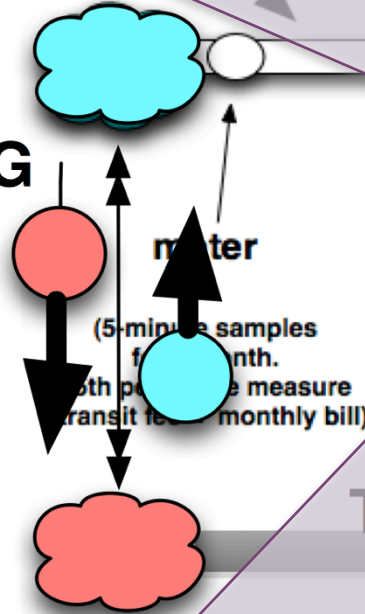
...leads to Internet Peering

# + Internet Peering

- Peering is a business relationship whereby two companies reciprocally exchange access to each other's customers.

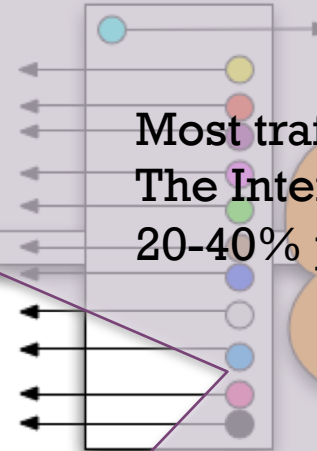
- SETTLEMENT FREE

**PEERING**



Internet  
Transit  
Service

Routing  
Advertisements



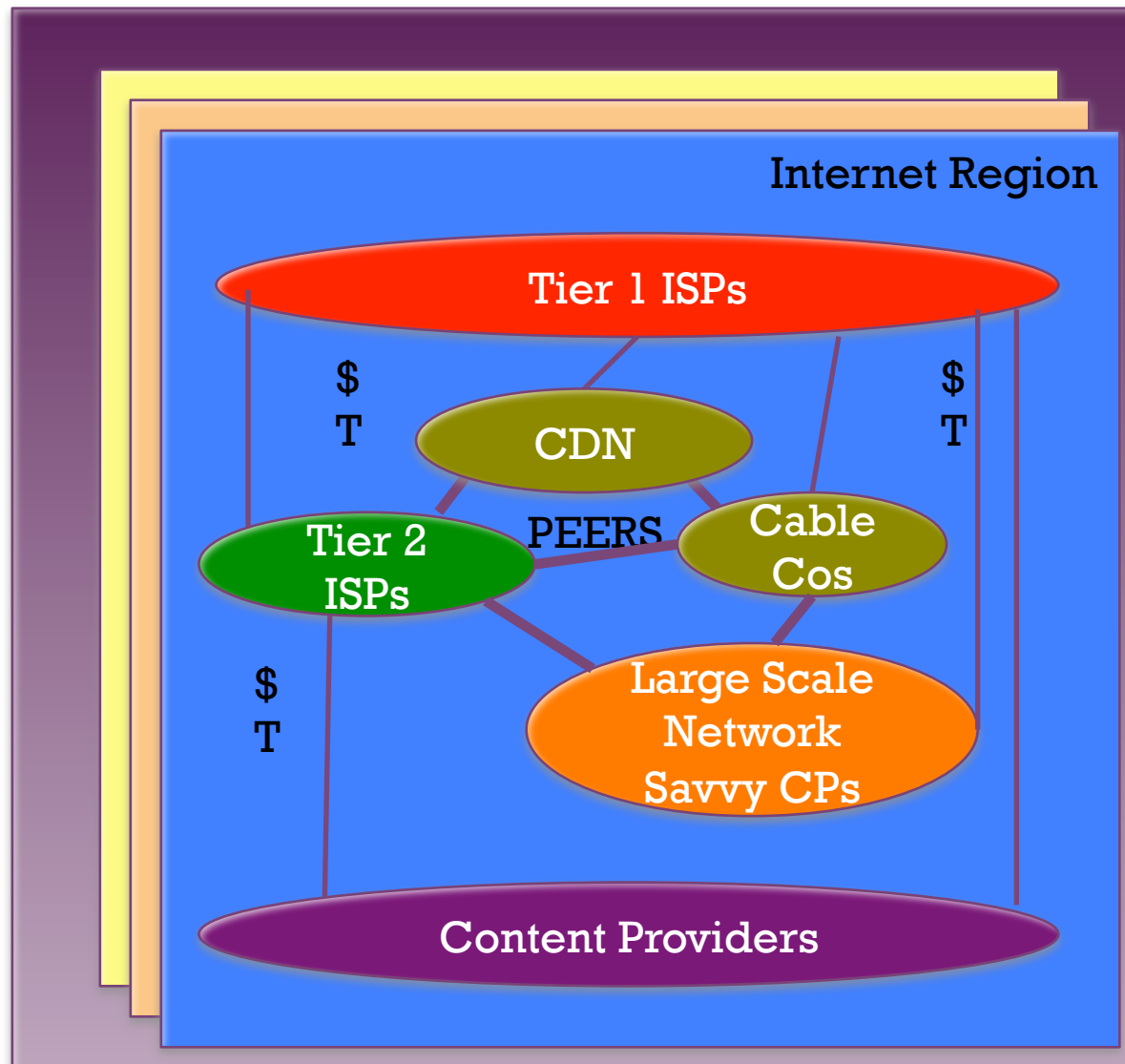
Most traffic still traverses  
The Internet Transit Service  
20-40% peering is common

