

Network Service Interface Use Case Questionnaire

Network Service Interface Working Group (NSI-WG)

Open Grid Forum

Group Description

High performance networks offer advanced network services to end users with differing requirements. The user/application/middleware may request network services from one or more network service providers through a network service interface. The network service setup then requires configuration, monitoring and orchestration of network resources under particular agreements and policies. Provisioning mechanisms support allocating, configuring, and maintaining network internal resources.

The Network Service Interface (NSI) Working Group (WG) will provide the recommendation for a generic network service interface that can be called by a network external entity such as end users, middleware, and other network service providers. The recommendation will define the information exchange, the required messages and protocols, operational environment, and other relevant aspects.

The scope of the NSI WG includes, in particular, the interface between Grid middleware and the network infrastructure as well as the interface between network domains in order to provide interoperability in a heterogeneous multi-domain environment. The WG will consider user authentication/authorization, service negotiation agreements, and information exchange to describe advanced network services.

Group Focus and Scope

The main purpose of the NSI WG is to facilitate interoperation between Grid users, applications and network infrastructures spanning different service domains, via the development of abstract messaging and protocols.

The NSI WG must provide a general and open definition independent of implementation of provisioning systems (e.g., Grid and network). It should be sufficiently flexible, modular and scalable to facilitate future enhancements. The NSI WG recommendation will allow any user and network service to interoperate by using a common naming and message definition.

The NSI WG will also focus on identifying existing standardization activities/documents, understand their relevance and specify the relationships with regards to NSI (e.g., OGF (NM-WG, NML-WG) IETF, OIF).

You just need to answer the questions that are applicable to your use case. Don't hesitate to modify this questionnaire by adding more text, comments which are supported by your organization or your use case and not listed below.

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Section I: Organisation and project details

1)	Country	
2)	Name of the organization	
3)	Contact person	

4)	Which best describes your organization?	<input type="checkbox"/> End User <input type="checkbox"/> Middleware <input type="checkbox"/> Network Service Provider <input type="checkbox"/> Research Institution <input type="checkbox"/> Other (mention below) <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>
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5)	Which of the following describe your role?	<input type="checkbox"/> User <input type="checkbox"/> Developer <input type="checkbox"/> System administrator <input type="checkbox"/> Service developer <input type="checkbox"/> Researcher <input type="checkbox"/> Other (mention below) <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>
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Section II: Network connection/service parameters (per application)

		Existing features	Anticipated features
6)	How is the network connectivity provided?	<input type="checkbox"/> Centralised management <input type="checkbox"/> Distributed control plane <input type="checkbox"/> Manual configuration <input type="checkbox"/> Call to network provider <input type="checkbox"/> Other (mention below) Comments : <hr/> <hr/> <hr/> <hr/>	<input type="checkbox"/> Centralised management <input type="checkbox"/> Distributed control plane <input type="checkbox"/> Manual configuration <input type="checkbox"/> Call to network provider <input type="checkbox"/> Other (mention below) Comments : <hr/> <hr/> <hr/> <hr/>

