



CITY OF HAYWARD
OFFICE OF THE CITY MANAGER

SUBJECT: Council Technology Application Committee Meeting
DATE: Wednesday, July 18, 2007
TIME: 5:30 P.M. to 7:00 P.M.
LOCATION: City Hall, Conference Room 4A

TO: **Council Technology Application Committee**
Council Member Olden Henson, Chair
Council Member Bill Quirk
Council Member Bill Ward

FROM: Fran David, Acting City Manager

Council Technology Application Committee Meeting

Wednesday, July 18, 2007

5:30 P.M. to 7:00 P.M.

Hayward City Hall

777 B St. Hayward

Conference Room 4A

Hayward, CA 94541

AGENDA

Public Comments: (Note: For matters not otherwise listed on the agenda. The Committee welcomes your comments under this section but is prohibited by State Law from discussing items not listed on the agenda. Your item will be taken under consideration and referred to staff.)

1. Minutes of June 20, 2007
2. Voice-Over-Internet Protocol (VOIP) Phone System
3. Member Comments

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Daily Review

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**Council Technology Application Committee (CTAC)
Meeting Minutes of June 20, 2007**

Council Members Present: Olden Henson, Bill Quirk, and Bill Ward.

Staff Present: Jesús Armas, Fran David, Clancy Priest, Police Capt. Phil Ribera, Millie Saad, and Police Lt. Robert Weldon

Others: Wade Bettisworth (Red Light Photo Enforcement Program) and Chuck Horner (resident).

The meeting was called to order at 5PM.

I. Public Comment: None.

II. Approval of Minutes

The Committee accepted the minutes of March 21, 2007

III. Police Computer Laptop Replacement

Technology Services Director Clancy Priest presented the recommendation for Committee endorsement to replace obsolete Police Department laptop computers. The laptops are approaching full obsolescence and experiencing a growing failure rate. While Technology Services has been able to reconfigure them many times to run updated Operating Systems, that option is no longer feasible. By replacing the laptops with up-to-date hardware and software, various geographic-based software programs can be downloaded. These download will enhance police field activities requiring immediate access to data. The recommendation is to replace 50 Police Department laptops with Panasonic Toughbook CF-30's, estimated to cost \$230,000. CTAC approved that the recommendation be placed on the City Council agenda for June 25.

In response to member questions about next steps, the City Manager reported that other enhancements, like the CAD/RMS system, would be addressed in the overall Technology Strategic Plan that staff plans to present to CTAC next year.

IV. Red Light Photo Enforcement Program

The proposal to implement a Red Light Photo Enforcement Program in Hayward to reduce the number of vehicles failing to stop for red traffic lights was presented by Police Lieutenant Robert Weldon. Other jurisdictions that have implemented photo enforcement programs have shown a reduction in these collisions. The CA Vehicle Code now authorizes photo-red light interval times. An outside vendor provides the hardware and software equipment and intersection installations that generate the photographic and video evidence of the red light violations. The digital evidence is transported over secure data links where the photographic evidence and vehicle registration information are assembled.

The evidence is electronically sent to the Police Department where an employee reviews the evidence and determines if the violation merits prosecution. If determined that there is a violation, the vendor generates and mails the citation to the driver, and forwards all pertinent information to the courts. The driver is given a web address and PIN to view the still photographs and video clip, either from a personal computer or one provided at the Police Department. Since implementing a photographic enforcement system, Ventura has experienced an 80% reduction and Fremont a 40% reduction in red light violations.

After a review of the proposals from the two responding vendors (Redflex Traffic Systems and American Traffic Solutions, Inc.) and the information gathered during visits to cities that use these vendors, staff proposed that a recommendation be made to the City Council to award the contract to Redflex. The vendor's fee per monitored approach is about \$5,000 - \$6,000 per month (depending on the complexity of the intersection design) and includes all services, equipment and training. Based on current data, two prosecutable citations per day will cover the total fee of the system. If the total revenue is less than the total fee for the system, the city has no obligation to pay the vendor the difference. It is estimated that first year net revenue will be about \$3,800,000, and, thereafter, about \$1,400,000 (assuming a 60% reduction in detected violations).

System implementation will require two full-time staff to review violations submitted by the vendor, assist the public in viewing photographic evidence, and give courtroom evidence for contested violations. That cost will be covered by projected net revenues. CTAC gave their full support to the program. There is a 30-day public noticing requirement after City Council approval before the program may start at the first intersection installation.

