

STATE OF NEW MEXICO
LEGISLATIVE EDUCATION STUDY COMMITTEE

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State Capitol North, 325 Don Gaspar, Suite 200
Santa Fe, New Mexico 87501
Phone: (505) 986-4591 Fax: (505) 986-4338
<http://www.nmlegis.gov/lcs/lesc/lescdefault.aspx>

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November 13, 2012

MEMORANDUM

TO: Legislative Education Study Committee

FR: Travis Dulany

RE: STAFF REPORT: COMPUTER-BASED ASSESSMENTS: INFORMATION TECHNOLOGY NEEDS

Introduction

In this interim, the Legislative Education Study Committee (LESC) has received several prior reports regarding the Common Core State Standards (CCSS) and the General Educational Development (GED) test. Although these two topics address different areas of education, they share one common element –mandatory computer-based testing (CBT) that will commence in 2014.

Among the presentations that the LESG has heard during the 2012 interim:

- in June, the committee heard from staff from the National Conference of State Legislatures, who discussed the background, timeline, and associated costs of the CCSS;
- in July, LESG staff and Mr. Todd DeKay, Director of Adult Basic Education at Eastern New Mexico University-Roswell, discussed the changes to the GED test that will go into effect in 2014, including mandatory CBT for the newly designed assessment;
- in August, the committee heard testimony from:

- representatives from the Pecos Valley Education Alliance, who reported on the collective efforts of the alliance to implement the CCSS; and
- Ms. Sheryl White, who discussed the instructional shifts for English/language arts (ELA) in the CCSS; and
- in September, the committee received testimony from:
 - Dr. Cathy Kinzer, an assistant professor of curriculum and instruction at New Mexico State University, who briefed the committee on the shifts in math standards and efforts among higher education institutions in the implementation of the CCSS; and
 - Dr. Elizabeth Marrufo, Director of Elementary Instruction for the Las Cruces Public Schools, who informed the committee of her district's implementation of the standards for grades K-3.

For the information of the committee, this staff report includes:

- minimum technology requirements for upcoming computer-based tests for the Partnership for Assessment of Readiness for College and Careers (PARCC) and GED, as well as an overview of the Information Technology Advisory Group (ITAG) of the Public School Facilities Authority (PSFA); and
- background relating to the implementation of the PARCC and GED assessments beginning in school year 2014-2015.

Presenters

In anticipation of the transition from paper-based testing to CBT, LESC staff have arranged for the following presenters who will discuss future information technology needs:

- Ms. Lynn Harris, Chief Information Officer and Director of Business Systems, Albuquerque Public Schools;
- Mr. Lee Reynolds, Premier Account Manager for CenturyLink, Inc;
- Mr. David Deggs, Senior Program Manager, GED Testing Service, LLC;
- Mr. Tom Bush, Chief Information Officer, PSFA; and
- Mr. Michael G. Boyle, E-Rate Division, International Computer Corporation¹.

MINIMUM TECHNOLOGY REQUIREMENTS FOR UPCOMING COMPUTER-BASED TESTS

PARCC

PARCC, an assessment consortium that will design a test aligned to the CCSS, issued the consortium's latest technology guidelines (Attachment 1) in April of 2012, with a second version of the document anticipated in fall of 2012.

¹ According to the Federal Communications Commission, E-Rate is a program that helps schools and libraries gain access to affordable telecommunications and internet.

Among the guidance in the document, the consortium advises the following:

- A variety of operating systems, including 3rd and 4th generation iPads and certain Android tablets, may be purchased; however, PARCC has not yet issued “input device” specification recommendations, which may have implications for the use of physical keyboards instead of software-based keyboards on the device.
- Windows 7 is the only version of the Microsoft operating system that will be supported by PARCC, which would require upgrades for many schools. According to a net applications analysis (Attachment 2), user data captured by www.netmarketshare.com indicates that Windows XP is still a popular operating system, and consists of 36 percent of operating system market share, despite the fact that Windows XP is no longer supported by Microsoft.
- All devices must be able to connect to the internet via either wired or wireless networking. More information on required bandwidth will be issued by PARCC sometime during fall 2012. It appears to LESC staff that a live internet connection will be required in order for a student to be tested on the PARCC exam. This differs slightly from the GED test, which will be covered in the following section.

GED

As noted during the July 2012 LESC meeting, and according to Public Education Department (PED) staff, GED testing centers will be required to be Pearson VUE certified. According to guidance issued by Pearson VUE (Attachment 3):

- Versions of both Windows XP and Windows 7 are supported by Pearson VUE; however Windows Vista – a version of the operating system that was sold in the time between the releases of Windows XP and Windows 7 – will not be supported. Additionally, Macintosh operating systems are “strictly prohibited.”
- Only desktop and laptop configurations appear to be supported; computers in the “tablet” form factor are not compatible with Pearson VUE criteria.
- Only wired connections are compatible; wireless network connections are not permitted.

Although the above-mentioned guidance document states that internet connections are required for Pearson VUE certified testing centers, GED Testing Service, LLC representatives have informed LESC staff that a “live” internet connection will not be necessary for the 2014 release of the GED test. This could allow for mobile testing centers, where computers are set up in places where an internet connection is unavailable during testing, as long as the computers can later connect to the internet.

ITAG

According to the PSFA, New Mexico Public School Capital Outlay Council funding for renovation and new school construction projects provides for basic technology infrastructure within the facility. While the amount of internal infrastructure is based on the aggregate of

needs as defined by the district and school's educational technology plan, the addition of requirements for online testing of students has created a need to elevate functional ability of schools to handle an increasing load on internet bandwidth and internal infrastructure.

The PSFA has created an advisory group – ITAG – in preparation for the increased information technology needs for New Mexico public schools. According to ITAG, the group is recommending the funding and authorization of a comprehensive evaluation of bandwidth capacity and technology infrastructure requirements for public schools statewide for the first half of school year 2013-2014.

According to PSFA, ITAG is an inter-disciplinary body set up by the PSFA as a forum for issues and discussion related to the provision of educational technology infrastructure in New Mexico public school buildings.

BACKGROUND

PARCC

In 1967, legislation was enacted requiring the State Board of Education (now PED) to prescribe standards for all public schools in the state, including curriculum, academic content, and performance standards.

In 2001, in order to receive Title I funds, each state was required to:

- adopt rigorous content and academic achievement standards; and
- implement an accountability system based on a system of annual assessments aligned with those standards and approved by the US Department of Education for all students in grades 3 through 8 and once in high school in reading/language arts and mathematics.

In 2007 and 2008, in connection with the LESC's study of high school redesign, and supported by an appropriation to the LESC, New Mexico joined the American Diploma Project. This effort, spearheaded by Achieve, Inc., provided states with a formal process to revise their mathematics and ELA standards so they are aligned with the expectations of college and careers. A state team that included staff from the LESC, PED, and the Higher Education Department, as well as faculty from state public secondary and postsecondary institutions, spent 18 months reviewing and revising the state standards. The revised math standards were adopted in PED rule in June 2009, and the ELA standards in September 2009.

Meanwhile, in June 2009, the National Governors Association (NGA) and the Council of Chief State School Officers (CCSSO) announced the launch of the nationwide, state-led CCSS initiative to give educators direction about what all children need to succeed in college and the workplace, and to allow states to share best practices that, it is hoped, will dramatically improve teaching and learning.

In June 2010, LESC staff reported to the committee that the Governor and the Secretary-designate of Public Education had signed a memorandum of agreement in May 2009 with the NGA and the CCSSO, along with other states and the District of Columbia, to develop common standards in ELA and mathematics for grades K-12.

According to the NGA, the standards were designed to be:

- aligned with college and work expectations;
- clear, understandable, and consistent;
- based on rigorous content and application of knowledge through high-order skills;
- built upon strengths and lessons of current state standards;
- internationally benchmarked; that is, informed by other top-performing countries, so that all students are prepared to succeed in our global economy and society; and
- evidence-based.

School year 2012-2013 is the first year the new standards are being implemented in New Mexico, starting with grades K-3. Full implementation is expected during school year 2014-2015, with the full rollout of the PARCC exam to replace the New Mexico Standards-based Assessment.

GED

According to GED Testing Service, LLC, which is a joint venture between Pearson PLC and the American Council on Education:

- the GED test was first developed in 1942 and originally reflected the needs of the industrial era;
- at the time in which the test was developed, 37 percent of test-takers indicated plans to seek additional education at the postsecondary level;
- the original series English test focused on correctness and effectiveness of expression, while the other portions – social studies, science, and literature – relied on the interpretation of reading material;
- the test was revised in 1978, and the changes, as quoted below, were characterized by a:
 - “shift in emphasis from science and social studies reading materials to a separate reading test”; and
 - transition away from a recall of facts toward application of conceptual knowledge and evaluation of presented information;
- the third series of the GED test, released in 1988, was based on the following recommendations from a panel of professionals and experts:
 - the addition of a direct writing sample;
 - increased emphasis on critical thinking and problem-solving skills;
 - increased reflection of the diverse roles adults play in society;
 - greater emphasis on understanding the sources of societal change; and
 - an increase in contextual settings relevant to adults;
- in the 1988 series, the reason candidates took the test shifted, with over 65 percent saying they were taking the test in order to enroll in a postsecondary institution; and
- the fourth series, released in 2002, and also the current GED test, is based on content standards at the national and jurisdictional level, and will expire December 31, 2013.

Also according to GED Testing Service LLC, a new GED test is being developed for 2014. Some concerns expressed over the new GED include:

- the apparent “privatization” of the GED;
- mandatory CBT at all 29 GED testing centers in New Mexico; and
- the increased cost of the new test.

TECHNOLOGY GUIDELINES FOR PARCC ASSESSMENTS VERSION 1.0 – APRIL 2012

Current updates and additional information are available at:
<http://www.parcconline.org/technology>

INTRODUCTION

The member states of the Partnership for the Assessment of Readiness for College and Careers (PARCC) are pleased to provide these technology guidelines to inform schools and districts as they make technology purchases to best meet the instructional needs of their students. The information in this document is intended to answer questions about whether new instructional hardware that schools may purchase to implement the Common Core States Standards, will also meet PARCC's 2014-15 requirements for the online test.

Important aspects of technology guidance for PARCC online assessments include:

Minimum Hardware Guidelines

- Hardware
- Operating Systems
- Networking
- Devices

Security Considerations

Bandwidth Recommendations

Testing Platform Software

Input Devices (Keyboard, Mouse, and Other Accessories)

The specifications contained in Version 1.0 of this document do not yet constitute the full list of technical requirements that will be necessary to administer PARCC online assessments in the 2014-2015 school year. PARCC will use the technology readiness surveys and assessment design processes currently underway, as well as the results of future field trials to shape the full and final list of requirements. A timeline for technology decisions is provided at the end of this document.

While the ongoing processes for assessment and technical platform design leave many parameters as yet unknown at the publishing of this document, *Technology Guidelines for PARCC Assessments Version 1.0* is intended to help states and districts inform their own readiness preparations and decision-making *for both instruction and assessment*. As test components are developed, piloted, and field tested, we will regularly update these guidelines to reflect current knowledge about what states will need to administer PARCC's online assessment components. The most current version of this document and most up-to-date information will be posted to <http://www.parcconline.org/technology>.

MINIMUM HARDWARE GUIDELINES

(Shared with Smarter Balanced Assessment Consortium – <http://smarterbalanced.org>)

Hardware that runs the latest Apple, Windows, and Google operating systems, and the most common versions of Linux, will be compatible with PARCC assessments in 2014-15. As a guideline, districts may consider the following as minimum specifications for new systems. These minimum hardware guidelines are meant to inform current and future purchasing decisions. As part of plans to support instruction, districts and schools may select computer systems that meet or exceed these

guidelines and be confident that those systems will work with the online assessment in 2014-15. Support for operating systems not specified, predating those specified or with processor capacities lower than recommended, cannot be guaranteed at this time. Further guidance will be described in Version 2.0 (Fall 2012) of this document.

Hardware:

- 1 GHz or faster processor
- 1 GB RAM or greater memory
- 9.5 inch (10 inch class) or larger screen size
- 1024 x 768 or better screen resolution

Operating Systems:

Mac 10.7	Windows 7	Linux (Ubuntu 11.10, Fedora 16)
Apple iOS	Android 4.0	Chrome OS

Networking: Must be able to connect to the Internet via either wired or wireless networking.

Devices: Desktops, laptops, netbooks (Windows, Mac, Chrome, Linux), thin client, and tablets (iPad, Windows, and Android) will be compatible devices provided they are configured to meet the established hardware, operating system, and networking specifications—and are able to address the security requirements described in the Security Considerations section of the Guidelines. Tablet usage for online assessment administration may also require the use of an external keyboard, or other input devices to be determined (see the Input Devices section of the Guidelines). Further requirements will be released with Version 3.0 (Fall 2013) of this document.

All hardware choices should first consider the instructional needs of schools and students. Some students may need hardware that exceeds these minimum guidelines, and some students may require qualitatively different hardware. Districts should rely on local expert judgments and discussions with appropriate authorities to determine the hardware that is most appropriate to deliver quality instruction, and to support individual students.

SECURITY CONSIDERATIONS

Eligible devices of any type or operating system must have the administrative tools and capabilities to “lock down” the device to temporarily disable features, functionalities, and applications that could present a security risk during test administration. These include, but are not limited to, Web browser access, cameras (still and video), screen capture (live and recorded), email, instant messaging, Bluetooth connections, application switching, and printing.

Ongoing discussions PARCC is having with manufacturers of the newest types of devices indicate that they understand the operational and security requirements of high stakes testing and are committed to having solutions in place for the launch of the PARCC assessments. Additional information about these devices will be updated via <http://www.parcconline.org/technology>.

BANDWIDTH RECOMMENDATIONS

Internet connectivity and wireless networking capacity requirements will be defined in Version 2.0 (Fall 2012) based on emerging designs for test items and the assessment delivery platform, and informed by the actual capacity data from the Technology Readiness Tool inventory (<http://www.techreadiness.org>).

TESTING PLATFORM SOFTWARE

Software requirements will be defined in Version 3.0 (Summer 2013), driven by the design choices for test items and the assessment delivery platform.

INPUT DEVICES (KEYBOARD, MOUSE, AND OTHER ACCESSORIES)

Determinations about allowable, unallowable, and/or required input devices—such as the use of a keyboard, mouse, or stylus— will be made available no later than Version 3.0 (Fall 2013), based upon item design and field testing phases. In addition, information about the technology accommodations that will be necessary for students with disabilities to equitably participate in online assessments will be a focus for research studies during piloting and field testing. The results of these studies will inform accommodations guidelines in Version 3.0 (Fall 2013). Similarly, test comparability for students using different input devices such as touch screens, virtual and physical keyboards, stylus, and touchpad or mouse will be evaluated during field trials. As a result, requirements could be issued, for example, to provide headphones for audio support or full-sized physical keyboards for use with tablets.

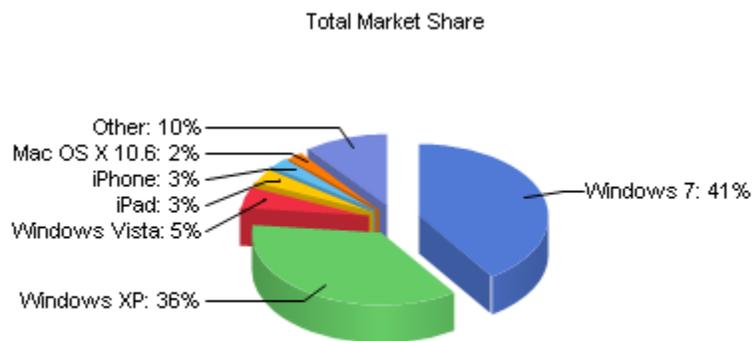
TECHNOLOGY DECISIONS TIMELINE

	SPRING 2012	FALL 2012	FALL 2013
Hardware	Version 1.0 establishes minimum guidelines for new hardware.	Version 2.0 will incorporate data from the Technology Readiness Tool inventory to define the oldest systems that will be supported for 2014-2015 assessments.	Version 3.0 will provide final guidelines for 2014-2015 assessments.
Security	Version 1.0 includes consideration of device security requirements.	Version 2.0 will update security considerations as necessary.	Version 3.0 will provide final security requirements for 2014-2015 assessments.
Bandwidth	Version 1.0 does not define specifications for bandwidth.	Version 2.0 will incorporate data from the Technology Readiness Tool inventory and the item/delivery platform design phases to define minimum bandwidth guidelines.	Version 3.0 will provide final bandwidth specifications for 2014-2015 assessments.
Software	Version 1.0 does not define specifications for testing software.	Version 2.0 will not define specifications for testing software.	Version 3.0 will provide final guidelines for 2014-2015 assessments based on test item and delivery platform designs.

<p>Input Devices (Keyboard, Mouse, and Other Accessories)</p>	<p>Version 1.0 does not define specifications for input devices.</p>	<p>Version 2.0 will not define specifications for input devices.</p>	<p>Version 3.0 will provide final guidelines for keyboards and other input accessories for 2014-2015 assessments, based on item design and test comparability field trials.</p>
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Operating System Market Share

October, 2012



Operating System	Total Market Share
Windows 7	40.42%
Windows XP	36.02%
Windows Vista	5.03%
iPad	3.41%
iPhone	2.61%
Mac OS X 10.6	1.95%
Mac OS X 10.7	1.94%
Mac OS X 10.8	1.60%
Android 2.3	1.38%
Linux	1.24%
Android 4.0	0.92%
Java ME	0.83%
Mac OS X 10.5	0.56%
Windows 8	0.35%
Pike v7.8 release 517	0.28%
Android 2.2	0.23%
BlackBerry	0.17%
Symbian	0.16%
iPod	0.14%
Mac OS X 10.4	0.13%
Windows Phone OS 7.5	0.08%
Android 4.1	0.08%
Android 3.2	0.07%
Windows 2000	0.05%

PVTC Technical Requirements

About the Installation Scenarios

The Pearson VUE Testing System (VTS) software may be installed in one of two configurations: Workgroup scenario or Server scenario. Whichever scenario is installed, the hardware and software must meet Pearson VUE's minimum requirements as shown in [System Requirements](#) on page 4.



