Council Meeting Date: April 14, 2008 **Agenda Item: 7(d)**

CITY COUNCIL AGENDA ITEM

CITY OF SHORELINE, WASHINGTON

AGENDA TITLE:	Authorizing the City Manager to execute a contract with All Phase Communications Incorporated for the acquisition and installation of a new telephone system
DEPARTMENT:	Finance Department
PRESENTED BY:	Debbie Tarry, Finance Director Tho Dao, IT Manager

PROBLEM/ISSUE STATEMENT:

Currently the City "rents" a Centrex telephone system through Verizon. In 2007 the City paid $156,069 for the rental of the system; the 2008 budget for the system is $151,500. Staff has evaluated alternative systems and found that a much more cost effective system can be purchased with the return on investment (ROI) analysis showing that the new system will pay for itself in just over two years. Not only is the current Centrex system expensive to operate, it is antiquated. The City needs to replace it with a modern system that will provide additional functionality while reducing on-going operating costs.

FINANCIAL IMPACT:

The purchase price for the initial installation is $233,288 including the first year's annual maintenance cost of $14,403. Annual on-going costs are estimated at $40,832, as compared to last year's actual amount of $156,069. The difference of $110,668 over a two plus year period will off-set the initial investment in the system. A general fund budget amendment will be required to provide the budget authority for the acquisition.

RECOMMENDATION

Staff recommends that the City Council authorize the City Manager to execute a contract with All Phase Communications Incorporated in the amount of $233,288 for the purchase of a license, hardware, support services and maintenance agreements associated with a new telephone system.

Approved By: City Manager ___ City Attorney ___

INTRODUCTION

When the City incorporated in 1995, the City contracted with Verizon for a phone system. This system (Centrex) was the most cost effective option at that time since it offered the City's approximately twenty phone lines and the ability to work as a centralized system. Today the number of phone lines has grown to 276 and the added overhead cost per line warrants the analysis of acquiring a new telephone system. City staff has been aware of this for the last two years, and with the expectation of a new City Hall it was time to research alternative solutions.

Based on the need to increase functionality and the desire to lower operating costs, the City included a project to review the technical/financial feasibility of acquiring a new phone system in its 2004-2006 Information Technology (IT) Strategic Plan. As a result of that study, the City issued a Request for Proposal (RFP) in 2007 for a consultant to help analyze and develop an RFP for a replacement telephone system. The consultant selected was DV Fuller and Associates. As a result of the work done by the consultant, and analysis of staff, a telephone system replacement RFP was issued in January 2008.

BACKGROUND

The existing Centrex phone system is analogous to renting a telephone system. As such, the City pays on-going monthly payments for the various phone components. Some of the features that the City currently "rents" include:

- Voice mail system which costs the City approximately $60,000 annually
- Individual phone lines for each number at approximately $100,000 annually.

Instead of paying these on-going costs the recommendation of staff is to purchase a system, which requires a large one-time investment ($233,288), but significantly lower on-going maintenance costs ($40,832 annually). The reduced annual maintenance costs is largely the result of eliminating the need for individual phone lines for each employee number and instead the use of three broadband circuits that allow for multiple extensions to meet the City's needs. Also the new phone system will include a server to provide voicemail and will allow for better integration of phone extensions for all City operations.

In 2005 staff conducted an initial feasibility/return on investment (ROI) study and determined that an alternative system could provide significant on-going operational savings. At the same time, there was uncertainty of the timing and location of a new City Hall and whether the City would be required to have a temporary relocation of offices during City Hall construction. As a result, the City Manager requested that we analyze phone options in conjunction with City Hall planning. The purchase of a new system in 2008 will allow staff to become familiar with the functionality of the system prior to moving into a new facility. The telephone system will be completely portable into the new facility as it operates over the same data lines that are used for our computer network and therefore there will not be an additional cost to acquire and implement the system prior to occupying the new City Hall.

As part of the City's research we found that other local cities and municipalities (e.g. Kirkland, Lynnwood, and Bellingham to name a few) have replaced their existing phone systems within the past couple of years for many of the same reasons that we now recommend that we purchase a new system: reduced costs, unification of the system with all City satellite operations and improved effectiveness.

DISCUSSION

Telephone System Features

A telephone system, like a personal computer and a network system, is a productivity tool. The current phone system capacity allows only one call per staff. If the phone is busy, the system will automatically transfer the next call to voice mail. With a modern telephone system, there will be increased capacity to handle citizen calls. If a line is busy, the incoming call will show up on the handset display as a phone number and caller ID (if available). Staff can then decide to handle the current call or the next call by asking the caller to be placed on "hold" status. If there are additional staff members assigned to the same number, they have the option of picking up the overflow calls once they are ready to do so. Other customer service enhancements are: the ability to have a complete record of the call, when the call entered the system, knowing how long the customer has been waiting before someone answered, how many transfers have taken place or how many people have spoken to the customer prior to being transferred, etc. This type of information will give staff more background about the caller and help to avoid potential conflicts.

