Internet2 Network Plans
JET Update

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Agenda

Update on 2016 Network Upgrade

Update on 2018-2023 Network Planning

Overarching Goals

Align network services portfolio with evolving community needs

Develop deeper partnerships where we can achieve significant mutual benefit

Provide leadership in the network services landscape

2016 Network Upgrade

Upgrade Goals for 2016

- Modify the core of the network
  - Remove dependency on OpenFlow in the core
  - Build a rock-solid, production, single vendor, MPLS-based core - *use Juniper*
  - Maintain existing customer service view: *feature parity*
- Provide a more agile platform for the network and distributed systems research community in an "overlay"
  - Support SDN capability, including OpenFlow
- Simplify architecture and increase visibility for planning purposes
  - Strive to cut maintenance, power and co-lo costs
- *Position us to be more innovative and responsive to community needs as we plan for the 2018-2023 refresh*

Current status - July 2016

- Core hardware swaps
  - Seattle, New York (32 AoA), Tulsa, Salt Lake City, Chicago complete
  - Starlight in process
  - LA, Denver, KC, Sunnyvale, Cleveland, El Paso, Atlanta, Pittsburgh, Washington, Charlotte, Houston, Jacksonville up next
- Detailed design, code, test in process
  - Core configs, OESS portal, transition, etc.
  - Technical input from the community via the NTAC - MPLS experience, programmability requirements
- Overlay deployments
  - New York and Salt Lake City installed
  - LA, KC, Cleveland, Atlanta, Houston and Seattle up next

2018-2023 Network Planning

Key drivers

- The Internet2 Board of Trustees has given us some runway to define our infrastructure investment strategy for the future.
  - We're framing "the future" as 2018-2023.
- We would like to ask some fundamental questions about what kinds of services the community wants the national R&E network to deliver.
  - We've evolved the platform significantly over the last 20 years, but many aspects of the model have not changed much.
- We would like to be as inclusive as possible, getting feedback from "the community" defined in the broadest terms
- These are not necessarily easy questions to answer……..

Community-driven planning

- We're working with NAOP PAG subcommittee to define approach
  - Subcommittee members - William Deigaard (Rice), Wendy Huntoon (KINBER), Charlie McMahon (Tulane), Harvey Newman (Caltech), Jim Stewart (UEN)
- Community workshop has been suggested
  - Call for papers about 2-5 year needs, then invited workshop
- Upcoming conversation at Technology Exchange in Miami in September
  - We'll present feedback and suggestions to date
  - Hoping to get lively requirements/possibilities conversation going
  - Target final draft of plan for Global Summit 2017 (April)
- Individual outreach to selected RONs, NRENs, Campus CIOs, researchers, vendors, federal agencies, etc.

Questions?