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 questionaire 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?	☐ End User ☐ Middleware ☐ Network Service Provider ☐ Research Institution ☐ Other (mention below) _____ _____ _____ _____ _____ _____	
5) Which of the following describe your role?	☐ User ☐ Developer ☐ System administrator ☐ Service developer ☐ Researcher ☐ Other (mention below) _____ _____ _____ _____ _____ _____	

Section II: Network connection/service parameters (per application)

		Existing features	Anticipated features
6)	How is the network connectivity provided?	☐ Centralised management ☐ Distributed control plane ☐ Manual configuration ☐ Call to network provider ☐ Other (mention below) Comments : _____ _____ _____ _____ _____	☐ Centralised management ☐ Distributed control plane ☐ Manual configuration ☐ Call to network provider ☐ Other (mention below) Comments : _____ _____ _____ _____

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

		Existing features	Anticipated features
13)	Are there any security requirements for the network connection?	☐ Yes (if Yes list below) ☐ No • _____ • _____ • _____	☐ Yes (if Yes list below) ☐ No • _____ • _____ • _____

Section III: Implementation specific information (per application)		

		Existing features	**Anticipated features**
14)	Which computational resources are involved on your distributed system/project(s)?	☐ PC/Cluster ☐ CPUs ☐ Storage ☐ None ☐ Other (mention below) _____ _____ _____ _____	☐ PC/Cluster ☐ CPUs ☐ Storage ☐ None ☐ Other (mention below) _____ _____ _____ _____
15)	Are you using any type of middleware to manage computational resources?	☐ Globus ☐ UNICORE ☐ gLite ☐ None ☐ Other (mention below) _____ _____ _____	☐ Globus ☐ UNICORE ☐ gLite ☑ None ☐ 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?	☐ Commercial Network ☐ Research network	☐ Commercial Network ☐ Research network

18)	Which parameters are/will be specified within your network service request?	• Bandwidth
		☐ Must Have
		☐ Nice to have
		☐ Not needed
		• Latency
		☐ Must have
		☐ Nice to have
		☐ Not needed
		• Jitter
		☐ Must have
		☐ Nice to have
		☐ Not needed
		• Calendars (start, end time, duration)
		☐ Must have
		☐ Nice to have
		☐ Not needed
		
		• Other (list below)
		   ○ _____
		   ○ _____
		   ○ _____
			• Bandwidth
			☐ Must have
			☐ Nice to have
			☐ Not needed
			• Latency
			☐ Must have
			☐ Nice to have
			☐ Not needed
			• Jitter
			☐ Must have
			☐ Nice to have
			☐ Not needed
			• Calendars (start, end time, duration)
			☐ Must have
			☐ Nice to have
			☐ Not needed
			
			• Other (list below)
			   ○ _____
			   ○ _____
			   ○ _____

19)	What are/will be the typical bandwidth requirements? (you can select more than one)	☐ < 155 Mbps ☐ 155 Mbps ☐ 622 Mbps ☐ 1 Gbps ☐ 2.5 Gbps ☐ 10 Gbps ☐ 40 Gbps ☐ 100 Gbps ☐ >160 Gbps ☐ Other (specify below) _____	☐ < 155 Mbps ☐ 155 Mbps ☐ 622 Mbps ☐ 1 Gbps ☐ 2.5 Gbps ☐ 10 Gbps ☐ 40 Gbps ☐ 100 Gbps ☐ >160 Gbps ☐ Other (specify below) _____

20)	What are/will be the typical latency requirements?	☐ < 100 us ☐ 100 us ☐ 1 ms ☐ 10 ms ☐ 20 ms ☐ 50 ms ☐ 100 ms ☐ > 100 ms	☑ < 100 us ☐ 100 us ☐ 1 ms ☐ 10 ms ☐ 20 ms ☐ 50 ms ☐ 100 ms ☐ > 100 ms
21)	What are/will be the typical jitter requirements?	☐ < 100 us ☐ 100 us ☐ 1 ms ☐ 10 ms ☐ 20 ms ☐ 50 ms ☐ > 50 ms	☐ < 100 us ☐ 100 us ☐ 1 ms ☐ 10 ms ☐ 20 ms ☐ 50 ms ☐ > 50 ms
22)	What is/will be the typical required bandwidth granularity?	☐ < 10 Mbps ☐ 10s of Mbps ☐ 100s of Mbps ☐ 1 Gbps ☐ > 1 Gbps	☐ < 10 Mbps ☐ 10s of Mbps ☐ 100s of Mbps ☐ 1 Gbps ☐ > 1 Gbps
23)	Do/Will you describe the underlying network technologies when you request a network connection?	☐ Yes ☑ No	☐ Yes ☑ 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)?	☐ Yes ☐ No	☐ Yes ☐ 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?	☐ Yes ☐ No	☐ Yes ☐ No

26)	Which network transport technologies are you using (will be using) and you would like to explicitly describe on the network connection request?	☐ IP ☐ Ethernet ☐ SONET/SDH ☐ WDM ☐ Other (mention below) _____ _____ _____ _____	☑ IP ☐ Ethernet ☐ SONET/SDH ☐ WDM ☐ Other (mention below) _____ _____ _____
27)	Do/Will you have any network failure considerations?	☐ Yes (if Yes list below) ☐ No • _____ • _____ • _____	☐ Yes (if Yes list below) ☐ No • _____ • _____ • _____
28)	Do/Will you escalate any network information to your middleware/service plane (e.g. topology information)?	☐ Yes (if Yes list below) ☐ No • _____ • _____ • _____	☐ Yes (if Yes list below) ☐ No • _____ • _____ • _____
29)	Would you be interested in participating on Network Service Interface Working Group?	☑ Yes ☐ No If Yes please contact the NSI-WG (emails at the beginning of the questionnaire) and you can participate on the standardisation process.	
30)	Other comments and remarks		