In order to maximize the effectiveness of a system, staff worked with DV Fuller and Associates and a cross-department team to identify key features that would be required of a new system. Some of the essential functions that were identified include:

- Flexible dialing plan: support 4 digit dialing between stations across all locations
- Multiple party conference dialing
- Support paging to all locations, including overhead paging on some areas
- Call transfer throughout the system
- Barge-in (busy override)
- Emergency access to attendant
- Automatic callback
- Caller ID
- Call accounting, etc.

One of the primary requirements of a new system includes internet protocol (IP) telephony, commonly known as Voice Over Internet Protocol or VOIP. Unlike the old telephone system that supports just telephone and fax machines, an IP phone system will support telephones, fax machines, computers and printers. This convergence of voice and data allows City personnel to receive and send faxes from their computers, listen to voicemails through their e-mail program running on their computers (work, home or on the road) and have their e-mails read to them via any telephone anywhere in the world. Staff is in the midst of developing protocols and policy guidance regarding the maintenance of both e-mail and voice mail data to meet Public Disclosure laws as well as archiving mandates from the State Archivist.

An IP phone system does have a few limitations and drawbacks. One of the biggest drawbacks is that the system is powered electrically, so unless there is an alternative power source, the phone system will stop functioning during an electrical power outage. However, the system can be equipped with a few traditional phone lines that would continue to allow outgoing calls even when there is a loss of power. Another consideration with an IP phone system is the ability to send the location description when a 911 call is placed. Since a given IP phone can be moved anywhere in the system and still maintain its number and call settings, the system has the ability to send a location description to the public safety answering point (PSAP) so emergency responders can dispatch to the correct location. Finally, because it is an IP system, the call traffic traverses the City's data network and if the network is down, the phone system's features and functions will be limited until the network is restored.

Staff has taken steps to address these issues, by including the retention of some traditional phone lines, have power back-up supplies, including the fact that the new City Hall will be equipped with generator capability to maintain power in certain sections of the new City Hall, and having dedicated lines that will work with 911 access. The City has very few instances in which the City's network has not been available, as we have back-up servers and developed redundant systems to minimize impacts. An example of when the City did loose network functionality was during the basement flood event in December 2007. In this case the network functionality was restored within 2.5 hours.

Vendor Selection Process

The City followed the acquisition process required in RCW Chapter 39.04.270, electronic data processing and telecommunication systems. The provisions in this chapter allow the City to purchase a telephone system through a competitive negotiation process. This allows consideration to be given to price and other criteria such as the requested feature sets and system functionality. In order to comply with the RCW requirements the City issued a RFP in January, 2008 with proposals to be submitted by January 31, 2008. Ten companies submitted responses recommending four distinct technology solutions. Telephone systems (the technology solution) can be offered by multiple vendors who will implement and provide maintenance for the system, thus it was important to consider not only the system itself, but also the qualifications of the vendors that will be implementing the systems. The four telephone systems that vendors offered were CISCO, NEC, Avaya and ShoreTel.

The Information Technology staff invited vendors representing all four telephone systems to present their product demonstrations as well as provide detailed technical specifications regarding the systems.

In addition to using cost as criteria, the team selected six other areas for consideration to determine the best telephone system solution: 1) PBX IP platform, 2) Phone station feature sets, 3) Messaging requirements, 4) System management and controls, 5) Contact Center and reporting and 6) Compatibility with the City's existing technology platforms. In regards to meeting the functional requirements, the following major areas were evaluated; results are provided below followed by an analysis of costs and benefits.