Transit

Transit  
Provider

...two building blocks of the Global Peering Ecosystem

# + Global Internet Peering Ecosystem



Basic Peering Ecosystem  
~1994-2002

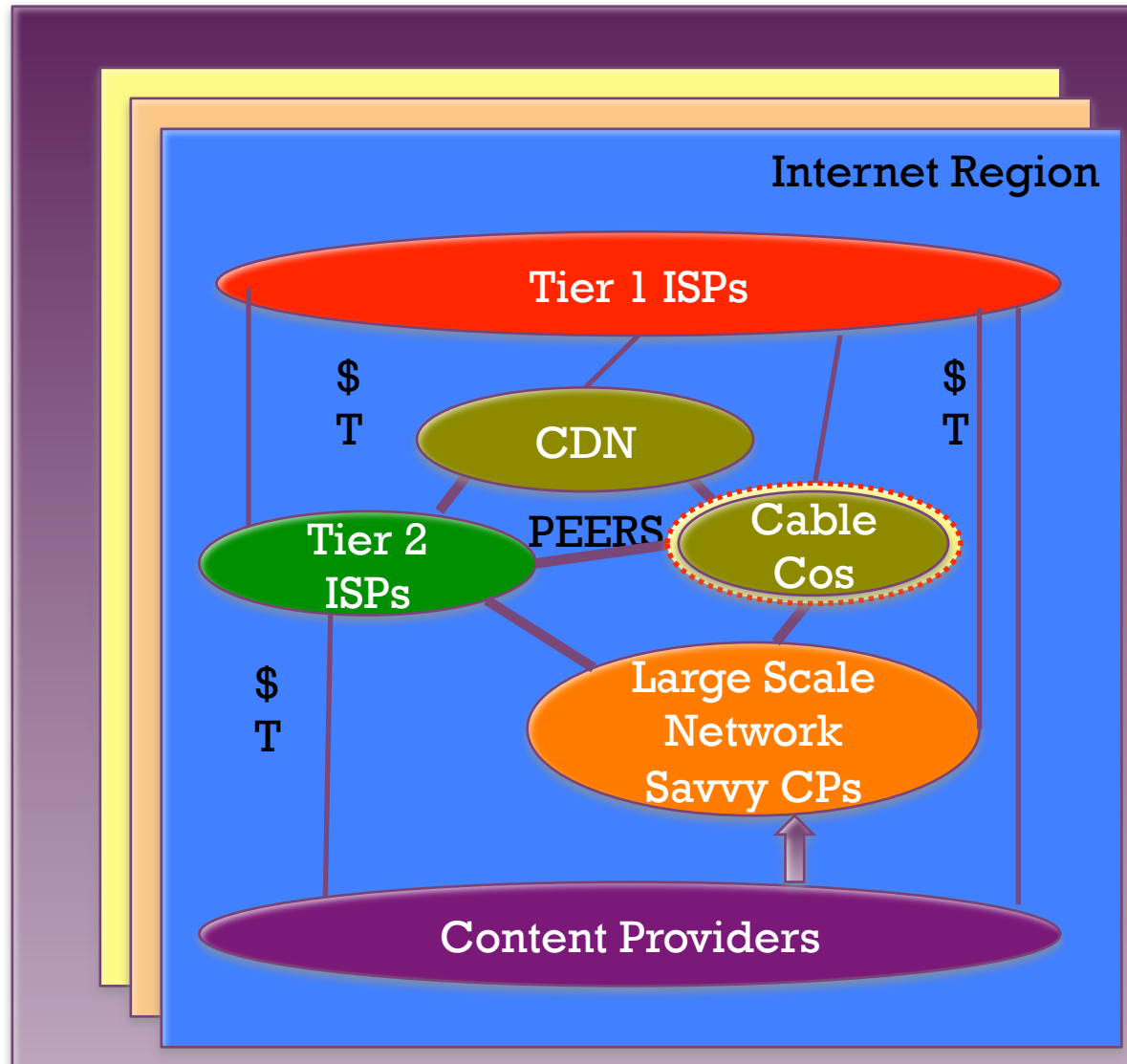
Cable Cos Peer openly  
~2001-2010

LSNSCP Peer (Y!, G...)  
~2002-2010

CDNs Peer openly  
~2001-2010

... Peering Evolutions

# + How Peering Agreements Evolved



## Evolutions

- LSNSCP looks T2/CDN like
- Peering is a business decision
- Cable cos Open to Selective on Peering
- Cable Cos Paid Peering (Net Neutrality issue?)

