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ORGANIZATION AND PROCESS REVIEW FOR INFORMATION TECHNOLOGY SERVICES – PHASE II

The Finance and Administration Committee recommends:

1. the presentations of Judith M. Saunders, National Director and Jim Hoosen, Senior Manager, KPMG (overhead materials used in the presentation are on file in the Office of the Regional Clerk), and of John Vinette, Acting Director of Information Technology Services, be received

2. the adoption of the recommendations contained in the following report, January 9, 2004, from the Commissioner of Finance:

1. RECOMMENDATIONS

It is recommended that:
Council approve the Phase II implementation of the Organization and Process Review for IT Service strategies as described in this report subject to approval of funding included in the proposed 2004 Business Plan and Budget.

2. PURPOSE

This report provides Council with staff recommendations for addressing the proposals made by KPMG LLP in the report entitled "Organization and Process Review for IT Services – March 2003".

3. BACKGROUND

In mid 2001 it became necessary to review the timeliness of delivery and support of the technology required for Regional operations. The "Organizational and Process Review for IT Services Report – March 2003" (the OPR Report) was the outcome of a review by KPMG LLP to analyze the current and future needs of Regional departments and programs to use technology for efficient delivery of quality regional programs and services.

The Corporate Technology Review Committee (CTRC) reviewed this report and their input was incorporated into its content. The CTRC support the recommendations contained in this report.

At its meeting of June 27, 2003, Regional Council received the the OPR Report. Based upon this report, Council approved the implementation of strategies to improve project delivery for regional department program initiative, improved support for application and infrastructure to the extent of the available 2003 budget. In addition, staff were directed

to bring forward this subsequent report addressing the multi-year implementation for the remaining KPMG recommendations.

4. ANALYSIS AND OPTIONS

4.1 Problem Statement

New program responsibilities, increased service volumes and funding pressures have driven departments to implement new technology supported solutions. This has caused the computer and telephone technical and application environments to grow exponentially in size and complexity. The number of staff using technology and the number of unique applications has quadrupled in the past five years. The environment includes a wide area data network connecting all Regional locations, complex voice systems including eight call centres and 9-1-1 Initial Call answer, Internet Web Site hosting, a full suite of office automation tools, email, several hundred databases, applications supporting all areas of operations and many provincially mandated applications. This has driven Information Technology Services operations and support needs beyond the capacity of the present organizational arrangements, procedures and capacity.

A detailed technology architecture plan is now required to ensure that technology solutions provided to address user needs take advantage of existing systems and supply the necessary performance and capacity while being cost effective. An entirely new system, server and associated devices are often used for the support of technology solutions to new business needs. This adds to the complexity and further increases operations and support efforts. The shortage of technical implementation resources, along with a lack of formal project prioritization, governance, methods and dedicated resources results in Regional program needs not being fully achieved.

Service levels have eroded and time for planning and provisioning of projects has declined. The resulting resource constraints inhibit the completion of needed system updates, configuration changes and performance and capacity management which impact system reliability, responsiveness and capability to meet demands. Simultaneous problems could result in significant down time while the complex environment would further hamper recovery.

Technology is imperative for the delivery of the Region’s direct services and the internal support functions. Without this technology many of today’s services would not be possible or would require many times more staff. When this technology is not available the ability of staff to deliver Regional services is severely reduced or services are not available at all, and staff are unable to perform their work. The present IT organization arrangements, resources and processes put these services at risk. A number of ITS internal audit recommendations remain outstanding because staff resources are not available due to daily operations, support and project pressures. These include review of

disaster recovery planning, network security assessment, project management review and Peoplesoft upgrade testing controls review.

4.2 Present Situation

The following describes KPMG's findings in the context of the present IT organization and processes:

Regional Departments delivering Regional programs regularly plan projects to enhance or add services or address growth and capacity challenges through the use of technology. Over the past several years, these many projects have been implemented without adequate technology support. Pre-planning time has not been available to assess business needs and options and fully estimate costs associated with the technologies required to support initiatives. Once projects are included in approved annual business plans, ITS is compelled to implement a solution regardless of the adequacy of the plans and estimation of resources. This results in compromises that lead to suboptimal project implementations. Service levels erode impacting staff productivity and increasing risk of system failures, while time for planning and provisioning other projects further declines.