If you are installing on **Windows XP** and you need more than nine exam delivery workstations, you must use **Windows Server 2003** or **Windows Server 2008**. If you are installing on **Windows 7**, up to fifteen exam delivery workstations may be configured, otherwise you must use **Windows Server 2008** or **Windows Server 2003**.

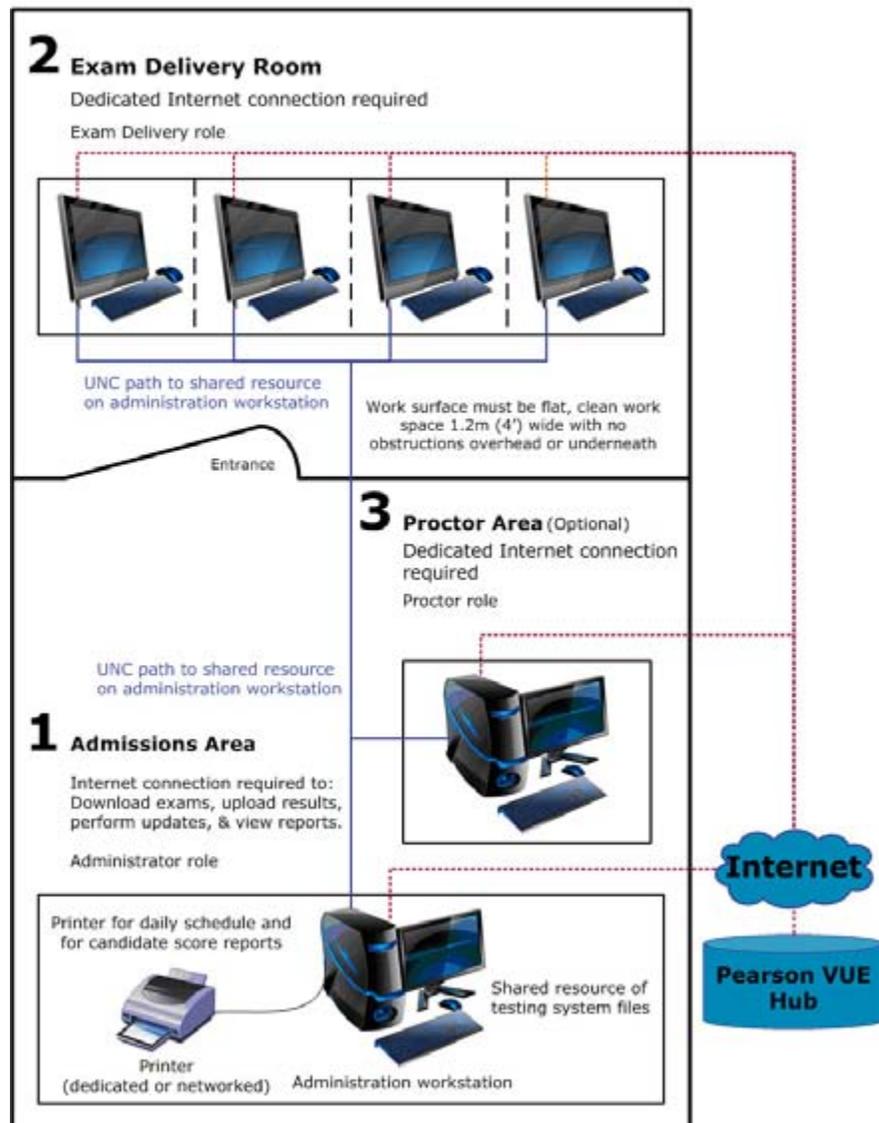
Pearson VUE does not support the following items:

- Windows Vista
- MAC operating system
- Virtual machines in any form are prohibited
- Standard dialup connections

Workgroup scenario installation – limited to 9 Windows XP or 15 Windows 7 Delivery workstations

In a Workgroup scenario installation, up to nine Windows XP or up to fifteen Windows 7 exam Delivery workstations are connected through a local area network (LAN) or workgroup, and the Administration workstation provides shared file storage. This is illustrated below.

Pearson VUE Authorized Center
Workgroup Scenario
Multiple computers workgroup/network



The Windows XP Administration workstation can handle a max of 10 network connections, so if a Proctor workstation is configured, then only 8 exam Delivery workstations may be configured.

Server Scenario Installation

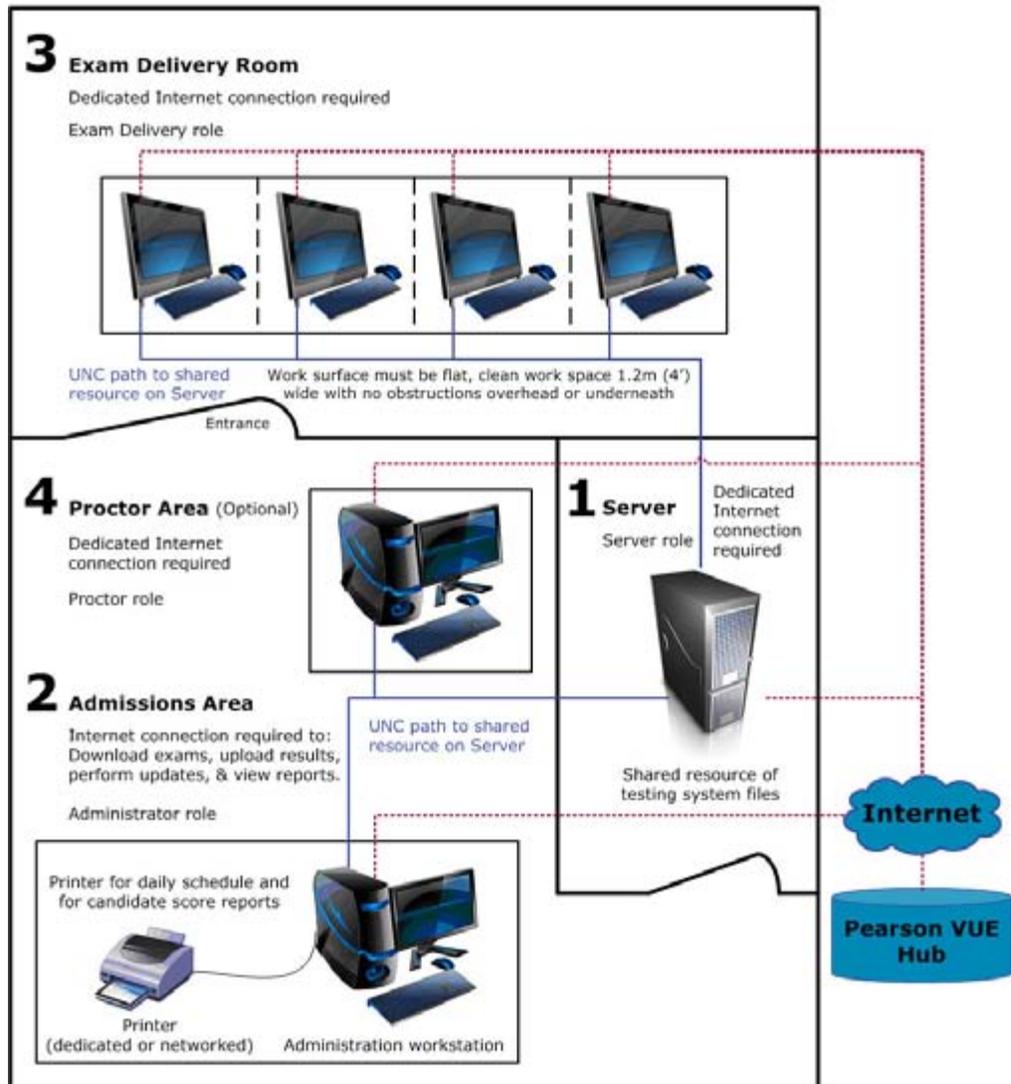
In a Server scenario installation, all exam delivery workstations are connected through a LAN, and a file server provides shared file storage. This is illustrated below. (Server scenario refers to a setup type and is not related to an Operating System.)



You must use a **Server scenario** if you need more than **fifteen Windows 7** exam delivery workstations, or if you need more than **nine Windows XP** exam delivery workstations. Windows XP allows no more than ten connections. Windows 7 performance drops significantly if you use more than fifteen connections.

Pearson VUE Authorized Center

Server Scenario
Multiple computers
local area network (LAN)



System Requirements

Effective **June 1, 2012**, the following pages list the minimum system requirements for installing and running the Pearson VUE Testing System, and for operating as a test center. **As these are minimum requirements to operate our systems, Pearson recommends purchasing equipment with more than the listed minimum system requirements.** The minimum requirements will change periodically based on the needs of our exam sponsors. Pearson VUE will notify your test center of any changes.

Administration and exam Delivery workstations

Requirement	Administration Workstation	Delivery Workstation
Processor	Windows compatible Intel or AMD dual or multi-core processor. <i>The Intel Atom line and AMD Neo line of processors are not permitted.</i>	
RAM	2 GB	
Hard Drive	NTFS Format with at least 40 GB available space	NTFS Format with at least 60 GB available space
Operating System	Windows 7 Professional or Enterprise (32-bit & 64-bit) with NTFS file system required or Windows XP Professional (32 bit) with Service Pack 3, NTFS file system required <ul style="list-style-type: none"> • <i>Windows Vista not currently supported.</i> • <i>Virtual machine and thin client environments (e.g., VMware, Virtual PC, VirtualBox, Parallels, HP, Wyse, etc.) strictly prohibited.</i> • <i>MAC operating system strictly prohibited.</i> 	
Video Adapter	True color (32-bit) 1024 x 768 pixels 128 MB Video RAM Video Adapter must support DirectX 9c or higher	
Display	17 inch (CRT or flat panel)	
Mouse and Keyboard	Mouse, English QWERTY Keyboard	
DVD-ROM Drive	Required	
Audio Card	Windows audio compatible	
USB	Minimum of 2 ports required for mouse and keyboard. May also need ports for admissions camera, signature pad and scanner.	2 ports required for mouse and keyboard. May need additional port for headset if required.
Network Connection	Network Interface Card (1) Ethernet card 100 mbps between workstation and switch – with internet access. Cabling Ethernet/CAT 5E or better /RJ45 <i>Wireless network connections not permitted</i>	
Internet Connection	Broadband (DSL, cable or LAN/WAN) required. Minimum 512kbps upload. Total bandwidth must support 25 kbps Down/10 kbps Up for each Delivery workstation. Note: IPv6 is not supported for internal or external communications.	
Internet Browser	Internet Explorer 7.0 or 8.0	
Anti-Virus Software	Installed, enabled and regularly updated	

PVTC Technical Requirements

Requirement	Administration Workstation	Delivery Workstation
Printer	Laser 600 dpi with Postscript support, accessible from Administration and Delivery workstations	
Additional Software Components	<ul style="list-style-type: none"> • Microsoft .NET Framework version 2.0 with Service Pack 1 (x86) • Language Packs installed to support complex languages 	

Server file storage

The server file storage must be accessible to the Administration workstation, Proctor workstation, and all exam Delivery workstations.

- ❖ In a Workgroup Scenario configuration, the server file storage is located on the local hard drive of the Administration workstation.
- ❖ In a Server Scenario configuration, the server file storage is located on a separate file server.

Whichever scenario is installed, the following requirements apply to the server file storage:

Requirement	Server File Storage
Processor	Windows compatible Intel or AMD dual or multi-core processor. <i>The Intel Atom line and AMD Neo line of processors are not permitted.</i>
RAM	2 GB
Hard Drive	60 GB available space
Operating System	
<i>Server Scenario:</i>	<p>Windows Server 2008 32-bit & 64-bit (more than 15 Windows 7, or 9 Windows XP workstations), NTFS file system, with latest supported Service Pack</p> <p>Windows 2003 Server 32 bit only (more than 15 Windows 7, or 9 Windows XP workstations), NTFS file system, with latest supported Service Pack Windows</p> <p>Windows 7 Professional or Enterprise 32 bit & 64-bit (1 - 15 workstations), NTFS file system required</p> <ul style="list-style-type: none"> • Virtual machine and thin client environments (e.g., VMware, Virtual PC, VirtualBox, Parallels, HP, Wyse, etc.) strictly prohibited. • <i>MAC operating system strictly prohibited.</i> • Laptops strictly prohibited.
<i>Workgroup Scenario:</i>	See above under Administration workstation requirements
Additional Software Components	Microsoft .NET Framework Version 2.0 with Service Pack 1 (x86)
DVD-ROM Drive	Required
Network Connections	Network Interface Card Ethernet card 1 GB full 100 mbps from server to switch, wireless networking not permitted , cabling Ethernet /CAT 5E or better /RJ45 <i>Novell NetWare not supported</i>
Power Supply	UPS recommended
System Backup	Performed daily
Anti-Virus Software	Installed, enabled and regularly updated

Pearson VUE specific hardware

Some exams may require the use of test center admissions equipment. Please consult with your Pearson VUE representative to determine if these components are required for your test center. If required, these components may be purchased from Pearson VUE.

Requirement	Administration Workstation
Web Camera	Logitech HD Webcam C615 or Logitech WebCam Pro 9000
Signature Device	Interlink Electronics ePad Signature Pad Model VP9801 or VP9805

Software licenses

Test centers are required to have appropriate software licenses for all operating systems and application software installed on the workstation equipment used for exam administration and delivery.

Preparing for Common Core: Technology Considerations and Costs

1

**Presentation to NM Legislative Education
Study Committee
November, 2012**

**Lynn Harris, M.Sc.
Chief Information Officer
Albuquerque Public Schools**

National Initiatives in Educational Technology

2

1. ONLINE ASSESSMENTS

- Champion: US Department of Education
 - Smarter Balanced Assessment Consortium
 - Partnership for Assessment of Readiness for College and Careers (PARCC)

2. DIGITAL TEXTBOOKS

- Champion: FCC National Broadband Plan/US Department of Education National Educational Technology Plan
 - http://transition.fcc.gov/files/Digital_Textbook_Playbook.pdf

3. DIGITAL CONTENT

- Champion: None
- Customizable and searchable web-based content aligned with national standards

National Initiatives - Implementation Challenges

“Districts that elect to incorporate the use of e-textbooks or other digital contents should be prepared to face potentially large-scale infrastructure changes.”

(source: Hanover Research, “Digital Content, Providers, Costs and Considerations”, 2012)

Requires “robust broadband connectivity to support peak demand.”

(source: http://transition.fcc.gov/files/Digital_Textbook_Playbook.pdf)

Requires “significant initial and ongoing investments in planning, bandwidth, equipment acquisition and repairs, software, support, and teacher training.”

(source: http://transition.fcc.gov/files/Digital_Textbook_Playbook.pdf)

Requires “thoughtful rollout plan addressing at minimum content, infrastructure, maintenance, learning strategies, training requirements and technical Support.”

(source: http://transition.fcc.gov/files/Digital_Textbook_Playbook.pdf)

“It is also known that, for large-scale administration, there are increased site administration costs.”

(source: <http://www2.ed.gov/programs/racetothetop-assessment/bios/quellmalz-presentation.pdf>)

Online Assessments

4

- **Smarter Balanced Assessment Consortium**
 - 32% of states and districts participating in SMAC
 - Developing tests to the technical “low water” mark
 - IT architecture developed collaboratively with member states and districts
 - Technical inventories completed
 - IT architecture and device requirements released August 2012
- **Partnership for Assessment of Readiness for College and Careers (PARCC)**
 - 36% of states and districts participating with PARCC
 - Developing tests to the technical “high water” mark
 - IT architectures developed by contractors
 - Technical inventories in progress
 - Preliminary device requirements issued October 2012

Online Assessments - PARCC Technical Specification Release Schedule

5

Version 1.0 Planned Release: April 2012 Actual Release: October 2012	Hardware Operating Systems Networking
Version 2.0 Planned Release: Fall 2012 Actual Release: Not Issued	Hardware Operating System Network Connections Devices
Version 3.0 Planned Release: Fall 2013 Actual Release: Not Issued	Final Technical Specifications for <ul style="list-style-type: none">• Hardware• Operating Systems• Bandwidth Recommendations• Input Devices• Security• Software

APS Implementation

6

1. Perform Needs Assessment
2. Identify Current State
3. Identify “To Be” State
4. Identify Gaps
5. Identify Costs
6. Develop Implementation Plan and Schedule
7. Secure Finances

APS Implementation – Needs Assessment

Requirements	Online Testing	Digital Textbooks	Digital Content
Network Infrastructure	✓	✓	✓
Bandwidth	✓	✓	✓
Devices	✓	✓	✓
IT Security	✓		
Input Devices	✓	✓	
Software	✓		
Network and Device Maintenance and Tools	✓	✓	
Technical Support and Staffing	✓	✓	

APS Implementation – As Is/To Be Analyses

8

- **Bandwidth Capacity**
 - National Ed Tech Initiatives
 - Normal Administrative Requirements
 - Used bandwidth calculators for “To Be” state Capacity Planning
- **Network Infrastructure Switches and Routers**
 - Wired vs. Wireless (or both)
 - Internet Service Provider Network Upgrades
 - Wireless Equipment Provider Upgrades
- **Devices**
 - Student to Computer Ratios
 - Platform considerations: PC vs. MAC; Desktop vs. laptop vs. tablet (Windows vs. iPad)
 - Minimum Configurations for each
- **Budget Availability and Secure Budget**
- **Network and Device Security Requirements**
- **Device Management Tools**
- **Technology Staff and Training**

APS Implementation Plan – Gaps

Gaps Identified:

- Bandwidth – Major Bandwidth Upgrade Required
- Network Infrastructure – Major Network Changes Required
- Devices – Significant Device Purchases Required
 - 56% of APS computers do not meet PARCC minimum standards
 - 33% of APS classroom computers (16,998: 51,508) do not meet PARCC minimum standards
 - For 1:1 – purchase additional 36,492 devices
- Device Management Tools – Purchases Required
- Budget – Unfunded

Possible Gaps (Pending Future PARCC specifications):

- IT Security
- Software
- Technology Staff Support and Training

APS Roll Out Plan – Phase 1

10

- Upgrade existing wired network
 - 2GBPS network to each of the 142 schools
- Install High-capacity routers
- Involve Internet Service Provider
- Re-architect APS network
 - Consolidate 142 school local area networks
 - Standardize network configurations
- Purchase Devices
- Establish budget

APS Roll Out Plan – Phase 2

11

- **Pending Final PARCC Specifications, Fall 2013**
 - Security
 - Keyboard
 - Software

APS Implementation - Cost Summary

12

First Year, Non-Recurring	
High Capacity Routers and Switches	\$1,300,000
Consolidation and Standardization of School Local Area Networks	\$2,500,000
High Capacity Bandwidth - First Year Costs	\$12,950,000 (non-eRateable)
PARCC Compliant Device Purchases	\$22,313,954.52
Total Non-Recurring	\$39,063,994.52
For 1:1 – purchase additional 36,492 devices	\$47,904,508.08
	\$86,968,463.00
Annual Recurring	
High Capacity Bandwidth	\$12,950,000 before eRate ~\$2.95 after eRate
Annual Computer Replacement Cycle	\$12,000,000
Hardware Maintenance and Support	undetermined
Total Recurring	\$14,950,000.00 (after eRate)

Implementation Challenges - Restatement

13

“Districts that elect to incorporate the use of e-textbooks or other digital contents should be prepared to face potentially large-scale infrastructure changes.”

