

ネットワーク中立性

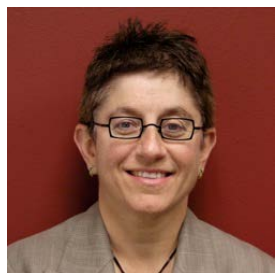
Netflix vs. Comcast 論争は日本で起こるのか？

九州大学 実積寿也

jitsuzumi@econ.kyushu-u.ac.jp

そもそもネットワーク中立性とは？

- Wikipediaによる定義
 - **At its simplest, network neutrality is the principle that all Internet traffic should be treated equally.** According to Columbia Law School professor Tim Wu: "Network neutrality is best defined as a network design principle. The idea is that a maximally useful public information network aspires to treat all content, sites, and platforms equally"



Internet Policy Statement (Aug. 5, 2005)

Moreover, to ensure that broadband networks are widely deployed, open, affordable, and accessible to all consumers, the Commission adopts the following principles:

- To encourage broadband deployment and preserve and promote the open and interconnected nature of the public Internet, **consumers are entitled to access the lawful Internet**

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- The principles we adopt are subject to reasonable network management.
【ただし、合理的なネットワーク管理には従う】
- 【競争市場の恩恵を享受できます。】

- ..., consumers are entitled to competition among network providers, application and service providers, and content providers.【競争市場の恩恵を享受できます。】

総務省報告書(2007年)でのネット中立性三条件

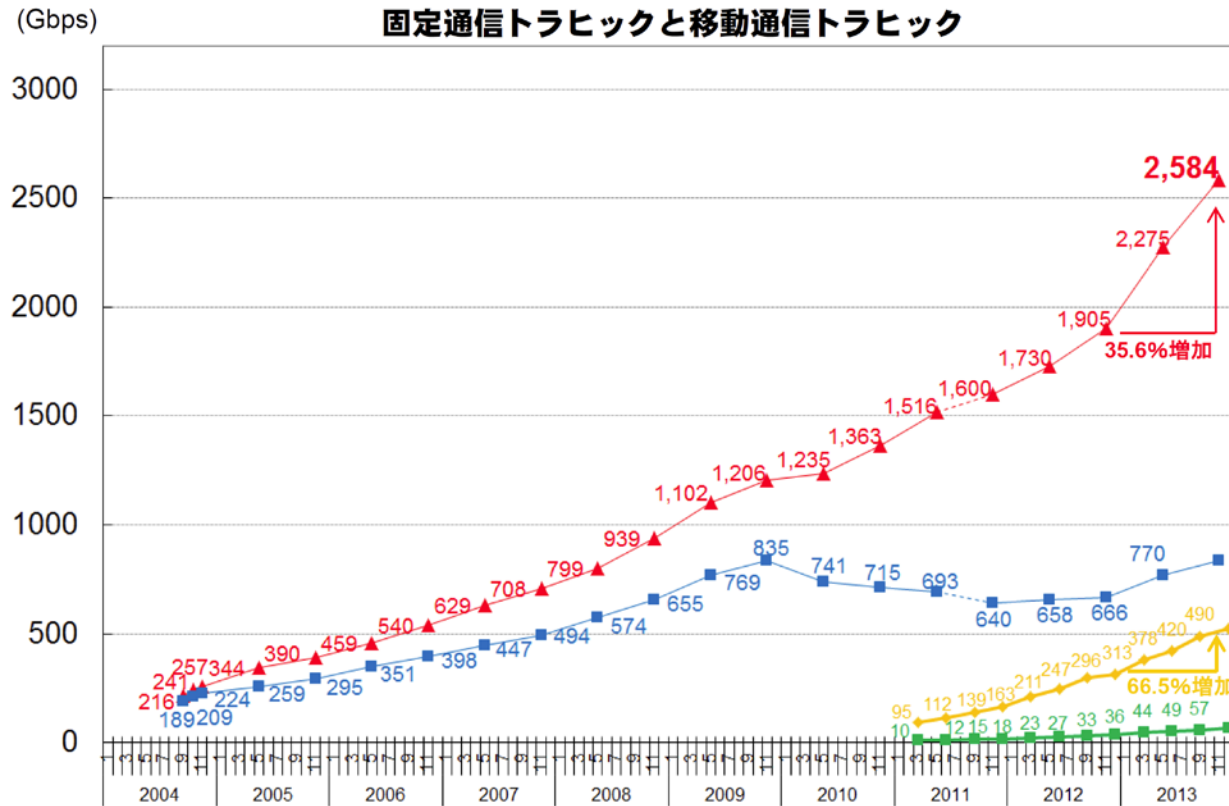
- 以下の三条件に合致したネットワークが維持・運営されている場合、ネットワーク中立性が確保されていると考えることが適当。

1. 消費者がネットワーク(IP 網)を柔軟に利用して、コンテンツ・アプリケーションレイヤーに自由にアクセス可能であること
2. 消費者が法令に定める技術基準に合致した端末をネットワーク(IP 網)に自由に接続し、端末間の通信を柔軟に行うことが可能であること
3. 消費者が通信レイヤー及びプラットフォームレイヤーを適正な対価で公平に利用可能であること

- さらに、ネットワーク中立性を確保するための視点として以下の二つを提示

1. ネットワークのコスト負担の公平性
2. ネットワークの利用の公平性

ネット上のデータ爆発: Exaflood

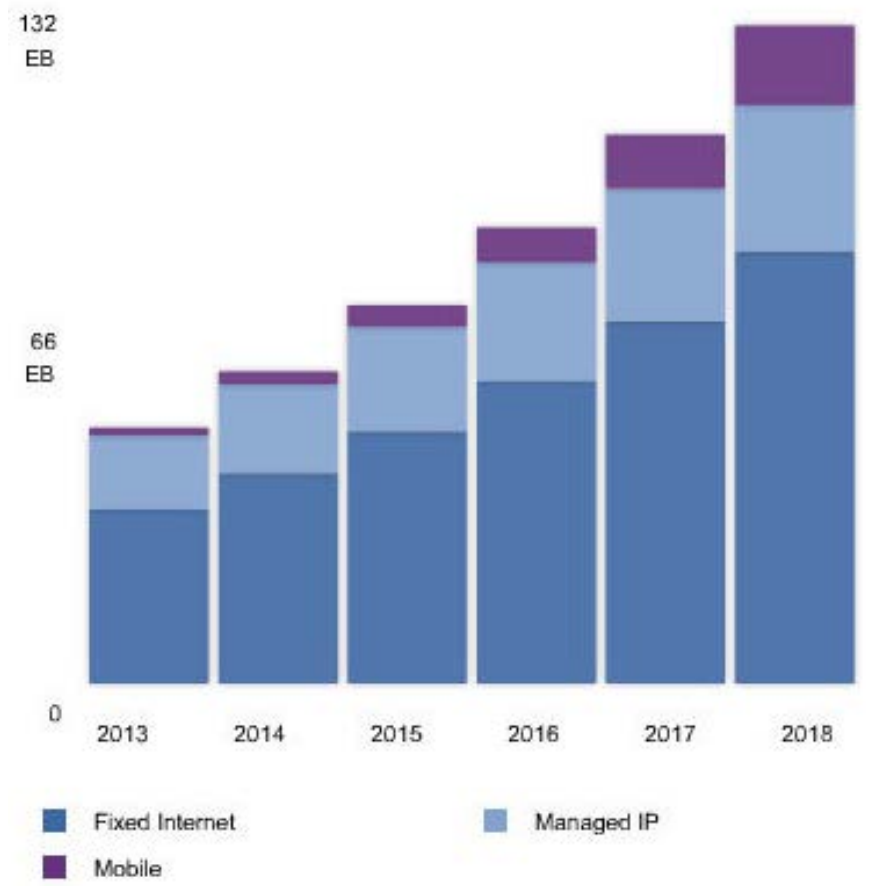


我が国のブロードバンド契約者の総ダウンロードトラヒック (*2)
2,584Gbps (推定値)

我が国のブロードバンド契約者の総アップロードトラヒック (*2)
834Gbps (推定値)

我が国の移動通信の総ダウンロードトラヒック (*3)
521Gbps

我が国の移動通信の総アップロードトラヒック (*3)
65Gbps



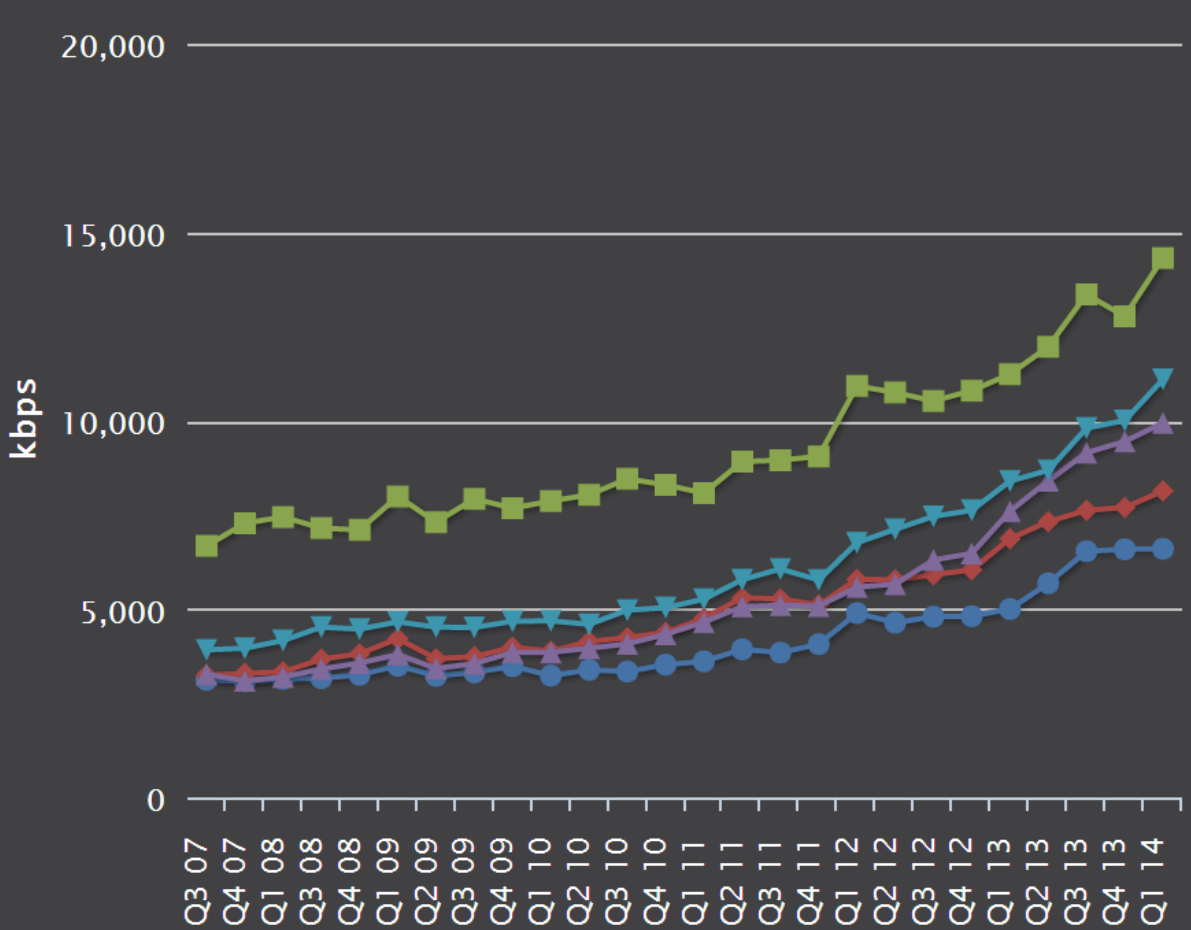
(*1) FTTH, DSL, CATV, FWA
 (*2) 2011年5月以前は、一部の協力ISPとブロードバンドサービス契約者との間のトラヒックに携帯電話網との間の移動通信トラヒックの一部が含まれていたが、当該トラヒックを区別することが可能となったため、2011年11月より当該トラヒックを除く形でトラヒックの集計・試算を行うこととした。(5月、11月に計測)
 (*3) 『総務省 我が国の移動通信トラヒックの現状(平成25年12月分)』より引用(3月、6月、9月、12月に計測)

出典: 総務省「我が国のインターネットにおけるトラヒック総量の把握」(2014年3月14日)

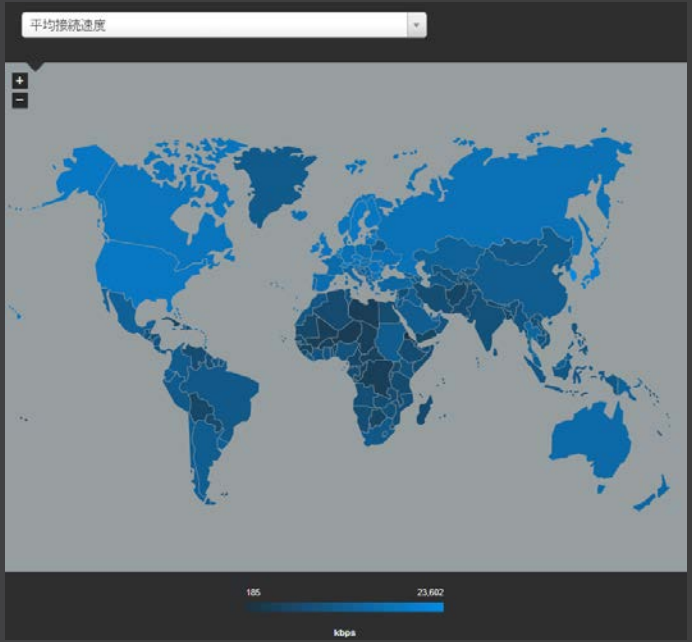
*Cisco VNI, June 2014

各国の実効速度

平均接続速度



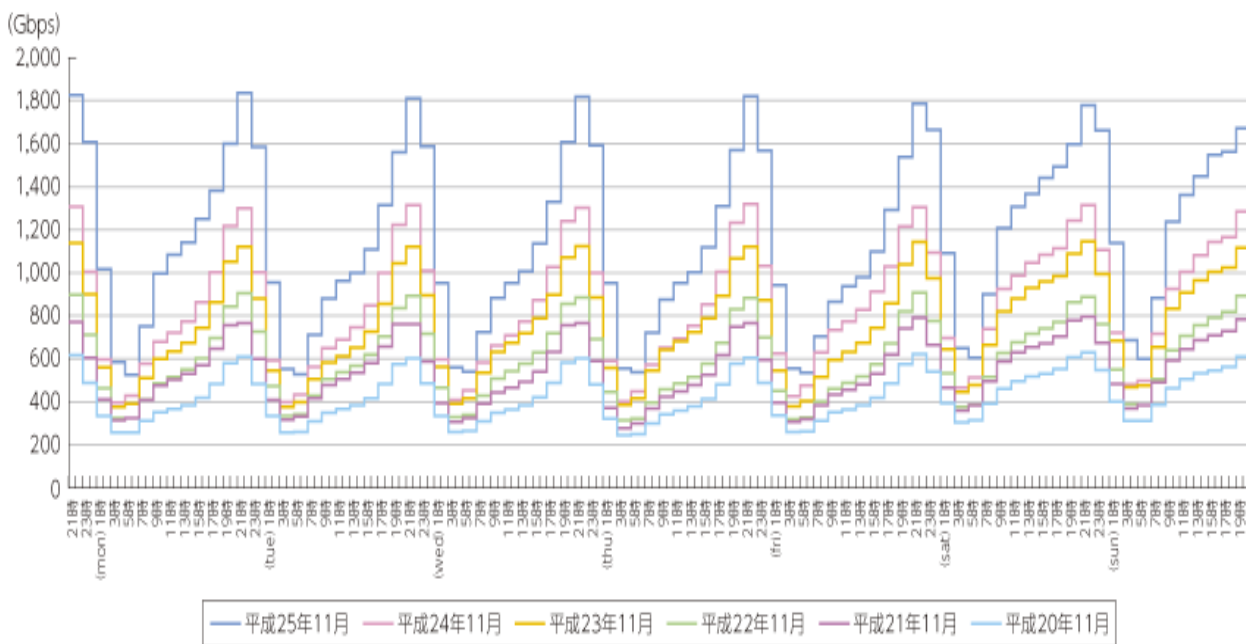
- FRANCE
- GERMANY
- JAPAN
- UNITED KINGDOM
- UNITED STATES