... Paid Peering & Net Neutrality

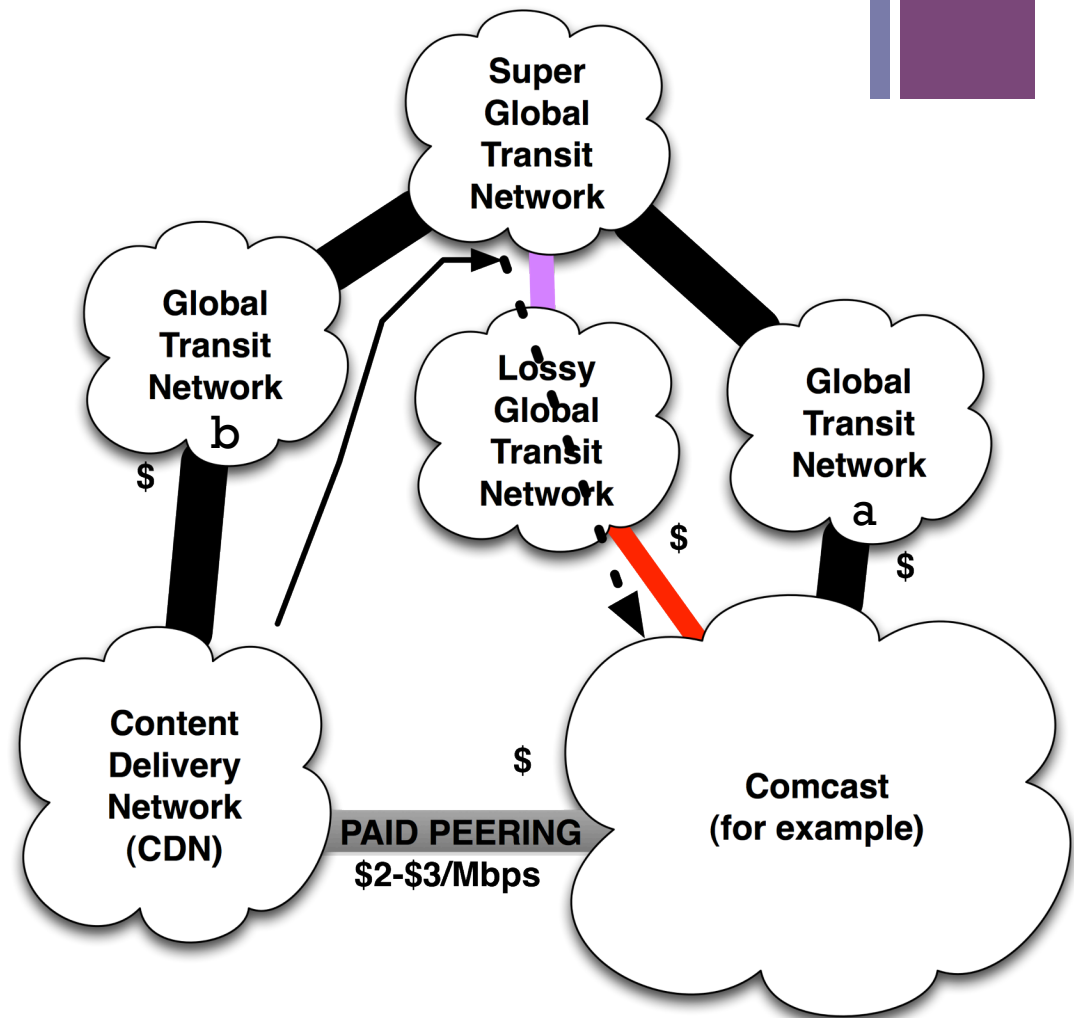
# + Paid Peering & Net Neutrality?

## Hypothetic Assumptions

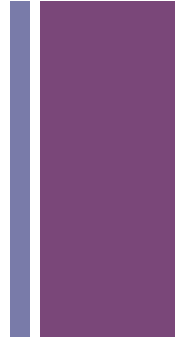
- ✓ Access network duopoly (in U.S.)
- ✓ Peering provides better performing path to eyeballs
- ✓ Eyeball network charges for peering (paid peering)
- ✓ Alternative is transit (a more circuitive, worse performing path)

Q: Does Paid Peering provide preferential treatment for those that pay?

