

TO: CHAIR AND MEMBERS
FINANCIAL MANAGEMENT COMMITTEE

DATE: 2016 Nov 16

FROM: CHIEF INFORMATION OFFICER

FILE: 5210-01
Reference

SUBJECT: SAP HARDWARE AND DATABASE REPLACEMENT PROJECT
(SUITE ON HANA)

PURPOSE: To obtain approval to proceed with replacing the current SAP hardware and database to the new Suite on HANA version.

RECOMMENDATION:

1. THAT Financial Management Committee recommend Council authorize the City Solicitor to prepare a capital expenditure bylaw in the amount of \$4.14 million (inclusive of taxes) for hardware replacement, software licences and professional implementation services as outlined in this report.

REPORT**1.0 BACKGROUND**

The City purchased an enterprise resource planning system from SAP Canada Inc. in 2005. Since then, use of SAP has been extended to cover a wide range of modules across key business processes: financials, payroll, human resources, purchasing, inventory management, asset management, billing for rental properties and multi-family and commercial garbage.

Like all commercial software suppliers, SAP has continued to develop its product to meet the changing business needs of its customers with enhancements to functionality, the user interface and technical performance. Standard annual upgrades have ensured that the City's SAP environment has stayed current with legal, functional and technical updates. However, the version of the SAP software the City bought will soon no longer be supported and needs to be replaced with the latest version, SAP HANA.

SAP HANA offers several advantages over the existing version. It provides a new high performance database combined with a revamped suite of business software applications (S/4), specifically designed to optimize the new database and provide a streamlined user interface. To remain on a fully supported version of SAP, existing customers must move to the new database before 2020 and to full S/4 by 2025. Customers can choose to replace their entire SAP landscape (hardware, database and software modules) as one major project, or to phase delivery to reduce the impact on the organization.

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The hardware on which the City's SAP application runs also needs to be replaced. This hardware was purchased in 2009 and is at increasing risk of technical failure due to physical condition and increased demand on the equipment. Since SAP is a core operational system, any unplanned outage would result in down time for staff and a reduction in citizen service. City staff have also been experiencing productivity impacts arising from the poor performance of the system, particularly when running month end or year end processes and reporting, or when completing complex transactions.

2.0 UPGRADE OPTIONS & EXTERNAL ASSESSMENTS

The City retained an external consulting firm (Ernst & Young) to conduct a value engineering review of the proposed HANA project. The resulting report confirmed that the City should continue to upgrade its SAP environment in line with SAP's solution road map to ensure our installation remains current and fully supported. Ernst & Young also advised that the City's HANA implementation should take a phased approach with an initial step to replace the existing hardware and database. The move to the new S/4 business applications should take place at a later date, based on the City's business requirements and the relative maturity and customer adoption rate of the new modules.

The City's planned upgrade approach is outlined below.

Phase 1– SAP Hardware Replacement and Database Upgrade (“Suite on HANA”)

This phase of the project will replace the IBM Power Series hardware with SAP HANA hardware appliances, associated servers and peripheral equipment. The existing database will be replaced by the new HANA database, but the core software modules will continue to run on the upgraded hardware and database until they are replaced by S/4. This phased approach will enable the City to focus first on replacing the aging hardware and ensuring the SAP database is fully supported. Initial assessments have also projected that the combination of the HANA in-memory database and the new hardware could provide a performance uplift of up to 75% on some of the longest running transactions and reports. Section 3.0 contains cost and effort estimates to complete Phase 1.

Future Phase – Upgrade to S/4 Business Applications

The new S/4 HANA applications will provide significant benefits to the City in terms of process simplification and enhanced user experience (the 'look and feel' of the system). Some of these changes are available 'out of the box' and will require only testing, training and change management to implement. Others are significantly different from the existing version, potentially requiring design and configuration, testing and change management to ensure they are implemented in a way that takes full advantage of all of the new features. HANA experts have recommended that the City develop a road-map for S/4 HANA to ensure it derives maximum benefit from the new software at a pace that matches the City's capacity for change.

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Staff will submit a separate report in the future to cover the final S/4 installation. The target date for this report is 2020, although components of the new S/4 suite could be brought forward at an earlier date based on business needs.

3.0 IMPLEMENTATION PROJECT APPROACH

The City has worked with external subject matter experts on the sizing and configuration of the replacement hardware. These design specifications will form the basis of a Request for Proposal to provision the hardware environment. Assessments were also conducted to provide detailed project estimates for the effort and duration of the database migration, system adaptation, testing, project management and knowledge transfer to City staff. Based on these estimates, Phase 1 of the HANA Upgrade Project is expected to cost \$4.14 million (which includes a contingency of roughly 5%) and will take between 12 and 16 months to complete. This includes new hardware, software licences and implementation services for the duration of the project. A breakdown of cost estimates is as follows:

Project Component	Cost Estimate
HANA Hardware	\$1,650,000
HANA Licensing	\$530,000
Implementation Services	\$1,400,000
Taxes	\$360,000
Contingency	\$200,000
TOTAL	\$4,140,000

Subject to Council approval of the bylaw funding, and completion of standard City procurement processes, it is anticipated that contract award reports for the upgraded software, replacement hardware and implementation services will be brought forward to Council in December 2016 and January 2017.

4.0 RECOMMENDATIONS

It is recommended that Financial Management Committee recommend Council authorize the City Solicitor to prepare a capital expenditure bylaw in the amount of \$4.14 million (inclusive of taxes) for hardware replacement, software licences and implementation services as outlined in this report.

Upon approval of Council, the 2017 Annual Capital Plan will be amended to include this project. Sufficient Capital Reserve funds are available to fund these expenditures.



Shari Wallace,
Chief Information Officer.

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Copied to: City Manager
Deputy City Manager
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