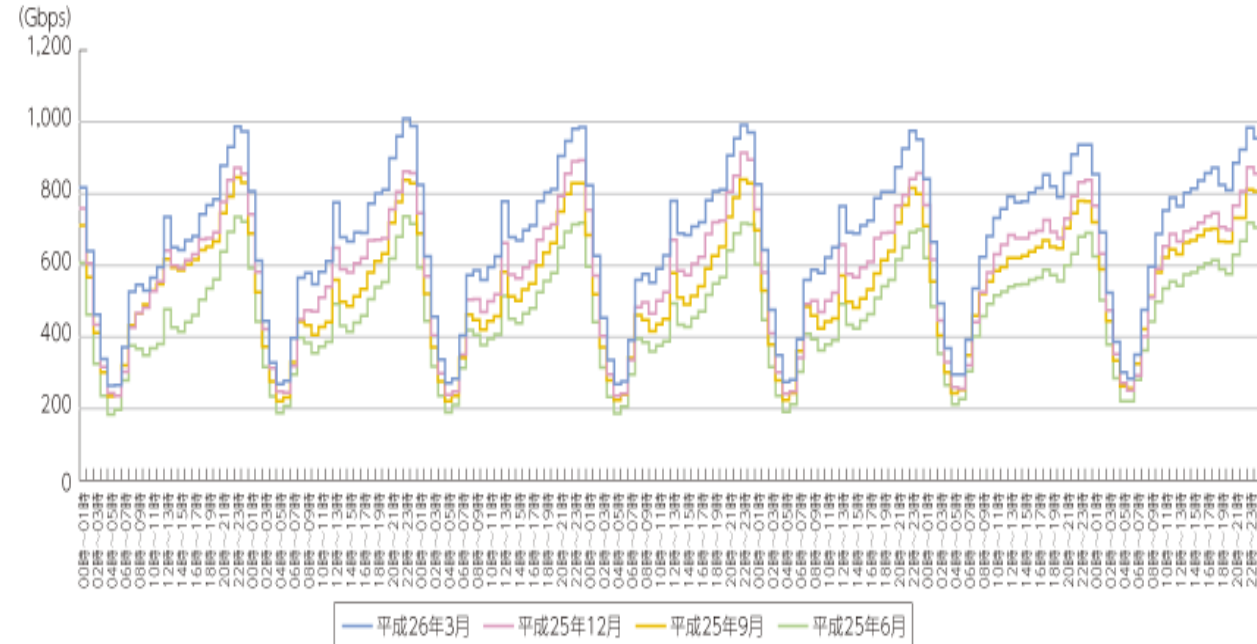
Source: Akamai State of the Internet Report

ネットワークマネジメントへの負荷増大

ISP6社のブロードバンド契約者のトラフィックの推移



移動通信トラフィックの推移



出典:総務省『平成26年 情報通信に関する現状報告』

日本の状況は？

2-1 帯域制御の実施状況

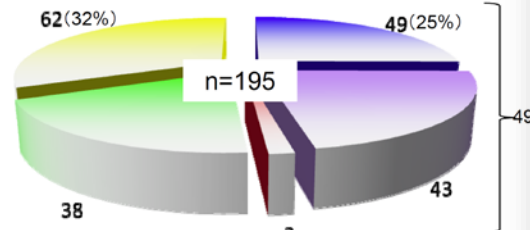
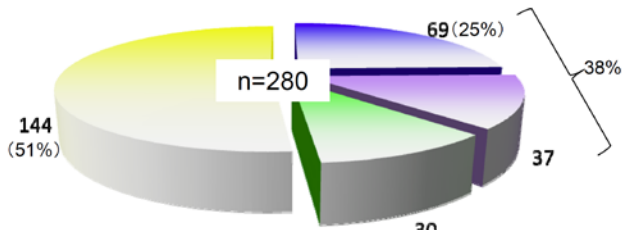
2

回答のあった195社のうち、

- 帯域制御の実施事業者の比率は昨年度とほぼ横ばい(約25%)。
- ローミング提供者やアクセス網事業者等の他の事業者が制御を行っているところを含めると、約49%の事業者において帯域制御が行われており、昨年度の約38%から約10%の増加。
- さらに約20%の事業者が帯域制御の実施を検討中であり、帯域制御の予定のない事業者が昨年度の約51%から約32%に減少。

平成19年度

平成20年度



- 帯域制御を実施
- ローミング先で帯域制御を実施
- 帯域制御の実施を検討中
- 帯域制御を実施する予定はない
- 帯域制御を実施
- ローミング先で帯域制御を実施
- アクセス網事業者が帯域制御を実施
- 帯域制御の実施を検討中
- 帯域制御を実施する予定はない

出典：日本インターネットプロバイダ協会「帯域制御に関する実態調査結果」(2009年8月)

3-1 帯域制御の方式

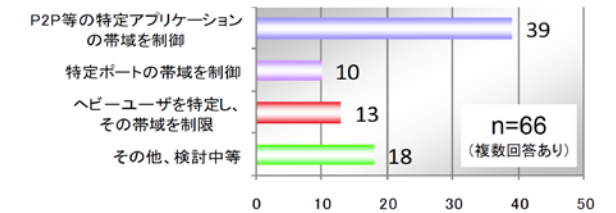
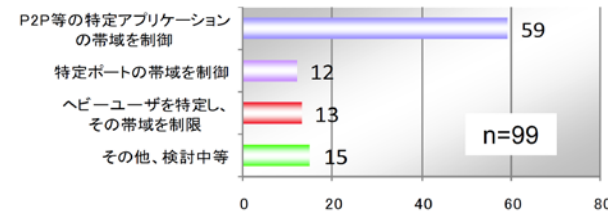
5

帯域制御を実施中または検討中で、制御方式についての回答のあった66社のうち、

- 帯域制御装置によるP2P等の特定アプリケーションの制御を実施または検討中の事業者はほぼ横ばい(約60%→約59%)。
- ヘビーユーザを特定し、その帯域を制限する方式(総量規制)の実施事業者が約13%から約27%に増加。

平成19年度

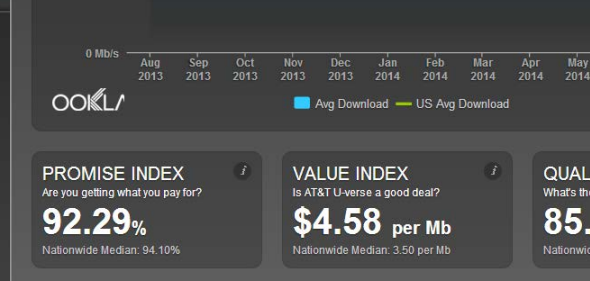
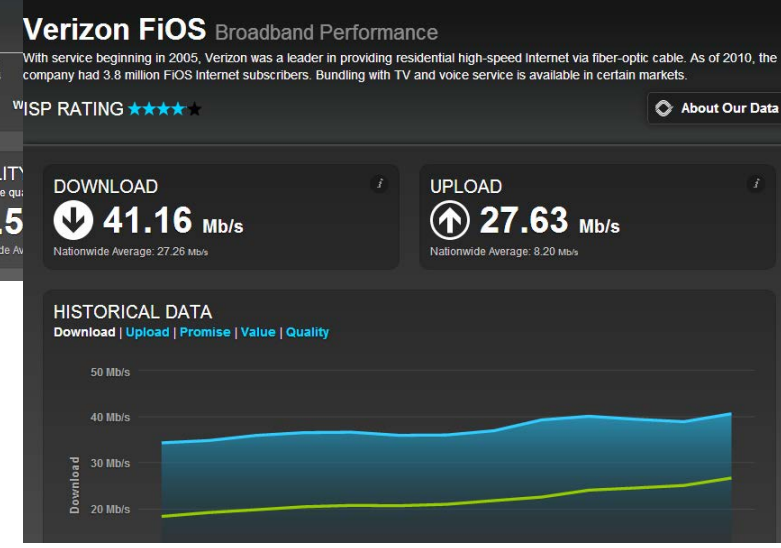
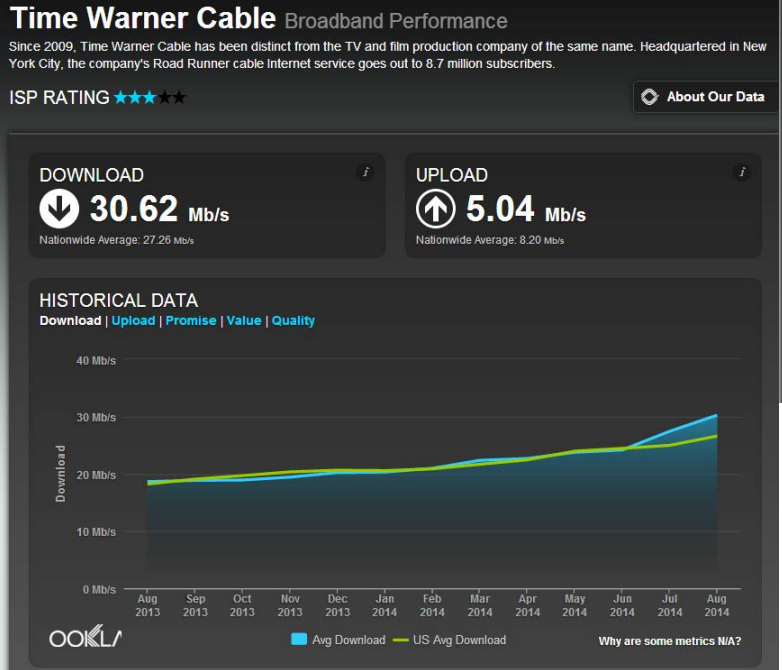
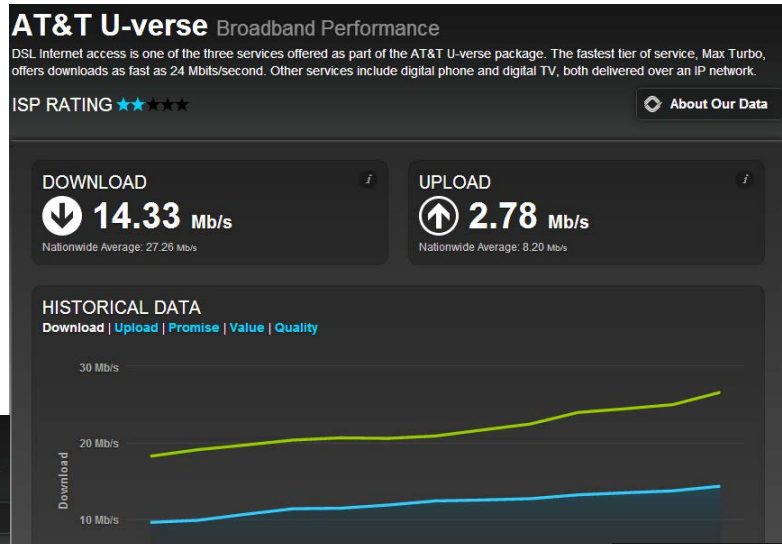
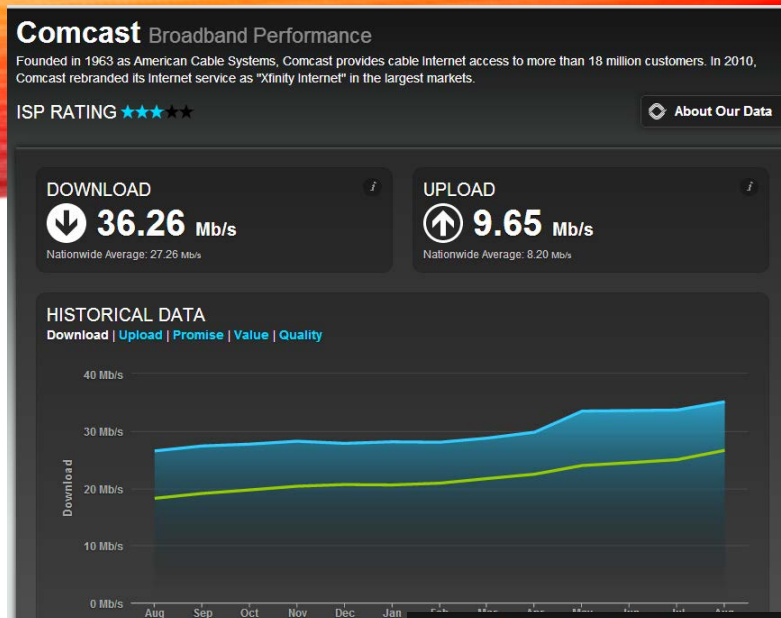
平成20年度



