

## Network Program Priorities for FY2010

The GPN Network Program was created several years ago when a subset of the members obtained their Internet2 connection through GPN. Since then, the Network Program has grown to include most members, as well as Affiliate Members. In addition, new services such as CPS and DNC have emerged. We also recently spiked at 85% utilization on the Internet2 connection. GPN has been able to accommodate these new demands without an impact on service or fees. There continues to be pressure on the network to deliver increasing bandwidth and new services. We therefore recommend focusing on the following subset of GPN Network objectives from the GPN Strategic Plan:

1.1.1: Provide connectivity to national high performance research and education networks with the capacity, reliability and services needed to support the requirements of the GPN members.

1.1.2: Take advantage of opportunities to create partnerships and to interconnect with other regional next-generation network(s).

1.3.2: Lead the discussion among GPN members with respect to issues raised in national networking forums, e.g. the Quilt, Internet2, to both inform our members and to establish GPN's position on these issues.

1.3.3: Participate in and take leadership roles in activities of selected advance networking organizations (regional, national and international).

### Recommendation

We recommend that the EC charge the Network Program Committee to formulate a plan to address these objectives. The plan should be completed by March 1, 2010, for approval by the GPN Executive Committee and presentation at the GPN Annual Meeting. The plan should address the following issues:

- *Research* network bandwidth needs
  - Ongoing high-bandwidth research needs
  - One-time high-bandwidth needs
  - Scheduled high-bandwidth application needs
  - Other research bandwidth needs
- *Commodity* bandwidth needs and cost-effective ways to meet them
  - I2 CPS
  - NLR Transit Rail
  - WiscNet Peering Service
  - Group Commodity Internet purchases and bandwidth sharing

- Direct peering with other R&E networks
  - Other approaches
- Committed ‘ headroom’ triggers for adding bandwidth
- Downstream connections (other entities connected ‘behind’ a GPN Connector)
- GPN connection services and pricing
  - Currently flat pricing/one size fits all
  - Differentiate pricing for research and commodity?
  - Usage-based?
  - Tiered – minimum floor that each connector pays for x bandwidth, then tiered pricing above the floor?
  - ??
- Identify the relevant network-related organizations, meetings, working groups, etc. that GPN should be engaged with and assign a primary and secondary contact
  - Determine what information should be disseminated from these events, to who (e.g. Executive Committee, Network Technical Committee, member contacts), and in what fashion
- Review the Network Program structure and recommend changes, if any that would make it more effective.
- Other areas as discovered

## **Method of Work**

1. Network Program and Technical Committee members prioritize the list of issues to addressed (there may not be sufficient time to resolve all of these issues this FY)
2. Review current utilization statistics and forecast bandwidth needs
3. Hold a GPN Networking Summit with interested parties and Internet2 staff and selected Internet 2 Advisory Committee Members to understand Internet2’s future directions
4. Consult with other R&E networks on how they are addressing these issues
5. Draft plan by GPN Network Program Committee
6. Executive Council Approval