



Research Support and Engagement

Connector/Network Member Call, 12/01/2011

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For more information, visit www.internet2.edu/research

Topics for Discussion

- **Research Wave Program**
- **R&E Network Research Liaison Program**

Research Wave Program - Overview

- Program to stimulate innovative, transformative research by providing dedicated access to Internet2 Network services at a reduced cost for a specific time period.
 - Recommended and approved by the Internet2 Research Advisory Committee
 - Program makes available to the research community four channels out of the 88-channel optical system on every segment of the Internet2
 - Goal is to provide an environment that allows researchers to experiment with and test different types of infrastructure and services, providing concrete information on what services will fit best with their specific applications.

Research Wave Program - Components

- **Resources available**
 - Point-to-point backbone Ethernet waves or dark backbone channels available on a segment-by-segment basis along the entire backbone footprint
 - Internet2 backbone topology can be used as a guide to segments
 - See <http://www.internet2.edu/pubs/Internet2%20Planned%20100G%20Infrastructure%20Topology.pdf>
- **Costs to Researchers**
 - Research project will be required to cover any capital and additional out of pocket expenses incurred as part of the project
 - May include regional or campus costs associated with connecting to the backbone wave(s)
 - Costs will vary depending on the type of Research Wave deployed

Point-to-Point Backbone Ethernet Waves

- Two Types
 - *No-Capital Backbone Research Wave*
 - *Capital-Only Backbone Research Wave*
- No-Capital Backbone Research Wave
 - 10 GE wave between two optical nodes on the Internet2 backbone
 - No capital cost for the wave
 - Available for up to one year for qualified research projects
 - Not renewable. Expectation wave will be returned to Internet2 at the project's approved endpoint or transitioned into a Capital-Only or production wave
 - Total availability of no-capital waves to the community is one 10 GE wave per segment along the entire Internet2 backbone

Point-to-Point Backbone Ethernet Waves

- *Capital-Only Backbone Research Wave*
 - 10, 40, or 100 GE wave between any two optical nodes on the Internet2 backbone
 - Internet2 will provide the equipment (transponders) to light the appropriate bandwidth wave on the segment or segments
 - Research project responsible for paying applicable capital costs
 - The exact capital costs depend on the number of backbone segments, the bandwidth per segment, and the performance period requested by the project
 - The per-segment per-year cost for each wave type is:

10 GE	\$10,000
40 GE	\$41,000
100 GE	\$119,000

Dark Backbone Channels

- Optical channel is available between any two optical nodes on the Internet2 backbone
 - Typically for researchers wishing to deploy their own equipment
- Researcher is responsible for providing the equipment to light either native (Ciena) or alien (non-Ciena) waves
- Must collaborate with Internet2 on the installation and support of these waves
 - List of requirements will be available on the Research Wave Program www site
 - <http://www.internet2.edu/research/resources/research-wave-program.cfm>

Process for Requesting Resources

- Must submit a proposal to Internet2 detailing the research project and the specific resource(s) requested from Internet2.
 - Requests will be submitted via email to rs@internet2.edu or via the online form.
- Required information includes:
 - PI(s) and participating institution(s),
 - Proposed project including a one-page proposal abstract delineating the plan for deploying these resources within the project,
 - A list of requested resources,
 - A list of project-provided resources,
 - Co-location requirements, including ability to provide the necessary co-location space and/or power,
 - Timeline and milestones,
 - Budget information, and
 - Letters of support from the regional and campus networks included in the end-to-end path of the project.

R&E Network Research Liaison Program

- As part of its Research Support Center, Internet2 is creating an R&E Network Research Liaison program to foster new and expand existing relationships with the regional networks.
 - Initial idea came out of the discussion at the Connectors and R&E Member Business Meeting at the Fall Internet2 Member Meeting
- Overall Goal
 - Provide comprehensive end-to-end support for the national research community
 - Leverage ongoing regional research support activities and identify and fill gaps in research support

R&E Network Research Liaison Program

- Pilot Phase - Call for Participants
 - Identify a small group of people from Internet2 Connectors and Research and Education Network Members that are willing to be part of a pilot phase
 - Work with the CTO's office to develop the program
 - Specifics
 - CFP is available online:
 - <http://www.internet2.edu/research/docs/research-liaison-program-call-for-participants.pdf>
 - Deadline to apply is December 16, 2011
 - Timeline
 - Pilot will begin in January 2012 and last roughly 3 months
 - Full program will be announced during the Spring 2012 Internet2 MM



QUESTIONS?

Contact information:

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Or

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