Cyberinfrastructure and Testbed Breakout Summary

Topics

- Usability
- Bridging SDN Islands
- New Testbeds and/or Incorporation of New Technology
- Sustainability
- Interoperability and Federation

Usability

- Attract researchers with proper incentives
  - Domain science
  - Technology

- Gradual community change to embrace both simulation and testbed experimentation

- Orchestrated effort to validate and reduce friction in accessing infrastructure

- Understand the spectrum of production readiness between testbed and cyberinfrastucture

- Offer service, training
  - Domain science
  - Technology

Bridging SDN Islands

- Many already interconnected

- Focus on usability and operation
  - Need for user-centric view of the infrastructure, individual and/or global

- Increasing focus on SDX

- Testbeds as bridges between network engineers and researchers

- Slicing

- Campus CI Plan sharing

New Testbeds, New Technology

- Optical testbeds overlooked thus far
  - Dark fiber for new optical instrument
  - Or programmable interface to existing optical

- New testbeds
  - Networed robotics, industrial network, SCADA
  - IoT (e.g., IEEE effort, Internet2 effort)
  - Metro SDX (US Ignite)

Sustainability

- Network operators' challenge
  - Campus, regional, national, international
  - Best effort to align with production CI Plan
  - Need more ideas

- Life cycle management

Interoperability and Federation

- In addition to interoperating among testbeds, also interface with production public and commodity services
  - E.g., OSG, Exede, …
  - E.g., AWS, Azure, …