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INFORMATION TECHNOLOGY SERVICES - ANNUAL REPORT 2007

The Finance and Administration Committee recommends the adoption of the recommendation contained in the following report, January 4, 2008, from the Commissioner of Finance:

1. RECOMMENDATION

It is recommended that:

1. This report be received for information.

2. PURPOSE

This report informs Regional Council about the Region's 2007 activities to sustain a secure, functional and reliable information technology infrastructure that facilitates the delivery of Regional services.

3. BACKGROUND

As York Region grows, staff continue to rely on information technology to facilitate delivery of Regional services in a cost effective manner. Information Technology Services, working with the departments has established a portfolio of Corporate and Departmental initiatives that each year are reviewed, prioritized and reported on as an update to the York Region Information Technology Strategic Plan. In addition to that update, this report provides the highlights of information technology based activities undertaken during 2007.

Role of the Information Technology Services Branch: Information Technology Services is responsible for the Region's data centers; the data and voice communication networks including wiring within Regional buildings and facilities as well as the links connecting these facilities; the data processing and data storage equipment; staff desktop, laptop and hand held computing devices; the Region's Internet sites and the software used on all of this equipment. As well, Information Technology Services staff work with Clerks and Audit Services to implement mechanisms to protect Regional data and secure Regional computing facilities.

Role of the Departments: Departments, working with Information Technology Services, identify opportunities to use information technology to enable faster, better and less expensive delivery of Regional services. Information technology support is provided through a complement of Business Support Analysts assigned to departments to

collaborate with departmental staff and to help implement local information technology projects that enhance departmental operations.

4. ANALYSIS AND OPTIONS

2007 was a year of steady progress in maintaining and enhancing information technology within the Region. The Information Technology Services branch staff together with departments, worked on the following areas of the Region's information technology infrastructure:

4.1 General Operations – or “Keeping the Lights On”

A significant number of Information Technology Services staff are involved in carrying-out many day-to-day operational activities. To highlight a few, during 2007 Information Technology Services staff were busy with:

- **Day to Day Maintenance:** – including system monitoring, trouble shooting, and data backups; maintaining the Microsoft Active Directory – the database that manages information on each user of the Region's information technology, to reflect departmental business requirements, as well as seasonal activities such as re-programming telephone greetings for each department to reflect Christmas holiday business hours.
- **Fixing Glitches:** – as an example, during 2007 the earlier and later change of dates for Daylight Savings Time required staff to manually configure over 150 pieces of local area network gear to accurately display the time and date.
- **Managing Supplier Agreements:** – during 2007 Information Technology Services issued a number of Requests for Information/Quotations/Proposals including:
 - i. An RFP for a supplier of technology training services was issued to replace the existing 3-year agreement with the current supplier which expired at the end of 2007.
 - ii. An RFQ for software tools to assist in operating the Region's computer centres.
 - iii. An RFQ for an independent technical review of the Region's information technology disaster recovery installation.
 - iv. An RFI for a supplier to assist in the design of additional Region owned fibre optic network links.
- **Supporting the Relocation of Regional Staff:** – in 2007 Information Technology Services staff working with Property Services helped relocate approximately 500 Regional staff by moving their phone equipment to their new work sites.

- **Valuation of Information Technology Assets:** – working with Corporate Accounting, Information Technology Services prepared asset valuations for personal computing equipment, computer room equipment, network equipment and the disaster recovery equipment as input to the Public Sector Accounting Board asset management project.

4.2 Sustaining the Computing Environment

As the number of staff grows at the Region, Information Technology Services spends more of its resources keeping a larger complement of equipment running reliably and maintaining a larger volume of departmental business software. During 2007 the branch implemented the following:

- Upgraded PeopleSoft Financial software
- Upgraded PeopleSoft Human Resources software
- Created an Application Inventory System describing all software applications used in the Region including all dependencies.
- Replaced aging Domain Controllers with new equipment and installed more up-to-date domain server software – Windows 2003, which will manage the servers at the computer centres.
- Upgraded the software that manages corporate I.T. projects – Project Eclipse.

4.3 Responding to Region and Regional Growth

The demand for information technology by departments is accelerating – not solely because of Regional growth but because staff are doing more with technology and citizens are choosing internet and e-mail technology more often to interact with the Region. To respond to departmental needs, Information Technology Services collaborated with the departments on the following activities during 2007:

More Data Storage Capacity for the Region: – storage is the fastest growing component of the Region’s information technology. During 2007 Information Technology Services increased the Region’s electronic data storage capacity from 21 terabytes to 34 terabytes – i.e. 13 terabytes (the equivalent of 13 trillion alphabetic characters) of new capacity for departments to store data.

More Computing Power for Rapid Transit: – in response to heavy usage, Information Technology Services upgraded the processing and storage capacity of several Transit servers.

Better Reliability for Transit Applications: – a “clustered” configuration of virtual servers, storage arrays and lower cost blade servers was created at the South Services Centre to increase availability and reduce costs for Transit data processing.

