Level(3)

Joseph C. Cavender
Vice President
Federal Affairs
Tel: (571) 730-6533
joseph.cavender@level3.com

February 21, 2014

<u>Ex Parte</u>

Ms. Marlene H. Dortch
Secretary
Federal Communications Commission
445 12th Street, SW
Washington, DC 20554

Re: Protecting and Promoting the Open Internet, GN Docket No. 14-28; Preserving the Open Internet, GN Docket No. 09-191

Dear Ms. Dortch:

On February 21, 2014, Marcellus Nixon and I, on behalf of Level 3 Communications, LLC ("Level 3"), met with Jon Sallet and Stephanie Weiner of the Office of General Counsel; Carol Simpson of the Wireline Competition Bureau; Robert Cannon of the Office of Strategic Planning & Policy Analysis; and Tim Brennan, Chief Economist. The attached presentation was provided to the Commission participants in the meeting.

During the conversation, the Level 3 representatives explained that Level 3 has observed that consumer demand for video is driving significant growth in overall traffic volume on the Internet. The same demand for streaming video, including consumer demand to stream video to multiple devices, is driving consumers to purchase: i) Internet connections from their ISPs that offer higher and higher advertised speeds, and ii) Internet connections with download speeds that are much greater than upload speeds. The fact that more data today flows towards as opposed to away from consumers is because the ISPs facilitate it, and the ISPs' customers demand it.[1]

The Level 3 representatives further explained that while content providers such as streaming video services have multiple competitive options for delivering their content to the ISP whose end users have requested it, the ISP itself offers the only path for that content to reach the end user. And some, though not all, large ISPs—which notably offer their own, competing video services—are leveraging that bottleneck control over access to their users, demanding arbitrary tolls from providers like Level 3 who carry Internet traffic requested by the ISPs' end users to the ISPs' own networks. This is content the ISPs have committed to make available to their consumers, but which the ISPs alone cannot provide.

[1] Notably, traffic direction on the Internet has nothing to do with network costs. Costs are impacted by the volume of traffic and the distance it is carried.

If Level 3 will not pay these arbitrary and discriminatory tolls, these ISPs refuse to augment interconnection capacity that is congested to a degree that any network engineer would agree must be augmented for the Internet to function properly. As a result, the interconnection ports between these ISP networks and the Level 3 network remain congested, resulting in dropped packets and a degraded consumer experience. While the effects of this congestion vary from application to application, VoIP calls and speed-sensitive online streaming applications are likely the most significantly impacted, widely-used applications. For millions of consumers, they may become virtually unusable. Of course, the ISPs' own, competing video service will be unaffected.

These tolls are pernicious and unwarranted. Aside from being a flagrant example of monopoly rent-seeking, they are a direct threat against the promise and potential value of the Internet, and particularly the potential value of competing video services. First, it is difficult to envision how a toll on third-party-provided video content can be assessed in a non-discriminatory way against video services provided by the ISP itself, which would amount to the ISP "paying itself" the toll. Further, even if these tolls are imposed in a facially neutral way, any toll that applies "equally" to all traffic will have a disproportionate effect on online video services, which transmit larger amounts of data (roughly 4 GB for an HD movie) than, say, email service. And again, online video is also much more sensitive to the effects of congestion if the toll is not paid: buffering, stopping and starting, and pixilated video may render such services essentially unusable, while an email that takes even a minute longer to arrive than it otherwise would is unlikely to cause a user much frustration. ISPs that are attempting to charge these tolls are leveraging their bottleneck control to advantage their own video services and to increase their rivals' costs while pocketing a tidy monopoly profit all at the same time—all at significant cost to consumers and harm to the value of the Internet.

The Level 3 representatives further observed that, in Level 3's view, the Commission's Open Internet rules, by failing to address peering, had failed to address these serious problems. Increased consumer demand for online video services, the fact that online video services are such a large fraction of online traffic, and the fact that online video services are particularly vulnerable to the effects of congestion mean that there is functionally little difference between the type of "discrimination" addressed by the Commission's former rules and the type of behavior actually practiced by some ISPs but arguably permitted under those rules.

Level 3 stands ready to work with ISPs to ensure that their users can access the Internet content they wish with acceptable performance. And many ISPs, to their credit, are investing to expand interconnection capacity rather than leveraging their users' increased demand as an excuse to exploit their bottleneck control over those users. But the Commission should ensure that it doesn't make the same mistake again. It should ensure that it protects against abuses by bottleneck ISPs no matter whether those abuses come in the form of explicit discrimination or the kind of anticompetitive, monopoly rent-seeking conduct Level 3 has observed, and that it continues to observe today.

Please do not hesitate to contact me if you should have any questions.

