



# Mid-Atlantic Crossroads

Advanced Regional Internetworking for  
Higher Education and Research

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

December 31, 2009

## Welcome

Welcome to the December 2009 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

This month we mark the end of a calendar year as well as the end of a decade. 2009 also brought the 10 year anniversary of MAX as a regional network organization. A time to reflect upon what we collectively have achieved as a community this past decade and to challenge ourselves to expand our horizon and consider how to do more. The interviews with our participants, a detailed review of the interview themes with our Board, and the discussions and suggestions made during our All-Hands meeting have all helped clarify the most salient and important activities you have come to rely on from MAX. They have also helped push us to consider how to engage with you and others across our region to be more effective with other important actors across our regional community.

Looking back to confirm activities and resource commitments you find of value that must be preserved is an important component of all strategic planning processes. As we explore potential opportunities to expand our regional involvement and ways of contributing value to our participants your input and suggestions have been very helpful.

So as we turn the page on a year as well as a decade, let us as a regional optical network community look back upon a successful decade of cooperation and effort for all our benefit. And let us now commit to expanding our aspirations for what we can individually and collectively achieve in the years and decade to come. Thank you one and all and best wishes!

- Peter O'Neil

## ALL THINGS TECHNICAL

### ISOC Makes Donation to W3C to Ensure Advancement of Open Global Internet

The Internet Society (ISOC) is dedicated to ensuring the open development and long-term growth of the internet and feels that the World Wide Web Consortium (W3C) shares the same views on the value of an open global internet. The two have been working together for years to ensure the evolution of the internet and ISOC recently made a donation to W3C to help aid in its growth as an organization that creates open Web standards. Read more about this partnership at:  
<http://isoc.org/wp/newsletter/?p=1474>

### Why the Fast 802.11n Wi-Fi Was So Slow to Become a Standard

Major Wi-Fi vendors fought over which approach should become the standard, patent lawsuits followed, and after five years 802.11n finally became the standard. To read more about 802.11n's long road to standardization, the complete ComputerWorld article can be found at:  
[http://www.computerworld.com/s/article/9141692/802.11n\\_Fast\\_Wi-Fi\\_s\\_long\\_tortuous\\_road\\_to\\_standardization?taxonomyId=15&pageNumber=1](http://www.computerworld.com/s/article/9141692/802.11n_Fast_Wi-Fi_s_long_tortuous_road_to_standardization?taxonomyId=15&pageNumber=1)

### Local and Nonlocal Concurrency for Client-Cloud Computing Paper by Carl Hewitt

This paper is well worth reading by programmers due to the breadth of historical work ActorScript builds on and



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the references and end notes in the document.  
<http://arxiv.org/pdf/0907.3330v12>

## Electronic Health Records Have Not Saved Hospitals Money as Expected

For decades it has been said that computerized patient records would bring about huge administrative savings, reduce paperwork, reduce errors, help avoid fraudulent claims, and improve health care quality by better coordinating health care among providers. But a Harvard study revealed that the cost of installing and running hospital IT systems is greater than the expected cost savings. Electronic health records may improve the health care process but most likely will not reduce administrative costs because most of the software is aimed at administrators and accountants instead of the doctors, nurses and lab workers. This full ComputerWorld article is available at: [http://www.computerworld.com/s/article/print/9141428/Harvard\\_study\\_Computers\\_don\\_t\\_save\\_hospitals\\_money](http://www.computerworld.com/s/article/print/9141428/Harvard_study_Computers_don_t_save_hospitals_money)

Also see the American Journal of Medicine's Clinical Research Study on Hospital Computing and the Costs and Quality of Care: <http://www.amjmed.com/webfiles/images/journals/ajm/AJM10662S200.pdf>

## Will Online Courses Put Colleges and Professors Out of Business and Are Online Degrees High Enough Education?

Some people believe that more and more universities will offer online instructions allowing their best professors to teach thousands of students at different locations. But others think online degrees are not prestigious enough and are no competition to those earned from attending a traditional university. How do employers view candidates that have online degrees? To read this blog and the comments that followed go to: [http://econlog.econlib.org/archives/2009/12/higher\\_educatio\\_1.html](http://econlog.econlib.org/archives/2009/12/higher_educatio_1.html)

[http://econlog.econlib.org/archives/2009/12/educational\\_dis.html](http://econlog.econlib.org/archives/2009/12/educational_dis.html)

