Guy Michaud, Director of ITS & CIO

Technology Roadmap Status
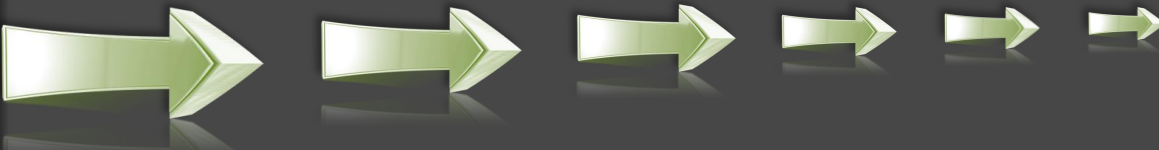
IT Sub-Committee
June 18, 2012

Ottawa

Agenda

- Technology Roadmap Overview

- Status Update (Nov 21, 2011 - Jun 1, 2012)

- Going Forward

- Questions

Purpose

The City of Ottawa Technology Roadmap:

- – Transforms the way municipal government operates;

- – Assists the organization in delivering on Council's commitment to Service Excellence & Service Ottawa;

- – Aligns to the Term of Council Vision & Strategic Direction.
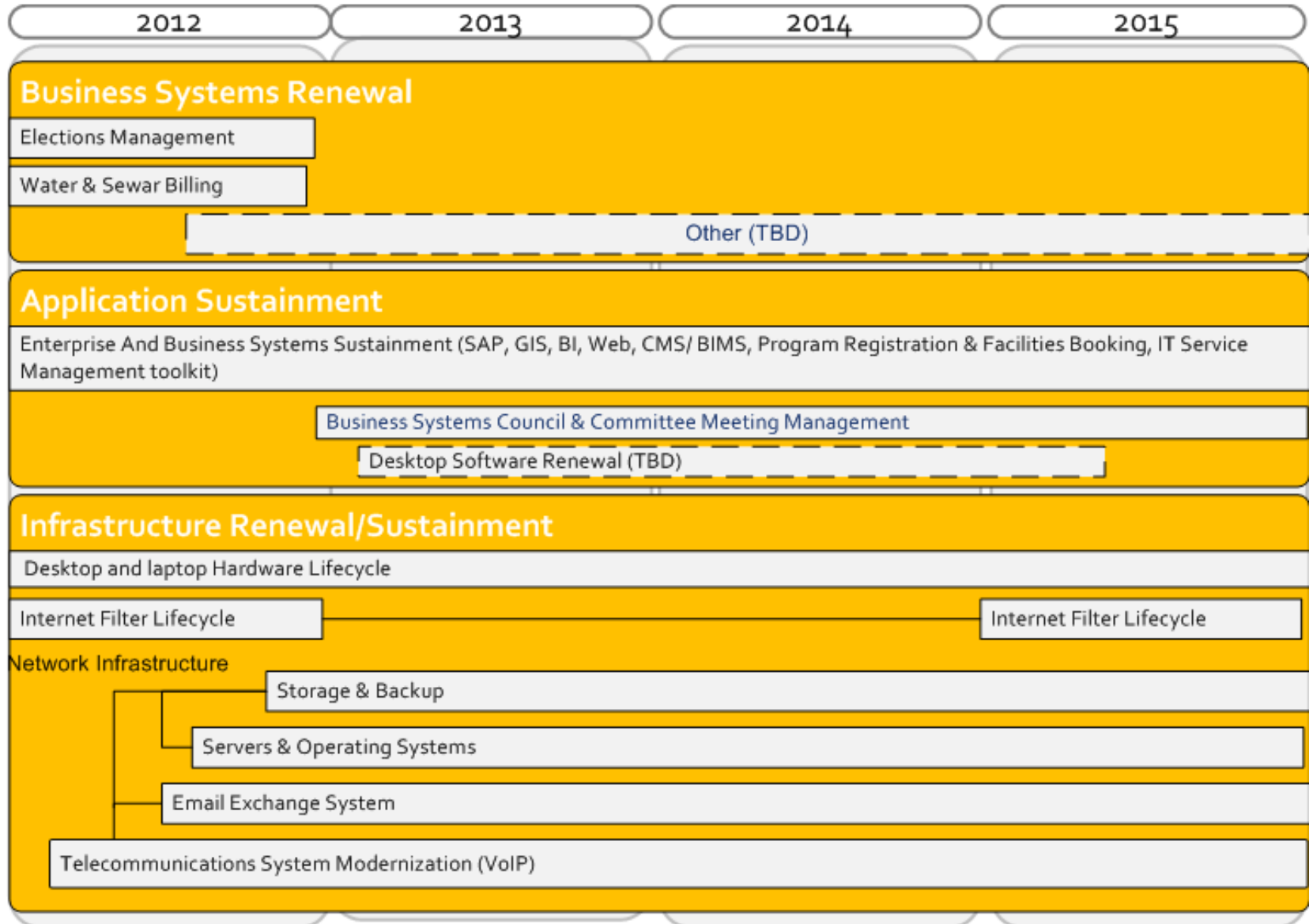
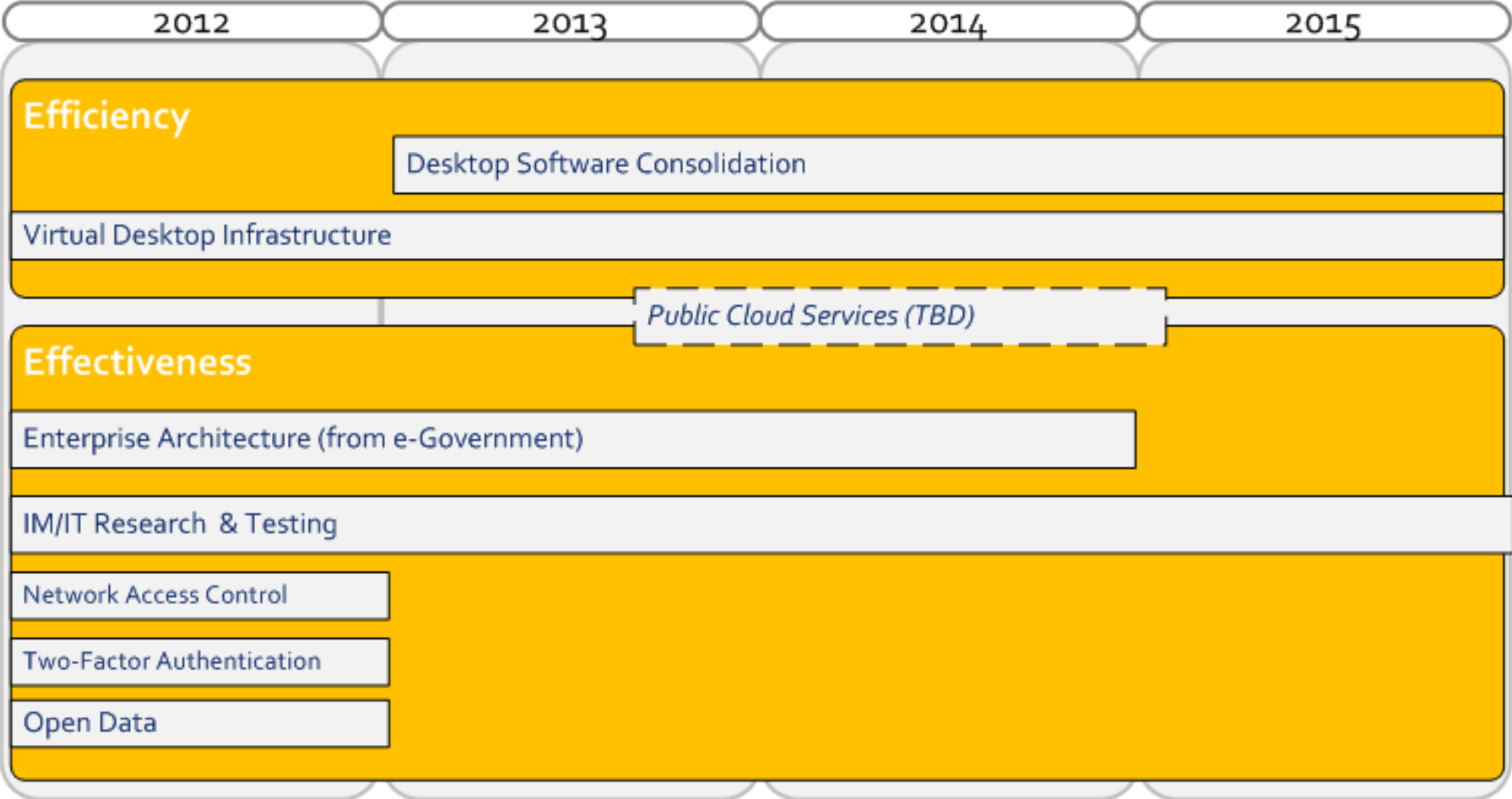# Guiding Principles

This plan consists of and describes:

- Investments that support the vision of Citizen Centricity and Governance;

- Technology as the key to maximizing efficiencies and service delivery;

- Investments that are planned in accordance with the affordability envelope;

- Investments necessary to ensure sustainability of the core infrastructure for people, process and technology.

