Advanced Arts & Humanities Initiatives within MAGPI, NJEDge and Internet2

Jennifer Oxenford
Associate Director

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What is Internet2?

• The Research and Education Network for the United States
• Led by 208 research universities
• Close collaborations with government: NIH, NSF, NLM, NASA, to name only a few
• An organization that serves academic and technology needs at all levels of education
• A venue that brings together academics and scientists from all over the world
**Internet2 Mission**

Develop and deploy advanced network applications and technologies, accelerating the creation of tomorrow’s Internet.

**Internet2 Goals**

- Enable new generation of applications
- Re-create leading edge R&E network capability
- Transfer technology and experience to the global production Internet
• Altarum
• American Distance Education Consortium
• Association of Universities for Research in Astronomy (AURA)
• CERN
• Charles R. Drew University
• Children’s Hospital of Philadelphia
• Cleveland Institute of Music
• Cleveland Museum of Art
• CENIC
• Desert Research Institute
• EDUCAUSE
• ESnet
• Healthcare Information and Management Systems Society (HIMSS)
• Howard Hughes Medical Institute
• Indiana Higher Education Telecommunications System (IHETS)
• Inter-American Development Bank
• Internet Educational Equal Access Foundation
• Jet Propulsion Laboratory
• LEARN
• The Library of Congress
• Los Alamos National Laboratory
• Manhattan School of Music
• MCNC
• Merit Network, Inc.
• MOREnet
• NASA Goddard Space Flight Center
• NASA Marshall Space Flight Center
• National Archives and Records Administration
• National Institutes of Health
• NOAA – Washington, D.C.
• National Science Foundation
• New World Symphony
• NJEDge.Net
• NYSERNet, Inc.
• Oak Ridge National Laboratory
• OARnet
• OneNet
• Pacific Northwest National Laboratory
• PeachNet
• Ruth Lily Health Education Center
• SURA
• Southwest Research Institute
• TOPIX
• U.S. Census Bureau
• United Nations System of Organizations
• United States Antarctic Program
• United States Dept. of Commerce Boulder Labs
• United States Holocaust Memorial Museum
• University Corporation for Atmospheric Research
• University of North Carolina General Administration
• The World Bank
The New Internet2 Network
### Europe-Middle East
- Europe (GEANT2)
- Austria (ACOnet)
- Belgium (BELNET)
- Bosnia-Herzegovina (BIHARNET)
- Croatia (CARNet)
- Czech Rep. (CESNET)
- Cyprus (CYNET)
- Denmark (Forskningsnettet)
- Estonia (EENet)
- Finland (Funet)
- France (Renater)
- Germany (G-WIN)
- Greece (GRNET)
- Hungary (HUNGARNET)
- Iceland (RHnet)
- Ireland (HEAnet)
- Israel (IUCN)
- Italy (GARR)
- Jordan (JUNET)
- Latvia (LATNET)
- Lithuania (LITNET)
- Luxembourg (RESTENA)
- Malta (Univ. Malta)
- Netherlands (SURFnet)
- Norway (UNINETT)
- Palestinian Territories (Gov’t Computing Center)
- Poland (PIONIER)
- Portugal (RCTS2)
- Qatar (Qatar FN)
- Romania (RoEduNet)
- Russia (RBnet, RUNNET)
- Slovakia (SANET)
- Slovenia (ARNES)
- Spain (RedIRIS)
- Sweden (SUNET)
- Switzerland (SWITCH)
- Syria (HIAST)
- United Kingdom (JANET)
- Turkey (ULAKBYM)
* CERN

### Asia-Pacific
- Australia (AARNET)
- China (CERNET, CSTNET, NSFCNET)
- Fiji (USP-SUVA)
- Hong Kong (HARINET)
- India (ERNET)
- Indonesia (ITB)
- Japan (SINET, WIDE, JGN2)
- Korea (KOREN, KREONET2)
- Malaysia (MYREN)
- New Zealand (KAREN)
- Philippines (PREGINET)
- Singapore (SingAREN)
- Taiwan (TANet2, ASNet)
- Thailand (UNINET, ThaiSARN)
- Vietnam (VINAREN)

### Americas
- Latin America (redCLARA)
- Argentina (RETINA)
- Brazil (RNP2/ANSP)
- Canada (CA*net)
- Chile (REUNA)
- Colombia (RENATA)
- Costa Rica (CR2Net)
- Guatemala (RAGIE)
- Mexico (Red-CUDI)
- Nicaragua (RENAIA)
- Panama (RedCyT)
- Peru (RAAP)
- Uruguay (RAU2)
- Venezuela (REACCIUN2)

