TO: Chair and Members
Audit and Administration Committee

WARD(S) AFFECTED: CITY WIDE

COMMITTEE DATE: September 22, 2010

SUBJECT/REPORT NO: Atria Networks LP Contract Extension (FCS05021(a)) (City Wide)

SUBMITTED BY: Roberto Rossini
General Manager
Finance & Corporate Services

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RECOMMENDATION:

That the General Manager of Finance and Corporate Services be authorized to exercise the five year extension option available in the existing Atria Networks LP contract, with revised pricing.

EXECUTIVE SUMMARY

The City’s fibre network provided by Atria Networks LP (Atria) is an essential element in delivering data and voice services to staff on a daily basis. Atria’s fibre network and the City’s corporate Local Area Network (LAN) cover a major portion of the City’s geographical area. With the advent of fibre networks, such as the Atria network, connection speeds (bandwidth) of 10, 100 and 1,000 Megabits per second (Mbps) are being realized at over 150 City locations.

The growth of the network infrastructure has, over the last several years, facilitated the delivery of electronic services to a broader group of staff and extended on-line services to the public via the City’s web site. At present, the Atria network infrastructure provides computer network connectivity to over 3,700 City staff at over 150 City locations. The City’s Voice over Internet Protocol (VoIP) telephone system also now operates over this widespread computer network extending phone services to over 3,700 staff across the City. As applications become more sophisticated and the demand for video and other graphically intensive services increases, it is critical that our network infrastructure be...
flexible enough to meet the technology needs of the various City departments. Residents and businesses in Hamilton are also expecting more services to be available on the internet and the City can only deliver these services with a network infrastructure that is reliable and responsive with broad geographic coverage.

In an effort to manage costs for, and the growth of, the fibre LAN network, the City entered into an agreement with FibreWired (now Atria Networks LP) as approved by Council through report FCS05021 in May, 2005. This agreement was for a five year term with the option to extend, for an additional five year term, under the same terms and conditions. The Information Services Division has met with Atria to negotiate pricing and discuss future growth options with the goal of providing increased flexibility in a cost-controlled manner. The extension option will adhere to the original terms and conditions with the exception of the new prices that have been negotiated which provides a higher level of service while maintaining our overall costs at the current level.

A dynamic, reliable network that provides acceptable response times and delivers critical technology solutions is essential in meeting the City’s strategic goals. Atria is the only provider in this area with the infrastructure to provide service to the majority of the municipality with significant bandwidth to facilitate the City’s Voice over Internet Protocol (VoIP) telephony solution which provides phone service to over 3,700 phones in City facilities including HECFI and the Hamilton Public Library. An alternate solution would require a partnership between the various cable providers. With the increasing dependence on the availability of the network, a single provider reduces the risk of interrupted service, minimizes the length of service interruption and also eliminates the need to manage multiple contracts.

The total cost of this five year contract, based on the current network configuration, is $3,616,398. Based on the City’s current network configuration, the costs during the life of the contract will be reduced by $8,000 when compared to maintaining the current monthly agreement. Moving to this new agreement, while saving minimally, allows us to maintain current spending levels while increasing the number of 50Mbps, 100Mbps and 1000Mbps circuits by 5, 5 and 2 respectively providing a larger number of faster circuits.

This agreement covers the City of Hamilton, HECFI, Hamilton Housing and the Hamilton Public Library. Hamilton Police Service has a separate agreement with Atria.

This single, comprehensive long-term agreement will provide a mechanism for the City to grow its network, as needed, and to deliver voice, data and video services in the same reliable manner in which they are currently delivered.

**Alternatives for Consideration – refer to page 5.**

**FINANCIAL / STAFFING / LEGAL IMPLICATIONS (for Recommendation(s) only)**

**Financial:**  None.

**Staffing:**  None.

Vision: To be the best place in Canada to raise a child, promote innovation, engage citizens and provide diverse economic opportunities.

Values: Honesty, Accountability, Innovation, Leadership, Respect, Excellence, Teamwork
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Legal: None.

HISTORICAL BACKGROUND

In the early 1990’s, in partnership with Hamilton Hydro, the City of Hamilton began to build a high-speed fibre optic network infrastructure. In 1998, FibreWired (now Atria Networks LP) was formed as a subsidiary of Hamilton Utilities Corporation and began providing wide area communications services to critical clients in Hamilton, e.g., the health care sector, municipal government, school boards and emergency services. Today, Atria offers a variety of local high-speed data telecommunications services to businesses and organizations across the City of Hamilton. Atria offers similar services, in a number of other areas across Ontario, e.g., in the York and Waterloo areas and the Cities of Barrie and Ottawa.