Detailed analysis breakdown

1. PBX-IP Platform: Under this category, we look at how the system is built, its technical capability, capacity and reliability, its voice data routing, and technical compatibility with the City's existing technology infrastructure. While all systems proposed worked very well with the City's existing technology infrastructure, ShoreTel and Avaya emerged as the leaders due to their technical configurations and scalability.
2. Phone Station Features: We looked at the phone handset and its design for day-to-day use, phone display, attendant console, call center station usability, and pricing. Cisco has the best designed technological handset but ShoreTel has the best phone software with extremely rich features, and a physical handset that is very functional and intuitive to use. NEC has the best call center application that would be highly suited in a high volume, geographically dispersed environment.
3. Messaging: This is one area where the four technologies differ greatly. While many of the City's required functions were met, each system handles unified messages differently. The pricing of this capability varies as well with some systems including it as a standard feature while others required a paid license. ShoreTel has the best out-of-the-box set of features with an additional license for having e-mails read to the users when they are call in for voicemail. Avaya also has very robust capability with a-la-cart pricing. Cisco and NEC support many of the same features the other two have.
4. System Management and Control: With the on-going support shifting from vendor based to internal staff based, it is important that the proposed system administration and management is comprehensive yet reliable, well documented and easy to use.
5. Contact Center: Contact Center is a specific application that is designed to support a high call volume environment with many dedicated agents. Cities with large utilities such as Seattle City Light and Seattle Public Utilities require their phone systems to efficiently handle this environment and provide as much reporting as possible to ensure that "bottlenecks" are identified and mitigated to reduce customer frustrations and anxieties. The City of Shoreline has very limited call center related needs at this time (e.g. Customer Response Team and Parks, Recreational and Cultural Services to name two) but not at the same scale or magnitude as other large cities. From the products we evaluated, NEC is clearly the leader in this area. They have a highly robust and extremely rich feature set that supports a large call center with agents spread out in dispersed geographical area. ShoreTel has many of the features and capability to support a call center in their phone system but without requiring an additional license.
6. Vendor strength: This is one area that favors large multi-nationals vendors (Cisco, NEC) or traditional phone vendors (Avaya). Because ShoreTel is a pure IP phone company, it doesn't size up well with either Avaya (a traditional phone vendor that originated from the Bell system) or with the hardware/networking conglomerate vendors Cisco and NEC. However, they are growing very fast and gathering a large installed base among the non-Bell phone systems. Some of their major implementation sites include: City of Bellingham (which went live in Q4 2007), City of Mercel Island (2007), Cascade Valley Hospital and Clinics (2007), and Welfare and Pension Administrators (2007).

The four technologies were ranked in relation to one another, with 1 being the highest and 4 the lowest. Shoretel resulted as the initial top choice.

Functional Area Relative Ranking	Avaya	Cisco	NEC	ShoreTel
1. PBX IP Platform	2	3	4	1
2. Stations (hand set, attendance console, softphone)	3T	1	3T	2
3. Messaging Requirements	2T	2T	2T	1
4. Systems Management and Controls	1T	3	4	1T
5. Contact Center	3T	3T	1	2
6. Vendor Strength	2T	1	2T	4
7. Cost Analysis	4	3	2	1
Final Ranking	**2**	**3**	**4**	**1**

After the product demonstrations and follow up interviews, the list was narrowed to two preferred telephone system solutions: ShoreTel and Avaya. A larger, cross-department team then reviewed both of these systems resulting in the ShoreTel system being the preferred telephone system.

Since there were three vendors recommending ShoreTel technology, another round of evaluations was held that included a review of pricing, vendor profiles and the thoroughness of their responses. The finalists were All Phase Communications Inc., Networks Computing Architects, Inc., and Tri-Tech Communications, Inc. All pricing included the following hardware:

- ShoreTel Switches
- Voice Mail servers
- ShoreTel T1 switches
- ShoreTel telephone handsets
- Conference room phones

The bids from the ShoreTel finalists are as follows:

Comparison Category	All Phase Communications, Inc.	Network Computing Architects, Inc.	Tri-Tech Communications, Inc.
Base System Cost plus Year 1 Maintenance*	$173,308	$169,687	$189,201
Network Assessment	$3,750	$3,000	$1,560
Maintenance (Year 2-5)	$57,612	$ 73,248	$71,044
Total Cost of Ownership (TCO) 5 years	$234,670	$ 245,935	$ 261,805

* Exclude options, add-on equipment for comparison purpose

In addition to base package, staff has selected to add a few optional applications and services such as: a fax server software application that allow staff the ability to send/receive faxes from their computers ($7,464); an active monitoring service by the vendor to alert and dispatch technician around the clock in the event of equipment failures ($15,778); an E911 Notification add on that give real time notification to internal

staff when a 911 call is placed inside the system, this ability helps staff mobilize internal resources and coordinate response to assist 911 safety personnel ($5,000). Other costs are wirings, equipment racks, and miscellaneous items. The contract price includes the appropriate state sales tax.

Base System Cost Plus Year 1 Maintenance	$173,308
Fax Server Plus Year 1 Maint	$7,464
E911 Notification	$5,000
Call Center	$11,000
Miscellaneous Equipment/Supplies	$17,450
Subtotal	$214,222
Sales Tax	$19,066
Contract Total	$233,288