Sincerely,

/s/ Joseph C. Cavender
Joseph C. Cavender

cc: Tim Brennan
Robert Cannon
Jon Sallet
Carol Simpson
Stephanie Weiner

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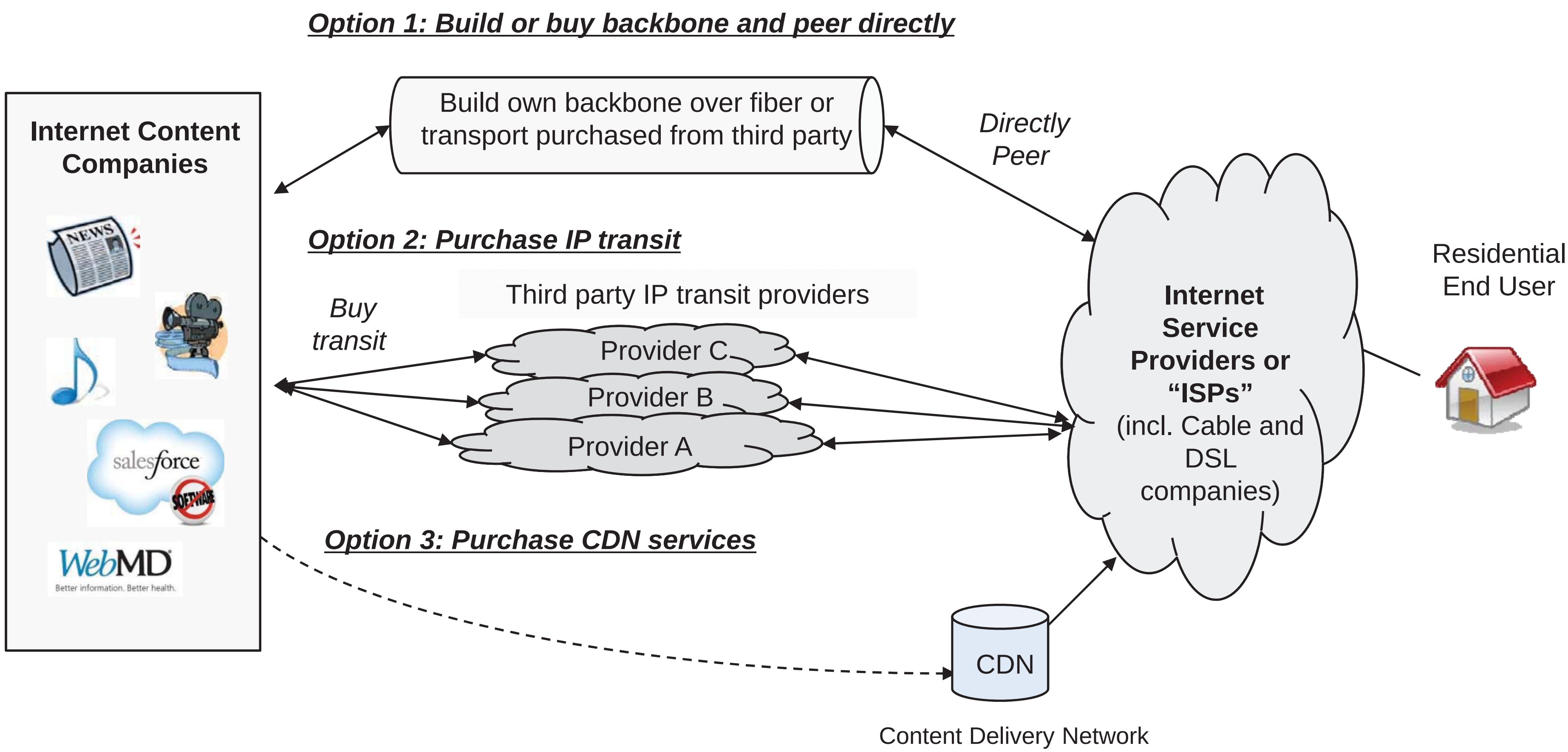
The Internet Is Changing:
Consumer Video Demand Driving Internet Traffic Growth

- By 2017, global traffic will reach 1.4 zettabytes annually, up from 523 exabytes in 2012 (equivalent to 350 billion HD movies in 2017).
- Busy-hour traffic is growing faster than average traffic; will increase 3.5x 2012-2017 compared to 2.9x for average traffic.
- By 2017, average global broadband speed will grow 3.5-fold, from 11.3 Mbps (2012) to 39 Mbps (2017).

- Consumer Internet video will be 69% of all consumer traffic in 2017, up from 57% in 2012. All video, including peer-to-peer (e.g., BitTorrent), will be 80-90% of consumer traffic.
- Content Delivery Networks (CDNs) will deliver almost 2/3rds of all video traffic and over half of all Internet traffic by 2017.

