



Memorandum

TO: Public Safety, Finance and
Strategic Support Committee

FROM: Stephen R. Ferguson
Chief Information Officer

SUBJECT: Report on Infrastructure – Priority
Projects

DATE: August 6, 2009

Approved

Date

8/12/09

Background

On February 5, 2009, the Chief Information Officer presented a report to the Public Safety, Finance and Strategic Support Committee on Priority Projects for Technical Infrastructure. This memorandum provides the Committee with an update on the priority projects still in progress and a discussion of current and future issues.

Executive Overview

The City of San José's Information Technology Department (ITD) is responsible for managing the data and voice infrastructure throughout the organization. This infrastructure serves as the technical backbone, supporting such Citywide applications as HR/Payroll, email, FMS, Call Center(s), and Utility Billing Applications just to name a few. A wide variety of departmental applications also use the voice and data infrastructure to meet their primary business objectives.

The technical infrastructure must support the demands of users who rely upon it to perform their daily work. For example, employees send and receive nearly one million email messages daily while transacting City business. This volume of traffic and the availability of email represent only a single communications format that customers use to do business with the City of San José. Electronic mail, along with other forms of data, is only as reliable as the underlying infrastructure that is in place. ITD is currently focused on the following key areas for the City's technical infrastructure:

- Voice and Data Consistency – The Voice and Data Communications Strategy is a priority that focuses on consistency of the City's computing environment. At the heart of this strategy is the development of a reliable and secure network. This single network is the way in which ITD manages user accounts and email (Active Directory) and deployment of Voice over Internet Protocol (VoIP) throughout the organization. With the completion of this rollout, employees have a consistent base level of supporting technology within the City, regardless of department affiliation or physical location.

- **Streamlining Operations due to Budget Impacts** – The Chief Information Officer held meetings with individual Directors and provided a memo to Senior Staff outlining IT service level reductions as a result of budget cuts. These reductions are discussed in more depth in the Issues section below.

These major initiatives will provide the greatest impact on City operations from a data and voice infrastructure perspective. ITD continues to strive to provide customers with reliable and productive communication abilities that minimize impacts on the environment, and maximize integrity of the data contained within.

Priority Projects

Voice and Data Communications

The City's voice and data communications strategy provides the foundation for services that employees, residents and businesses rely upon. At the heart of these services is the wired and wireless infrastructure maintained by ITD. This infrastructure allows for the interoperability of voice and data services between users in support of service delivery. Several key projects are underway that facilitate expanding or enhancing this vital communication medium.

Development of a Single Citywide Network – ITD is currently in the process of designing and deploying a single City network, allowing users to access Citywide services regardless of location or department. At the heart of this network will be a single authentication model (Active Directory) and converged network or Voice over Internet Protocol (VoIP). These core components will provide users with a consistent, predictable and productive computing environment that also enhances the organization's information security. Active Directory has been deployed Citywide and at present, ITD is awaiting further outcomes from the Nortel bankruptcy prior to making any further large-scale upgrades or deployments to the VoIP network. Funding is the single greatest challenge in completion of the single Citywide network with an estimated \$1 million in infrastructure backlog for general-funded locations such as community centers and public safety buildings. ITD is seeking federal stimulus dollars to help close the infrastructure backlog gap.

Wide Area Network (WAN) Assessment – ITD has completed a WAN assessment to ensure that the necessary foundation work is in place to support a single Citywide Network. As part of the WAN assessment, communications links to outlying City facilities such as Fire Stations, Community Centers and remote City facilities were reviewed for appropriate bandwidth requirements. The assessment focused on the number of users, computers, applications and services required, and identified the appropriate capacity required for each site. Included in this assessment was the opportunity to leverage City-owned fiber networks through the Department of Transportation (DOT). As reported in the previous update to the Committee, ITD and DOT identified three priority fiber connectivity projects based on existing staffing resources within both departments. A status update on those projects is listed below:

- **Police Department Substation** - The completion of conduit and fiber pulls is anticipated for late 2009 with network connectivity slated for early 2010.
- **Happy Hollow Park and Zoo** – The conduit and fiber pulls are scheduled to be complete by the end of August 2009, with staff scheduled to move in by mid to late September 2009.
- **55 South Market Street (MAE WEST)** – The fiber connectivity has been completed and ITD is working with several vendors to price internet connectivity.

Police Communications Campus Wiring – The need for a crucial network and infrastructure upgrade for the Police Communications Campus was identified by ITD during preparation for expansion of the converged network. For this reason, \$2 million of the Technology Reserve, initially targeted for other under-resourced areas, was recommended for this essential project and was approved as part of the 2007-2008 Operating Budget. *This project has been completed on time and within budget.*

Police Substation Fiber Connectivity – In preparation for the opening of the new Police substation, ITD, Public Works, DOT and the Police Department are working toward provision of high-speed connectivity between the two Police buildings. This communications link will eventually facilitate secondary and emergency operations of Public Safety services in the event that either site becomes unavailable. *At present, the completion of conduit and fiber is anticipated in late 2009 with network connectivity slated for early 2010.*

