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# Comcast Settles P2P Throttling Suit: Everybody Loses

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<u>Comcast</u> has officially settled one of the active class action law suits brought against them regarding data discrimination. The result is that current and/or former Comcast customers in the United States that have, or used one of Comcast's broadband data services may be eligible for a \$16 payout. Comcast has allocated a total of \$16 million dollars to the program, but one of the stipulations of the settlement is that Comcast admits no wrongdoing. The question is: Was Comcast wrong in throttling bit torrent traffic?

## Finding Facts is Difficult

Many pundits have openly attacked Comcast and have encouraged their readers to believe that Comcast was indeed violating promises of fast service, or offered conspiracy theories about how Comcast was utterly terrified of the prospect of P2P (Peer to Peer) media transmission might render their existing business plans obsolete. A handful of other vendors have ardently defended Comcast's efforts, blindly labeling all P2P traffic as piracy and illegal. The truth probably lies with neither camp, and it seems likely that those who write such stories do so in a bold attempt to increase their viewership rather than actually distribute useful information. After all, people shouting cries of "guilty" or "innocent" at the top of their lungs are more likely to be heard than someone in the middle quietly suggesting that all of the facts be looked at and discussed intelligently.

An intelligent exploration of the Comcast P2P throttling issue probably needs to start with an examination of the industry in which Comcast competes, and Comcast itself.

# Thinking About The Problem From All Perspectives

The cable business is a very cutthroat industry, and Comcast is one of the leading players with a massive network and approximately 100,000 employees as of September 2009. The number of people who owe their jobs indirectly to Comcast is unknown, but it is reasonable to say that Comcast is certainly a very large operation no matter how one chooses to look at it. Large organizations facing stiff competition are often forced to make cutbacks whenever and wherever possible in order to remain as competitive and relevant as they possibly can, and that is what shareholders expect of a publicly traded company. This is doubly so of a publicly traded company that is in an industry that has recently seen challengers to their dominance from another industry. In this case the telecommunication giants such as AT&T, Verizon, QWEST, and many others that are all offering digital television programs.

This is a good time to examine the very first claim made by Comcast: P2P traffic slows down their network and causes consumer complaints regarding their broadband service. This claim would seem to be valid on a technical level because of way that P2P networks use 'swarms' to connect users who are sharing files. In fact, a great test of this would be to simply look at the help file associated with virtually any P2P program and look for caveats under the section about the number of peers that can be connected at any one time. There is almost always a notice that too many connections can cause router and/or network instability, and that leaving the defaults in place is probably a good idea. Obviously Comcast's expansive network uses industrial grade components with much higher tolerances than those used by consumer grade routers, but the fact remains that too many connections does indeed slow down network traffic.

The obvious counter to this argument is that Comcast should spend more money on their infrastructure and less money elsewhere. Remember that Comcast's network is very large, and that means that upgrades are likely to be very expensive. In a cutthroat industry with ever-increasing competition, expensive infrastructure upgrades are a very dangerous gamble. Could Comcast make cuts to pay for these upgrades? Even if they did decide to take that route, how long would such upgrades take in a financially responsible manner that would not cause investors to retaliate and demand new leadership? After all, Comcast is a publicly traded company and its leadership cannot hope to stay gainfully employed if they behave in a fiscally irresponsible fashion. Those on one side of the argument might suggest that Comcast's executives are paid too much, while those on the other side would argue that high executive salaries are required to keep top talent. Whether there is truth or not in these statements, the fact is that even cutting back executive salaries may not be enough to begin significant infrastructure upgrades in the numerous markets that Comcast serves. Another alternative would be to trim employees, but Comcast is certainly a driving force in dire economic times, and reducing the number of employees in the United States is certainly not a viable long-term solution, especially if Comcast's claims of customer support centers being inundated with complaints regarding P2P traffic are true.

# What About Net Neutrality?

Others would bring up the entire issue of net neutrality and attempt to place blame on Comcast from a misinformed perspective that all data packets should be treated equally regardless of their contents, destination, and/or origin. The fact is that quality of service (QOS) technologies have long since been in place to ensure that time-sensitivity was a factor in data delivery. For example, a real-time video-conference needs priority over an FTP transfer in order to reduce or eliminate the appearance of a flaw in the network. QOS technologies have been integrated into operating systems for nearly a decade now, and the concept permeates virtually the entire Internet. Where should P2P traffic fit into this packet prioritization? It would seem that it should fit in fairly low, perhaps on par with FTP traffic, as the primary purpose of both FTP and P2P is to transfer files. Despite the desire for quicker download/upload speeds, the fact is that uploads and downloads are not necessarily time sensitive the way that live audio or video transmissions are.

The darker side of the Comcast net neutrality issue is the claim that Comcast's throttling of P2P traffic is an attempt to stymie further competition from companies that use bit torrent technology to deliver media over the Internet. Again, this seems highly misinformed as adding rules to Comcast's countless networking devices to intentionally slow traffic from and to an ever-increasing number of sources is likely to have a much greater negative effect than their blind-throttling technology that simply monitors for excessive active connections and throttles connections on a per-customer basis.

It is Comcast's use of Sandvine technologies and later disavowal of knowledge that is the hardest to defend. Sandvine's technology allegedly sends fake RST data packets to users who the network infrastructure believes to be using P2P applications. BitTorrent Inc. and Comcast began working on a project to alleviate these problems in late 2008, and the results seem to be favorable. No longer are consumers experiencing serious problems running P2P applications, but there are a few complaints about P2P speeds not being as high as expected. While that may or may not be the case, it brings the discussion full circle.

#### The Bottom Line

At the end of the day, the problem is really one of scale. Comcast is large, and their network infrastructure is simply staggering. Smaller providers are able to roll out upgrades to individual markets and receive a return on their investment rapidly. Comcast's monolithic size makes implementing sweeping reforms very difficult, and potentially unsound from an IT standpoint. This is one of the primary reasons why packet discrimination based on one media network versus another are ill conceived from a technical level. With legal P2P applications springing up all over the Internet, it certainly behooves Comcast to change but it is not reasonable to expect the company to make massive alterations to its extensive network infrastructure overnight. Those changes will be expensive, and may hurt Comcast's short and long term profitability, which may affect the performance of the company's stock. This in turn may affect the jobs of countless people, both directly and indirectly. So take the \$16, but it truly does seem as if that \$16 million could have been better spent in a court order or agreement to upgrade network infrastructure while keeping jobs at current levels than offering consumers enough money to buy a couple of sodas and a pizza. While Comcast may have cut their losses with such an agreement, it truly does not seem as if customers and lawyers involved in the law suit had their own long-term best interests at heart.

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