



ADVANCING RESEARCH | CREATING SOLUTIONS

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The Great Plains Network

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## In This Issue

Welcome to the first edition of *GPN News* for 2010. Unlike past issues, where the information was compiled mainly by GPN staff, this issue contains contributions and updates from individuals across our consortium. It contains information on our network as well as information on creative activities that utilize network resources across the region.

For readers who may be new to GPN, let me explain that the Great Plains Network was developed in the late 1990s as a partnership among universities to deliver advanced network (Internet) services for research and education (R&E) to members in this middle corridor of the US. GPN partners with member universities, state networks and national R&E networks like [Internet2](#) to provide reliable and high-performance networking services that advance the R&E agenda. You can read more about GPN at our [web site](#).

Greg Monaco, Great Plains Network

## GPN, Commodity Peering and National Networking

By Kent Christensen, University of Nebraska at Lincoln

*Note: The Internet began as a government-funded effort and, in the 1990s, was largely taken over by telecommunications organizations like Qwest, MCI, and AT&T. Commercial network traffic from our campuses (e.g., to non-R&E sites) traverses the regular Internet, often referred to as the **commodity Internet**, and commodity Internet costs account for a significant portion of the IT budget. Internet2, GPN, [National LambdaRail](#) and others are testing ways to reduce this cost. Kent Christensen is an expert from UNL who has worked to help GPN members participate in a pilot effort to exchange network traffic via agreements known as*

**peering.** *In a peering arrangement, two networks agree to send information between them at no expense. OneNet is the state research and education network of Oklahoma and has played a vital role in this effort.*

Internet2 [Commodity Peering Service](#) (CPS) is a value added service for having a physical connection to Internet2, and many GPN members take advantage of this service to supplement their commodity Internet bandwidth needs.

In an effort to relieve the contention on GPN's 10 Gigabits per second circuit connected to Internet2, a peering session to [TransitRail](#) was set up via a circuit provided by OneNet. Transit Rail is a Commodity Peering Service provided by National LambdaRail (NLR) and is similar to Internet2's CPS.

The Transit Rail peering has moved 600 Megabits per second of inbound traffic and 500 Mbps outbound traffic off of the Internet2 connection during peak usage hours.

WISCnet, the state research and education network in Wisconsin, and Minnesota now peer directly with GPN -- previously they peered directly with Internet2. This also moved some traffic off of the Internet2 circuit, as traffic to and from other GPN members will use the direct connections to Wisconsin and Minnesota.

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## GPN Strategic Planning

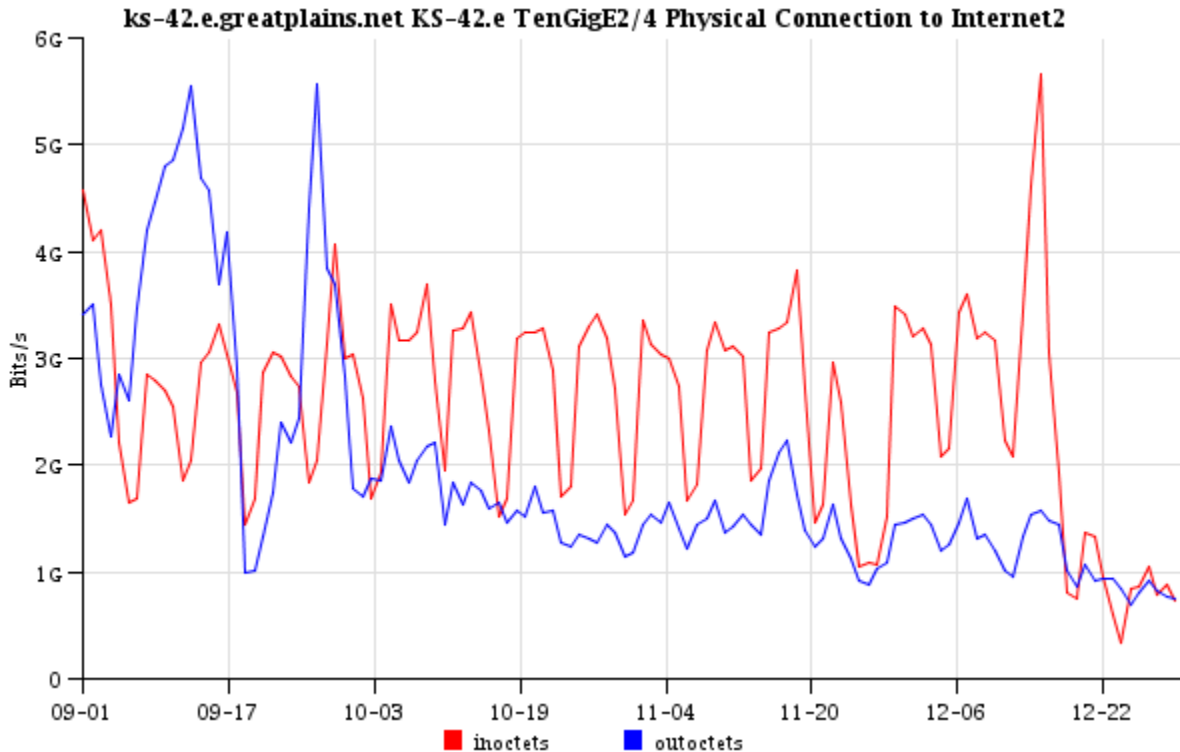
About a year ago the GPN strategic plan was adopted (January, 2009). The GPN Executive Council recently adopted priorities plans for each strategic area, networking and cyberinfrastructure. You can find the link to the strategic plan [here](#). You can find the networking implementation plan [here](#). You can find the CI Implementation Plan and CI Advisory Committee plan [here](#).