The Atria network infrastructure in Hamilton provides connectivity to over 3700 City staff at over 150 City locations (including all Library branches) while also providing the internet. The fibre-optic links to City locations are leased by the City and deliver between 10 Megabit per second (Mbps) and 1000 Mbps of circuit capacity or bandwidth. For the purposes of this report, bandwidth refers to the amount of data that can be transmitted over a network at any given time. The higher the network bandwidth, the greater the volume of data that can be transmitted, resulting in a faster response time for the end user.

An extension to the existing contract with Atria will continue to allow the City the flexibility to increase the bandwidth, at any location, based on meeting a pre-defined threshold of usage. This is known as right-sizing (or bandwidth on-demand) and can provide up to 1000 Mbps of bandwidth depending on availability. Essentially, the bandwidth increases but the cost remains fixed.

Proactive monitoring tools are provided for all circuits. These tools will include online graphs used to measure bandwidth usage statistics and trending reports. This is a service that is extremely useful to the Information Services Division in the management of the network.

The contract with Atria provides the following benefits to the City:

- 24/7 support
- Quality of Service (QoS) – for guaranteed voice and data quality
- Coverage to the majority of the City’s large geographic area
- Removal of the internet threshold
- Proactive monitoring and tools for all circuits
- “Right-sized” transparent circuits (bandwidth on-demand)
- Predictable costs for moves, adds and changes
IP Telephony
The City’s data network was built on industry-standard Internet Protocol (IP) communications. In 2003, the City’s phone system was replaced with a new technology, known as IP Telephony. This technology has permitted the delivery of voice services via our computer network resulting in annual savings of approximately $2.3 million.

Atria was a directly involved partner throughout the implementation of IP Telephony and currently provide a specialized Quality of Service technology to ensure voice and data quality is maintained at acceptable levels.

An integrated, high-performance network is a pre-requisite for an integrated phone system and the City has leveraged the Atria data network by using it to facilitate the delivery of voice services.

POLICY IMPLICATIONS
Policy 11 – Single Source.

RELEVANT CONSULTATION
City Manager’s Office, Legal Services Division
Corporate Services – Treasury Office, Financial Services Division, Purchasing Section

ANALYSIS / RATIONALE FOR RECOMMENDATION
(include Performance Measurement/Benchmarking Data, if applicable)

A dynamic, reliable network that provides acceptable response times and delivers critical technology solutions is essential in meeting the City’s strategic goals. Atria is the only single provider of this type of service covering the majority of the municipality. Any other solution would require a partnership between suppliers to meet the needs of the City. With the increasing dependence on the availability of the network, a single provider reduces the risk of interrupted service, minimizes the length of service interruption and also eliminates the need to manage multiple contracts.

The costs negotiated for the five year extension are outlined in the following Table based on the current 151 circuits (locations). These costs are based on a per circuit pricing. Each circuit is priced the same regardless of the bandwidth provided by the circuit.

<table>
<thead>
<tr>
<th>Year</th>
<th>Monthly cost per circuit $</th>
<th>Total monthly cost $ (based on 151 sites)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Effective May 31, 2010</td>
<td>$318.46</td>
<td>$48,087.46</td>
</tr>
<tr>
<td>Effective May 31, 2011</td>
<td>$335.22</td>
<td>$50,618.22</td>
</tr>
<tr>
<td>Effective May 31, 2012</td>
<td>$352.86</td>
<td>$53,281.86</td>
</tr>
<tr>
<td>Effective May 31, 2013</td>
<td>$371.43</td>
<td>$56,085.93</td>
</tr>
<tr>
<td>Effective May 31, 2014</td>
<td>$390.98</td>
<td>$59,037.98</td>
</tr>
</tbody>
</table>
In addition to the above charges for individual circuits, the contract also includes pricing for dark fibre, internet provision and slower speed Asymmetric Digital Subscriber Lines (ADSL) connections. Dark fibre is a service managed by Atria which provides a redundant network for 3 City locations. ADSL lines are used in locations where lower bandwidth (lower speed) is adequate, such as recreation centres. ADSL circuits are invoiced at $165.00 per month versus a fibre circuit at $302.85 per month. Pricing based on the current configuration is outlined in the following Table. The cost for internet provision has decreased by $65,496 annually or $327,480 over the five year term. The remaining services, as indicated in the following Table, for Dark Fibre and ADSL connections remain at the originally contracted price.