Foundation & Modernization

Ottawa

2012	2013	2014	2015

Business Systems Renewal

Elections Management

Water & Sewar Billing

Other (TBD)

Application Sustainment

Enterprise And Business Systems Sustainment (SAP, GIS, BI, Web, CMS/ BIMS, Program Registration & Facilities Booking, IT Service Management toolkit)

Business Systems Council & Committee Meeting Management

Desktop Software Renewal (TBD)

Infrastructure Renewal/Sustainment

Desktop and laptop Hardware Lifecycle

Internet Filter Lifecycle · · · · · Internet Filter Lifecycle

Network Infrastructure

Storage & Backup

Servers & Operating Systems

Email Exchange System

Telecommunications System Modernization (VoIP)

2012 Strategic Initiatives

2012	2013	2014	2015
Efficiency			
	Desktop Software Consolidation		
Virtual Desktop Infrastructure			
	Public Cloud Services (TBD)		
Effectiveness			
Enterprise Architecture (from e-Government)			
IM/IT Research & Testing			
Network Access Control			
Two-Factor Authentication			
Open Data			

Foundation and Modernization Technologies

Foundation and Modernization "Objectives"

Foundation and Modernization technologies, processes and solutions represent the essential building blocks for rapid and effective deployment in addition to sustainment of current and new business technologies.

Objectives:

- Maintain current service delivery levels;

- Position the business areas to be more responsive in their provision of services;

- Capture efficiencies and productivity in the support and evolution of solution set infrastructure for client service delivery;

- Reduce the security risks and vulnerabilities, in addition to the probability of system outages/downtime by establishing a vendor supported sustainable infrastructure;

- Establish a modern consistent infrastructure enabling the City to speed the delivery of new products and capitalize on upgraded functionality.

# Enterprise Systems: Information Management

The Enterprise Content Management System (for City IM) is an infrastructure element that requires ongoing upgrade and sustainment activities to remain current and ensure ongoing compliance with legislation.

Status as of June 1, 2012:

- Scanning into Business Information Management System (BIMS) via the Multifunctional Devices (MFDs);

- Design and implementation of electronic records disposition;

- Client interface upgrades to meet client needs:
  - Single Sign On;
  - Additional information type – Reference;
  - Changes to existing roles;
  - Changes to improve ease of use for our clients;

- Shared drive conversions;

- Replacing the current physical Records Management System (RMS) with the BIMS module Physical Content Manager (PCM).

Network Infrastructure (VOIP)

The network infrastructure program is focused on lifecycle replacement and growth of the City's computer network and telecommunications infrastructure. Primary focus will be Voice over Internet Protocol (VoIP), Server Virtualization, and the Storage Roadmap.
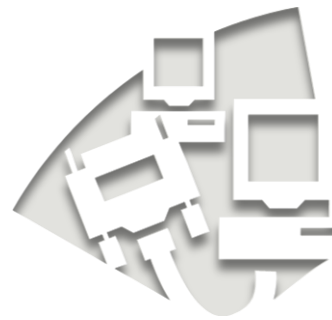
Status as of June 1, 2012:

- Communication Plan 40% complete;
- Development environment for core and enhanced capabilities 75% complete.

Going Forward:

- Complete Communication Plan and commence execution;
- Complete Security assessment, build and commence recommended configurations;
- User Acceptance Testing (UAT) and Deployment of Nuance speech attendant, Cisco Voicemail to remaining Mitel users (5,000);
- Build
    - o Complete Development environment for enhanced capabilities;
    - o Network operation management system and processes;
    - o End user web-based e-learning training;
    - o Data network WAN, LAN and core infrastructure;
    - o Configure access layer and circuits at 100 Constellation (ITS groups).

Network Infrastructure

The network infrastructure program is focused on lifecycle replacement and growth of the City's computer network and telecommunications infrastructure. Primary focus will be Voice over Internet Protocol (VoIP), Server Virtualization, and the Storage Roadmap.

Status as of June 1, 2012:

Server Virtualization
- 117 servers reduced through virtualization and application renewal representing 85% of 2012 target.

Storage Roadmap
- Storage roadmap report developed;
- Phase 1 design for Tier 2 Storage initiated.

Going Forward:

Server Virtualization
- Complete balance of 2012 server reductions (21 servers).

Storage Roadmap
- Complete Tier 2 design, purchase and implement.

