Overarching Questions for All 3 Break-out Sessions

- What is the mix of traffic and how will it change over time?
- What are the application drivers for your science?
- What are the basic services/functions you need/expect from the network?
- How do you expect the network to be used, and how does that change or stay the same?"

Break-out Session 1: Short: 1-3 years (Terabyte/hour bulk transfer rates)

- What is the most pressing problem for scientists?
- What is the most pressing problem for network operators?
- Rank order and Discuss these issues
    - status of Analysis Tools
    - status of simulations and models
    - status of management tools
    - multi-domain troubleshooting
    - protocol performance and implementations
    - traffic growth and projections
    - testing and deploying new tools and services

Break-out Session 2: Medium: 4-6 years (Petabyte/hour transfer rates)

- Assume that the network infrastructure consists of highly parallel and redundant physical links.
- Assume that new protocols can be deployed over the global Research and Education Network infrastructure.
- Rank order and discuss the following problems
    - Effectively support for bulk data and more interactive flows
    - Routing over this infrastructure
    - Active queue management in routers/switches
    - monitoring and managing the network
    - debugging and troubleshooting
    - predictable transport performance
- When must work begin on solving each specific problem (now, or delay 3 years)

Break-out session 3: Long: 10-12 years (Exabyte/hour transfer rates)

- Assume that the network infrastructure consists of massively parallel links with multiple DWDM channels per link.
    - What revolutionary changes are required (e.g.; parallel bit streams)?
    - What work must start now to be ready in time?
    - What work can be delayed 3-6 years?