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# Evolving the Global Network Architecture (GNA)

## 2015 Global Summit

# Topics to be covered

1. GNA background
2. GNA activities since last Global Summit
3. GNA next steps



# GNA background

GNA Technical Group (3 subgroups; Ops, Services, Tech/Topo)  
GNA Executive Action Team

“Evolving the Global Network Architecture”

Details at <http://dx.doi.org/10.7125/apan.38.13>

GNA Goal: Work with ALL stakeholders to EVOLVE the global R/  
E network



# GNA Ops

- Continuing work on the Ops+Security main document
- Work with Topology/Technology on Link Usage document
- Work with Services on Exchange Point Requirements document



# GNA Network Services

- Current work:

- ▣ Defining Network Services, current thinking:

- Deterministic
    - Dynamic bandwidth
    - Best effort
    - Special use

- Work in progress:

- ▣ Work on Open Exchange Points requirements
  - ▣ Defining work on IP peering coordination (not a network service, but a coordination effort)



# GNA Technology and Topology WG

## λ Current work:

- GNA Link Policy Document
- Exchange Points Technical Functionality Requirements Document

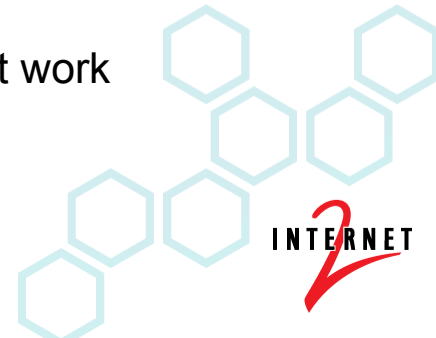
## λ Work in progress:

- Prototype Global Network Topology
- Aims and Objectives of Prototype
- Key Success Criteria of Prototype



# ANA-200GB: a pathfinder for the GNA

- The Advanced North Atlantic (ANA) collaboration has been identified as an important model for defining and testing the GNA framework
- ANA faces many of the same issues, on a smaller organizational scale as the GNA.
- These issues are both technical and policy related
- GNA group is learning and adapting from ANA 's challenges
- What works for the ANA might work for the GNA. What does not work for the ANA seems unlikely to work in the more complex GNA environment



## ANA-200G: 100G Production Ring across North Atlantic for R&E

### Open Exchange Points & Links

- MAN LAN
- WIX
- NetherLight
- GEANT Open London
- Internet2
- TGN-Atlantic South
- NORDUnet/SURFnet
- Hibernia Atlantic

ANA-100G Production Network: A 100 Gbit/s production quality ring across the North Atlantic for the Research and Education. Collaborators: Internet2, NORDUnet, CANARIE and SURFnet.





# GNA Tech Activities for 2015

- Accelerated and intensified work on GNA prototype
- Building off of the ANA work, continuing work on blueprint for federated operations, topology, technology, and network services, adding a focus on IP peering
- Continuing to define the framework documents and milestones based on community input, the ANA-200GB experience, but also....
- Exploring opportunities to expand the path-finding/prototype efforts:
  - IRNC activities
  - North America to South America
  - Europe to the Middle East (AGE-OX)
  - Middle East to Asia
  - Asia to North America



# GNA EAT Activities for 2015

- Actively seeking to build consortia (similar to ANA) and creative partnerships to explore co-investment opportunities
- Enhancing conversations with government science agencies, global science projects, global content providers, and global telecommunications and fiber providers
- Development of the GNA architecture will require input and participation from the **full** R&E community over the next 12 months.
- Web site (developed by AARNET) for GNA document repository and communications – coming soon!



**Soon is now!!!**

**[www.gna-re.net](http://www.gna-re.net)**



# **Why your input and participation is important... ...for us and for you....**

**This is the part of the presentation where we both talk...**

**The GNA is developing an architecture for a global network. The critical question is: Does the GNA as described on the web site, address the needs (current and future) of your users.**



**Questions/comments ???**

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