DATE: Wednesday, June 25, 2008
TO: All Offerors of Record
FROM: Greg Van Wart, CNM Buyer
SUBJECT: Amendment/Addendum #1 to P-272 “Nurse Student Standardized Testing Program”.

This addendum becomes part of the Contract Documents.

Offerors are required to acknowledge receipt of this addendum in the space provided on page 11, Section E.

The proposed solution shall work within CNM’s current infrastructure as described in attachment A. The proposed solution cannot require the infrastructure be modified. The solution shall be able to function using TCP/IP in a routed environment with multiple subnets, security levels, and firewalls.

Before CNM makes a final award, the offeror must allow CNM a reasonable period of time for on-site evaluation of the product.

Reference Attachment A
Attachment A:  CNM IT ENVIRONMENT

Current Environment:

CNM is a rapidly growing commuter college with an enrollment of approximately 27,000 students that is primarily focused on quality instruction. As such CNM does not have dormitories, research facilities or sports facilities. CNM is comprised of five major campuses in the Albuquerque metropolitan area: Main Campus (MAIN), Joseph M. Montoya Campus (JMMC), South Valley Campus (SVC), Workforce Training Center (WTC), and the West Side Instructional Facility (WS). Planning is underway to establish additional instructional facilities located at Albuquerque’s Double Eagle Airport Facility, Southwest Albuquerque, and Rio Rancho. Each existing location supports a 100Mbps switched network that is connected to the Main Campus Gigabit backbone. Remote campus connectivity is provided with 100Mbps Fiber via Qwest Metro Optical Ethernet Network. CNM has a 100mbps Ethernet connection to the Internet provided by Time Warner Telecom. CNM also supports the Small Business Development Center (SBDC) which is connected via a point-to-point T-1. CNM has secured the network using internal and external Cisco PIX firewalls as well as the firewall features of our core Cisco switches. The primary network protocol suite supported by CNM is TCP/IP. iSCSI storage protocol is also used on our storage networks. CNM has developed a private and public network, as well as multiple VLANS for security and traffic aggregation purposes. Cisco PIX 515 and FWSMs are used as one layer of CNM’s security posture. All campuses use multiple private sub-netted IP schemes. CNM has the ability to statically assign IP addresses to those devices requiring direct assignment. CNM also has 2 DSL lines providing Internet access, client server access, and email access for individual departments.

CNM has two primary authentication domains, MS Active Directory, and LDAP. Both of these databases are populated from SunGardHE Banner. Password consistency is maintained with APR, an in house application. The Active Directory is serviced by a minimum of two domain controllers and one global catalog server on each campus, with additional servers including root domain controllers on Main Campus. LDAP authentication is provided by a combination of OpenLDAP and Luminis LDAP. Applications are run locally as well as from servers. In addition, there are several Win2K servers providing file, print, database and email services. The Institute runs 2 email systems: Exchange Server 2003 and Luminis, based on the SunONE message server. The desktop operating systems are primarily Microsoft Windows XP. Plans are underway to upgrade to Microsoft Windows Vista. The Sun/Solaris environment supports the Institute’s primary business and academic support application (SunGardHE Banner) as well as the Institute’s primary web support application (SunGardHE Luminis). Luminis includes a Content Management System (CMS) based on Documentum, portal software based on uPortal, and SunONE email and calendar services. The SunGardHE environment uses the Oracle Relational Database Management System and Internet Application Server (IAS). CNM also has existing Intel based Linux systems supporting web, email, and DNS. Currently CNM’s Intel Linux systems run Red Hat Enterprise Linux Advanced Server, versions 2.1 through 4.0. Internal DNS/DHCP services are provided via a Microsoft Active Directory solution. External DNS is provided via BIND.
Hardware Environment:

Cable Plant
- CNM is currently in the process of developing a comprehensive Communications Infrastructure Standards Manual based on BiCSi best practices following CSI’s division 27 format. This document will define all future cabling standards for the college.
- Several buildings are scheduled for cable upgrades over the next three years.
- Various generations of UTP cabling provide for both data and voice connectivity.
- Separate cable plants are currently maintained for both voice and data networks.
- In many areas building cable has been upgraded to Category 5 & 5e UTP.
- Inside cable plants range in age from over 15 years to two years old.
- Inside cable plants are comprised of mixed manufacture’s components both within any given building and institutionally.
- Newer buildings are provisioned for centralized distribution and lend themselves to structured cabling methodology.
- Older buildings tend toward de-centralized distribution.
- Fiber and bundled copper is utilized for riser cabling and outside plant connectivity.

Network
- The primary vendor of network equipment is Cisco.
- Most network hardware is at least 100Mbps.
- Gigabit connectivity using both fiber and copper is used predominantly in the data centers.
- All primary WAN connectivity is a minimum 100Mbps fiber Ethernet.
- SBDC is connected via a T1 line that is split for both voice and data.
- A Cisco 802.11b/g wireless network was recently deployed that covers about 25% of CNM’s instructional facilities. The wireless environment is under going continual expansion with the goal of coverage for all buildings and student gathering spaces.
- The existing Cisco environment is capable of QOS although QOS capability has not been deployed at this time.

