



# Mid-Atlantic Crossroads

Advanced Regional Internetworking for  
Higher Education and Research

Office: 8400 Baltimore Avenue  
Suite 102  
College Park, Maryland 20740  
301.405.6666

January 31, 2010

## Welcome

Welcome to the January 2010 edition of the MAX Newsletter. In these updates we highlight current technical activities and policy initiatives amongst our staff, our participants, the Regional Optical Network and national networking communities. Please let us know your thoughts, and especially your suggestions.

## Executive Director Message

In December, the FCC <<http://www.fcc.gov/>> was scheduled to have a broadband plan completed by February 17, 2010. Since then, the schedule was extended a month and the research and education community was specifically requested to provide comments and recommendations. I participated in several conversations on a submission that jointly involved our Internet2, NLR, and many other regional optical networks as well as the Quilt and Education.

The filing recommends the plan leverage the extensive investment the research and education community has already made in national network infrastructure, benefit from the human expertise and collaborations already in place across the country working with fiber and optical equipment, in order to bring advanced broadband connectivity to the nation's "community anchor institutions."

The joint comments specifically address how the FCC plan could spur economic growth through strategic investments in high capacity networks to interconnect community anchor institutions like universities, community colleges, hospitals, libraries, K-12 schools, and public safety entities. The filing goes on to state, "Investing in these connections will ensure that these institutions have the capacity they need to fulfill their missions to serve their communities; help stimulate the demand for broadband; and most importantly promote jobs and boost the economy."

The joint filing is available from  
[http://www.nlr.net/docs/R&EFiling\\_UCAN\\_1-27-10.pdf](http://www.nlr.net/docs/R&EFiling_UCAN_1-27-10.pdf)

- Peter O'Neil

## ALL THINGS TECHNICAL

### National Science Foundation's Vision: Cyberinfrastructure Framework For 21st Century Science & Engineering (CF21)

See the NSF's *Dear Colleague* letter detailing their long-term vision of CF21 at:

[http://www.nsf.gov/pubs/2010/nsf10015/nsf10015.jsp?WT.mc\\_id=USNSF\\_26](http://www.nsf.gov/pubs/2010/nsf10015/nsf10015.jsp?WT.mc_id=USNSF_26)

View the details on the six task forces the NSF's Advisory Committee established to address cyberinfrastructure topics at:

<https://nsf.sharepoint.com/accipublic/default.aspx>

Larry Smarr first proposed the NSF Supercomputer Center Program in 1983 and eventually became founding director of one of their first two centers. He has been founding director of Calit2 at UCSD for the past ten years. To read his paper submitted to the NSF HPC Workshop detailing the successes, failures, and ongoing challenges of NSF's program go to:

<http://www.hpcwire.com/features/The-Good-the-Bad-and-the-Ugly-Reflections-on-the-NSF-Supercomputer-Center-Program-80658282.html?viewAll=y>

### ICSI Develops Debugging Tool

The Netalyzr is a debugging tool that also forms the foundation for a large-scale measurement study of the Internet's edge to a degree that benefits increase as you run it and pass along the word to others.

<http://netalyzr.icsi.berkeley.edu/index.html>



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## The Internet Is Changing the Way We Think

The Edge.org website's annual question is a common one: How is the Internet Changing the Way You Think? To read any of the many articles submitted by different authors, scientists, and creative thinkers that give their views on how the Internet has changed us cognitively, go to: [http://www.edge.org/q2010/q10\\_index.html](http://www.edge.org/q2010/q10_index.html)

One hundred years ago there was no radio, television or internet. Newspapers were the main mass media outlet. Later in the 20th century considerable importance and notoriety was placed on people that owned and operated devices that could provide information to the public, like a printing press. But today's internet has allowed anyone to publish information. Professional mass media entities have to compete with billions of amateurs. Making information public is not so professional if anyone can post a video on YouTube. Could this shock of inclusion where anyone can make information public at any time be affecting us intellectually? Will all of the amateur content overshadow the high-quality material, and what is the fate of our generation intellectually?