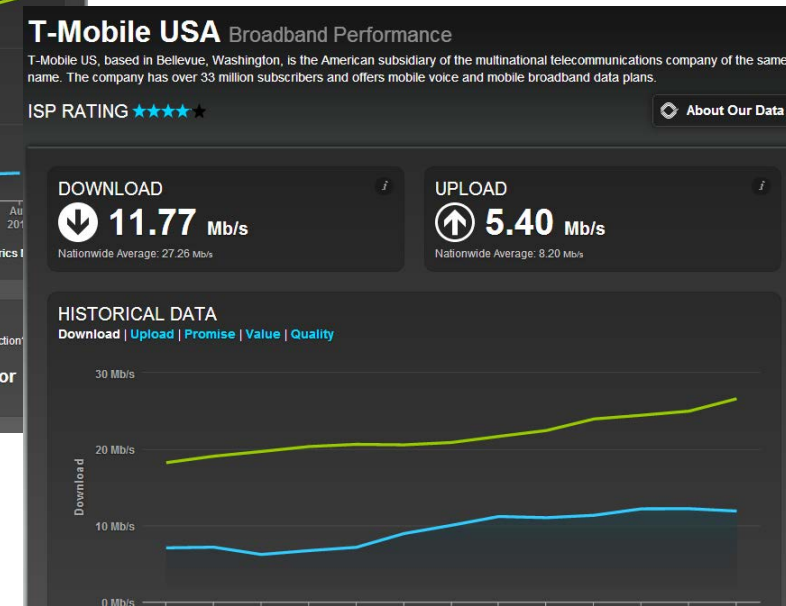
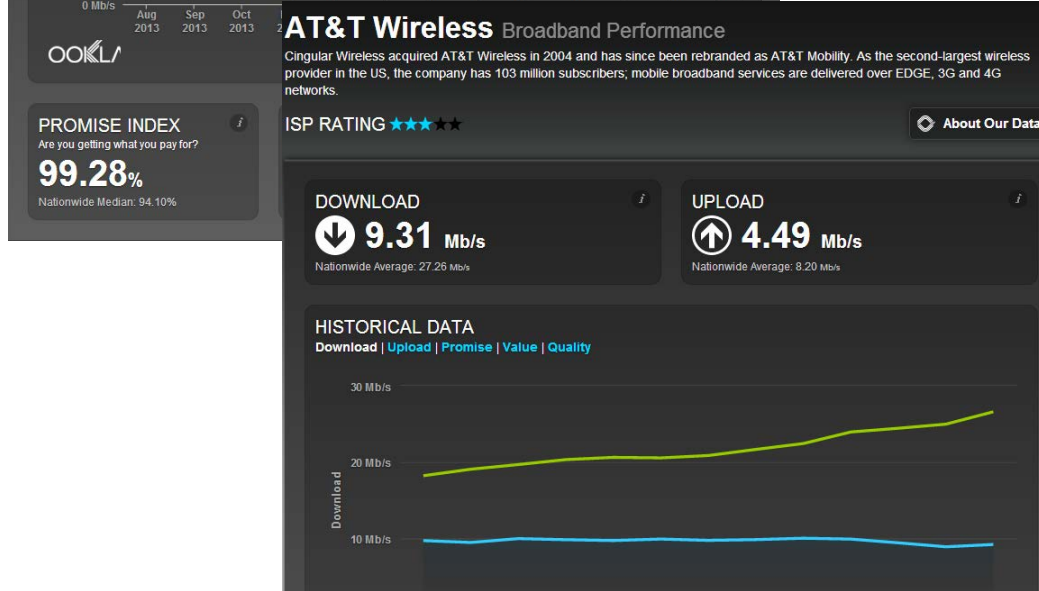
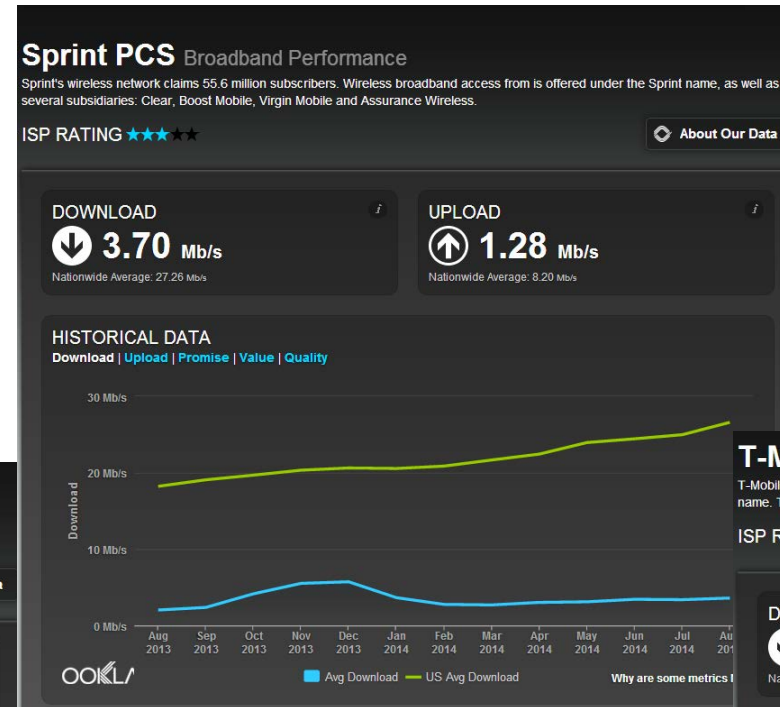
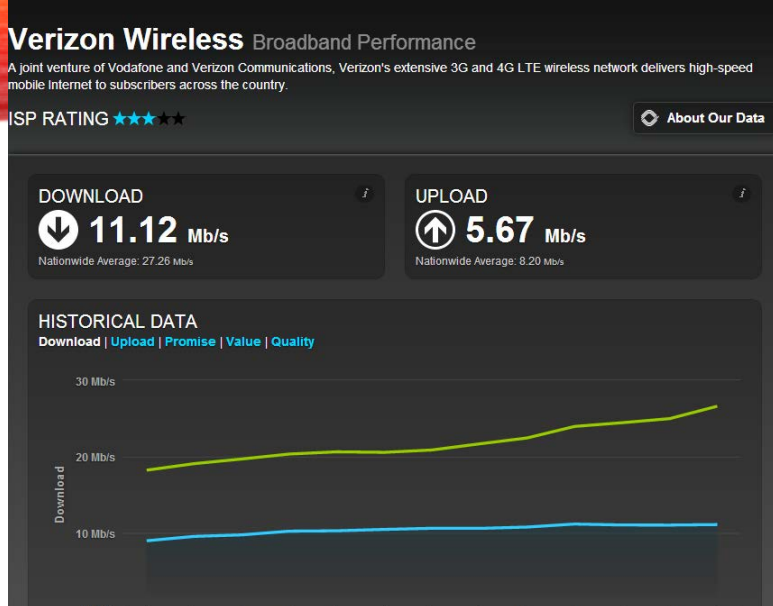
項目	平成19年度		割合
	実施中	検討中	
帯域制御装置により特定アプリケーションの帯域を制御	49	10	60%
うちP2Pを規制	40	10	
特定ポートの帯域を制御、遮断	10	0	13%
ヘビーユーザを特定し、その帯域を制御	9	4	
その他、検討中等	1	14	
計	69	30	

項目	平成20年度		割合
	実施中	検討中	
帯域制御装置により特定アプリケーションの帯域を制御	31	8	59%
うちP2Pを規制	28	7	
特定ポートの帯域を制御、遮断	9	1	27%
ヘビーユーザを特定し、その帯域を制御	12	1	
その他、検討中等	5	13	
計	45	21	

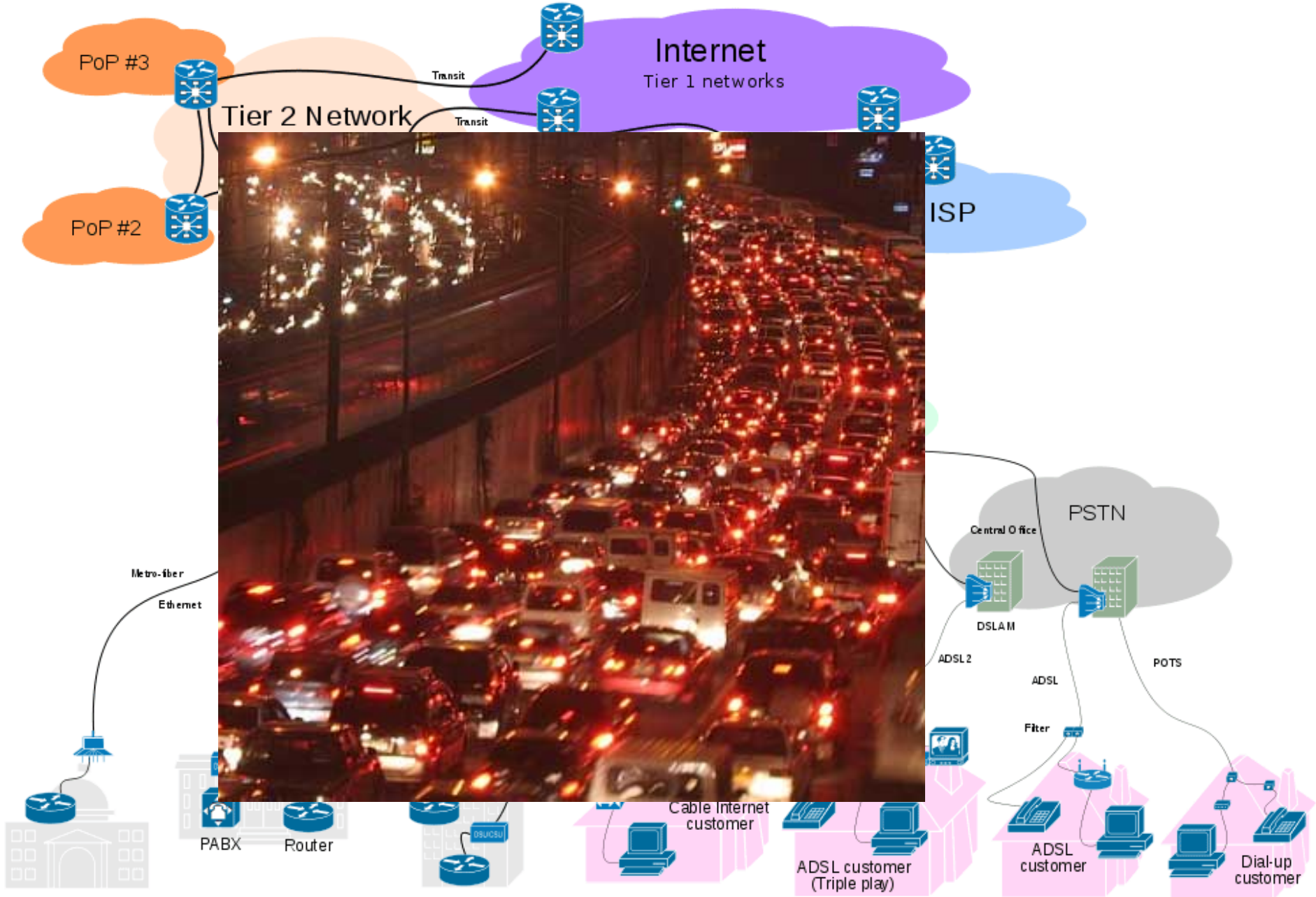
米国の固定系プロバイダの状況



米国の移動系プロバイダの状況

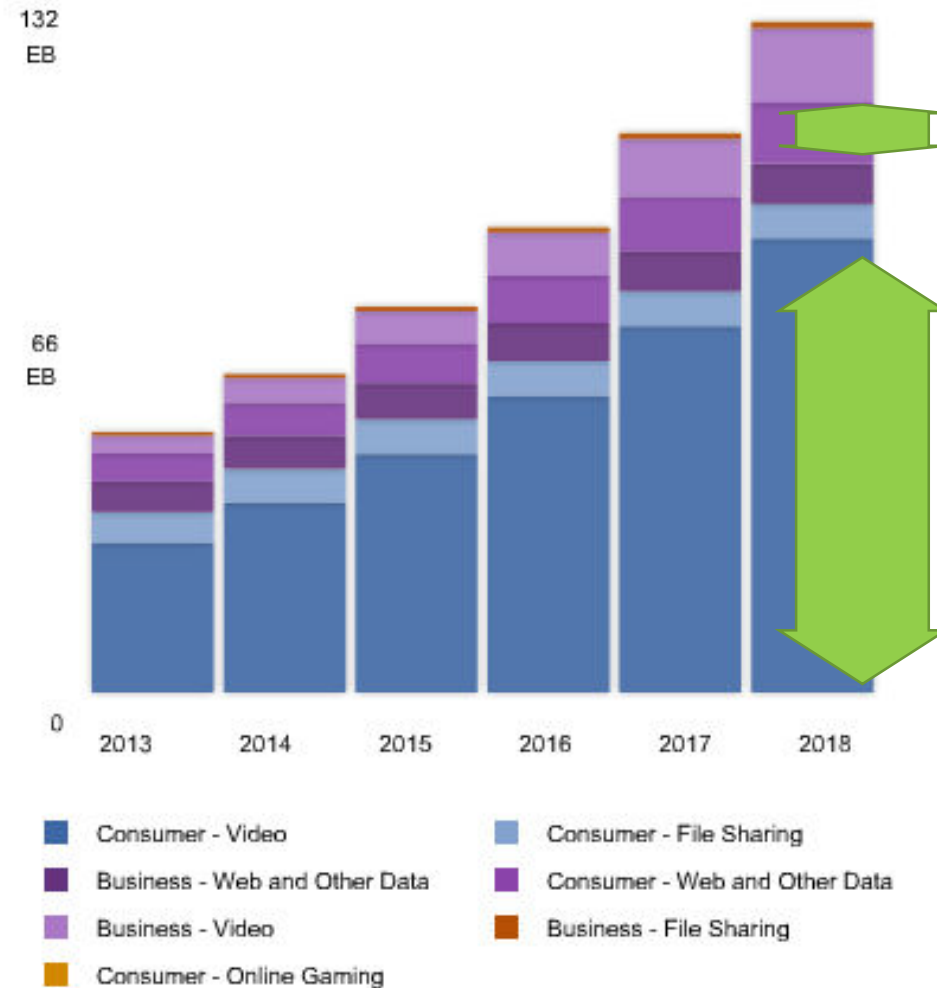


原因は？



<http://arstechnica.com/information-technology/2014/02/netflix-slow-on-verizon-or-comcast-a-vpn-might-speed-up-that-video/>

