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March 29, 2011

Via email: patrick.owens@crtc.gc.ca

Canadian Radio-television and
Telecommunications Commission
Ottawa, ON K1A 0N2

Attention: Patrick Owens
Dear Mr. Owens:

Re: Complaint Regarding Rogers' Internet Traffic Management Practices; File # 522253 and File # 517209

1. I wish to thank you Mr. Owens for submitting my complaint.

2. I also wish to thank Rogers representatives for confirming that there is an issue with throttling while Peer to Peer ("P2P") is active.

3. However, Rogers states this issue only occurs when P2P traffic is active. I'd like them to please explain why users also seem to be experiencing **World of Warcraft** ("WoW") throttling without P2P being active on the user's connection, making gaming absolutely impossible.
    a. Is this being caused by additional throttling for some areas and not others?
    b. Is this being caused by SpeedBoost artificially causing congestion?
    c. Is this being caused by lack of infrastructure updates?
    d. Is this being caused by mass modem failure?
    e. Is this being caused by some other unknown issue?

Rogers Misinforming Consumers

1. I'd like to state that several Rogers employees have been disseminating semi-truthful information to users, stating:

    > "This issue may be caused due to the fact that World of Warcraft has some components which use P2P protocols. Upstream P2P traffic is managed on the Rogers network and if World of Warcraft does use these protocols, this could cause a slow down during gameplay. " (http://www.kingnerd.net/livelog-2011-01-25.html)

2. The truth is that the P2P protocols WoW uses are **only** used during patching, and are completely shut down before the WoW game engine even opens. P2P is NEVER in use during gameplay. So the question then arises, how is it that throttling is triggered while gameplay is active?

3. WoW hasn't been patched since **4.0.6a** on *February 16th, 2011*. How exactly could that patching process (which isn't even currently active) trigger the throttling now?

Background Information on the WoW download and patching process

There are multiple ways to patch the game to be fully updated:

- Use the "**Launcher.exe**" program

  This executable is what launches the download and patch process and is mandatory to run before being able to get into the game itself.
  You can use the P2P protocols as mentioned above, or disable P2P and download straight from Blizzard Entertainment's ("Blizzard") Content Delivery Network ("CDN"), Akamai. P2P is the default download method. However, most Rogers users switch to downloading from Akamai as it's usually 10x faster to download from vs P2P due to Rogers P2P throttling. The only time P2P could be active is when the "Launcher.exe" file is open. When the Launcher.exe file is closed (which is what happens when the user hits the "Play" button, launching the game engine), all P2P traffic from the patching process (if even active) is immediately halted before the game engine even loads.

- Live Stream while playing

  If the user has completed more than approximately 10% of the download via the Launcher.exe file, they can immediately log into the game by clicking a big "Play" button. The Launcher.exe file then shuts down and the patching process then continues in-game via a direct download stream from Blizzard's CDN on port 80, the standard http port.
  (http://us.battle.net/wow/en/forum/topic/1965992365?page=20#391)

  > "The only other port that will be sending and receiving data while playing is port 80 (CDN stream), but it has nothing to do with server interactions."

- Direct link to a patch (Macs only)

  Blizzard uses external service providers where users can download the patch without P2P service. The links to the downloads may be found on page on the Mac Technical Support forum here:
  http://us.battle.net/wow/en/forum/topic/1020802319.
  Patches are downloaded and executed on the client machine and patched without the use of any P2P connection.

- Manual Patch

  Some users in colleges/universities still can't patch fully (even with P2P disabled and attempting to download straight from Akamai), due to the schools completely blocking the downloads. These users wouldn't be

able to Live Stream while playing as they can't get to the requirement that users be able to patch 10% to be able to log in. So other users (such as myself) upload small files to a legal file sharing website so users can download the .zip file, and by following the included instructions, these users can manually patch their game themselves and be able to log in again.

1. If there is no patch for the user to download, there are no P2P connections being made, and no connection made to Akamai. This results in users being able to hit the "Play" button on the Launcher.exe file immediately, and being able to log into WoW without additional outgoing connections.

2. As you can see from everything above, P2P is only ever active during the patching process, if it hasn't been disabled already. The problem users are having is that there haven't been any patches for the game in weeks, so no P2P would be active to trigger the P2P throttles, yet they're ***still*** being throttled.

3. Note that Blizzard has used these P2P protocols for several years, and not ONCE has there been an issue with Rogers throttling gaming from it. It is only from these latest bungled updates have there been problems (there are other programs affected, as I will mention below).