[http://www.edge.org/q2010/q10\\_1.html#shirky](http://www.edge.org/q2010/q10_1.html#shirky)

Dan Cohen's remarks on *Is Google Good for History?*

<http://www.dancohen.org/2010/01/07/is-google-good-for-history/>

## National Lab Day Offers Hands-On Learning For Young Students

A group of educators, associations, and organizations recently came together to create National Lab Day. The initiative will offer hands-on learning experience for young students across the country. The project will involve a series of events throughout the year that will offer practical experience in the areas of science, technology, engineering, and math in classrooms, lab settings, and after-school programs. The goal is to peak their interest in science and technology now so that they become future innovators and help the U.S. to be more competitive and a leader in these fields in the future.

<http://www.nationallabday.org/>

[http://www.nationallabday.org/pdfs/NLD\\_PRESS\\_RELEASE\\_Nov23.pdf](http://www.nationallabday.org/pdfs/NLD_PRESS_RELEASE_Nov23.pdf)

## More Interesting Articles...

### The Long, Tedious Process of Typeface Design and Creating New Fonts

<http://ilovetypography.com/2008/03/12/newzald-moleskin-e-to-market/>

### ESnet Working to Improve Throughput Performance

<http://fasterdata.es.net/>

### CMU's 'Read The Web' Project Focuses on Semantic Knowledge

<http://rtw.ml.cmu.edu/readtheweb.html>

### Distributed Peer-to-Peer Universal Number Discovery

<http://www.dundi.com/>

### Market for Virus Writers

<http://www.krebsonsecurity.com/2009/12/virus-scanners-for-virus-authors/>

### Report on the Factorization of a 768-bit RSA Modulus

<http://eprint.iacr.org/2010/006.pdf>

### Tool to Protect Data Privacy in the Cloud

<http://blog.wesabe.com/2010/01/04/protecting-cloud-secrets-with-grendel/>

### FTC to FCC: Comments on Cloud Computing Privacy and Data Security Protections

<http://fjallfoss.fcc.gov/ecfs/document/view?id=7020352132>



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## FTC Says Storing Data in the Cloud Has Drawbacks

<http://arstechnica.com/tech-policy/news/2010/01/ftc-reminds-us-that-storing-data-in-the-cloud-has-drawbacks.ars>

## Pew Research Center: The Future of Internet IV

<http://pewinternet.org/Presentations/2010/Feb/The-Future-of-the-Internet-IV.aspx>

O'Reilly Radar answers the survey questions posed by Pew Research that asked experts their predictions of what the internet will look like in 2020.

<http://radar.oreilly.com/2010/01/pew-research-asks-questions-ab.html>

## The American Association for the Advancement of Science (AAAS) to hold Annual Meeting in San Diego on February 18-22

<http://www.aaas.org/meetings/2010/program/president/>

## What Impact Does Improved Technology Have on Decided Law?

<http://volokh.com/2010/01/04/can-the-police-now-use-the-rmal-imaging-devices-without-a-warrant-a-reexamination-of-kylo-in-light-of-the-widespread-use-of-infrared-temperature-sensors/>

## Remember Those 19th Century Pneumatic Tubes?

<http://med.stanford.edu/ism/2010/january/tubes-0111.html>

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## HOW COOL!

## Cengage Learning Now Offers Discount Textbook Rentals for Students

Cengage Learning is a leading publisher of learning, teaching, and research products for students, instructors, libraries, government agencies, and individuals throughout the world. Now students can also log onto [www.CengageBrain.com](http://www.CengageBrain.com) and rent textbooks for up to 70% off the suggested retail price. They can also purchase textbooks, eTextbooks, individual eChapters, audio books, or a range of homework and study tools. To read the entire press release and browse through Cengage Learning's entire product line visit:

<http://www.cengage.com/press/release/20100111a.html>

## 100 Great Lectures From the World's Top Scientists

This BestCollegesOnline.com website shares videos of one hundred lectures from some of the world's greatest scientists discussing their research, theories, and projects in the areas of technology, engineering, biology and medicine, chemistry, physics and astronomy, earth and environment, and other topics. To see any of these lectures go to:

<http://www.bestcollegesonline.com/blog/2009/06/18/100-incredible-lectures-from-the-worlds-top-scientists/>

## The Known Universe: Amazing Video

The American Museum of Natural History has created a film called The Known Universe as part of a new exhibition at the Rubin Museum of Art in New York. As you watch the video you travel through the universe and see their depiction of what it looks like mapped out detailing satellites, planets, stars, and galaxies true to scale according to scientific observations and research. To see this video go to:

<http://www.amnh.org/news/2009/12/the-known-universe/>

## Economics With a Twist

A former Harvard student started a website that combines pop culture dialogue with economics in a way that is witty, entertaining, and educational at the same time. The creator's goal is to show that economics can be fun and that a knowledge of economic theory is essential in eve-



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ryday life. The site avoids complicated graphs, math, and terminology so that it can appeal to a wider, general audience. Check out the different lessons, videos, and posts at: <http://www.economistsdoitwithmodels.com/>

## Thumbthing Makes Reading a Book Easier

The Thumbthing is a small device that fits over your thumb like a ring and, when placed in the spine of a book, holds the pages open allowing you to read with one hand. When you're done reading it can be used as a bookmark. To read more about the Thumbthing and learn where to buy one go to:

[http://www.thumbthing.com/index\\_e.htm](http://www.thumbthing.com/index_e.htm)  
<http://www.newyorker.com/online/blogs/books/2010/01/a-thing-for-thumbs.html>

## Top Scientific Breakthroughs of 2009

Wired Science names their selection of the top ten scientific advances and discoveries of 2009: <http://www.wired.com/wiredscience/2009/12/discoveries-gallery/all/1>

In this PBS Newshour article scientists and science journalists give their picks of the most important science stories or most significant underreported stories of 2009: [http://www.pbs.org/newshour/updates/science/july-dec09/yearinscience\\_12-31.html](http://www.pbs.org/newshour/updates/science/july-dec09/yearinscience_12-31.html)

Los Alamos National Laboratory announces their top ten science stories of 2009: [http://www.lanl.gov/news/releases/lanl\\_announces\\_top\\_10\\_science\\_stories\\_of\\_2009.html](http://www.lanl.gov/news/releases/lanl_announces_top_10_science_stories_of_2009.html)

## More Interesting Articles...

### View Historical Temperature Data and Various Climate Models for Future Predictions

<http://www.climatewizard.org/>

### What Keeps Time Moving in Only One Direction?

<http://www.scientificamerican.com/article.cfm?id=sean-carroll-eternity-to-here>

<http://www.scientificamerican.com/article.cfm?id=the-cosmic-origins-of-times-arrow>

<http://preposterousuniverse.com/eternitytohere/>

[http://www.scientificamerican.com/media/pdf/2008-05-21\\_1975-carroll-story.pdf](http://www.scientificamerican.com/media/pdf/2008-05-21_1975-carroll-story.pdf)

## MAKES YOU SAY "HMMM"

### Associate Professor Tells Students to Avoid Getting a Ph.D. in Humanities Because There Aren't Enough Teaching Jobs

A column posted in The Chronicle of Higher Education suggested that undergraduate students avoid pursuing a graduate degree in the humanities because they may not find work as a professor. The writer feels that students are being misinformed about a wave of soon-to-be-retiring professors that will leave positions available. In reality, he says there is a decreasing number of positions that offer job security, benefits, and decent salary. Getting a Ph.D. in a humanities discipline (literature, history, philosophy, religion, etc.) is a big risk that would leave students with a lot of debt and no guarantee of a career in academia. He says there are too many unemployed Ph.D.'s (something he experienced first-hand after he graduated) and that holding a Ph.D. in humanities did not give him and advantage over undergraduates when looking for work outside of academia and put him at a major disadvantage against people who had professional degrees. To read the entire article go to:

<http://chronicle.com/article/Graduate-School-in-the-Hum/44846>

### Some University Administrators Use Tool That Measures Professors' Published Papers and Citations to Determine Tenure

The Tenure-o-meter is a computer tool that measures how much work professors publish and how many times those articles have been cited to determine their impact in their fields of study and other disciplines. The results can be used by academic departments as an additional factor to consider, along with peer reviews, when deciding on promotions. To read more about this tool and the com-



