



CITY OF VANCOUVER

ADMINISTRATIVE REPORT

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TO: Vancouver City Council

FROM: General Manager of Corporate Services

SUBJECT: Web Services - Staffing Implications in Application Development

RECOMMENDATION

THAT Council approve the establishment of three full time regular positions in the Corporate Services Group, Information Technology (IT) Department, subject to classification by the General Manager of Human Resources, at an annual cost of \$203,880, plus benefits, with the source of funding to be from the savings in the elimination of the one Data Services Clerk and three Computer Systems Operator positions (annual salary savings of \$206,218, plus benefits) in the Corporate Services Group, IT Department, as detailed in the report, effective August 19th, 2006

CITY MANAGER'S COMMENTS

The City Manager supports the recommendation.

The rapid and significant growth in Web Services and the future direction of these services to better serve the public requires the Corporate IT Department to secure the right skills to continue to develop and support the Web environment. Majority of the applications and services once residing on the mainframe computer system have been moved to web-based platforms and require resources skilled in web services technology.

From a technology perspective, web services is the progression of the technology from mainframe processing to today's infrastructure of networked computing and communications. From an operational perspective, web applications replace the 8-to-5, over-the-counter, clerical-oriented tasks, with 24 hours a day, seven days a week, self service operations featuring access to information and services. As a result, the City of Vancouver is

experiencing more demanding performance expectations from the public and new business processes and procedures. Recent statistics show that usage of www.Vancouver.ca website has grown consistently and significantly in the past five years. Approximately 1,000,000 members of the public are accessing the City's website on a monthly basis, representing an increase of 900% compared to user figures from 2000.

From a financial perspective, there is no additional funding requirement as the recommendation is a realignment of the existing budget, from mainframe operations to web services.

COUNCIL POLICY

City Council has to approve the creation and deletion of regular full time positions.

PURPOSE

The purpose of this report is to seek Council approval for the deletion of four full time regular positions in the Corporate IT Department. The positions affected are under the jurisdiction of CUPE 15. These positions will be eliminated as a result of the retirement of several mainframe systems in April 2006. The annual salary savings from these positions is \$206,218, plus benefits. The savings will be used to create three full time regular positions in the Corporate IT Department, at an annual cost of \$203,880, plus benefits.

BACKGROUND

On June 19, 1990 Council established information as a corporate priority, and directed that work proceed to "...plan for improvements in the City's information systems."

On December 8, 1994, Council approved the Information Systems Plan which set the direction for improvements to the City's information infrastructure and systems and directed that a detailed infrastructure and software implementation plan and budget be developed for consideration in the 1997-1999 Capital Plan.

On May 18, 1995, Council approved the Better City Government - Next Steps report. This report established technology as a key enabler of process redesign and directed attention to necessary improvements in major corporate information systems, including the revenue billing and collection systems. Business process reviews that were undertaken as part of the Better City Government initiative also "identified the need to replace existing software in order to make information more easily accessible in the organization, to eliminate manual work which added no value to business processes, to improve decision making, and to improve service to our clients and customers."

In today's computing environment, the majority of customer and internal facing applications are developed using web-based technologies (i.e. web services) and internet communications to:

- Facilitate communications and enhance the access to and delivery of City's information and services to citizens, businesses, employees, and other governments agencies;
- Improve the performance of business processes and programs for the City's staff, and;
- Enable easier and greater public participation in the democratic process.

In summary, web services offers several opportunities to the City of Vancouver:

- A customer-centric perspective that enables the City with new ways to deliver information and services. For citizens, web services offers a fast and a convenient method to access information, receive services, order permits and licenses, pay fees and taxes, and file information, and;
- More efficient internal operations by streamlining business procedures to increase operational efficiencies (reduce paper work and delays) for staff.

The service benefits made possible by web services also require significant operational changes such as more stringent security and reliability requirements, migration of mainframe systems to the web services architecture, and the re-engineering of business models and processes. A significant challenge for the City is the changing skill set for technology support, with a realignment of staff necessary to support the web infrastructure, rather than the mainframe systems.