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## Network Utilization and Service Summary

Contributors: Hank Niederhelm, [MOREnet](#)

*GPN connects our university members to the Internet2 "backbone" in Kansas City and that connection is capable of exchanging data at the rate of 10 Gigabits of per second (Gbps). The chart below indicates the utilization of that connection (in Gigabits) during the period from September 1 to December 31, 2009. The blue line indicates outgoing data and the red line indicates incoming data. Notice the regular peaks and valleys corresponding to the weekdays (high utilization) and weekends (less utilization) and the drop-off in use following the semester's end. The particularly large spikes indicate use for the University of Nebraska - Lincoln CMS physics project that requires particularly large data transfers.*



Periodically, maintenance is required that causes service to be shut down until maintenance is complete. The connection to Internet2 was shut down for about 6 hours on the evening of January 13, 2010, while Internet2 upgraded its equipment from the Juniper T-series platform to the Juniper MX platform. The engineers on-site replaced the T640 with a pre-configured MX960. The bandwidth out of Kansas City remains unchanged and GPN members should have noticed no difference in service when connectivity was restored and the work was completed.

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## GPN K20 Committee Initiates Interactive Distance Learning Venture with National Parks

By Kate Adams, Great Plains Network

Taking advantage of partnerships with state networks in Kansas, Nebraska and North Dakota, the GPN K20 Committee and National Parks in Nebraska, Kansas and North Dakota met, virtually, with teachers from several schools to plan a program of interactive distance learning events. These events will bring students in K12 to those parks, virtually, and provide an opportunity to participate in learning experiences that would, otherwise, be too costly—particularly in this period of reduced budgets.

The three parks were ***Brown vs. Board of Education*** in Topeka, Kansas, ***Knife River Indian Villages*** in Stanton, North Dakota, and ***Homestead Monument of America*** in Beatrice, Nebraska. Participating teachers were from Fessenden High School, Devils Lake Public Schools, Jamestown High School, and Oakes High School, all in North Dakota.

You can view a video archive of the event [here](#). The technology required to make an event like this work was the result of collaboration among state networks and was coordinated by [KanREN](#), the state R&E network of Kansas.

To learn more about these events or if you are interested in testing distance education to the K20 community via the Internet, check <http://collaboration.greatplains.net/k20>, or contact [kate@greatplains.net](mailto:kate@greatplains.net).

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## OU IT Store Generates New Revenue Stream

By Nicholas Key, Creative Ambassador for Information Technology, University of Oklahoma

The University of Oklahoma Information Technology will open a **2,800 square foot technology storefront** this spring after a pilot program earned \$7 million in revenue over two years. In addition to computers (Apple, Dell, HP, and Lenovo), software, peripherals (including iPods), and accessories for sale, the new OU IT Store, located in the Campus Corner shopping district, will offer a Guru Bar and a showcase area to host vendor sessions, roadmaps and demonstrations. The store will be open to the public.

