GLENBROOK HIGH SCHOOLS
District Technology Department

TO: Dr. Mike Riggle

FROM: Marcus Thimm

DATE: May 14th, 2012

RE: DISCUSSION/ACTION: RFP for Servers and SAN Systems

Recommendation

It is recommended that the Board of Education approve the purchase of Dell Servers, Dell Force10 switches and Dell Compellent Storage Area Network (SAN) systems from STORCOM, a Chicago-based Dell value-added reseller in the amount of $602,546. This equipment will replace current HP data center equipment.

The purchase will be financed through a lease at an anticipated annual cost of $145,000 which is approximately $25,000 less than the amount previously approved by the Board in the FY 12/13 technology budget. The lease amount for subsequent years has been included in the long-range technology financial plan previously presented to the board. Actual lease costs will be brought to the June 11, 2012 board meeting. The lease for the server equipment will be a 3-year, $1 buy-out lease and for the storage equipment a 5-year, $1 buy-out lease.

Breakout of Purchase

Line Item:	**Qty:**	**Cost:**
Compellent Storage systems	2	$ 372,259
Dell Blade Servers/Chassis/network switches	10/2/3	$ 185,407
Implementation Services/ Training	2	$ 44,800
Total		**$ 602,546**

These new systems will provide all data center computation and storage capacity as well as complete equipment redundancy for our data center servers, networking and storage systems within our districts facilities. The installation will be performed upon receipt of the equipment.

Background

The existing data center servers and storage systems are almost four years old and during that time the district encountered several total system outages due to component failures in these systems.

Our data center resources are so critical to the district's technology operation that we intend to improve on the reliability of servers and storage systems to achieve 99.999% reliability during normal school hours. (That is only 8.76 hours unplanned downtime per year). We will also add Disaster Recovery capabilities and complete hardware redundancy for these servers and storage systems to ensure always-on operations.

During the RFP process we were able to receive offers that allow for complete hardware redundancy of both servers and storage systems with our allocated equipment refresh budget.

Selection Process

This review and selection process was conducted in partnership and collaboration with our colleagues from Arlington Heights District 214. The Glenbrook 225 staff used a multi-step evaluation process to select the new data center systems:

1.) First evaluation stage:
    a. Review of analyst reports (i.e. Gartner) to learn about the current trends and product capabilities
    b. Solicit peer feedback from other districts regarding their systems
    c. Research manufacturer and service provider's websites.
    d. Established a grid of features and capabilities required for our district-use cases.
2.) Second evaluation stage:
    a. Vendors are invited to provide guided product tours, product demos, hands-on product evaluations and customer references.
    b. Review of information provided by manufacturers against independent reviews, hands-on evaluations of equipment, product demos at vendor locations.
3.) Third evaluation stage:
    a. Development of a Request-For-Proposal (RFP) document to formalize the selection process in this very diverse field of equipment choices
    b. Release of RFP to identified channel partners and manufacturers. The responses to this RFP were due on Feb 10th.
4.) Forth evaluation stage:
    a. Receipt of 13 unique RFP responses by February 10th.
    b. Review of RFP responses, follow-up questions and vendor visits
    c. Ranking and elimination of vendors/solutions based on failure to meet key criteria, whether this was features, functionality, completeness of offering, services, references or price.
    d. Repeat step 4.c. to reduce the solutions to three finalists.
5.) Fifth evaluation stage:
    a. In the finalist-round we are critically reviewing the proposed solutions head-to-head, check vendor references
    b. Negotiation for the best possible prices and configurations for our district(s).
6.) Sixth and final selection step: Selection of the wining proposal.

The research into products and vendors, development of the subsequent RFP and selection process began in November 2011. RFP responses were received on February 10th and selecting finalists and negotiating the best products and services mix continued until May 4th.
On Friday, May 4th, the Glenbrook 225 evaluation team selected the winning proposal after consensus was established.

Equipment Refresh Cycle

Ongoing innovation in data center technologies leads to higher performance in new servers, as well as increased capacity and better performance in new storage systems. New systems tend to get smaller and more efficient overall, providing improved energy efficiencies due to reduced electrical and cooling requirements in the data center as well as improved compute performance per watt. This extends the useful life of a data center facility as it can be used longer before a larger space is needed. It also supports co-location of resources for initiatives like shared Disaster Recovery as envisioned between districts 225 and 214.

With the redundant storage system hardware we feel comfortable to extend the storage system life cycle to five years. The server technology will be refreshed after three years as new systems and processors provide performance improvements and efficiencies.

Disaster Recovery (DR)

Our district has started working with District 214 to leverage:

- Our shared vision for a Disaster Recovery solution,
- Compatible device platforms, operating systems and network services,
- Adequate geographical distance between the data centers, and
- This server and storage equipment refresh currently underway at both districts.

This collaboration can provide a comprehensive but affordable Disaster Recovery (DR) strategy for both districts by establishing a shared technology platform leveraging each other's data center resources for Disaster Recovery and regular off-site backup activities as well as increased Internet access redundancy for both organizations.

Dedicated fiber connectivity between both districts is needed to provide required access to each other's data center and Internet resources. We have priced out costs for the connection between our data centers and $9000 per district / per year will be an entry point to connect our data centers and start using DR capabilities.

Additional network equipment will be needed to streamline and automate DR and failover of services. This will require more research and planning and is not required in this first phase.

District 225 has selected a finalist who was able to provide a fully redundant server and storage solution that allows for highest levels of redundancy and Disaster Recovery abilities by providing a second set of servers and storage resources that will be placed into one of the high schools. Leveraging our high-speed redundant site-to-site fiber connections we will be able to provide near real-time failover to the secondary site should the data center systems encounter any technical difficulties. Additionally the secondary system provides extra capacity and sufficient compute resources to support any third parties DR requirements.