Background information on Gameplay Connection:

1. During gameplay, game-related traffic that is sent between the client and Blizzard's servers occurs on port 3724, as registered with the IANA (http://www.iana.org/assignments/port-numbers). Deep packet inspection will show these packets identified as Blizzard or World of Warcraft (Wireshark for example will show this traffic as "WOW").

2. There is also no P2P active during gameplay, as all communication is done directly from Blizzard, to the user, and back to Blizzard (or from Blizzard's CDN direct to the user in the case of the live stream).

3. There is no reason whatsoever that P2P throttling should be triggering during gameplay.

Their 'supplier'

1. Cisco (creators of Rogers' DPI systems, unless they've recently changed suppliers) experienced this issue, but had managed to fix this problem in under 2 months for their customers (the problem was most apparent with students at colleges and universities in the US). It was stated by a Blizzard rep in October that the fix would be in the patch deployed at the end of November 2010.

2. Essentially, Cisco's network management product was incorrectly classifying WoW traffic as P2P traffic. They released a protocol pack which addressed this on December 14, 2010[i]. This protocol pack was obviously installed, as there are many users who aren't being throttled without P2P being active. Why is fixing this going to take an additional 3 months when users have already been waiting months on end for this to be fixed?

Timeline for the active complaint & total failure to communicate on the part of Rogers

1. This issue has been active with many Blizzard products and not just World of Warcraft since **Sept/Oct/Nov 2010**. Different users in different areas report they began being affected at different times. Which we can only assume the most likely reason being due to Rogers beginning rollout of these DPI updates to separate areas. Users during this time began contacting Rogers about their disconnection, and extreme latency issues, however all users were essentially ignored, and the problem was seemingly never escalated above the Rogers Tier 1 Tech Support despite the numerous complaints.

2. In the thread I linked in my original complaint, where **RogersKeith** (*the Rogers representative, Keith McArthur*) admitted that Rogers was incorrectly throttling certain programs due to DPI changes, World of Warcraft and other games were mentioned several times as being affected by this issue. Nothing was done about these complaints.
   http://www.dslreports.com/forum/r24909823-Extreme-Plus-Utorrent-Settings-and-Rogers
   http://www.dslreports.com/forum/r24911786-
   http://www.dslreports.com/forum/r24916648-Extreme-Plus-Utorrent-Settings-and-Rogers)
   http://www.dslreports.com/forum/r24917054- Resulted in http://www.dslreports.com/forum/r24930667-
   http://www.dslreports.com/forum/r24948304-
   http://www.dslreports.com/forum/r24986087-
   http://www.dslreports.com/forum/r25043077-
   http://www.dslreports.com/forum/r25114954- Note that this is the original CRTC complainant - Justin McKillican

3. Again, despite all these posts being done before **RogersKeith** had even posted (he'd obviously been monitoring that thread specifically), these issues were not forwarded to be fixed. There is no excuse for not forwarding these problems when **RogersKeith** works directly with the employees tasked to fixing this.

4. When Blizzard employees realized Rogers was ignoring their customers' complaints, they began emailing Rogers to attempt to assist Rogers in fixing this issue. These emails from Blizzard to Rogers began in December. Every single last one of them were ignored. A Blizzard rep touches on this in a post on the forums (http://us.battle.net/wow/en/forum/topic/1568009046?page=10#200)

   > "We have sent numerous emails over the past few months, and I regret to inform you that I haven't seen a reply come back yet"

5. Rogers continued to ignore user complaints until a post was made in the Rogers forum on January 17th, 2011.

   http://communityforums.rogers.com/t5/forums/forumtopicpage/board-id/Getting_connected/thread-id/557

6. On January 23rd, 2011 I was contacted by a Blizzard representative from Blizzard's Network Operations Center (NOC) and asked to forward their contact information to Rogers. I then messaged Rogers representative (**RogersErin**), forwarded the email address, and urged her to contact Blizzard for assistance in fixing this issue. Over the next few weeks, I continued to speak to the same Rogers rep, continuing to urge them to contact Blizzard.

7. On February 22nd 2011, I messaged another Rogers Representative (**RogersHemal**) requesting where our promised update to the situation was, as it was overdue (the previous week I'd opened an online ITMP support ticket, looking for an update, and was told by him there'd be an update by February 18th, 2011). I received a message back from him, stating they were in fact in contact with Blizzard, and didn't know why Blizzard said they weren't.

http://dl.dropbox.com/u/9038867/Rogers/Rogers%20Hemal%20-%20Contact%20with%20Blizz.pdf

8. However when the Blizzard Representative was contacted for confirmation, he stated he had not been contacted (it was his email address that was forwarded to Rogers) and that unless they were talking to the wrong department entirely, there was no contact made between Rogers and Blizzard.