Equipment for New Sites: – during 2007 the Region built a new building (Oak Ridges) and implemented some new network connections. As examples:

- **Oak Ridges Community Services Building:** – a fibre optic link to the data centre at 17250 Yonge St.; local area network wiring and switches for over 200 users, and new voice over Internet Protocol (VoIP) phones were installed in this new building.
- **King City Water Tower:** – a new network connection was installed to link this site to the Supervisory Control and Data Acquisition (SCADA) network. The SCADA network is the critical system that manages and controls Water and Wastewater activities.
- **Maple Reservoir:** – a new network connection to the SCADA network.
- **Upgraded Telephone Equipment in District Police Stations:** – using Private Branch Exchange (PBX) switches from Regional sites that moved to voice over Internet Protocol technology, the telephone equipment in all district police stations (except Keswick) was upgraded.

YRT -- Computer Aided Dispatch (CAD) / Automatic Vehicle Location (AVL) Enhancements:

- Mobility Plus CAD/AVL infrastructure was completed and connected to the clustered configuration at the South Services Centre.
- Conventional CAD/AVL infrastructure was completed.

4.4 Strategically Introducing Better Information Technologies

Information Technology Services leads corporate technology projects that sustain and enhance the Region's computing infrastructure. During 2007 Information Technology Services continued a number of technology initiatives that were started in previous years. Prominent among these are the following examples:

Virtualization – Using Existing Data Processing Equipment More Efficiently

Virtualization is a technology that allows technicians to install multiple “virtual servers” on a single physical server. It makes every software application think it has its own server and isolates one virtual server from the others – a major reliability benefit if an application is experiencing a problem. Virtualization allows physical servers to run much closer to peak capacity, reducing the need for new hardware and if a server gets busy, one or more of the virtual servers can instantly be moved to a less busy device. During 2007 Information Technology Services continued replacing physical servers with virtual configurations and upgraded the VMWare software that makes virtualization work.

Continuing the Move to Server Based Computing (CITRIX) – Many organizations are now providing their staff with desktop and laptop terminals that link to centralized servers that run the Microsoft Office software as an alternative to personal computers. Server based computing is better for mobile workers, is a faster way to restore computer processing after a disaster event, provides for quicker deployment of technology in

response to a community emergency such as a pandemic flu and is more energy efficient contributing to an organization's Green Strategy.

In 2007, Information Technology Services continued the rollout of Citrix terminals and locked-down PCs and began deploying a product called RES/PowerFuse, a technology that allows staff with a Citrix device to work with Regional software applications in the same way they would if they were using a personal computer.

FTP Server – A Better Way to Exchange Data: – working with departments, Information Technology Services implemented a high capacity file transfer protocol (FTP) installation to exchange data with our external partners. This facility is now being used for projects in Community and Health Services, Geomatics, Planning, Roads, Transit and Water and Wastewater.

Voice over Internet Protocol (VoIP) Phones: – the Converged Network project continued to implement the more cost effective VoIP phones converting six Regional sites for VoIP and installing over 500 VoIP phones. Three hundred and sixty VoIP phones were deployed prior to 2007. There are approximately 1,675 Regional phones that are still on the old Private Branch Exchange technology. They will be replaced over the next 30 months as the old equipment comes off lease.

Google Search Engine – Speeding Up the Region's Web Sites: – in response to concerns as to how long it takes to locate information on the Region's Web sites, Information Technology Services implemented the Google search engine on the Region's Intranet and Internet sites significantly improving performance.

4.5 Investigating New Technology Opportunities

The market place for information technology always has more products and solutions than any organization can reasonably implement and use effectively. Every year, Information Technology Services conducts several technology investigations and pilot projects with the results being presented to the Corporate Technology Review Committee (an administrative corporate group with directors representing each department who meet monthly to advise and chart technology directions for the Region).

During 2007 Information Technology Services initiated the following studies and pilot projects for the most promising opportunities:

- **Storage Management Study:** – a 3 year strategic approach to providing a more cost effective infrastructure in support of the data that the Region generates and to assist in dealing with newer issues such as e-Discovery.
- **Sixty-four Bit Computing Pilot:** – a trial database and application environment to evaluate switching from 32-bit hardware to the more cost effective and improved performance 64 bit technology.

- Mid-Size Server Trial: – Larger servers known as mid-size devices, take less floor space, use less electricity and cooling and can be more stable than smaller devices. During 2007 Information Technology Services conducted a pilot project to quantify the benefits of this technology and develop an implementation strategy.
- Microsoft VISTA: – the latest version of the Microsoft PC operating system was tested and a recommendation to convert to Vista in 2009 was developed.

4.6 Improving Security, Privacy and Survivability

Survivability and threats to the computing environment continue to be of concern. During 2007 Information Technology Services worked with departments to combat these threats by:

- Implementing an enhanced intrusion detection system with dynamic blocking capability to stop hackers from gaining access to Regional computing facilities.
- Working with the departments, performed a successful test of the Region's information technology disaster recovery capabilities.
- Supporting Community and Health Services in their Service Delivery Management Technology disaster recovery exercise with the province.
- Implementing redundant voice-mail servers to ensure reliability of this essential service.
- Began development of a new Cellular and Blackberry policy to protect Regional assets.

