



INFORMATION TECHNOLOGY SERVICES

TO: John Szerlag, City Manager

FROM: Michael Ilczynyn, Assistant City Manager *MI*
Michelle Hoffmann, ITS Director *myh*

DATE: January 12, 2017

SUBJECT: Netflix Usage

As the City moves to more cloud-based applications, such as Office 365, Internet speeds become more critical. Information Technology Services noticed that the City's Internet speeds were beginning to slow down in September 2016, and began to perform some diagnostics. The City's firewall monitors traffic in and out of the City's network. The firewall's diagnostics provided insight into the utilization of the Internet and identified usage from streaming video and music sites. Streaming video and music sites typically use more Internet bandwidth than other Internet applications and thus have a higher impact on Internet speeds. Therefore, ITS decided to block access to some of the streaming sites that did not appear to have a business purpose.

To avoid interruptions in departmental business operations, the ITS Director notified department directors that ITS would be blocking access to certain streaming Internet sites. If departments had a valid business purpose for accessing these sites, they were advised to notify ITS. This resulted in a discussion over concerns regarding the usage of data streaming during working hours, in particular, the data services provided by Netflix.

ITS was asked to provide user-level detail on Netflix usage for review. Subsequently, ITS provided a firewall report detailing Netflix usage for roughly a three-month period. The firewall report only provides the user name, start time and amount of data that was streamed during a session; however, it did not provide end time. To determine how long a user was streaming on Netflix, the rate of data streaming would need to be known. Netflix sells three levels of accounts: basic, standard and premium. The Netflix account level controls the quality of the video that can be viewed. Higher quality video has a higher rate of data streaming. Please know the City does not have any Netflix accounts.

ITS conducted tests on the City's network to determine the rate of data streaming at the various account levels. The tests showed that a basic account user would stream data at approximately 0.24 GB/Hr, a standard user at 1.35 GB/Hr and a premium user at

1.53 GB/Hr. Since there are three distinct rates of data streaming with Netflix, and ITS does not have access to user account data, providing only a range of viewing time is possible. Furthermore, testing showed that the firewall was not able to distinguish between a user who actively watched a video or a user who may have minimized the Netflix video and was not actually watching. Tests also showed, and the firewall manufacturer confirmed, that Netflix trailers playing as advertising on other websites would show up on the firewall report in the same manner as a person actually watching a video.

Finally, at least one anomaly existed in the firewall report. A member of the ITS staff was listed as being signed onto another user's computer and watching Netflix at the same time the ITS staff member was in a meeting in the ITS meeting room with an outside vendor. Without positive confirmation from each employee, there may be additional scenarios where similar log-in anomalies exist.

With this limited information, staff had to determine how much data usage would be considered "incidental" use versus "misuse" of City computer equipment. Based on the streaming information gathered and tests performed, we set the base limit for misuse at 1.0 GB over the three-month review period. This equates to streaming activity at a minimum of 39 minutes per GB (premium user) to a maximum of 4 hours per GB (basic user).

Using the 1.0 GB baseline, the usage report from the firewall showed 47 employees misused City resources (41 in Police, 3 in Parks, 2 in Utilities, 1 in Finance). While most of these employees may not have been viewing Netflix while working, the usage was in violation of the City's administrative policy regarding use of City computer equipment. Based on the City's Personnel Ordinance and progressive discipline requirements, all 47 employees received verbal warnings.

Please let us know if you need additional information.

Cc: David Newlan, Chief of Police
Stephen Pohlman, Parks Director
Jeff Pearson, Utilities Director
Victoria Bateman, Finance Director
Kelley Fernandez, Business Manager
Connie Barron, Public Affairs Manager