



CITY COUNCIL AGENDA ITEM

October 10, 2011

TO: John Szerlag, City Manager

FROM: Susan A. Leirstein, Purchasing Director
Gertrude Paraskevin, IT Director

SUBJECT: Standard Purchasing Resolution 4: National Intergovernmental Purchasing Alliance (NIPA)
Disk Based Backup System

Background

The City has always utilized a tape based backup system as the primary backup-and-restore medium for off-site data storage. This hardware is located in City Hall and backs up all systems in the City incrementally each day and then fully each weekend. Over the course of a week approximately 14 tapes are utilized to accommodate upwards of 5.35 terabytes of backup data which continues to grow each week.

Although this system has served the city well, it is very labor intensive to manage, and relatively slow. Every week the tape jukebox must be emptied and tapes are sent to our off site location at the DPW. A new set of tapes are received and reloaded for the next week's backups. This process involves the IT Department and the Motor Pool who manages the offsite tapes. As our storage needs expand so do the number of tapes required and the storage space to house those tapes. Additionally, throughout the week IT routinely receives requests to restore files from backup. If that backup is off-site the restore is delayed as it necessitates retrieval of tapes from DPW.

Tape-based backup solutions have been the default medium for offsite storage for the last 50 years. However, increasing data storage needs, shrinking backup windows, the need to recover critical applications quickly, and declining disk costs have combined to push tape out of the spotlight in favor of disk-based solutions.

There are several advantages to a disk-based solution:

- Faster restores. All backups will be available immediately on-line. No need to search for the appropriate tapes. Also the nature of tapes is that they are sequential. You have to search through the tape to find the files needed, whereas disks are randomly accessible allowing quicker access to files.
- Greater reliability. Tapes are notorious for failures. Statistically a tape recovery can fail 10%-70% of the time. Disks in a RAID configuration are much more reliable and resilient to failure. In addition, they are self contained with less sensitivity to environmental conditions and have less moving parts that can jam or breakdown.
- Easier management. Requires no physical access and much less human intervention to manage. Nothing has to be sent off site or reloaded on a regular basis. Simply monitoring success of the backups and storage capacity are all that are required. This also allows the device to be placed in a location such that files are immediately backed up to an off-site area for disaster recovery purposes.
- Data de-duplication. This is a data compression technique offered by most disk-based backup systems that reduces the amount of storage needed for a given set of files by eliminating redundant data. This allows for much more efficient use of the hardware.

It is the intention of the IT Department to place this device at the Troy School District Service Center to establish an offsite server/data recovery location. The City currently has a rack in that location containing equipment that connects the DPW, the Police/Fire Training Center and City Hall via fiber optic cable. This



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would simply be additional hardware in that same rack. The TSD Service Center would serve as an ideal recovery site. The rack is already in an established controlled environment, and there are multiple pathways to the data in the event of a disaster.

Recommendation

City management recommends the current 6-year old tape backup system be replaced with an EXAGRID EX5000 disk-based system from CDW-G through the NIPA technology solutions contract #083052-01 competitively solicited and awarded by Tucson, AZ for a cost of \$21,800.00 with an annual recurring maintenance cost of approximately \$3,000.00. Purchase of this system would eliminate annual maintenance on the tape based system of \$1,135.00 resulting in a net increase in annual maintenance of \$1,865.00.

Fund Availability

Funds are available in the Information Technology budget for the 2011/2012 fiscal year.

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SALES QUOTATION

QUOTE NO.	ACCOUNT NO.	DATE
CGVT047	6360514	8/17/2011

BILL TO:
 GERTRUDE PARASKEVIN
 500 W BIG BEAVER RD

SHIP TO:
 CITY OF TROY
 Attention To: GERTRUDE PARASKEVIN
 500 W BIG BEAVER RD

Accounts Payable
 TROY , MI 48084-5254

TROY , MI 48084-5254
 Contact: STEVE
 POIRIER 248.680.7235

Customer Phone #248.524.3416

Customer P.O. # EXAGRID EX5000

ACCOUNT MANAGER	SHIPPING METHOD	TERMS	EXEMPTION CERTIFICATE
JEFF JONES 866.668.9487	Drop Ship Common Carrier	Master Card / VISA	GOVT-EXEMPT

QTY	ITEM NO.	DESCRIPTION	UNIT PRICE	EXTENDED PRICE
1	2321316	EXAGRID EX5000 RAW13TB W/GRID&REPL Mfg#: EXD-EX-13TB-DB Contract: National IPA Tech Solutions 083052-01	21,800.00	21,800.00
1	2321317	EXAGRID EX5000 1Y 8X5 SUPPORT Mfg#: EXD-EX-13TB-1YR-8X5 Contract: National IPA Tech Solutions 083052-01	3,000.00	3,000.00
SUBTOTAL				24,800.00
FREIGHT				0.00
TAX				0.00

US Currency

TOTAL **24,800.00**

CDW Government
 230 North Milwaukee Ave.
 Vernon Hills, IL 60061
 Phone: 847.371.5000

Fax: 312-752-3557

Please remit payment to:
 CDW Government
 75 Remittance Drive
 Suite 1515
 Chicago, IL 60675-1515