Area	Traditional Approach	Web Services
Technology components	<ul style="list-style-type: none"> • Mainframe • Data sharing • Desktop computing • LAN and WAN communications 	<ul style="list-style-type: none"> • Internet access devices • Mobile communications • Integrated applications • Broadband communications
Security architecture	<ul style="list-style-type: none"> • Mainframe based • Central management • Less complex and lower risks 	<ul style="list-style-type: none"> • Heterogeneous applications • Organization-wide policies • More complex and higher risks (i.e. Website Hacking)
Services offered	<ul style="list-style-type: none"> • Slow-changing • Mainframe Operators 	<ul style="list-style-type: none"> • Ever-changing • Security and business continuity • Different technical expertise
Service Demands	<ul style="list-style-type: none"> • Online during working hours and batch at night • Time-delay recovery 	<ul style="list-style-type: none"> • 24 x 7 environment • Detailed service-level agreements • Governance model • Instantaneous recovery • Extreme reliability

The evolving technical landscape in the Application Development Branch requires ongoing changes in skill sets, with a shift in staff necessary in project management and analyst roles, as well as, for staff to have greater proficiency in web programming and related infrastructure support and maintenance.

DISCUSSION

Public expectations for more sophisticated methods of transacting services with the City have increased dramatically over the past few years, following the advent of the internet and their experiences with its use with other public and private sector organizations. The citizens are requiring the City to provide greater access to information and services via the web. In the meanwhile, the existing applications operating on the mainframe computer system no longer provide the functionality and public service capabilities expected for the City. The implementation of Tempest as the City's Revenue Services system in April 2006, in conjunction with the migration of several mainframe systems to the web environment, has resulted in a reduced dependence on resources with mainframe skills and knowledge. Conversely, by transitioning various mainframe systems to the web environment, there is an increased dependence for staff knowledge and support for this type of infrastructure.

To meet the public demand for web services, the Application Development Branch in Corporate IT has strengthened its skill set in web technologies and has become a recognized leader in web development, with much of the attention being focused on its public website, www.Vancouver.ca. The Branch continues to augment the City's website with content and functionality, which results in a technical environment that is significantly more complex than when the website was first implemented. The following table summarizes the changes in the past five years in regard to the web infrastructure and services that the Application Development Branch supports:

Change	2000	Present
Number of Web Servers to support	3 Servers: <ul style="list-style-type: none"> • CityWire, Public Web, and Development servers. 	9 Servers: <ul style="list-style-type: none"> • Network load balancing, CityWire, Development, Sandbox, and Application servers
Number of Web Applications to support	5 Web applications. Examples include: <ul style="list-style-type: none"> • QuickFind • RTS (Council Report Tracking System) • System Outages 	Over 100 Web applications. Examples include: <ul style="list-style-type: none"> • Community Web Pages & Calendar • E-payment systems (dog license renewal, business license renewal, archives online photo order, and online tax search request) • FIT City Incentive program • Citywire - Spotlight & Staff Notice boards • Electronic Staff Action Form (ESAF)
Number of web pages (internet/intranet)	20,000 static pages	31,500 static pages
Number of visits to the www.Vancouver.ca	100,000 visits per month	1,000,000 visits per month

The Application Development Branch has set the following goal for its web platform: "To increase the integration of the internet/intranet (i.e. web-based applications) into the City of Vancouver's strategic, operational, administrative activities." For the Branch, to meet its goal and be proactive in enhancing the web platform for the City of Vancouver, it must

have staff with appropriate skill sets and knowledge. The staff being proposed will assist Corporate IT in performing proactive activities (i.e. technical planning and client communications) and providing support and maintenance (i.e. hardware / software upgrades) to ensure a robust and secure web platform. As well, these positions are required to support the growing user base for web services, both for public and staff users. For example, in early 2006, five mainframe systems were migrated to the web (e.g., Tax, Treasury, Sanitation Billings, Traffic Violations, and Water Meters), reducing the requirement for mainframe knowledge, however, increasing the need for staff expertise in the web technologies.

