City of Saskatoon Joins the Local Internet Exchange

Recommendation
That the Standing Policy Committee on Environment, Utilities and Corporate Services recommend to City Council:
1. That the City of Saskatoon join the Saskatoon Internet Exchange as a non-profit member; and
2. That a member of Administration, as determined by the City Manager, be permitted to serve on the Board of Directors for the Saskatoon Internet Exchange.

Topic and Purpose
The City of Saskatoon has been invited to join the Saskatoon Internet Exchange (YXEIX), a not-for-profit internet exchange that allows peers to connect with other companies. The purpose of this report is to update City Council and to seek City Council's approval to join this initiative as a member and serve on the Board of Directors.

Report Highlights
YXEIX provides, on a not-for-profit basis, an electronic infrastructure to exchange Saskatchewan-based internet traffic. This will increase the transfer speed of internet communications between Saskatchewan companies, neighbors and family members, resulting in better internet experience for City employees, enterprises that are part of this initiative and citizens accessing the City's web services.

Strategic Goals
Under the Strategic Goal of Continuous Improvement, this report supports the long-term strategies of providing services by improving the City's internet connection. This report also supports the Asset and Financial Sustainability goals by mitigating risks by providing a redundant internet connection.

Background
An Internet Exchange is a hub where independent networks can interconnect directly to one another via the exchange, rather than through one or more third-party networks. This provides high-bandwidth at a lower cost and low-latency access compared to traditional transit.

Network latency is defined as the time it takes for the data to travel through the network; shorter the distance, faster the data transfer. Direct interconnection of two organizations located in the same city avoids the need for data to travel to other cities (potentially on other continents) to get from one network to another, thus reducing latency. For example: If Microsoft and the City are part of the same internet exchange, any data transfer between these two organizations will travel locally through the exchange, thereby reducing the latency and improving user experience.

Canada's Internet Exchange network is growing. Governments, universities, content providers like Google and YouTube, Internet Service Providers (ISP) like Shaw, cloud services (Microsoft and Google), and businesses are interconnecting to experience faster, cheaper and more robust internet through mutual peering agreements.

An Internet Exchange can also provide internet redundancy for business continuity: Entities peering at Internet Exchanges can continue to safely operate Internet and email services in the event of a service breakdown with the local ISP.

The organization uses the name YXE as a location specific address and IX simply means Internet Exchange. YXEIX is a non-profit corporation, Saskatoon Internet Exchange, and an organization that joins becomes a member. The members determine who can serve on the Board of Directors. Members are also termed peers. One can cease being a member, or a peer at any time.

Report
Internet Exchanges are well established in a number of Canadian cities including Calgary, Edmonton, Vancouver and Toronto among others. YXEIX is at its infancy and has a limited number of peers at this point. The value of this exchange will grow as well-known organizations like Google, Facebook, Yahoo, Microsoft, Amazon, banks and large local organizations join the local peer group as they have done in other cities. The overall impact of this will be faster services for the City employees that use the services of these organizations as the internet traffic to these organizations will now be routed via YXEIX rather than the internet. As well, it will allow organizations participating in this initiative to access City's internet services more efficiently. In addition to faster speed with low latency, it will also provide a redundancy in case there is a breakdown of services to the primary ISP.

YXEIX does not compete with the ISPs, but instead complements their services to improve local internet performance as no traffic, bandwidth or other services are being sold by YXEIX. Therefore, this agreement will not impact the existing agreement with the City's current ISP SaskTel, but will complement it. As well, the City has asked SaskTel and Shaw to peer with the City directly. This will allow customers of these two ISPs to have a direct connection to Saskatoon.ca and eliminating the need for the data to leave Saskatchewan, thereby improving the user experience by reducing latency and providing faster response times.

YXEIX will improve the overall technology posture of the Province and the Administration is proud to support this initiative by agreeing to host an exchange node in its data center as part of the City's long standing tradition of supporting local innovation. (A node is a switch for directing/transferring internet traffic and data, interconnected together to form the Exchange). The City has also volunteered the expertise of Jazz Pabla, IT Technology Infrastructure Manager, to serve on the Board of Directors to support and grow this initiative.

Options to the Recommendation

The option is to unsubscribe to this service. However, that is not recommended as the City has a long history of supporting local innovation and will miss the opportunity to improve its internet services.

Communication Plan
A Communication Plan will be developed at a later stage if required.

Financial Implications
The cost of joining this initiative is $1,200 per annum. Funding is available within the Information Technology's operating budget for this initiative.

Other Considerations/Implications
There are no public and/or stakeholder involvement, policy, environmental, privacy or CPTED implications or consideration.

Due Date for Follow-up and/or Project Completion
None required.

Public Notice
Public Notice pursuant to Section 3 of Policy No. C01-021, Public Notice Policy, is not required.

Report Approval
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Reviewed by:	Paul Ottmann, Director of Information Technology
Approved by:	Dan Willems, A/General Manager, Corporate Performance Dept.

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