



Orange County Schools
200 East King Street
Hillsborough, NC 27278

Request for Proposals
April 2, 2015

EQUIPMENT AND INSTALLATION OF TWO DISASTER RECOVERY ENABLED DATA CENTERS

1. GENERAL DESCRIPTION

- 1.1 Orange County Schools (OCS) is soliciting proposals from interested vendors for architecting, procuring and implementing two (2) data centers with fail over capabilities and a tape backup system.
- 1.2 Proposals are due on or before **5:00 PM EDT on Friday, May 1, 2015**, per conditions outlined in this solicitation.

2. PROJECT MANAGEMENT

- 2.1 Contact information for the OCS project manager for this work is:

Parviz Mollanassani
Network Manager
Orange County Schools
200 East King Street
Hillsborough, NC 27278
email: parviz@orange.k12.nc.us
(919) 245-4100 option 3

- 2.2 In the absence of Mr. Mollanhassani, please contact Todd Jones, OCS Chief Technology Officer at todd.jones@orange.k12.nc.us; or (919) 245-4100 option 1.

3. SUBMITTING QUESTIONS

- 3.1 Questions concerning this Request for Proposal may be submitted in writing or via email at the addresses listed above. OCS must receive all questions not later than Friday, April 24, 2015. Issues requiring clarification will be posted as an addendum to the OCS website at the same location as the original Request for Proposal.

4. SCOPE OF SERVICES

- 4.1 In consultation with Orange County Schools' IT staff, the vendor will perform all architectural planning, configuration, installation, component upgrades, software, hardware and license purchases necessary to fulfill success criteria by the Calendar of Deliverables / Implementation Schedule listed below. **RFP responses should include a high level project plan.**
- 4.2 Cut-over will occur at close of business on an end of a work week. Go-live criteria will be established to ensure the new systems are functioning by start of business at the commencement of the next work week, or a fall back option to use the old system will be used, in the event of catastrophic issues.
- 4.3 Server infrastructure will be multiple VM-Ware hosts capable of supporting a number of applications as listed below (with any physical server requirements listed)
- Autodesk, including AutoCad, Inventor, Architect (Add More)
Note: Video Card requirements are very specific
 - Microsoft SQL 2012 to run 3 databases
 - Library management software; uses SQL 2012
 - Child Nutrition software uses SQL 2012
 - Enterprise Portal Financial Management Software; uses SQL 2012
 - File Server to house 5TB data
 - Print Server to manage 200 printers
 - AV Server
 - FTP Server
 - OCS Web Server running IIS 7
 - OSTicket
 - Screen Connect (Remote Access software)
 - WSUS

Physical Server requirements for these guests (applications) listed in Appendix B

- 4.4 Each data center will be capable of running all the district's server applications (listed above, as guests), so that either data center would be able to support the full load of applications should the other data center fail.
- 4.5 The configuration of VM-Ware between the two sites will include replication and automated fail-over technologies, so that a failure of a data center will allow a quick switch-over to the remaining data center of all applications with a minimal and identifiable Recovery Point Objective. **RFP responses should include the listing of software and tools needed to support replication and automated fail-over. RFP responses should include the RPO of the proposed system.**
- 4.6 The Recovery Time Objective should be very aggressive and allow for continuity of operations despite the loss of a data center, including continuity of application access for applications running on the lost data center. **RFP responses should include the RTO of the proposed system.**
- 4.7 Each of the two redundant managed storage components (presumably Storage Area Networks) should come equipped with 15 TB of managed storage. Each of the two redundant managed storage components should allow 15 TB of expansion without the need for an additional chassis. **RFP responses should include all details of the managed storage hardware, software and included accessories.**
- 4.8 One of the two data centers should have a tape backup system capable of backing up the SAN resident data, including VMWare server state data in an 8 hour window or less. **RFP responses should include all details of the backup system.**
- 4.9 All VMWare software and licensing to accommodate host, guest, replication and failover capabilities as specified.