Q: If you were a CDN, would you pay?



# + How can the Internet Handle this increase in traffic?



- Cisco : “80% of all Internet traffic will be video by 2013”
- Japanese ISPs – “We are already there”

Let's explore this

## Video dominated Internet



# + Video Internet Ecosystem



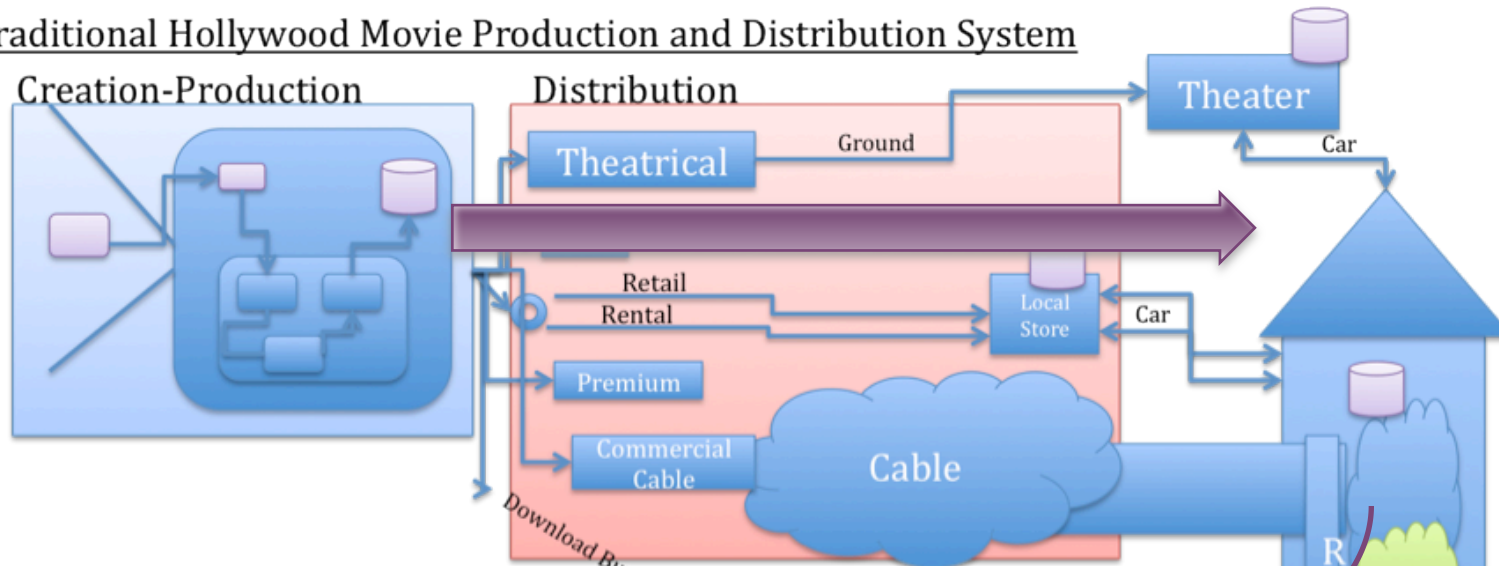
**Video Internet was activated in 2006 w complete supply chain**

- Digital Video Cameras (consumer/cheaper pro grade)
- Video Editors included with Mac (iMovie/FinalCut)
- youTube free storage & distribution
- youTube leveraged cheaper transit, VC capital, cheaper CDNs
- ISPs/CDNs leveraged broadband DOCSIS 3/VDSL to the home, cheaper transport, efficient DWDM...FTTH
- Home high speed wifi activated over the top HDTV,DVD,PS3, etc.
- These are....Far more innovative than cable co edge devices

