

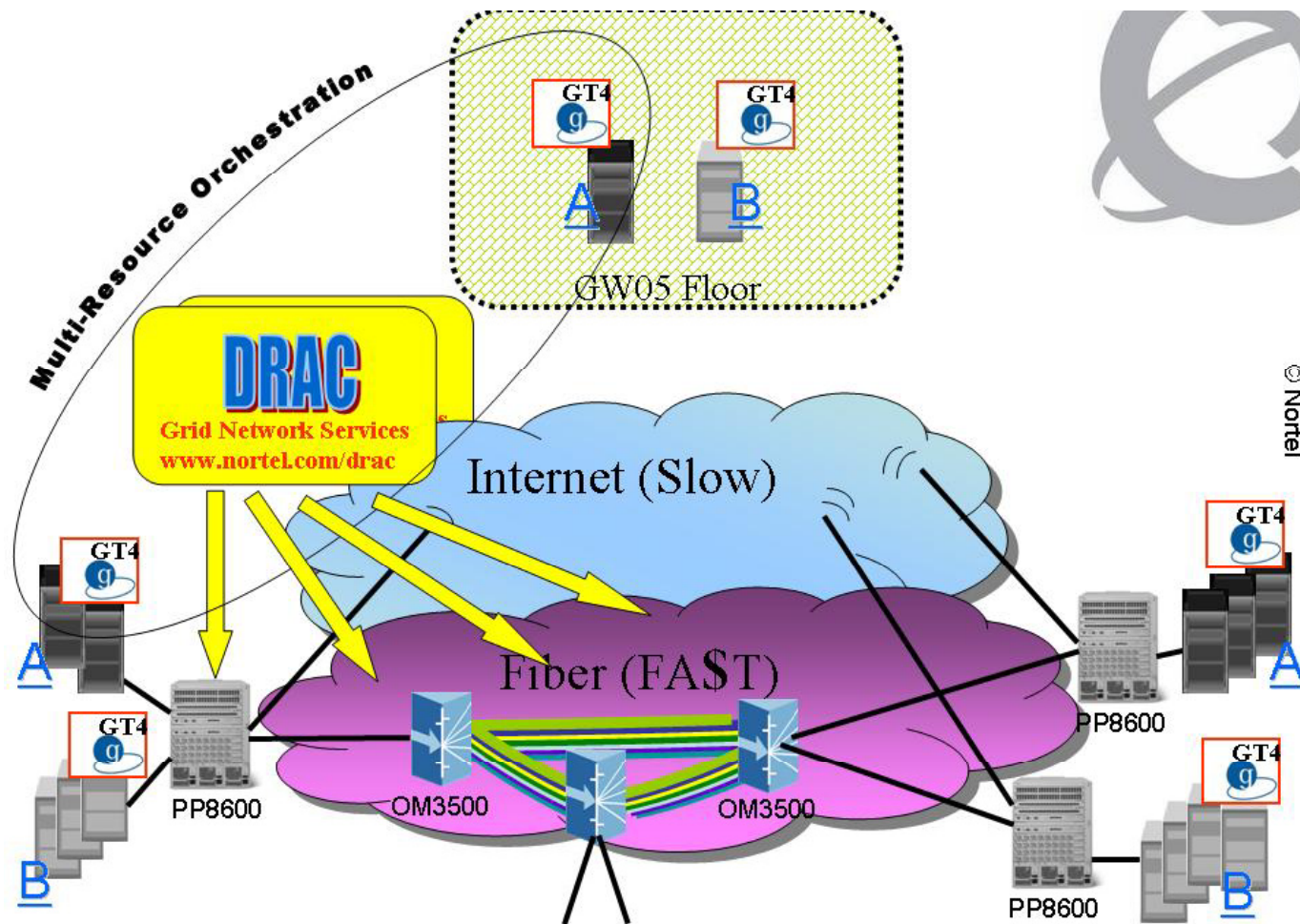


Grids and Networks: Bridging the gap

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