<table>
<thead>
<tr>
<th>Year ending May 31</th>
<th>Internet $/ month</th>
<th>Dark Fibre $/ month</th>
<th>ADSL $/ month</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>$8,258</td>
<td>$3,146</td>
<td>$905</td>
</tr>
<tr>
<td>2010</td>
<td>$2,800</td>
<td>$3,146</td>
<td>$905</td>
</tr>
<tr>
<td>2011</td>
<td>$2,800</td>
<td>$3,146</td>
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<tr>
<td>2013</td>
<td>$2,800</td>
<td>$3,146</td>
<td>$905</td>
</tr>
<tr>
<td>2014</td>
<td>$2,800</td>
<td>$3,146</td>
<td>$905</td>
</tr>
</tbody>
</table>

The following Table outlines the financial impact of this five year contract and includes 2009 pricing for comparison purposes. **Note:** that in year one, two and three, the costs are lower than our current agreement offers. Based on the City’s current network configuration, the costs during the life of the contract will be reduced by $8,000, compared to maintaining a monthly agreement. Moving to the new agreement, while saving minimally, will allow us to maintain current spending levels while increasing the number of 50Mbps, 100Mbps and 1000Mbps circuits by five, five and two respectively providing a larger number of faster circuits.

<table>
<thead>
<tr>
<th>Year</th>
<th>Circuit Cost $/year</th>
<th>Internet $/ year</th>
<th>Dark Fibre $/year</th>
<th>ADSL $/year</th>
<th>Total Cost $/year</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>$577,050</td>
<td>$99,096</td>
<td>$37,752</td>
<td>$10,860</td>
<td>$724,758</td>
</tr>
<tr>
<td>2010</td>
<td>$577,050</td>
<td>$33,600</td>
<td>$37,752</td>
<td>$10,860</td>
<td>$669,262</td>
</tr>
<tr>
<td>2011</td>
<td>$607,419</td>
<td>$33,600</td>
<td>$37,752</td>
<td>$10,860</td>
<td>$689,631</td>
</tr>
<tr>
<td>2012</td>
<td>$639,382</td>
<td>$33,600</td>
<td>$37,752</td>
<td>$10,860</td>
<td>$721,594</td>
</tr>
<tr>
<td>2013</td>
<td>$673,031</td>
<td>$33,600</td>
<td>$37,752</td>
<td>$10,860</td>
<td>$755,243</td>
</tr>
<tr>
<td>2014</td>
<td>$708,456</td>
<td>$33,600</td>
<td>$37,752</td>
<td>$10,860</td>
<td>$790,668</td>
</tr>
</tbody>
</table>

**ALTERNATIVES FOR CONSIDERATION:**

(Include Financial, Staffing, Legal and Policy Implications and pros and cons for each alternative)

a) The City could continue with the existing contract pricing on a monthly basis. This would increase our costs by $8,000, over the five year term, while not allowing the City to take advantage of the additional higher speed circuits;
b) An RFP could be issued for this service, however, Atria is the only provider in this area that provides service to the entire municipality with enough bandwidth to facilitate the City’s VoIP system which provides phone service to 3,700 phones in City facilities including HECFI and the Library.

Any solution received as a result of an RFP would be either a wireless satellite solution or a partnership between a number of providers, with each provider only covering a portion of the City.

A partnered solution would involve the various cable companies throughout the City partnering to provide coverage over the entire municipality. This increases the risk of network interruption and increases the time to troubleshoot and recover any network interruption because multiple partners are involved. Any network wide interruption would impact the ability to access and share computer files and, more importantly, disrupt all phone service within over 150 City facilities. A partnered solution also requires the maintenance of additional contracts.

A satellite solution would not meet the needs of the City’s VoIP system due to latency issues. Latency has the reputation of being the enemy of VoIP. It is also called lag. Latency is the time between the moment a voice packet is transmitted and the moment it reaches its destination. This leads to a garbled and unintelligible conversation. Latency is caused by slow network links. Satellite is a line of sight solution therefore it would be difficult and expensive to provide in building coverage.

The City has invested a significant number of resources into building the current state-of-the-art, high-speed network. It is unlikely that other providers are in the position to deliver similar services, with similar service levels and reliability at competitive costs, to the wide geographic area where City sites exist. Transitioning to an alternate provider would require months of full-time staff effort and would subject the City to the increased risk of service interruptions.

<table>
<thead>
<tr>
<th>CORPORATE STRATEGIC PLAN</th>
<th>(Linkage to Desired End Results)</th>
</tr>
</thead>
</table>


**Skilled, Innovative & Respectful Organization**
- More innovation, greater teamwork, better client focus
- An enabling work environment - respectful culture, well-being and safety, effective communication

**Financial Sustainability**
- Financially Sustainable City by 2020
Vision:
To be the best place in Canada to raise a child, promote innovation, engage citizens and provide diverse economic opportunities.

Values: Honesty, Accountability, Innovation, Leadership, Respect, Excellence, Teamwork

- Delivery of municipal services and management capital assets/liabilities in a sustainable, innovative and cost effective manner

**Growing Our Economy**
- An improved customer service

**Environmental Stewardship**
- Reduced impact of City activities on the environment

**APPENDICES / SCHEDULES**

N/A.