



The Metamorphosis of Communications Competition Driven By Broadband, Internet & Cloud Technologies

The Transformation of Communications Competition Requires a Transformation in Communications Law

Scott Cleland

Chairman, NetCompetition®*

President, Precursor® LLC**

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scleland@Precursor.com

* www.NetCompetition.org is a pro-competition e-forum supported by broadband interests.

** Precursor® LLC is a research consultancy serving Fortune 500 clients. www.Precursor.com

The Metamorphosis of Communications Competition

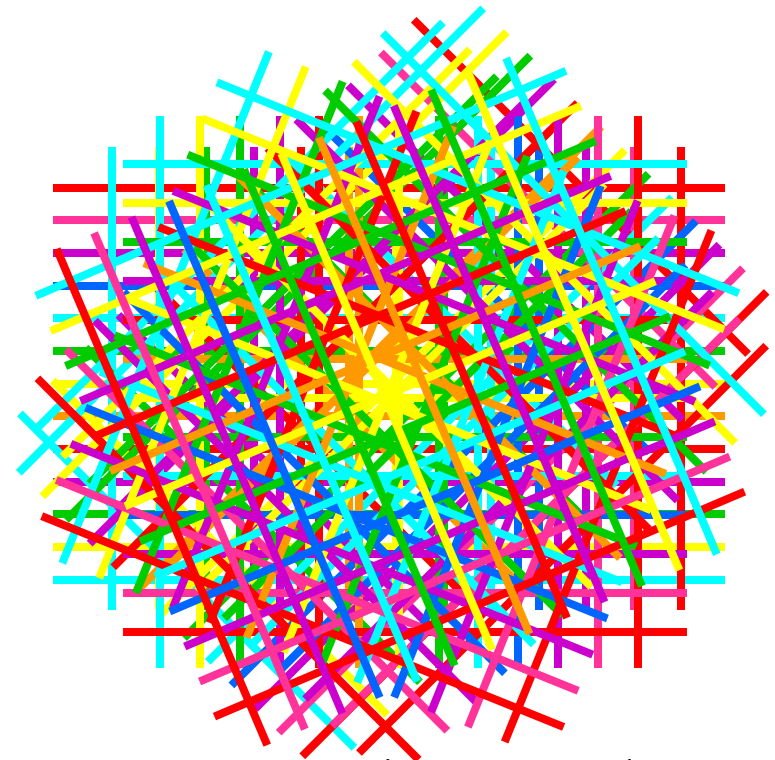
From Monopoly to Free Market Competition

More computing power, bandwidth, mobility, & opportunity enabling more competition

Omni-modal

Internet-Cloud Competition

2011-



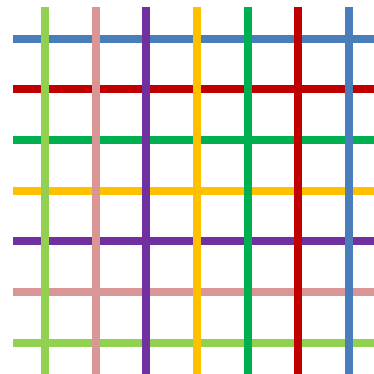
Cloud-enabled: content/data; applications/software; computing/hardware; connectivity/conduit; consumer electronics/devices; & retail/finance

Multi-modal

Broadband Internet

Competition

2006-2010



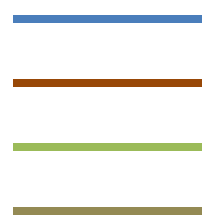
Broadband -enabled VoIP, Skype, YouTube, Social Media, Smart-phones, Kindle, iPod/iTunes, Hulu, games, etc.