7)	What type of network connectivity is required?	<input type="checkbox"/> Point-to-point <input type="checkbox"/> Point-to-Multipoint <input type="checkbox"/> Multipoint-to-multipoint <input type="checkbox"/> Multipoint-to-point	<input type="checkbox"/> Point-to-point <input type="checkbox"/> Point-to-Multipoint <input type="checkbox"/> Multipoint-to-multipoint <input checked="" type="checkbox"/> Multipoint-to-point
8)	Is the required connectivity symmetrical/asymmetrical? (same or different network service requirements on every direction)	<input type="checkbox"/> Symmetrical <input type="checkbox"/> Asymmetrical	<input type="checkbox"/> Symmetrical <input type="checkbox"/> Asymmetrical
9)	How often do you request a network connection?	<input type="checkbox"/> Seconds <input type="checkbox"/> Minutes <input type="checkbox"/> Hours <input type="checkbox"/> Days <input type="checkbox"/> Weeks <input type="checkbox"/> Months	<input type="checkbox"/> Seconds <input type="checkbox"/> Minutes <input type="checkbox"/> Hours <input type="checkbox"/> Days <input type="checkbox"/> Weeks <input type="checkbox"/> Months
10)	What is the duration of the network connectivity?	<input type="checkbox"/> Seconds <input type="checkbox"/> Minutes <input type="checkbox"/> Hours <input type="checkbox"/> Days <input type="checkbox"/> Weeks	<input type="checkbox"/> Seconds <input type="checkbox"/> Minutes <input type="checkbox"/> Hours <input type="checkbox"/> Days <input type="checkbox"/> Weeks
11)	Are there any non-average transport service requirements in your network?	<input type="checkbox"/> Large Bandwidth <input type="checkbox"/> Other (mention below) Comments : _____ _____ _____ _____	<input type="checkbox"/> Large Bandwidth <input type="checkbox"/> Other (mention below) Comments : _____ _____ _____ _____
12)	Are there any monitoring requirements for the network connection?	<input type="checkbox"/> Yes (if Yes list below) <input type="checkbox"/> No • _____ • _____ • _____	<input type="checkbox"/> Yes (if Yes list below) <input type="checkbox"/> No • _____ • _____ • _____

13)	Are there any security requirements for the network connection?	<input type="checkbox"/> Yes (if Yes list below) <input type="checkbox"/> No <ul style="list-style-type: none"> • _____ • _____ • _____ 	<input type="checkbox"/> Yes (if Yes list below) <input type="checkbox"/> No <ul style="list-style-type: none"> • _____ • _____ • _____
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Section III: Implementation specific information (per application)

		Existing features	Anticipated features
14)	Which computational resources are involved on your distributed system/project(s)?	<input type="checkbox"/> PC/Cluster <input type="checkbox"/> CPUs <input type="checkbox"/> Storage <input type="checkbox"/> None <input type="checkbox"/> Other (mention below) _____ _____ _____ _____	<input type="checkbox"/> PC/Cluster <input type="checkbox"/> CPUs <input type="checkbox"/> Storage <input type="checkbox"/> None <input type="checkbox"/> Other (mention below) _____ _____ _____ _____
15)	Are you using any type of middleware to manage computational resources?	<input type="checkbox"/> Globus <input type="checkbox"/> UNICORE <input type="checkbox"/> gLite <input type="checkbox"/> None <input type="checkbox"/> Other (mention below) _____ _____ _____ _____	<input type="checkbox"/> Globus <input type="checkbox"/> UNICORE <input type="checkbox"/> gLite <input checked="" type="checkbox"/> None <input type="checkbox"/> Other (mention below) _____ _____ _____ _____
16)	If you manage/control a network provisioning system, what kind of interface do you have towards it?	_____ _____ _____ _____	_____ _____ _____ _____
17)	Are you using a commercial network or research and education network?	<input checked="" type="checkbox"/> Commercial Network <input checked="" type="checkbox"/> Research network	<input checked="" type="checkbox"/> Commercial Network <input checked="" type="checkbox"/> Research network

