

City of Culver City, California
City Council Agenda Item Report

Meeting Date: 03/13/06		Item Number: <u>C-4</u>	
AGENDA ITEM: Authorization to Purchase Network Storage Equipment from Impex Technologies of Torrance, CA			
Contact Person/Dept.: David Leuck		Phone Number: (310) 253-5961	
Fiscal Impact: Yes ☒ No ☐		General Fund: Yes ☒ No ☐	
Public Hearing: ☐		Action Item: ☐ Attachments: ☒	
Public Notification: Master Notification List (03/09/06), Impex Technologies (Rajiv Shah 02/28/06)			
Department Approval: John Richo (03/02/06)		CAO Approval: Martin R. Cole for Jerry B. Fulwood (03/09/06)	
City Controller Approval: Marlee Chang (03/09/06)			

RECOMMENDATION:

Staff recommends the City Council approve the purchase of a Storage Area Network (SAN) and backup solution from Impex Technologies for \$47,278.19 from Technology Enhancement Fund (42000388) and Network Enhancement Fund (42000701)

BACKGROUND:

Scanned images, digital photos, databases, spreadsheets, data files, and PowerPoint presentations are examples of electronic (digital) files. Some applications such as digital asset management (for photos), maps, document management (using scanned images), and databases use large volumes of space. In the normal course of City business the number of files continually increases and server response time gradually goes down. Productivity will suffer when a server is taxed to keep up with requests for storing or retrieving files.

The City is currently implementing both digital asset management and document management systems. For several years the City has had a Geographical Information System (GIS) program that has combined digital maps with digital photos and the databases associated with the locations on the maps. This effort has been very successful and requests for additional maps and projects from departments and divisions are increasing.

Currently personal files related to City business are stored on the PCs of staff. Staff is provided with methods to safeguard their files but experience reveals that not all users are diligent about regularly backing up. Lack of reliable backups and hard disk failures contribute to the risk of lost files. Staff turnover increases the risk of lost files

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when systems are setup for the new employee and they don't know what to preserve on their system. The foregoing are poor business practices that puts at risk information that is at the core of the City's operation. Centralized storage of data files removes most of the risks.

In addition to new electronic files there are decades of historical documents (paper files, photographs, plans, and maps), that departments are interested in moving to electronic form for ease of storage, retrieval, and use.

Overall growth of digital documents has been steady during the last 3 years, but the storage needs for critical systems have grown dramatically.

System	FY 03-04	FY 04-05	FY 05-06
Payroll/Finance	Server bought	+80%	+100%
Shared File Store	Server bought	+33%	+82.5%
Overall growth, est.	+20% over 02-03	+20%	+20%

Online storage of these assets creates the necessity to safeguard them by copying them to tape for offsite storage in the event of a disaster at the Data Center. A high capacity, very fast solution is needed to ensure that everything can be copied or restored in a reasonable timeframe with minimal impact to the daytime users of the systems.

DISCUSSION:

A Storage Area Network (SAN) is a specialized piece of storage hardware. It is a network device designed to act as the hard disk to other servers. The servers provide the computing power and the SAN provides the storage. The SAN stores or retrieves data files quickly and allows servers to access very large amounts of storage space. SANs have special features that distinguish them from normal servers:

- They are built to be more resilient to failures than normal servers. Data is spread across multiple disks and sections of the SAN. The internal data paths and processors are redundant and balance the request loads automatically. Parts are swappable without turning the unit off.
- SANs use special operating system software that allows online backups. Online backups allow for fast restores from recent mistakes or failures such as deleted files, wrong changes to documents, corrupt files, and lost directories. Online backups are much faster than tape units. However online backups only exist on

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the SAN at the Data Center. Copies of online backups will be stored on tape and sent offsite.

- SANs can add storage space to the unit in very large amounts with minimal downtime. In some cases it is as simple as loading hard disks into the unit and powering them up.
- Server storage can be dynamically allocated from an unused storage pool. If a server needs more space, adjustments can be made on the fly. Typically the only downtime is a re-start of the server.

Estimates for the main storage needs for 2006 and the next three years are projected in the following table.

Project	2006	2007	2008	2009
Document Management	Up to 400 GB	Up to +500 GB	Up to +500 GB	Up to +500 GB
GIS	200 GB	< +10 GB	Up to +200 GB	< +10 GB
Digital Assets	Up to 200 GB	Up to +60 GB	Up to +60 GB	Up to +60 GB
Personal File Storage	Up to 175 GB	+35 GB	+35 GB	+35 GB
Finance/Payroll System		750 GB		+300 GB
Total	975 GB	+1.355 TB	+795 GB	+905 GB

MB = Megabytes, 1,000 MB = 1 Gigabyte (GB), 1,000 GB = 1 Terabyte (TB). Personal storage assumes 700 employees are allocated 250 MB each, and 50 MB each is added per year.

IT has estimated that 3 Terabytes (TB) is a sufficient amount of space to initially install in the SAN and should meet our requirements over the next 2 ½ to 3 years. In November 2005 an RFP was released to all vendors of SAN equipment requesting proposals. Purchasing reports that 17 RFPs were downloaded by interested parties and two additional packets were mailed out to vendors who had previously expressed interest. Five vendors responded with proposals prior to the deadline.

Impex Technologies had the winning proposal. Impex's proposal is for a SAN made by Intel. Attachment 1 (SAN Comparisons) and Attachment 2 (RFP Quick Reference Evaluation) compares the proposals of the vendors who responded. Attachment 3 (RFP Evaluation) compares software features of the different proposals.

Intel has a strong position in the computer industry as a maker of processors and computer products. It also has a strong presence in the SAN market. Intel

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hardware has been combined with operating software from a market pioneer (Lefthand Networks). The solution has Intel's proven hardware and worldwide support network. It has received Microsoft's SAN certification which ensures compatibility with the City's operating systems.

The City presently uses an older tape and library system to backup data files. This system is aging and maintenance costs have escalated from \$2,911 in 04-05 to \$4,670 on 05-06 because the unit is slated to be dropped from Hewlett Packard's support system in 2007. Costs this coming year (06-07) are estimated at \$5,000 for the unit's final year, and thereafter maintenance will not be available. Due to the impending lack of support and need for larger scale backup IT recommends including the purchase of the tape system with the SAN.

FISCAL ANALYSIS:

Funding for the purchase of a SAN and backup solution was planned in the Technology Enhancement (42000388) and Network Enhancement (42000701) Funds for 2005-2006. The total is \$47,278.19. Account 42000388 will fund \$35,278.19 and Account 42000701 will fund \$12,000.

A Competitive RFP process was completed with the assistance of the Purchasing Department. In the directions for the RFP bidders were requested to examine all discount contracts that the City could qualify under (CMAS, GSA, etc.)

ATTACHMENTS:

Attachment 1 – SAN Comparisons
Attachment 2 – RFP Quick Reference Evaluation
Attachment 3 – RFP Evaluation

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MOTION:

That the City Council:

1. Award the Contract for the purchase of a SAN and backup solution to Impex Technologies for \$47,278.19 from the Technology Enhancement Fund (42000388) and Network Enhancement Fund (42000701).
2. Authorize the City Attorney to prepare and approve any necessary contracts.
3. Authorize the Chief Administrative Officer to sign any required agreements.
4. Authorize the Information Technology Director to renew maintenance on the SAN unit and backup solution annually.
5. Authorize the Information Technology Director to expend up to 10% additional funds at his discretion to complete the project.