

# GOLE Operators TF Actually: OXP Capability Attributes

Lars Fischer / Dale Finkelson GLIF TECH Miami, 29-30 September 2016



- Presentations at GLIF meetings
- Revised GOLE Operators charter
  - Basic operational requirements specification
  - GOLE Operations Best Practice
    Guideline
  - Recommendation for advance GOLE services in support especially of evolving traffic engineering needs
  - Understanding new demands arising from the connection of non-R&E entities, especially above-the-networks service providers



- Operators group discussions
- Transformed for *Requirements* to *Capability Attributes* 
  - Descriptive
  - Not prescriptive
- Synthesized into a list of attributes
- Think of it as OXP Metadata





#### **The Attributes**

- Categories
  - Facilities
  - Principles of Operation
  - Technology Support
  - Contact



- Interconnecting Fabric
- Transparent Operations
- Cross-connect fees
- Remote Hands?
- Separated A&B Power?
- Backup Power Sources
- Cooling
- Security and Access
- Neutral Carrier Space



#### **Principles of Operation**

- Open for R&E
- Open to All
- Measurements Available
- Privacy Policy published
- PerfSONAR node available
- Policy
- SLA Available



#### **Technology Support**

- VLAN Translation
- QinQ
- Dynamic capabilities / NSI
- COS Support
- 100G
- Ethernet
- Other



#### Contact

- Name
- Location
- Contact Details
  - Technical
  - Security
  - Operations
  - Sales





#### **Next steps**

- Capability Attributes v1
  - Agree possibly w/ revisions
  - Publish!
  - Fill in all of us
  - Get feedback, think about v2
- Start on other objectives
  - Operations Best Practice WP
  - Have sessions on advanced services
  - Review practices for cloud connectivity



## Nordic Gateway for Research & Education

- The GNA Documents
  - GNA Reference Architecture
  - GNA Open Exchange Expectations
  - GNA Operations
  - GNA Network Services
  - GNA AUPs
  - GNA Privacy
- Blueprints, with objectives for GNA implementation



### Nordic Gateway for Research & Education Open Exchange Expectations

- Not a *definition* of an OXP
- A specification for GNA implementations
  - Expectations for OXPs used for GNA
  - Baseline for what is expected for operability and sustainability
- A subset of (GLIF) OXP attributes



# **Thank You**

## Lars Fischer lars@nordu.net