There are now over 450 unique programs and applications in use at the Region plus complex voice and data communication networks and systems. Desktop and notebook computer technology changes many times a year, operating system patches and new versions of applications occur weekly and new operating system versions occur regularly. Efforts to keep up with the testing, integrating, updating and troubleshooting necessitated by this "technology churn" take resources away from desk-side support. Time constraints caused by daily operational problems leave insufficient time to fully test changes.

This all contributes to increased service desk calls. The service desk is unable to keep up with the call volume while they attempt to fill gaps in desk-side support. One third of callers hang-up due to long queue waits and problem resolution is counted in days and weeks. Industry standards are less than 6% call hang-ups, 80% resolution during the initial call and less than a day for equipment down problems. In general, the time for problem resolution is slow and solution quality does not meet expectations.

ITS Business Support Analysts are, out of necessity, providing desk-side standard support, addressing the technology issues of staff moves and changes, as well as supporting specific departmental applications. This leaves little time for project work to address program delivery needs, assess and define business need solutions and assist users to achieve more from present technology. Service times and quality have been negatively impacted.

Overall the present situation has a negative impact on Regional staff productivity and could lead to service disruptions through system downtime. The ability to address service growth pressures and reduce costs through the use of technology is inhibited due to a lack of available project resources and project planning and execution inefficiencies.

The present base needs adjustment and repositioning to enable the requirements of past growth to be efficiently met and enable future technology enhancements to assist Regional departments.

4.3 Issues and Root Causes

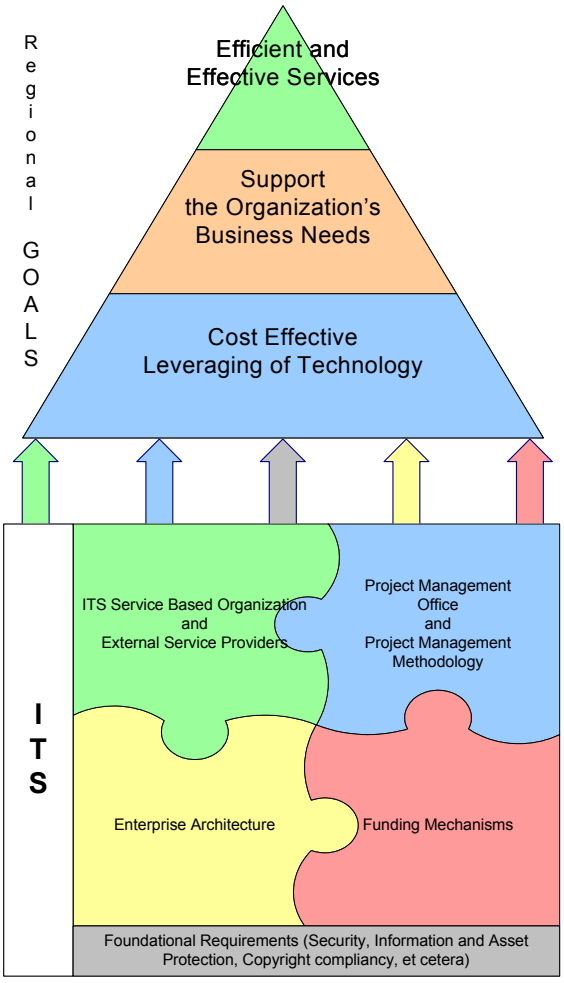
1. Departmental and Regional projects supported by technology are not being delivered on time.
2. Application and infrastructure support, problem resolution and user assistance is not meeting the organizations needs
   a. Daily problems with applications and equipment are not readily resolved through existing service desk, desk side support and business support analyst arrangements and processes.
   b. Infrastructure support, management and updating are reactionary putting system performance, reliability and security at risk and delaying project implementations.
   c. Users of Regional technology are not getting the assistance they need to get the most value from present technology investments and to define new solutions to their business problems.

Root Causes:

- Lack of project resources, non-compliance with the Project Management methodology and incomplete implementation of project processes, prioritization and governance reduce ability to meet project demands.
- Difficulty providing the wide variety of knowledge and skills required with limited in-house project resources performing multiple roles including daily management and support.
- An organization model that does not provide the necessary development resources in-house or the resources to effectively source and manage the needed external resources negatively impacts productivity, project delivery, system management and user support.
- Infrastructure support, management and updating are reactionary putting system performance and reliability at risk and delaying project implementations.
- Limited documentation of the architectures, systems, standards and procedures to increased support, error recovery and project implementation time.
- The ITS Service Desk cannot handle the call volume under the present support model and number of resources available.
- Numerous growth related moves and changes take staff away from other support needs.
- A wide range of technology uses and application and infrastructure complexity increases the time required for user support.

