

# **Global Network Architecture for Research and Education**

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GNA Technical Working Group**

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# **The Purpose(s) of this Talk**

- 1. Provide brief introductory information about the GNA.**
- 2. Describe the status of the GNA to date**
- 3. Explain how the GNA will move forward in 2016**
- 4. Solicit your input!!!!**

# **GNA History**

- **Chartered/charged by the NREN CEO Forum**
- **CEO Forum:**
  - **17 NRENs (currently) members**

**SINET (Japan), SURFnet (The Netherlands), NORDUnet (European Nordics)  
CUDI (Mexico) RENATER (France), CANARIE (Canada), DFN (Germany)  
RNP (Brazil) AARNet (Australia), JISC (UK), RedCLARA (Latin America)  
SANREN (South Africa) UbuntuNet Alliance (Eastern & Southern Africa),  
Internet2 (USA), CERNET (China), REANNZ (New Zealand), GÉANT  
Association (Europe)**
- **CEO Forum Goal: Seamless global "services" delivery for users in R&E**

## **GNA Tech Working Group Goal**

**Develop a technical “architecture” to facilitate more cooperative interaction among R/E networks in the deliver of services to the global R/E community.**

# A word about Architecture and Facilitate

**By Architecture we DO NOT mean a set of requirements or point solutions to complex issues. The NREN community is too diverse for point solutions. Rather we mean an outline of services that NRENs should strive to supply to the R/E community.**

**By Facilitate we DO NOT mean direct or require. Rather we mean suggest services and possible delivery mechanisms.**

# Why the GNA...now?? (now=2015)

1. Global expansion of research and education. This seems obvious and no need to discuss further. This is the driving force behind the GNA.
2. Relentless press forward of technology in the telecommunications area. 1G->10G->100G->1000G with constant decrease in price.
3. #2 combined with the consolidation in the telecommunications industry creates an environment where fewer firms have a wider (bandwidth and services) and broader (physical/global) presence.
4. #1 creates the demand for the GNA and #2 and #3 create the opportunity to develop a global network to support R/E.

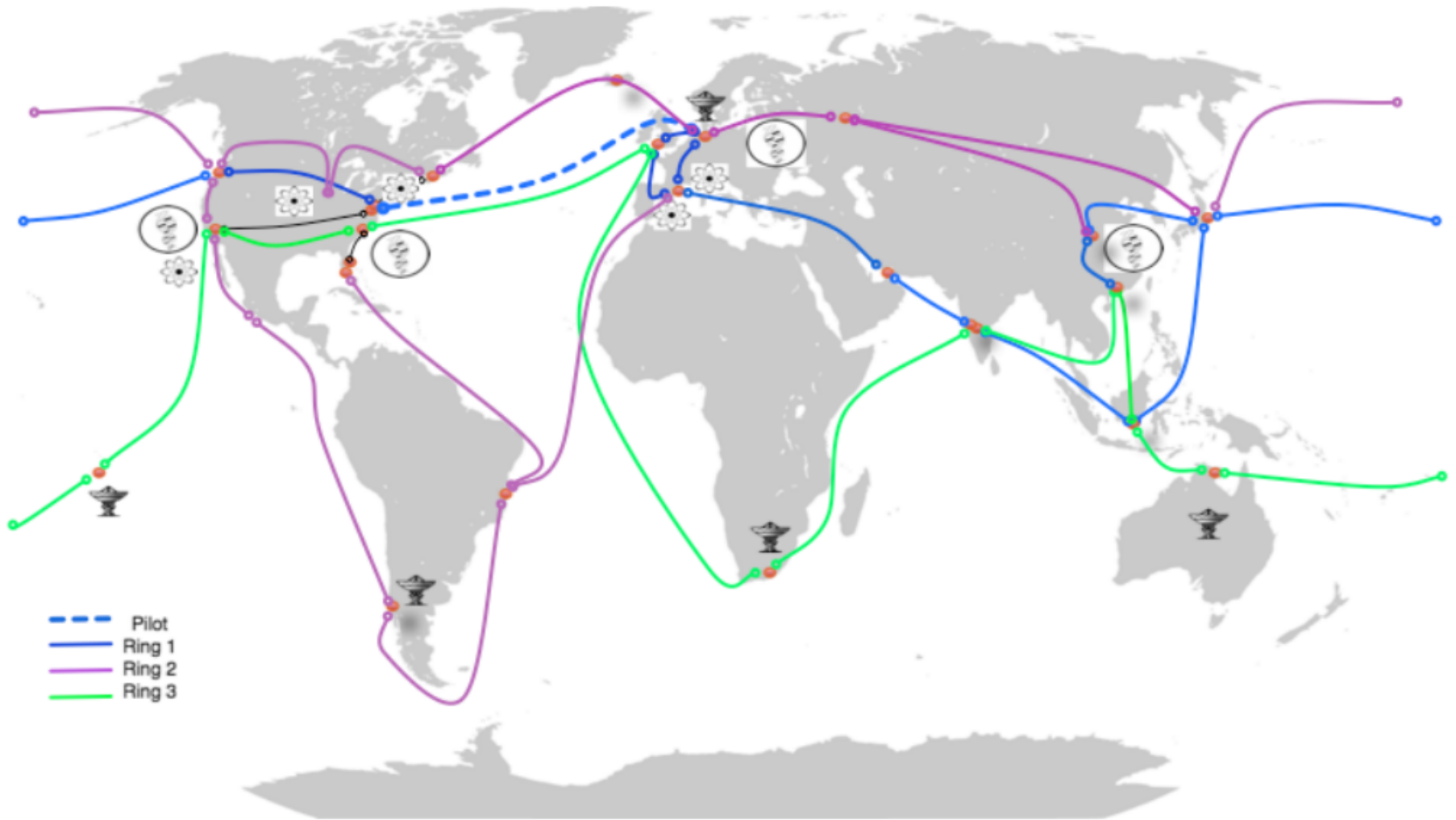
The GNA is an evolution of the current global R/E infrastructure, addressing the needs/demands of #1 using the tools of #2 and #3.

To truly meet the needs of #1:

The tools of #2 must be transparently operated and managed to provide a global view of the global R/E network space.

The opportunity presented by #3 must be acted on by the community, not individual actors, to secure the most cost-effective and responsive (in customer service terms) networking

# GNA - artist's impression



# **GNA To Date**

**Two face-to-face meetings per year. Additional business conducted at international networking meetings and electronically**

**Web site: <http://gna-re.net/>**

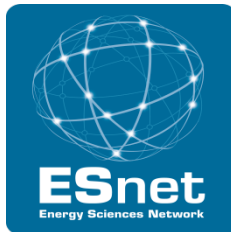
**Six reference documents and a variety of other presentations and papers in Resources section.**

**Meeting now in Amsterdam with a group of Software Architects (SA) to add their input to the existing Network Architects (NA) created documents.**

**One Pathfinder project in place (ANA-100G)**



# ANA-100G: GNA Pathfinder



# **GNA - Next Steps**

- **Explore the NA/SA interaction and incorporate it into the GNA architecture documents.**
- **Increase GNA visibility and input opportunities (TNC;Internet2-Global Summit)**
- **Add new Pathfinder projects (Latin America; Asia; Africa)**
- **Continue to revise/expand reference documents based on all of the above.**

**Thank you. Comments?  
Remarks? Questions?**

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