9. On March 18th, 2011 a Blizzard representative publicly stated Rogers had NOT contacted Blizzard, and hoped they would soon (http://us.battle.net/wow/en/forum/topic/1568009046?page=10#200). At this point the original Rogers representative (RogersErin) was contacted again:

http://dl.dropbox.com/u/9038867/Rogers/Rogers%20Erin%20March%2018%202011.pdf

10. I received no response back, but suddenly, within just a few hours of that message back to Rogers, they had finally contacted Blizzard, but only to state they'd be contacting Blizzard on **March 21st, 2011**, the day before they had to respond to the CRTC complaint.

11. I don't know how Rogers can 'continue' to be in contact with Blizzard (as stated in their CRTC response), when they couldn't be bothered to contact Blizzard until the day before their CRTC response was due.

12. It is apparent that there was a significant breakdown in communication on the part of Rogers regarding these throttling issues. This time-line shows it's clear that despite being told of an issue, Rogers made no attempts to fix said issue, and seemingly attempted to brush it under the rug and ignore it, hoping we'd forget about it and go away.

13. By the time Rogers gets around to fixing this issue in June 2011, it'll have been active for 7-9 months depending on the customer's area. ***This is completely unacceptable***.

Setbacks

1. A Rogers employee states that due to a change in Blizzard's engine (which was done mid-February), their 'fix' at the beginning of March was unsuccessful (http://communityforums.rogers.com/t5/forums/forumtopicpage/board-id/Getting_connected/thread-id/557/page/16).

2. There were 2 minor changes; 1 which reverted the ports WoW connected on back to pre-summer 2010 defaults (I can only assume Blizzard was testing if this would fix our throttling problem), and the other which had to do with Nagle's Algorithm.

   Pre- Patch 3.3.5
   TCP 1119 - Battle.NET authentication
   TCP 3724 - Game Data communication between client and server
   TCP 3724 - P2P patch distribution (Bittorrent Protocol)
   UDP 3724 - In-game voice chat.

   June 22nd 2010 (Patch 3.3.5)
   TCP 1119 - No changes from above.
   TCP 3724, 4000, 6112-6114 These ports were used for game-related traffic to the game server. WoW randomly selects 1 or 2 of these ports for connection to 2 game server IP addresses (as an example, the user will connect to the following 2 IP addresses for their game server: 206.18.98.188 and 206.18.98.189)
   UDP 3724 - No changes from above.
   TCP 6881 - 6999 - P2P patch distribution (Bittorrent Protocol)

   February 8th, 2011
   Reverted to pre-June 22nd, 2010 port usage (minus P2P patch distribution ports, as those stayed the same as the ones from June 22nd, 2010)
   Enabled TCP_NODELAY option for WoW

   February 10th, 2011
   Disabled TCP_NODELAY due to a small % of customers experiencing problems

3. This change by Blizzard was essentially only to flip the Nagle's algorithm switch on the game servers, as 1% of Blizzard's customers (ones who were running unsupported connection methods) were experiencing higher than normal latency issues. Nagle's Algorithm can vastly improve user's in-game latency for users with stable connections, which is why it was enabled it in the first place. This change effectively changed the size of the contents of the packets, and how often they were transmitted. As far as I'm aware, **no** other ISP in North America had an issue with this change but Rogers, as Cisco had already fixed the throttling WoW issue for their customers.

4. To add to this, Blizzard will be giving WoW users the option to enable Nagle's algorithm based on whether this change will result in the user getting better in-game latency or not. This change is currently being tested by users on a Public

Test Realm, and will be implemented sometime in April. Rogers has been warned of this, but whether they'll take this into account while fixing their flawed DPI system is to be seen.

5. If Rogers doesn't heed the warning, chances are users will be waiting even longer than June (as stated by Rogers in their response to my original complaint) for a proper fix for this issue.

Additional affected programs

1. This issue also seems to affect other traffic as well. Games such as Starcraft II, Diablo, Diablo II, Heroes of Newerth, and Rift seem to be affected, as is Skype (a VOIP program which can compete with Rogers own Telephone service). How long is it going to take to fix those too? Can we assume at least 5 months for each as well, considering Rogers hasn't even looked into these programs yet?

2. Rogers employees have been made aware of these other programs also being inappropriately shaped by Rogers DPI systems (per the thread on the Rogers forum http://communityforums.rogers.com/t5/forums/forumtopicpage/board-id/Getting_connected/thread-id/557), however only Starcraft II is being tested, and all other products are seemingly being ignored as if there is no issue with them.

