

July 31, 2009

Dear Campus Representative,

As you are well aware, the American Recovery and Reinvestment Act (ARRA) has the potential to open many doors for the scientific community in the U.S. The National Science Foundation's Major Research Instrumentation (MRI-R2) program in particular may provide our community a path for strategic investments in advanced network technology that can revolutionize the way scientists like myself connect and collaborate with colleagues to achieve faster, more comprehensive results than previously imagined.

As such, myself on behalf of Caltech, together with my colleagues at the University of Michigan and Vanderbilt University have approached Internet2 to collaborate on an exciting proposal – called “MRI-R2 Consortium: Development Dynamic Network System (DYNES).” This proposal has been presented to and endorsed by Internet2's Architecture and Operations Advisory Council (AOAC) and the Research Advisory Council (RAC). We now seek your input and collaboration.

It is our belief that new virtual or “dynamic” circuit capabilities that provide users with short-term, dedicated network paths will provide the strongest path forward to support the high-energy physics (HEP) community as we collectively prepare for the Large Hadron Collider (LHC) to come online later this year. In the near term, we envision great benefit for the HEP community but our hope and expectation is that our community can leverage this investment to support as many research disciplines as possible in the future.

Through the *DYNES* proposal our goal is to equip the individual campuses that host LHC Tier2 centers as well as many Tier3 centers, and the corresponding Internet2 Connector sites with virtual circuit capabilities. In addition to the LHC, we are looking to involve other major data intensive science projects, such as LIGO and the Virtual Observatory at these campuses, as a lead-in to more general use. By increasing the number of institutions and Connectors enabled with these capabilities we can exponentially increase the utility, value and effectiveness of this type of dynamic networking worldwide.

We are contacting you today to seek your support in this broad-reaching endeavor. As host to one or more LHC research groups on your campus, we would like to include you in this initiative as an important beneficiary. Your participation would require minimal effort and investment but would in return give you the opportunity to grow your capabilities, and give the researchers on your campus the ability to more effectively collaborate with their colleagues worldwide.

Through this proposal, our collaboration plans to provide your campus and your Internet2 Connector with the needed, pre-configured equipment to implement virtual circuit capabilities. If the proposal is funded, we will provide an appropriate switch (1U rackmount, if required) and an IDC (Internet Domain Controller) system (1U, rackmount) and a Fast Data Transport (FDT) storage server (1U+3U) to be used for circuit validation as well as local storage for LHC groups. We will also provide help with equipment tuning, easy methods to improve throughput, and services that will be used and supported by a broader community. However, be aware that there may be some other costs that might be incurred.

By participating in this effort, we would need your assistance in the following ways:

- Accept delivery of the equipment;
- Provide equipment collocation space, network connectivity and power supply for the duration of the 3-year proposal;
- Install and provide initial configuration with step-by-step support from Internet2.

The DYNES collaboration will provide a three-year warranty for all equipment. Additionally, I want to assure you that this effort will use and is complementary to the new Internet2 ION service – its new production dynamic circuit network service. This effort does not conflict with ION and does not pre-determine any particular circuit network architecture.

While this letter aims to provide a high level overview of the proposal and your potential collaboration, we understand there are many more questions that you may have before providing a commitment but we do need to move quickly in order to meet the strict NSF deadlines.

We have set up a couple of times for open calls to address any questions you may have. Please plan on participating on Monday, August 3, 2009 at either:

Monday, August 3, 2009

- 10:00-11:00 am ET
- 4:00-5:00 pm ET

For either one, please call:

1-734-615-7474 or Toll Free US and Canada: 1-866-411-0013

Access code: 0104471#

If you are unable to attend one of these sessions, Internet2 staff will be available to set up one-on-one follow-up conversations – please contact Ana Preston apreston@internet2.edu if you prefer a one-on-one call. We have also reached out to your connector to gather their feedback and support. We want to ensure that the campuses, connectors and Internet2 understand the expectations.

Once you feel comfortable to committing to participation, we would simply need you to fill out a letter of collaboration provided as a form letter from the NSF MRI-R2 solicitation (NSF09561) – see below – submitted to us as an electronically signed PDF by August 5th, 2009. Please send this to Nili Tannenbaum at ntannen@internet2.edu.

We are – as always – appreciative of your support. Your participation is a major step forward in creating a new global network paradigm that will break new frontiers not only in Internet technology but in providing unprecedented capabilities to support the important work of myself and my colleagues around the country.

Best regards,

Harvey Newman/Caltech(Co-PI)

CC:

Eric Boyd/Internet2 (PI)

Doug Benjamin/USATLAS Tier-3 Contact

Ken Bloom/USCMS Tier-2 Contact

Shawn McKee/University of Michigan(Co-PI)

Paul Sheldon/Vanderbilt (Co-PI)

George Loftus, Chair, AOAC

Pete Siegel, Chair, RAC

<http://www.nsf.gov/pubs/2009/nsf09561/nsf09561.pdf>

To: NSF MRI Coordinator

By signing below I acknowledge that I am listed as a collaborator and/or instrument user on this MRI proposal, entitled "MRI-R2 Consortium: Development Dynamic Network System (DYNES)", with Eric Boyd as the Principal Investigator. I agree to perform the tasks assigned to me, as described in the proposal, and I commit to provide or make available the resources therein designated to me.

Signed: _____

Print Name: _____

Date: _____

Institution: _____