Inter-modal

Facilities-Based

Competition

2001-2005



Telco, Cable, Wireless, DBS

Intra-modal

Resale

Competition

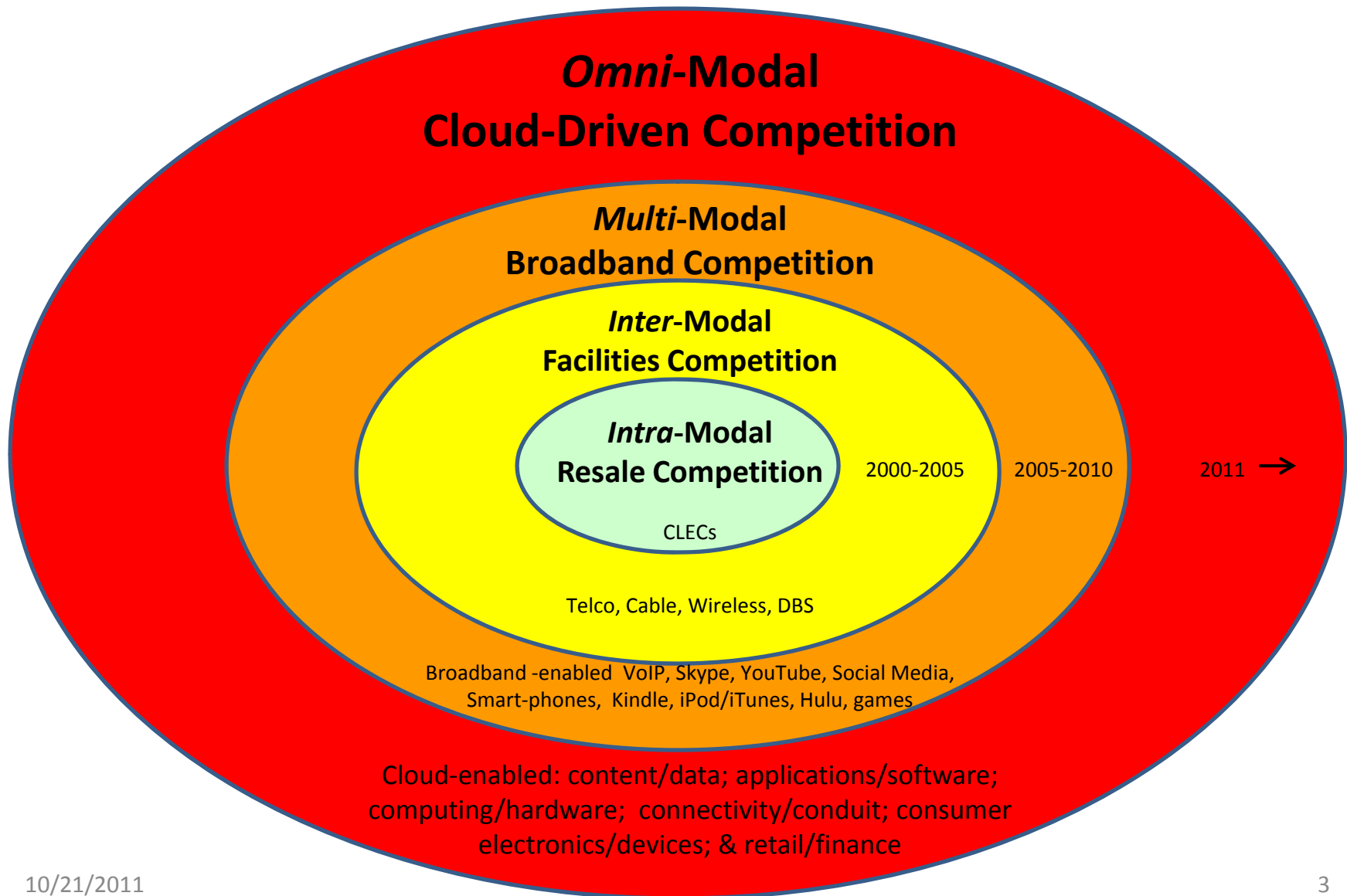
1996-2000



CLEC UNE & UNE-P Resale

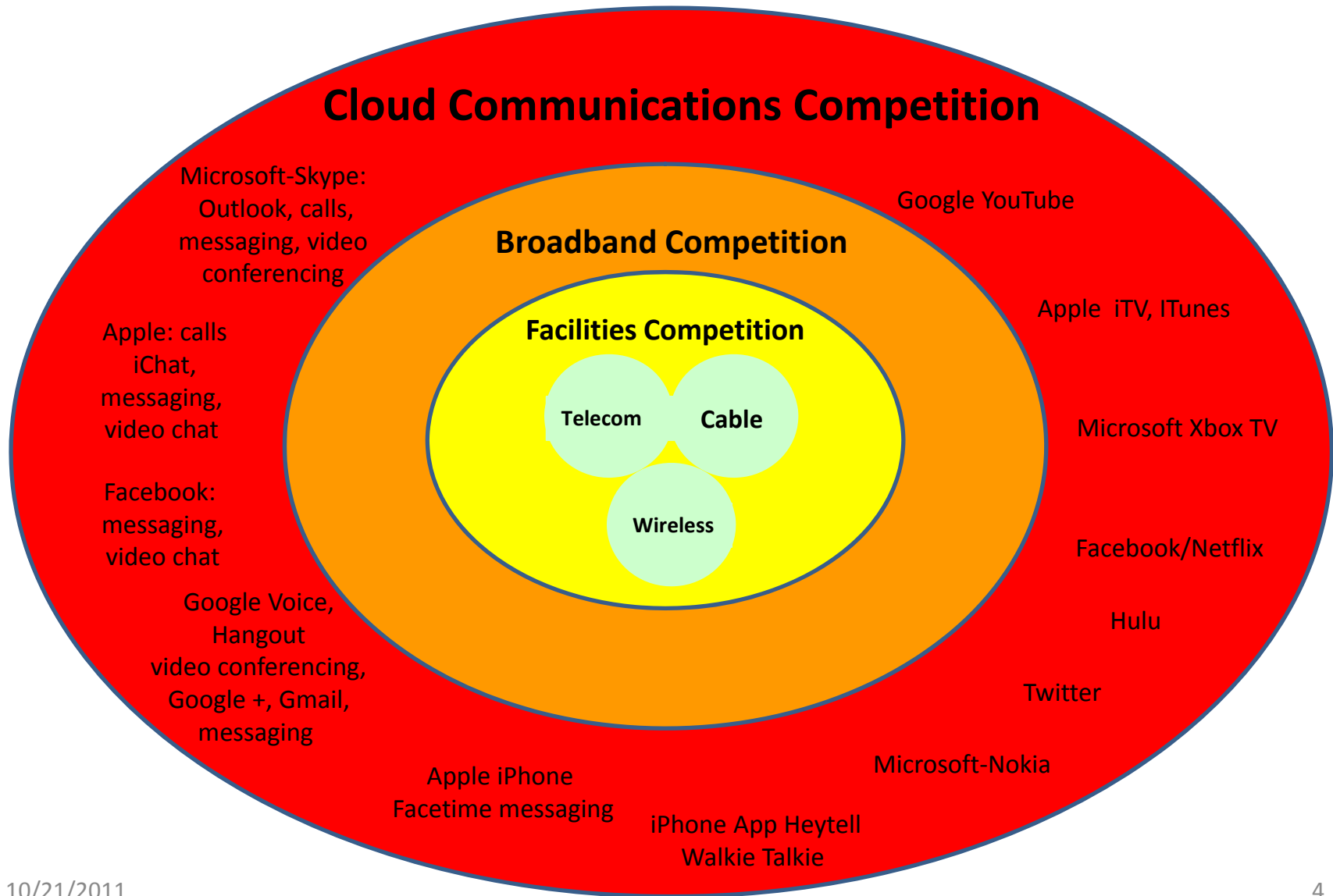
Increasing Communications Competitive Intensity

More companies/industries competing with more communications offerings
Cloud Drives Omni-Modal Communications Competition from Multiplying Industries



Explosion of Communications Competition

Cloud Platforms Offering Voice, Video, Text & More to Hundreds of Millions of Users



Internet-Cloud Competition

*Everyone can be a cloud service provider delivering any virtual product or service
Most every competitor can partner, lease or buy the competitive building blocks they lack*

Markets

Services

Content & Data	Personal data, maps, video programming, music, books, news, financial, documents, communications
Applications & Software	Search, social media, advertising, operating systems, apps, e-commerce, software, security etc.
Cloud Computing & Hardware	Data centers, servers, storage, virtualization, security, integration, support services, etc
Connectivity & Conduit	ISP service, Backbone, fiber/DSL, cable, wireless, satellites, CDNs, virtual networks, secure networks, network security
Consumer Electronics & Devices	Smart-phones, tablets, PCs, TV's, e-readers, cameras, gaming, audio & video electronics, automotive, appliances, accessories, monitors, etc.
Retail & Finance	Stores, restaurants, e-wallet, payments, financing, etc.