(source: Hanover Research, “Digital Content, Providers, Costs and Considerations”, 2012)

Requires “robust broadband connectivity to support peak demand.”

(source: http://transition.fcc.gov/files/Digital_Textbook_Playbook.pdf)

Requires “significant initial and ongoing investments in planning, bandwidth, equipment acquisition and repairs, software, support, and teacher training.”

(source: http://transition.fcc.gov/files/Digital_Textbook_Playbook.pdf)

Requires “thoughtful rollout plan addressing at minimum content, infrastructure, maintenance, learning strategies, training requirements and technical Support.”

(source: http://transition.fcc.gov/files/Digital_Textbook_Playbook.pdf)

“It is also known that, for large-scale administration, there are increased site administration costs.”

(source: <http://www2.ed.gov/programs/racetothetop-assessment/bios/quellmalz-presentation.pdf>)

CenturyLink of New Mexico

Overview for Legislative Education Study
Committee

11/14/12

Introductions

- Vice President/General Manager of CenturyLink of New Mexico
 - **Valerie Dodd**
- Sales Manager New Mexico Gov't/Education/Schools
 - **Casey Stone**
- Account Manager New Mexico Gov't/Education/Schools
 - **Lee Reynolds**
- Sales Engineer New Mexico Gov't/Education/Schools
 - **Tom Andrego**

Purpose of Sharing Information

- Demonstrate our commitment to the state, its communities and the many customers we serve
- Communicate our capabilities and core competencies
- Inform you about CenturyLink's initiatives that foster broadband growth and Internet use thus addressing the digital divide
- Ask for your help building a coalition of providers around the state to leverage networks for good of communities and ultimately fostering education and economic development

CenturyLink – Who We Are

- CenturyLink is a \$19B “network” company focused on improving lives, strengthening businesses and connecting communities
- Broadband leader in our local markets and a global leader in managed hosting and cloud services
- Operate in 37 states and have a 220,000-route-fiber-mile network that runs coast-to-coast
- Principled organization with a culture of accountability and commitment to excellence through superior customer experience
- Introduced a local operating model where decisions are made closer to the customer
- Committed to growth through continued investment in fiber, data transport and the deployment of enhanced services such as video, cloud computing and data hosting

CenturyLink Attributes

- Nationwide network with robust coverage in New Mexico
- Have 50 data centers worldwide
- One data center located in Albuquerque
 - 15,000 sq foot facility with 150 watts of power per sq foot
 - Connectivity via 100G capacity
- *Quality* network in NM with \$400M in upgrades last five years
- Plans to invest \$60M more over next several years
- Over 92% of homes and businesses passed have access to CTL high speed Internet
- Core fiber runs through the state connecting NM nationally and providing diversity locally
- While state network is expansive, need to build partnerships with other providers



CenturyLink on Pueblos

- We provide service on numerous pueblo/chapters including...
 - Taos Pueblo
 - Nambe Pueblo
 - Pojoaque Pueblo
 - Tesuque Pueblo
 - San Idelfonso Pueblo
 - Zia Pueblo
 - Cochiti Pueblo,
 - Kewa (Santo Domingo) Pueblo
 - San Felipe Pueblo
 - Santa Ana Pueblo
 - Sandia Pueblo
 - Isleta Pueblo
 - Laguna Pueblo
 - Acoma Pueblo
 - Zuni Pueblo
 - Ramah Navajo Chapter

CenturyLink Commitment to Communities

- Brought fiber Internet speeds to an additional 100K customers last year
- Ensured that we had high speed Internet available to at least 75% of households in rural New Mexico
- Planning for high speed Internet deployment to high cost areas currently without service options via Connect America Fund
- Provide discounted phone service to low-income and tribal households
- Introduced a \$9.95 high speed Internet service to qualifying low income households along with \$150 tablet
- By year-end, will have provided free Internet training to over 900 people in our communities

CenturyLink Services Around the State

- In addition to consumer services like high speed Internet, home phone, satellite video services, we offer the following enhanced services for our education, government, general business, and enterprise customers
 - Managed Voice, Data, Wireless & Security
 - Dedicated Internet Access with speeds to 10Gbps
 - Ethernet service up to 10Gbps
 - IP Technology – backbone speeds up to 100Gbps
 - MPLS
 - Hosted VoIP – E-Rate eligible
 - Local Cyber Center & Cloud-based Solutions
 - Customer premise equipment
 - Video Conferencing
- Vendors partners include Cisco, Juniper, AVAYA, HP, ShoreTel, and Adtran

Summary

- Quality national and local fiber network
- Financial strength to address the growing needs of our business partners and customers
- Competency and scale to deliver any solution our customers need
- Committed to growing our markets by connecting customers and communities
- Interested in learning more about how we can partner to ensure New Mexicans have access to a quality education

HOW DOES E-RATE WORK?

Schools and libraries can apply each year for discounts on the cost of telecommunications and other services. If you are funded, you can either receive discounted bills from your service providers or pay for the services in full and request reimbursement. The program is capped at \$2.25 billion per program year, indexed to inflation each year.

WHO IS ELIGIBLE FOR E-RATE?

SCHOOLS AND SCHOOL DISTRICTS

- All public schools, K-12
- All non-profit K-12 private and parochial schools with endowments not exceeding \$50 million

A school must meet the definition of an elementary or secondary school under state law.

LIBRARIES AND LIBRARY CONSORTIA

- All public libraries
- Many private, not-for-profit libraries accessible to the public
- A library must:
 - have a budget completely separate from any school.
 - be eligible for Library Services and Technology Act (LSTA) assistance in its state.



Discounts range from **20%-90%**

WHAT SERVICES ARE ELIGIBLE FOR FUNDING?

- Telecommunications services such as local and long distance services, 800 services, and cellular service
- Basic conduit Internet access, including Voice over Internet Protocol and other data services
- Internal connections, including network equipment and the wiring needed to bring information directly to classrooms and library patrons
- Basic maintenance of internal connections

E-Rate funds **do not** cover such things as desktop computers, learning software, or teacher/librarian training.

HOW LARGE ARE THE DISCOUNTS?

Discounts range from 20% - 90%, depending on the level of poverty as measured by the percentage of students eligible for the National School Lunch Program and the rural or urban location of the school or library. The higher the poverty level, the higher the discounts.

WHERE CAN I GET MORE INFORMATION?

Call our Client Service Bureau at **1-888-203-8100**

Visit our website at www.usac.org/sl

WHAT IS E-RATE ?

The E-Rate Program, otherwise known as the Schools and Libraries Program, provides discounts to most schools and libraries in the United States on their telecommunications, Internet access, and related services. The program is administered by the Universal Service Administrative Company (USAC) under the direction of the Federal Communications Commission (FCC).



WHERE CAN I GET MORE INFORMATION?

Call our Client Service Bureau at
1-888-203-8100

Visit our website at
www.usac.org/sl

If you are an existing applicant or are new to the program:

Consider volunteering for our Helping Applicants to Succeed (HATS) Initiative. You can receive one-on-one guidance that is tailored to your specific concerns in person, by phone, or on a video conference.

ABOUT USAC AND THE USF

USAC is an independent, not-for-profit corporation that was created in 1997 by the FCC to administer the Universal Service Fund (USF). The USF is money collected from telecommunications companies dedicated to fulfilling the goals of universal service through four different programs: High Cost, Low Income, Rural Health Care, and Schools and Libraries (E-Rate). The USF enables access to telecommunications services for all U.S. consumers.

Universal Service Administrative Company

2000 L Street NW, Suite 200

Washington, DC 20036

Phone: (202) 776-0200

Fax: (202) 776-0080

Billing, Collections & Disbursement Toll Free: (888) 641-8722

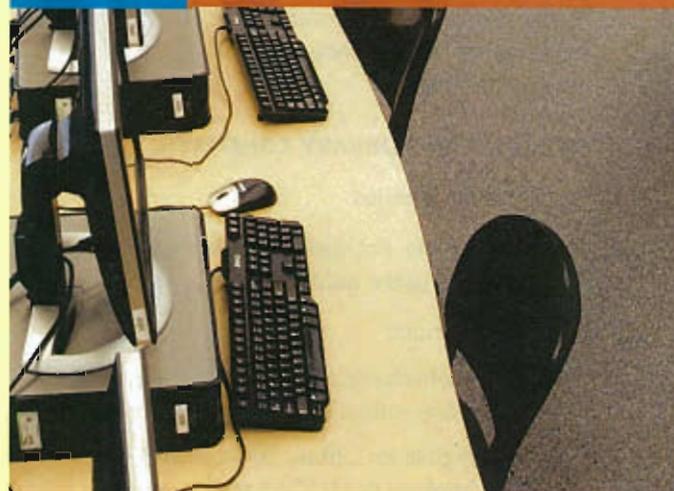
www.usac.org



PROGRAM
OVERVIEW

E-RATE PROGRAM

THE UNIVERSAL SERVICE FUND



USAC
Universal Service Administrative Company

www.usac.org

Applicant Name	Orig Category of Service	Orig Commitment	Request
ALAMOGORDO PUBLIC SCHOOL	INTERNAL CONNECTIONS MNT	\$16,053.23	83
ALAMOGORDO PUBLIC SCHOOL	INTERNET ACCESS	\$6,518.32	
ALAMOGORDO PUBLIC SCHOOL	INTERNET ACCESS	\$28,459.60	
ALAMOGORDO PUBLIC SCHOOL	INTERNET ACCESS	\$867.36	
ALAMOGORDO PUBLIC SCHOOL	TELCOMM SERVICES	\$21,427.25	
ALAMOGORDO PUBLIC SCHOOL	TELCOMM SERVICES	\$70,803.57	
ALAMOGORDO PUBLIC SCHOOL	TELCOMM SERVICES	\$11,683.18	
ALAMOGORDO PUBLIC SCHOOL	TELCOMM SERVICES	\$24,010.26	
ALAMOGORDO PUBLIC SCHOOL	TELCOMM SERVICES	\$1,996.80	
ALAMOGORDO PUBLIC SCHOOL	TELCOMM SERVICES	\$20,656.32	
ALAMOGORDO PUBLIC SCHOOL	TELCOMM SERVICES	\$107,377.66	
ALAMOGORDO PUBLIC SCHOOL	TELCOMM SERVICES	\$8,026.91	
ALAMOGORDO PUBLIC SCHOOL	TELCOMM SERVICES	\$1,947.58	
ALAMOGORDO PUBLIC SCHOOL	TELCOMM SERVICES	\$4,284.69	
ALAMOGORDO PUBLIC SCHOOL	TELCOMM SERVICES	\$36,819.53	
		\$360,932.26	
ALBUQUERQUE SCHOOL DISTRICT	INTERNAL CONNECTIONS	\$3,279,065.26	
ALBUQUERQUE SCHOOL DISTRICT	INTERNAL CONNECTIONS MNT	\$870,750.86	
		\$4,149,816.12	
ANIMAS PUBLIC SCHOOL DISTRICT	INTERNAL CONNECTIONS MNT	\$50,400.00	80
ANIMAS PUBLIC SCHOOL DISTRICT	INTERNET ACCESS	\$2,850.14	
ANIMAS PUBLIC SCHOOL DISTRICT	TELCOMM SERVICES	\$253.92	
ANIMAS PUBLIC SCHOOL DISTRICT	TELCOMM SERVICES	\$3,738.43	
ANIMAS PUBLIC SCHOOL DISTRICT	TELCOMM SERVICES	\$6,747.36	
		\$63,989.85	
ARTESIA PUBLIC SCHOOL DISTRICT	INTERNET ACCESS	\$32,852.57	68
ARTESIA PUBLIC SCHOOL DISTRICT	TELCOMM SERVICES	\$48,454.32	
		\$81,306.89	
AZTEC MUNICIPAL SCHOOL DISTRICT	INTERNET ACCESS	\$12,012.00	77
AZTEC MUNICIPAL SCHOOL DISTRICT	TELCOMM SERVICES	\$1,293.60	
AZTEC MUNICIPAL SCHOOL DISTRICT	TELCOMM SERVICES	\$11,041.80	
AZTEC MUNICIPAL SCHOOL DISTRICT	TELCOMM SERVICES	\$16,031.40	
AZTEC MUNICIPAL SCHOOL DISTRICT	TELCOMM SERVICES	\$6,144.60	
		\$46,523.40	
BELEN CONS SCHOOL DISTRICT	INTERNAL CONNECTIONS MNT	\$185,257.91	88
BELEN CONS SCHOOL DISTRICT	INTERNET ACCESS	\$10,175.62	
BELEN CONS SCHOOL DISTRICT	INTERNET ACCESS	\$42,664.62	
BELEN CONS SCHOOL DISTRICT	TELCOMM SERVICES	\$194,359.76	
BELEN CONS SCHOOL DISTRICT	TELCOMM SERVICES	\$12,357.73	
BELEN CONS SCHOOL DISTRICT	TELCOMM SERVICES	\$19,259.64	
BELEN CONS SCHOOL DISTRICT	TELCOMM SERVICES	\$19,900.00	
BELEN CONS SCHOOL DISTRICT	TELCOMM SERVICES	\$1,274.49	
BELEN CONS SCHOOL DISTRICT	TELCOMM SERVICES	\$2,948.25	
		\$488,198.02	
BERNALILLO PUBLIC SCHOOLS	INTERNAL CONNECTIONS MNT	\$24,206.65	89

BERNALILLO PUBLIC SCHOOLS	INTERNAL CONNECTIONS MNT	\$37,380.00	
BERNALILLO PUBLIC SCHOOLS	TELCOMM SERVICES	\$18,583.20	
BERNALILLO PUBLIC SCHOOLS	TELCOMM SERVICES	\$28,045.79	
BERNALILLO PUBLIC SCHOOLS	TELCOMM SERVICES	\$25,899.00	
BERNALILLO PUBLIC SCHOOLS	TELCOMM SERVICES	\$8,907.23	
BERNALILLO PUBLIC SCHOOLS	TELCOMM SERVICES	\$9,971.81	
BERNALILLO PUBLIC SCHOOLS	TELCOMM SERVICES	\$18,521.26	
BERNALILLO PUBLIC SCHOOLS	TELCOMM SERVICES	\$32,241.64	
BERNALILLO PUBLIC SCHOOLS	TELCOMM SERVICES	\$471.09	
BERNALILLO PUBLIC SCHOOLS	TELCOMM SERVICES	\$41,758.80	
		\$245,986.47	
BLOOMFIELD SCHOOL DISTRICT	INTERNET ACCESS	\$38,432.35	80
BLOOMFIELD SCHOOL DISTRICT	TELCOMM SERVICES	\$27,066.24	
BLOOMFIELD SCHOOL DISTRICT	TELCOMM SERVICES	\$17,275.20	
BLOOMFIELD SCHOOL DISTRICT	TELCOMM SERVICES	\$24,899.52	
		\$107,673.31	
CAPITAN MUNICIPAL SCHOOL DIS	INTERNET ACCESS	\$15,897.60	80
CAPITAN MUNICIPAL SCHOOL DIS	INTERNET ACCESS	\$1,382.40	
CAPITAN MUNICIPAL SCHOOL DIS	TELCOMM SERVICES	\$1,200.00	
CAPITAN MUNICIPAL SCHOOL DIS	TELCOMM SERVICES	\$1,056.00	
CAPITAN MUNICIPAL SCHOOL DIS	TELCOMM SERVICES	\$3,840.00	
		\$23,376.00	
CARLSBAD MUNICIPAL SCHOOL	INTERNET ACCESS	\$29,710.66	80
CARLSBAD MUNICIPAL SCHOOL	INTERNET ACCESS	\$10,405.15	
CARLSBAD MUNICIPAL SCHOOL	TELCOMM SERVICES	\$231,844.51	
CARLSBAD MUNICIPAL SCHOOL	TELCOMM SERVICES	\$3,595.39	
CARLSBAD MUNICIPAL SCHOOL	TELCOMM SERVICES	\$34,899.65	
		\$310,455.36	
CARRIZOZO MUNICIPAL SCHOOL	INTERNET ACCESS	\$2,159.46	90
CARRIZOZO MUNICIPAL SCHOOL	TELCOMM SERVICES	\$5,076.00	
		\$7,235.46	
CENTRAL CONS SCHOOL DIST 22	INTERNET ACCESS	\$45,876.22	86
CENTRAL CONS SCHOOL DIST 22	TELCOMM SERVICES	\$70,857.12	
CENTRAL CONS SCHOOL DIST 22	TELCOMM SERVICES	\$160,788.90	
CENTRAL CONS SCHOOL DIST 22	TELCOMM SERVICES	\$17,280.00	
CENTRAL CONS SCHOOL DIST 22	TELCOMM SERVICES	\$59,039.89	
CENTRAL CONS SCHOOL DIST 22	TELCOMM SERVICES	\$5,832.76	
CENTRAL CONS SCHOOL DIST 22	TELCOMM SERVICES	\$78,625.71	
		\$438,300.60	
CHAMA VALLEY INDEP SCHOOL D	INTERNAL CONNECTIONS	\$30,279.36	90
CHAMA VALLEY INDEP SCHOOL D	INTERNAL CONNECTIONS	\$49,980.52	
CHAMA VALLEY INDEP SCHOOL D	INTERNAL CONNECTIONS	\$21,526.19	
CHAMA VALLEY INDEP SCHOOL D	INTERNAL CONNECTIONS	\$37,229.24	
CHAMA VALLEY INDEP SCHOOL D	INTERNAL CONNECTIONS	\$90,893.69	
CHAMA VALLEY INDEP SCHOOL D	INTERNAL CONNECTIONS	\$84,472.95	
CHAMA VALLEY INDEP SCHOOL D	INTERNAL CONNECTIONS	\$36,678.80	