<p>18) Which parameters are/will be specified within your network service request?</p>	<ul style="list-style-type: none"> • Bandwidth <ul style="list-style-type: none"> <input type="checkbox"/> Must Have <input type="checkbox"/> Nice to have <input type="checkbox"/> Not needed • Latency <ul style="list-style-type: none"> <input type="checkbox"/> Must have <input type="checkbox"/> Nice to have <input type="checkbox"/> Not needed • Jitter <ul style="list-style-type: none"> <input type="checkbox"/> Must have <input type="checkbox"/> Nice to have <input type="checkbox"/> Not needed • Calendars (start, end time, duration) <ul style="list-style-type: none"> <input type="checkbox"/> Must have <input type="checkbox"/> Nice to have <input type="checkbox"/> Not needed • Other (list below) <ul style="list-style-type: none"> ○ _____ ○ _____ ○ _____ 	<ul style="list-style-type: none"> • Bandwidth <ul style="list-style-type: none"> <input type="checkbox"/> Must have <input type="checkbox"/> Nice to have <input type="checkbox"/> Not needed • Latency <ul style="list-style-type: none"> <input type="checkbox"/> Must have <input type="checkbox"/> Nice to have <input type="checkbox"/> Not needed • Jitter <ul style="list-style-type: none"> <input type="checkbox"/> Must have <input type="checkbox"/> Nice to have <input type="checkbox"/> Not needed • Calendars (start, end time, duration) <ul style="list-style-type: none"> <input type="checkbox"/> Must have <input type="checkbox"/> Nice to have <input type="checkbox"/> Not needed • Other (list below) <ul style="list-style-type: none"> ○ _____ ○ _____ ○ _____
<p>19) What are/will be the typical bandwidth requirements? (you can select more than one)</p>	<ul style="list-style-type: none"> <input type="checkbox"/> < 155 Mbps <input type="checkbox"/> 155 Mbps <input type="checkbox"/> 622 Mbps <input type="checkbox"/> 1 Gbps <input type="checkbox"/> 2.5 Gbps <input type="checkbox"/> 10 Gbps <input type="checkbox"/> 40 Gbps <input type="checkbox"/> 100 Gbps <input type="checkbox"/> >160 Gbps <input type="checkbox"/> Other (specify below) _____ 	<ul style="list-style-type: none"> <input type="checkbox"/> < 155 Mbps <input type="checkbox"/> 155 Mbps <input type="checkbox"/> 622 Mbps <input type="checkbox"/> 1 Gbps <input type="checkbox"/> 2.5 Gbps <input type="checkbox"/> 10 Gbps <input type="checkbox"/> 40 Gbps <input type="checkbox"/> 100 Gbps <input type="checkbox"/> >160 Gbps <input type="checkbox"/> Other (specify below) _____

20)	What are/will be the typical latency requirements?	<input type="checkbox"/> < 100 us <input type="checkbox"/> 100 us <input type="checkbox"/> 1 ms <input type="checkbox"/> 10 ms <input type="checkbox"/> 20 ms <input type="checkbox"/> 50 ms <input type="checkbox"/> 100 ms <input type="checkbox"/> > 100 ms	<input checked="" type="checkbox"/> < 100 us <input type="checkbox"/> 100 us <input type="checkbox"/> 1 ms <input type="checkbox"/> 10 ms <input type="checkbox"/> 20 ms <input type="checkbox"/> 50 ms <input type="checkbox"/> 100 ms <input type="checkbox"/> > 100 ms
21)	What are/will be the typical jitter requirements?	<input type="checkbox"/> < 100 us <input type="checkbox"/> 100 us <input type="checkbox"/> 1 ms <input type="checkbox"/> 10 ms <input type="checkbox"/> 20 ms <input type="checkbox"/> 50 ms <input type="checkbox"/> > 50 ms	<input type="checkbox"/> < 100 us <input type="checkbox"/> 100 us <input type="checkbox"/> 1 ms <input type="checkbox"/> 10 ms <input type="checkbox"/> 20 ms <input type="checkbox"/> 50 ms <input type="checkbox"/> > 50 ms
22)	What is/will be the typical required bandwidth granularity?	<input type="checkbox"/> < 10 Mbps <input type="checkbox"/> 10s of Mbps <input type="checkbox"/> 100s of Mbps <input type="checkbox"/> 1 Gbps <input type="checkbox"/> > 1 Gbps	<input type="checkbox"/> < 10 Mbps <input type="checkbox"/> 10s of Mbps <input type="checkbox"/> 100s of Mbps <input type="checkbox"/> 1 Gbps <input type="checkbox"/> > 1 Gbps
23)	Do/Will you describe the underlying network technologies when you request a network connection?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
24)	Is/Will be important to know how the network connection is/will be provided (in terms of network technologies or provisioning system used)?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
25)	If yes, would you like to consider/describe the network technology (e.g. IP/MPLS, Ethernet, WDM) to be used within the network service request?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No