The Cloud Enables Omni-Directional Competitive Free-for-All

In Cloud, Different Competitive Starting Points Don't Limit Competitive End Points

- **Apple:** Personal computing experience-centric
- **Google:** Information/data-centric
- **Amazon:** Store-Customer-centric
- **Facebook:** Social-centric
- **Microsoft:** Software-centric
- **eBay/PayPal:** Transaction-centric
- **Content industry:** Content-centric
- **Software industry:** App-centric
- **Cloud computing industry:** virtualization-centric
- **Broadband providers:** Bandwidth-centric
- **Consumer electronics industry:** Device-centric
- **Retail/Finance industries:** transaction-centric

Cloud-Enabled Communications Competition Is Spreading Fast and Omni-Directionally

Markets	Communications Competitors	Services
Content & Data	Google-YouTube, Amazon, Apple, Microsoft, Facebook, Time Warner, NewsCorp, Disney, Comcast-NBCU, Bloomberg, DirecTV, DISH, CBS, Viacom Netflix, Verizon AT&T Sprint etc.	Personal data, maps, video programming, music, books, news, financial, documents, communications
Applications & Software	Google, Microsoft, Apple, Amazon, eBay, Facebook, IBM, Oracle, Nokia, Nintendo, HP, Symantec, McAfee, EMC, Electronic Arts, AT&T, Verizon, Sprint, Comcast, Cisco, etc.	Search, social media, advertising, operating systems, apps, e-commerce, software, security etc.
Cloud Computing & Hardware	HP, IBM, Amazon, Google, Verizon-Terremark, Microsoft, Salesforce, CSC, RackSpace, Apple, Hulu, Oracle, Cisco, AT&T, Comcast, Sprint, Time Warner Cable, Facebook, etc.	Data centers, servers, storage, virtualization, security, integration, support services, etc
Connectivity & Conduit	AT&T, Verizon, Comcast, Sprint, T-Mobile, Time Warner Cable, Cox Comm., Microsoft-Skype, Google Voice, Apple, Amazon, Cablevision, Cisco, Akamai, Facebook, etc.	ISP service, Backbone, fiber/DSL, cable, wireless, satellites, CDNs, virtual networks, network security
Consumer Electronics & Devices	Apple, Samsung, Nokia, HTC, Motorola, RIM, LG, Microsoft, Sony, Amazon, Google, AT&T, Verizon, Sprint, Comcast, Time Warner Cable, Nintendo, Facebook, Cisco, etc.	Smart-phones, tablets, PCs, TV's, e-readers, cameras, gaming, audio & video electronics, automotive, appliances, accessories, monitors
Retail & Finance	Apple, Amazon, Best Buy, Walmart, Costco, Target, Verizon, AT&T, Sprint, Comcast, Microsoft, Staples, Office Depot, MasterCard, Visa, eBay-Paypal, Google, Facebook, etc.	Stores, restaurants, e-wallet, payments, financing, etc.

Conclusions

- Broadband, Internet and cloud computing technologies combined with adapting business models **increasingly enable more competition, innovation, and opportunity to create entirely new markets and employment.**
- The world has changed with technology, but technology-specific laws have not.
 - Obsolete technology-specific laws and regulations threaten to increasingly strangle, distort and ration economic growth, job creation, and innovation.
 - America can't win the future anchored permanently to the relics of bygone technology eras.
 - Technology is ever-changing, but current law is fossilized in the pre-Internet communications monopoly era.
- Existing technology-specific laws are obsolete and based on:
 - Pre-TV, pre-digital, pre-Internet technology assumptions;
 - Depression Era economic and demographic assumptions;
 - Antiquated monopoly predicates; and
 - Pre-Internet media ownership limits.
- **Policy obsolescence undermines infrastructure's utility and value** and renders property less attractive and competitive.
- Future economic growth will come from new: markets, products, services & innovation.
- **Bottom line: the metamorphosis of competition demands a metamorphosis in the law.**
 - Obsolete technology-specific laws and regulations keep the communications analog "caterpillar" grounded in a permanent "cocoon" preventing the natural transformation to a digital "butterfly" that can fly anywhere in the "clouds."