4.4 Proposed 2004 Actions

In order to deliver efficient and effective services the Region's Information Technology strategy must support the organization's business needs by making cost effective use of technology. The following actions will effectively support such a strategy. The following diagram illustrates this strategy.



1. The present ITS organization evolved to meet the needs of an organization one quarter the size of the Region's present size. Staff in ITS are primarily generalists, addressing a wide spectrum of technical services and sharing in implementation and technology management tasks. Departmental staff in the past attempted self help when ITS resources were not available. Departments no longer are able to operate this way as work load pressures require that staff efficiently attend to the business of the Region, not technology issues. In addition, the complexity of today's technology is beyond the skills of department users and often the generalist skills of ITS staff.

   To address these issues the ITS Organization must be transformed from primarily a generalist structure to specialist groups supporting the required ITS "lines of business" needed by the organization. These lines of business include project management, application support, network management, help desk support, desk-side support, technology moves and changes, technology acquisition, and PC hardware and application configuration management. Staff in each of these areas will address a complimentary group of services and develop expert skills for their delivery. Procedures for the most efficient service delivery will be more effectively developed and maintained, and integration between services will be more efficiently managed.

   The proposed organization will provide the Region with access to the appropriate skills through a modularized Information Technology Services organization. The business model uses a combination of staffing, alternate service delivery and scalable external sourcing for skills and capacity fluctuations and project needs. The result

will be improved efficiency, customer service and employee satisfaction. These changes will improve infrastructure provisioning, reliability and performance, thereby decreasing organizational efficiency loss, infrastructure costs and project implementation costs.

Specific 2004 ITS organization transformation requirements:

a. Convert three temporary staff that have been utilized to fill resource gaps over the past several years to full time staff at no incremental cost.
b. Bring ITS user support service levels in line with industry standards by adding two permanent full time staff to at a cost of $200,000.
c. Use alternate service delivery to provide ITS Service Desk call centre support ensuring industry standard response times to increase staff efficiency and reduce future staff growth. Professional services to assist with this project are estimated at $50,000 with no incremental costs of operations in 2004. The business case for future requirements will be included within the 2004 implementation project. The potential savings are estimated at $450,000 per year over in-house provision of industry standard user support services. To meet the growing and changing needs of department services that are beyond the capacity of the present ITS organization to effectively deliver or that fluctuate in demand making staffing problematic will be included as contracted services. Such services will be managed by ITS but purchased directly by departments requiring the service. These services include enhanced extended hours of support and technology requirements of office relocations.
d. Use managed Voice and Data Network Services saving $190,000 annually in contract personnel beginning in 2005, reducing the cost of network provisioning and increasing network service reliability. This approach is proposed when implementing the Telecommunications and Network Strategy of migrating to a single unified voice and data network for cost savings and enhance services. Costs for this project are included in a separate report, the "Telecommunications and Network Strategy and Implementation Plan Recommendations" report, based on the Graycom Analysis study. It is estimated that the potential savings achieved through a vendor supplied and managed consolidated voice and data network will be between $400,000 and $500,000 annually.

Risks of not providing the necessary resources, infrastructure and processes include infrastructure down time due to reactionary rather than proactive management, excessive repair times and support that is not timely. This adversely impacts Regional productivity, cost efficiency and customer service. Implementing the proposed changes will improve customer service and increase organizational efficiency and employee satisfaction. The increased organizational efficiency is estimated to reduce anticipated future growth in staffing by 2% which will equal approximately $1,000,000 per year within five years.

2. Fully integrate the ITS Project Management Office and effective project management methodologies into the Regional planning and operating procedures. These structures

will guide the development and execution of an organization wide portfolio of projects. Procedures will ensure that total resource requirements, including implementation, infrastructure and support, are addressed to make informed decisions on technology projects and their integration with Regional business plans. Project scope, clear business outcomes, timely implementation and cost management will reduce the cost of technology initiatives. It is expected that these measures will reduce the annual expenditure on ITS projects by $250,000 to $500,000 annually. This will require temporary personnel this year at a cost of $100,000. Supporting software, training and maintenance are estimated at $55,000.