5. CALENDAR OF DELIVERABLES/IMPLEMENTATION SCHEDULE

- 5.1 All schedules are weeks from bid award.
 - Bid Award - week 0
 - Meet with OCS - week 1
 - Delivery of system design documentation - week 3
 - Delivery of hardware - week 7 - Milestone payment of 40%
 - Setup and installation of Virtual hosting environment - week 10
 - Setup and installation of storage management system - week 12

- Virtualization of physical servers - week 15
- Training - week 16
- Testing - week 17
- Go Live - week 19 - Milestone payment of 40%
- Warranty period - week 23 - Milestone payment of 20%

6. CURRENT CONDITIONS: TECHNICAL SPECIFICATIONS ON EXISTING NETWORK

- 6.1 The district has two facilities to house the two data centers. They are:
- Orange High School
500 Orange High School Road
Hillsborough, NC 27278
 - Orange County Schools Administrative Annex
1914 New Hope Church Road
Chapel Hill, NC 27514
- 6.2 The school district is comprised of 18 buildings, including 13 schools. See Building reference table.
- 6.3 The district has a client base of 10,000 devices, including: (may or may not be relevant)
- 8,000 laptops
 - 1,000 desktops
 - 400 printers
- 6.4 The district has 13 local servers within its school buildings (see Building reference table). These act as local file servers and Domain Controllers. These will be converted by OCIT staff to server solely as Domain Controllers and OCIT staff will migrate files from file servers to central file server.
- 6.5 Every location has a Cisco 3560 core switch for data and voice
- 6.6 Edge switches are all HP 2524 or Cisco 2900
- 6.7 Each building uses 100M TWC Metro-E connections, exceptions noted in the table below.. The Administrative Annex, which will house one of the two data centers, currently has a 100Mb circuit. This will be upgraded to a 1Gb circuit to accommodate the traffic necessary to support replication and district wide traffic.
- 6.8 The network topology is a star configuration with Orange High School as the aggregation point.

6.1 Building Reference Table (may or may not be relevant)

Building	Network Connection	Connection Type	Notes
Cameron Park Elementary School	100 Mb	TWC Metro-e	
C. W. Stanford Middle School	100 Mb	TWC Metro-e	
Central Elementary School	100 Mb	TWC Metro-e	
Gravelly Hill Middle School	100 Mb	TWC Metro-e	
Hillsborough Elementary School	100 Mb	TWC Metro-e	
Orange High School	1 Gb	TWC Metro-e	
Efland Cheeks Elementary School	100 Mb	TWC Metro-e	
Cedar Ridge High School	1 Gb	TWC Metro-e	
Grady Brown Elementary School	100 Mb	TWC Metro-e	
Partnership Academy	100 Mb	TWC Metro-e	Shared Fiber w School Community Relations
Pathways Elementary School	100 Mb	TWC Metro-e	
Transportation	10 Mb	CWS	B-style Aeronet wireless
New Hope Elementary School	100 Mb	TWC Metro-e	
Maintenance Department	10 Mb	TWC Metro-e	
A. L. Stanback Middle School	100 Mb	TWC Metro-e	
Central Office	100 Mb	TWC Metro-e	
School Community Relations	Fiber uplink	PAAS	Shared Fiber w Partnership
Administrative Annex	100 Mb	TWC Metro-e	To be upgraded to 1G to support second data center

7. VENDOR REQUIREMENTS

- 7.1 Lunsford Act/Criminal Background Checks. Submitting firms understand that pursuant to G.S. 14-208.18 anyone defined as a sexual offender under Article 27A-Chapter 14 of the NC General Statutes is prohibited from being on the premises of any school. As part of any contract with the District, the successful proposer will be required to certify that background checks have been conducted for all employees and subcontractors who will be on any school site to fulfill the terms of the contract. Background checks may be obtained at no cost at the US Department of Justice Sex Offender Public Website @[http:// www. nsopw.gov/](http://www.nsopw.gov/). Minimum checks required for each person include: State Sex Offender and Public Protection Registration Program. The State Sexually Violent Predator Program and the National Sex Offender Registry (“the Registries”). THIS INFORMATION IS PROVIDED IN ADVANCE FOR THE FUTURE USE OF THE SUCCESSFUL PROVIDER. NO BACKGROUND INFORMATION IS REQUIRED AS PART OF THE SUBMITTAL PROCESS. Attachment 2 is provided as a sample form that will be required upon award of contract to the successful proposer.
- 7.2 Vendor’s on-site personnel will:
- be professionally attired
 - use professional demeanor appropriate for a school setting
 - follow all security protocols for the buildings in which they will be working
 - coordinate all work with designated district personnel
 - arrange their schedule in advance with district personnel
 - generally have facilities access 8:00 a.m. to 5:00p.m. in accordance with the operational calendar, or as negotiated with district personnel
- 7.3 Vendor will adhere to calendar of deliverables and implementation schedule. Vendor will remove all materials and rubbish resulting from installation.
- 7.4 The vendor will provide the name and qualification of the project manager and principal engineers. The vendor will not change project manager or principal engineers without prior approval from the district.
- 7.5 The vendor will provide a list of any subcontractors to be used, in response to RFP award. These subcontractors will be subject to the same levels of financial and security scrutiny as the chosen vendor.
- 7.6 The successful Provider will be required to execute the attached OCS agreement. Questions/issues related to the agreement should be provided to OCS prior to submittal of your proposal.

