Minutes NSI working group meeting OGF39

1. There will be no change to the current NSI CS v2.0 to support protection for the following reasons:
2. In the case of both inter-domain and intra-domain protection, extensions may not be needed to NSI reserveRequest. A Service Definition can already be created using NSI CS v2.0 with an attribute for intra-domain protected service.
3. Protection switch event on the data plane will result in the data plane being restored after a brief outage.
4. Within the service description for a protected service this protection event can be notified with a ‘Protection switch’ exception event notification using the data plane error. Additional information about the failure can be included in the information field associated with this exception.
5. This should be revisited in v3.0 to ensure that protection is adequately handled.
6. A service definition needs to be defined to describe a service type that allows the user to request two paths that are physically diverse.
7. The service type with two physically diverse connections will require extensions to NML to allow path computation to identify a physically diverse path.

Service Definitions discussion:

1. The Service Definition instance MUST include a list of the specific parameters that can be included in a service request. E.g. capacity, vlan etc.
2. The NSI topology (NSI topology is used here to refer to NML with NSI extensions and specific STP naming rules) service MUST be capable of including technology specific attributes. E.g. an NML port should be able to describe MTU size (where needed).
3. NSI will rely on OGF standardization process to define the technology specific parameters of the NSI topology for any standard service specific schemas we create. E.g framing type, MTU associated with a port.
4. Where SDPs are present that are at a lower layer than the end-to-end service layer, these may be abstracted and presented in the topology as a ‘flat topology’, i.e at the same layer as the end-to-end service. For example if the end-to-end service is EVPL and there are double tagged CarrierEthernet STPs between Networks, these may optionally be announced by the network as ‘virtual VLANs’.
5. 2 options for relating STPs to SDs:  
   **Option 1:** The NSI topology elements (eg ports) MUST include all of the *serviceDefinitionNames* that can make use of this element. E.g. 1 to n mapping: STP X: *servcieDefinitionName* = ETS/EVTS.

**Option 2**: is also possible to define 2 separate STPs to do the same thing:

* 1. STP X1: serviceDefinitionName = ETS
  2. STP X2: serviceDefinitionName = EVTS

NSI CS v2.0 will support both options.  
Note: it is important that these methods are not mixed within a single SDP.

1. For **Option 1** above the NSI topology must be capable of being filtered by the *serviceDefinitionName* attribute. This allows the topology associated to be parsed to extract the topology associated with a specific Service Definition. If a Service Defintion is not present on a topology element, then the element is will NOT be available for use by this service.
2. Multiple labels may be included in an STP = <Network>:<localId>:<label>:<label>. For example this could be STP = <Network>:<localId>:<vlan\_Stag=203>:<vlan\_Ctag=3011>
3. Multiple labels DO NOT have ordering significance: i.e the sequence of labels has no significance.
4. The SD will NOT explicitly state which STP labels must be present in a *reserveRequest* message for it to be valid for a particular SD. Explanation: since the STP can be opaque and it is not obvious if the STP refers to a Port, VLAN or something else.
5. A <label group**>** is an unordered set of <label>. The label group can be used both in the NSI topology and the *reserveRequest.* For a definitive definition of Label groups see the NSI topology document.
6. STP Labels will support ranges and enumerations. This MUST be done using <label group**>**
7. Under-qualified STPs are NOT described using <label> but should be described using one or more <label group**>**. E.g. vlan=1780-1790,1799 these are also referred to as ‘under-qualified’ STPs since the STP is not fully resolved.
8. Both a *reserveRequest* and the NSI topology can make use of under-qualified STPs.
9. The *reserveConfirm* message MUST return a resolved STP, i.e. the NSA must choose one <label> from the list of possible <labels>.
10. When an under-qualified STP (eg range of VLANs) is included in a *reserveRequest* the NSA CANNOT change the <NetworkId>: <localId> part of the STP when returning a resolved STP.
11. The *provisionRequest* should only be sent if a confirmed committed reservation exists.
12. Any of these service exceptions can be sent in either the SOAP fault reply to the original request or an error reply message.