Circuit Services

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Internet2 Circuit Services

- Internet2 offers two types of Circuits
  - Static circuits
    - Exist on the Circuit Infrastructure supported by both the Infinera and Ciena devices
    - Manually provisioned by the NOC
    - 50Mbps to 10Gbps
    - Fee for service
    - Longer duration: months to years
    - Can have dedicated protection
    - A contracted, assured service
  - Dynamic Circuits
    - Exist within the Dynamic Circuit Network (DCN) supported by the Ciena CoreDirectors
    - Provisioned automatically
    - Requires participation in the DCN protocols
    - 50Mbps to 10Gbps
    - Have no additional fee for use
    - Short duration ~2 weeks
    - Best effort service
Connecting to the Internet2 Circuit Infrastructure

• Accessing the Circuit Infrastructure
  • One must have a connection to the Internet2 circuit infrastructure in order to access the Internet2 circuit services.
  • The circuit connection is separate from the IP connection
  • The standard connection to the circuit infrastructure is either 1GE or 10GE – other interface types are supported at an additional fee
  • ONE physical connection to the circuit infrastructure on the Ciena CoreDirectors will support BOTH the static circuit service AND the Dynamic Circuit Network
  • For the first year, the connection to the Cienas are available to IP connectors at no additional fee for a standard connection (1GE or 10GE) that is equal in bandwidth to the contracted IP connection, e.g. 10G IP connectors receive the use of a 10G circuit connection. (Non-connectors may be subject to additional port fees)
  • Circuit connections are available to Connectors, members and peers
• Infinera DWDM Gear - Static at the start
• Grooming capabilities in ADM to provide sub channels and HOPI types of activities at the start
• Simplified and standardized interface to connectors, exchange points, and other global research and education networks - 2 x 10 Gbps interfaces
• Measurement and control servers will support the node
Dynamic Circuit Network

- The Dynamic Circuit Network (DCN) is considered a network due to its characteristics and behavior: it is protocol driven, has the capability to determine paths, can exchange network information with neighbors and it is aware of its own resources.
- The DCN concept expands the notion of networking where a network facility is able to provide the most appropriate resource for a given demand.
- Dynamic Circuit Network (DCN) is developmental until 1-1-08 and persistent thereafter.
- Invitations are currently being sent out by Internet2 to the connectors for participation in DCN.
- A DCN connection does not imply a connection to the IP network.
Static Circuits

• Static circuits are manually provisioned by the NOC and are intended for longer durations: the typical concept of a circuit
• A contracted, fee for service offering based on bandwidth, duration and distance
• Can exist both on and off of the Internet2 network footprint
• Intended to provide dependable, dedicated and deterministic service to connectors
• A static circuit does not imply a connection to the DCN or the IP network
• Includes full 10G waves
• Available now
Who to Contact

• DCN connection requests or information:
  • Network@internet2.edu
  • Eric Boyd is lead

• Static circuit requests, fees and information:
  • waveco@internet2.edu
  • Christian Todorov and Linda Roos are primary contacts

• Member and Partner Relations assistance:
  • univengage@internet2.edu
  • Marianne Smith is lead