# Project Introduction

# Project title: LAN Network Tech Refresh

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# Presentation Agenda

- Business Case
- Project Overview
- Current Status
- Milestones
- Project Budget
- Project Schedule
- Risks, Dependencies and Impacts
- Questions

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## Business Case

- Maintaining the enterprise data network is a core function of the Communications Division of the Bureau of Technology Services. This network supports data and voice communications between servers/applications, desktops, and the Internet that are critical to the daily functioning of most city services, including public safety.
- The data network hardware and software need to replaced periodically in order to maintain vendor support, meet performance and reliability SLAs and satisfy mandates for PCI security patching.
- Provide new features including 10 Gig connectivity and in service software updates (ISSU) for server farms, and POE to support WiFi and VOIP.

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Project Overview

- Provide technology refresh for the city data network infrastructure.
- The current network was designed and implemented starting in 2005.
- This project will replace all of the current network equipment over a 5 year period.
- 2011-12 - Data Center network core and server farms
- 2012-13 – Access layer wiring closet switches in Portland Building and other major city locations
- 2013-14 – Access layer wiring closet switches, remote site network equipment (cont) and Internet edge routers
- 2014-16 – Access layer wiring closet switches and remote site network equipment completed

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Project Overview (cont)

- New network will be installed in parallel to current network allowing for controlled migration.
- Implementing mature technology from leading vendors limits risk.
- Current network is tightly structured and standardized. Network uptime exceeds 99.6% SLA.
- No major changes to network design (except migration to OSPF routing protocol).
- Successfully implemented similar project beginning in 2005.

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Current Status

- Selected Cisco as vendor for Data Center infrastructure (compared Cisco, HP, Juniper).
- Main differentiators were superior technical capability for In Service Software Updates (ISSU), local technical support, and familiarity of city engineering staff for configuration and management.
- In process of installing new Cisco Nexus core switches in parallel with existing core.
- Preparing detail design and configuration plans
- Preparing network migration plans
- Evaluating Cisco, Juniper, and HP wiring closet switches for 2012-13 CIP to begin replacement of out of support Cisco 3750v1 switches.

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## Milestones

1. Complete installation of new core network and server farms in parallel with existing network
2. Select access layer switch vendor
3. Migrate servers and other data center devices to new network
4. Implement new access layer switches, remote site network equipment and Internet edge routers

# Project Budget

| Item | Forecast 2011-2012 | Forecast 2012-2013 | Forecast 2013-2014 | Forecast 2014-2015 | Forecast 2015-2016 | Notes |
|---|---|---|---|---|---|---|
| Labor | N/A | N/A | N/A | N/A | N/A | Existing staff |
| Equipment | $720,000<br>On target | $500,000 | $850,000 | $593,400 | $575,100 | $3,238,500<br>5 year total |
| Licensing* | $50,000 | $65,000 | $60,000 | $55,000 | $55,000 | |
| Services | | | | | | |
| Other | | | | | | |
| | | | | | | |
| Contingency | | | | | | |
| . Total | | | | | | |

*Annual HW/SW maintenance currently $50K will increase temporarily due to parallel infrastructure, Numbers approximate based on Capital Improvement Project budget process.

12/26/2012

# Project Schedule

| | TOC Oversight? | | Repetitive implementation - minimal risk | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Milestone \ Task** | **1-Jul-12** | **1-Jan-13** | **1-Jul-13** | **1-Jan-14** | **1-Jul-14** | **1-Jan-15** | **1-Jul-15** | **1-Jan-16** | **1-Jul-16** | | | |
| Install new data center core network | | | | | | | | | | | | |
| Select access layer switch vendor | | | | | | | | | | | | |
| Migrate servers to new core network | | | | | | | | | | | | |
| Implement new access layer network and Internet edge routers | | | | | | | | | | | | |

Legend:

- Milestone tracking on schedule
- Moderate risk of schedule variance
- Known schedule variance

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## Risks, Dependencies and Impacts

- Coordinate and minimize network downtime to limit impact to city services
- Constrained resources from Network Engineering staff

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## Proposed TOC & QA Review Format

- Focus TOC & QA oversight in first three milestones (est. 7/13)
  1. Complete installation of new core network and server farms in parallel with existing network
  2. Select access layer switch vendor
  3. Migrate servers and other data center devices to new network
- Bi monthly project and QA reports to TOC starting September 2012
- Phase to deploy edge devices not in TOC portfolio, Operational effort 7/13 – 12/16

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## Questions