CHAMA VALLEY INDEP SCHOOL D	INTERNAL CONNECTIONS	\$49,571.40	
CHAMA VALLEY INDEP SCHOOL D	INTERNAL CONNECTIONS MNT	\$32,316.95	
CHAMA VALLEY INDEP SCHOOL D	INTERNAL CONNECTIONS MNT	\$22,302.76	
CHAMA VALLEY INDEP SCHOOL D	INTERNAL CONNECTIONS MNT	\$12,574.98	
		\$467,826.84	
CIMARRON MUN SCHOOL DISTRIK	INTERNET ACCESS	\$10,266.24	80
CIMARRON MUN SCHOOL DISTRIK	INTERNET ACCESS	\$24,405.98	
CIMARRON MUN SCHOOL DISTRIK	TELCOMM SERVICES	\$10,473.89	
CIMARRON MUN SCHOOL DISTRIK	TELCOMM SERVICES	\$1,056.58	
CIMARRON MUN SCHOOL DISTRIK	TELCOMM SERVICES	\$1,600.03	
CIMARRON MUN SCHOOL DISTRIK	TELCOMM SERVICES	\$2,464.42	
		\$50,267.14	
CLAYTON SCHOOL DISTRICT	INTERNAL CONNECTIONS MNT	\$5,800.61	80
CLAYTON SCHOOL DISTRICT	INTERNAL CONNECTIONS MNT	\$25,682.88	
CLAYTON SCHOOL DISTRICT	INTERNET ACCESS	\$5,860.32	
CLAYTON SCHOOL DISTRICT	TELCOMM SERVICES	\$2,465.28	
CLAYTON SCHOOL DISTRICT	TELCOMM SERVICES	\$2,256.00	
CLAYTON SCHOOL DISTRICT	TELCOMM SERVICES	\$5,504.26	
CLAYTON SCHOOL DISTRICT	TELCOMM SERVICES	\$11,145.41	
		\$58,714.76	
CLOUDCROFT MUN SCHOOL DIST	INTERNAL CONNECTIONS	\$28,059.70	80
CLOUDCROFT MUN SCHOOL DIST	INTERNAL CONNECTIONS MNT	\$34,149.70	
CLOUDCROFT MUN SCHOOL DIST	INTERNET ACCESS	\$2,447.81	
CLOUDCROFT MUN SCHOOL DIST	TELCOMM SERVICES	\$10,537.92	
		\$75,195.13	
CLOVIS MUNICIPAL SCHOOLS	INTERNAL CONNECTIONS	\$170,780.40	81
CLOVIS MUNICIPAL SCHOOLS	INTERNAL CONNECTIONS	\$149,339.01	
CLOVIS MUNICIPAL SCHOOLS	INTERNET ACCESS	\$26,137.50	
CLOVIS MUNICIPAL SCHOOLS	TELCOMM SERVICES	\$5,042.80	
CLOVIS MUNICIPAL SCHOOLS	TELCOMM SERVICES	\$67,542.15	
		\$418,841.86	
COBRE CONSOLIDATED SCHOOL	INTERNAL CONNECTIONS MNT	\$15,323.72	84
COBRE CONSOLIDATED SCHOOL	INTERNET ACCESS	\$37,763.01	
COBRE CONSOLIDATED SCHOOL	INTERNET ACCESS	\$7,731.36	
COBRE CONSOLIDATED SCHOOL	TELCOMM SERVICES	\$9,410.08	
COBRE CONSOLIDATED SCHOOL	TELCOMM SERVICES	\$1,423.09	
COBRE CONSOLIDATED SCHOOL	TELCOMM SERVICES	\$7,406.38	
COBRE CONSOLIDATED SCHOOL	TELCOMM SERVICES	\$5,634.82	
COBRE CONSOLIDATED SCHOOL	TELCOMM SERVICES	\$14,507.14	
COBRE CONSOLIDATED SCHOOL	TELCOMM SERVICES	\$6,048.00	
COBRE CONSOLIDATED SCHOOL	TELCOMM SERVICES	\$6,544.84	
COBRE CONSOLIDATED SCHOOL	TELCOMM SERVICES	\$4,668.25	
		\$116,460.69	
CORONA MUNICIPAL SCHOOL DIS	INTERNET ACCESS	\$2,390.78	80
CORONA MUNICIPAL SCHOOL DIS	TELCOMM SERVICES	\$3,095.42	
		\$5,486.20	

CUBA SCHOOL DISTRICT	INTERNAL CONNECTIONS	\$40,646.29	90
CUBA SCHOOL DISTRICT	INTERNAL CONNECTIONS	\$23,030.30	
CUBA SCHOOL DISTRICT	INTERNAL CONNECTIONS MNT	\$6,660.04	
CUBA SCHOOL DISTRICT	INTERNAL CONNECTIONS MNT	\$18,021.53	
CUBA SCHOOL DISTRICT	INTERNAL CONNECTIONS MNT	\$24,355.40	
CUBA SCHOOL DISTRICT	INTERNET ACCESS	\$17,452.80	
CUBA SCHOOL DISTRICT	TELCOMM SERVICES	\$4,672.40	
CUBA SCHOOL DISTRICT	TELCOMM SERVICES	\$5,918.40	
CUBA SCHOOL DISTRICT	TELCOMM SERVICES	\$1,927.58	
		\$142,684.74	

DEMING PUBLIC SCHOOL DISTRICT	INTERNAL CONNECTIONS MNT	\$21,535.06	85
DEMING PUBLIC SCHOOL DISTRICT	INTERNET ACCESS	\$50,439.00	
DEMING PUBLIC SCHOOL DISTRICT	INTERNET ACCESS	\$12,938.40	
DEMING PUBLIC SCHOOL DISTRICT	INTERNET ACCESS	\$7,234.99	
DEMING PUBLIC SCHOOL DISTRICT	INTERNET ACCESS	\$47,430.00	
DEMING PUBLIC SCHOOL DISTRICT	INTERNET ACCESS	\$12,938.40	
DEMING PUBLIC SCHOOL DISTRICT	INTERNET ACCESS	\$12,938.40	
DEMING PUBLIC SCHOOL DISTRICT	INTERNET ACCESS	\$23,414.40	
DEMING PUBLIC SCHOOL DISTRICT	INTERNET ACCESS	\$42,962.40	
DEMING PUBLIC SCHOOL DISTRICT	TELCOMM SERVICES	\$27,172.80	
DEMING PUBLIC SCHOOL DISTRICT	TELCOMM SERVICES	\$13,117.20	
DEMING PUBLIC SCHOOL DISTRICT	TELCOMM SERVICES	\$18,003.00	
DEMING PUBLIC SCHOOL DISTRICT	TELCOMM SERVICES	\$3,153.60	
DEMING PUBLIC SCHOOL DISTRICT	TELCOMM SERVICES	\$1,479.00	
		\$294,756.65	

DES MOINES MUNICIPAL SCHOOL	INTERNAL CONNECTIONS	\$701.03	84
DES MOINES MUNICIPAL SCHOOL	INTERNAL CONNECTIONS	\$255.36	
DES MOINES MUNICIPAL SCHOOL	INTERNAL CONNECTIONS	\$967.04	
DES MOINES MUNICIPAL SCHOOL	INTERNAL CONNECTIONS	\$585.06	
DES MOINES MUNICIPAL SCHOOL	INTERNAL CONNECTIONS	\$13,924.68	
DES MOINES MUNICIPAL SCHOOL	INTERNAL CONNECTIONS	\$13,346.42	
DES MOINES MUNICIPAL SCHOOL	INTERNAL CONNECTIONS MNT	\$2,383.92	
DES MOINES MUNICIPAL SCHOOL	INTERNAL CONNECTIONS MNT	\$2,926.63	
DES MOINES MUNICIPAL SCHOOL	INTERNET ACCESS	\$60.48	
DES MOINES MUNICIPAL SCHOOL	INTERNET ACCESS	\$4,536.00	
DES MOINES MUNICIPAL SCHOOL	TELCOMM SERVICES	\$1,209.60	
DES MOINES MUNICIPAL SCHOOL	TELCOMM SERVICES	\$40,138.96	
DES MOINES MUNICIPAL SCHOOL	TELCOMM SERVICES	\$1,612.80	
DES MOINES MUNICIPAL SCHOOL	TELCOMM SERVICES	\$1,562.40	
		\$84,210.38	

DEXTER SCHOOL DISTRICT	INTERNAL CONNECTIONS	\$623,538.89	90
DEXTER SCHOOL DISTRICT	INTERNAL CONNECTIONS	\$20,213.78	
DEXTER SCHOOL DISTRICT	INTERNAL CONNECTIONS MNT	\$50,378.22	
DEXTER SCHOOL DISTRICT	INTERNET ACCESS	\$2,280.74	
DEXTER SCHOOL DISTRICT	INTERNET ACCESS	\$12,037.84	
DEXTER SCHOOL DISTRICT	TELCOMM SERVICES	\$26,331.26	
DEXTER SCHOOL DISTRICT	TELCOMM SERVICES	\$8,302.50	
		\$743,083.23	

DORA CONS SCHOOL DISTRICT	INTERNAL CONNECTIONS	\$5,458.87	70
DORA CONS SCHOOL DISTRICT	INTERNAL CONNECTIONS	\$9,132.90	
DORA CONS SCHOOL DISTRICT	INTERNAL CONNECTIONS	\$9,132.90	
DORA CONS SCHOOL DISTRICT	INTERNAL CONNECTIONS MNT	\$437.05	
DORA CONS SCHOOL DISTRICT	INTERNAL CONNECTIONS MNT	\$18,118.80	
DORA CONS SCHOOL DISTRICT	INTERNET ACCESS	\$4,048.80	
DORA CONS SCHOOL DISTRICT	TELCOMM SERVICES	\$714.00	
DORA CONS SCHOOL DISTRICT	TELCOMM SERVICES	\$2,310.00	
DORA CONS SCHOOL DISTRICT	TELCOMM SERVICES	\$1,449.90	
		\$50,803.22	
DULCE SCHOOL DISTRICT	TELCOMM SERVICES	\$10,804.97	90
DULCE SCHOOL DISTRICT	TELCOMM SERVICES	\$4,947.70	
DULCE SCHOOL DISTRICT	TELCOMM SERVICES	\$71,141.44	
		\$86,894.11	
ELIDA MUNICIPAL SCHOOL DIST	INTERNAL CONNECTIONS MNT	\$18,371.25	71
ELIDA MUNICIPAL SCHOOL DIST	INTERNET ACCESS	\$4,132.20	
ELIDA MUNICIPAL SCHOOL DIST	INTERNET ACCESS	\$1,216.00	
ELIDA MUNICIPAL SCHOOL DIST	TELCOMM SERVICES	\$1,088.17	
ELIDA MUNICIPAL SCHOOL DIST	TELCOMM SERVICES	\$920.16	
		\$25,727.78	
ESPANOLA PUBLIC SCHOOL DIST	INTERNAL CONNECTIONS	\$133,783.60	84
ESPANOLA PUBLIC SCHOOL DIST	INTERNAL CONNECTIONS	\$6,128.74	
ESPANOLA PUBLIC SCHOOL DIST	INTERNAL CONNECTIONS	\$42,488.51	
ESPANOLA PUBLIC SCHOOL DIST	INTERNAL CONNECTIONS	\$1,325.92	
ESPANOLA PUBLIC SCHOOL DIST	INTERNAL CONNECTIONS	\$30,655.80	
ESPANOLA PUBLIC SCHOOL DIST	INTERNAL CONNECTIONS	\$102,295.44	
ESPANOLA PUBLIC SCHOOL DIST	INTERNAL CONNECTIONS	\$9,472.28	
ESPANOLA PUBLIC SCHOOL DIST	INTERNAL CONNECTIONS MNT	\$149,616.63	
ESPANOLA PUBLIC SCHOOL DIST	INTERNET ACCESS	\$30,168.23	
ESPANOLA PUBLIC SCHOOL DIST	INTERNET ACCESS	\$24,536.94	
ESPANOLA PUBLIC SCHOOL DIST	TELCOMM SERVICES	\$171,753.12	
ESPANOLA PUBLIC SCHOOL DIST	TELCOMM SERVICES	\$13,946.79	
ESPANOLA PUBLIC SCHOOL DIST	TELCOMM SERVICES	\$158,583.00	
ESPANOLA PUBLIC SCHOOL DIST	TELCOMM SERVICES	\$100,351.54	
ESPANOLA PUBLIC SCHOOL DIST	TELCOMM SERVICES	\$83,394.06	
		\$1,058,500.60	
ESTANCIA MUNICIPAL SCHOOL D	INTERNAL CONNECTIONS MNT	\$84,030.59	90
ESTANCIA MUNICIPAL SCHOOL D	INTERNET ACCESS	\$43,740.00	
ESTANCIA MUNICIPAL SCHOOL D	INTERNET ACCESS	\$4,801.68	
ESTANCIA MUNICIPAL SCHOOL D	TELCOMM SERVICES	\$15,552.00	
ESTANCIA MUNICIPAL SCHOOL D	TELCOMM SERVICES	\$121,932.00	
ESTANCIA MUNICIPAL SCHOOL D	TELCOMM SERVICES	\$1,080.00	
ESTANCIA MUNICIPAL SCHOOL D	TELCOMM SERVICES	\$1,561.79	
		\$272,698.06	
EUNICE PUBLIC SCHOOL DISTRIC	INTERNET ACCESS	\$13,850.76	77
EUNICE PUBLIC SCHOOL DISTRIC	TELCOMM SERVICES	\$2,703.72	

EUNICE PUBLIC SCHOOL DISTRICT TELCOMM SERVICES	\$7,161.00	
EUNICE PUBLIC SCHOOL DISTRICT TELCOMM SERVICES	\$9,685.37	
	\$33,400.85	
FARMINGTON MUNCPL SCH DIST TELCOMM SERVICES	\$149,604.84	77
FLOYD MUNICIPAL SCHOOL DIST INTERNAL CONNECTIONS MNT	\$24,055.70	90
FLOYD MUNICIPAL SCHOOL DIST INTERNET ACCESS	\$2,071.64	
FLOYD MUNICIPAL SCHOOL DIST INTERNET ACCESS	\$5,184.97	
FLOYD MUNICIPAL SCHOOL DIST TELCOMM SERVICES	\$1,773.79	
	\$33,086.10	
FORT SUMNER MUNICIPAL SCH D INTERNET ACCESS	\$3,555.09	77
FORT SUMNER MUNICIPAL SCH D INTERNET ACCESS	\$2,926.87	
FORT SUMNER MUNICIPAL SCH D INTERNET ACCESS	\$2,169.09	
FORT SUMNER MUNICIPAL SCH D TELCOMM SERVICES	\$1,983.46	
FORT SUMNER MUNICIPAL SCH D TELCOMM SERVICES	\$1,983.46	
FORT SUMNER MUNICIPAL SCH D TELCOMM SERVICES	\$1,929.31	
FORT SUMNER MUNICIPAL SCH D TELCOMM SERVICES	\$6,694.38	
FORT SUMNER MUNICIPAL SCH D TELCOMM SERVICES	\$1,523.86	
FORT SUMNER MUNICIPAL SCH D TELCOMM SERVICES	\$1,983.46	
	\$24,748.98	
GADSDEN I.S.D. INTERNAL CONNECTIONS	\$267,000.00	89
GADSDEN I.S.D. INTERNAL CONNECTIONS	\$241,015.99	
GADSDEN I.S.D. INTERNAL CONNECTIONS	\$185,956.64	
GADSDEN I.S.D. INTERNAL CONNECTIONS MNT	\$11,380.18	
GADSDEN I.S.D. INTERNAL CONNECTIONS MNT	\$177,109.96	
GADSDEN I.S.D. INTERNAL CONNECTIONS MNT	\$190,802.15	
GADSDEN I.S.D. INTERNAL CONNECTIONS MNT	\$150,871.45	
GADSDEN I.S.D. INTERNET ACCESS	\$49,213.44	
GADSDEN I.S.D. INTERNET ACCESS	\$69,977.41	
GADSDEN I.S.D. TELCOMM SERVICES	\$98,085.23	
GADSDEN I.S.D. TELCOMM SERVICES	\$2,197.84	
GADSDEN I.S.D. TELCOMM SERVICES	\$121,101.37	
GADSDEN I.S.D. TELCOMM SERVICES	\$930,740.64	
GADSDEN I.S.D. TELCOMM SERVICES	\$26,136.84	
GADSDEN I.S.D. TELCOMM SERVICES	\$57,659.18	
GADSDEN I.S.D. TELCOMM SERVICES	\$27,501.00	
GADSDEN I.S.D. TELCOMM SERVICES	\$181,578.05	
	\$2,788,327.37	
GALLUP-MCKINLEY CO SCHOOL [INTERNAL CONNECTIONS	\$107,171.73	90
GALLUP-MCKINLEY CO SCHOOL [INTERNAL CONNECTIONS MNT	\$880,241.26	
GALLUP-MCKINLEY CO SCHOOL [INTERNAL CONNECTIONS MNT	\$306,562.75	
GALLUP-MCKINLEY CO SCHOOL [INTERNET ACCESS	\$113,311.27	
GALLUP-MCKINLEY CO SCHOOL [INTERNET ACCESS	\$58,251.96	
GALLUP-MCKINLEY CO SCHOOL [TELCOMM SERVICES	\$77,696.67	
GALLUP-MCKINLEY CO SCHOOL [TELCOMM SERVICES	\$14,489.10	
GALLUP-MCKINLEY CO SCHOOL [TELCOMM SERVICES	\$3,538.40	
GALLUP-MCKINLEY CO SCHOOL [TELCOMM SERVICES	\$3,297.35	
GALLUP-MCKINLEY CO SCHOOL [TELCOMM SERVICES	\$578,082.31	