Issues with throttling

1. The only reason I can see why WoW and all these other programs would suddenly be affected by throttling while P2P is active (when previous to this September-December update to their DPI systems there were no issues, and NOTHING else has changed for most of these other programs EXCEPT for the DPI update), is because Rogers is now proactively throttling the **entire customer's connection** when it senses P2P.

2. Rogers will then whitelist programs if users complain that their program is being incorrectly throttled.

3. Unfortunately, this means that users who aren't as technically-minded will continue to have their programs incorrectly throttled with no abatement unless someone who IS technically-minded, spearheads a mass-complaint (as I was forced to) to get Rogers' attention and get the problem fixed.

4. This is also only if you can manage to have Rogers listen to your complaint, escalate it, and act on it, which seems to be quite difficult considering the timeline as shown above.

5. This change to their DPI systems goes directly against their current ITMP as stated on the Rogers website, where they state they only throttle the upload of P2P. This change will also continue to cause issues where Rogers will incorrectly throttle time-sensitive applications, which is again, against CRTC policy.

6. Are Rogers customers supposed to wait 9 months for a fix for every patch for every single game or new program that releases? I remind you that they previously attempted to patch their systems for WoW, however a game patch negated their fix, and they had to go back to the drawing board for fixing our problem.

Requests

At this point, I'm requesting the following:

1) That ISPs drop all ITMP practices, and instead upgrade their infrastructure to handle the increased traffic.

2) Failing this, I request that the CRTC recommend Rogers immediately revert the DPI patches applied from September to December which caused this problem (as **RogersKeith** previously stated they were going to do, but seemingly never did as the problem was never fixed for any of these programs).

3) Rogers should only be directly targeting P2P as stated in their current ITMP, and should not be throttling the entire connection when P2P is detected.

4) I'm requesting the CRTC make all ISP's fully disclose targeted applications in their ITMP FAQ. In addition, I'd request that their traffic management policies for these applications be transparent to their customers.

5) I'm requesting that the CRTC impose a reasonable time frame on ISPs for resolving ITMP issues of 30-60 days, whereby the time frame will span from the date the customer reported the ITMP issue to the ISP, to the date of resolution of the issue by the ISP.

6) Will current Rogers customers be reimbursed for their gaming subscriptions that they couldn't use due to Rogers being so slow to acknowledge and fix this issue? Most of these gaming subsciptions are roughly $15 USD per month. Customers have been paying for unusable services which they can't even use due to Rogers.

7) Will these reimbursements also include former Rogers customers who have been forced to switch ISPs due to Rogers negligence?

8) I realize some of these requests are already policy at the CRTC. I respectfully request that you fully enforce them.

9) I believe appropriate action should be taken in accordance with CRTC policy 2009-657, Review of the Internet traffic management practices of Internet service providers, paragraphs 125 and 126
   i) In the case of time-sensitive audio or video traffic (i.e. real-time audio or video such as video conferencing and voice over Internet Protocol (VoIP) services), ITMPs that introduce delays or jitter are likely to cause degradation to the service. The Commission considers that when noticeable degradation occurs, it amounts to controlling the content and influencing the meaning and purpose of the telecommunications in question.

ii) Accordingly, the Commission finds that use of an ITMP resulting in the noticeable degradation of time-sensitive Internet traffic will require prior Commission approval under section 36 of the Act.

for the behaviors mentioned in this document.

10) Rogers has broken CRTC policy since September 2010, and will continue to do so at least until June 2011 without any penalty.

11) I'm requesting the CRTC fine Rogers for throttling multiple time-sensitive applications without prior CRTC approval, and then taking an unreasonable amount of time to fix this issue. Rogers has known about this problem and nothing was done about it.

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Ken Thompson ken.thompson@rci.rogers.com

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[i] Cisco Protocol Pack 23
http://docs.google.com/viewer?a=v&q=cache:2Rv1qsB0M7MJ:www.cisco.com/en/US/docs/cable/serv_exch/serv_control/broadband_app/protocol_pack/PP_Note_current.pdf+protocol+pack+23+wow&hl=en&pid=bl&srcid=ADGEESjFjiY-6nD6YnK36qC2NA2J5t106ylBf9AlJyI0tjMtdMT4_GJhPXcnPYgrVgNjqFykcXjHsRcbjj0m2XolBOnbO6r3jgqqG7JoBA0LoI80KEdwuQO00kWCsewopLq1z82sGQyF&sig=AHIEtbRKajD_ty-S2SVqQSIi_XVtIWP5kA&pli=1