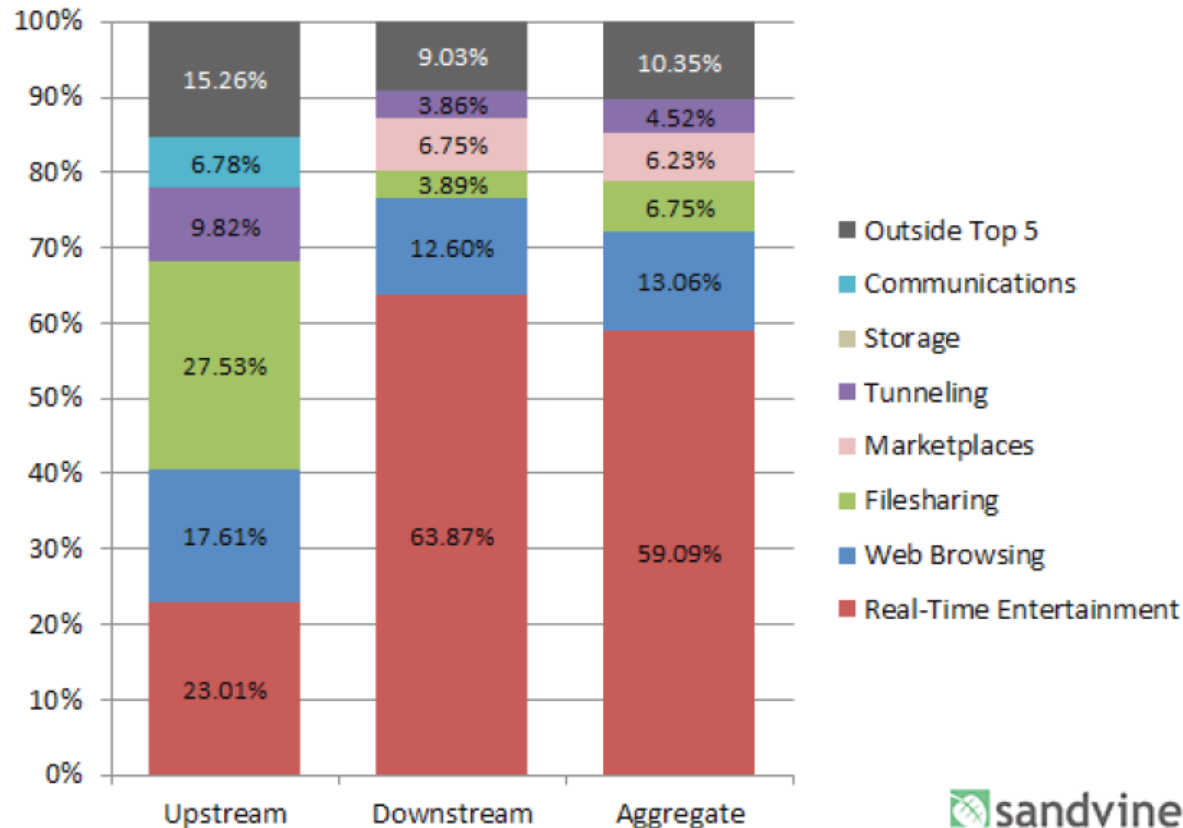
Video, Video, Video



*Cisco VNI, June 2014

Sandvine社によれば(1H 2014)... (1/4)

Peak Period Traffic Composition (North America, Fixed Access)



Monthly Consumption - North America, Fixed Access

	Median	Mean
Upstream	1.4 GB	7.6 GB
Downstream	17.4 GB	43.8 GB
Aggregate	19.4 GB	51.4 GB



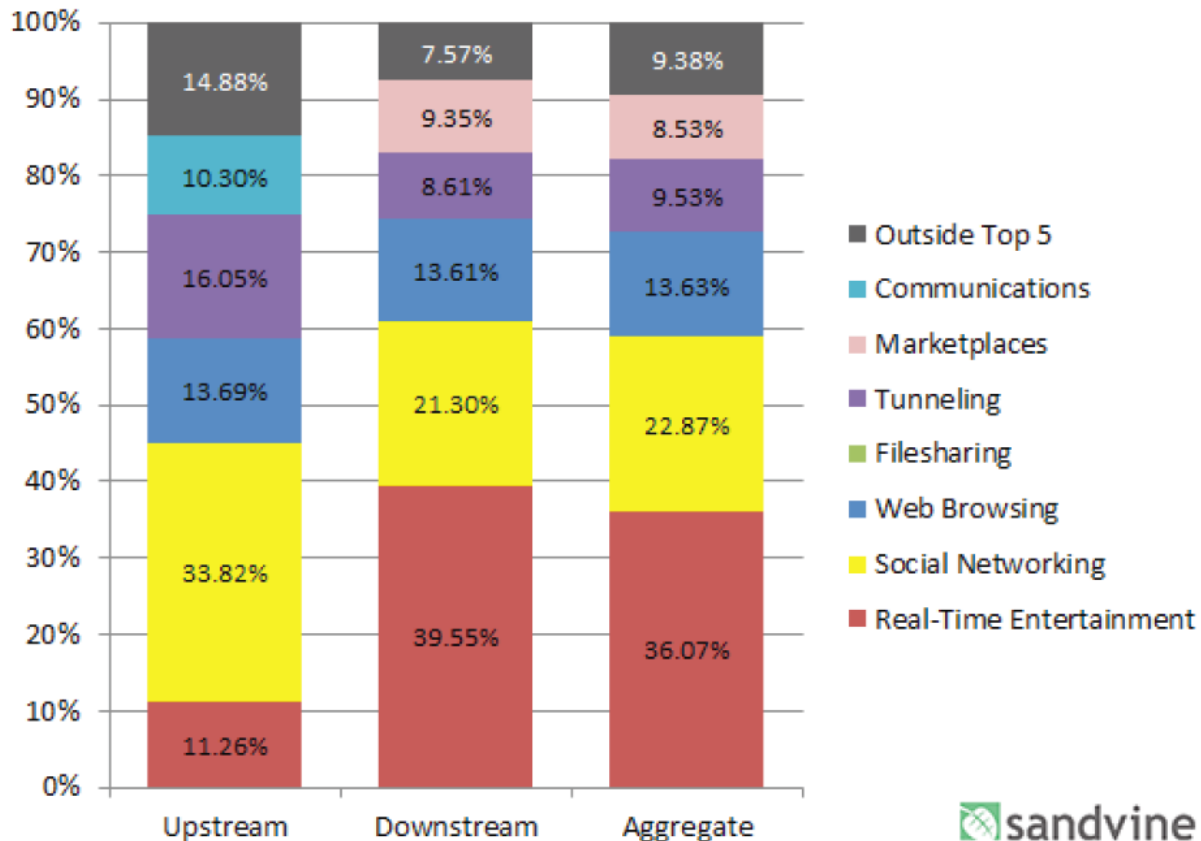
Rank	Upstream		Downstream		Aggregate	
	Application	Share	Application	Share	Application	Share
1	BitTorrent	24.53%	Netflix	34.21%	Netflix	31.09%
2	HTTP	14.27%	YouTube	13.19%	YouTube	12.28%
3	SSL	6.54%	HTTP	11.65%	HTTP	11.84%
4	Netflix	6.44%	iTunes	3.64%	BitTorrent	5.96%
5	YouTube	5.52%	SSL	3.42%	SSL	3.80%
6	Skype	2.23%	BitTorrent	3.40%	iTunes	3.33%
7	Facebook	2.17%	MPEG	2.85%	MPEG	2.62%
8	FaceTime	1.50%	Facebook	1.99%	Facebook	1.83%
9	Dropbox	1.20%	Amazon Video	1.90%	Amazon Video	1.82%
10	iTunes	1.15%	Hulu	1.74%	Hulu	1.58%
		64.40%		76.24%		74.58%



Real-Time Entertainment=Applications and protocols that allow "on-demand" entertainment that is consumed (viewed or heard) as it arrives
E.g., Streamed or buffered audio and video (RTSP, RTP, RTMP, Flash, MPEG), peercasting (PPStream, Octoshape), specific streaming sites and services (Netflix, Hulu, YouTube, Spotify.)

Sandvine社によれば(1H 2014)... (2/4)

Peak Period Traffic Composition (North America, Mobile Access)



Monthly Consumption - North America, Mobile Access

	Median	Mean
Upstream	15.7 MB	60.9 MB
Downstream	84.1 MB	404.3 MB
Aggregate	101.7 MB	465.2 MB

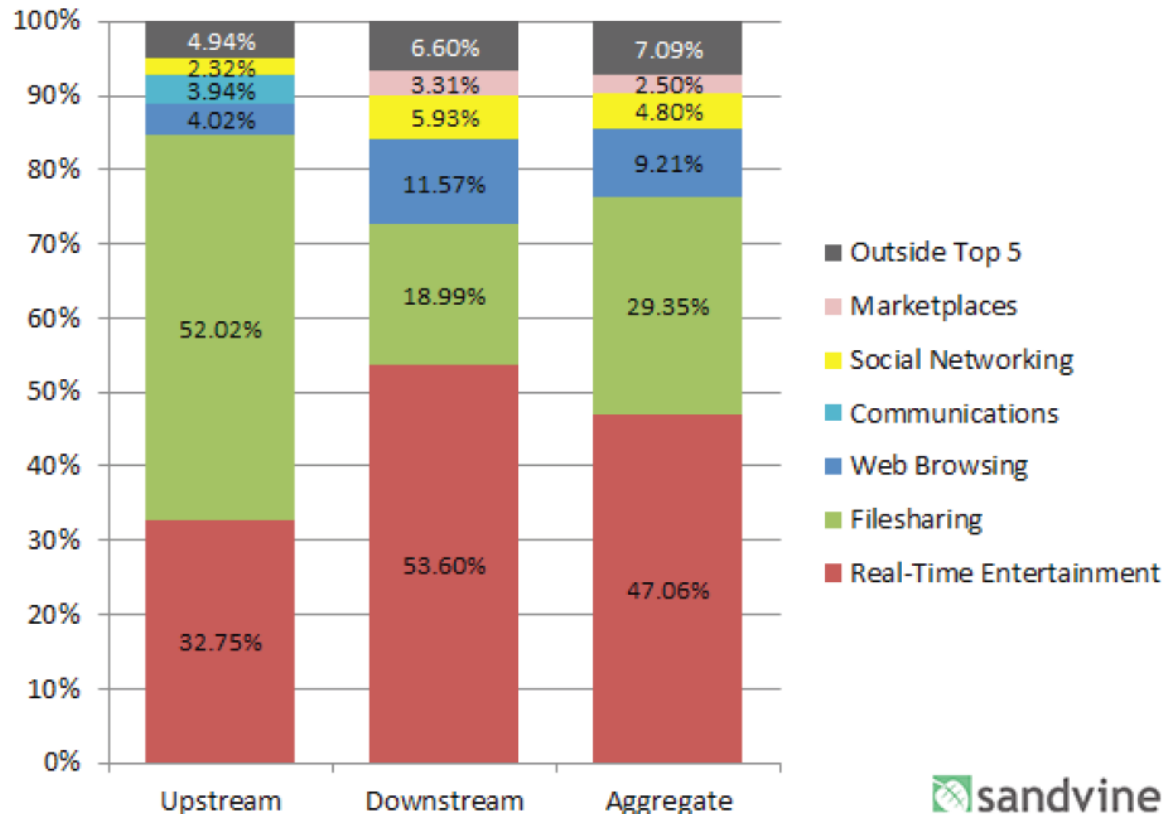


Rank	Upstream		Downstream		Aggregate	
	Application	Share	Application	Share	Application	Share
1	Facebook	26.95%	YouTube	17.61%	YouTube	17.26%
2	SSL	12.49%	Facebook	14.03%	Facebook	14.76%
3	HTTP	11.80%	HTTP	12.70%	HTTP	12.59%
4	YouTube	3.77%	MPEG	8.64%	MPEG	7.77%
5	Instagram	3.47%	SSL	6.52%	SSL	7.25%
6	BitTorrent	2.09%	Google Market	5.27%	Google Market	4.78%
7	MPEG	1.70%	Pandora Radio	5.15%	Pandora Radio	4.72%
8	Pandora Radio	1.61%	Netflix	5.05%	Netflix	4.55%
9	Gmail	1.61%	Instagram	3.49%	Instagram	3.49%
10	iCloud	1.56%	iTunes	3.10%	iTunes	2.84%
		65.50%		78.46%		77.17%



Sandvine社によれば(1H 2014)... (3/4)

**Peak Period Traffic Composition
(Asia-Pacific, Fixed Access)**



Monthly Consumption - Asia-Pacific, Fixed Access

	Median	Mean
Upstream	2.2 GB	13.2 GB
Downstream	14.4 GB	26.4 GB
Aggregate	18.5 GB	39.6 GB