8. OCS RESPONSIBILITIES

- 8.1 The district will provide the vendor access to all district facilities from 8:00a.m. to 5:00p.m. in accordance with the operational calendar. Access outside of these hours may be negotiated in advance with the District's Chief Technology Officer.
- 8.2 The district will provide all applicable levels of physical, network and server access to systems affected by the project.
- 8.3 The district will provide detailed information on the network and connected devices
- 8.4 The district will provide oversight for the vendor's activities, but will not provide project management. Project management will be provided by the vendor, including regular client status meetings.

9. SUBMISSION REQUIREMENTS

- 9.1 Each proposer shall submit one paper copy of their proposal and three copies in PDF format on CD. Suggested addition: "Proposers shall ensure CD's are readable."
- 9.2 Proposals shall be submitted in an envelope clearly marked "ORANGE COUNTY SCHOOLS-DISASTER RECOVERY DATA CENTER PROJECT PROPOSAL" printed on the outside of the envelope and delivered to Orange County Board of Education, 200 East King Street, Hillsborough, NC 27278 no later than the date and time listed at the beginning of this solicitation.

10. ELEMENTS OF PROPOSAL

- 10.1 Each proposal must include the following elements in the order stated below:
 - A. Methods and Procedures your firm intends to utilize in the deployment of this work.
 - B. Itemized cost for the entire project being proposed.
 - C. Contact Information.
 - a. Include the name and all contact information for the person whom the District should contact with questions about the proposal.
 - D. Same information for the person responsible for contract negotiation, if different from above.
 - E. Firm's brief history, qualifications, references and licenses that may apply to this project.
 - F. Project Team and their qualifications to carry out the work proposed herein.

- G. Indicate if your business is a HUB or WMBE; or if any of the suppliers related to the project have such designation. Indicate estimated dollar volume attributable to the HUB/WMBE business.
 - H. Indicate whether all members of your installation team will be paid at least the Orange County Living Wage amount of \$12.76/hour.
 - I. Indicate any information your firm considers a trade secret, although you acknowledge only trade secrets as defined by law are protected against public information requests. Proposers are notified that the District will comply with public information requests, but will notify the Proposer of any such request prior to release of the information. Should the District be involved in litigation in the protection of Proposer's verifiable trade secrets as defined by law, the Proposer agrees to pay for related defense costs to protect the Proposer's information.
 - J. Include a description of any services or requirements referenced in this RFP that the proposer is unable or unwilling to fully perform, if any, as well as any exceptions taken to the requirements as stated in the solicitation; and state reasons for the same.
 - K. Include an explicit description of anything the proposal requires the District to provide or actions it must take in order to carry out the work as proposed by the vendor. E.g. If your proposal requires the district to provide facilities.
 - L. Provide a minimum of three references for similar work done by the proposer within the last five years, including the name and daytime phone number of the contact person most familiar with the work performed, dates of services and a brief description of the work completed for the client. Note that a submittal of references serves as permission should the District choose to contact clients directly.
 - M. Provide information on any contract of this type that was terminated prior to completion in the last five years. Details of such terminations are required.
- 10.2 Alternate proposals will only be accepted by District when accompanied by a proposal commensurate with the specifications outlined in this solicitation.