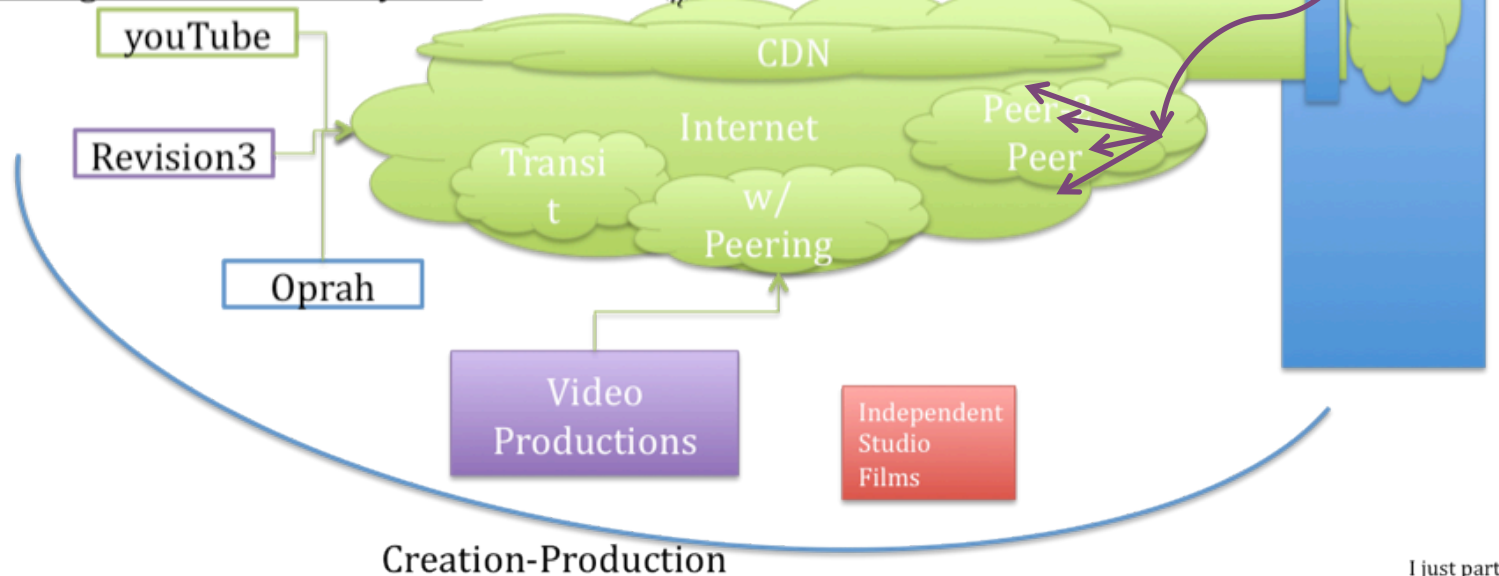
...parallel to the Hollywood Video Ecosystem