### Central Asia
- Armenia (ARENA)
- Georgia (GRENA)
- Kazakhstan (KAZRENA)
- Tajikistan (TARENA)
- Uzbekistan (UZSCI)

### Africa
- Algeria (CERIST)
- Egypt (EUN/ENSTINET)
- Morocco (CNRST)
- Tunisia (RFR)
- South Africa (TENET)
<table>
<thead>
<tr>
<th>Organization</th>
<th>Total - 9/02</th>
<th>Total - 5/04</th>
<th>Total - 5/06</th>
</tr>
</thead>
<tbody>
<tr>
<td>K12 Schools</td>
<td>7,173</td>
<td>23,388</td>
<td>35,971</td>
</tr>
<tr>
<td>Community Colleges</td>
<td>551</td>
<td>594</td>
<td>677</td>
</tr>
<tr>
<td>Four Year Colleges and Universities</td>
<td>526</td>
<td>852</td>
<td>1,002</td>
</tr>
<tr>
<td>Public Libraries</td>
<td>1,482</td>
<td>2,360</td>
<td>3,325</td>
</tr>
<tr>
<td>Museums, Zoos, Aquariums and Science Centers</td>
<td>102</td>
<td>74</td>
<td>76</td>
</tr>
<tr>
<td>Grand Total</td>
<td>9,834</td>
<td>27,268</td>
<td>46,000</td>
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</tbody>
</table>
What is MAGPI?

MAGPI is a regional aggregation point for Internet2. We serve the Pennsylvania, Delaware and New Jersey research and education communities.

Our mission?

To introduce new technology
To collaboratively develop new applications with our subscribers
To make access to these technologies and applications economical and sustainable
MAGPI Member Snapshot

- Arcadia University
- Capital Area IU
- Carbon Lehigh IU
- Chester County IU
- Children's Hospital of Philadelphia
- Center for Advancing Partnerships in Education (CAPE)
- Colonial IU
- Delaware County IU
- Delaware State University
- DELEARN - State R&E Network for Delaware
- DeSales University
- Fox Chase Cancer Center
- The Franklin Institute
- IUs 8/9/10
- Lafayette College
- Lehigh Carbon Community College
- Lehigh University
- Lehigh Valley Hospital

- Lincoln IU
- Mont. Co. Intermediate Unit
- Mont. Co. Community College
- National Constitution Center
- NJEDge.Net – State R&E Network for N.J.
- The Philadelphia Orchestra
- Princeton University
- CERMUSA / St. Francis University
- Temple University
- Thomas Jefferson University and Hospital
- Tuscarora IU
- University of Delaware
- University of Pennsylvania
- University of Scranton
- Villanova University
- Widener University
The New Jersey State Research and Education Network

INTERNET2 / SEGP TOPOLOGY:
4-12 Members
39-SEGP Members

Current Bandwidth Commitments:
- SEGP - 45Mb
- Rutgers - 155Mb
- NJIT - 20Mb
- Seton Hall - 8Mb
- Stevens - 40Mb
- UMDNJ - 40Mb

Total - 308 Mb

1. NJEdige.Net Loop - ½ ATM OC-12
   (45 Mb Extranet PVC up to 266 Mb for Intranet PVCs)

2. Aggregation and Routing at Rutgers

3. Verizon Loop (Clear Channel OC-12)

NJEdige.Net to Rutgers:
1. ATM OC-12 (622 Mb - 311 Mb for Rutgers, 311 Mb for NJEdige.Net)
2. 45 Mb Extranet ("shared, routed bandwidth" for SEGP members)
3. 266 Mb Intranet ("dedicated, layer 2 bandwidth" available for 2 members)

Rutgers to MAGPI:
Clear Channel OC-12 (622 Mb)
• Real-time access to remote resources
• Large-scale multi-site computation and data mining
• Interactive collaboration
• Rich, multi-media digital libraries
• Shared virtual reality
• …
Changing Teaching and Learning in the 21st Century Classroom

The student who will enter medical school in 5-10 years can absorb multiple channels of information:

- Lecture
- Second screen
- Dynamic charts
- Communal note taking
- Messaging
- Communal note taking
- Lecture
- Second screen
- Dynamic charts

Slide courtesy Parvati Dev, Stanford
Changing Live Performance in the 21st Century Arts Venue

- Virtual performance venue
- Distributed international audiences
- Multi-media assets
- Integrated smart board
• Distributed production of Elmer Rice’s *The Adding Machine* as part of Bradley’s performance season

