<table>
<thead>
<tr>
<th>セッション名</th>
<th>Grid Network Interface (GNI) BOF</th>
</tr>
</thead>
<tbody>
<tr>
<td>目的</td>
<td>グリッドとネットワークの基盤を相互運用するための推奨と標準的な機能の策定をするWGの設置について討議する</td>
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<tr>
<td>結論</td>
<td>BOFセッションでの議論により、1つのワーキンググループを設置することに合意。</td>
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Grid Network Interface (GNI) and DMNR difference and similarity

<table>
<thead>
<tr>
<th>Name</th>
<th>Institution</th>
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<tbody>
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<td>Georgios Zervas</td>
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</tbody>
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Grid Network Interface: Scope

- Facilitate *interoperation* between *Grid* and *Network* infrastructures via the recommendation and creation of standard functionalities and procedures.

- Define the set, type and level of *information transaction* between Grid-Network interaction.

- Provide a *general and open definition* independent from any implementation of provisioning system (e.g. Grid and network).
G-lambda first motivation towards GNI: NW resource provisioning service for middleware

Grid middleware

Define an I/F for NW

Computing Resource Providers

Storage Resource Providers

Network Resource Providers
Extension to support multiple domains: model 1

Grid middleware

- Computing Resource Providers
- Computing Resource Providers
- Storage Resource Providers
- Network Resource Providers
- Network Resource Providers

Interoperability
Extension to support multiple domains: model 2

Grid middleware

Computing Resource Providers

Storage Resource Providers

Network Resource Providers

Network Resource Providers
Inter-domain paths support by GNI

- Middleware to Network Interface is GNI
- GNI can be extended/applied on a Network-Network interaction.
Generalized model

CRM: Compute Resource Manager
NRM: Network Resource Manager

Resource Coordinator

Service client

NRM

CRM

Resource Coordinator

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Web-services based NW interoperation: first motivation

Network Resource Providers  Network Resource Providers  Network Resource Providers

End node  End node
Extension to provide provisioning service to Grid middleware

Grid middleware

Network Resource Providers

Network Resource Providers

Network Resource Providers

End node

End node
Can we use a single interface for the both purposes?

Interoperability among NW domains  Unified service incl. NW, Computer, etc.

A unified Interface?

Research Networks

Commercial Service
Design choices / Difference

- **Initial Motivation**: Network as a Grid Resource / Inter-domain network interoperability
- **Supported resources**: Unified service for all resources (computers, storages) / Network only
- **Dependence on control plane protocol**: Independent / Close relationship to CP protocol such as GMPLS?
- **Initiator of a request**: Upper layer software component / End node
- **Assumed Providers**: Commercial service (policy, accounting, hidden topology etc.) / Research network