GALLUP-MCKINLEY CO SCHOOL [TELCOMM SERVICES	\$655,961.87	
GALLUP-MCKINLEY CO SCHOOL [TELCOMM SERVICES	\$50,392.69	
GALLUP-MCKINLEY CO SCHOOL [TELCOMM SERVICES	\$1,116,928.72	
GALLUP-MCKINLEY CO SCHOOL [TELCOMM SERVICES	\$93,308.23	
GALLUP-MCKINLEY CO SCHOOL [TELCOMM SERVICES	\$7,732.49	
	\$4,066,966.80	
GRADY MUNICIPAL SCHOOL DIST INTERNAL CONNECTIONS MNT	\$19,406.25	75
GRADY MUNICIPAL SCHOOL DIST INTERNET ACCESS	\$3,285.00	
GRADY MUNICIPAL SCHOOL DIST INTERNET ACCESS	\$1,342.14	
GRADY MUNICIPAL SCHOOL DIST TELCOMM SERVICES	\$1,620.00	
GRADY MUNICIPAL SCHOOL DIST TELCOMM SERVICES	\$450.00	
	\$26,103.39	
GRANTS-CIBOLA COUNTY SCHOC INTERNAL CONNECTIONS MNT	\$69,519.12	85
GRANTS-CIBOLA COUNTY SCHOC INTERNET ACCESS	\$10,375.34	
GRANTS-CIBOLA COUNTY SCHOC INTERNET ACCESS	\$57,864.60	
GRANTS-CIBOLA COUNTY SCHOC INTERNET ACCESS	\$5,100.00	
GRANTS-CIBOLA COUNTY SCHOC TELCOMM SERVICES	\$42,840.00	
GRANTS-CIBOLA COUNTY SCHOC TELCOMM SERVICES	\$312,665.90	
GRANTS-CIBOLA COUNTY SCHOC TELCOMM SERVICES	\$27,218.70	
GRANTS-CIBOLA COUNTY SCHOC TELCOMM SERVICES	\$51,569.47	
GRANTS-CIBOLA COUNTY SCHOC TELCOMM SERVICES	\$43,122.34	
GRANTS-CIBOLA COUNTY SCHOC TELCOMM SERVICES	\$10,200.00	
	\$630,475.47	
HAGERMAN MUNICIPAL SCHOOL INTERNET ACCESS	\$9,640.80	90
HAGERMAN MUNICIPAL SCHOOL TELCOMM SERVICES	\$11,648.70	
	\$21,289.50	
HATCH VALLEY PUBLIC SCHOOLS INTERNAL CONNECTIONS	\$128,028.51	90
HATCH VALLEY PUBLIC SCHOOLS INTERNAL CONNECTIONS	\$328,853.50	
HATCH VALLEY PUBLIC SCHOOLS INTERNAL CONNECTIONS	\$49,500.50	
HATCH VALLEY PUBLIC SCHOOLS INTERNAL CONNECTIONS	\$52,740.90	
HATCH VALLEY PUBLIC SCHOOLS INTERNAL CONNECTIONS	\$18,063.00	
HATCH VALLEY PUBLIC SCHOOLS INTERNAL CONNECTIONS	\$19,699.20	
HATCH VALLEY PUBLIC SCHOOLS INTERNAL CONNECTIONS MNT	\$14,694.26	
HATCH VALLEY PUBLIC SCHOOLS INTERNAL CONNECTIONS MNT	\$43,761.06	
HATCH VALLEY PUBLIC SCHOOLS INTERNAL CONNECTIONS MNT	\$17,753.04	
HATCH VALLEY PUBLIC SCHOOLS INTERNAL CONNECTIONS MNT	\$12,376.80	
HATCH VALLEY PUBLIC SCHOOLS INTERNET ACCESS	\$47,026.22	
HATCH VALLEY PUBLIC SCHOOLS INTERNET ACCESS	\$4,914.00	
HATCH VALLEY PUBLIC SCHOOLS TELCOMM SERVICES	\$810.00	
HATCH VALLEY PUBLIC SCHOOLS TELCOMM SERVICES	\$1,749.60	
HATCH VALLEY PUBLIC SCHOOLS TELCOMM SERVICES	\$13,076.53	
HATCH VALLEY PUBLIC SCHOOLS TELCOMM SERVICES	\$18,543.60	
HATCH VALLEY PUBLIC SCHOOLS TELCOMM SERVICES	\$5,395.57	
HATCH VALLEY PUBLIC SCHOOLS TELCOMM SERVICES	\$27,061.56	
	\$804,047.85	
HOBBS MUNICIPAL SCHOOL DIST INTERNAL CONNECTIONS	\$67,836.16	79
HOBBS MUNICIPAL SCHOOL DIST INTERNAL CONNECTIONS	\$77,826.99	

HOBBS MUNICIPAL SCHOOL DIST INTERNAL CONNECTIONS	\$87,928.56		
HOBBS MUNICIPAL SCHOOL DIST INTERNAL CONNECTIONS	\$6,448.73		
HOBBS MUNICIPAL SCHOOL DIST INTERNAL CONNECTIONS	\$6,448.73		
HOBBS MUNICIPAL SCHOOL DIST INTERNAL CONNECTIONS	\$9,761.63		
HOBBS MUNICIPAL SCHOOL DIST INTERNET ACCESS	\$18,486.00		
HOBBS MUNICIPAL SCHOOL DIST INTERNET ACCESS	\$40,880.13		
HOBBS MUNICIPAL SCHOOL DIST INTERNET ACCESS	\$2,271.41		
HOBBS MUNICIPAL SCHOOL DIST INTERNET ACCESS	\$11,034.72		
HOBBS MUNICIPAL SCHOOL DIST INTERNET ACCESS	\$2,271.41		
HOBBS MUNICIPAL SCHOOL DIST INTERNET ACCESS	\$18,486.00		
HOBBS MUNICIPAL SCHOOL DIST INTERNET ACCESS	\$40,880.13		
HOBBS MUNICIPAL SCHOOL DIST INTERNET ACCESS	\$11,034.72		
HOBBS MUNICIPAL SCHOOL DIST TELCOMM SERVICES	\$7,394.40		
HOBBS MUNICIPAL SCHOOL DIST TELCOMM SERVICES	\$109,522.44		
HOBBS MUNICIPAL SCHOOL DIST TELCOMM SERVICES	\$32,556.69		
HOBBS MUNICIPAL SCHOOL DIST TELCOMM SERVICES	\$7,394.40		
HOBBS MUNICIPAL SCHOOL DIST TELCOMM SERVICES	\$109,522.44		
HOBBS MUNICIPAL SCHOOL DIST TELCOMM SERVICES	\$32,556.69		
	\$700,542.38		
HONDO VALLEY SCHOOL DISTRIC INTERNET ACCESS	\$2,170.80	90	
HONDO VALLEY SCHOOL DISTRIC TELCOMM SERVICES	\$3,294.00		
HONDO VALLEY SCHOOL DISTRIC TELCOMM SERVICES	\$3,132.00		
	\$8,596.80		
HOUSE MUNICIPAL SCHOOL DIST INTERNAL CONNECTIONS	\$22,662.54	70	
HOUSE MUNICIPAL SCHOOL DIST INTERNAL CONNECTIONS	\$39,992.14		
HOUSE MUNICIPAL SCHOOL DIST INTERNAL CONNECTIONS MNT	\$18,112.50		
HOUSE MUNICIPAL SCHOOL DIST INTERNET ACCESS	\$1,342.32		
HOUSE MUNICIPAL SCHOOL DIST INTERNET ACCESS	\$3,360.00		
HOUSE MUNICIPAL SCHOOL DIST TELCOMM SERVICES	\$1,848.00		
HOUSE MUNICIPAL SCHOOL DIST TELCOMM SERVICES	\$1,092.00		
	\$88,409.50		
JAL PUBLIC SCHOOLS	INTERNAL CONNECTIONS	\$241,495.59	76
JAL PUBLIC SCHOOLS	INTERNAL CONNECTIONS	\$14,416.83	
JAL PUBLIC SCHOOLS	INTERNAL CONNECTIONS MNT	\$1,314.83	
JAL PUBLIC SCHOOLS	INTERNAL CONNECTIONS MNT	\$1,064.03	
JAL PUBLIC SCHOOLS	INTERNAL CONNECTIONS MNT	\$3,925.70	
JAL PUBLIC SCHOOLS	INTERNET ACCESS	\$621.98	
JAL PUBLIC SCHOOLS	INTERNET ACCESS	\$28,103.45	
JAL PUBLIC SCHOOLS	INTERNET ACCESS	\$4,674.85	
JAL PUBLIC SCHOOLS	TELCOMM SERVICES	\$6,952.18	
JAL PUBLIC SCHOOLS	TELCOMM SERVICES	\$18,627.42	
JAL PUBLIC SCHOOLS	TELCOMM SERVICES	\$9,021.96	
		\$330,218.82	
JEMEZ MOUNTAIN SCHOOL DIST . INTERNAL CONNECTIONS	\$75,040.92	90	
JEMEZ MOUNTAIN SCHOOL DIST . INTERNAL CONNECTIONS	\$25,153.30		
JEMEZ MOUNTAIN SCHOOL DIST . INTERNAL CONNECTIONS	\$33,726.50		
JEMEZ MOUNTAIN SCHOOL DIST . INTERNAL CONNECTIONS	\$47,828.21		
JEMEZ MOUNTAIN SCHOOL DIST . INTERNAL CONNECTIONS	\$49,594.93		

JEMEZ MOUNTAIN SCHOOL DIST .INTERNAL CONNECTIONS	\$56,628.97	
JEMEZ MOUNTAIN SCHOOL DIST .INTERNAL CONNECTIONS	\$59,577.18	
JEMEZ MOUNTAIN SCHOOL DIST .INTERNAL CONNECTIONS MNT	\$11,243.56	
JEMEZ MOUNTAIN SCHOOL DIST .INTERNAL CONNECTIONS MNT	\$11,046.24	
JEMEZ MOUNTAIN SCHOOL DIST .INTERNAL CONNECTIONS MNT	\$9,862.78	
JEMEZ MOUNTAIN SCHOOL DIST .INTERNET ACCESS	\$157,982.40	
JEMEZ MOUNTAIN SCHOOL DIST .INTERNET ACCESS	\$1,530.00	
JEMEZ MOUNTAIN SCHOOL DIST .TELCOMM SERVICES	\$1,814.08	
JEMEZ MOUNTAIN SCHOOL DIST .TELCOMM SERVICES	\$3,042.36	
JEMEZ MOUNTAIN SCHOOL DIST .TELCOMM SERVICES	\$4,590.00	
JEMEZ MOUNTAIN SCHOOL DIST .TELCOMM SERVICES	\$8,733.31	
	\$557,394.74	
JEMEZ VALLEY PUBLIC SCHOOLS INTERNAL CONNECTIONS MNT	\$4,835.70	90
JEMEZ VALLEY PUBLIC SCHOOLS INTERNAL CONNECTIONS MNT	\$30,078.97	
JEMEZ VALLEY PUBLIC SCHOOLS INTERNAL CONNECTIONS MNT	\$63,050.40	
JEMEZ VALLEY PUBLIC SCHOOLS INTERNET ACCESS	\$2,749.95	
JEMEZ VALLEY PUBLIC SCHOOLS INTERNET ACCESS	\$71,280.00	
JEMEZ VALLEY PUBLIC SCHOOLS INTERNET ACCESS	\$2,604.38	
JEMEZ VALLEY PUBLIC SCHOOLS INTERNET ACCESS	\$4,750.81	
JEMEZ VALLEY PUBLIC SCHOOLS TELCOMM SERVICES	\$1,728.00	
JEMEZ VALLEY PUBLIC SCHOOLS TELCOMM SERVICES	\$3,315.82	
JEMEZ VALLEY PUBLIC SCHOOLS TELCOMM SERVICES	\$14,288.40	
JEMEZ VALLEY PUBLIC SCHOOLS TELCOMM SERVICES	\$9,867.31	
	\$208,549.74	
LAKE ARTHUR MUNICIPAL SCHOC INTERNAL CONNECTIONS MNT	\$36,695.16	90
LAKE ARTHUR MUNICIPAL SCHOC INTERNET ACCESS	\$18,598.90	
LAKE ARTHUR MUNICIPAL SCHOC TELCOMM SERVICES	\$3,271.97	
LAKE ARTHUR MUNICIPAL SCHOC TELCOMM SERVICES	\$934.85	
	\$59,500.88	
LAS CRUCES PUBLIC SCHOOLS INTERNET ACCESS	\$73,854.03	79
LAS CRUCES PUBLIC SCHOOLS INTERNET ACCESS	\$28,411.96	
LAS CRUCES PUBLIC SCHOOLS INTERNET ACCESS	\$8,881.72	
LAS CRUCES PUBLIC SCHOOLS TELCOMM SERVICES	\$53,328.22	
LAS CRUCES PUBLIC SCHOOLS TELCOMM SERVICES	\$57,826.86	
LAS CRUCES PUBLIC SCHOOLS TELCOMM SERVICES	\$532,220.28	
LAS CRUCES PUBLIC SCHOOLS TELCOMM SERVICES	\$14,772.59	
LAS CRUCES PUBLIC SCHOOLS TELCOMM SERVICES	\$2,454.56	
LAS CRUCES PUBLIC SCHOOLS TELCOMM SERVICES	\$76,454.02	
LAS CRUCES PUBLIC SCHOOLS TELCOMM SERVICES	\$3,681.75	
	\$851,885.99	
LAS VEGAS CITY SCHOOL DISTRI INTERNAL CONNECTIONS	\$216,991.43	90
LAS VEGAS CITY SCHOOL DISTRI INTERNAL CONNECTIONS	\$57,647.01	
LAS VEGAS CITY SCHOOL DISTRI INTERNAL CONNECTIONS	\$130,919.22	
LAS VEGAS CITY SCHOOL DISTRI INTERNAL CONNECTIONS	\$77,404.55	
LAS VEGAS CITY SCHOOL DISTRI INTERNAL CONNECTIONS	\$123,102.32	
LAS VEGAS CITY SCHOOL DISTRI INTERNAL CONNECTIONS MNT	\$112,006.80	
LAS VEGAS CITY SCHOOL DISTRI INTERNAL CONNECTIONS MNT	\$5,370.30	
LAS VEGAS CITY SCHOOL DISTRI INTERNET ACCESS	\$41,543.66	

LAS VEGAS CITY SCHOOL DISTRICT	TELCOMM SERVICES	\$47,469.96	
LAS VEGAS CITY SCHOOL DISTRICT	TELCOMM SERVICES	\$893.41	
LAS VEGAS CITY SCHOOL DISTRICT	TELCOMM SERVICES	\$220,869.52	
LAS VEGAS CITY SCHOOL DISTRICT	TELCOMM SERVICES	\$16,345.56	
LAS VEGAS CITY SCHOOL DISTRICT	TELCOMM SERVICES	\$20,148.88	
LAS VEGAS CITY SCHOOL DISTRICT	TELCOMM SERVICES	\$2,779.38	
		\$1,073,492.00	
LAS VEGAS WEST SCHOOL DISTRICT	INTERNAL CONNECTIONS	\$76,110.59	90
LAS VEGAS WEST SCHOOL DISTRICT	INTERNAL CONNECTIONS	\$13,418.46	
LAS VEGAS WEST SCHOOL DISTRICT	INTERNAL CONNECTIONS	\$234,939.56	
LAS VEGAS WEST SCHOOL DISTRICT	INTERNAL CONNECTIONS MNT	\$91,800.00	
LAS VEGAS WEST SCHOOL DISTRICT	INTERNET ACCESS	\$8,743.50	
LAS VEGAS WEST SCHOOL DISTRICT	INTERNET ACCESS	\$8,640.00	
LAS VEGAS WEST SCHOOL DISTRICT	INTERNET ACCESS	\$9,450.00	
LAS VEGAS WEST SCHOOL DISTRICT	INTERNET ACCESS	\$14,168.41	
LAS VEGAS WEST SCHOOL DISTRICT	INTERNET ACCESS	\$31,114.80	
LAS VEGAS WEST SCHOOL DISTRICT	INTERNET ACCESS	\$38,394.00	
LAS VEGAS WEST SCHOOL DISTRICT	TELCOMM SERVICES	\$37,183.64	
LAS VEGAS WEST SCHOOL DISTRICT	TELCOMM SERVICES	\$17,827.34	
LAS VEGAS WEST SCHOOL DISTRICT	TELCOMM SERVICES	\$18,360.00	
LAS VEGAS WEST SCHOOL DISTRICT	TELCOMM SERVICES	\$84,240.00	
LAS VEGAS WEST SCHOOL DISTRICT	TELCOMM SERVICES	\$19,440.00	
LAS VEGAS WEST SCHOOL DISTRICT	TELCOMM SERVICES	\$116,164.80	
LAS VEGAS WEST SCHOOL DISTRICT	TELCOMM SERVICES	\$5,453.57	
		\$825,448.67	
LDOE DISTRICT	INTERNAL CONNECTIONS MNT	\$5,899.39	90
LDOE DISTRICT	INTERNAL CONNECTIONS MNT	\$34,793.71	
LDOE DISTRICT	INTERNET ACCESS	\$61,014.60	
LDOE DISTRICT	INTERNET ACCESS	\$2,700.00	
LDOE DISTRICT	INTERNET ACCESS	\$1,834.16	
LDOE DISTRICT	TELCOMM SERVICES	\$23,240.30	
LDOE DISTRICT	TELCOMM SERVICES	\$36,636.08	
		\$166,118.24	
LOGAN MUNICIPAL SCHOOL DISTRICT	INTERNAL CONNECTIONS	\$37,534.01	80
LOGAN MUNICIPAL SCHOOL DISTRICT	INTERNAL CONNECTIONS	\$12,783.10	
LOGAN MUNICIPAL SCHOOL DISTRICT	INTERNAL CONNECTIONS MNT	\$20,700.00	
LOGAN MUNICIPAL SCHOOL DISTRICT	INTERNET ACCESS	\$3,552.00	
LOGAN MUNICIPAL SCHOOL DISTRICT	INTERNET ACCESS	\$2,353.76	
LOGAN MUNICIPAL SCHOOL DISTRICT	TELCOMM SERVICES	\$2,880.00	
LOGAN MUNICIPAL SCHOOL DISTRICT	TELCOMM SERVICES	\$1,680.00	
LOGAN MUNICIPAL SCHOOL DISTRICT	TELCOMM SERVICES	\$4,080.00	
LOGAN MUNICIPAL SCHOOL DISTRICT	TELCOMM SERVICES	\$2,976.00	
		\$88,538.87	
LORDBURG MUNICIPAL SCHOOL DISTRICT	INTERNAL CONNECTIONS	\$135,663.06	85
LORDBURG MUNICIPAL SCHOOL DISTRICT	INTERNAL CONNECTIONS MNT	\$19,427.33	
LORDBURG MUNICIPAL SCHOOL DISTRICT	INTERNET ACCESS	\$34,957.34	
LORDBURG MUNICIPAL SCHOOL DISTRICT	TELCOMM SERVICES	\$3,084.48	
LORDBURG MUNICIPAL SCHOOL DISTRICT	TELCOMM SERVICES	\$14,193.40	