Several factors influence the number and type of resource required in the Application Development Branch to maintain the web platform, including the:

- Planning and defining of the web infrastructure strategy (i.e. technology roadmap, standards, policies, and best practices);
- Growing demand for web services to support the operations of the business;
- Number of end-users and their expectations and requirements for ongoing support;
- Growth in the volume of help desk calls and project requests;
- Amount of enhancement, integration and upgrade work required; and,
- Knowledge base of the Branch staff in Web technologies.

Based on these variables, to sustain and develop the web services environment, the Application Development Branch requires three regular full time staff positions: a Team Lead, a Programmer / Analyst, and an Application Systems Specialist.

The Team Lead position will be responsible for:

- Line management of ten Application Development staff members;
- Evaluating the work required, scheduling the appropriate resources to complete, and monitoring the completeness of tasks; and
- Work with the Application Development Manager to assist in the direction and needs of the Branch.

The Programmer / Analyst position is responsible for the development, enhancement, and support of the City's web applications:

- Designing customized software and builds prototypes;
- Developing technical specifications for system development, testing and conversion processes; and
- Maintaining and enhancing current software applications.

The Application Systems Specialist will be responsible for:

- Web Server Monitoring (i.e. check backups weekly, disk storage usage);
- Documentation of servers and environment;
- Reviewing server logs/application logs; and
- Server Hardware and Software Upgrades.

FINANCIAL IMPLICATIONS

The financial implications have been broken down to reflect funding to implement the recommendations as presented in 2006 and the ongoing annual funding requirements in current dollars.

Ongoing Funding Requirements (Not Including Benefits)

Positions	No.	2006 (August to December)	Ongoing Annual Costs
Team Lead	1	\$36,829	\$88,390
Programmer / Analyst	1	\$24,060	\$57,745
Application Systems Specialist	1	\$24,060	\$57,745
Total		\$84,949	\$203,880

Savings from the Eliminations of Positions (Not Including Benefits):

Positions	No.	2006 (August to December)	Ongoing Annual Cost Savings
Data Services Control Clerk	1	\$19,563	\$46,952
Computer Systems Operator(s)	3	\$66,361	\$159,266
Total		\$85,924	\$206,218
Surplus in Funding		\$975	\$2,338

The establishment of three full time regular positions in the Corporate IT Department is subject to classification by the General Manager of Human Resources. The annual cost of salaries is \$203,880, plus benefits, with source of funding to be savings from the elimination of the one Data Services Control Clerk and three Computer Systems Operator positions in the Corporate IT Department, effective on August 19th, 2006.

PERSONNEL IMPLICATIONS

The four regular full time positions in Corporate IT to be eliminated through this report are currently performing manual tasks related to the mainframe such as conducting tape backups and scheduling jobs to update information contained in various databases. A majority of these mainframe processes will be automated by August 19th, 2006 since the Corporate IT Department has the appropriate software and hardware to do so. As a result of this change, the dates for elimination of three Computer Systems Operator positions and the Data Service Clerk position will be August 19th, 2006.

Starting in late 2005, meetings were held with the individuals directly affected to communicate the impact of the changes on the staff. During this time period, discussions were conducted with each of the affected employees individually to inform and assist these individuals. As well, each employee had been given the opportunity for skills assessment, computer training and career development coaching such as resume writing and interview skills. Managers and the Human Resources Consultants will actively work with these employees to seek other suitable employment opportunities within the City. Staff directly impacted will be able to exercise their bumping and recall rights under the CUPE 15 Collective Agreement. These four positions are under the jurisdiction of CUPE Local 15.

The ongoing maintenance and enhancement of the City's web applications and its associated environment will require the creation of a Team Lead, a Programmer / Analyst, and an Application Systems Specialist position in the Corporate IT Department. The annual cost of \$203,880, plus benefits will be offset by the savings from the elimination of four positions in the Data Services group within the Department. The new positions will be created, posted, and filled in accordance with posting requirements.

CONCLUSION

These recommendations provide the potential for improved information technology capabilities for the Application Development Branch in Corporate IT, as well as, advance in the ability to meet the current and future needs of the City of Vancouver.

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