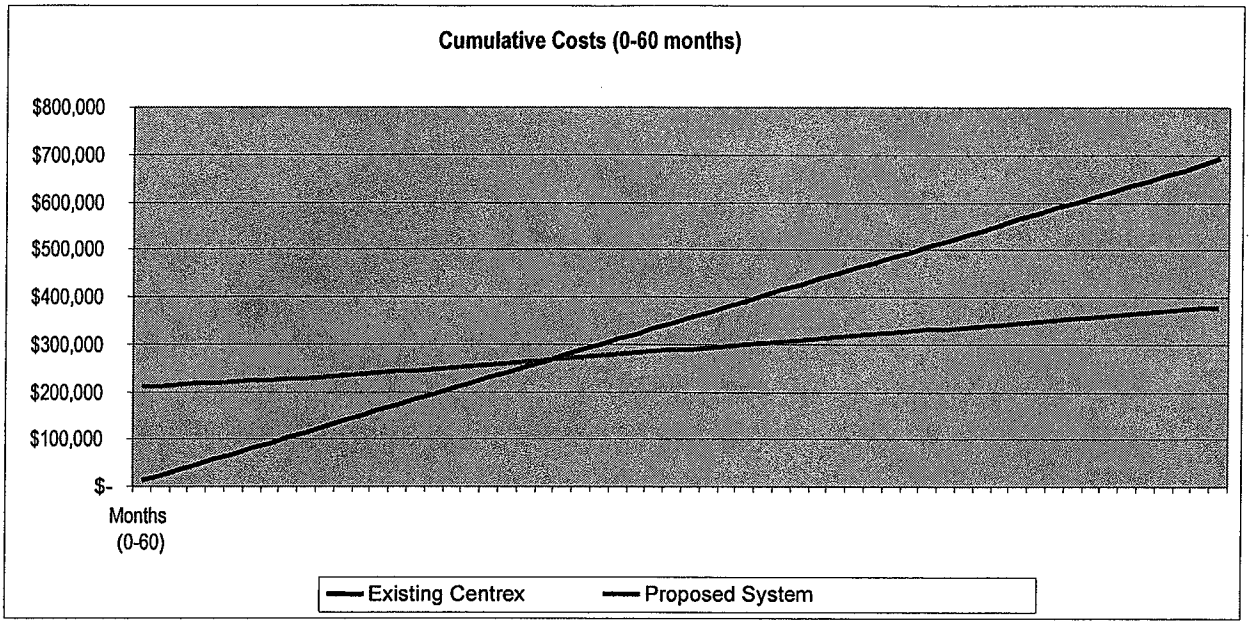
After further review, the selection team selected All Phase as the vendor to implement the ShoreTel system. ShoreTel represents a very robust technical and functional IP telephony solution, and All Phase's proposal scored the highest of vendors recommending ShoreTel. Last year, All Phase was awarded a contract to implement a ShoreTel telephone system for the City of Bellingham, a much larger installation of approximately 800 phones and total system cost of over $800,000. ShoreTel also has an office located within Shoreline.

Based on the results from the RFP, staff prepared a simple cost benefit analysis using the initial investment costs and the City's current costs for telephone services.

Costs/Benefits Analysis

Return on Investment (ROI) Analysis	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**5 Year Summary**
Current Phone System Annual Cost	$156,069.00	$156,069.00	$156,069.00	$156,069.00	$156,069.00	$780,345.00
New Phone System Estimated Expenditures	$233,288.00	$40,832.00	$40,832.00	$40,832.00	$40,832.00	$361,486.00
Net Savings	$(77,219.00)	$115,237.00	$115,237.00	$115,237.00	$115,237.00	$418,859.00

Graph Showing Five Year Cost Comparisons (New System vs. Current)



Budget Appropriation

The acquisition of the telephone system, although anticipated, was not formally budgeted during the 2008 budget process. This was primarily because staff needed to obtain further information to determine actual system costs. Based on the return on investment analysis, it is evident that the system will pay for itself in lowered on-going costs in a little over two years. Even though this is the case, to meet legal budget authority, the City must include the full budgeted cost for acquisition in 2008. It is likely that we will operate both the Centrex and ShoreTel systems for a few months to allow for a staggered implementation for departments and satellite locations (Police, Hamlin, Spartan Gym, etc.) and allow time for users to become proficient on the new system. As a result we do not believe that there will be significant savings from the Centrex system until 2009.

The final 2007 expenditures and revenues are being calculated, but there will be savings as a result of revenues being slightly higher than projected and expenditures being lower than projected. The majority of these savings are already being allocated to the City Hall project, but there are sufficient savings to also cover the cost of the telephone system acquisition. If Council authorizes the City Manager to sign a contract with All Phase Communications Inc., staff will include the telephone system in a future 2008 budget amendment ordinance.

Next Steps

Once the telephone system contract is awarded, staff will be working with All Phase to develop an implementation plan. This will also include a review of City phone numbers and development of policy and practice recommendations related to the phone system and message retention. Staff anticipates that the phone system implementation will be complete by the end of the third quarter of 2008.

RECOMMENDATION

Staff recommends that the City Council authorize the City Manager to execute a contract with All Phase Communications Incorporated in the amount of $233,288 for the purchase of license, hardware, support services and maintenance agreements associated with a new telephone system.

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