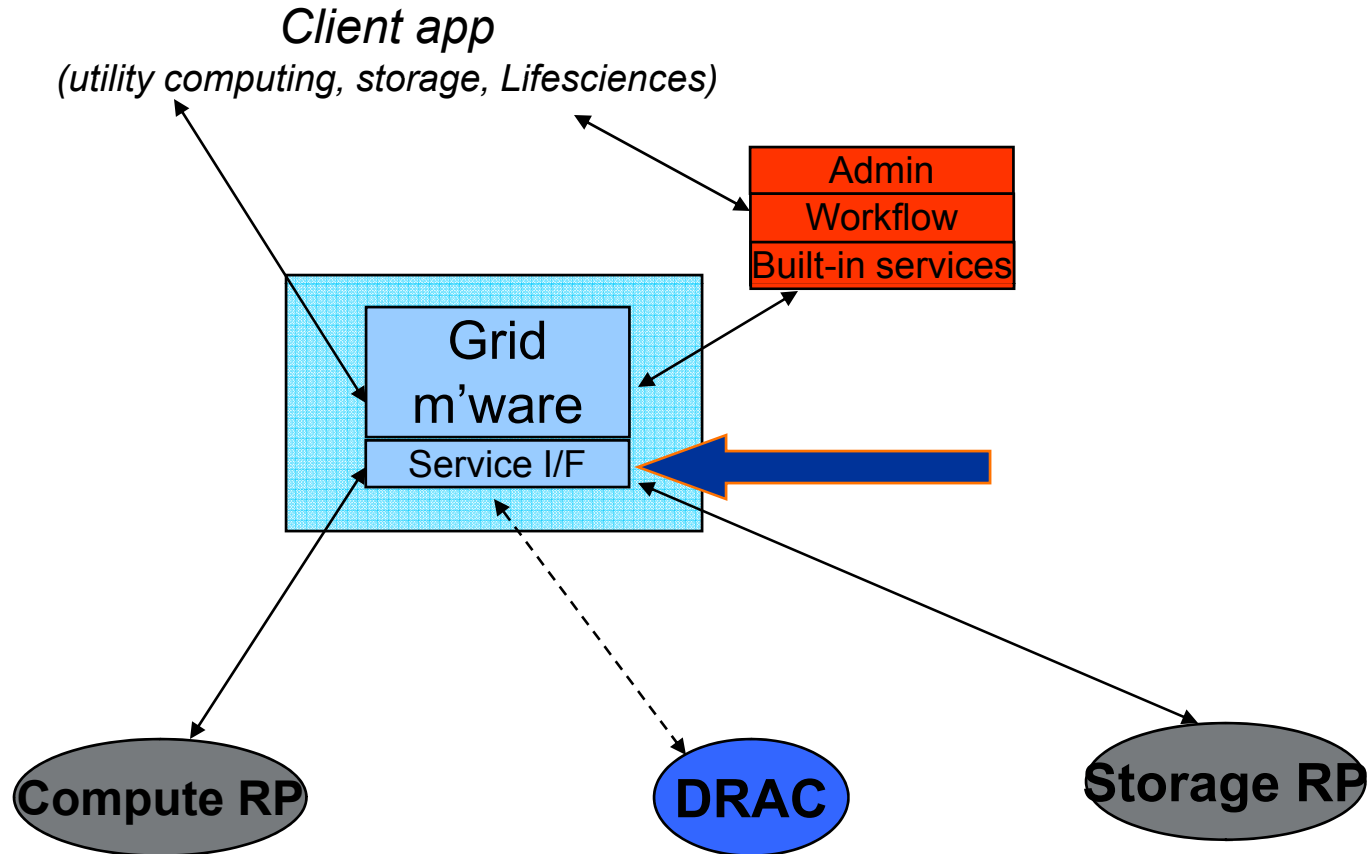
Grid – Network WSRF Interface (GW '05)



