

Network Science and Engineering Update

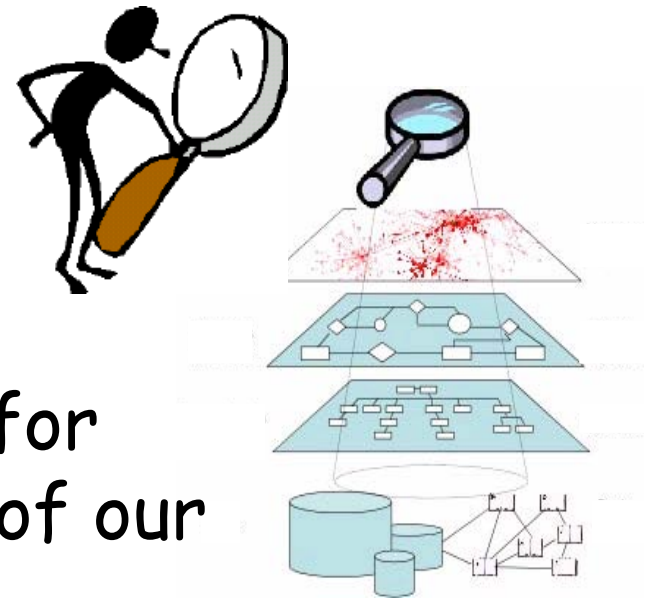
Computing Community Consortium

7 July 2008

Ellen Zegura

Technical context

Fundamental Question: Is there a **science** for understanding the complexity of our **networks** such that we can **engineer** them to have adaptable behavior?



Call to Arms: To develop a compelling research agenda for the science and engineering of our evolving, complex networks.

