

**City of Culver City, California
Agenda Item Report**

Meeting Date: 07/13/09		Item Number: <u>A-2</u>	
CITY COUNCIL AGENDA ITEM: Discussion of Network Refresh and Telephone System Replacement and Direction to Staff as Deemed Appropriate.			
Contact Person/Dept.: John Richo		Phone Number: 310-253-5950	
Fiscal Impact: Yes ☐ No ☒		General Fund: Yes ☐ No ☒	
Public Hearing: ☐		Action Item: ☒	Attachments: ☐
Commission Action Required: Yes ☐ No ☒		Date: _____	
Public Notification: (E-Mail) Agendas and Meetings – City Council (07/07/09)			
Department Approval: John Richo (07/07/09)		City Attorney Approval: Carol Schwab (by H. Baker) (07/07/09)	
Chief Financial Officer Approval: Jeff Muir (by N. Kimball) (07/07/09)		City Manager Approval: Mark Scott (07/08/09)	

RECOMMENDATION:

Staff recommends the City Council discuss the Network Refresh and Telephone System replacement project and direct staff as deemed appropriate.

BACKGROUND:

The City's data network was designed in 1994 and installed in 1995. At that time, it was a small network supporting about 275 network attached devices. It was based on a flat network topology which was appropriate for a small network. Over time the network expanded as it was extended to new buildings (Public Works, Transportation, Senior Center) and connected to established buildings (Vets, PD, Fire Station 2, Fire Training Drill Yard, Transfer Station). PD was subsequently segmented off to its own network of approximately 150 devices.

As of today the City's network encompasses approximately 659 network attached devices. It has both outgrown its basic design, and its outdated networking components which lack necessary manageability and security features.

The City's telephone system (Mitel 2000) began installation in 1995. During the implementation, the third party installer entered bankruptcy and the system did not reach a state of satisfactory functionality until 1998. The system is built around a core of four Mitel SX-2000 Light and one Mitel SX-2000 PBX's. They support 935 telephone lines.

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DISCUSSION:

This proposed project covers both the refresh of the network components and a critically needed redesign of the City's and Police Department's networks, as well as replacement of the City's telephone system. In terms of cost, approximately 70% of the cost is associated with the network and 30% to the telephone system. Additional details of the proposed project are included below.

Network

There are approximately 77 devices (switches, routers, firewalls) that direct and secure data traffic on the City's and Police Department's networks. More than 75% of them are out of warranty. As a matter of fact, the manufacturer (Bay Networks) is no longer in business. Three years ago we faced a challenge. Up to that time the City and the PD were on the same network. However, that configuration was not consistent with provisions of agreements that PD has with certain Law Enforcement Agency resources that they access. In other words, the PD cannot share a network with the City. Since funds were not available to build a network for PD, we utilized old City equipment that had been retired to set up a separate network for the PD. Further complicating the situation is the fact that even though the PD must be effectively segmented from the City, PD still has a need to access several applications on the City's network such as the financial system, intranet, and e-mail applications. We put in a short term fix that was barely adequate at the time and has proven to be inadequate as we implemented the Public Safety CAD/RMS application. For that project, Fire and PD share the application, but Fire and IT are on the City's network and PD is segmented. In operation it means that several times a day IT staff must walk over to PD to access their network in order to support the CAD/RMS application. Some functions like "rip and run" printing are being communicated from PD to Fire by fax instead of over the network. There are other important issues of deficiency with both the City's and PD's network. The most troubling relates to security issues that are beyond the capability of the out-of-date components now installed.

While both the City and the PD have technologies in place to protect their networks from external security threats from the internet, both are potentially vulnerable to internal threats. Consultants and employees can have access without challenge from any of the ports that are distributed throughout the City and may by purpose or inadvertently cause damage. A recent event related to web casting of Council meetings highlighted our need for network access control and monitoring of traffic.

Also of concern is the lack of manageability of our current networking components, that are at least a technological generation behind in function and feature. The City's network has expanded to thirteen locations, requiring centralized management for efficient operation.

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Telephone System

Our present system came to market in 1993 and was installed in the City in 1995. About two years ago the vendor that supports the telephone system gave us a heads up that some parts for the system were becoming increasingly difficult to obtain in a timely manner from the manufacturer and in the aftermarket. We contacted the vendor (Mitel) and found out that sale of the Mitel SX-2000 ended in May of 2009. They also provided a timeline for the end of parts manufacture, which varies by part ending in May 2010. However they are also in an inventory depletion mode and they will only make "reasonable efforts" to secure new or refurbished parts. The bottom line is our key communications technology is at increasing risk should we experience a parts failure.

In addition to the necessity for replacement based on the age of the City's system, there are many features and functional advantages to be gained by upgrading. Our current system is analog and will be replaced by digital technology. At the present time our telephone system does not display location (within a city building it only identifies calling extension) when calls are made to 911. The new system will correct this deficiency. The current system also lacks redundancy (i.e. if the PBX or telephone cabling malfunctions at Vets Memorial, Senior Center, Public Services, or Transportation, that location would be completely down until repair.) Due to our current trunking that feeds much of our telephone lines to and through City Hall, a malfunction at City Hall would also affect all non-PD Service. The proposed new system would both split some of our trunks to PD and would provide some redundancy for PD and City Hall in the event that there is an incident at either location. All locations will have emergency calling ability. A new digital system will open up opportunities to integrate our telephone system with applications such as permits, business license and with the ability to process renewals or obtain status over the phone. As part of the initial installation we will integrate the phone system with our email/voice mail systems. We will also enhance our ability to automate call distribution, (phone trees), to better serve the public.

Voice Mail

Our Voice Mail System, (Octel VMX 200) has been out of production, out of warranty, and out of manufacturer's parts for several years. In recent years we have been experiencing problems on a consistent basis. For example:

1. The System does not notify (by message lamp) when a voice mail exists. This condition often causes staff to be unaware when/if a matter needs attention.
2. Transferring callers to voice mail is problematic.
3. The system may clear out voice mails without prompting.
4. Programming voice mail trees is difficult to accomplish.

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Single Mode Fiber/Modifications in the City's Data Center

As part of the Network Refresh we are replacing the City's multi-mode fiber optic cabling connections to Transportation, Public Services, and the Senior Center/Vets Auditorium. The issue relates to distance. Multi-mode fiber is not effective for digital voice communications beyond 1,968 feet. Both Transportation/Public Services on Duquesne and the Senior Center/Vets exceed that distance. The modifications to the Data Center relates to the unplanned and uncontrolled growth of network connections in our Data Center. This is the key hub for fiber network traffic to and from facilities and will involve adding an additional rack and re-racking components and labeling cables.

Staff has completed the review of the results of the RFP process as authorized by the City Council in January, 2009. Prior to returning to the City Council with an item for consideration of award of the agreements to implement the Project, staff is requesting the City Council's discussion of this important project to provide the City Council with an opportunity to ask questions and/or provide direction to staff. It is anticipated the item related to the award of agreements for this Project would be included on the City Council's agenda before the end of July.

FISCAL ANALYSIS:

The primary funding source for the Network Refresh/VOIP Project is the Equipment Replacement Fund (42000907). The estimated cost of the project is \$1.3 million.

MOTION:

That the City Council:

Receive the report from staff and direct staff as deemed appropriate.