Title: Albuquerque GigaPoP

Office of Origin: Information Technologies

**Description:** Information on the Albuquerque GigaPoP (ABQG), as it is available from its website, *abqg.unm.edu*. As it is articulated on the landing page here, ABQG is “an aggregation point of networks to provide high-bandwidth network accessibility to the State of New Mexico” (pg. 2), and also included here is a short news article on this service working with the local public schools to enable easier access to data based applications and distance learning.
The University of New Mexico's Information Technologies has established the Albuquerque GigaPoP (ABQG), an aggregation point of networks to provide high-bandwidth network accessibility to the State of New Mexico. ABQG is the on-ramp for high speed National Networks. These high speed networks are the Western Regional Network (WRN) and Internet2 (I2).

New Mexico remains a mostly rural state with major population centers in seven separate areas spread throughout the state. The ABQG is a non-profit initiative owned and operated by the University of New Mexico providing advance scientific application to enhance networking services to enable a new generation of innovators on New Mexico campuses that will prompt new jobs and economic growth for the state; allowing for greater connectivity and capacity to learning environments in research and education; and continue to connect national labs, advanced research networks, K-20 schools, healthcare facilities, and city and state networks that are built for performance, reliability, efficiency, and affordability to meet the growing needs of New Mexicans who need high speed and high volume bandwidth.

By developing partnerships, leveraging technological assets, reducing duplication and sharing large bandwidth pipes, ABQG will push network access to rural points where local commercial ISPs can complete the outreach to the most rural areas.

Additionally available is access to commodity Internet 1 (I1) and national and local peering to keep in-state traffic local. The interconnection of separate Internet networks exchanging traffic between the participating partners provides more efficient traffic, a higher bandwidth connection, reduced Internet 1 (commodity) traffic, and network reliability through dual networks for concurrent connectivity.

Working together with the State of New Mexico and colleges and universities, the networks can support state-mandated programs (and vice versa) including:

- Education
- Research
- Public Safety
- Health
- Economic Development
Collaboration Bridges Digital Divide

March 6, 2012 - Staff

UNM/ABQG and APS collaborate to Bridge the Digital Divide

Albuquerque GigaPoP (ABQG) of the University of New Mexico (UNM) has been working diligently to further higher speed network connectivity to educational institutions throughout the State of New Mexico. Albuquerque Public Schools (APS) will be establishing network connection with New Mexico universities that have already joined ABQG; creating a high speed network among higher educational institutions and the largest school district in New Mexico. With the advancement of networking services through ABQG, digital learning would assist APS to boost networking services for the Dual Credit or Distance Learning curricula that is required of all New Mexico high school students to graduate. Since ABQG keeps local network traffic local, “What happens in New Mexico, stays in New Mexico,” students will have fast access with no hops to any University course in New Mexico.

Albuquerque Public Schools (APS)

APS is the 34th largest school district in the United States with 141 schools, 90,000 students, and 11,500 employees. Albuquerque Public Schools (APS) will soon have full connection and direct access to one of the fastest networks in the world.

Through this connection, made possible through UNM-ABQG, teachers, students and employees will have the capability to run hundreds of data based applications that support school administrations, distance learning, digital learning, and overall operations. Peering (exchanging routes) among the educational networks of New Mexico via UNM-ABQG will enable applications such as online learning to be effective for students taking classes from various universities throughout New Mexico. With access to ABQG’s bandwidth and high speed data transferring service, APS can establish collaboration with other school district across the U.S. and internationally to enhance the art of teaching through an infusion of technological resources. Other ABQG members include Sandia and Los Alamos Labs enabling good connectivity for collaborative projects among New Mexico students from high school to university level courses with our National Labs. Research projects such as “Little Fe” (students learning to use a Supercomputer to solve real life problems), “SmartGrid” (managing power grids) and other digital learning websites, such as Hewlett Packard, McGraw Hill, and Internet2 (I2) are currently underway providing access to creative learning websites for K-12 curriculums.

Academic Progress

Outside of school, students, parents, educators, and academic professionals are harnessing the power of technology to enrich their day-to-day lives. In the classroom, using technology resources is essential to prepare them for their real lives of higher education, internships, and the 21st century workforce. Students need technology-based learning environments so that education is engaging, relevant, and reflects 21st century skills to become globally aware, develop digital age literacy skills, and advance learning to prepare for future endeavors.

For teachers and school professionals, in-service, webinars, video clip libraries, and technology learning portals are available to promote digital learning. The download of toolkits, lesson portals, teacher outreach through video, and other collaboration opportunities that require large bandwidth will be available at your fingertips because of reliable and efficient networking services of ABQG’s dual connection services.

New Mexico is the 5th largest state and the 6th least densely populated of the 50 United States. New Mexico is a perfect location to expand networking services. By connecting schools throughout New Mexico, ABQG is enabling education and research entities to gain access to data, information, knowledge, and wisdom from local universities, national laboratories, and other sources from within each school to bridge the digital divide.

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