A brief unofficial history of NetSE



GENI

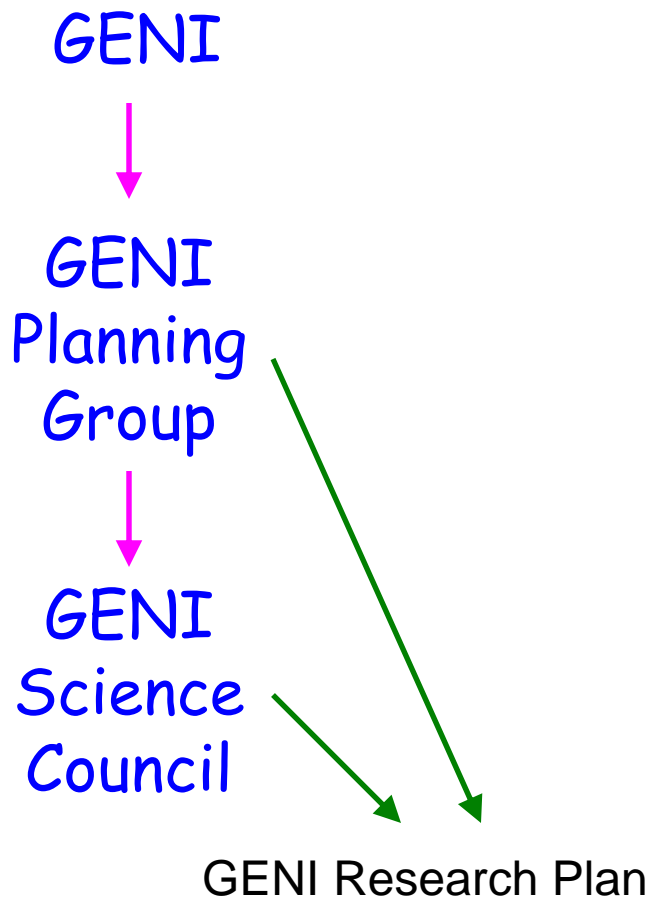


GENI
Planning
Group

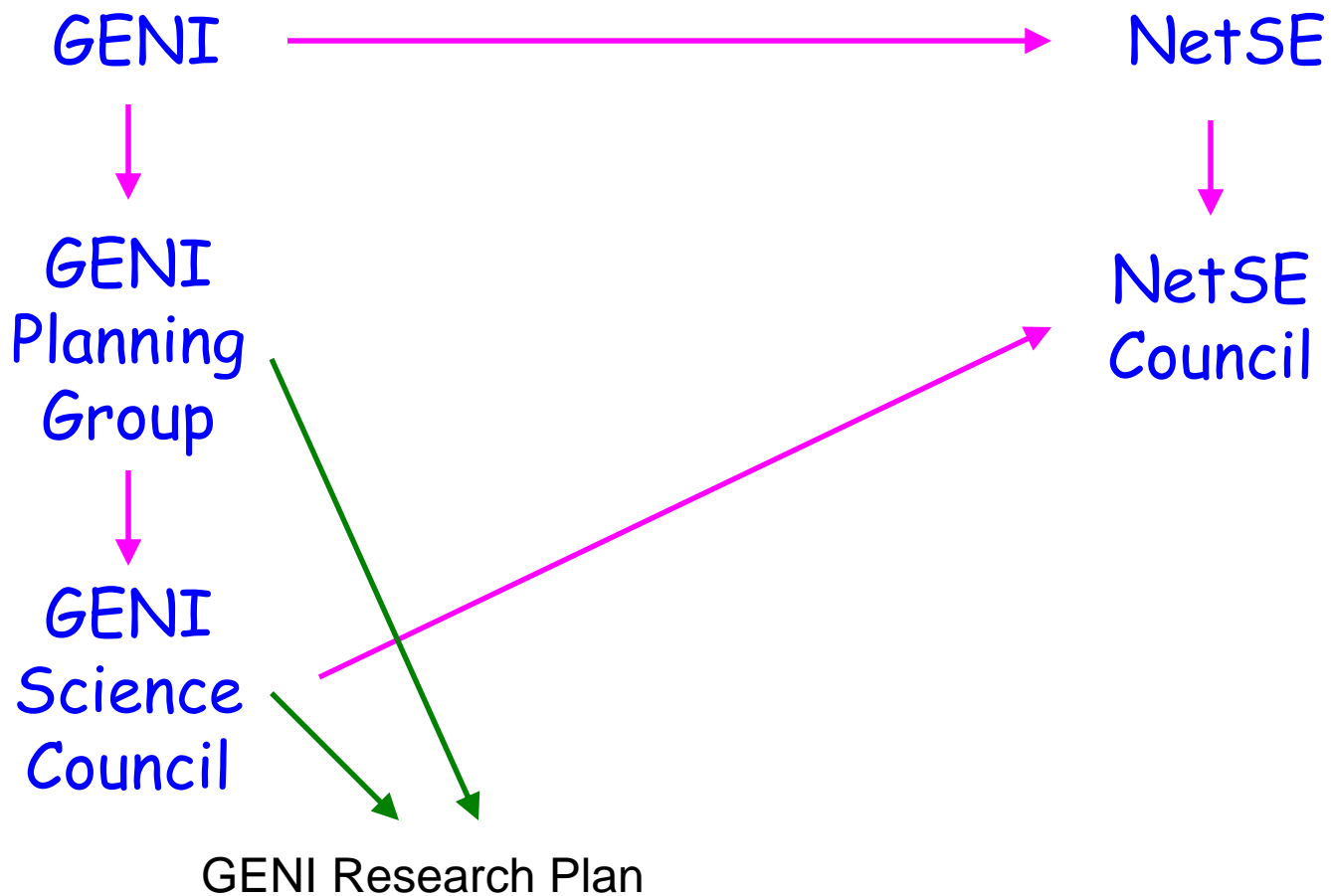


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Science
Council

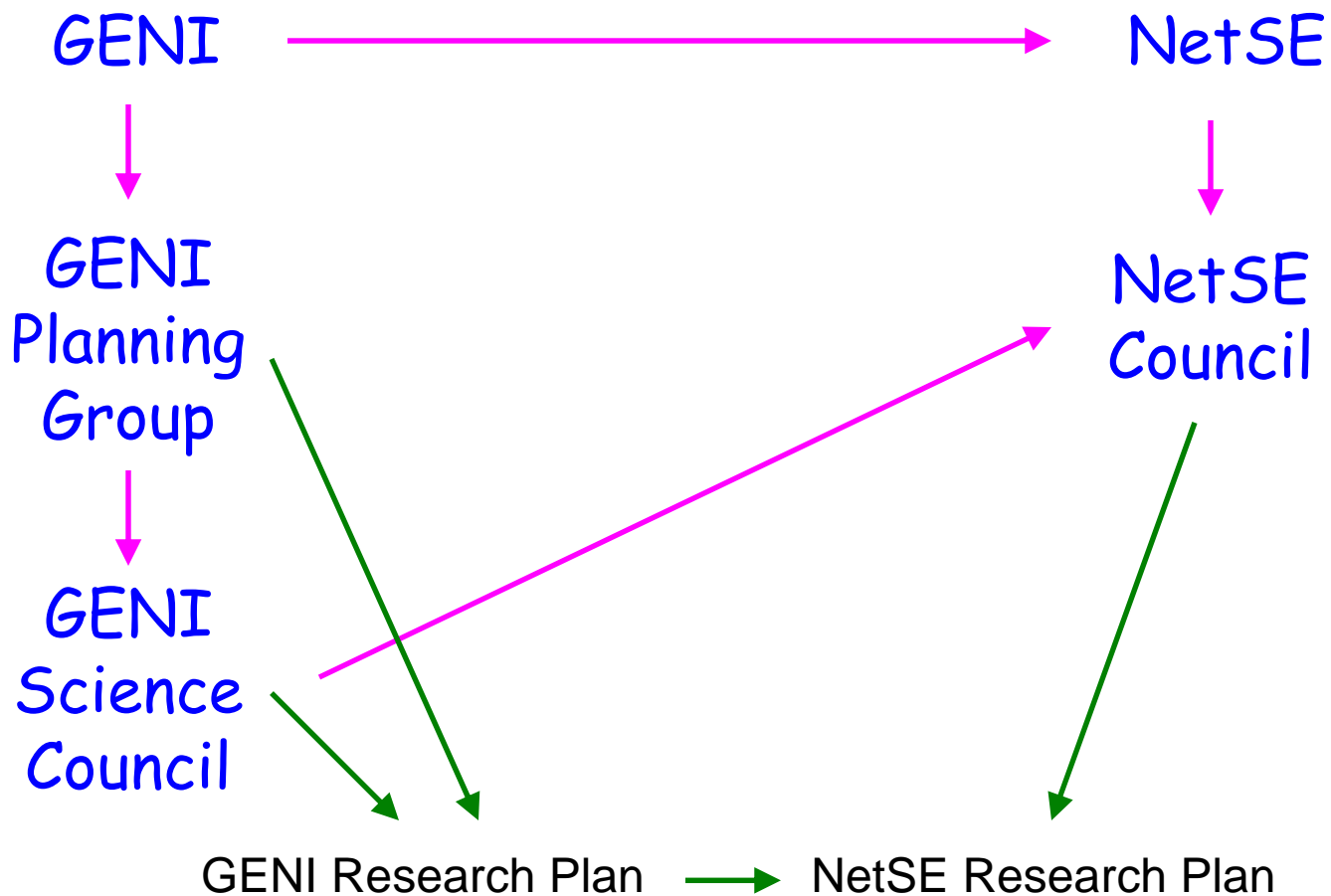
A brief unofficial history of NetSE



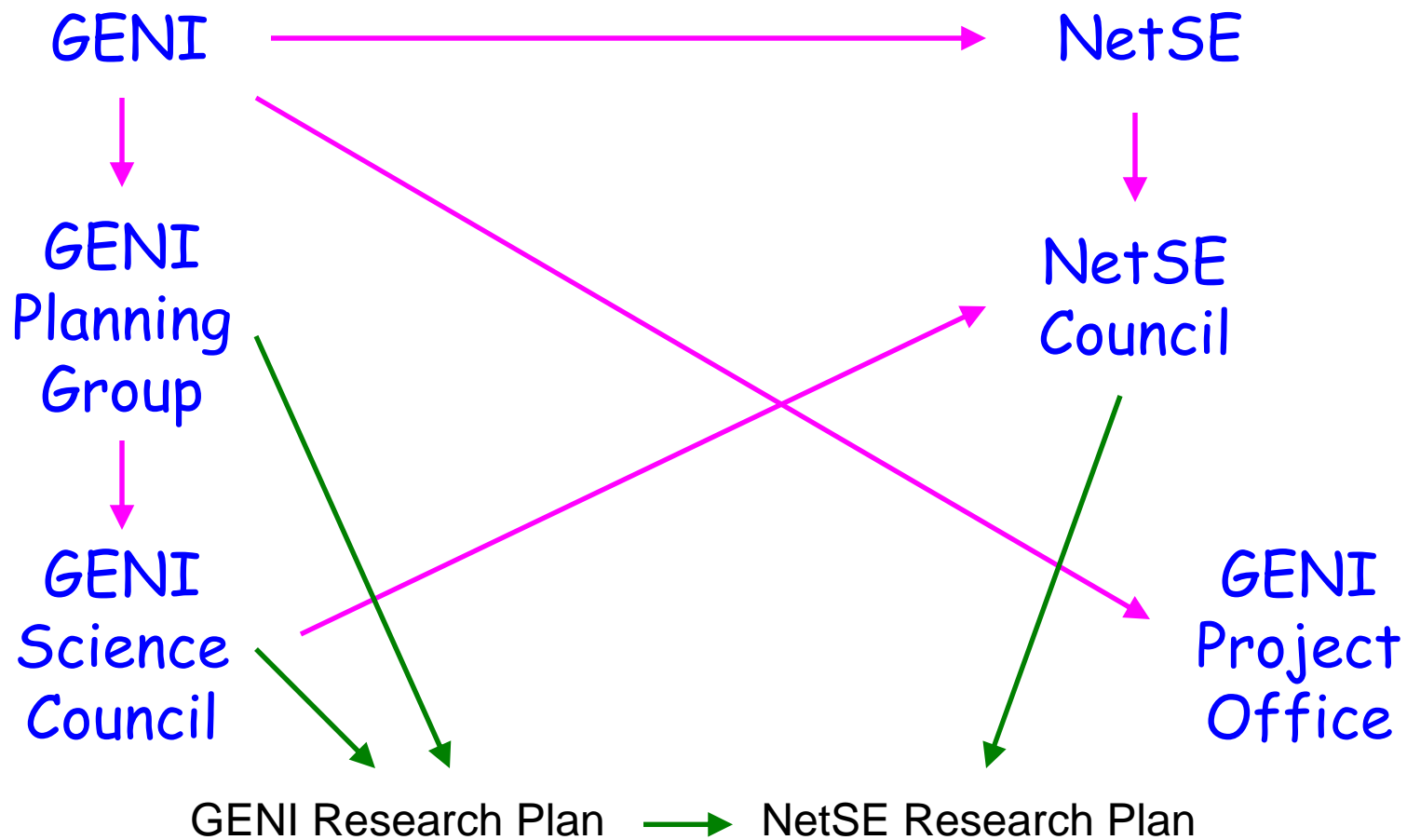
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NetSE Council



- Chaired by Ellen Zegura, Georgia Tech
- 19 members, broadly representative
- Some membership changes will be completed by July 21

NetSE: Current activities



■ Research agenda workshops

■ *Science of Network Design*

- | John Wroclawski, USC/ISI, and John Doyle, Caltech
- | July 29 - 30, Southern CA

■ *Behavior, Computation, and Networks*

- | Michael Kearns, Penn, and Colin Camerer, Caltech
- | July 31 - August 1, La Jolla CA

■ *Network Design and Societal Values*

- | David Clark, MIT, and Helen Nissenbaum, NYU
- | September 24-26, Washington, DC

- These are on-track, have good co-chairs, have deliverables specified, and have individuals assigned to extract possible facilities requirements from the discussions



■ Meetings

- Integrating the Theory of Networked Computation
 - | Ellen Zegura, Joan Feigenbaum (Yale), John Byers (BU), June 11
- Network Engineering and Network Design
 - | Engaging members of the Planning Group and others active in GPO activities to extract network design research topics from the existing research plan and other sources
 - | Ellen Zegura is coordinating
 - | To be held just prior to SIGCOMM (August)



■ Committees in formation

■ NetSE Facilities Requirements Committee

- | Construct a coherent set of facilities requirements from the outputs of the workshops and meetings

■ NetSE Communications Committee

- | Liaison with the computing research community

■ NetSE Agenda Writing Committee

- | Responsible for delivery of the V1.0 science plan by December 2008