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Definitions

Acceptable Use Policy (AUP)

The rules that the user of a network must follow to be allowed to use the network.

Alias ID

Simple name associated with the Global ID used to simplify discussion about an incident. (GNA-Operations-v1.0-Technical)

Application Layer

The imaginary connection between two end user applications such as e-mail or video conferencing. In this case, encryption happens in the sending application and decryption happens in the receiving application.

Availability Management

Monitoring of the status and performance of links, devices, services, and systems to exchange information. (GNA-Operations-v1.0-Technical)

Best Effort Service

All participating organizations are allowed to inject traffic for best effort delivery without any restrictions on amount. Being best effort this traffic may be eligible for drop during congestion, e.g., as a result of an outage on another link, and thus not be delivered in any deterministic fashion. (GNA-Network-Services-v1.0-Technical)

Edge Domain

Edge domains or networks that connect directly to *Endpoints*. Edge Domains are responsible for receiving *Endpoint* frames/packets, encapsulate or just forward them, and apply filters defined per sub-class. If the traffic received from *Endpoints* is not in compliance to the service policy, the Edge Domain takes the action in compliance with the service definition the *Endpoint* has requested. Otherwise, traffic is forwarded to another domain. Examples of Edge Domain: R&E networks and open exchange points

End-to-End Deterministic Service

Ability to deliver traffic end to end in a manner that is determined by the classification of the traffic and/or guaranteed by a well-defined set of parameters. (GNA-Network-Services-v1.0-Technical)

Endpoint

Customer requesting a service. It could be a researcher, an academic institution, or a network

Flow Separation

In some cases an organization may wish to have some particular traffic separated from other traffic by means of a VLAN or other technology. This is still Best Effort traffic. The separation may be for better accounting on a specific application or other point-to-point activities. (GNA-Network-Services-v1.0-Technical)

Distributed Global Operational Functions aka global functions

Those functions that are organized and executed locally, but that have a global dependency. (GNA-Operations-v1.0-Technical)

Global ID

Assigned by originating Open Exchange (per service, same in all domains). The global ID consists of the prefix 'urn:ogf:network:', followed by the DNS-like identifier of the originating domain, followed by a local ID that is chosen by the originating Open Exchange.

Global Network Architecture (GNA)

A framework that network participants agree to and participate in, in order to operate the GNA Infrastructure for R&E (GIRE). (GNA-Operations-v1.0-Technical)

Global Network Architecture (GNA)

A blueprint for the intercontinental network interconnections for Research and Education (R&E) Networks around the globe. (GNA-Network-Services-v1.0-Technical)

Global Network Architecture Technical Working Group

The Working Group defining the Global Network Architecture. See <http://gna-re.net/>

Global Research and Education Exchange Point (GXP)

A location where physical links are terminated, interconnection between participants is facilitated and services are implemented in a policy free manner. Also, access to the colocation site -in which the Open Exchange Point is located- is available under non-discriminatory and fair conditions. (GNA-Network-Services-v1.0-Technical)

Guaranteed Bandwidth Service with Bursting Capabilities

This service is based on the Guaranteed Bandwidth Service. It adds bursting capabilities. In this case a network service has guaranteed bandwidth available and is also able to exceed this bandwidth as long as there is additional Best Effort capacity available to the service. (GNA-Network-Services-v1.0-Technical)

Guaranteed Bandwidth Service

A participating organization will be allowed to specify some amount of bandwidth for guaranteed delivery. Each participating organization may have some portion of each link – or set of links – available to them for guaranteed delivery of flows. (GNA-Network-Services-v1.0-Technical)

Internal Security Service (ISS)

The set of security activities and tools that an NREN (or network) performs on its own, internal equipment. An example would be scanning of end user equipment to determine patch levels.

Link

A circuit or wavelength between two Open Exchange Points made available for service implementation. A link may have a policy associated with it, as set by the link owner. (GNA-Network-Services-v1.0-Technical)

Link ID

An identifier assigned by the link supplier. (GNA-Operations-v1.0-Technical)

Link Layer

Automatic encryption between two pieces of vendor networking equipment, usually vendor-supplied. Used when known sensitive data such as medical information is regularly transmitted between two networks

Link Owner

The entity that holds the contract for the link with the carrier or fiber company. Link owners can also determine policy on a link. (GNA-Network-Services-v1.0-Technical)

Link Policy

A link may have requirements concerning how and to whom bandwidth may be allocated, these requirements would be expressed as policy. (GNA-Network-Services-v1.0-Technical)

Local Functions

Those functions that need no information exchange, that have no direct operational impact. (GNA-Operations-v1.0-Technical)

Local ID

Optional local ID that domains have (per service, may be different in each domain). The local ID is free format. (GNA-Operations-v1.0-Technical)

Multipoint Service

A service offered at Layers 1, 2, or 3, segregated from other services, with more than two endpoints, or the ability to add more than two endpoints (e.g., VPLS at Layer 2 or a Layer 3 VPN).

Network-to-Network Security Service (NNSS)

The set of security activities and tools that NRENs agree to apply to traffic entering or exiting their network. An example would be use of filters to limit source IP address spoofing.

Participant

Connectors and contributors will be Research and Education Networks, such as national R&E Networks (e.g., AARNet, SURFnet), Regional R&E Networks (e.g., RedCLARA, GÉANT Association) and mission specific networks (e.g., ESnet). (GNA-Network-Services-v1.0-Technical)

Point to Point Service

A layer service provided on Layers 1, 2, or 3 of the ISO stack (e.g., optical, Ethernet or IP) with exactly two end-points. C.f. multipoint service.

Segment

Inside each domain, Segments are created. Segments represent the forwarding technology particular to each domain. Each domain can use a completely different technology to transport the traffic, and it should be transparent to neighbours. For instance, Ethernet and MPLS technologies could be used

Special Use Service

Any participating organization can request a fixed amount of any link for a discrete period of time for a special event. Examples would be requesting 80G over a specific (short) term to be used for application demonstration at a conference or other event. Details of how these requests would be approved are TBD. These requests may be either Deterministic or Non-Deterministic. (GNA-Network-Services-v1.0-Technical)

Third Parties

Commercial service providers, connected to a Participant or to an Open Exchange Point, for the use of delivering services to the R&E Community. (GNA-Network-Services-v1.0-Technical)

Transport Domain

Domain or network that connects Edge Domains. Transport Domains do not apply filters, just forward the traffic towards the remote Edge Domain. Examples of Transport Domains: R&E networks and open exchange points

Transport Service

A set of Segments that connects two or more Endpoints, transporting specific traffic between them. A Service has two or more Edge Domains and any number of Transport Domains

Abbreviations

Abbreviation	Expansion
AUP	Acceptable Use Policy
CDN	Content Data Network
CEO Forum	Global R&E Network Chief Executive Officer Forum
CO	Controlling Organizations
GLIF	Global Lambda Integrated Facility
GN	Global Network
GN-FIE	Global Network Federated Information Environment
GNA	Global Network Architecture
GNO-ME	Global Network Ops Management Environment
GP	Governance and Policy component
GXP	GNA Exchange Point
NOC	Network Operations Center
NSI	Network Services Interface
OGF	Open Grid Forum
R&E	Research & Education
TO	Technical and Operations component