Phone System
- CNM currently supports about 2400 analog and digital phone sets including ARA, Code Blue and alarms located at all campuses.
- An Avaya G3R v.8 processor housed at the main campus provides central call processing for all branch locations.
- Avaya EPN units are located at all branches with the exception of WS.
- WS utilizes an Avaya G3S v.7 that is configured to operate as a slave to the main campus G3R.
- Three additional EPN units are distributed throughout the main campus.
- Point to Point T1 trunks, provided by Qwest Communications, provide connectivity between the branch campuses and the main campus G3R.
• External connectivity is established via five PRI trunks provided by Qwest Communications.
• The Main Campus G3R Processor is connected to campus EPNs via campus fiber.
• Multi-pair copper bundles provide inter-building connectivity to EPNs.
• Internal building connectivity is provided via inside cable plants dedicated to voice communications primarily using Category 3 UTP copper cabling.
• Traditional backboard mounted 110 and 66 blocks comprise the typical distribution frame generally centrally located within each building.
• Avaya Intuity Audix Map/40P r.4.4 provides voice mail, VDN and Auto Attendant Messaging.
• Main and Branch Campus utilize Definity Call Center Release 8 with the exception of the Westside Campus which does not have call center capability.
• MicroTel v.2.8 provides call accounting capabilities.

**Server Hardware**
- There are approximately 200, x86 or Intel based servers that provide file, print, web, and database services.
- SUN servers host the Luminis environment.
- The existing hardware for file and print servers is predominantly Dell and Gateway.
- There are multiple resource domain servers.

**Storage**
- CNM utilizes a NetApps centralized storage environment. Primary storage requirements are provided by a redundant 980 filer that is backed up by a NS200 filer in a separate building. NS250 filers are installed at each branch campus to support remote server farms.
- CNM is completing the process of migrating all server based storage for its SUN, Microsoft and LINUX platforms to the NetApps storage environment.
- CNM’s storage environment communicates using Ethernet, iSCSI and fiber channel protocols.

**Backup & Recovery**
- CNM’s primary backup storage device is the NetApps NS200 filer.
- A Spectra Logic tape robotic library is used to archive data directly from the NS200 using Bakbone software. NetVault is also used to facilitate tape archival of server configuration data from the servers.
- DAT and DLT tape devices are also remain in use to support the migration to central storage and to provide custom backups as needed.
- Critical tape archives are rotated to an offsite facility by Iron Mountain.
- The NetApp filers serve as CNM’s primary recovery mechanism. Tapes stored offsite will be used for recovery in the event multiple NetApps devices fail.

**Printers**
- There are approximately 400 network print devices.
• The existing hardware for printers is predominantly Hewlett Packard.
• Print strategy is based on network printers. Network printers are served from network print servers running Microsoft® Windows™ Server 2003. SunGardHE Banner printers are co-served from Sun Solaris Operating System.

Desktop Workstations
• There are approximately 3,500 workstations.
• The workstations are predominantly Gateway and Dell.
• The minimum configuration is: PIV/1.8 Ghz, 512MB RAM, 40GB hard drive.
• Microsoft® Windows XP operating system is predominantly used.

Firewall
• Cisco PIX 515 Redundant Bundle
• Redundant Cisco FWSMs
• Cisco Works SIMS Management Software
• Cisco Works VMS Management Software
• ACL’s are used in distribution layers.

Software Environment:

Server OS’s:
• Windows 2000 and 2003
• Solaris 9.
• Red Hat Enterprise Linux Advanced Server versions 2.1 through 4.0

Typical Desktop Applications:
• Microsoft® Office 2003
• Communications – Internet Explorer 6, Netscape 7, and Mozilla
• Graphics – Visio 2003, Photoshop 7, Freehand
• Outlook Client
• Web based Email
• Utilities - WinZIP, Adobe Acrobat, Symantec Anti-Virus, SnagIt and Camtasia Studio
• JAVA Run-time 1.5.0.4.2
• Windows Media Player 10, RealPlayer 10, QuickTime 6.52
• All departments use a multitude of desktop-based applications.

Server-Based Applications: Including but not limited to the following:
• SunGardHE Banner
• SunGardHE Luminis
• Oracle Database and IAS (Internet Application Server)
• WebCT
• T2 Parking Management System
• IIS
• SQL Server
• Exchange 2003
• Bakbone Netvault
• Symantec Antivirus
• Diskeeper
• Cisco ACS and VMS
• Apache web server
• Postgres SQL server
• Postfix mail server
• Bind DNS server
• Astra Schedule
• Evisions FormFusion
• Evisions Argos
• Boss Diagwin

**Software Distribution Utilities**
• Faronics Deep Freeze
• Symantec Ghost Solution Suite
• SMS (under development)

**Addressing Scheme**
• DNS/DHCP/WINS servers exist on each campus.
• Static DHCP reservations are assigned to servers and printers.
• Dynamic addresses are issued to workstations via DHCP.
• (MAC registration is required by Central IT in order to issue static IP address.)
• Multiple TCP/IP Private CIDR subnets
• Workstation and private server public Internet access is obtained via NAT
• DNS using Microsoft and Linux.

**Authentication**
• For desktop applications a combination of Microsoft and Luminis systems are used for authentication. In the future CNM plans to implement a single LDAP sign on.

**Email**
• Two email and calendar systems are in use: (1) staff and faculty on Exchange and, (2) staff, faculty and students on Luminis. Email and calendar services software are centrally administered and managed using Microsoft Exchange 2

**Internet Environment**
• CNM utilizes a combination of Microsoft Internet Explorer 6.0 or higher, Netscape Navigator or Mozilla for browsing.
• Primary web content is published using SunGardHE Luminis’ CMS (Content Management System) that back ends to an Oracle database.
• Additional web content is published via Planet which uses Apache, and Microsoft® IIS™.
• SunGardHE Luminis also provides portal, email, and calendaring systems.
• CNM’s focus will be to continue evolving and growing its web based applications.