Enterprise Systems: Content Management

The sustainment of the Enterprise Content Management (ECM) infrastructure is the focus of this investment. This infrastructure has been expanded to accommodate Web Content Management, OZONE web publishing, new electronic records management, integrated document/records management system and legislative report management.

Status as of June 1, 2012:

- Upgraded application to support rollout of the eAgenda tool to Council and Committees;

- Upgrade of Ozone to SiteStudio 11g.

Desktop Computers & Laptops

This lifecycle and renewal program funds the lifecycle upgrades and replacements of desktop computers and laptops that are common to all City departments.

Status as of June 1, 2012:

• Configuration and on-site client computing installation support;

• 564 desktops deployed;

• 120 laptops deployed.

Going Forward:

• Deployment activities continued to meet annual renewal targets.

Enterprise Systems: Database Management & BI

This item is focused on ensuring that databases and Business Intelligence (BI) servers are life cycled and software versions are upgraded for vendor support.

Status as of June 1, 2012:

- Developed new, more efficient and secure method of deploying SQL Server and Oracle Databases to accommodate increased volume of requests.

Going Forward:

- Replace 5 development and QA servers;

- Acquire training to augment existing skill sets.

Enterprise Systems: Web Services

This investment is sustaining the web-based services technology, the City public website Ottawa.ca, the theatre websites as well as the employee intranet portal, Ozone. This also provides the primary support infrastructure for e-Services applications and web publishing.

Status as of June 1, 2012:

• Increased focus on software quality assurance, project management and technical services for major eServices programs;

• Stabilized ottawa.ca functionality and performance;

• Released Centrepointe and Shenkman Theatre websites on SiteStudio 11g;

• Released Development Search Application with Quick Response (QR) Codes.

Going Forward:

• Establish/procure software tools for productivity and efficiencies;

• Perform necessary upgrades to meet increased transaction demand and growth.

Enterprise Systems: Security Services

The process of transforming the IM/IT Security function at the City from a primarily reactive, threat-focussed organization into one which is more cost-effectively managed, risk-based and integrated with the City's overall business risk management framework is essential.

Status as of June 1, 2012:

- Information Risk Management Policy created in alignment to Corporate Risk Management Policies.

Going Forward:

- Begin the process of establishment of measurement processes to reflect effectiveness and business value.

Enterprise Systems: SAP

This initiative represents the continued evolution of SAP to enable and support Service Ottawa initiatives and management processes.

Status as of June 1, 2012:

- The Public Works Material Management System (MMS) went live in April (Forestry);

- Human Resources (e-recruitment and payroll functions);

- Planning for infrastructure upgrades to address:
    - storage;
    - host development and test;
    - growth and on-going performance and stability.

Going Forward:

- Continue support of production environments;

- Purchase and implement infrastructure upgrades.

Enterprise Systems: GIS

The Enterprise Geographic Information System (GIS) program supports business focussed desktop and web solutions that are utilized by over 3,000 staff. The eMAP component is consistently within the top five to ten areas accessed by the public and building sectors via Ottawa.ca.

Status as of June 1, 2012:

- GIS Renewal program:
    - eMAP replacement (geoOttawa);
    - New roads data model implementation;
    - All GIS renewal project completions.

Going Forward

- Citizen Service Management (CSM) Release 2.

Enterprise Systems: IT Service Management

Information Technology Service Management (ITSM) is a continuous improvement function which seeks to continually improve the effectiveness and efficiency of IT services and processes.

Status as of June 1, 2012:

- Planning and implementation for the creation of self service portal for the Service desk.

Going Forward:

- Develop Online Service Catalogue identifying ITS services and products;

- Implementation of self service portal.

Enterprise Systems: IT Performance Management

Information Technology Service Management (ITSM) is a continuous improvement function which seeks to continually improve the effectiveness and efficiency of IT services and processes.

Status as of June 1, 2012:

- Data Center benchmark:
    - o Cost and staffing level submissions to leading external parties for comparison.

Going Forward:

- Complete Data Center benchmark;

- Establish performance measures aligned with Corporate Strategic Plan;

- Establish measures for internal ITS balanced scorecard.

Business Systems: Program Registration & Facilities Booking

The Program Registration & Facilities Booking solution is the City's complex software solution used to manage recreational programming, recreational facilities booking and CPR/First Aid Training.

Status as of June 1, 2012:

- Architectural review conducted to assess increasing capacity requirements;

- New infrastructure environment for testing and development activities proposal completed.

Going Forward:

- Program upgrade testing.