Make the Network part of the GT4 - WSRF - SOA Equation

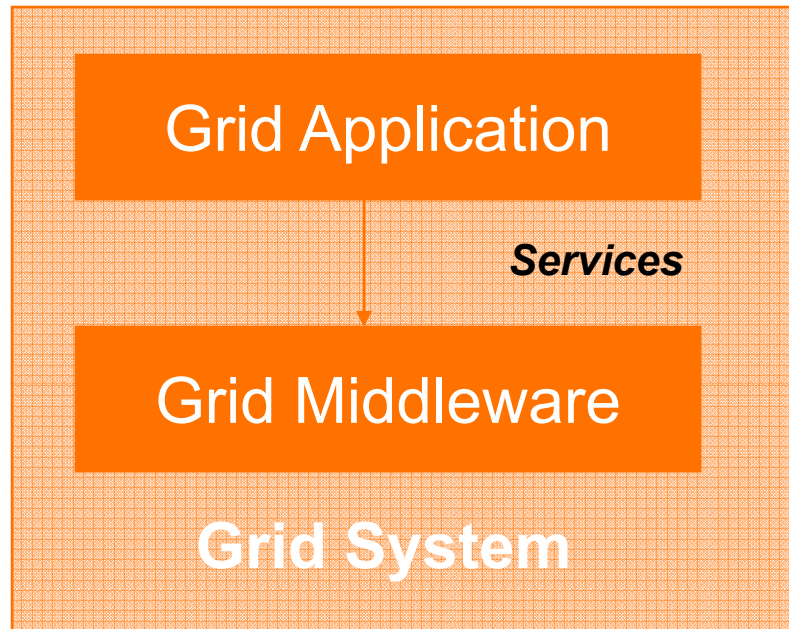
Grid-Network service interface with GridFTP use-case

GW WSRF Demo '05: Network-Grid interaction model

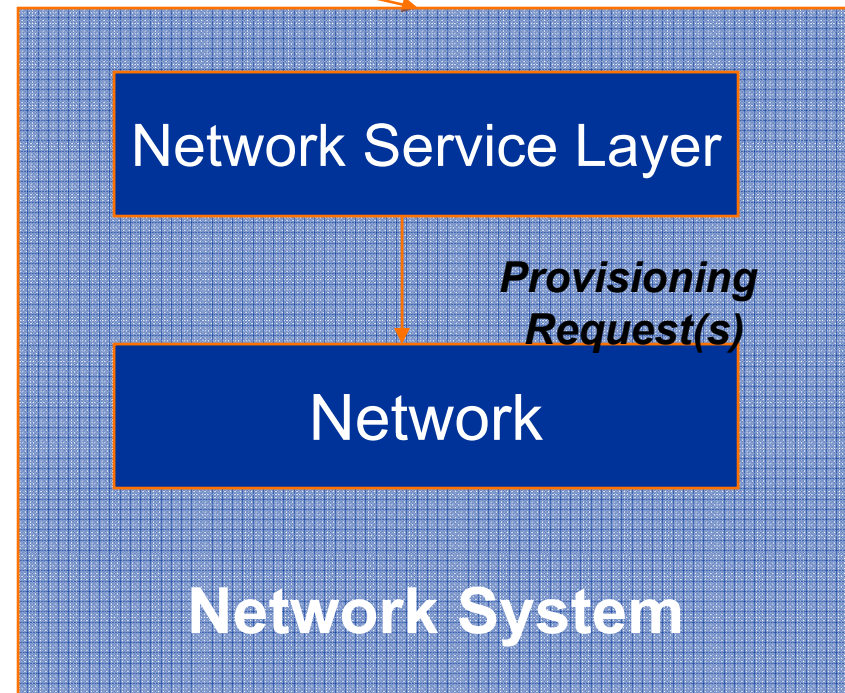




Where is GNI needed?