• Four institutions participated
  • Bradley (theater arts and multimedia programs)
  • U. Waterloo
  • Univ. of Central Florida
• Largest Museum Educational Outreach Program in US
• International Conservation Network
• For-Credit, fee-based, semester long course “Survey of Non-Western Art”
• Meets demand for specialized art, music, humanities faculty

http://www.clevelandart.org/educef/distance/
Rise of Serious Gaming

- UN Food Force Game
- Second Life for Education
- Open Croquet
- Discover Babylon
- Virtual University
- ...

http://www.food-force.com/
• NJPAC now directly connected to the NJEDge network
• Verizon grant provided vc equipment for major performance spaces
• Education groups within NJPAC and the NJ Symphony Orchestra now use videoconferencing for K12 programs across the state
• National Conference on Arts and Aging: Creativity Matters
• Planning a virtual dance education program
• DVTS 30 Mbps each way
• Keio University in Tokyo and Montgomery County Community College, Blue Bell, PA
• Live rehearsal and critique of “Rondo”

http://www.magpi.net/Sept16.html
• Interactive Game Film Project
• Used Access Grid
• Apple Servers run out of MAGPI
• Access Grid support by Penn Video Network
• International University Collaboration between 13 schools
Language & Culture Exchange

- Designed by U Penn students at the Graduate School of Education or students currently enrolled in the university's English Language Program
- 45 minute, live interactive sessions
- Scaled for grade levels and appropriate for social studies, world cultures, foreign language and geography classes
- Programs included: French West Africa, Japanese Pop Culture Exchange, Chinese New Year, ...

http://www.magpi.net/exchange.html
• Professional Development program offered by the Africa Studies Center at Penn in partnership with MAGPI
• Dr. Ali B. Ali Dinar presented on the Cultural and Social diversity in Africa
• 90 minute, live interactive session
• Targeted for secondary school social instructors appropriate for social studies, world cultures, foreign language and geography classes

http://www.magpi.net/africastudies.html
St. Francis University’s Outreach to K20

- The Didgeridoo: Exploring the Dreamtime (live performance and instruction with Jim Gagnon)
- The Universe of Song (Music Writing Workshop with Paul Purple)
- The Arts & Living Seminar
- Catholicism/World Religions for Secular Institutions
The Philadelphia Orchestra

- Kicked the tires with High Def videoconferencing for audience engagement master class with New World Symphony
- Pilot with Mont. Co. Community College on 3/23 using DVTS
- International expansion of programs starting in April for multi-site DVTS streaming
• K20 User Group and Virtual Forums
• Tri-State Database
• K20 Portal
• K20 Newsletter
• Training
  • Videoconferencing/I2 Commons Training
  • Curriculum Integration/Professional Development

http://www.magpi.net/k20network.html
I2 Working Groups, SIGs, BoFs

- Health Sciences
- Medical Middleware
- Veterinary Medicine
- Arts & Humanities
- Arts Performance
- High Energy and Nuclear Physics
- Geospatial Apps
- Orthopaedic Surgery
- Radiology
- Bioethics (proposed)
- Astronomy

- Archeology
- Collaboration
- Voice over IP
- Digital Video
- VidMid VC
- VidMidVoD
- Teaching and Learning
- Digital Content Delivery
- ResearchChannel
- Network Storage
- Presence & Integrated Communications
Get and Stay Involved

- Talk with your campus IT folks and local Internet2 liaisons to NJEDGE.Net and MAGPI
- Seek/be faculty/student champions
- Follow and join MAGPI K20 User Group/Forums
- Sign-up for MAGPI PD or VC Training
- Host/attend an Internet2 Event
- Participate in Virtual Events - Megaconference, Gigaconference, Collaboranza, Keystone, etc
- Send me feedback/updates/inquiries
5 new programs launched by NEH

1. Start-up grants (Deadline 4/3/07)
2. Advancing Knowledge NEH/IMLS Digital Partnership (Deadline 3/27/07)
3. Challenge Grants (Deadline 5/1/07)
4. Digital Humanities Workshops (Deadline passed. New deadline posted in Fall)
5. Digital Humanities Fellowships (Deadline 5/1/07)
Digital Learning Initiative launched in 2006

- $50M commitment to build the field of digital media and learning over next 5 years
- Several interdisciplinary reports to be published in 2007
- Several exploratory grants
- Online resources/blogs/etc.

http://www.digitallearning.macfound.org/
Resources

- www.magpi.net
- www.njedge.net
- www.internet2.edu
- www.digitallearning.macfound.org/
- www.neh.gov/grants/digitalhumanities.html
Students are different now
Contact Info:

Jennifer Oxenford
jmacdoug@magpi.net
215-898-0341

www.magpi.net