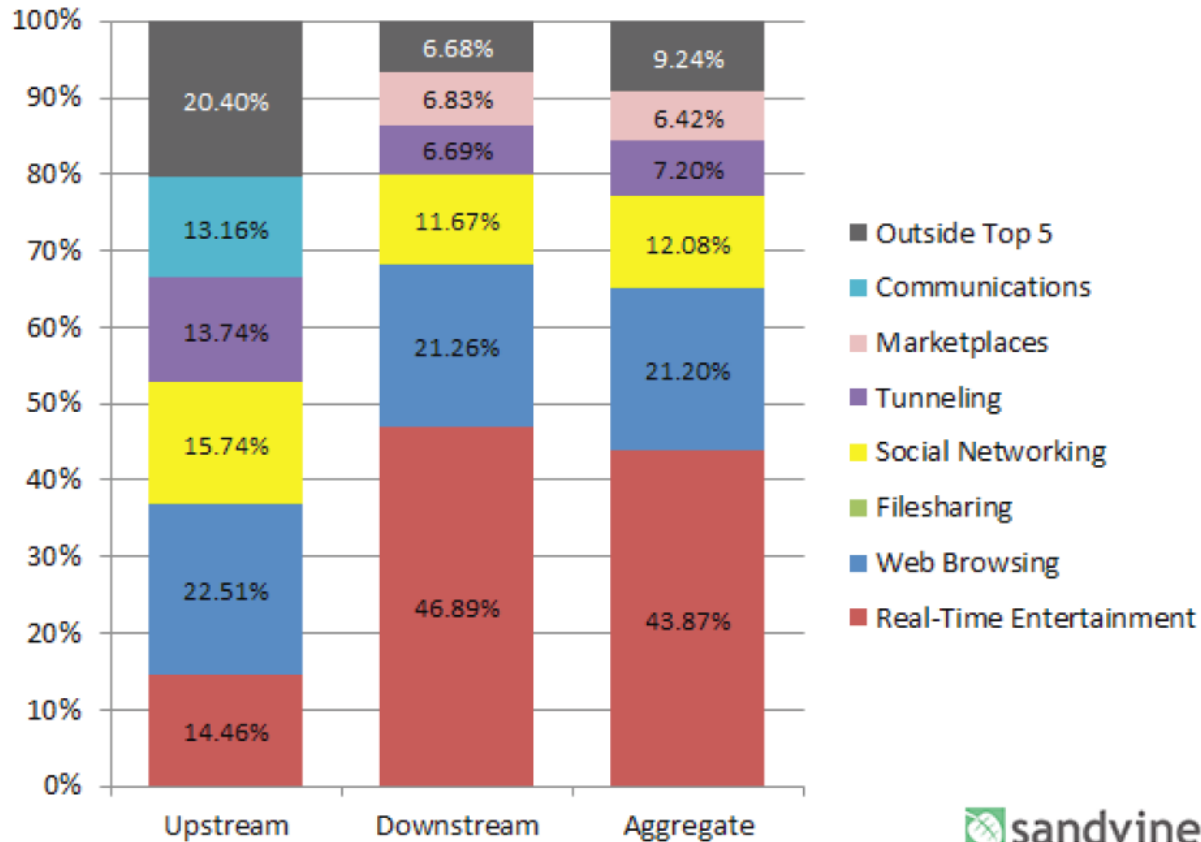


Rank	Upstream		Downstream		Aggregate	
	Application	Share	Application	Share	Application	Share
1	BitTorrent	45.74%	YouTube	27.01%	BitTorrent	26.95%
2	QVoD	10.98%	BitTorrent	18.80%	YouTube	20.49%
3	YouTube	5.51%	HTTP	10.22%	HTTP	7.96%
4	RTSP	3.97%	RTSP	6.56%	RTSP	5.77%
5	Thunder	3.16%	Facebook	3.49%	QVoD	5.55%
6	HTTP	2.76%	MPEG	3.31%	Facebook	2.89%
7	Skype	2.20%	QVoD	3.20%	MPEG	2.43%
8	Facebook	1.49%	RTMP	1.74%	Thunder	1.63%
9	SSL	1.12%	Flash Video	1.68%	SSL	1.36%
10	PPStream	1.02%	SSL	1.47%	RTMP	1.32%
		76.93%		76.02%		75.03%



Sandvine社によれば(1H 2014)... (4/4)

Peak Period Traffic Composition (Asia-Pacific, Mobile Access)



Monthly Consumption - Asia-Pacific, Mobile Access

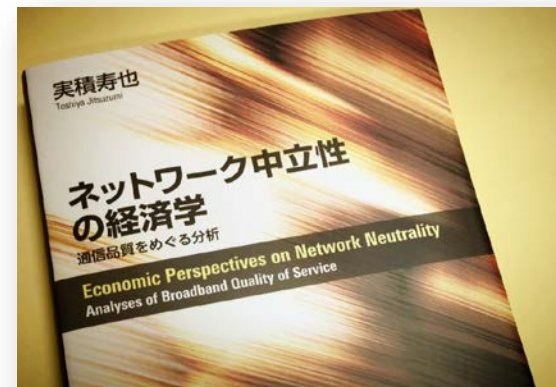
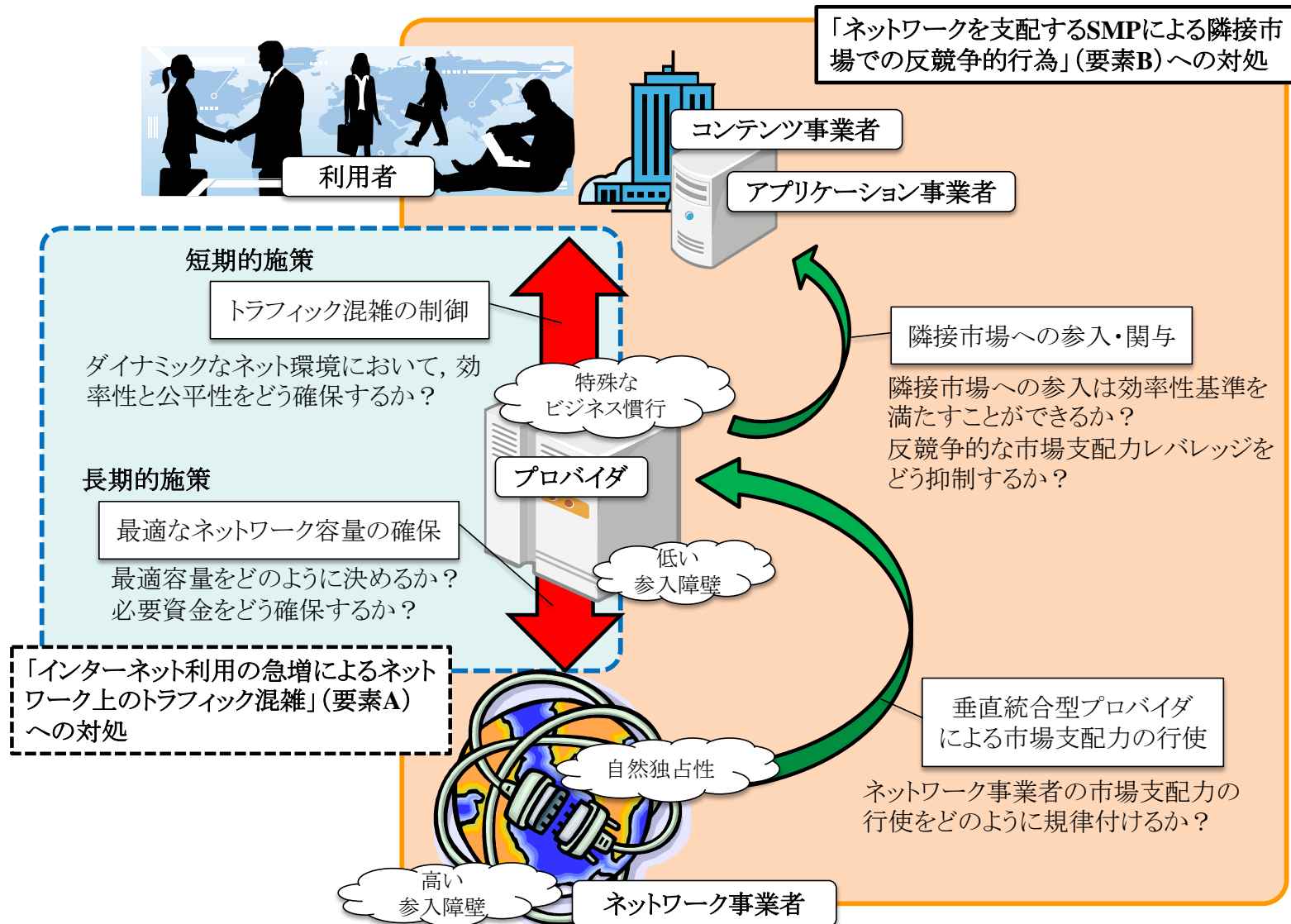
	Median	Mean
Upstream	48.4 MB	122.4 MB
Downstream	311.1 MB	1.0 GB
Aggregate	361.4 MB	1.1 GB



Rank	Upstream		Downstream		Aggregate	
	Application	Share	Application	Share	Application	Share
1	HTTP	17.06%	HTTP	19.53%	HTTP	19.14%
2	Facebook	11.75%	YouTube	14.68%	YouTube	13.60%
3	SSL	11.38%	MPEG	11.04%	MPEG	10.15%
4	BitTorrent	5.28%	Facebook	7.73%	Facebook	8.12%
5	YouTube	3.38%	SSL	6.26%	SSL	6.60%
6	Skype	3.22%	Dailymotion	3.86%	Dailymotion	3.54%
7	MPEG	2.97%	Google Market	2.98%	Google Market	2.78%
8	Whats App	2.29%	HTTP Live Streaming	2.66%	Instagram	2.50%
9	Dropbox	1.89%	Instagram	2.60%	HTTP Live Streaming	2.49%
10	Instagram	1.89%	iTunes	2.52%	iTunes	2.39%
		59.24%		71.33%		68.91%



ネット中立性問題＝ネット混雑問題



特定プロトコルに対する制御



Comcast blocks some Internet traffic

Tests confirm data discrimination by number 2 U.S. service provider

Jump to discuss
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Share

Get to know the new Windows
Learn more
Microsoft

By Peter Svensson
Associated Press

updated 10/19/2007 9:36:11 AM ET

Print | Font: A A + -

NEW YORK — Comcast Corp. actively interferes with attempts by some of its high-speed Internet subscribers to share files online, a move that runs counter to the tradition of treating all types of Net traffic equally.

The interference, which The Associated Press confirmed through nationwide tests, is the most drastic example yet of data discrimination by a U.S. Internet service provider. It involves company computers masquerading as those of its users.



<http://www.nbcnews.com/id/21376597/#.UpbbCMS-2-0>

Federal Communications Commission FCC 08-183

Before the
United States Court of Appeals
FOR THE DISTRICT OF COLUMBIA CIRCUIT

Argued January 8, 2010 Decided April 6, 2010

No. 08-1291

FCCは先のインターネット政策声明および通信法の諸条文を根拠として、通信法第4条i項の付帯的管轄権の行使として当該命令の有効性を主張したが、裁判所は、付帯的管轄権を発動できるための法的権限をFCCに与えた具体的条項が十分に論証されていないことを理由に、2010年4月6日、命令の有効性を否定。

of the Federal Communications Commission

I. INTRODUCTION

1. We consider whether

Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of

Preserving the Open Internet

GN Docket No. 09-191

Broadband Industry Practices

R

Adopted: December 21, 2010

By the Commission: Chairman Genac
concurring and issuing a statement; C
and issuing a statement; Commissio
statements.

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I. PRESERVING THE FREE AND
II. THE NEED FOR OPEN INTERI

A. The Internet's Openness Pror
Expression, and Other Natio
B. Broadband Providers Have th
C. Broadband Providers Have A
D. The Benefits of Protecting th

III. OPEN INTERNET RULES

A. Scope of the Rules

B. Transparency

C. No Blocking and No Unreas
D. Reasonable Network Manage
E. Mobile Broadband

F. Other Laws and Consideratio
G. Specialized Services

IV. THE COMMISSION'S AUTHO

A. Section 706 of the 1996 Act I
B. Authority to Promote Compe
Voice, Video, and Audio Ser
C. Authority to Protect the Publi
D. Authority to Collect Informat
Reporting Obligations to Cor
E. Constitutional Issues

V. ENFORCEMENT

A. Informal Complaints

B. Formal Complaints

C. FCC Initiated Actions

サービスの定義

主に固定位置に存在する
ない機器を用いたサービ
ドバンドや固定衛星ブロー

透明性の確保
Transparency

サービス提供事業者は、
ターネット機器を開発・販
開示しなくてはならない。

利用拒否の禁止
Anti blocking

サービス提供事業者は、
の名の下に、適法なコン
サービスの利用、あるい
及ぼさない端末の接続を

不当な差別の禁止
Anti discrimination

サービス提供事業者は、
フィックの伝送について不
ない。合理的ネットワーク
は該当しない。

固定ブロードバンド接続
fixed broadband Inte

移動ブロードバンド接続

United States Court of Appeals

FOR THE DISTRICT OF COLUMBIA CIRCUIT

Argued September 9, 2013

Decided January 14, 2014

No. 11-1355

- FCCはブロードバンド普及の目的であれば、706条を根拠としてプロバイダに規制を及ぼしうる。
- オープンインターネット命令のうち、anti-discrimination義務とanti-blocking義務についてはその有効性を否定。
- disclosure義務の有効性を否定しなかった。

INDEPENDENT TELEPHONE & TELECOMMUNICATIONS
ALLIANCE, ET AL.,
INTERVENORS

FCCの努力



ヘビーユーザーの利用制限

ISP	Cap	Details	Overage costs
Comcast	300GB per month	Comcast suspended its cap in May 2012 after raising it to 300GB. It's unclear what form the cap will take.	Comcast is testing an overage fee that lets you pay \$10 for 50 GB more.
AT&T	250GB or 150 GB per month	Subscribers to AT&T's faster Uverse product have a 250 GB cap while those subscribing to basic DSL have a 150 GB cap. The gigabit service will have a higher cap commensurate with its speed.	Customers pay \$10 for 50 GB
CenturyLink	150 GB per month to 250 GB per month	Plans with speeds of 1.5Mbps have a 150 GB cap. Plans with speeds greater than 1.5Mbps have 250 GB cap.	None, you're encouraged to move to a higher tier.
Cox	50GB-400GB per month	Faster tiers have higher caps.	None, you're encouraged to move to a higher tier.
Charter	100 GB – 500 GB per month	Faster tiers have higher caps.	None, you're cut off.
Suddenlink	150GB to 350 GB per month	Faster tiers have higher caps.	Customers pay \$10 for 50 GB after third time going over.
MediaCom	250 GB to 999 GB per month	Faster tiers have higher caps.	Customers pay \$10 for 50 GB.
Cable One	300 GB to 500 GB per month	Caps depend on the type of plan one chooses; Streaming, Premier, Ultra	None, you're encouraged to move to a higher tier.

c|net Search CNET Q Reviews News Video

CNET > Mobile > Phones > AT&T dials up toll-free 'Sponsored Data' as CES starts

AT&T dials up toll-free 'Sponsored Data' as CES starts

Long-talked about, AT&T is the first of the carriers to pull the trigger on the 1-800 equivalent of data that wouldn't count against customers' caps.

by Roger Cheng @RogerWCheng / January 6, 2014 9:00 AM PST

10 / f 0 / t 0 / in 0 / g+ / more + presented by #unleash



The image shows the exterior of an AT&T store. A large, illuminated globe logo is mounted on the wall above the entrance. To the right of the globe, the letters 'at&t' are displayed in a large, metallic, 3D font. A blue sign with the number '7-2980' is visible on the left. The store has a glass entrance with a poster that says 'beautifully different' and shows a smartphone. An orange awning is positioned above the glass doors.

Pressure from Google

Video streaming quality results for Belmont, CA

There are many factors that influence your video streaming quality, including your choice of Internet Service Provider (ISP). Learn how your ISP performs and understand your options.