There are presently over 100 new, enhancement or upgrade projects in the technology project portfolio. These projects include: the Water and Wastewater Computerized Work Management System, EDMS, EMS Computerized Dispatch, Interactive Voice Response for York Region Transit, Health Connections upgrade, SCADA network redesign and upgrade, Housing YARDI System Ontario Government Module implementation, online web-access for Childcare providers attendance entry, LTC Nurse Calling system, mobile data collection for EMS, Immunization Reporting system upgrade, Energy Management System, Electronic Pay Information distribution, CS&H Call Centre, Court Case Management System, Facility Management System, and completion of the ITS Disaster Recovery Plan. Several hundred Microsoft Access databases used for tracking program and service information require conversion to Microsoft Access 2002. In addition, there are 11 building renovations or major staff relocation projects affecting over 200 staff.

The revamped project management office will facilitate the development of multi-year IT program plans that maximise cost efficiency and alignment of projects with business priorities. When projects are not clearly defined in terms of both costs and benefits the budgets that are set either constrain the achievement of the perceived benefit, are exceeded while achievement of benefits are uncertain or are excessive relative to the real outcome received. However, without formal and standard project management methods and tools the amount that projects actually cost compared to budget and expected outcome cannot be determined if the proposed changes are not implemented. Projects will exceed costs without added benefits due to “scope-creep” and ineffective planning and execution.

3. Develop and maintain an Enterprise Architecture adding Application Architecture and Data Architecture to the Technology Architecture developed in 2003 (see section 4.6.4 for a definition of an Enterprise Architecture). An Enterprise Architecture will guide more efficient and effective technology project implementations. Professional services to develop the Enterprise Architecture will be spread over two years at a cost of $100,000 in 2004. The implementation of a strategy for following an enterprise architecture approach will reduce information technology infrastructure costs, application acquisition and support costs and data acquisitions and maintenance costs. This is achieved by an increased level of resource sharing and capacity utilization and a reduction in redundant data capture and storage. It is expected that this will reduce the annual expenditure on IT infrastructure by $250,000 to $500,000.

4.5 Proposed 2005 Actions

1. The implementation of the proposed alternate service delivery arrangements are expected to save $190,000 as the present contract resources for voice and data network support are no longer required.

2. To support the project management processes and the information technology governance needs of the Corporate Technology Review Committee will require support and ongoing maintenance for project management software at a cost of $95,000.

3. Complete the development and implementation of an Enterprise Architecture at a cost $100,000 in 2005.

4. Additional resources in 2005 to provide the services necessary to plan and track the financial, asset and contract records and detail costs by department. The incremental cost will be only $9,000 as the temporary Service Improvement Officer position will no longer be required. The tracking of all costs directly attributable to the department and branch level, as well as the cost drivers for shared services will promote better decision making on the use of technology, provide better information on the need for various technology services and create an understanding of the impact of business decisions on information technology resources. The result will be more cost efficient technology use.

4.6 2003 Accomplishments

The actions from the KPMG Report authorized by Council at their June 27, 2003 meeting have resulted in the following outcomes.

4.6.1 ITS Reorganization Processes and Procedures

Procedures for information technology Incident, Problem, Change and Configuration management have been documented. ITS staff have been trained in these procedures and tools to track IT service desk metrics have been implemented. The use of these best practice processes have improved the quality and consistency of the ITS support services; however, resources continue to fall below those required to address service request volumes.

The roles and responsibilities of each position in the proposed new ITS organization model have been documented. These materials provide staff with the assistance to develop detailed processes and the skills needed as the new ITS organization is implemented. These changes will improve the ITS organization's efficiency and service quality to support the current and growing technology needs of the Region.

4.6.2 Alternate Service Delivery Assessment

Opportunities for delivery of IT Services through various means of Alternate Service Delivery (ASD) options have been investigated. An initial review led to a detailed investigation of User Support Services and high level documentation of the requirements and benefits of ASD for Network Operations and Management. Existing operations and user requirements were analyzed and an RFI used to assess and develop a business case that supports the use of ASD for User Support Services. Investigation of the experience of other regions and vendor input was used to determine that the cost savings of a combined voice and data network would require the use of ASD for its provisioning and support. The assembled materials and analysis set the stage for the issuance of RFPs and the development of business cases for Council approval in 2004. The potential savings are estimated at $450,000 per year over in-house provision of industry standard user support services. Savings of between $400,000 and $500,000 per year for voice and data network supply and management can be expected. In addition, there will be a reduction of $190,000 per year in existing contracted network support services.