## Why Go To Class When You Can Get The Notes Online...For Free?

Just like the debate over downloading free music from the internet and its affect on the music industry, many universities are dealing with their own form of online piracy and unauthorized distribution. Several websites have been started across the country that post the notes students take during class lectures. FinalsClub.org was started by a Harvard graduate and pays current students for posting their notes online. The site is unique, however, in that it is a nonprofit and does not charge students to access the notes. And the creator makes sure he asks professors for permission before posting notes from their lectures. Although several Harvard professors have agreed to allow their students' notes to be posted, many other professors have refused. Many believe that just as music is an artist's creative property, a lecture is a professor's intellectual property. Do universities or professors own the intellectual property rights to lectures? And what about the accuracy of the notes and the idea that students will feel they can skip more and more classes now? Isn't in-class participation, feedback, and note-taking part of the learning process? For more on this story see: <http://www.boston.com/bostonglobe/ideas/articles/2009/12/13/freeharvardeducationcom/>

## Team From MIT Shows How the Internet and Social Networking Helped Them Win DARPA's \$40,000 Challenge

The Defense Advanced Research Projects Agency (DARPA) launched a challenge that required participants to locate ten large, red balloons at undisclosed locations across the U.S. Since no one person could plot the location of all ten balloons, the group from MIT used the internet and social networking sites to build partnerships in the competition and communicate efficiently. They identified the locations of all ten balloons in less than nine hours after the balloons were launched. To read more about the strategy they used to win the contest go to: [http://news.cnet.com/8301-1023\\_3-10411211-93.html](http://news.cnet.com/8301-1023_3-10411211-93.html)

<https://networkchallenge.darpa.mil/default.aspx>



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## Report on American Consumption of Information

The University of California, San Diego researched the world's data and information in 2008 to determine how much information people consumed, what types, and where it went. Their statistics include information consumed by individuals for non-work-related reasons. Radio and tv combined still dominate our consumption per day. Reading consumption had been declining for decades but tripled in the last thirty years because it is now the preferred way to receive words on the internet. Computers have had major effects on information consumption. Although more than three-quarters of U.S. households' information does not come from computer sources, computer and video games account for fifty percent of all information bytes consumed in the home because of their huge streams of graphics. To read the full information consumption report go to:  
[http://hmi.ucsd.edu/pdf/HMI\\_2009\\_ConsumerReport\\_Dec9\\_2009.pdf](http://hmi.ucsd.edu/pdf/HMI_2009_ConsumerReport_Dec9_2009.pdf)

## Open Source Hardware Guide 2009

Open source hardware are projects in which the creators decided to publish all the sources, schematics, firmware, software, bill of materials, parts lists, drawings and board files to recreate hardware. To see the more than 125 projects go to:  
[http://blog.makezine.com/archive/2009/12/open\\_source\\_hardware\\_2009\\_-\\_the\\_def.html](http://blog.makezine.com/archive/2009/12/open_source_hardware_2009_-_the_def.html)

## HoneyPot Receives 1 Billionth Spam Message

Project Honey Pot, a large group of web and email administrators around the world, has been online tracking spam messages since 2004. The information is catalogued and shared with law enforcement and security partners. According to their research the highest volume of spam is sent on Mondays, pharmaceuticals are the most popular products sold through spam, Facebook is the second most phished organization online (followed by a combination of financial institutions), and the U.S. is thought to have the sixth best IT security in the world. To read more about the Who, What, When, Where, and Why of online spam go to:  
[http://www.projecthoneypot.org/1\\_billionth\\_spam\\_message\\_stats.php](http://www.projecthoneypot.org/1_billionth_spam_message_stats.php)

## More Interesting Articles...

### FASTR Desktop PC Has Supercomputer Power:

[http://www.dvhardware.net/articles25\\_fastra\\_2\\_desktop\\_supercomputer.html](http://www.dvhardware.net/articles25_fastra_2_desktop_supercomputer.html)

### FASTR II is World's Most Powerful Desktop Computer: 12TFLOPS of Computing Power for 6,000€:

<http://fastra2.ua.ac.be/>

### Researchers Use Gaming Hardware to Create Artificial Computer Vision Systems:

<http://www.tgdaily.com/hardware-features/44910-team-creates-better-artificial-vision-system>

### Harvard's Visual Neuroscience Group Attempts to use Reverse Engineering of Biological Visual Systems to Improve Artificial Vision Systems:

<http://www.rowland.org/rjf/cox/Projects/Computation/computation.html>

<http://webmac.rowland.org/rjf/cox/>

<http://vimeo.com/7945275>

<http://www.ploscompbiol.org/article/info%3Adoi%2F10.1371%2Fjournal.pcbi.1000579>

### National Center for Atmospheric Research Will Build New Supercomputer Center in Wyoming Instead of Colorado: [http://www.denverpost.com/ci\\_13991384](http://www.denverpost.com/ci_13991384)

### Understanding Scam Victims: Seven Principles for Systems Security:

<http://www.cl.cam.ac.uk/techreports/UCAM-CL-TR-754.pdf>

### Linux Kernel Functionality for High Availability Network Based Raid:

<http://www.linux-magazine.com/Online/News/DRBD-Merged-into-Mainline-Kernel>

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

### Mythology of Bioinformatics - Computing With Biotechnology and Molecular Biology Data:

<http://sciblogs.co.nz/code-for-life/2009/12/04/bioinformatics-%E2%80%93-computing-with-biotechnology-and-molecular-biology-data/>

<http://sciblogs.co.nz/code-for-life/2009/12/09/retrospective%E2%80%93the-mythology-of-bioinformatics/>



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## HOW COOL!