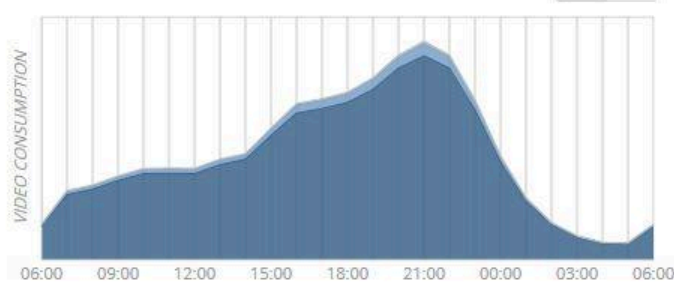
Xfinity by Comcast in Belmont, CA [Change Location](#)



Users on YouTube HD Verified networks should expect smooth playback on YouTube most of the time, even when watching videos in high definition (720p).

If you're experiencing issues playing your video, try these [troubleshooting tips](#).

VIDEO CONSUMPTION AND STREAMING QUALITY



- Lower Definition (LD) streams
- Standard Definition (SD) streams
- High Definition (HD) streams

Daily video activity is averaged over 30 days.

Individual results may vary and the results for the same ISP may also vary between different locations and service speeds (methodology).

[COMPARE PROVIDERS IN YOUR AREA](#)

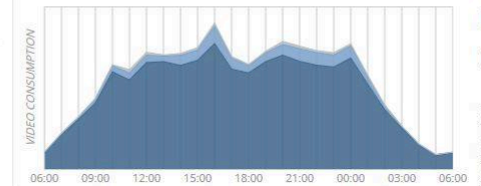


Users on YouTube HD Verified networks should expect smooth playback on YouTube most of the time, even when watching videos in high definition (720p).

If you're experiencing issues playing your video, try these [troubleshooting tips](#).

Verizon - Unclassified in Belmont, CA [Change Location](#)

VIDEO CONSUMPTION AND STREAMING QUALITY



- Lower Definition (LD) streams
- Standard Definition (SD) streams
- High Definition (HD) streams

Daily video activity is averaged over 30 days.

Individual results may vary and the results for the same ISP may also vary between different locations and service speeds (methodology).

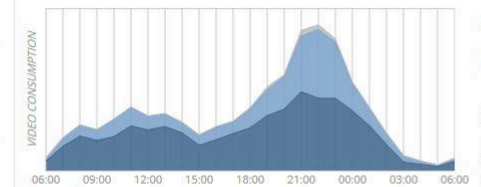


Users on SD networks should expect smooth playback on non-HD YouTube videos (at least 360p) and may experience occasional interruptions on HD videos.

If you're experiencing issues playing your video, try these [troubleshooting tips](#).

AT&T - Other in Belmont, CA [Change Location](#)

VIDEO CONSUMPTION AND STREAMING QUALITY



- Lower Definition (LD) streams
- Standard Definition (SD) streams
- High Definition (HD) streams

Daily video activity is averaged over 30 days.

Individual results may vary and the results for the same ISP may also vary between different locations and service speeds (methodology).

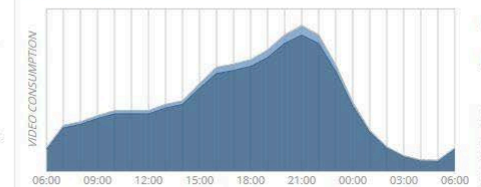


Users on YouTube HD Verified networks should expect smooth playback on YouTube most of the time, even when watching videos in high definition (720p).

If you're experiencing issues playing your video, try these [troubleshooting tips](#).

Xfinity by Comcast in Belmont, CA [Change Location](#)

VIDEO CONSUMPTION AND STREAMING QUALITY



- Lower Definition (LD) streams
- Standard Definition (SD) streams
- High Definition (HD) streams

Daily video activity is averaged over 30 days.

Individual results may vary and the results for the same ISP may also vary between different locations and service speeds (methodology).

YouTube | HD Verified

Xfinity by Comcast

Verizon - Unclassified

Standard Definition (SD)

AT&T - Other

FCCからの新提案 Fast Lane and Slow Lane ?

Proposed rules

§ 8.7 No Commercially Unreasonable Practices.

A person engaged in the provision of fixed broadband Internet access service, insofar as

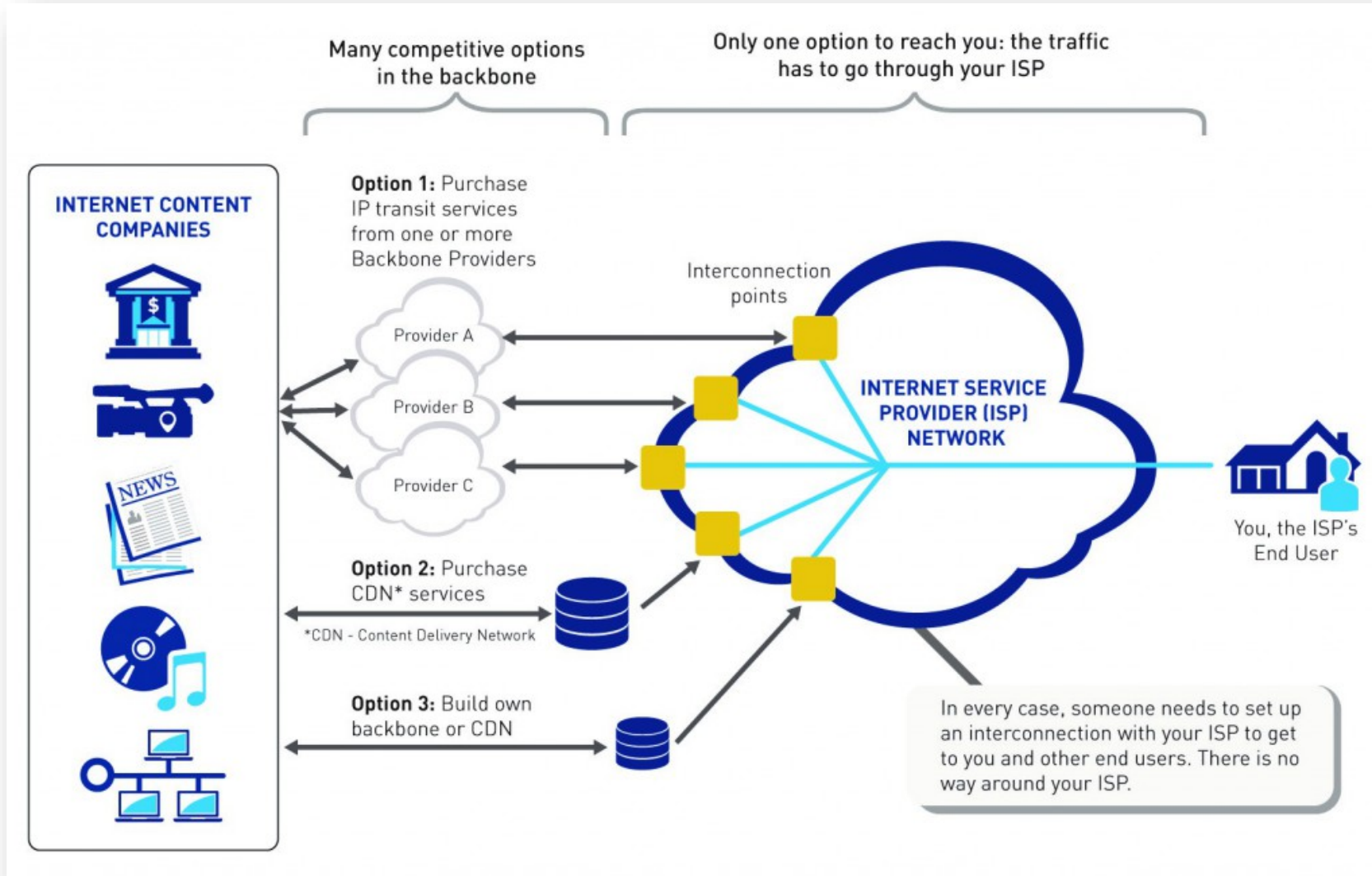
- 固定ブロードバンドプロバイダは、ビジネス上の観点から合理的だと判断できないような行為を行ってはならない。

Reasonable network management shall not constitute a commercially unreasonable practice.

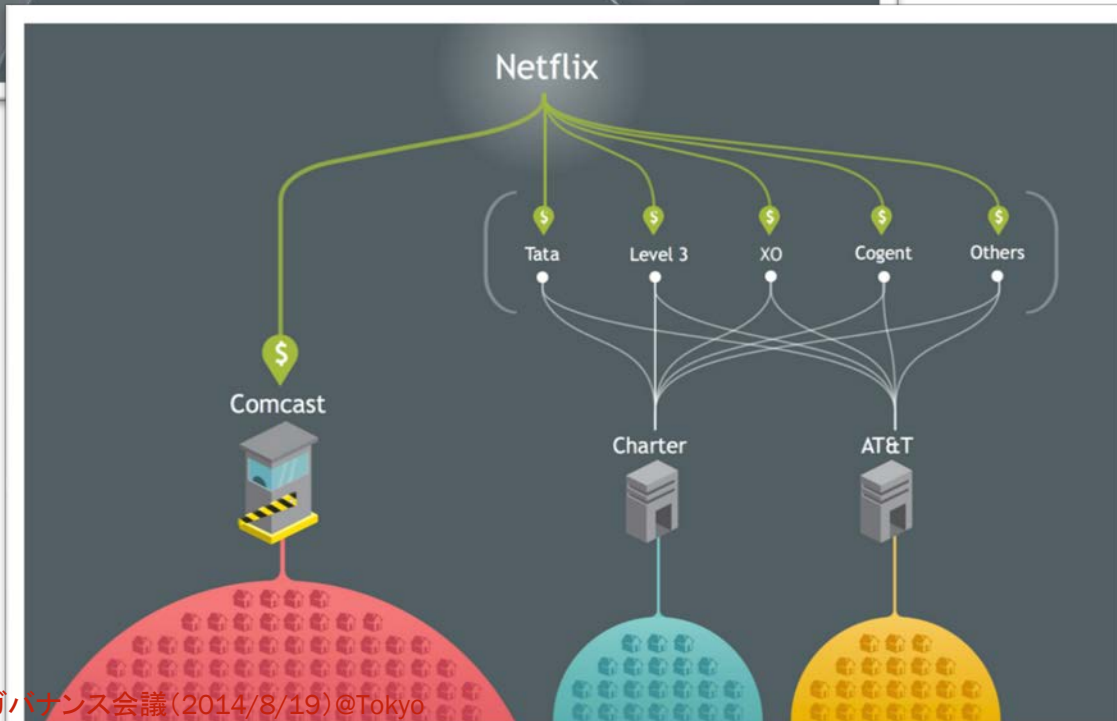
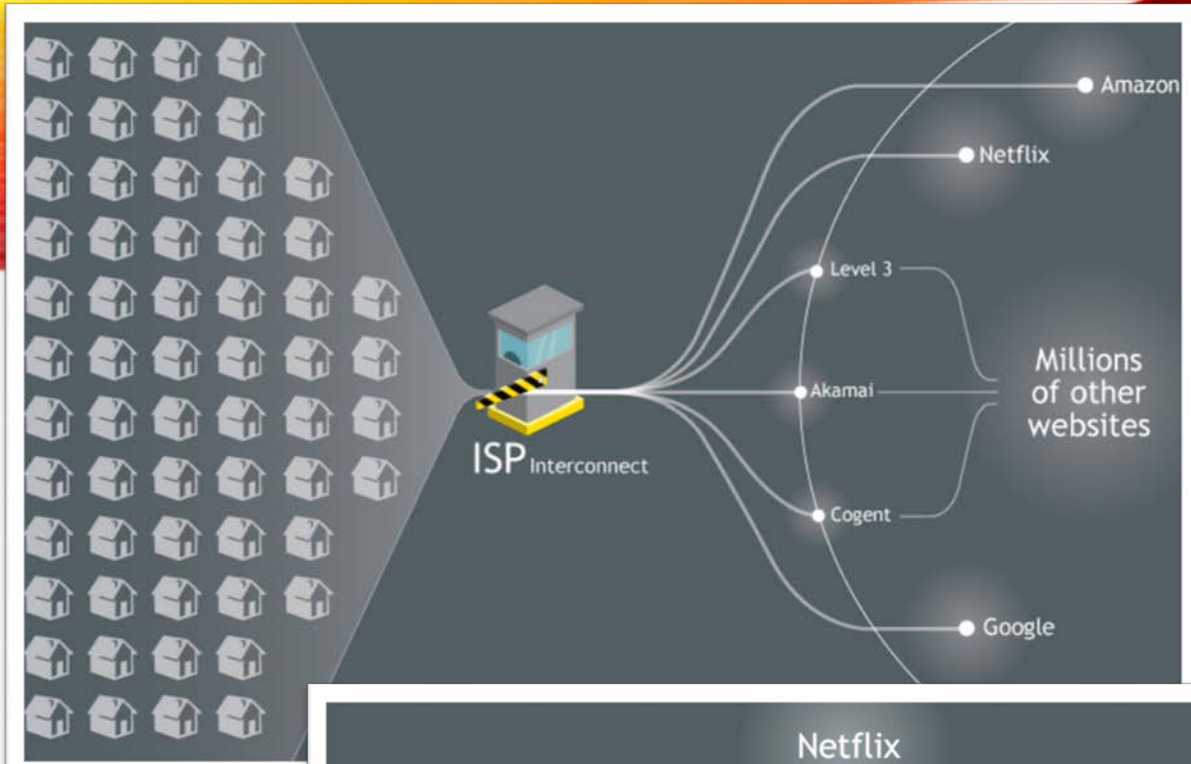
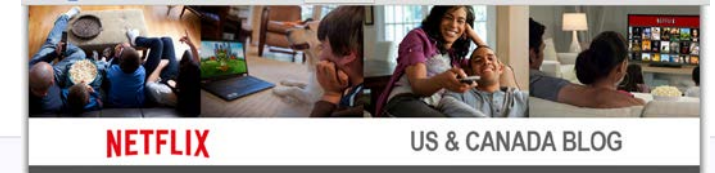
(NPRM [May 2014])



Strong Net Neutrality?