11. SUCCESS CRITERIA

- 11.1 The Project is complete when the following deliverables are met and verified through the warranty period:
- A. Two new data centers are implemented and running with the following components:
 - a. VMWare hosts capable of supporting all guests (applications) listed on Page 2.
 - b. VMWare servers configured
 - c. VMWare technology (e.g., V-Center or equivalent) for replicating servers in near real time
 - d. Storage Area Networks to store up to 15TB of managed data
 - e. A single (not one at each data center) tape backup unit, capable of backing up 20TB of data without physical intervention, in an 8 hour window

- B. Each data center is capable of individually supporting the full load of servers while the other is unavailable.
- C. Hardware implemented meets VMWare recommended (not minimum) specifications.
- D. Redundancy Implementation
- E. One Data Center will reside at Orange High School and one Data Center will reside at the Administrative Annex.
- F. If either Data Center is disrupted, the other will take over all affected functions within the RTO and RPO targets stated by the vendor in the RFP, and agreed to by the district.
- G. Vendor provides all licensing documentation and proof of licensing registration, for all systems provided, excluding Operating Systems, database software and application software.

11.2 Training and Documentation

- A. Up to four staff are trained in administering the new system, including:
 - a. administering the VMWare and storage management systems
 - b. administering the replication and failover systems
 - c. backup system administration
 - d. system performance monitoring
- B. Documentation of any installation specific details, including, but not limited to:
 - a. Replication, redundancy and failover configuration
 - b. VMWare setup
 - c. Server setup and installation
 - d. Backup and restoration system installation
 - e. Any changes to the existing network, including but not limited to core switches, intermediate switches
- C. Documentation (manufacturer web links are fine, but RFP vendors will provide a soft copy list of appropriate links) for:
 - a. administering the VMWare environments, including all features associated with replication, redundancy and fail over.
 - b. administering the VMWare hosting hardware, including adding additional hosts
 - c. administering the storage management system, including adding, deleting
 - d. configuration backup and restoration
 - e. system performance monitoring

12. EVALUATION CRITERIA

- 12.1 If an award is made, it is expected the District's award will be to the candidate that brings the most value to the District. The following criteria will be used to evaluate each proposal, including but not limited to:
- 12.2 Demonstrated understanding of the critical project objectives, deliverables and timelines;
 - A. fulfilling technical requirements, functions and features;
 - B. total cost of project and individual costs of services and systems;
 - C. qualifications, certifications, and references;
 - D. specific in-house experience and expertise with project and service requirements; and
 - E. demonstrated ability to meet RFP guidelines related to services, maintenance, and support.
13. The successful proposer may be required to provide proof of insurance for business coverages that may affect this work as cited in the attached sample agreement.
14. The District reserves the right to reject or accept any or all proposals as is in the best interest of the District.
15. Terms of the proposals must be left intact for no less than 60 days following submittal. The District intends to evaluate and present a recommendation to the Board of Education for approval.

Sexual Offender Registry Check Certification Form

Check the appropriate box to indicate the type of check:

- Initial
- Supplemental
- Annual

I, _____ (insert name), _____ (insert title) of _____ (insert company name) hereby certify that I have performed all of the required sexual offender registry checks required under this Agreement for all contractual personnel (employees, agents, ownership personnel, or contractors) who may be used to deliver goods or provide services under this Agreement, including the North Carolina Sex Offender and Public Protection Registration Program, the North Carolina Sexually Violent Predator Registration Program, and the National Sex Offender Registry. I further certify that none of the individuals listed below appears on any of the above-named registries and that I will not assign any individual to deliver goods or perform services under this Agreement if said individual appears on any of the sex offender registries. I agree to maintain all records and documents associated with these registry checks, and that I will provide such records and documents to the school system upon request. I specifically acknowledge that the school system retains the right to audit these records to ensure compliance with this section at any time in the school system's sole discretion. I acknowledge that I am required to perform these checks and provide this certification form before any work is performed under the Agreement (initial check), any time additional contractual personnel may perform work under the Agreement (supplemental check), and at each anniversary date of the Agreement (annual check).