### MIT Students Reinvent the Wheel and Allow You to Turn Your Ordinary Bike Into a Hybrid E-Bike; A Smart Bike Controlled by Your Smart Phone

The Copenhagen Wheel is a hub containing a motor, 3-speed gear, batteries, torque sensor, and a sensor kit that monitors personal information and environmental elements (from how many calories you are burning to the carbon monoxide surrounding you). When your smart phone is placed on the handlebars its Bluetooth module syncs with the one in the hub of the Wheel and the information sharing begins. You can use your phone to lock and unlock your bike, change gears, and select how much the motor assists you. The Wheel can even capture energy from braking and save it for later when you need a boost, like when going up a hill. To read more about the Copenhagen Wheel visit:

<http://senseable.mit.edu/copenhagenwheel/index.html>

### British Villagers Find New Use for Icon

There's something cool about seeing an icon that refuses to be brushed aside by modern technology. Think of England's cultural symbols, for example. Walk out of London's Heathrow airport and see a line of black cabs, still sporting their retro designs, waiting for their next fares. Getting inside a black cab is like taking a step back in time. And how about those hard-to-miss red telephone booths, or 'phone boxes' as they're called in England. In an age when everybody from grannies to elementary school children has cell phones, the phone booth has become irrelevant. But some of the British public want to keep those phone boxes around, even if they're not going to use them to make calls. Residents have come together and campaigned to persuade BT, England's telecommunications giant, to restore some of the boxes. And others have adopted boxes and transformed them into such things as public restrooms, an in-home shower, and artwork. In one case, a town outside of London used several phone boxes to create artwork resembling a row of fallen dominoes. Read how one village adopted a phone box and turned it into a miniature library used to swap books, DVDs and CDs.

[http://news.bbc.co.uk/2/hi/uk\\_news/england/somerset/8385313.stm](http://news.bbc.co.uk/2/hi/uk_news/england/somerset/8385313.stm)

## More Interesting Articles...

### Scientist Discovers New Way to Repair Damaged Nerves:

<http://www.theglobeandmail.com/news/technology/science/scientist-discovers-new-way-to-repair-damaged-nerves/article1396395/>

### European Southern Observatory Reveals Amazing First Images From Their New VISTA Telescope:

<http://blogs.discovermagazine.com/badastronomy/2009/12/11/incredible-vista-of-the-cosmos/>

## MAKES YOU SAY "HMMM"

### Did Some Cities' Long-Term Reliance on Their Natural Resources Instead of Human Resources Curse Them Today?

Industrial towns have often relied on a single industry for years. But economic growth has stalled in some areas. Perhaps the dominance of a single industry destroys the innovation and education goals in that area. Large companies crowd out smaller entrepreneurs and industrial towns attract less-skilled and less-educated workers. Will America prosper more by relying on its human resources? <http://economix.blogs.nytimes.com/2009/12/08/what-makes-cities-great/>

### Want To Stimulate Your Brain? Leave Town.

If 70% of trips we take away from our immediate area are not business-related, why do we travel so much? Is it because we love rushing to the airport only to find out our flight is delayed or canceled? Perhaps we enjoy waiting in long security lines and stripping down to our socks once we finally make it to the front? Do we like the airplane food...if we get any at all? Or maybe it's dealing with the person behind the counter in the lost luggage office. According to one blogger, traveling isn't only about the physical relocation. But it allows us to take a mental voyage as well. Whether we're trying to escape problems at home and the mental smothering they cause or merely hoping to become a well-traveled, passport-stamping cosmopolitan, there is something mentally liberating about having variations in our environments. Researchers



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found that after giving business students a psychological puzzle to solve, the ones that had lived abroad before were 20% more likely to solve the problem. So, if familiarity blocks creativity and changing time zones helps our intellectual flexibility, then get packing. Sure, the actual *traveling* part of the trip isn't always fun, but the mental stimulation is. To read more about the cognitive benefits of travel or other global dialogue about how other fields of science affect our everyday lives visit:

[http://scienceblogs.com/cortex/2009/12/why\\_we\\_travel.php](http://scienceblogs.com/cortex/2009/12/why_we_travel.php)