IV. Member Comments

Councilmember Ward asked about the status of the City Council Member website biographies. All Council Members are encouraged to submit bios, and whatever is submitted by a certain date will be posted to the City website.

The meeting adjourned at 6:10PM.

V. Next Meeting

To Be Determined: Wednesday, July 18 at 5:30PM was proposed.

Agenda Topic: VOIP (Voice-Over-Internet Protocol) Phone System



CITY OF HAYWARD
STAFF REPORT

AGENDA DATE 07/17/2007

AGENDA ITEM _____

TO: Council Technology Application Committee
FROM: City Manager
SUBJECT: Status of Voice over Internet Protocol Implementation

RECOMMENDATION

That the Committee review and comment on this report.

SUMMARY

The Council Technology Application Committee (CTAC) previously discussed and endorsed the City moving to Voice over Internet Protocol (VoIP) for its communication needs, essentially replacing landline service or "plain old telephone service" (POTS). Staff last reported to CTAC on this matter in January 2007.

The VoIP communication system project includes two components: the selection and implementation of the VoIP technology and certain upgrades to the City's infrastructure that will be required to implement the new technology. The Request for Proposal (RFP) for a comprehensive VoIP system was issued on April 16th 2007. On May 11, 2007, the City received proposals from six vendors.

The Technology Services staff is also in the process of completing a network infrastructure upgrade along with the implementation of the VoIP telephony system. The purpose of the infrastructure upgrade is to enhance and strengthen our network capabilities to support both the incoming VoIP system and future network needs of the City.

DISCUSSION

Voice over Internet Protocol (VoIP): The City of Hayward currently uses AT&T Centrex services for its telephony needs. The Centrex system has been considered one of the more stable systems for such services, but is also one of the more expensive solutions. However, VoIP is now challenging POTS on system stability, and certainly on cost. This technology has matured and is now a widely implemented communication system used by both public and private sectors. The justification for a transition to a VoIP system is based in improved technology, better support of business operations with greater flexibility, and long-term operating costs.

The implementation of VoIP generates the need for investment in new hardware and software, which is offset by the savings in long-term operations. Along with hard cost savings there are also collateral savings that will be realized such as:

- Mergence to a single heterogeneous network, reduced maintenance costs.
- Direct inward dialing, eliminates use of an external network
- Choice for local and long distance carriers
- Rapid return on investment, 36 months, with cost saving realized into the future
- Reduced operating costs, POTS versus PRI lines
- Flexible architecture, open standards compliant
- Scalable as system grows or reduces
- Flexible access to manage system (moves, add, changes)
- Feature management using a web application
- Centralized administration, no need to use an external system
- Statistics that allow for cost reducing, data reports of usage

In August 2006, staff began the procurement process for the VoIP system. Technology Services, with the assistance of a consultant and the City Purchasing Division, developed a Request for Proposal (RFP) for a comprehensive VoIP system. After some initial delays to carefully clarify specifications and infrastructure needs, the RFP was issued on April 16th 2007, and twenty-five vendors were invited to propose on the project. Of these, 15 attended a mandatory pre-bid conference for all bidders. On May 11, 2007, the City received proposals from six vendors: four that are Cisco solutions, one Avaya solution, and one Siemens solution.¹ Through a structured process, the vendors and their proposals were evaluated. After the initial evaluation, three Cisco-solution vendors were moved forward as finalists: AMSNet, ExtraTeam, and NexusIS.

The proposal evaluation team was composed of two separate committees, a technical/vendor capability committee and an end-user (handset) review committee. The technical/vendor capability committee was comprised of six City staff members and two outside technical experts. The handset committee consisted of a cross section of City staff from every Department. To ensure consistency, all committee members were required to attend all discussions as well as oral interviews and demonstrations. Staff is currently in this final evaluation process to select a tentative finalist to recommend to Council for award of contract.

