NSI Definitions

Note: defined words are written in capitalized first letter and *italics* to clarify which words in the text are defined words. All other words are non-defined words.

1. Service plane terms

This section describes terms that relate to objects or functions that are associated with the service plane. This include the following terms: *Network Service Agent, Requester NSA/ Provider NSA, Network Service, Network Service Interface*, *Connection Service*, *Message*, *Message sequence*.

Network Service Agent (NSA)

The *Network Service Agent* is a concrete piece of software or hardware that sends and receives *Messages*. The NSA also includes a set of capabilities that allow *Network Services* to be delivered.   A *Network Service Agent* terminates one or more NSIs. In the case where there are multiple NSIs, the NSA may act as a *Provider NSA* receiving requests while simultaneously acting as a *Requester NSA*, procuring resources from another *Provider NSA*. Note that the term 'agent' is used in accordance with the WS definition - Web Services Architecture http://www.w3.org/TR/ws-arch

Requester/ Provider NSA

An NSA acts in two possible roles relative to a particular instance of an NSI. When an NSA requests a service, it is called a *Requester NSA*. When an NSA realizes a service, it is called a *Provider NSA*.

Network Service (NS)

A *network service* (NS) is an abstract notion that must be implemented by a concrete network service agent (NSA). The NS is the service characterized by the set of functionality that is provided in an NSA. NS can have many instances, one of which is *Connection Service* (CS).

Network service interface (NSI)

A *Network service interface* (NSI) is an interface that is used to exchange *Message Sequences* between a *Requester NSA* and a *Provider NSA*. These *Messages* are defined in the NSI protocol definition document.

Connection service (CS)

A *Connection Service* is a service that allows a *Requester NSA* to request a *Connection* from a *Provider NSA*. The *Connection* could be for example a 1 Gigabit Ethernet service.

Message

A *Message* is a structured unit of data sent between a *Requester NSA* and a *Provider NSA*.

Message Sequence

A *Message Sequence* is a sequence of related messages that are exchanged between a *Requester NSA* and a *Provider NSA. Messages Sequences* are used to negotiate services.

Planes

Transport Plane
Service Plane
Control and Management Planes

Tranport Plane

The *Transport Plane* contains a set of all transport resources that are available to allow *Connections* to be made between *Ports*. *Connection, Port and Network* are terms that are used to represent resources in the transport plane.

Service Plane

The *Service Plane* contains a set *Network Service Agent*s using *Network Service Interfaces*. The *Service Plane* may interact with other planes such as the *Control Plane* and *Management Plane* to manage resources.

Control and Management Planes

The *Control Plane* and/or *Management Plane* directly control transport resources. The *Control Plane* and/or *Management Plane* may typically exist between the Service Plane and the Transport Plane. The Control Plane and Management Plane are not defined by this document, but follow common usage.