# + Traditional Hollywood Ecosystem

Traditional Hollywood Movie Production and Distribution System

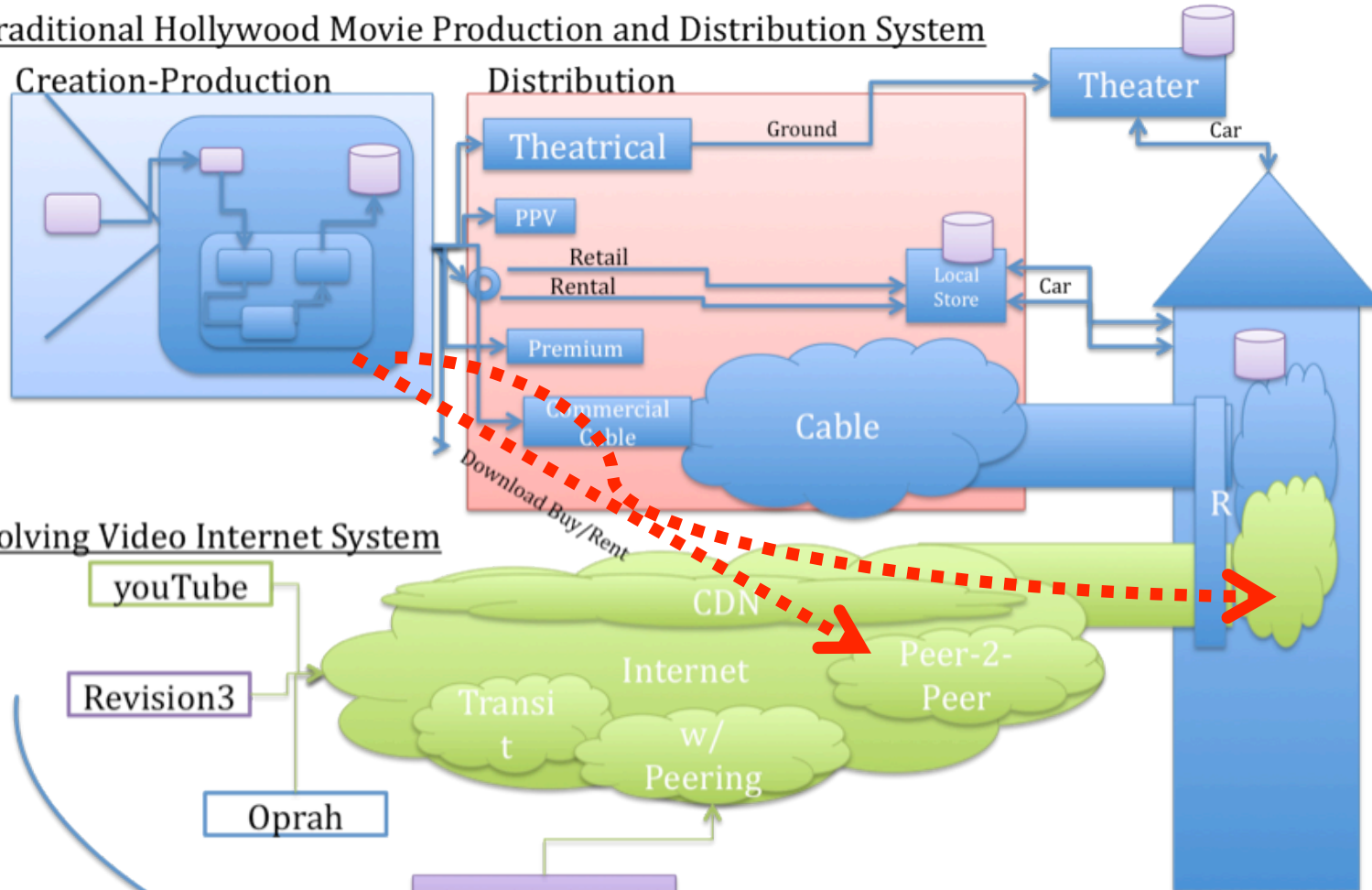


Evolving Video Internet System

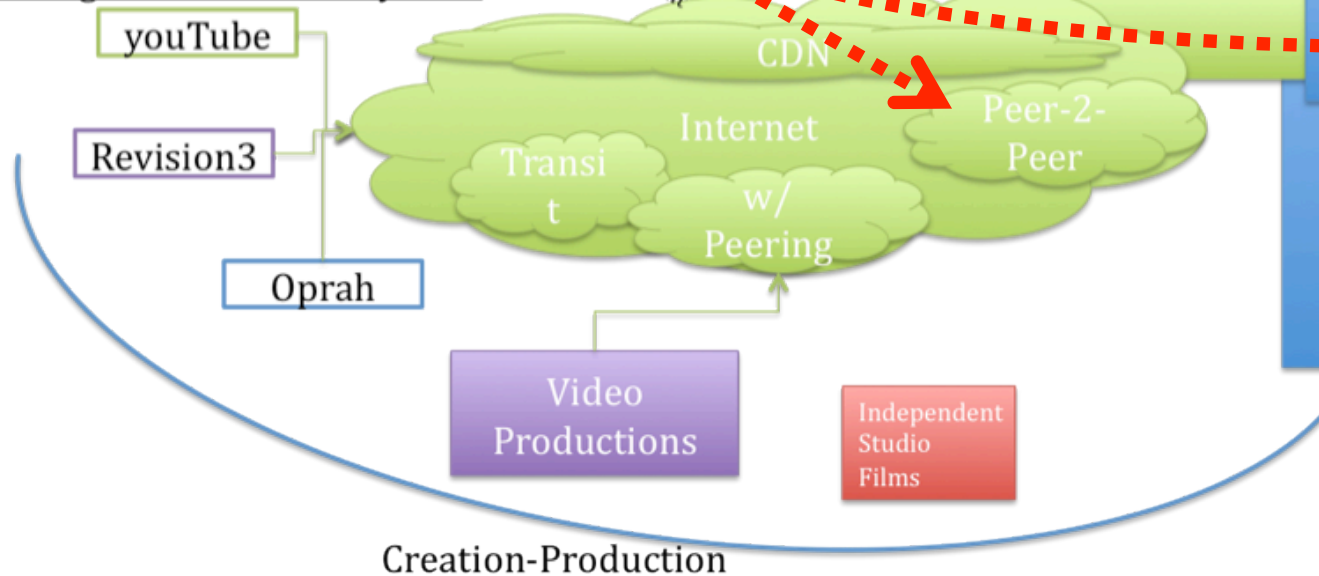


# + Hollywood Attacks Video Internet

## Traditional Hollywood Movie Production and Distribution System

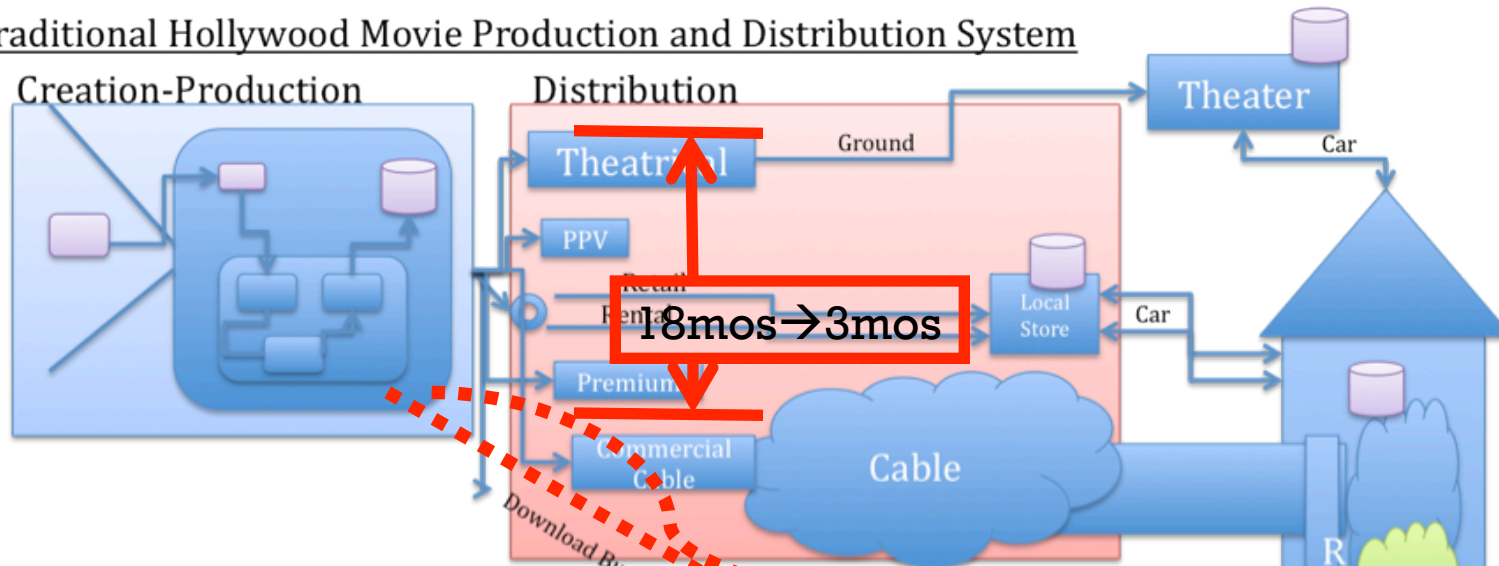