Based on Committee concurrence and subsequent Council approval in July, the project implementation schedule is as follows:

- Mid-July – Notice of award (Tentative)
- July – Contract Negotiations/Preparation
- July 24 – Request Council approval of the selected vendor and financing plan
- August – Begin project implementation
- November – Complete full cutover to new system

Improved Infrastructure: The Technology Services staff is also in the process of completing a network infrastructure upgrade along with the implementation of the VoIP system. The purpose of the infrastructure upgrade is to enhance and strengthen our network capabilities to support

¹ Cisco Solutions: **AMSNet, AT&T, ExtraTeam and NexusIS**
Avaya Solution: **PacketBase**
Siemens Solution: **Verizon**

both the incoming VoIP system and future network needs of the City; this includes both the updating of existing equipment and the addition of new components. The strengthened network will be more capable of handling voice, video, and data requirements over one heterogeneous (converged) network, also known as Next Generation Networks (NGN)², throughout the enterprise. The cost of the upgrade is expected to be about the same as that for the VoIP conversion, with each comprising 50% of the total project costs. However, it will provide a solid foundation for the VoIP system, among other evolving technologies, and enhance our existing systems and capabilities. This brings together telephone services, data services, and the power of the Internet in a single high-speed network, which will serve as the foundation for future expansion of the City's technology systems.

Technology Services issued a bid request in early June for the network system upgrade. The engineering specifications for this request were developed by Technology Services staff with the assistance of Cisco Network engineers. The City received responses from five vendors: AT&T, AMSNet, ExtraTeam, FusionStorm, and NexusIS. Staff is currently reviewing these bids for the infrastructure upgrade.

FISCAL IMPACT

The overall costs for all components of the infrastructure upgrade and VoIP will be dependent upon final vendor negotiations. It is estimated that the total cost will be between \$800,000 and \$1,000,000. This amount will be refined in the contract negotiation phase. The cost savings on telephony services is expected to equal about 80% of our current POTS Centrex expenditures³, and are estimated to be approximately \$400,000 annually after installation and lease payoff of the VoIP system.

The City currently spends approximately \$485,000 yearly (over \$40,000 monthly) for our current Centrex Telephone service, which will be decommissioned upon implementation of the VoIP system. Staff has investigated leasing options through Cisco, and has asked proposing Cisco-based vendors to submit the terms of a possible leasing arrangement. Each vendor has proposed a 3 or 5-year leasing option through Cisco Corporation at between 4 and 5%. Staff recommends pursuing a lease/purchase option through Cisco, and using the saved funds from the Centrex system to make the payments and service the debt on a lease for the new converged network and VoIP systems. Assuming a 3-year lease, the City would be free of this expenditure no later than FY 2011.

² **Next Generation Networking (NGN)** is a broad term to describe some key data transport evolutions in telecommunication and data access networks that will be deployed over the next 5-10 years. The general idea behind NGN is that one network transports all information and services (voice, data, and all sorts of media such as video) by encapsulating these into packets, much like transmission is on the Internet.

³ In FY 2005-2006, the City paid \$485,000 for POTS Centrex service (i.e., exclusive of costs for T-1 data lines and other miscellaneous costs.)

The table below reflects estimated costs and savings that the City may obtain by implementing the VoIP System.

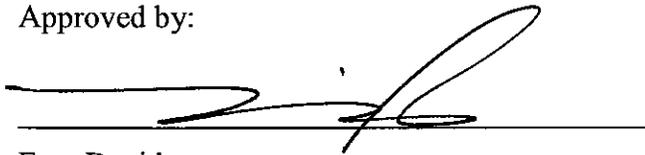
<u>ITEM</u>	<u>COST BASIS</u>	<u>CURRENT ANNUAL COSTS</u>	<u>FUTURE ANNUAL COSTS: 1st 3 Years</u>	<u>FUTURE ANNUAL COSTS: After 3 Years</u>
PRI Lines (10) ⁴	\$180/line/month	\$0	\$21,600	\$21,600
DID/Numbers (600)	.40/DID's/month	\$0	\$2,880	\$2,880
Centrex Costs	\$16/line/month +VM, features	\$482,840	\$11,520 60 lines (base)	\$11,520
VoIP Installation and Debt Service (Assuming cost of \$1M and 4% interest)	Contract plus lease interest	\$0	\$360,000	\$0
Maintenance Contract	Negotiated Annual	\$0	\$40,000	\$55,000
TOTALS		\$482,840	\$ 436,000	\$91,000

Prepared by:



Clancy Priest
 Technology Services Director

Approved by:



Fran David
 Acting City Manager

⁴ PRI = Primary Rate Interface, an ISDN service providing both B (bearer) and D (data) channels for messaging, and for signaling and control over an existing telephone line. These are necessary adjuncts to the VoIP system, which are not required in the current POTS system.