Netflixの主張



Average prime time video quality

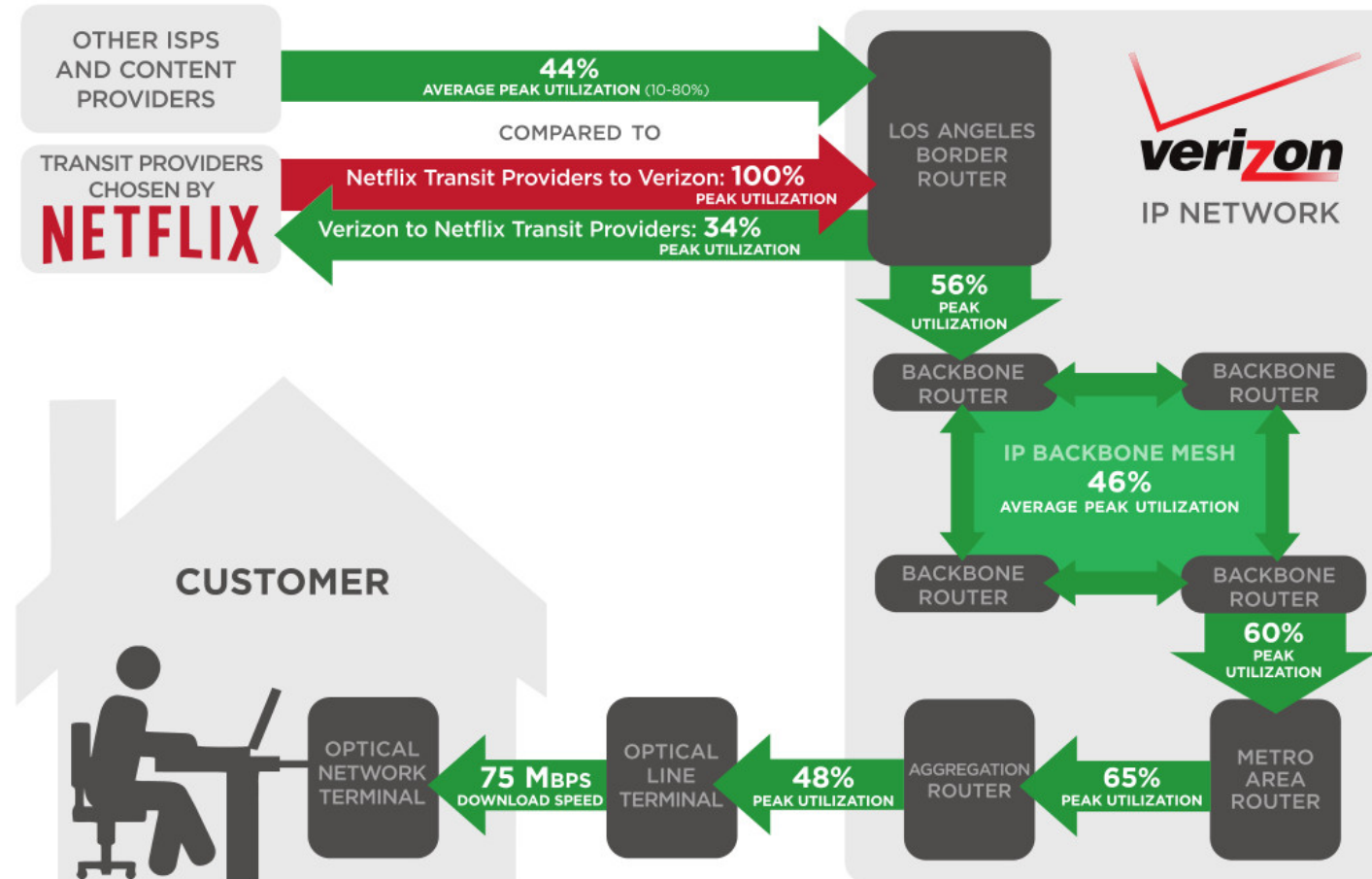


Netflixによるハラスメント？



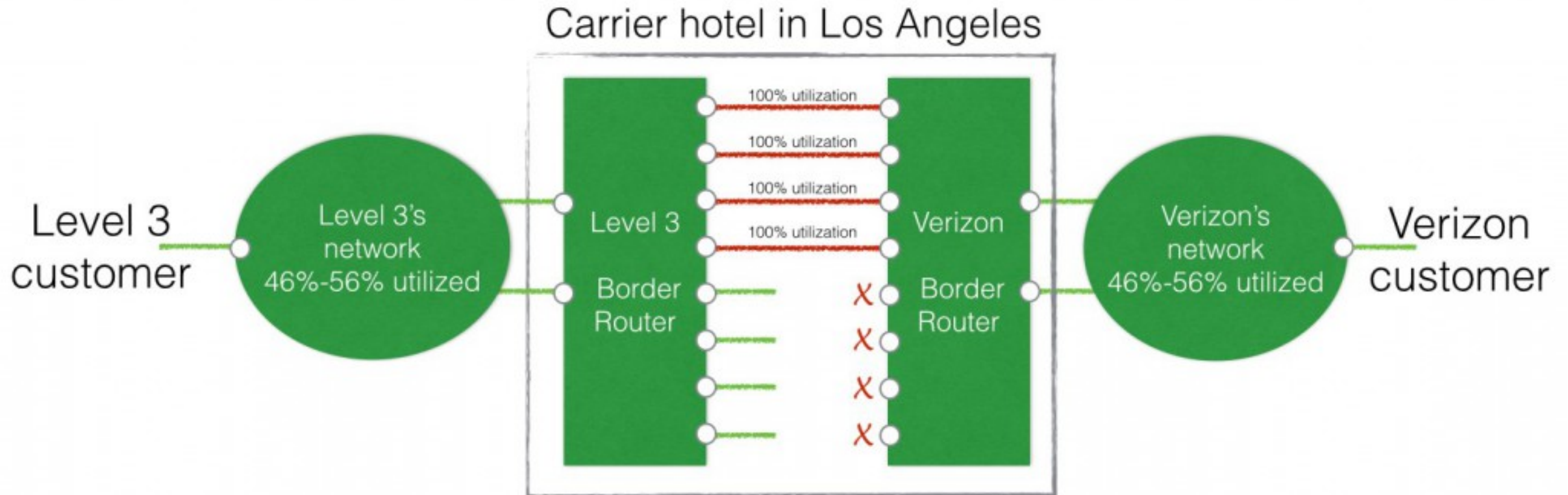
http://a.abcnews.com/images/Business/HT_netflix_verizon_network_jtm_140606_16x9_992.jpg

DISPELLING THE CONGESTION MYTH



COMPILED FROM ACTUAL NETWORK DATA, UTILIZATIONS FOR WEEK ENDING 6/22/14

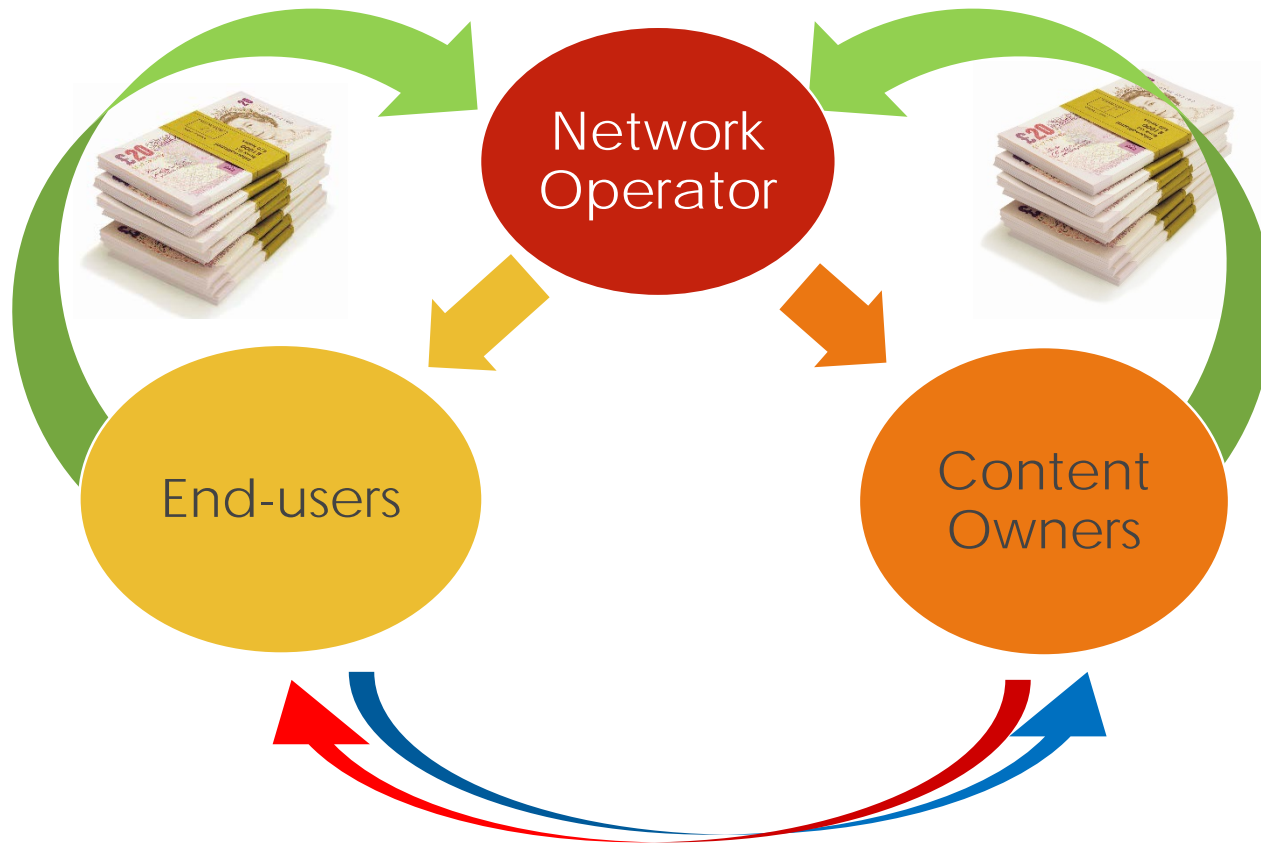
Level3参戦



ISPサイドの意見

The screenshot shows the homepage of The Hill website. At the top left is the 'THE HILL' logo. To its right is a banner for 'MILANOO' featuring two jackets and the text '女子受けするメン' and '大切なのはシンプルさと清潔感。彼'. Below the banner is a 'TRENDING' section listing 'Iraq | Hillary Clinton | Robin Williams'. A navigation bar contains 'NEWS', 'POLICY', 'REGULATION', 'BLOGS', 'BUSINESS', 'CAMPAIGN', 'OPINION', and 'CONTRIBUTORS'. Below this are four news snippets: 'ENERGY & ENVIRONMENT' (Senators want more comment time on EPA...), 'BALLOT BOX' (Ex-gubernatorial candidate wins nod to...), 'FINANCE' (Public pessimistic on economy), and 'HEALTH' (Health group 'superbugge antibiotic'). The main article is titled 'Internet providers want Congress to keep hands off online traffic deals' by Kate Tummarello, dated 08/11/14 05:38 PM EDT. The article text states: 'Internet providers and wireless companies are warning lawmakers not to get overly involved in deals over online traffic. In comments filed to the House Energy and Commerce Committee this month, USTelecom — which represents Internet providers — said lawmakers and regulators should stay out of "interconnection" deals, the arrangements Internet providers make with each other and websites to handle online traffic.'

Two-sided market【両面市場】



Indirect network effect
間接ネットワーク効果

NETWORKED MARKET	SIDE 1	SIDE 2
PC operating systems	Consumers	Application developers*
Online recruitment	Job seekers*	Employers
Miami Yellow Pages	Consumers*	Advertisers
Web search	Searchers*	Advertisers
HMOs	Patients*	Doctors
Video games	Players*	Developers
Minneapolis shopping malls	Shoppers*	Retailers
Linux application servers	Enterprises	Application developers
Wi-Fi equipment	Laptop users	Access points
DVD	Consumers	Studios
Phoenix Realtors Association	Home buyers*	Home sellers
Gasoline-powered engines	Auto owners	Fueling stations
Universal Product Code	Product suppliers	Retailers

*Denotes network's subsidy side

Source: Eisenmann et al. (2006)

SECTIONS HOME SEARCH **The New York Times**

His Own Redemption Story Chapman Pincher, Fleet St. Scoop Specialist, Dies at 100 BITS BLOG Dispute Between Amazon and Hachette Takes an Orwellian Turn

Sports, food and everything in bet

MEDIA

Comcast and Netflix Reach Deal on Service

By EDWARD WYATT and NOAM COHEN FEB. 23, 2014

- EMAIL
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JAMES GANDOLFINI

[Comcast](#), the country's largest cable and broadband provider, and the giant television and movie streaming service, announced on Sunday in which Netflix will pay Comcast for faster access to Comcast's subscribers.

The deal is a milestone in the history of the Internet. Broadband providers like Netflix generally have not had to pay customers of a broadband provider.

But the growing power of broadband companies like AT&T has given those companies increased leverage as they gobble up chunks of a network's capacity. Netflix is now accounting for nearly 30 percent of all Internet traffic.

The agreement comes just 10 days after Comcast announced its acquisition of [Warner Cable](#) for \$45 billion, an acquisition that would make the cable provider to nearly one-third of American households. The deal is being scrutinized by federal regulators to determine whether that deal would thwart competition among Internet providers.

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Reviews News

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CNET > Internet > Netflix signs streaming traffic deal with Verizon

Netflix signs streaming traffic deal with Verizon

Just months after signing a similar deal with Comcast, Netflix has reached an agreement to provide a direct connection from the video service to broadband customers.

by Steven Musil @stevenmusil / April 28, 2014 3:57 PM PDT

9 / 25 / 572 / 41 / 8+ / more +



現実の対応

REUTERS EDITION: U.S.