Internet Filter Lifecycle

The Internet Filter is a key element of establishing security for the City access and technology environment. This product is purpose built to ensure network and systems are protected to the greatest extent possible.

Status as of June 1, 2012:

- Identification/assessment of current Internet Filter product/service;

- Market place product analysis targeting solutions with core capability strengths in addition to providing the key deficiencies (a high availability configuration).

Business Systems: IT Service Management Toolkit

The IT Service Management Toolkit is a Commercial Off-The-Shelf (COTS) product currently used to support IT Service Management processes. It is the primary front-line case management tool used by the ITS Service Desk.

Status as of June 1, 2012:

- Additional licenses procured for the Commercial Off-The-Shelf (COTS) product to accommodate increased user access.

Going Forward:

- Execute upgrades and go-live processes.

Service Oriented Architecture Infrastructure

A Service Oriented Architecture is a software architecture that is based on key concepts of an application front-end, service, service repository, and service bus.

Status as of June 1, 2012:

• Service Oriented Architecture (SOA) strategy completed;

• SOA suite licensing for a second clustered server completed.

Going Forward:

• SOA hardware procurement for second server underway.

New Business Systems: Council & Committee Meeting Management

Automation of the legislative process related to Council and Committee Meetings including agenda creation, meeting management, vote management and paperless meeting capability drives the need for a new solution set.

Status as of June 1, 2012:

• This solution set introduces a new system that must be maintained and supported. The establishment of the skills, methods and processes necessary to support the infrastructure is essential for sustainment;

• Planned start in 2013

Strategic Initiatives

Ottawa

The City has joined other government organizations in Canada and around the world by providing public access to its data.

Status as of June 1, 2012:

- Purchase of 2 servers for enablement of the Transit GPS data;

- Expansion of Open Data catalogue to include live Transit GPS data, bicycle trip counters, well water testing, library events and others;

- Open Data technology strategy underway.

Going Forward:

- Complete the Open Data technology strategy, including budget plans;

- Initiate another Open Data Apps contest.

Virtual Desktop Infrastructure (VDI)

The Virtual Desktop Infrastructure (VDI) is the current recommended future state of the corporate PC (where applicable) and the preferred method for tailoring desktop solutions for a varied client base.

Status as of June 1, 2012:

- All required lab Infrastructure is in place for Proof of Solution;

- Proof of Solution phase is underway in lab.

Going Forward:

- User Acceptance Testing (UAT) at Library and City staff will execute in 3rd quarter;

- If UAT successful, then Procurement & Contract Negotiation will proceed;

- Begin building the solution and training support staff and key users.

Desktop Software Consolidation

The goal of this initiative and program is to consolidate and reduce the total number of legacy packaged software solutions supported by ITS.

Status as of June 1, 2012:

- Desktop Software Consolidation (DSC) project is initiated and running parallel to, and integrated with, Windows 7 Program.

Going Forward:

- Major efforts will commence in 2013 as the Windows 7 program executes.

New - Enterprise Architecture (from e-Government)

The City of Ottawa is continuing development and implementation of an Enterprise Architecture (EA)program to support the Service Ottawa program and other large scale transformational projects.

Status as of June 1, 2012:

• EA framework training completed for key staff;

• Skilled program support procured.

Going Forward:

• Establish EA team accountabilities, resources, and financials;

• Commence communications plan execution.

New – IM/IT Research & Testing

This initiative will allow the efficient detection of functional, performance, and security issues and permit consistency in testing procedures with automated test tools and resources.

Status as of June 1, 2012:

• ITS assessment completed

• Software Quality Assurance strategy will include:
- o Implementation approach for formal QA;
- o Scope of QA services;
- o Recommended test environment and QA tools;
- o Organizational structure including roles and responsibilities;
- o Communication Plan;
- o Risk and mitigation policy;
- o Performance measurement guidelines and processes.

Going Forward:

• Phased implementation of adopted recommendations.

New – Network Access Control

Network access control technologies enable the secure use of publically-accessible network access points, and can provide secure and flexible access to the City network for volunteers, community groups and business partners.

Status as of June 1, 2012:

• Commencing product research and procurement strategy.

New – Two Factor Authentication

The use of a 'second factor' authentication methodology, in addition to the use of username and password to provide access to highly sensitive City computers, information systems, buildings, and areas within buildings, is necessary. The 2012 year will focus on confirming the feasibility of using the corporate ID badge as a low cost 'second factor' authentication and mechanism for access to City sites, systems and data.

Deferred to 2013 as a result of the current major upgrade to the corporate access control system.

Technology Roadmap Status

Questions?