## Slicing Pizza Is About As Easy As Pi( $\pi$ )

Most of us reach for a slice of pizza and think nothing about the complexity of it other than wondering how many slices we can consume in one sitting. However, two mathematicians that ate together once a week while co-workers at a university started wondering what would be the best way to cut a pizza ensuring that all the slices were the exact same size. Well, it seems that it all depends on the number of cuts made and whether a cut goes directly through the center of the pizza. There's an exact science to it apparently, or someone will always end up getting the most overall or the least overall. Finding a solution to this pizza-cutting problem has been a brain teaser for over forty years. To read more about their complex research into the perfectly-sliced pizza go to:

<http://www.newscientist.com/article/mg20427381.500-the-perfect-way-to-slic>

## Former Investment Bank Analyst Says Turning Down Opportunity to Work for Facebook Was His Biggest Mistake

Six years ago when two college friends asked this Harvard graduate to come work with them as they were trying to launch their new website, he declined and opted to stay in New York and remain in his position as an investment banker analyst. He was enjoying his six-figure salary and all the perks of his job. Little did he know that website would become the world's most used social networking website. Now, after being fired from the investment bank in 2009, he is looking for a *Plan B* and considers attending law school.

<http://www.mcsweeneys.net/2009/12/9coster.html>

## How Wise is Repugnance?

Repugnance is having more extreme disgust and hostility towards something than your ability to even rationalize why. In Bryan Caplan's blog for the Library of Economics and Liberty he discusses how people are quick to express repugnance towards something simply because it is unfamiliar to us, it involve bodily fluids and the human body, or because other people encourage us to do so. He adds that there are several practices that were thought to be repugnant initially but are now widely accepted such as c-sections, in vitro fertilization, inter-racial marriage, and male nurses. So did accepting some of our repugnances from the past actually end up for the better today? And with human cloning now a hot topic, should we again put repugnance aside because we will easily get used to it like we have the others? To read the full blog and comments that followed go to:

[http://econlog.econlib.org/archives/2009/12/how\\_wise\\_is\\_rep.html](http://econlog.econlib.org/archives/2009/12/how_wise_is_rep.html)

## Obama Issues Memo to the Head of Every Federal Department and Agency Instructing Them to be Transparent

President Obama hopes that transparency in government will promote accountability. Some of the first steps taken include disclosure of White House staff salaries, the names of everyone who visits the White House, and data about federal spending and research. In addition, the Open Government Initiative (OGI) outreach effort was launched to allow public participation and contribution of ideas. Community input is requested regarding enhancing public access to archived publications that result from federally-funded research. To submit your comments by the January 7, 2010 deadline go to:

<http://www.whitehouse.gov/open>

To read more background information about this request for public comments see:

<http://edocket.access.gpo.gov/2009/E9-29322.htm>

<http://www.ostp.gov/galleries/default-file/RFI%20Final%20for%20FR.pdf>



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<http://blog.ostp.gov/2009/12/09/ostp-to-launch-public-forum-on-how-best-to-make-federally-funded-research-available-for-fre/>

<http://blog.ostp.gov/2009/08/27/open-government-agenda-spills-into-states-and-localities/>

## More Interesting Articles...

### Skepticism's Limits and Peer Review:

[http://www.economist.com/blogs/democracyinamerica/2009/12/trust\\_scientists](http://www.economist.com/blogs/democracyinamerica/2009/12/trust_scientists)

### NASA's Interim Report on Near-Earth Objects Surveys and Hazard Mitigation Strategies:

[http://www.nap.edu/openbook.php?record\\_id=12738&page=1](http://www.nap.edu/openbook.php?record_id=12738&page=1)

### Looking Deeply at the Sociology of Science:

<http://understandingsociety.blogspot.com/2009/12/mertons-sociology-of-science.html>

government agencies and contractors, active military, veterans, and any others seeking job training or skill enhancement. To see the full list of institutions that received BRAC grants and what projects they will be used for go to:

<http://www.governor.maryland.gov/ltgovernor/pressreleases/091215.asp>

[http://www.umbc.edu/blogs/umbcnews/2009/12/umbc\\_receives\\_83208\\_brac\\_high.html](http://www.umbc.edu/blogs/umbcnews/2009/12/umbc_receives_83208_brac_high.html)

## MEMBER SPOTLIGHT

### University of Maryland, Baltimore County Receives BRAC Higher Education Grant

In 2005 the Congress approved and President Bush signed into law final recommendations that directed the closure of some military bases and the realignment of military components throughout the country to be executed no later than September 2011. Base Realignment and Closure (BRAC) is expected to have a positive impact in Maryland with an estimated 60,000 jobs in communications, intelligence, and other high-skilled fields. In 2008 legislation authorized the Maryland Higher Education Commission to make expenditures for initiatives that address higher education needs related to the BRAC relocation effort. Last month the University of Maryland, Baltimore County (UMBC) received one of twelve BRAC Higher Education grants. The grant will help UMBC establish a Center for Cybersecurity Training. Fifteen courses will be targeted at employees of state and federal



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## MAX Participants

### Federal Labs and Agencies:

- 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 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