*Network Request with
Service Requirements*
=
GNI



*Grid System is
Instance of an
Application*

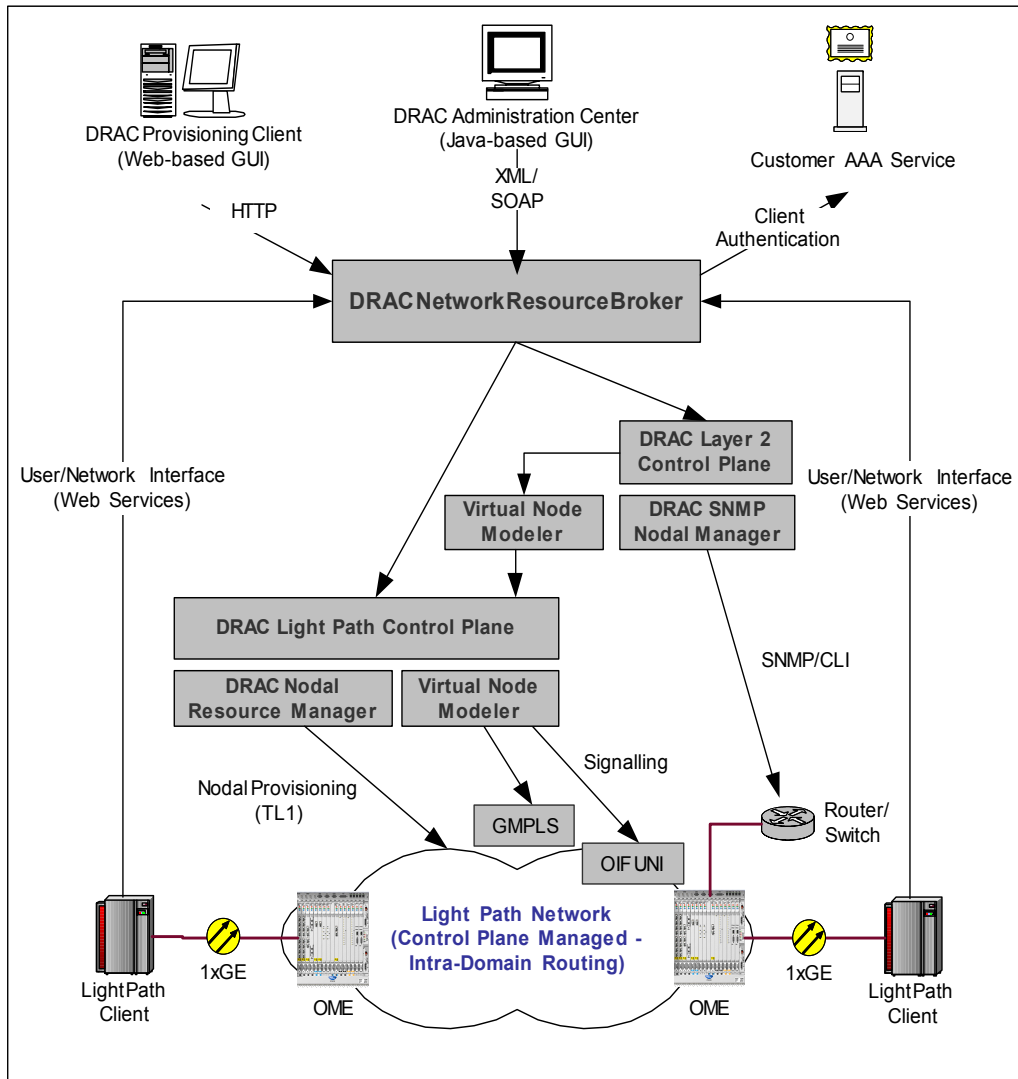


Current High-Level DRAC Services

- Reservation and Scheduling Service
 - Create, Add, Confirm, Activate, Cancel, Query
- System Monitoring Service
 - Faults and Alarms
- Network Information Service
 - Path elements
 - Topology
- Inter-domain (separate)