LORDSBURG MUNICIPAL SCHOOL	TELCOMM SERVICES	\$33,769.96	
		\$241,095.57	
LOS ALAMOS PUBLIC SCHOOLS	INTERNET ACCESS	\$14,304.00	40
LOS ALAMOS PUBLIC SCHOOLS	INTERNET ACCESS	\$3,900.00	
LOS ALAMOS PUBLIC SCHOOLS	TELCOMM SERVICES	\$10,656.00	
LOS ALAMOS PUBLIC SCHOOLS	TELCOMM SERVICES	\$11,280.00	
LOS ALAMOS PUBLIC SCHOOLS	TELCOMM SERVICES	\$12,936.00	
LOS ALAMOS PUBLIC SCHOOLS	TELCOMM SERVICES	\$1,320.00	
LOS ALAMOS PUBLIC SCHOOLS	TELCOMM SERVICES	\$8,616.00	
LOS ALAMOS PUBLIC SCHOOLS	TELCOMM SERVICES	\$44,760.00	
LOS ALAMOS PUBLIC SCHOOLS	TELCOMM SERVICES	\$1,200.00	
LOS ALAMOS PUBLIC SCHOOLS	TELCOMM SERVICES	\$29,040.00	
		\$138,012.00	
LOS LUNAS SCHOOL DISTRICT	INTERNAL CONNECTIONS	\$634,173.10	84
LOS LUNAS SCHOOL DISTRICT	INTERNAL CONNECTIONS	\$179,903.40	
LOS LUNAS SCHOOL DISTRICT	INTERNET ACCESS	\$10,319.40	
LOS LUNAS SCHOOL DISTRICT	INTERNET ACCESS	\$47,772.75	
LOS LUNAS SCHOOL DISTRICT	TELCOMM SERVICES	\$348,825.36	
LOS LUNAS SCHOOL DISTRICT	TELCOMM SERVICES	\$345,921.81	
LOS LUNAS SCHOOL DISTRICT	TELCOMM SERVICES	\$2,806.17	
LOS LUNAS SCHOOL DISTRICT	TELCOMM SERVICES	\$47,711.46	
LOS LUNAS SCHOOL DISTRICT	TELCOMM SERVICES	\$100,445.49	
		\$1,717,878.94	
LOVING MUNICIPAL SCHOOL DIST	INTERNAL CONNECTIONS	\$126,659.46	90
LOVING MUNICIPAL SCHOOL DIST	INTERNAL CONNECTIONS	\$3,742.45	
LOVING MUNICIPAL SCHOOL DIST	INTERNAL CONNECTIONS	\$37,052.20	
LOVING MUNICIPAL SCHOOL DIST	INTERNAL CONNECTIONS MNT	\$18,776.99	
LOVING MUNICIPAL SCHOOL DIST	INTERNET ACCESS	\$13,424.40	
LOVING MUNICIPAL SCHOOL DIST	TELCOMM SERVICES	\$1,279.26	
LOVING MUNICIPAL SCHOOL DIST	TELCOMM SERVICES	\$6,224.04	
LOVING MUNICIPAL SCHOOL DIST	TELCOMM SERVICES	\$454.68	
		\$207,613.48	
LOVINGTON MUN SCHOOL DIST 3	INTERNET ACCESS	\$97,929.00	81
LOVINGTON MUN SCHOOL DIST 3	INTERNET ACCESS	\$8,281.44	
LOVINGTON MUN SCHOOL DIST 3	INTERNET ACCESS	\$1,215.00	
LOVINGTON MUN SCHOOL DIST 3	INTERNET ACCESS	\$60.75	
LOVINGTON MUN SCHOOL DIST 3	INTERNET ACCESS	\$15,260.40	
LOVINGTON MUN SCHOOL DIST 3	INTERNET ACCESS	\$405.00	
LOVINGTON MUN SCHOOL DIST 3	INTERNET ACCESS	\$6,627.27	
LOVINGTON MUN SCHOOL DIST 3	INTERNET ACCESS	\$5,386.50	
LOVINGTON MUN SCHOOL DIST 3	INTERNET ACCESS	\$1,579.50	
LOVINGTON MUN SCHOOL DIST 3	INTERNET ACCESS	\$6,399.00	
LOVINGTON MUN SCHOOL DIST 3	INTERNET ACCESS	\$1,151.63	
LOVINGTON MUN SCHOOL DIST 3	INTERNET ACCESS	\$358.67	
LOVINGTON MUN SCHOOL DIST 3	TELCOMM SERVICES	\$1,944.00	
LOVINGTON MUN SCHOOL DIST 3	TELCOMM SERVICES	\$218.70	
LOVINGTON MUN SCHOOL DIST 3	TELCOMM SERVICES	\$855.36	
LOVINGTON MUN SCHOOL DIST 3	TELCOMM SERVICES	\$855.36	

LOVINGTON MUN SCHOOL DIST 3 TELCOMM SERVICES	\$48.60	
LOVINGTON MUN SCHOOL DIST 3 TELCOMM SERVICES	\$2,113.52	
LOVINGTON MUN SCHOOL DIST 3 TELCOMM SERVICES	\$640.94	
LOVINGTON MUN SCHOOL DIST 3 TELCOMM SERVICES	\$4,738.50	
LOVINGTON MUN SCHOOL DIST 3 TELCOMM SERVICES	\$52,590.06	
	\$208,659.20	
MAGDALENA MUNICIPAL SCHOOL INTERNAL CONNECTIONS	\$464,674.81	90
MAGDALENA MUNICIPAL SCHOOL INTERNAL CONNECTIONS	\$54,004.01	
MAGDALENA MUNICIPAL SCHOOL INTERNAL CONNECTIONS	\$12,799.42	
MAGDALENA MUNICIPAL SCHOOL INTERNAL CONNECTIONS	\$56,098.16	
MAGDALENA MUNICIPAL SCHOOL INTERNAL CONNECTIONS	\$194,358.14	
MAGDALENA MUNICIPAL SCHOOL INTERNAL CONNECTIONS MNT	\$26,475.44	
MAGDALENA MUNICIPAL SCHOOL INTERNET ACCESS	\$19,913.23	
MAGDALENA MUNICIPAL SCHOOL INTERNET ACCESS	\$7,695.00	
MAGDALENA MUNICIPAL SCHOOL INTERNET ACCESS	\$4,240.15	
MAGDALENA MUNICIPAL SCHOOL TELCOMM SERVICES	\$660.10	
MAGDALENA MUNICIPAL SCHOOL TELCOMM SERVICES	\$15,489.58	
MAGDALENA MUNICIPAL SCHOOL TELCOMM SERVICES	\$6,548.69	
	\$862,956.73	
MAXWELL MUNICIPAL SCHOOL DI INTERNAL CONNECTIONS MNT	\$24,032.54	80
MAXWELL MUNICIPAL SCHOOL DI INTERNET ACCESS	\$4,243.20	
MAXWELL MUNICIPAL SCHOOL DI TELCOMM SERVICES	\$3,013.63	
MAXWELL MUNICIPAL SCHOOL DI TELCOMM SERVICES	\$851.52	
MAXWELL MUNICIPAL SCHOOL DI TELCOMM SERVICES	\$1,122.24	
	\$33,263.13	
MELROSE MUNICIPAL SCHOOL DI INTERNAL CONNECTIONS MNT	\$19,665.00	76
MELROSE MUNICIPAL SCHOOL DI INTERNET ACCESS	\$1,652.05	
MELROSE MUNICIPAL SCHOOL DI INTERNET ACCESS	\$4,704.55	
MELROSE MUNICIPAL SCHOOL DI TELCOMM SERVICES	\$1,331.52	
MELROSE MUNICIPAL SCHOOL DI TELCOMM SERVICES	\$2,420.45	
MELROSE MUNICIPAL SCHOOL DI TELCOMM SERVICES	\$4,959.00	
	\$34,732.57	
MESA VISTA CONS SCHOOL DIST INTERNET ACCESS	\$3,519.42	81
MESA VISTA CONS SCHOOL DIST INTERNET ACCESS	\$13,015.08	
MESA VISTA CONS SCHOOL DIST TELCOMM SERVICES	\$74,496.02	
MESA VISTA CONS SCHOOL DIST TELCOMM SERVICES	\$2,803.44	
MESA VISTA CONS SCHOOL DIST TELCOMM SERVICES	\$21,521.99	
	\$115,355.95	
MESCALERO APACHE SCHOOL DI INTERNAL CONNECTIONS	\$73,893.95	90
MESCALERO APACHE SCHOOL DI INTERNAL CONNECTIONS	\$29,276.33	
MESCALERO APACHE SCHOOL DI INTERNAL CONNECTIONS	\$13,043.31	
MESCALERO APACHE SCHOOL DI INTERNAL CONNECTIONS	\$66,342.60	
MESCALERO APACHE SCHOOL DI INTERNAL CONNECTIONS	\$76,951.23	
MESCALERO APACHE SCHOOL DI INTERNAL CONNECTIONS	\$66,342.60	
MESCALERO APACHE SCHOOL DI INTERNAL CONNECTIONS	\$58,791.26	
MESCALERO APACHE SCHOOL DI INTERNAL CONNECTIONS	\$62,976.37	
MESCALERO APACHE SCHOOL DI INTERNAL CONNECTIONS	\$66,342.60	

MESCALERO APACHE SCHOOL DIINTERNAL CONNECTIONS	\$49,594.93	
MESCALERO APACHE SCHOOL DIINTERNAL CONNECTIONS	\$58,791.26	
MESCALERO APACHE SCHOOL DIINTERNAL CONNECTIONS MNT	\$14,842.98	
MESCALERO APACHE SCHOOL DIINTERNAL CONNECTIONS MNT	\$29,295.32	
MESCALERO APACHE SCHOOL DIINTERNAL CONNECTIONS MNT	\$21,873.89	
	\$688,358.63	
MORA INDEP SCHOOL DISTRICT INTERNAL CONNECTIONS MNT	\$69,364.84	90
MORA INDEP SCHOOL DISTRICT INTERNET ACCESS	\$28,131.62	
MORA INDEP SCHOOL DISTRICT TELCOMM SERVICES	\$26,812.51	
	\$124,308.97	
MORIARTY MUN SCHOOL DIST 81 INTERNET ACCESS	\$39,705.12	78
MORIARTY MUN SCHOOL DIST 81 TELCOMM SERVICES	\$40,102.92	
MORIARTY MUN SCHOOL DIST 81 TELCOMM SERVICES	\$4,698.25	
MORIARTY MUN SCHOOL DIST 81 TELCOMM SERVICES	\$2,375.57	
MORIARTY MUN SCHOOL DIST 81 TELCOMM SERVICES	\$18,720.00	
MORIARTY MUN SCHOOL DIST 81 TELCOMM SERVICES	\$2,375.57	
MORIARTY MUN SCHOOL DIST 81 TELCOMM SERVICES	\$4,698.25	
MORIARTY MUN SCHOOL DIST 81 TELCOMM SERVICES	\$13,020.13	
MORIARTY MUN SCHOOL DIST 81 TELCOMM SERVICES	\$2,375.57	
MORIARTY MUN SCHOOL DIST 81 TELCOMM SERVICES	\$2,375.57	
MORIARTY MUN SCHOOL DIST 81 TELCOMM SERVICES	\$4,651.55	
MORIARTY MUN SCHOOL DIST 81 TELCOMM SERVICES	\$373.18	
MORIARTY MUN SCHOOL DIST 81 TELCOMM SERVICES	\$6,374.44	
MORIARTY MUN SCHOOL DIST 81 TELCOMM SERVICES	\$3,851.36	
	\$145,697.48	
MOUNTAINAIR PUBLIC SCH DIST INTERNAL CONNECTIONS MNT	\$7,689.43	84
MOUNTAINAIR PUBLIC SCH DIST INTERNAL CONNECTIONS MNT	\$4,523.40	
MOUNTAINAIR PUBLIC SCH DIST INTERNAL CONNECTIONS MNT	\$6,784.65	
MOUNTAINAIR PUBLIC SCH DIST INTERNAL CONNECTIONS MNT	\$19,538.77	
MOUNTAINAIR PUBLIC SCH DIST INTERNET ACCESS	\$907.20	
MOUNTAINAIR PUBLIC SCH DIST TELCOMM SERVICES	\$1,512.00	
MOUNTAINAIR PUBLIC SCH DIST TELCOMM SERVICES	\$1,159.20	
MOUNTAINAIR PUBLIC SCH DIST TELCOMM SERVICES	\$7,156.80	
	\$49,271.45	
NEW MEXICO PUBLIC SCHOOLS FINTERNET ACCESS	\$44,405.47	80
NEW MEXICO PUBLIC SCHOOLS FINTERNET ACCESS	\$1,078.08	
NEW MEXICO PUBLIC SCHOOLS FTELCOMM SERVICES	\$18,749.57	
NEW MEXICO PUBLIC SCHOOLS FTELCOMM SERVICES	\$6,571.01	
NEW MEXICO PUBLIC SCHOOLS FTELCOMM SERVICES	\$196.99	
NEW MEXICO PUBLIC SCHOOLS FTELCOMM SERVICES	\$2,291.71	
NEW MEXICO PUBLIC SCHOOLS FTELCOMM SERVICES	\$5,019.26	
	\$78,312.09	
PECOS INDEPENDENT SCHOOL DINTERNAL CONNECTIONS MNT	\$60,125.87	90
PECOS INDEPENDENT SCHOOL DINTERNET ACCESS	\$28,922.40	
PECOS INDEPENDENT SCHOOL DINTERNET ACCESS	\$2,797.20	
PECOS INDEPENDENT SCHOOL DTELCOMM SERVICES	\$10,737.25	
PECOS INDEPENDENT SCHOOL DTELCOMM SERVICES	\$9,047.27	