VoIP Deployment at the Police Campus – In addition to wiring being installed at the Police campus, work on the new voice and data network is in progress. With this new network, VoIP will be expanded to the campus and a new network backbone will be implemented to replace equipment at or near end-of-life that supports such critical operations as the new electronic citation program, mobile broadband and others. *The project is currently behind schedule due to preparation for the Department of Justice (DOJ) review and acceptance of the new network, which is anticipated in early 2010.*

Storage Area Network (SAN) – ITD and Finance/Purchasing released an RFP for a Storage Area Network (SAN). A SAN is a pool of storage (hard drives) that is centrally managed, allocated and backed up. In the past, the City has purchased storage in small increments with each server purchase. By leveraging the data storage pool concept via the SAN, the City will be able to reduce the amount of administrative time spent providing operations and maintenance of its data storage environment. In addition, the SAN project will focus on consolidation of redundant server functionality which will contribute to the reduction of power consumption within the Data Center as the department's strategy of "virtualizing" servers whenever feasible continues.

As a result of the RFP process, the City selected and procured an HP SAN solution proposed by STA to meet the storage demands of the City. *The SAN project was completed at the end of June, within budget but behind schedule due to limited staff resources and conflicting priorities.*

Downtown Wireless – The City of San José is working closely with the Redevelopment Agency and Downtown Association to rebrand the City owned downtown WIFI system. *Currently, marketing materials are being produced to inform visitors, residents and businesses that the new downtown WIFI is back up and running.*

Issues

Reduced Ability to Support Departmental Needs

On July 27, 2009 the CIO released a memorandum to Senior Staff describing scope and service level reductions as a result of ongoing budget cuts. Specifically, the 2009-10 budget process resulted in the loss of 12.5 permanent positions and extensive reductions to both non-personal services and Citywide project funding. The overall message is that ITD has moved to a “keep the lights on” focus by safeguarding the most essential City services. As we strive to maintain daily operations in an environment of shrinking resources, deferral of new projects, program expansions and department-specific services take lowest priority.

In 2009-2010, only enterprise servers (e.g. FMS, H/R payroll) will be supported. In addition, although only 49% of the organization still utilizes Centrex phone services, ongoing budget reductions may further restrict ITD’s ability to simultaneously support two phone technologies, making the move to VoIP a future requirement.

Other infrastructure impacts to departments include:

- Employees will need to set up laptops and projectors for their own meetings
- Time spent to troubleshoot failed PCs will be limited to 15 minutes
- Replacement PCs will be deployed with standardized desktop images and C drives will no longer be available (currently being tested)
- Searches for electronic data in response to Public Records Act (PRA) and eDiscovery requests will be performed by the affected departments
- Inability to respond to automation and storage needs of departments

Nortel Bankruptcy

On July 20th 2009, Nortel Networks announced the potential sale of the Enterprise Services Division to Avaya for \$475 million. The City’s converged network is comprised of products, services and support from the Nortel Enterprise Services Division. Nortel will file what is commonly referred to as a Stalking Horse Asset and Share Sale Agreement with the United States Bankruptcy Court for the District of Delaware, along with a motion seeking the

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establishment of bidding procedures for an auction that allows other qualified bidders to submit higher or otherwise better offers, as required under Section 363 of the U.S. Bankruptcy Code. Several entities have expressed interest in the assets of the Enterprise Division of Nortel; however, results will not be known until approximately mid-September. ITD is working closely with Nortel to better understand the outcomes of each type of sale and its potential impact to the City's converged network.

ARRA (American Reinvestment and Recovery Act)

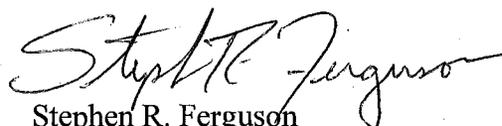
On July 1, 2009, the Department of Agriculture and the Department of Commerce issued a joint notice of funding availability (NOFA) for two programs covering ARRA funding opportunities for a wide range of broadband projects. Unfortunately for the City's efforts to obtain ARRA funding for broadband infrastructure, the NOFA contains restrictions that preclude us from submitting a proposal. The specific restrictions included in the NOFA state that proposed projects must either originate or terminate in an area that is considered 'underserved' or 'un-served'. Based upon the definitions of these terms, City staff has been unable to identify any project needs that can meet this requirement.

Working through our national contacts at Public Technologies Institute in Washington, we are seeking relief from the underserved and un-served limitations. Two more rounds of ARRA broadband funding are scheduled, and if these limitations are removed, the City will submit proposals at the appropriate time.

CONCLUSION

This year's budget landscape and the magnitude of ITD's budget reductions continue to prevent the department from responding to the organization's demand for technical support and automation, and contributes to the infrastructure backlog funding gap. ITD continues its inability to satisfactorily respond to the needs of departments as they seek efficiencies through their own budget reductions. Staffing levels have forced a "shrink to core" enterprise services model, sacrificing individual/department service delivery in favor of maximizing productivity across the largest possible employee landscape. Shifting resources to support new initiatives jeopardizes the productivity of all employees in core service areas such as email, telephony, and basic internet connectivity between the City and the residents we serve.

Should you have any questions regarding the projects discussed in this memo, please contact Vijay Sammeta, Deputy Director of Technical Infrastructure, at x53566.


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