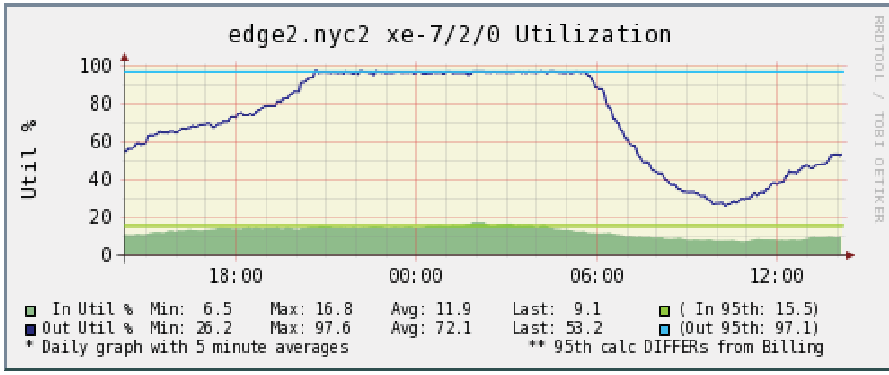
Source: Cisco VNI Report 2013

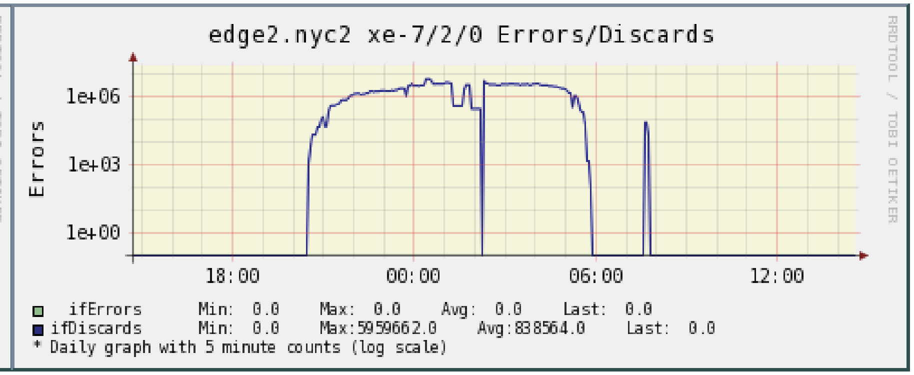
Content Can Follow Several Paths to Reach a Consumer's ISP – But Only One Path from the ISP to the Consumer



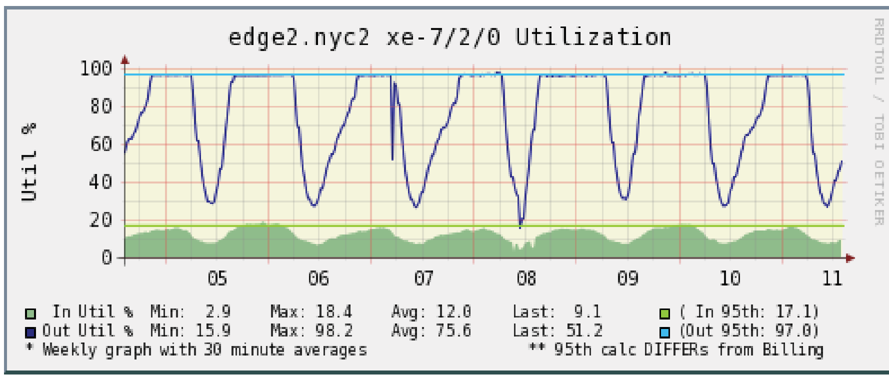
Some big ISPs have decided to leverage that bottleneck

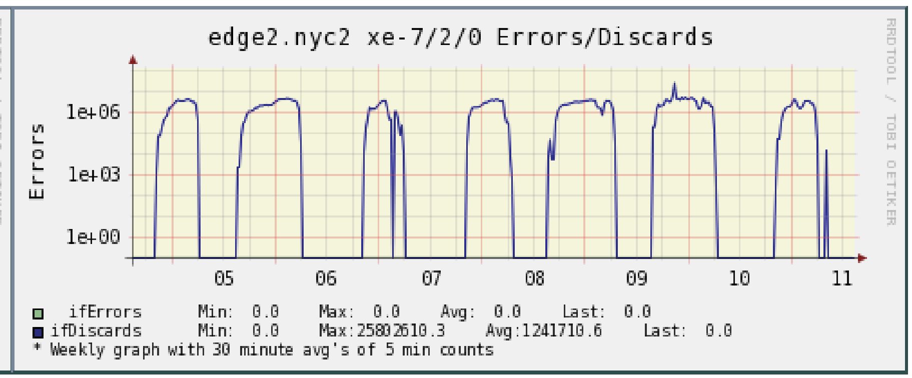
A typical Level 3 interconnection port with one ISP that has its own video service





24-hour view (times in GMT)





7-day view

- Ports congest, packets are dropped, and the user experience suffers
- Consumers are trying to access content, and Level 3 is ready and willing to augment interconnection capacity to deliver it, but the ISP refuses to deploy the infrastructure necessary to meet its own users' demand unless Level 3 pays a toll

Policy Implications

- The FCC's Open Internet Order addressed "discrimination" issues but not "peering" issues. But they are related.
  - ISP tolls that would apply only to competing video services would run afoul of the Open Internet Order.
  - But ISP tolls that facially apply equally to all traffic are effectively tolls on the most bandwidth-intensive services – video services that compete with the ISP's own video services.
- From the consumer's perspective, the effects of an ISP actively discriminating against competing video services are similar to the effects of an ISP refusing to supply interconnection capacity to meet the consumer's demand.
  - An ISP intent on discriminating against competing video services doesn't need to do anything – the ports are already congesting, and demand is just increasing.
- This is a problem today. And failing to address it will mean less innovation, less competition, and less consumer benefit from the Internet.