OU IT first opened a 1,300 square foot **OU IT Store pilot storefront** in August 2008 to complement an established online store. What CIO Dennis Aebersold envisioned as an educational and cost-savings service for the OU community quickly became a revenue stream that fostered stronger and more flexible relationships with vendor partners.

Other successes include the **OU IT Store's online catalog** generated a modest \$150,000 in revenue in 2007. Combined, the OU IT Store's virtual and physical locations grossed \$1.2 million in 2008 and a whopping \$5.8 million in 2009. Apple has rewarded the OU IT Store's performance with numerous sales awards. During the **Fall One Day Sale**, the store served more than 1,200 customers from the OU community and grossed over \$850,000 in revenue in a single day. In 2009, the OU IT Store worked with OU's K20 Center (<http://k20center.ou.edu/>) to obtain technology for Oklahoma K-12 schools participating in the center's *Gear Up Program*. Vendor partnerships created and enhanced by the store's presence allowed us to save \$261,298.52 for the K20 Center. To improve both sustainability and security initiatives, the OU IT Store offers a **technology disposal program** for faculty and staff. Since late 2008, the store has safely and securely disposed of 5,651 computers, monitors and printers -- 173,500 pounds or almost 20 54-foot semi trucks!

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## Upcoming Meetings

By Kate Adams, Great Plains Network

### **MCBIOS Conference**

The MidSouth Computational Biology and Bioinformatics Society will be holding their conference in Jonesboro, Arkansas on February 19-20, 2010. The theme this year is **Bioinformatics: Systems, Biology, Informatics and Computation**. Please visit

<http://collaboration.greatplains.net/wiki/index.php/MCBIOS2010> for information on registration, paper submission and deadlines.

MCBIOS members are always looking for collaborative funding opportunities. This is an excellent opportunity for GPN members and MCBIOS members wishing to collaborate on grants and research. For more information about joining MCBIOS, or to meet with fellow researchers for collaboration, contact any member of the MCBIOS board (<http://mcbios.org/directors.html>).

### ***Internet 2 Meetings***

**The Winter 2010 Joint Techs** meeting, an international conference of network engineers, will be held in Salt Lake City, Utah, January 31 to February 4, 2010. Learn more at [http://collaboration.greatplains.net/wiki/index.php/Current events](http://collaboration.greatplains.net/wiki/index.php/Current%20events).

Emerging trends in cyberinfrastructure development and new federal stimulus funding opportunities will share center stage in Arlington, Virginia, for the **Internet2 Annual Spring Member Meeting, April 26 - 28, 2010**. Learn more at [http://collaboration.greatplains.net/wiki/index.php/Current events](http://collaboration.greatplains.net/wiki/index.php/Current%20events).

### ***GPN Annual Meeting: GPN2010***

This year Memorial Day falls on May 31, so hold the following Wednesday, Thursday and Friday, June 2, 3, and 4, 2010, for the GPN Annual Meeting in Kansas City! Once again we will start with a reception on the evening of Wednesday, June 2, and conclude on Friday, June 4. Contributions will be welcome in the form of panels, posters, individual presentations, BoFs and workshops in networking, collaboration and cyberinfrastructure. If you are interested in serving on this year's program committee, please contact Greg Monaco: [greg@greatplains.net](mailto:greg@greatplains.net).

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## **To Contribute to the Newsletter**

To contribute a story or to announce an upcoming meeting or event, send your contribution to Bill Mitchell ([bill@greatplains.net](mailto:bill@greatplains.net)), Greg Monaco ([greg@greatplains.net](mailto:greg@greatplains.net)) or Kate Adams ([kate@greatplains.net](mailto:kate@greatplains.net)).

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## **About the Great Plains Network**

The Great Plains Network develops and maintains a high-performance network that meets the needs of the membership's research community; is a resource for cyberinfrastructure to the membership; and supports multi-institutional, multi-disciplinary research and education initiatives that require advanced cyberinfrastructure. GPN members includes 24 research institutions in nine states and also connects most other higher education institutions, school districts and public libraries in those states to Internet2.

**Subscription Information:** You can subscribe and unsubscribe to GPN News at <http://www.greatplains.net/cgi-bin/majorcool>.