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ments posted by professors regarding its validity and relevance please visit:

<http://www.insidehighered.com/news/2009/12/15/tenure>

## Programmers Productivity Vs. Their Amount of Pay Evaluated

Several online blogs have been discussing why the most productive programmers do not get paid more than the less-productive ones. Most programmers believe that a valuable programmer does not fit the stereotype of a man sitting in a dark room typing for hours upon hours. Actually, the most productive ones are thought to be the ones that recognize they can save time by editing existing codes to solve problems. Some believe that efficiency is not always obvious and the most productive programmers are hard to identify because most programs are written by teams. Or is it that programming productivity is hard to measure tangibly? However, many feel that colleagues *can* easily distinguish the stand-out programmers from the rest. To read the different online discussions on this topic visit the following links:

<http://www.johndcook.com/blog/2009/12/23/why-programmers-are-not-paid-in-proportion-to-their-productivity/>

<http://www.marginalrevolution.com/marginalrevolution/2009/12/what-does-programmer-productivity-look-like.html>

<http://baselinescenario.com/2009/12/24/salespeople-and-programmers/#more-5806>

## How Did America's Ivy League Schools Rise to Greatness?

Nine of America's top universities were originally private institutions started by clergymen in the 17th and 18th centuries. Soon they received money from the local governments but eventually lost independence as the governments started replacing the initial founders and staff with their own in efforts to turn the universities into public institutions. When this attempt was made at Dartmouth some trustees took legal action and the Supreme Court found in favor of the school, declaring that the state could not nationalize an independent institution. Eventually, the other state governments withdrew their funding from the other universities. After initial financial struggles, the

universities made alumni and donors trustees and seven of the Colonial Colleges survived. Now known as the Ivy League schools, these institutions showed that their quality stems from independence after being cut off from government support and interference.

<http://www.timeshighereducation.co.uk/story.asp?sectioncode=26&storycode=409225>

## Website Capitalizes on Placebo Effect

Through their website Universal Placebos sells bottles of placebo tablets, small sugar pills that have no active ingredients. Placebos are widely used in medicine. Doctors may deceptively give a patient a placebo claiming that it may improve his or her condition. The patient's deep belief that recovery will take place sometimes has a therapeutic effect, which leads to an improvement in the patient's condition. The Placebo Effect is related to the unknowing expectation the patient has, causing the belief that the inactive pill has had results similar to that of an actual drug. Universal Placebos has capitalized on this phenomenon. What does this say about the lack of scientific education and reasoning on behalf of many across the world and how much of a role the brain plays in a person's physical health?

<http://www.placebo.com.au/>

## The Television Cable Wars

For years cable channels have been paying distribution companies to carry their television shows. But programming and operating costs are increasing. And internet advertising is a cheaper option than tv advertising, causing a decline in advertising revenue growth. So now distribution companies are demanding higher carriage fees. However, the cable companies will not just absorb these price increases themselves. To avoid more disputes between entities that might lead to disruptions in programming, they will surely pass on the burden to the consumers and raise their prices as well.

<http://www.slate.com/id/2240476>





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## More Interesting Articles...

### Are Modern Scientists Dull?

<http://medicallyhypotheses.blogspot.com/2009/02/why-are-modern-scientists-so-dull.html>

### Accept Defeat: The Neuroscience of Screwing Up

[http://www.wired.com/magazine/2009/12/fail\\_accept\\_defeat/all/1](http://www.wired.com/magazine/2009/12/fail_accept_defeat/all/1)

### Difference in Writing for Online vs. Newspaper Readers

<http://www.theatlantic.com/doc/201001/short-writing>  
<http://blogs.reuters.com/felix-salmon/2010/01/05/why-the-new-york-times-is-boring/>

### Changes Anticipated for Scientific Publishing

<http://scholarlykitchen.sspnet.org/2010/01/04/why-hasnt-scientific-publishing-been-disrupted-already/>