## Evolving Video Internet System

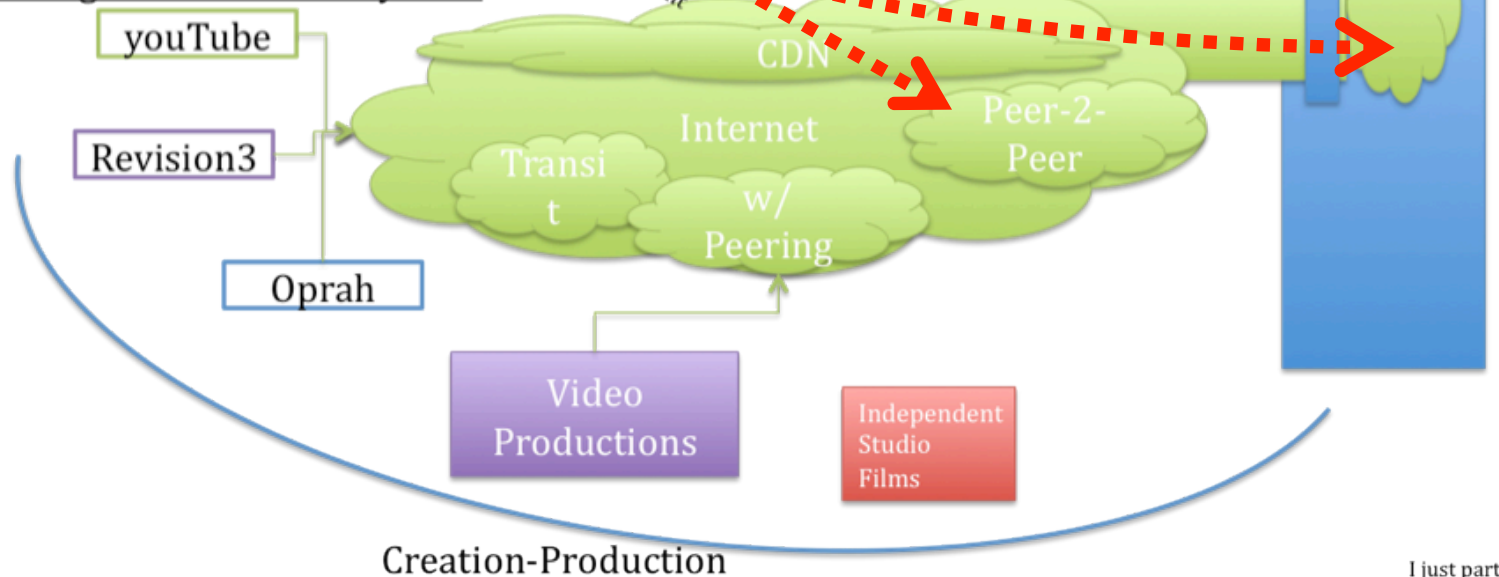


# + Hollywood Reacts

## Traditional Hollywood Movie Production and Distribution System

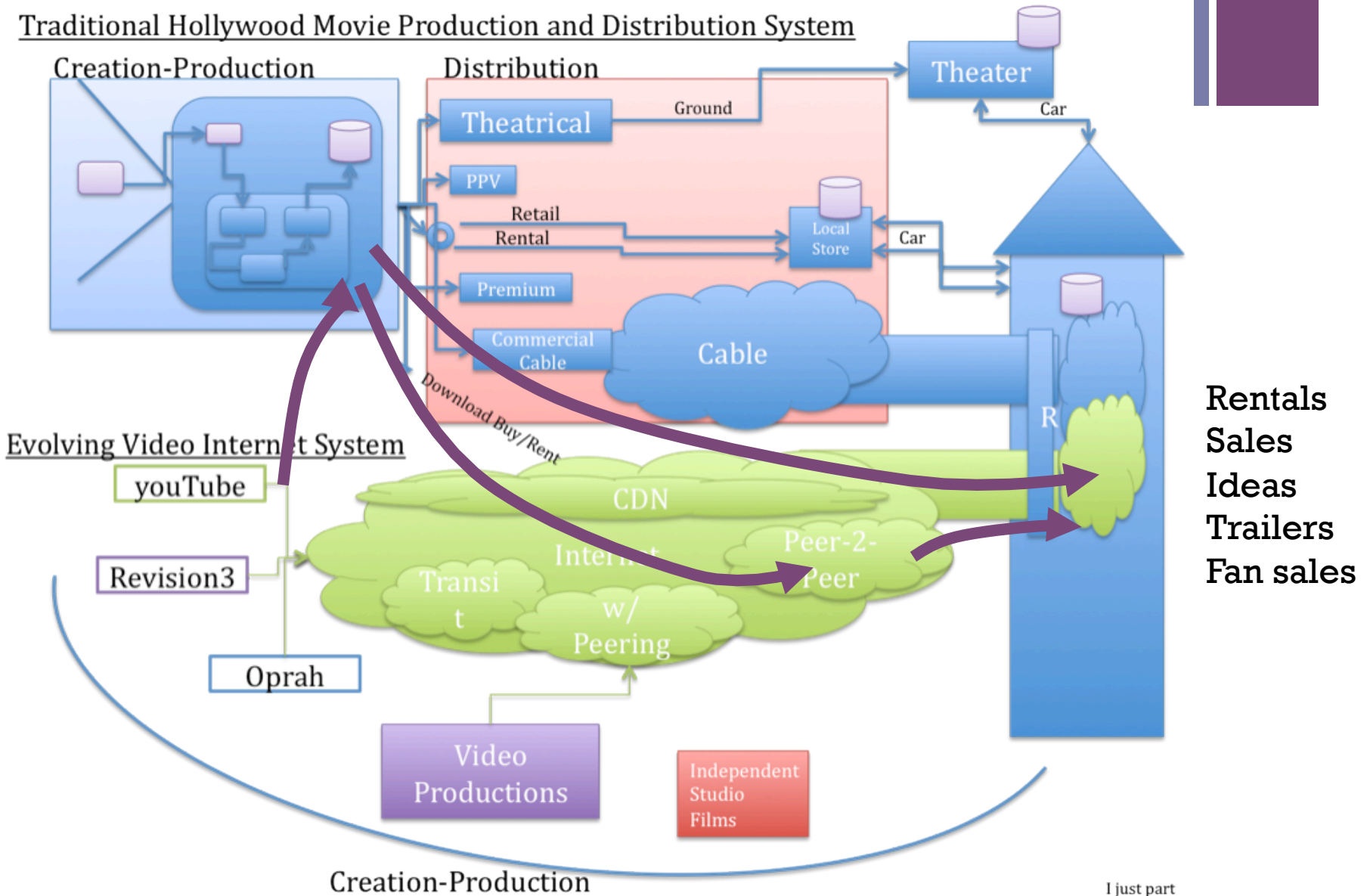


## Evolving Video Internet System

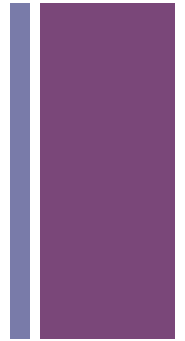


# + Hollywood Embraces

## Traditional Hollywood Movie Production and Distribution System



# + Summary



- The core of the Internet – The Global Internet Peering Ecosystem
- Evolution in the core
- Video Internet
- 2 Parallel Video Distribution Systems that
  - Compete
  - Cooperate
  - Attack
  - embrace

This research freely available.  
Internet Consulting:

[wbn@DrPeering.net](mailto:wbn@DrPeering.net)

<http://DrPeering.net>