Contractual Personnel Names

Job Title

1. _____

2. _____
(attach additional page(s) if needed)

I attest that the forgoing information is true and accurate to the best of my knowledge.

_____ (print name) _____ (signature)
_____ (title) _____ (date)

Appendix B

This appendix provides physical hardware requirements for the applications that will run in the virtual environment. The successful vendor will provision enough hosting hardware and VMWare licensing to support all the applications, with local and remote failover and 25% headroom for growth.

Application: Autodesk

Autodesk applications (Autocad, Inventor, Architect ...) requirements are as follows.

Description

- PowerEdge R720, Intel Xeon E-26XX Processors (210-ABVP)
- PowerEdge R720 Motherboard, TPM (591-BBBP)
- Mission Critical Package: 4-Hour 7x24 On-Site Service with Emergency Dispatch, 2 Year Extended (936-4573)
- ProSupport: 7x24 HW / SW Tech Support and Assistance, 3 Year (936-4613)
- On-Site Installation Declined (900-9997)
- PowerEdge R720 Shipping (331-4437)
- VFlash, 8GB SD Card for iDRAC Enterprise (342-1413)
- iDRAC7 Enterprise (421-5339)
- GPU Installation Kit (320-2883)
- NVIDIA GRID K1 GPU (320-9699)

- Broadcom 5720 QP 1Gb Network Daughter Card (430-4418)
- 3.5" Chassis with up to 8 Hard Drives (342-3587)
- Heat Sink for PowerEdge R720 and R720xd (331-4508)
- Intel Xeon E5-2680v2 2.8GHz, 25M Cache, 8.0GT/s QPI, Turbo, HT, 10C, 115W, Max Mem 1866MHz (338-BCUH)
- DIMM Blanks for Systems with 2 Processors (317-8688)
- Heat Sink for PowerEdge R720 and R720xd (331-4508)
- Intel Xeon E5-2680v2 2.8GHz, 25M Cache, 8.0GT/s QPI, Turbo, HT, 10C, 115W, Max Mem 1866MHz, 2nd Proc (338-BCUI)
- 16GB RDIMM, 1600MT/s, Low Volt, Dual Rank, x4 Data Width (319-1812)
- 1600 MHz RDIMMS (331-4424)
- Performance Optimized (331-4428)
- 800GB Solid State Drive SAS Value SLC 6Gbps 2.5in Hot-plug Drive, 3.5in HYB CARR (400-ABTJ)
- Dual, Hot-plug, Redundant Power Supply (1+1), 1100W (331-4607)
- No Operating System (420-6320)
- No Media Required (421-5736)

Application: Microsoft SQL 2012 to support District Financial application.

- Processor: Intel Xeon 2.00Ghz, 12M Cache, 1333MHz
- RAID Controller with 512MB Cache or higher
- Four 300 Gig Hard Drives Minimum at 15K RPM, SAS 6Gbps 3.5in Hot-plug
- Gigabit Network Adapter
- 16 – 25 Schools: 24 GB RAM @ 1333MHz, or higher
- Currently supporting the following databases:
 - Library Management Software
 - Child Nutrition Software
 - Financial Management Software
 - School Community Relations Software

Application server

- 8 Gig RAM

- 300 Gig drive space
- Dual Core 3 GH processor

Application: File Server to house 5TB data

- 16 GB RAM
- Storage to be provided via Storage Management System (i.e. SAN)
- Vendor recommended processor.

Application: Print Server to manage 200 printers

- Vendor Recommended

Application: Microsoft System Center Configuration Manager Server

- Processor: 8 Cores on VM Cpu
- 16 GB RAM
- 500 GB drive space
- Requires Microsoft SQL 2012 R2 Standard

Application: FTP Server

- 4 Gig RAM
- 30 Gig drive space
- Dual Core 3 GH processor

Application: OCS Web Server running IIS 7

- Vendor Recommended

Application: Help Ticket System

- 16 Gig RAM
- 80 Gig drive space
- Dual Core 3 GH processor

Application: Remote Access Software

- 16 Gig RAM
- 80 Gig drive space
- Dual Core 3 GH processor

Application: AV Server

- 4 Core VM CPU
- 16 GB RAM
- 300 GB drive storage