

Attention UMD Researchers: Mid-Atlantic Crossroads Update

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Mid-Atlantic Crossroads (MAX) is a gigaPoP, or gigabit Point of Presence, founded in 1999 by the University of Maryland, Georgetown University, George Washington University, and Virginia Tech. MAX's role is to research, design, and deploy high-performance networking services that enable its participants to successfully fulfill their organizational missions.

MAX is enhancing its existing Research and Education (R&E) metro network facilities with emerging 100 Gigabits per second (100Gb/s) equipment to support data intensive science exploration, modeling, and discovery. The MAX R&E network will upgrade its 10Gb/s peering connections to 100Gb/s with Internet2, the Energy Sciences network (ESnet), National LambdaRail (NRL) (all of whom have plans for upgrading to 100Gb/s), and the Next Generation Internet Exchange - East (NGIX-E) exchange point operated by MAX for the federal research networks.

MAX supports a number of campuses whose astronomy, biology, environmental science, computer science, engineering, geo-science, and physical science communities have large scale data flow requirements. MAX participants include 47 universities, federal agencies, and government laboratories in Maryland, Virginia, and the District of Columbia.

MAX conducts research in some core areas of dynamic optical networks, control plane architectures, network management, optical performance, network virtualization, and next-generation terabit interfaces.

MAX is also an active participant in the National Science Foundation's (NSF) Global Environment for Network Innovations (GENI) program. Its research network is one of the GENI substrates for dynamic optical network virtualization.

MAX will also be collaborating with NORDUnet, a joint collaboration of five Nordic national research and education networks, and UMIACS, the University of Maryland Institute for Advanced Computer Studies, in preparing proposals for the NSF. To respond to the changing communications world, six Fujitsu Flashwave 9500 packet optical networking platforms have been staged in the MAX lab and are being deployed to other advanced networking points of presence (PoPs).

In recent months, MAX has been considering ways to remain innovative and expand beyond advanced network connectivity. Eucalyptus Systems recently visited MAX about a partnership in cloud computing services that MAX is planning to deploy. The visit included a three-day training course on open source cloud management. Aside from looking outside of their current business model for services offered, MAX is also examining diversifying their partnerships to include other business industries such as healthcare institutions, local government, and online schools. MAX is taking the initial steps toward achieving these goals by finalizing plans to add two additional PoPs to their existing eight, upgrading the research network to 100Gb/s, and demonstrating new services, all by the second quarter of 2011.

MAX is very pleased to be a part of the efforts to enhance the research community at large, as well as to help strengthen research activities that come from the University of Maryland by being a resource for proposals and events. Dr. Joseph Jaja, the university's interim vice president and chief information officer, submitted a proposal to the NSF for a major research instrumentation program. More than thirty faculty members from different research areas and academic units are participating as senior investigators. Additionally, MAX organizes events and workshops involving regional institutions and research labs, including hosting a high-performance computing boot camp that provides training to a large number of faculty, staff, and student researchers.