

Proposed Districtwide Capital Project

Computer Network and Technology Upgrade

\$1,250,000

Server Virtualization

Overhaul of the current server infrastructure at Huntington High School data center (hub) by upgrading the existing VMware vSphere components to the latest version, including the six remote servers. The new set-up should provide teachers, students and administrative staff with more robust, secure and available computing services, leveraging state-of-the-art technologies. In detail, it will:

- Enable high availability of Huntington UFSD servers, data and applications located at the high school data center. This includes upgrading the server and storage environments.
- Replace six remote servers, which are out of warranty.
- Migrate the Finance Services (FMGR) server to the high school datacenter.
- Introduce the benefits of a virtualized server environment including:
 - Cost control through simplified ownership (requiring fewer operational resources) and streamlined administration (through centralization and consolidation of the server environment);
 - Automation of simple, yet repetitive management tasks;
 - Reduced risk, with snapshots that greatly simplify roll-back processes in the event of server failures;
 - Simplified storage management through centralization, automation and ease of administration.
 - Footprint reduction by loading multiple operating system instances onto a single physical server and housing many more server systems in less physical space.
- Centralize all data to enable quicker back-up and restores. while ensuring data integrity and availability.

Wireless Proposal

Proposed expansion of the current wireless infrastructure to cover gap areas, and upgrade existing equipment to new technologies supporting present and future initiatives. Currently, the district utilizes a Cisco solution - Cisco 4400 Series LAN Controller and Cisco Aironet 1142N Access Points. The proposal is an upgrade to Cisco's latest technologies, specifically the Cisco 5508-100 with a 50-AP Adder License LAN Controller. **The 5500 Series supports a higher density of clients and delivers more efficient roaming, with at least nine times the throughput of existing 802.11a/g networks.** For Access Points, the upgrade is the Cisco Aironet 2602i model, ensuring an interference-free, high-speed wireless application experience. The new access points sustain reliable connections at higher speeds farther from the access point than competing solutions, increasing the availability of 450 Mbps data rates. Optimized for consumer devices, the 2600 Series also accelerates client connections and consumes less mobile device battery power than competing solutions.

LAN Network Upgrade

The LAN Upgrade project includes core, distribution and access layer switching equipment. The proposed architecture will allow the district to address current and future growth needs. The district maintains a high percentage of switches currently at “end-of-life and/or end-of-support” by Cisco. Being “unsupported by Cisco” means that if they fail, the affected portions of the network will be unavailable and no manufacturing support or product replacement would be available to bring the network online, introducing significant downtime to students, teachers and administrative staff. The new infrastructure will provide the district with a robust, secure and highly available IT environment leveraging state-of-the-art technologies, enabling the following key performance, security and network management benefits, including:

Performance

- Faster data convergence times
- Isolated fault domains limiting outages to smaller user groups while enhancing overall network reliability and resiliency

Security

- Capability to move security to the edge using Access Control Lists
- Increased network defense against Layer 2 vulnerabilities caused by end users
- Protection of critical network resources against rogue DHCP servers, ARP spoofing, excessive broadcasts and other attacks and / or misconfigurations

Management

- More predictable traffic patterns enabling systematic and faster troubleshooting
- Simplified routing protocol management

Power

- Cut operational costs and improve efficiency
- Reduce power consumption while maintaining business productivity
- Simplify deployment and management
- Create visibility into electrical consumption by your organization and its locations