### What Makes a Great Teacher? Evidence That What Matters Most is the Teacher, Not the School

<http://www.theatlantic.com/doc/print/201001/good-teaching>

### CIA is Sharing Data With Climate Scientists

<http://www.nytimes.com/2010/01/05/science/earth/05satellite.html>

### Ways to Represent Changes in Data Across Time

<http://flowingdata.com/2010/01/07/11-ways-to-visualize-changes-over-time-a-guide/>

### Opportunities to Learn From Keeping Current Health Data Across Counties

[http://www.newyorker.com/reporting/2009/12/14/091214fa\\_fact\\_gawande?currentPage=all](http://www.newyorker.com/reporting/2009/12/14/091214fa_fact_gawande?currentPage=all)

### Increasing Our Understanding of Climate

[http://www.climate.noaa.gov/index.jsp?pg=/education/edu\\_index.jsp&edu=literacy](http://www.climate.noaa.gov/index.jsp?pg=/education/edu_index.jsp&edu=literacy)

<http://www.climate.noaa.gov/education/>

### Myths of the American Revolution

<http://www.smithsonianmag.com/history-archaeology/Myths-of-the-American-Revolution.html>

## MEMBER SPOTLIGHT

### Teresa A. Sullivan To Become the University of Virginia's New President in August

Teresa A. Sullivan was unanimously elected by the University's Board of Visitors in January and will begin her new role as president on August 1, 2010. Sullivan is currently the Provost and Executive Vice President for Academic Affairs at the University of Michigan and also serves as its chief budget officer. Sullivan earned her undergraduate degree from Michigan State University and then interned in the school president's office after graduation. She then went on to graduate school at the University of Chicago, received her doctoral degree in sociology, and became a sociologist. She soon became a sociology instructor at the University of Texas, eventually chair of the sociology department, and then vice provost and vice president and dean of graduate studies. She then rose to the ranks of Executive Vice Chancellor for Academic Affairs for the University of Texas System overseeing nine campuses. Throughout her more-than twenty-five years at the University of Texas and here current position at the University of Michigan she continued teaching and also published six books and over eighty articles and chapters. Sullivan will bring to the University of Virginia a vast background in public higher education.

<http://www.virginia.edu/newpresident/announcement.html>

<http://www.virginia.edu/newpresident/biography.html>



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## MAX Participants

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- ATDnet - NRL, LTS, DISA
- D.C. Government
- Energy Sciences Network (ESNet)
- Laboratory for Telecommunications Sciences
- Library of Congress
- NASA / GSFC
- National Archives and Records Administration (NARA)
- National Institutes of Health (NIH)
- National Institute of Standards and Technology
- National Library of Medicine (NLM)
- National Oceanic and Atmospheric Administration (NOAA)
- National Science Foundation (NSF)
- USDA, Beltsville Agricultural Research Center
- U.S. Department of Health and Human Services
- U.S. Department of State (through GWU)
- U.S. Department of Veterans Affairs
- U.S. Holocaust Memorial Museum

### Higher Education:

- American University
- Baltimore Education & Research Network
- Catholic University
- GEANT
- Georgetown University
- George Mason University
- George Washington University
- Johns Hopkins University

- Johns Hopkins University - Applied Physics Laboratory (JHU-APL)
- Montgomery College
- National Consortium for Supercomputing Applications / ACCESS
- Network Virginia
- Smithsonian Institution
- Southern Universities Research Association (SURA)
- University of California, D.C. campus
- University Consortium for Advanced Internet Development (UCAID / Internet2)
- University of the District of Columbia
- University of Maryland, College Park
- University of Maryland, Baltimore
- University of Maryland, Baltimore Co.
- Univ. System of Maryland Network
- University of Southern California, Information Sciences Institute / East
- Washington Research Library Consortium

### Corporate and Non-profit:

- Columbia Telecommunications Corporation (CTC)
- Howard Hughes Med. Institute
- Inter-American Development Bank (IADB)
- Northrop Grumman Corporation
- The Institute for Genomic Research
- Windber Professional Services, Inc.
- World Bank
- The Venter Institute