HOME BUSINESS MARKETS WORLD POLITICS TECH OPINION BREAKINGVIEWS

Netflix agrees to pay AT&T to ensure smooth video downloads

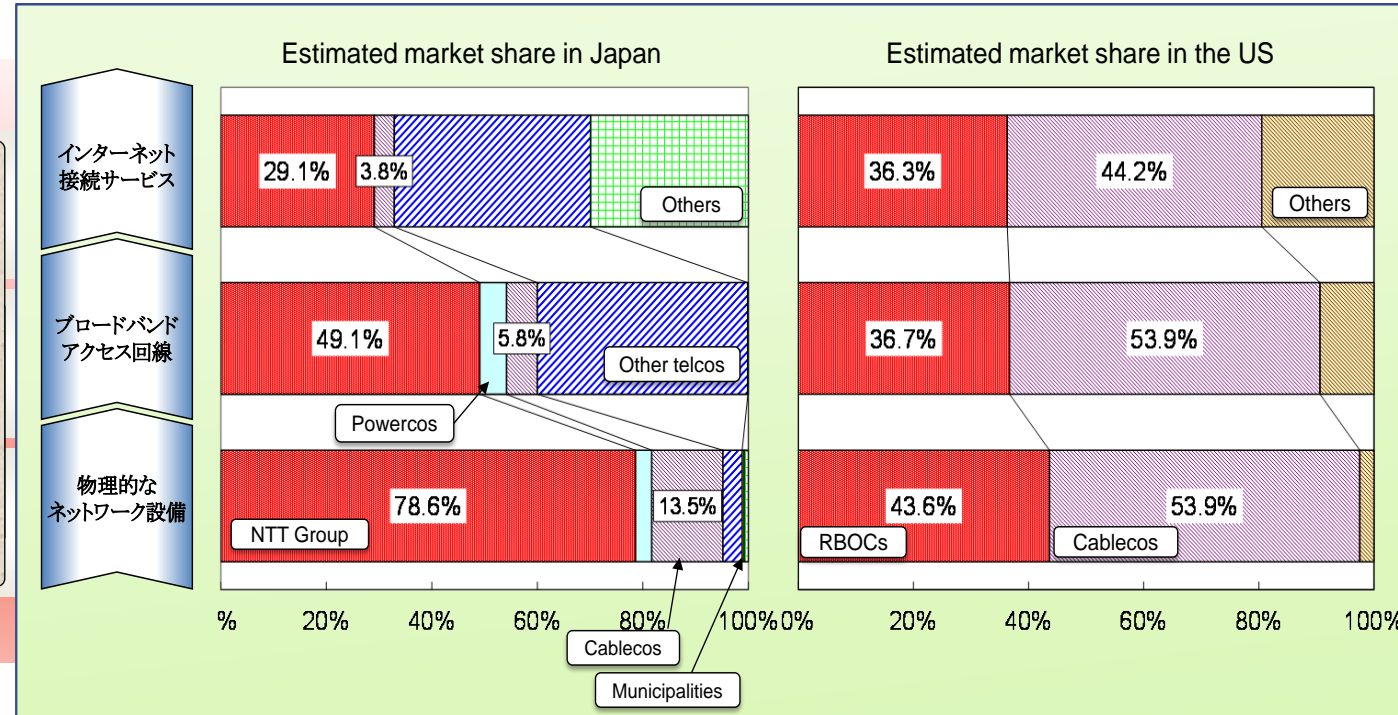
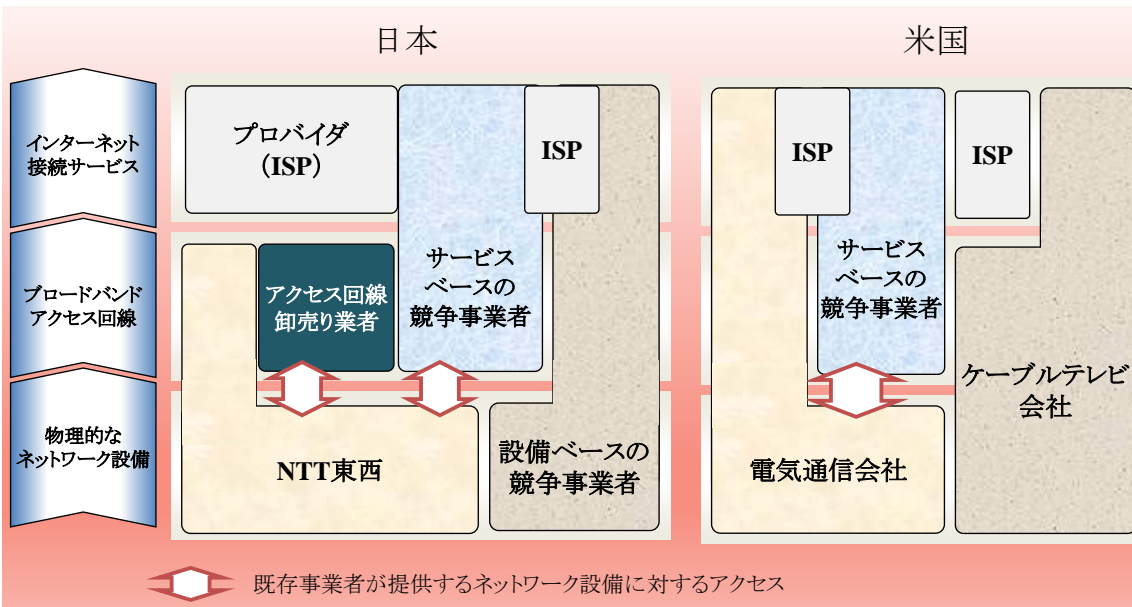
WASHINGTON Tue Jul 29, 2014 6:37pm EDT

0 COMMENTS | Tweet 21 | Share 24 | Share this 8+ 9 | Email Print



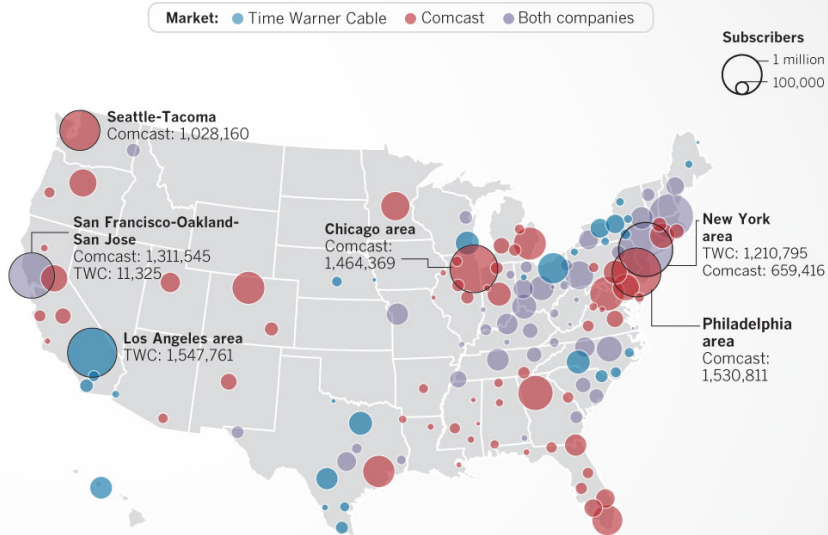
The Netflix logo is shown on an iPad in Encinitas, California, April 19, 2013. CREDIT: REUTERS/MIKE BLAKE

なぜ米国でここまで揉めたのか？



Comcast's Time Warner Cable acquisition **The Big Deal**

A combined Time Warner Cable and Comcast would dominate the largest cable markets in the U.S. Here are the markets where either company had at least 3,000 cable television subscribers in the third quarter of last year.

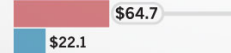


By the numbers

Market value (billions)



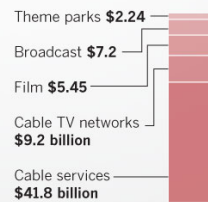
2013 revenue



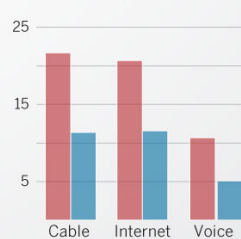
2013 profit



Comcast Corp.'s 2013 revenue reached \$64.7 billion



Subscribers (millions)



Source: SNL Kagan. Graphics reporting by JOE FLINT

Los Angeles Times

Comcast+Time Warnerの意味

Those harms would mainly affect over-the-top video services that might compete with Comcast/Time Warner Cable, the filing said. Choke points are the Internet channel to the consumer; the interconnection point; and any specialized service channels acting as high-speed lanes and restricting the bandwidth available for "the public Internet portion of the pipe," Dish said. **Each choke point provides the ability for the combined company to foreclose the online video offerings of its competitors.** Comcast/Time Warner Cable would also be able "to exercise its enormous size to leverage programming content in anti-competitive ways," said Dish.

Communications Daily, August 05, 2014 Tuesday



Is this helpful? ★★☆☆☆

Network Optimization Practices for Customers with Unlimited Data Plans

You rely on our high quality wireless communications service and we strive to continually provide it for you.

Ensuring Reliability. With tens of millions of customers, it's our responsibility to upgrade and improve our network, services and practices, so you can continue to trust the network. With this in mind, we've implemented Network Optimization practices that will affect a very small percentage of customers.

Optimizing Our Network. Our Network Optimization practices for customers with unlimited data plans ensure that you can count on the reliable network you expect. To optimize our network, we manage data connection speeds for a small subset of customers – the top 5% of data users on unlimited data plans – and only in places and at times when the network is experiencing high demand. This ensures that all customers have the best data experience possible.

95% of our data customers are not impacted. The top 5% with devices on unlimited data plans may experience managed data speeds when connected to a cell site experiencing high demand after reaching certain data-usage levels in a bill cycle. These high data users will feel the smallest possible impact and only experience reduced data speeds when necessary for us to optimize data network traffic in that area.

Helpful Tools to Manage Your Wireless Data Experience.

- [My Verizon](#) and [My Verizon Mobile](#) – Monitor data usage in real-time by logging on to My Verizon from a computer or My Verizon Mobile from your device. My Verizon also lets you analyze the amount of wireless data used by each line on your account. Simply "Run Account Analysis" in My Verizon and then click on "Data Usage" for a breakdown

Unlimited ?

Unlimited data planを利用する顧客のうち、月間利用量上位5%の顧客に対し、混雑セル利用時にトラヒック制御を行う。

Q: Is this the same as throttling?

A: No, this is not throttling.

Q: How is this different than throttling?

A: With throttling, your wireless data speed is

本措置は混雑時限定に行うトラヒック制御であって、ネット中立性の観点から問題となる常時throttlingではない。

have the best network possible, and if you're not causing congestion for others, even if you are using a high amount of data, your connection speed should be as good as possible.



Federal Communications Commission
Washington, D.C. 20554

July 30, 2014

Mr. Daniel S. Mead
President and CEO
Verizon Wireless
One Verizon Way
Basking Ridge, NJ 07920

Dear Mr. Mead:

I am deeply troubled by your July 25, 2014 announcement that Verizon Wireless intends to slow down some customers' data speeds on your 4G LTE network starting in October 2014.¹ Your website explained that this was an extension of your "Network Optimization" policy, which, according to your website, applies only to customers with unlimited data plans. Specifically, Verizon Wireless "manage[s] data connection speeds for a small subset of customers – the top 5% of data users on unlimited data plans" in places and at times when the network is experiencing high demand.² Verizon Wireless describes its "Network Optimization" as "network management."³

"Reasonable network management" concerns the technical management of your network; it is not a loophole designed to enhance your revenue streams. It is disturbing to me that Verizon Wireless would base its "network management" on distinctions among its customers' data plans, rather than on network architecture or technology. The Commission has defined a network management practice to be reasonable "if it is appropriate and tailored to achieving a legitimate network management purpose, taking into account the particular network architecture and technology of the broadband Internet access service."⁴ Such legitimate network management purposes could include: ensuring network security and integrity, including by addressing traffic that is harmful to the network; addressing traffic that is unwanted by end users (including by premise operators), such as by providing services or capabilities consistent with an end user's choices regarding parental controls or security capabilities; and reducing or mitigating the effects of congestion on the network.⁵ I know of no past Commission statement that would treat as "reasonable network management" a decision to slow traffic to a user who has paid, after all, for "unlimited" service.

Accordingly, please provide me with responses to the following questions:

¹ <http://www.verizonwireless.com/news/article/2014/07/network-optimization.html>

² http://www.verizonwireless.com/support/information/data_disclosure.html

³ http://www.verizonwireless.com/support/information/data_disclosure.html

⁴ *Preserving the Open Internet*, GN Docket No. 09-191, WC Docket No. 07-52, Report and Order, 25 FCC Rcd 17905, 17952, para. 82 (2010).

- Verizon社の措置は、合理的なネットワーク管理ではなく、unlimited契約を締結している利用者を差別的に取り扱うものである。
- 他の事業者も同様の行為に手を染めているという事情は自身の行為を正当化するものではない。

FCC委員長のレスポンス

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INNOVATION / BUSINESS OF TECHNOLOGY

ocuses Verizon of throttling data to boost profits

explain why throttling policy doesn't violate FCC rules.

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The Washington Post

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The Switch

FCC to Verizon: 'All the kids do it' is no excuse for throttling unlimited data

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By Brian Fung August 8 Follow @b_fung

Unlimited

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NEWS REVIEWS EVENTS VIDEO

introducing the new msnbc.com



After Verizon, FCC Quizzing Other Carriers on Network Management

By Reuters

August 8, 2014, 12:11 PM, PDT



FCC Chairman Tom Wheeler speaks during an open meeting to receive public comment on proposed open Internet notice of proposed rulemaking and spectrum auctions in May. (Alex Wong/Getty Images)



Justice stop sale of key part of Verizon Rights Act

Verizon事案が及ぼす影響



- The purpose of the inquiry could be multifold, said former FCC Commissioner Robert McDowell, now at the Hudson Institute. It could be used to force Verizon to agree to voluntary net neutrality rules, he said. It also "could be a shot across the bow indicating the commission is going to reverse the 2010 order and have net neutrality rules apply to wireless," McDowell said.

Communications Daily, August 04, 2014 Monday

相互接続規制をめぐる議論に飛び火



- 下院エネルギー商業委員会の関心

(<http://energycommerce.house.gov/sites/republicans.energycommerce.house.gov/files/analysis/CommActUpdate/20140715WhitePaper-Interconnection.pdf>)

- Sprint社の主張

- "Despite clear guidance from the FCC that interconnection obligations are technology-neutral, many incumbent carriers contend that they are not required to negotiate under Sections 251/252 of the Communications Act for the inter-connection and exchange of voice traffic. **通信法に、IP網の相互接続をカバーするようなより強力な規制を導入すべきである。** In order to provide interconnection at reasonable cost-based rates is an ominous sign for competitive carriers." Congress and the FCC should institute "broad national interconnection requirements for IP voice" .

- CenturyLink社の主張

- Edge providers "increasingly argue today that 'Net Neutrality' principles should be extended to the exchange of IP voice and data traffic." ... "What they actually demand, rather than traffic discrimination, is **IP網の相互接続は現時点で十分に競争的に機能しており、新たな規制は不要である。** which is akin to the highly regulatory mandatory bill-and-keep requirement that generally applies to common carrier voice traffic," which is "archaic monopoly-era voice regulation to all IP voice and data traffic (without accepting common carrier regulation of their services)."