



## STAFF REPORT INFORMATION ONLY

### Status Update on Potential Savings in Operating Costs as a result of the Consolidated Data Centre

<b>Date:</b>	September 24, 2008
<b>To:</b>	Budget Committee
<b>From:</b>	Chief Information Officer
<b>Wards:</b>	All
<b>Reference Number:</b>	P:/2008/Internal Services/I&T/bc08011I&T (AFS #8572)

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#### SUMMARY

The purpose of this report is to advise the Budget Committee on the potential operating cost savings that could be realized by the City of Toronto as a result of the planned consolidated Data Centre.

#### Financial Impact

There is no financial impact from this report.

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#### DECISION HISTORY

At its meeting held November 26, 2007 the Executive Committee had before it a report from the Deputy City Manager & Chief Financial Officer EX15.1 titled "The Budget Committee Recommended 2008 Capital Budget and 2009 – 2012 Capital Plan (November 12, 2008)". As part of the Information & Technology (I&T) budget submission, Recommendation 110 stated that "the Chief Information Officer report back to the Budget Committee before the start of the 2009 capital budget process on potential savings in operating costs as a result of the Consolidated Data Centre".

Executive Committee November 26, 2007 Decision Document

<http://www.toronto.ca/legdocs/mmis/2007/ex/decisions/2007-11-26-ex15-dd.pdf>

Audit Committee Report 1, Clause (2), City Council Minutes April 25, 26 and 27, 2006

<http://www.toronto.ca/legdocs/2006/agendas/council/cc060425/au1rpt/cl002.pdf>

## **ISSUE BACKGROUND**

### **Data Centre Facility Strategy**

The primary reason for the City to build a new Data Centre is to meet the projected needs for data centre services over the next 20 years. At present, the City's current Data Centre does not have any capacity for growth due to both space limitations, and more critically, electrical power and cooling constraints. The growth in data centre needs is for both the primary production site as well as for an alternate site for disaster recovery purposes.

I&T Divisional staff have investigated long term options such as outsourcing its data centre activity to a third party provider, leasing additional space or co-locating in a shared facility on an as needed basis, and retrofitting the current facilities. The pros and cons for each of these options were identified and assessed. Two key elements emerged from this analysis. There would be a projected large increase in annual operating costs over a twenty year period and outsourcing would result in the loss of control over the City's information assets. I&T staff are working with Facilities and Real Estate to seek a new primary location to house a consolidated Data Centre for City Divisions, with the potential to meet the needs of the City's Agencies, Boards and Commissions.

The City has a primary and numerous smaller data centres/computing rooms within various divisions (as well as major data centres managed by Toronto Police Services, Toronto Transit Commission and Toronto Public Library), data centre consolidation has been identified as a key strategy to optimize the number and type of facilities performing data centre functions, while ensuring proper disaster recovery and business continuity capabilities.

With this taken into account, the principle objectives for the new consolidated Data Centre will include a well planned and designed facility that will be expandable, cost-effective, secure and able to support an environmentally friendly/green agenda.

### **Potential Cost Savings:**

Consolidating all or most locations into one modern, highly efficient Data Centre will provide significant economies of scale with a very favourable return on investment. With fifteen internal locations, and the four external data centres, there are significant cost savings to be realized by eliminating redundancies in staffing, computer hardware and software licences and maintenance fees. Opportunities to cut costs will also be available in the maintenance of the multiple facilities and their infrastructure components such Uninterrupted Power Supplies (UPS); Backup Generators; and Heating, Ventilation and Air Conditioning (HVAC) systems.

Consolidating all locations into one primary Data Centre provides opportunities for the City to realize cost savings by achieving the following:

- Eliminate duplication in staffing, hardware/software and IT infrastructure maintenance,
- Realize labour efficiencies by managing fewer data centres,
- Reduce cumulative utility costs arising from running and maintaining multiple data centre sites,
- Reclaim prime office space that could be used for other purposes,
- Reduce overall energy consumption resulting from an energy efficient, green facility designed to reduce its carbon footprint,
- Obtain greater economies of scale on construction costs, life cycle maintenance costs and environmental overhead costs,
- Achieve better long term cost control by building an expandable Data Centre that will meet the City's needs for 20 years and provide near 100% availability for critical systems that the Program areas and City clients rely upon for service delivery.

### **Other Benefits and Opportunities:**

- Utilizing the Leadership in Energy Efficient Design Canada standards to build the Data Centre will result in a healthier and more productive workplace for City staff,
- Implementing the Information Technology Infrastructure Library (ITIL) standards and best practices city wide will result in increased consistent staff productivity,
- Centrally pooling staff will allow leveraging of technology skill sets to sustain a broader range of technology solutions and applications,
- Alleviating the current space and power constraints on the I&T Division to support growth for new Service Delivery initiatives,
- Standardizing technology architecture that will improve utilization of hardware, software and data storage,
- Improving Business Continuity and Disaster Recovery capability with a Data Centre designed to have multiple access paths for utilities and network connectivity,
- Improving security by restricted physical access to critical hardware, software and data to minimize risk.

### **Case Studies**

Staff have undertaken a preliminary scan of other public and private sector organizations who have already embarked upon systematic data centre consolidation to improve services and reduce costs. The US states of Oregon, Texas and Hawaii have initiated state-wide data centre consolidations and have experienced or anticipate millions of dollars to be saved in long-term capital and operating costs. In addition, the Province of Ontario is in the process of setting up a data centre near Guelph. Hewlett Packard, IBM and Microsoft are just a sample of private sector organizations that have initiated data centre consolidation, a world-wide industry trend. Savings have been realized in the total size of their data centre floor space, energy consumption, and labour productivity.

While the exact realization of financial cost savings to the City is difficult to determine at this time, as it depends in part on the number of data centres being consolidated and the final Data Centre design, based on the case studies reviewed at least \$1-2 million in operating savings can be expected once the new Data Centre is operational and satellite centres have been consolidated into this new facility.

## **Conclusion**

As demonstrated by other organizations that have gone through the process of consolidating their data centres, the City can achieve significant cost savings by eliminating duplication in equipment and services. Together with the other potential benefits identified, a new consolidated Data Centre will cost-effectively provide improved I&T services that will in turn contribute to better, more accessible City services, which is in keeping with Council priorities.

## **CONTACT**

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## **SIGNATURE**

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