PECOS INDEPENDENT SCHOOL D TELCOMM SERVICES		\$7,319.59	
		\$118,949.58	
POJOAQUE VALLEY PUBLIC SCHC INTERNET ACCESS		\$40,766.40	76
POJOAQUE VALLEY PUBLIC SCHC TELCOMM SERVICES		\$6,193.57	
POJOAQUE VALLEY PUBLIC SCHC TELCOMM SERVICES		\$35,522.40	
		\$82,482.37	
PORTALES MUNICIPAL SCHOOLS INTERNAL CONNECTIONS MNT		\$11,812.80	74
PORTALES MUNICIPAL SCHOOLS INTERNAL CONNECTIONS MNT		\$10,417.54	
PORTALES MUNICIPAL SCHOOLS INTERNAL CONNECTIONS MNT		\$8,059.21	
PORTALES MUNICIPAL SCHOOLS INTERNAL CONNECTIONS MNT		\$16,489.80	
PORTALES MUNICIPAL SCHOOLS INTERNAL CONNECTIONS MNT		\$23,557.15	
PORTALES MUNICIPAL SCHOOLS INTERNAL CONNECTIONS MNT		\$24,276.59	
PORTALES MUNICIPAL SCHOOLS INTERNAL CONNECTIONS MNT		\$15,048.48	
PORTALES MUNICIPAL SCHOOLS TELCOMM SERVICES		\$2,619.60	
PORTALES MUNICIPAL SCHOOLS TELCOMM SERVICES		\$11,011.20	
PORTALES MUNICIPAL SCHOOLS TELCOMM SERVICES		\$39,072.00	
PORTALES MUNICIPAL SCHOOLS TELCOMM SERVICES		\$10,656.00	
		\$173,020.37	
QUEMADO SCHOOL DISTRICT INTERNAL CONNECTIONS		\$7,208.72	85
QUEMADO SCHOOL DISTRICT INTERNET ACCESS		\$25,338.02	
QUEMADO SCHOOL DISTRICT TELCOMM SERVICES		\$700.54	
QUEMADO SCHOOL DISTRICT TELCOMM SERVICES		\$336.60	
QUEMADO SCHOOL DISTRICT TELCOMM SERVICES		\$5,086.74	
		\$38,670.62	
QUESTA INDEPENDENT SCHOOL INTERNAL CONNECTIONS		\$69,838.97	85
QUESTA INDEPENDENT SCHOOL INTERNAL CONNECTIONS		\$13,381.61	
QUESTA INDEPENDENT SCHOOL INTERNAL CONNECTIONS		\$41,112.72	
QUESTA INDEPENDENT SCHOOL INTERNAL CONNECTIONS		\$171,098.38	
QUESTA INDEPENDENT SCHOOL INTERNAL CONNECTIONS		\$67,299.80	
QUESTA INDEPENDENT SCHOOL INTERNAL CONNECTIONS MNT		\$37,259.27	
QUESTA INDEPENDENT SCHOOL INTERNET ACCESS		\$12,401.87	
QUESTA INDEPENDENT SCHOOL TELCOMM SERVICES		\$1,655.26	
QUESTA INDEPENDENT SCHOOL TELCOMM SERVICES		\$9,287.71	
QUESTA INDEPENDENT SCHOOL TELCOMM SERVICES		\$398.00	
QUESTA INDEPENDENT SCHOOL TELCOMM SERVICES		\$17,913.85	
QUESTA INDEPENDENT SCHOOL TELCOMM SERVICES		\$2,618.85	
		\$444,266.29	
RATON PUBLIC SHOOLS INTERNAL CONNECTIONS		\$186,378.34	80
RATON PUBLIC SHOOLS INTERNAL CONNECTIONS MNT		\$25,687.78	
RATON PUBLIC SHOOLS INTERNAL CONNECTIONS MNT		\$10,210.46	
RATON PUBLIC SHOOLS INTERNET ACCESS		\$70,975.39	
RATON PUBLIC SHOOLS INTERNET ACCESS		\$10,652.08	
RATON PUBLIC SHOOLS TELCOMM SERVICES		\$288.00	
RATON PUBLIC SHOOLS TELCOMM SERVICES		\$20,388.67	
		\$324,580.72	
RESERVE INDEPENDENT SCHOOL INTERNAL CONNECTIONS		\$58,808.63	90

RESERVE INDEPENDENT SCHOOL DISTRICT	INTERNAL CONNECTIONS MNT	\$144,509.18	
RESERVE INDEPENDENT SCHOOL DISTRICT	INTERNET ACCESS	\$39,628.66	
RESERVE INDEPENDENT SCHOOL DISTRICT	TELCOMM SERVICES	\$3,561.52	
RESERVE INDEPENDENT SCHOOL DISTRICT	TELCOMM SERVICES	\$1,475.60	
RESERVE INDEPENDENT SCHOOL DISTRICT	TELCOMM SERVICES	\$5,552.28	
		\$253,535.87	
RIO RANCHO PUBLIC SCHOOL DISTRICT	INTERNET ACCESS	\$14,155.05	61
RIO RANCHO PUBLIC SCHOOL DISTRICT	INTERNET ACCESS	\$55,287.96	
RIO RANCHO PUBLIC SCHOOL DISTRICT	TELCOMM SERVICES	\$2,986.56	
RIO RANCHO PUBLIC SCHOOL DISTRICT	TELCOMM SERVICES	\$189,861.26	
RIO RANCHO PUBLIC SCHOOL DISTRICT	TELCOMM SERVICES	\$1,481.49	
RIO RANCHO PUBLIC SCHOOL DISTRICT	TELCOMM SERVICES	\$12,305.51	
RIO RANCHO PUBLIC SCHOOL DISTRICT	TELCOMM SERVICES	\$91,617.12	
		\$367,694.95	
ROSWELL INDEPENDENT SCHOOL DISTRICT	INTERNAL CONNECTIONS MNT	\$13,770.00	85
ROSWELL INDEPENDENT SCHOOL DISTRICT	INTERNET ACCESS	\$13,931.57	
ROSWELL INDEPENDENT SCHOOL DISTRICT	TELCOMM SERVICES	\$91,703.81	
ROSWELL INDEPENDENT SCHOOL DISTRICT	TELCOMM SERVICES	\$4,683.23	
ROSWELL INDEPENDENT SCHOOL DISTRICT	TELCOMM SERVICES	\$157,080.00	
		\$281,168.61	
ROY MUNICIPAL SCHOOLS	INTERNAL CONNECTIONS MNT	\$37,584.00	80
ROY MUNICIPAL SCHOOLS	INTERNAL CONNECTIONS MNT	\$4,111.67	
ROY MUNICIPAL SCHOOLS	INTERNAL CONNECTIONS MNT	\$44,992.80	
ROY MUNICIPAL SCHOOLS	INTERNET ACCESS	\$115,020.00	
ROY MUNICIPAL SCHOOLS	INTERNET ACCESS	\$115,020.00	
ROY MUNICIPAL SCHOOLS	INTERNET ACCESS	\$3,600.00	
ROY MUNICIPAL SCHOOLS	INTERNET ACCESS	\$8,313.84	
ROY MUNICIPAL SCHOOLS	INTERNET ACCESS	\$3,600.00	
ROY MUNICIPAL SCHOOLS	TELCOMM SERVICES	\$972.00	
ROY MUNICIPAL SCHOOLS	TELCOMM SERVICES	\$1,132.38	
ROY MUNICIPAL SCHOOLS	TELCOMM SERVICES	\$3,600.29	
ROY MUNICIPAL SCHOOLS	TELCOMM SERVICES	\$2,401.81	
ROY MUNICIPAL SCHOOLS	TELCOMM SERVICES	\$1,308.53	
		\$341,657.32	
RUIDOSO MUNICIPAL SCHOOL DISTRICT	INTERNAL CONNECTIONS	\$248,608.46	85
RUIDOSO MUNICIPAL SCHOOL DISTRICT	INTERNAL CONNECTIONS	\$161,649.53	
RUIDOSO MUNICIPAL SCHOOL DISTRICT	INTERNAL CONNECTIONS	\$143,961.81	
RUIDOSO MUNICIPAL SCHOOL DISTRICT	INTERNAL CONNECTIONS	\$17,951.00	
RUIDOSO MUNICIPAL SCHOOL DISTRICT	INTERNET ACCESS	\$49,227.75	
RUIDOSO MUNICIPAL SCHOOL DISTRICT	TELCOMM SERVICES	\$14,818.46	
RUIDOSO MUNICIPAL SCHOOL DISTRICT	TELCOMM SERVICES	\$23,513.55	
RUIDOSO MUNICIPAL SCHOOL DISTRICT	TELCOMM SERVICES	\$2,407.20	
		\$662,137.76	
SAN JON MUNICIPAL SCHOOL DISTRICT	INTERNAL CONNECTIONS	\$9,258.75	80
SAN JON MUNICIPAL SCHOOL DISTRICT	INTERNAL CONNECTIONS	\$26,543.50	
SAN JON MUNICIPAL SCHOOL DISTRICT	INTERNAL CONNECTIONS	\$4,650.00	
SAN JON MUNICIPAL SCHOOL DISTRICT	INTERNAL CONNECTIONS MNT	\$20,700.00	

SAN JON MUNICIPAL SCHOOL DIS	INTERNET ACCESS	\$1,636.54	
SAN JON MUNICIPAL SCHOOL DIS	TELCOMM SERVICES	\$7,843.39	
		\$70,632.18	
SANTA FE SCHOOL DISTRICT	INTERNET ACCESS	\$21,508.12	82
SANTA FE SCHOOL DISTRICT	INTERNET ACCESS	\$7,859.50	
SANTA FE SCHOOL DISTRICT	INTERNET ACCESS	\$66,998.59	
SANTA FE SCHOOL DISTRICT	TELCOMM SERVICES	\$40,134.60	
SANTA FE SCHOOL DISTRICT	TELCOMM SERVICES	\$76,778.47	
SANTA FE SCHOOL DISTRICT	TELCOMM SERVICES	\$60,831.27	
SANTA FE SCHOOL DISTRICT	TELCOMM SERVICES	\$250,329.40	
SANTA FE SCHOOL DISTRICT	TELCOMM SERVICES	\$3,394.11	
SANTA FE SCHOOL DISTRICT	TELCOMM SERVICES	\$76,414.88	
SANTA FE SCHOOL DISTRICT	TELCOMM SERVICES	\$469,418.28	
		\$1,073,667.22	
SANTA ROSA CONSOLIDATED SC	INTERNAL CONNECTIONS	\$46,917.03	90
SANTA ROSA CONSOLIDATED SC	INTERNAL CONNECTIONS	\$153,080.40	
SANTA ROSA CONSOLIDATED SC	INTERNAL CONNECTIONS	\$64,511.42	
SANTA ROSA CONSOLIDATED SC	INTERNAL CONNECTIONS	\$88,928.45	
SANTA ROSA CONSOLIDATED SC	INTERNAL CONNECTIONS	\$51,478.70	
SANTA ROSA CONSOLIDATED SC	INTERNAL CONNECTIONS	\$51,667.46	
SANTA ROSA CONSOLIDATED SC	INTERNAL CONNECTIONS	\$51,667.46	
SANTA ROSA CONSOLIDATED SC	INTERNAL CONNECTIONS	\$51,068.83	
SANTA ROSA CONSOLIDATED SC	INTERNAL CONNECTIONS	\$40,502.31	
SANTA ROSA CONSOLIDATED SC	INTERNAL CONNECTIONS	\$67,533.89	
SANTA ROSA CONSOLIDATED SC	INTERNAL CONNECTIONS	\$21,541.39	
SANTA ROSA CONSOLIDATED SC	INTERNAL CONNECTIONS	\$50,296.13	
SANTA ROSA CONSOLIDATED SC	INTERNAL CONNECTIONS	\$63,077.40	
SANTA ROSA CONSOLIDATED SC	INTERNAL CONNECTIONS MNT	\$11,046.24	
SANTA ROSA CONSOLIDATED SC	INTERNAL CONNECTIONS MNT	\$49,325.44	
SANTA ROSA CONSOLIDATED SC	INTERNET ACCESS	\$17,798.40	
SANTA ROSA CONSOLIDATED SC	INTERNET ACCESS	\$1,713.60	
SANTA ROSA CONSOLIDATED SC	INTERNET ACCESS	\$2,427.08	
SANTA ROSA CONSOLIDATED SC	TELCOMM SERVICES	\$23,105.70	
SANTA ROSA CONSOLIDATED SC	TELCOMM SERVICES	\$2,064.42	
SANTA ROSA CONSOLIDATED SC	TELCOMM SERVICES	\$1,223.96	
SANTA ROSA CONSOLIDATED SC	TELCOMM SERVICES	\$26,757.54	
		\$937,733.25	
SILVER CONSOLIDATED SCH DIS	INTERNET ACCESS	\$37,738.58	78
SILVER CONSOLIDATED SCH DIS	TELCOMM SERVICES	\$8,197.77	
SILVER CONSOLIDATED SCH DIS	TELCOMM SERVICES	\$57,487.81	
SILVER CONSOLIDATED SCH DIS	TELCOMM SERVICES	\$13,252.17	
SILVER CONSOLIDATED SCH DIS	TELCOMM SERVICES	\$3,303.80	
SILVER CONSOLIDATED SCH DIS	TELCOMM SERVICES	\$1,716.96	
SILVER CONSOLIDATED SCH DIS	TELCOMM SERVICES	\$5,720.15	
		\$127,417.24	
SOCORRO CONSOL SCHOOL DIS	INTERNAL CONNECTIONS MNT	\$2,400.00	85
SOCORRO CONSOL SCHOOL DIS	INTERNAL CONNECTIONS MNT	\$20,648.27	
SOCORRO CONSOL SCHOOL DIS	INTERNET ACCESS	\$38,355.93	

SOCORRO CONSOL SCHOOL DIS` INTERNET ACCESS	\$6,758.04	
SOCORRO CONSOL SCHOOL DIS` INTERNET ACCESS	\$6,420.66	
SOCORRO CONSOL SCHOOL DIS` INTERNET ACCESS	\$56,628.60	
SOCORRO CONSOL SCHOOL DIS` TELCOMM SERVICES	\$15,062.54	
SOCORRO CONSOL SCHOOL DIS` TELCOMM SERVICES	\$28,034.40	
	\$174,308.44	
SOUTHWEST SECONDARY LEARN TELCOMM SERVICES	\$532.50	50
SOUTHWEST SECONDARY LEARN TELCOMM SERVICES	\$1,775.00	
SOUTHWEST SECONDARY LEARN TELCOMM SERVICES	\$21,390.90	
	\$23,698.40	
SPRINGER MUNICIPAL SCHOOL D INTERNAL CONNECTIONS	\$9,565.62	90
SPRINGER MUNICIPAL SCHOOL D INTERNAL CONNECTIONS	\$1,858.19	
SPRINGER MUNICIPAL SCHOOL D INTERNAL CONNECTIONS	\$1,858.19	
SPRINGER MUNICIPAL SCHOOL D INTERNAL CONNECTIONS	\$24,110.75	
SPRINGER MUNICIPAL SCHOOL D INTERNAL CONNECTIONS	\$9,565.62	
SPRINGER MUNICIPAL SCHOOL D INTERNAL CONNECTIONS MNT	\$37,800.00	
SPRINGER MUNICIPAL SCHOOL D INTERNAL CONNECTIONS MNT	\$9,068.22	
SPRINGER MUNICIPAL SCHOOL D INTERNAL CONNECTIONS MNT	\$6,484.10	
SPRINGER MUNICIPAL SCHOOL D INTERNAL CONNECTIONS MNT	\$9,198.14	
SPRINGER MUNICIPAL SCHOOL D INTERNET ACCESS	\$10,638.00	
SPRINGER MUNICIPAL SCHOOL D TELCOMM SERVICES	\$243.32	
SPRINGER MUNICIPAL SCHOOL D TELCOMM SERVICES	\$24,110.75	
SPRINGER MUNICIPAL SCHOOL D TELCOMM SERVICES	\$5,811.48	
SPRINGER MUNICIPAL SCHOOL D TELCOMM SERVICES	\$9,184.97	
SPRINGER MUNICIPAL SCHOOL D TELCOMM SERVICES	\$8,296.02	
	\$167,793.37	
TAOS MUNICIPAL SCHOOL DISTR INTERNAL CONNECTIONS MNT	\$48,955.54	90
TAOS MUNICIPAL SCHOOL DISTR INTERNAL CONNECTIONS MNT	\$58,079.05	
TAOS MUNICIPAL SCHOOL DISTR INTERNET ACCESS	\$49,680.00	
TAOS MUNICIPAL SCHOOL DISTR TELCOMM SERVICES	\$106,298.03	
TAOS MUNICIPAL SCHOOL DISTR TELCOMM SERVICES	\$1,303.13	
TAOS MUNICIPAL SCHOOL DISTR TELCOMM SERVICES	\$8,399.05	
TAOS MUNICIPAL SCHOOL DISTR TELCOMM SERVICES	\$16,929.76	
TAOS MUNICIPAL SCHOOL DISTR TELCOMM SERVICES	\$7,904.09	
	\$297,548.65	
TATUM MUNICIPAL SCHOOL DIST INTERNAL CONNECTIONS MNT	\$2,127.60	90
TATUM MUNICIPAL SCHOOL DIST INTERNAL CONNECTIONS MNT	\$22,942.55	
TATUM MUNICIPAL SCHOOL DIST INTERNET ACCESS	\$2,186.91	
TATUM MUNICIPAL SCHOOL DIST INTERNET ACCESS	\$22,292.82	
TATUM MUNICIPAL SCHOOL DIST INTERNET ACCESS	\$11,758.39	
TATUM MUNICIPAL SCHOOL DIST TELCOMM SERVICES	\$8,832.24	
TATUM MUNICIPAL SCHOOL DIST TELCOMM SERVICES	\$2,270.16	
TATUM MUNICIPAL SCHOOL DIST TELCOMM SERVICES	\$7,054.56	
	\$79,465.23	
TEXICO MUNICIPAL SCHOOL DIST INTERNAL CONNECTIONS MNT	\$19,406.25	75
TEXICO MUNICIPAL SCHOOL DIST INTERNET ACCESS	\$2,168.23	
TEXICO MUNICIPAL SCHOOL DIST INTERNET ACCESS	\$1,800.00	