4.7 Joint Initiatives with Departments

Information Technology Services works with departments to identify their technology priorities, develop projects and assist departments to implement them. During 2007 Information Technology Services and the departments collaborated to:

- Create an Information Technology Support Centre in Transportation Services & Environmental Services departments where Information Technology Services staff sits side by side with departmental staff and works synergistically to effectively implement technology.
- Implement a new upgraded wireless nurse call system integrated with the new voice over Internet Protocol (VoIP) phone system at Maple Health Centre. Information Technology Services designed and implemented this solution with department staff to replace the old nurse call system that was beginning to fail.
- Working with the department, complete the installation of mobile computers in all EMS ambulances and Paramedic Response Units.
- Working with the department, issued a request for proposal and awarded the contract to implement electronic documentation software for use by paramedic staff.
- Conduct an impact study of the Public Service Accounting Board PSAB Section 3150 asset accounting requirements that will come into effect January 1, 2009.

- Run a six month pilot with the Health Protection division of Community and Health Services of the Activity Computerized Tracking System (PHACTS). PHACTS is used by public health inspectors to enable the use of hand held computer tablets and portable printers at inspection sites.
- Implement a mobile computing initiative (MCADI) in Water & Waste Water to support operators using computer tablets in the field to collect and upload data.
- Implement the Electronic Drug Manual (eCPSA) with EMS.
- Implement a Reuters News Connection with the Treasury team.
- Upgrade the CCS system used by Risk Management to track insurance certificates and insurance claims.
- Implement remote control for the SCADA network with Water and Wastewater.
- Complete the first phase of the Investment Portfolio System for Policy Risk and Treasury.

4.8 Joint Initiatives with Other Municipalities

Information Technology Services partners with other municipalities and public sector organizations when there is a common interest in evaluating a new technology or there is an opportunity to reduce Regional costs by working jointly with others. During 2007 partnership activities included working with:

- The Town of Markham to develop a Portal Business Plan and produce a joint Portal RFP for release in 2008.
- The Municipal-Universities-Schools and Hospitals (M.U.S.H.) sector to select a vendor to conduct a Broadband Backbone feasibility study in the Region.
- Eleven other municipalities to develop a comprehensive Enterprise Resource Planning (ERP) Road Map which assessed the various options available to municipalities with ERP systems from PeopleSoft, SAP or J D Edwards.
- Other municipalities across the Province who participate in the Ontario Municipal Benchmarking Initiative (OMBI).

4.9 Reducing Costs – Providing Better Customer Service

Information technology is a significant investment for the Region. Information Technology Services staff actively look for opportunities to eliminate waste and reduce costs while maintaining a high quality service to the departments. During 2007 significant savings were achieved through:

- Reviews of supplier contracts uncovered opportunities for better prices. Working with Telus, cell phone plans were optimized resulting in overall lower monthly wireless communications charges.
- By taking advantage of a provincial contract with Microsoft that offers the preferred rates negotiated by the province to the broader public sector, the Region renewed a 3 year agreement with Microsoft for better rates.

- Negotiations with Microsoft resulting in an agreement for a pilot project, run by Microsoft, of their new Customer Relationship Management system in Community & Health Services, at no cost to the Region.
- Negotiations with Compugen, our computer equipment supplier, resulting in an agreement for the Region to use Compugen's E-Merge proprietary software system as an asset management system, at no charge to the Region.

4.10 Evolution of the Information Technology Services Strategy

During 2007 a new approach to technology strategic planning was carried out. In addition to conferring with the Corporate Technology Review Committee, special workshops and presentations were conducted for senior departmental and Regional managers and directors. These sessions captured the technology issues of importance to the Regional service delivery leaders and allowed them to provide feedback on how information technology should be used at the Region. As an outcome, an updated strategic plan document will be presented to senior management and Regional Council in 2008.

4.11 Measuring our Performance

Information Technology Services tracks and reports on a number of statistics each year for both internal management control and for provincial reporting. The following table shows the growth in a number of key technology items.

Description	1998	2005	2007
Personal Computers	632	2,438	2,865
Printers	n/a	n/a	515
Telephones (Region & Police)	850	3,307	4,058
Cell phones and BlackBerrys (Region only)	n/a	n/a	1020
Support Calls	Not available	11,531	14,012
Application/Data Servers	11	106	165
Software Applications	20	209	221
Network Devices	29	148	300

5. FINANCIAL IMPLICATIONS

There are no financial implications from this report. Operations and projects activity impacts are reflected in the Information Technology Services operating and capital budgets and in the departmental budgets.

6. LOCAL MUNICIPAL IMPACT

Throughout 2007, Information Technology Services staff met on a regular basis through the I.T. Directors and Chief Information Officers' Forums with staff of the local municipalities to share information and ideas as well as to collaborate on projects.

7. CONCLUSION

There are numerous opportunities to invest in information technology. The Information Technology Services branch plays a key role in evaluating technology opportunities, implementing technologies needed by departments and approved by Council and in operating and maintaining the Region's information technology infrastructure for use by Regional staff and, in turn, to serve the residents of York Region.

The Senior Management Group has reviewed this report.