



Memorandum

TO: Public Safety, Finance and
Strategic Support Committee

FROM: Stephen R. Ferguson
Chief Information Officer

SUBJECT: Report on Infrastructure – Priority
Projects

DATE: August 5, 2010

Approved

Date

8/5/10

RECOMMENDATION

It is recommended that the Public Safety, Finance and Strategic Support Committee accept this Report on Infrastructure – Priority Projects.

BACKGROUND

On February 18, 2010, 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 as well as residents and businesses who rely upon it to communicate with and participate in City operations.

ITD is currently undergoing a structural staff reorganization in response to budget reductions, position "bumping," and the retirement of one of two Deputy Directors. The reorganization will unify infrastructure and applications under a single Deputy to provide continuity and priority to those projects the department is able to address. Much of the efficiencies left to be achieved in the department require the participation of both the Applications and Infrastructure Groups, and merging the groups is the most efficient means of business continuity.

With limited staffing and a number of personnel in new positions that, in many cases, require training to obtain the necessary skill sets to perform required tasks, ITD is unable to take on many new projects. Only those projects that directly contribute to the reduction of ongoing expenses will be considered priority, and the department has adopted the following four strategies in efforts to streamline operations ahead of the Fiscal Year 2011-12 budget process:

1. Focus on implementing solutions that leverage common “off the shelf” components such as servers from major manufacturers, etc., and transition from more costly proprietary hardware, software and voice communications. Current projects include:
 - A change to stackable network routers and switches rather than modular all-in-one solutions;
 - The purchase of standard firewall software and server hardware rather than proprietary appliance type solutions;
 - The migration of databases from UNIX hardware and software to lower-cost Intel servers running Microsoft Windows.
2. Explore cost effective opportunities to multi-source for self contained technologies when the transition can quickly be made. Completion of the MAE WEST internet project (described below) will enable greater opportunities to multi-source applications, services and infrastructure from SaaS (Software as a Service) providers. Google Apps is an example of such technology, and ITD and the Attorney’s Office are working on contract language for Council approval of a 200-user pilot.
3. Consolidate the support base to leverage staff expertise, rather than maintain separate platforms. The department has evaluated migrations to single platforms in order to increase the number of skilled staff available to respond to issues in multiple areas.
4. Frequently test the market place for more cost effective solutions to take advantage of the current state of the economy.

Priority Projects

55 South Market Street (MAE WEST)

The City has awarded the internet service bid to Hurricane Electric and final contract negotiations are in progress. Below is a brief comparison of the cost and speed of the current and new provider internet provisions:

	Annual Cost	Speed
Current Internet Provider	\$70,767	70 mbs/sec
New Internet Provider	\$24,000	1000 mbs/sec

The new internet provider will increase bandwidth by 14 times the current size at approx one-third the ongoing cost. Additional opportunities exist to lower internet expenses at both the Airport and Library by consolidating costs associated with their independent internet connections. This project aligns with efficiency strategies #2 and #4 above, by allowing the competitive process to yield a better service for less.

VoIP Deployment at the Police Campus

The data network is scheduled to be completed by August 15, 2010 with functional user testing proceeding immediately after implementation. Voice requirements are being gathered from Police stakeholders to meet changes in staffing models. ITD and the Police Department are working closely to evaluate new system functionality in efforts to streamline public engagement when contacted by phone. Commodity network equipment is being deployed for quick and efficient replacement as well as reduced maintenance costs at the main Police campus. This project aligns with efficiency strategies #1 and #3 above by consolidating from a legacy Centrex system to VoIP.

Core Network Consolidation

IT staff will be upgrading the core data network in order to support increased demands on systems. The cost of the upgrade will be offset by future reductions in existing maintenance costs. This project aligns with efficiency strategy #1 by reducing large all-in-one network equipment with less expensive modular designs that can be replaced on a more frequent basis for less money.

Consolidation/Virtualization

ITD has recently completed a consolidation/virtualization study of over 100 servers within the Network Operations Center. The results of this study indicate that consolidation to 8-10 physical servers would meet user demands required of those systems. IT staff is working on consolidation of the 100 servers and will report back on the energy savings and carbon dioxide emissions upon completion. A superfluous amount of equipment often exists as a result of duplication from legacy departmental boundaries, and this project aligns with efficiency strategy #3 above by reducing the amount of hardware and software required to support.

UNIX to Windows Migration of Enterprise Databases

ITD engaged Dell Professional Services for a validation of staff's assertion that commodity hardware and software could be used to support the HR/Payroll system in a more cost effective manner. The team will be proceeding with a proof-of-concept with the upcoming FMS (Financial Management System) upgrade. FMS will move from the UNIX environment to Windows as part of the upgrade. Once user testing is complete by the end of March 2011, it is anticipated that the system will move into production. This project aligns with the efficiency strategy #3 above, by allowing for consolidation of hardware, software and staffing upon completion.

CONCLUSION

As previously reported to the Committee, much of the technical infrastructure within the City such as cabling, networks, telephony and servers, are at the end of life expectancy. Even the converged network, implemented with the opening of the new City Hall, is five years into its seven-year life expectancy. Remote facilities such as Fire Stations and Community Centers are long past recommended useful life. As the infrastructure continues to age, the number of outages, cost for support, and security risks rise as ITD attempts to maintain existing levels of service.

However, the City Manager recently directed the IT Department to look at a Citywide consolidation effort in order to deliver service more cost effectively. The department has provided a three-year plan to analyze and recommend areas for consolidation, the first of which is Citywide Database consolidation. At present, an assessment of the consolidation requirements is taking place between ITD, ESD, Retirement and the Airport who maintain the largest database silos. A recommendation as a result of this assessment will be presented to the Technology Leadership Council on August 30, 2010 and associated staff changes will be subject to approval by the City Manager. Consolidation updates to the Committee will be forthcoming.

While IT is attempting to find the most efficient ways to manage infrastructure, it does require resources to maintain existing service levels and create efficiencies. The department continues to reduce service delivery as a direct trade off to the budget situation, but at the same time, it strives to provide tangible savings, improve services, and mitigate risks to the greatest extent possible through consolidation where feasible.

/s/

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For questions, please contact VIJAY SAMMETA, DEPUTY DIRECTOR, at 535-3566.