- Supports circuit oriented services with Lambdas or Ethernet
- Compatible with Phosphorus definitions

DRAC - Reference Architecture



DRAC Reference Architecture

DRAC User Interfaces

- DRAC Administration Center
 - JAVA-based GUI application for “console” type access.
 - All DRAC configuration, provisioning, and monitoring operations will be possible through the user interface.
- DRAC Provisioning Client
 - Web-based service management GUI for end customer provisioning and monitoring of network bandwidth.
 - Provides graphical access to functions available through programmable user/network interface.
- DRAC User/Network Interface
 - Programmable web services interface for external DRAC control.

DRAC Server Components

- DRAC Network Resource Broker
 - Provides a multi-layer/multi-technology bandwidth management solution for enabling end application workflow automation. (Service Plane)
 - Provides inter-layer and inter-domain routing intelligence.
- DRAC Light Path Control Plane
 - A generic server-based control plane solution for dynamic management of optical resources within the network.
 - Removes dependencies on network element control plane solution for those network element types not supporting control plane technologies.
- DRAC Nodal Resource Manager
 - Provides network element abstraction and mediation services to DRAC components.
 - Based on existing OM/OMEA mediation solutions.
- DRAC Layer 2 Control Plane
 - Provides per VLAN bandwidth control, PBT setup, and dynamic layer 0/1 inter-layer routing.
- External AAA support
 - Provides integration into third-party authentication services.



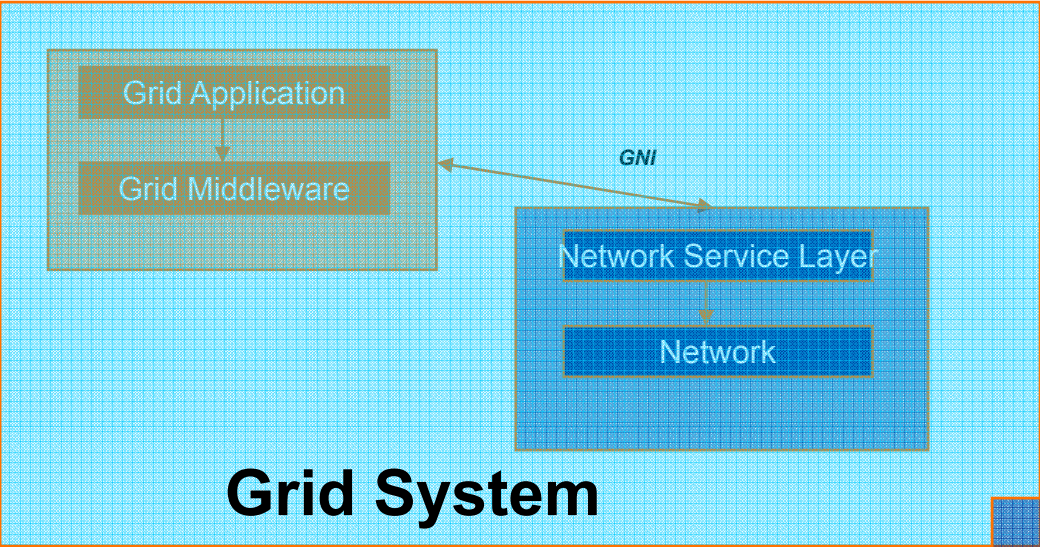
What should GNI scope be?

- Connection Service
 - QoS including Bandwidth
 - Security attributes
 - IP Service, Ethernet Service, Lambda Service
 - Point to point, point to multi-point, multi-point to multi-point paths
- Reservation Service
 - Service requested at a later point in time
 - Scheduling Service (based on recurring needs)
- Information Service
 - Capabilities and constraints
 - Lambda service not possible between point Source A & Dest B
 - Availability
 - Monitoring



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Can GNI work for Inter-domain?



Network WS Request/Response
=
GNI