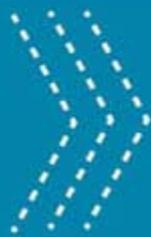
TEXICO MUNICIPAL SCHOOL DIST INTERNET ACCESS	\$4,410.00	
TEXICO MUNICIPAL SCHOOL DIST TELCOMM SERVICES	\$1,125.00	
TEXICO MUNICIPAL SCHOOL DIST TELCOMM SERVICES	\$450.00	
TEXICO MUNICIPAL SCHOOL DIST TELCOMM SERVICES	\$4,410.00	
	\$33,769.48	
TRUTH OR CONS MUN SCH DISTF INTERNAL CONNECTIONS	\$10,641.85	81
TRUTH OR CONS MUN SCH DISTF INTERNAL CONNECTIONS	\$41,670.32	
TRUTH OR CONS MUN SCH DISTF INTERNAL CONNECTIONS	\$6,690.25	
TRUTH OR CONS MUN SCH DISTF INTERNAL CONNECTIONS MNT	\$43,834.56	
TRUTH OR CONS MUN SCH DISTF INTERNAL CONNECTIONS MNT	\$19,637.86	
TRUTH OR CONS MUN SCH DISTF INTERNET ACCESS	\$8,767.44	
TRUTH OR CONS MUN SCH DISTF INTERNET ACCESS	\$18,262.13	
TRUTH OR CONS MUN SCH DISTF INTERNET ACCESS	\$478.00	
TRUTH OR CONS MUN SCH DISTF INTERNET ACCESS	\$3,336.68	
TRUTH OR CONS MUN SCH DISTF INTERNET ACCESS	\$5,795.23	
TRUTH OR CONS MUN SCH DISTF TELCOMM SERVICES	\$3,861.37	
TRUTH OR CONS MUN SCH DISTF TELCOMM SERVICES	\$921.88	
TRUTH OR CONS MUN SCH DISTF TELCOMM SERVICES	\$310.55	
TRUTH OR CONS MUN SCH DISTF TELCOMM SERVICES	\$19,369.34	
TRUTH OR CONS MUN SCH DISTF TELCOMM SERVICES	\$2,779.97	
	\$186,357.43	
TUCUMCARI PUBLIC SCHOOL DIS INTERNAL CONNECTIONS MNT	\$71,460.04	90
TUCUMCARI PUBLIC SCHOOL DIS INTERNAL CONNECTIONS MNT	\$5,832.00	
TUCUMCARI PUBLIC SCHOOL DIS INTERNAL CONNECTIONS MNT	\$6,111.94	
TUCUMCARI PUBLIC SCHOOL DIS INTERNAL CONNECTIONS MNT	\$10,687.46	
TUCUMCARI PUBLIC SCHOOL DIS INTERNAL CONNECTIONS MNT	\$81,742.50	
TUCUMCARI PUBLIC SCHOOL DIS INTERNAL CONNECTIONS MNT	\$71,460.04	
TUCUMCARI PUBLIC SCHOOL DIS INTERNET ACCESS	\$50,840.03	
TUCUMCARI PUBLIC SCHOOL DIS INTERNET ACCESS	\$41,616.94	
TUCUMCARI PUBLIC SCHOOL DIS TELCOMM SERVICES	\$1,273.00	
TUCUMCARI PUBLIC SCHOOL DIS TELCOMM SERVICES	\$2,153.30	
TUCUMCARI PUBLIC SCHOOL DIS TELCOMM SERVICES	\$6,863.83	
TUCUMCARI PUBLIC SCHOOL DIS TELCOMM SERVICES	\$33,441.98	
	\$383,483.06	
TULAROSA MUNICIPAL SCHOOL I INTERNET ACCESS	\$357.00	85
TULAROSA MUNICIPAL SCHOOL I INTERNET ACCESS	\$2,305.20	
TULAROSA MUNICIPAL SCHOOL I INTERNET ACCESS	\$1,734.00	
TULAROSA MUNICIPAL SCHOOL I TELCOMM SERVICES	\$938.40	
TULAROSA MUNICIPAL SCHOOL I TELCOMM SERVICES	\$22,113.60	
TULAROSA MUNICIPAL SCHOOL I TELCOMM SERVICES	\$969.00	
	\$28,417.20	
VAUGHN MUNICIPAL SCHOOLS INTERNAL CONNECTIONS	\$48,654.00	90
VAUGHN MUNICIPAL SCHOOLS INTERNAL CONNECTIONS	\$43,816.81	
VAUGHN MUNICIPAL SCHOOLS INTERNAL CONNECTIONS	\$59,663.23	
VAUGHN MUNICIPAL SCHOOLS INTERNAL CONNECTIONS	\$19,116.79	
VAUGHN MUNICIPAL SCHOOLS INTERNAL CONNECTIONS	\$49,656.90	
VAUGHN MUNICIPAL SCHOOLS INTERNAL CONNECTIONS	\$13,170.83	
VAUGHN MUNICIPAL SCHOOLS INTERNAL CONNECTIONS	\$50,609.59	

VAUGHN MUNICIPAL SCHOOLS	INTERNAL CONNECTIONS	\$33,518.09	
VAUGHN MUNICIPAL SCHOOLS	INTERNAL CONNECTIONS MNT	\$11,243.56	
VAUGHN MUNICIPAL SCHOOLS	INTERNAL CONNECTIONS MNT	\$29,588.22	
VAUGHN MUNICIPAL SCHOOLS	INTERNAL CONNECTIONS MNT	\$16,174.94	
VAUGHN MUNICIPAL SCHOOLS	INTERNET ACCESS	\$11,717.46	
VAUGHN MUNICIPAL SCHOOLS	TELCOMM SERVICES	\$6,264.00	
VAUGHN MUNICIPAL SCHOOLS	TELCOMM SERVICES	\$2,430.00	
VAUGHN MUNICIPAL SCHOOLS	TELCOMM SERVICES	\$1,728.00	
		\$397,352.42	
WAGON MOUND PUBLIC SCHOOL	INTERNAL CONNECTIONS MNT	\$13,610.59	90
WAGON MOUND PUBLIC SCHOOL	INTERNAL CONNECTIONS MNT	\$39,467.52	
WAGON MOUND PUBLIC SCHOOL	INTERNAL CONNECTIONS MNT	\$14,991.48	
WAGON MOUND PUBLIC SCHOOL	INTERNET ACCESS	\$13,859.10	
WAGON MOUND PUBLIC SCHOOL	TELCOMM SERVICES	\$414.83	
WAGON MOUND PUBLIC SCHOOL	TELCOMM SERVICES	\$1,377.76	
WAGON MOUND PUBLIC SCHOOL	TELCOMM SERVICES	\$20,931.48	
		\$104,652.76	
ZUNI PUBLIC SCHOOL DISTRICT	INTERNAL CONNECTIONS	\$538,960.50	90
ZUNI PUBLIC SCHOOL DISTRICT	INTERNAL CONNECTIONS MNT	\$32,062.28	
ZUNI PUBLIC SCHOOL DISTRICT	INTERNAL CONNECTIONS MNT	\$151,200.00	
ZUNI PUBLIC SCHOOL DISTRICT	INTERNET ACCESS	\$76,418.96	
ZUNI PUBLIC SCHOOL DISTRICT	TELCOMM SERVICES	\$26,400.92	
ZUNI PUBLIC SCHOOL DISTRICT	TELCOMM SERVICES	\$11,079.18	
ZUNI PUBLIC SCHOOL DISTRICT	TELCOMM SERVICES	\$9,558.00	
ZUNI PUBLIC SCHOOL DISTRICT	TELCOMM SERVICES	\$33,556.68	
ZUNI PUBLIC SCHOOL DISTRICT	TELCOMM SERVICES	\$105,116.94	
ZUNI PUBLIC SCHOOL DISTRICT	TELCOMM SERVICES	\$2,700.00	
		\$987,053.46	

GED

TESTING

SERVICE®



Presentation to New Mexico Legislative
Education Study Committee

David M. Deggs, Ph.D., Senior Program Manager
Thursday, November 15, 2012

» Presentation Overview

- Testing on Computer as Pathway to new GED® Assessment
- Testing on Computer Technology Requirements
- Status of GED® Testing on Computer Implementation in New Mexico
- Questions and Comments



» Rethinking the GED® Test

Events that led the American Council on Education to rethink the GED® test ...



2008: President Molly Broad believed that the test could be a measure of adults' preparedness for career and college in addition to HS equivalency.



2009: CCSSI begins to gain momentum; ACE decides to table 2012 test in favor of a next-generation test.



2010: GED Testing Service begins to explore CBT in preparation for the new test.



2011: ACE creates strategic alliance with Pearson VUE, creating GED Testing Service, LLC.



» Philosophy of the new GED® test

Candidates demonstrate skills on the new GED® Test – Reasoning through Language Arts, Mathematical Reasoning, Science, and Social Studies



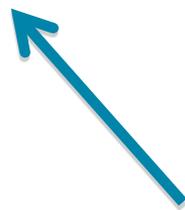
Jobs/Careers



Job Training



Postsecondary Ed



Foundational Academic Skills
(Career- and College-Readiness Standards)





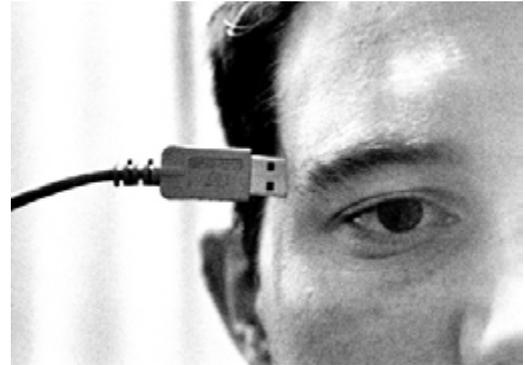
» TESTING ON COMPUTER AS PATHWAY
TO NEW GED® ASSESSMENT



» Technology Integration

- **Today**

- Most job postings are exclusively online
- Most job applications are completed online
- Most job responsibilities have a technology component built in



- **In the next decade**

- Career opportunities will be created by technological advances



» Why Implement Testing on Computer?

First – Test-taker access and convenience:



- One-stop registration and scheduling
- Enhanced test security
- Flexible testing experience
- Instant score reports

Second – The 2014 GED[®] test requires computer delivery to assess content and support advanced scoring and reporting.



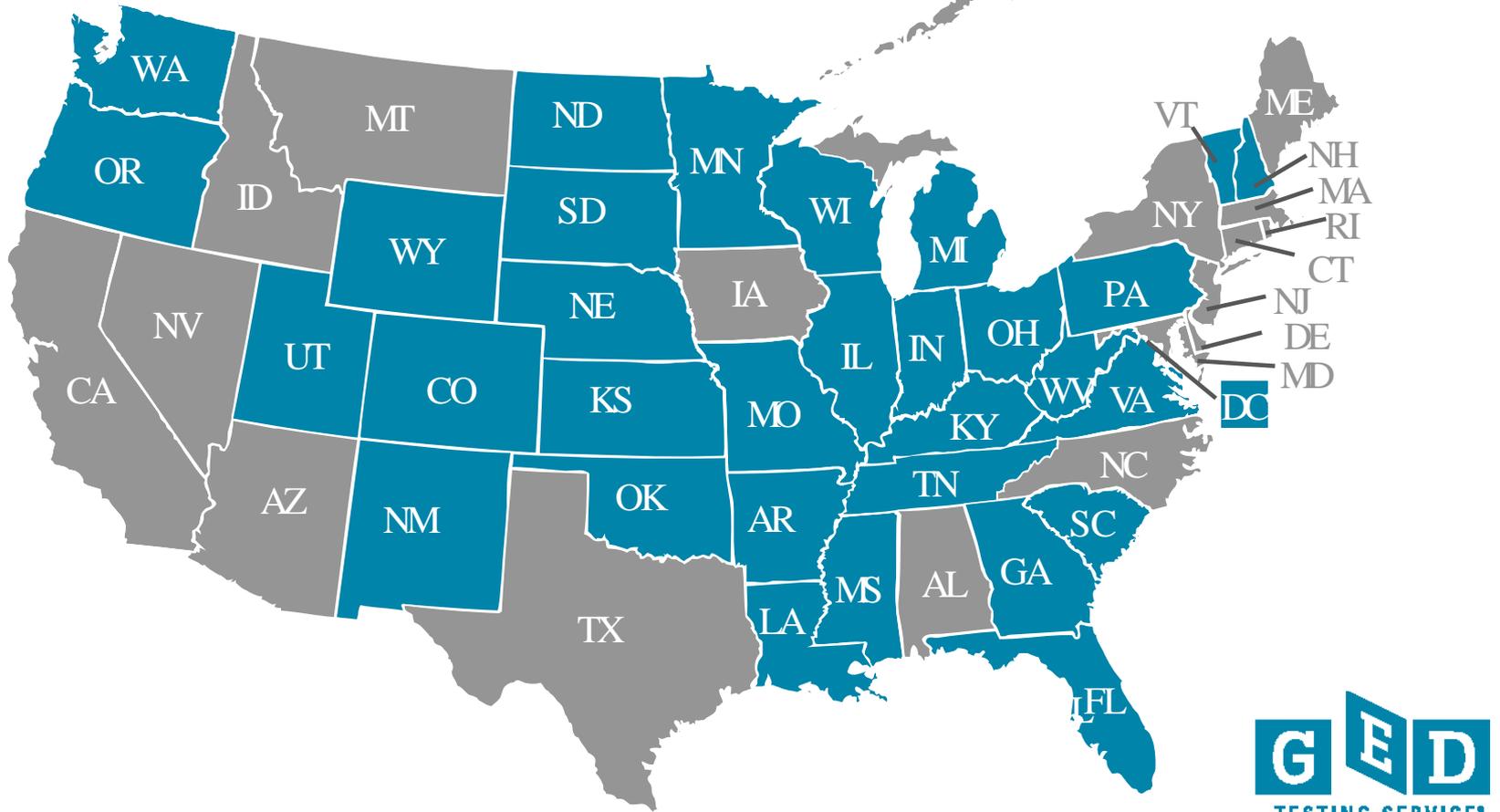
» Testing on Computer Benefits

- Enables measurement of concepts and/or skills that cannot be fully or appropriately captured by paper-based tests (Bennett 2002; Parshall, Harmes, Davey, & Pashley, 2010).
- Improves measurement by increasing the precision or efficiency of the measurement process (Parshall, Spray, Kalohn, & Davey, 2001; van der Linden & Glas, 2000; Wainer, 1990).



States with GED® Testing on Computer

**as of November 8, 2012*



» Computer Skills Required

- Interface is designed so that a learner with only basic computer skills is able to test successfully on computer.
- Basic keyboarding/typing skills (highly recommended for the Language Arts, Writing test).
- Familiarity with hardware (keyboard and mouse) and software (scrolling, graphics, and exhibit windows).





» TESTING ON COMPUTER TECHNOLOGY REQUIREMENTS



» Testing Center Operation

- Pearson VUE software provided free of charge to approved centers
 - Software manages testing process from scheduling to delivery
- Centers set and manage own schedules
- Approved Pearson VUE Testing Centers are compensated for every GED[®] test module delivered
 - \$5 per scheduled hour (approximately \$38 for entire GED[®] test battery)



» Testing Center Criteria

- Distract-free location with separate check-in area
- Minimum of least 2 computers
 - Workstation (test delivery) computer
 - Administrative computer with internet access
- Enhanced Security Protocol (ESP) kit
 - May be purchased from another source, as long as it meets Pearson VUE specifications
 - Pearson VUE cost: \$450
- Certified test administrator to proctor tests
 - Provided free of charge by Pearson VUE



General Technology Requirements

Requirement	Specifications
Processor	Windows compatible Intel or AMD dual or multi-core processor with 2GB RAM
Hard Drive	NTFS Format with 40 GB for administrative computer and 60 GB space available for delivery workstation
Display	17 inch (CRT or flat panel)
Mouse, Keyboard, USB	External Mouse, English QWERTY Keyboard, Minimum of two USB ports
Printer	Laser 600 dpi with Postscript support
Internet/Network	<ul style="list-style-type: none">•Internet – Required for administrative computer only•Network – Ethernet card @ 100 mpbs (no wireless)
Servers Required	Only required if the center plans to: <ul style="list-style-type: none">•Use more than 15 workstations with Windows 7•Use more than 9 workstations with Windows XP

Full requirements may be viewed online at: http://www.pearsonvue.com/pvtc/technical_reqs.pdf

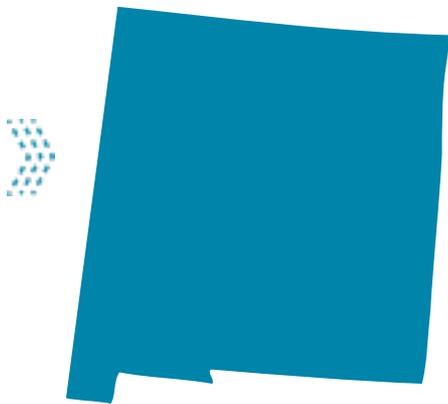
» Ensuring Access to GED® Test

- Corrections solution implemented to date with four state Departments of Corrections
 - Download tests onto laptop that serves as administrative computer
 - Deliver tests within secure area of facility without internet connection by plugging into local area network
- Mobile solution available for remote/rural areas
 - Utilize existing computer labs at partner site, or
 - Utilize laptops with external keyboard and mouse



Testing on Computer Myths and Realities

Myth	Realities
Testing on computer will require substantial resources.	<ul style="list-style-type: none">• Most centers are established using existing equipment and centers operate when equipment is not being used for another purpose.• Most centers are small (7 or fewer computers).• Pearson VUE software is provided free of charge.• Test administrators are trained free of charge.• Many test administrators integrate test delivery into other job duties.
Testing on computer will not meet test-taker needs.	<ul style="list-style-type: none">• Test-takers across all demographics have been successful taking the GED® test on computer.• Test-takers want flexible testing opportunities.• Test-takers appreciate instant score reports.• Solutions are in place for special testing needs (e.g. rural, off site, corrections, etc.)



STATUS OF GED® TESTING ON COMPUTER IMPLEMENTATION IN NEW MEXICO



» Testing on Computer Snapshot

- Testing started in August, 2012
- 88 tests administered
- Testing offered in 5 testing centers across the state
- Positive feedback from both test-takers and test center administrators



» Testing on Computer Pricing

- New Mexico has adopted the base price structure for the 2002 Series GED[®] test on computer.
 - \$24 per content area or \$120 for the entire battery
 - Scheduled in one or more sessions
 - Re-test price is also \$24
- Price includes test leasing, scoring, data management, proctoring and reporting costs.
- **Nearly 1/3 of the cost (approximately \$38) is paid to authorized testing center as compensation for test delivery.**



New Mexico Testing on Computer Sites

Site(s)	Notes
Dona Ana Community College Santa Fe Community College	Paper-based sites that became Pearson VUE Centers using existing equipment.
Eastern New Mexico University San Juan College	Sites were combination paper-based and Pearson VUE centers that integrated testing on computer into existing operations.
Central New Mexico Community College	Became a Pearson VUE Center to meet test-taker demand using existing equipment. Paper-based testing occurs at a different campus.

» Contact

David M. Deggs, Ph.D.

Senior Program Manager

GED Testing Service

202-308-7726

David.Deggs@GEDTestingService.com

Websites

- GED Testing Service: www.GEDTestingService.com
- 2002 GED® Test Close Out: www.FinishtheGED.com
- Pearson VUE: www.PearsonVUE.com