4.6.3 IT Project Management Office (PMO)

A documented ITS Project Management Methodology supported by a library of standardized Project Management process templates has been established. A Project Portfolio Management tool has been selected and implemented to assist the PMO in strategic and tactical management of projects and other ITS service requests. ITS staff have been trained in the methodology and portfolio management tool. They are using the new processes and tools to manage the full project lifecycle. A number of non-ITS staff attended the project management training. The response from these staff was very positive and many requests for training of additional staff have been received. The PMO will support the information technology component of projects including scope

definition, prioritization, project plan development, resource estimation, budgeting, detailed scheduling, project tracking and performance reporting. This will result in the improved project execution ensuring projects are delivered to meet requirements and costly scope and timeline changes are avoided. Initial response to these formal processes has been positive but integration across the Region will require added effort in 2004

4.6.4 Technology Architecture

The Region's Technical Architecture has been documented including the existing technical infrastructure and high level future business requirements. This document will be used as a road map to plan upgrades to the Regional IT infrastructure, ensuring that technologies which are implemented will cost effectively meet the needs of all Regional departments. Following the plan will enable better cost sharing, as well as a better return on investment, as technology implementations are based on a Region-wide view of requirements. The resulting infrastructure will also address reliability, availability, flexibility, security and performance needs. This document is a component of a fully documented Enterprise Architecture.

An Enterprise Architecture (EA) is a framework or "blueprint" for how an organization achieves the business objectives at hand and in the future. The Enterprise Architecture looks at the key business, information, application, and technology strategies and their impact on business functions. Each of these strategies is a separate architectural discipline and Enterprise Architecture is the glue that integrates each of these disciplines into a cohesive framework. The result is reduction of the cost of providing technology solutions to deliver efficient services.

5. FINANCIAL IMPLICATIONS

Incremental Costs of the Proposed Actions

	2004	2005	Ongoing
Client Support improvements	$200,000	$200,000	$10,000
Temp Contract Personnel No longer required	-	(190,000)	
ASD Implementation Professional Services	50,000	-	-
PMO Implementation Contract Personnel	100,000	-	-
PMO Software, Training and Maintenance	55,000	30,000	30,000
Enterprise Architecture Development & Implementation	100,000	100,000	-
PM & CTRC support	-	65,000	65,000
Cost Tracking by Dept.-software, systems &	75,000	15,000	15,000
Maintainance Staffing	-	84,000	9,000
Delete Service Improvement Officer	-	(75,000)	
Minimum est. reduction in IT Initiatives project budget	-	(250,000)	(250,000)
Minimum est. reduction in IT Infrastructure costs	-	(250,000)	(250,000)
Net Incremental Costs less Estimated Cost Reductions	580,000	(271,000)	(371,000)

The present staffing and levels of service delivered by the Region reflect overall capacity and include the effects of technology down time and staff seeking technical assistance.

KPMG and staff believe that 10 minutes per day for 40% of the regular computer users at the Region (700 staff) is a conservative estimate of what could be regained through improved IT Service resourcing, organization and service delivery. The value of this efficiency loss, based on an annual fully loaded cost of $60,000 per employee, is approximately $1 million. Obviously it is not possible to immediately benefit from this efficiency gain in terms of reduced staff budgets; however, future staff increases will be less as efficiencies are realized. The value of the realization of this increased organization efficiency is estimated to reduce future growth in staffing costs by 2%, which will equal approximately $1,000,000 per year within five years.

Implementation costs estimated by KPMG were $3.0 to $5.1 million over three to five years, excluding ongoing costs. Significant savings are being proposed through use of fewer and lower cost professional services and increased use of in house resources, including the proposed new staff.

6. LOCAL MUNICIPAL IMPACT

There is no municipal impact resulting from the implementation of the recommendations contained in this report.

7. CONCLUSION

The recommendations of this report will provide the Region with the Information Technology Services necessary to enable efficient, customer service oriented programs using fewer resources. The resulting business model will ensure a sustainable level of service and will address exception requirements to ensure that the needed technology solutions are provided and supported to achieve true business value.

Future costs will be reduced with the recommended changes. Some savings will be immediate while others will occur as the efficiency gains are realized and the growth in staff is less than would have been the case had changes not been made. The changes relate to improved information technology use and support to manage future regional organization growth as well as we manage the growth of York Region.

The Senior Management Group has reviewed this report.