# Examples

The following snippets represent NML structures in the XML format.

* Topology

<nml:Topology xmlns:nml="http://schemas.ogf.org/nml/2012/10/nml"

 id="urn:ogf:network:example.net:2012:org"

 version="20120814">

* Node

 <nml:Node id="urn:ogf:network:example.net:2012:nodeA">

 <nml:name>Node-A</nml:name>

 <nml:Relation type="http://schemas.ogf.org/nml/2012/10/relation/lacatedAt">

 <nml:Location idRef="urn:ogf:network:example.net:2012:redcity"/>

 </nml:Relation>

 <nml:Relation type="http://schemas.ogf.org/nml/2012/10/relation/hasOutboundPort">

 <nml:Port idRef="urn:ogf:network:example.net:2012:A:port\_X-out"/>

 <nml:Port idRef="urn:ogf:network:example.net:2012:A:port\_Y-out"/>

 </nml:Relation>

 <nml:Relation type="http://schemas.ogf.org/nml/2012/10/relation/hasInboundPort">

 <nml:Port idRef="urn:ogf:network:example.net:2012:A:port\_X-in"/>

 <nml:Port idRef="urn:ogf:network:example.net:2012:A:port\_Y-in"/>

 </nml:Relation>

 </nml:Node>

* Ports
	+ Unidirectional Port

 <nml:Port id="urn:ogf:network:example.net:2012:port-X:out">

 <nml:Label encoding="http://schemas.ogf.org/nml/2012/10/ethernet/vlan">1501</nml:Label>

 </port>

* + Bidirectional Port

 <nml:BidirectionalPort id="urn:ogf:network:example.net:2012:port-X">

 <nml:name>X</nml:name>

 <nml:Port idRef="urn:ogf:network:example.net:2012:port-X:out"/>

 <nml:Port idRef="urn:ogf:network:example.net:2012:port-X:in"/>

 </nml:BidirectionalPort>

* + PortGroup

 <nml:PortGroup id="urn:ogf:network:example.net:2012:A:portgroup\_X:out">

 <nml:LabelGroup encoding="http://schemas.ogf.org/nml/2012/10/ethernet/vlan">

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 </nml:LabelGroup>

 </nml:PortGroup>

* Links
	+ Unidirectional Link

 <nml:Link idRef="urn:ogf:network:example.net:2012:linkA:XY">

 <nml:Relation type="http://schemas.ogf.org/nml/2012/10/relation/hasSource">

 <nml:Port id="urn:ogf:network:example.net:2012:port-X:out"/>

 </nml:Relation>

 <nml:Relation type="http://schemas.ogf.org/nml/2012/10/relation/hasSink">

 <nml:Port id="urn:ogf:network:example.net:2012:port-Y:in"/>

 </nml:Relation>

 </nml:Link>

* + Unidirectional Link that is composed of more than one sub-links

 <nml:Relation type="http://schemas.ogf.org/nml/2013/10/isSerialCompoundLink">

 <nml:Link idRef="urn:ogf:network:example.net:2012:linkA:XY">

 <nml:Relation type="http://schemas.ogf.org/nml/2012/10/next">

 <nml:Link idRef="urn:ogf:network:example.net:2012:linkB:YZ"/>

 </nml:Relation>

 </nml:Link>

 <nml:Link idRef="urn:ogf:network:example.net:2012:linkB:YZ">

 <nml:Relation type="http://schemas.ogf.org/nml/2012/10/next">

 <nml:Link idRef="urn:ogf:network:example.net:2012:linkC:ZW"/>

 </nml:Relation>

 </nml:lLink>

 <nml:Link idRef="urn:ogf:network:example.net:2012:linkC:ZW"/>

 </nml:Relation>

* + Bidirectional Link

 <nml:BidirectionalLink id="urn:ogf:network:example.net:2012:link\_XWX">

 <nml:name>Link between ports X and W</nml:name>

 <nml:Link idRef="urn:ogf:network:example.net:2012:link\_XW"/>

 <nml:Link idRef="urn:ogf:network:example.net:2012:link\_WX"/>

 </nml:BidirectionalLink>

* + LinkGroup

 <nml:LinkGroup id="urn:ogf:network:example.net:2012:domainy-domainx">

 <nml:LabelGroup encoding="http://schemas.ogf.org/nml/2012/10/ethernet/vlan">

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 </nml:LabelGroup>

 </nml:LinkGroup>

* Labels
	+ Label

<nml:Label encoding="http://schemas.ogf.org/nml/2012/10/ethernet/vlan">1501</nml:Label>

* + LabelGroup

 <nml:LabelGroup encoding="http://schemas.ogf.org/nml/2012/10/ethernet/vlan">

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 </nml:LabelGroup>

* Location

 <nml:Location id="urn:ogf:network:example.net:2012:redcity">

 <nml:name>Red City</nml:name>

 <nml:latitude>30.600</nml:latitude>

 <nml:longitude>12.640</nml:longitude>

 </nml:Location>

* Services
	+ SwitchingService

 <nml:Node id="urn:ogf:network:example.net:2012:nodeA">

 <nml:name>Node-A</nml:name>

 <nml:Relation type="http://schemas.ogf.org/nml/2012/10/relation/hasService">

 <nml:SwitchingService idRef="urn:ogf:network:example.net:2012:nodeA:switchingService"/>

 </nml:Relation>

 </nml:Node>

 <nml:SwitchingService id="urn:ogf:network:example.net:2012:nodeA:switchingService">

 <nml:Relation type="http://schemas.ogf.org/nml/2012/10/relation/hasInboundPort">

 <nml:Port idRef="urn:ogf:network:example.net:2012:port-X:in" />

 <nml:Port idRef="urn:ogf:network:example.net:2012:port-Y:in" />

 </nml:Relation>

 <nml:Relation type="http://schemas.ogf.org/nml/2012/10/relation/hasOutboundPort">

 <nml:PortGroup idRef="urn:ogf:network:example.net:2012:port-X:out"/>

 <nml:PortGroup idRef="urn:ogf:network:example.net:2012:port-Y:out"/>

 </nml:Relation>

 </nml:SwitchingService>

* + AdaptationService

 <nml:Port id="=" urn:ogf:network:example.net:2012:port-X:in ">

 <nml:Relation type="hasService">

 <nml:AdaptationService idRef=" urn:ogf:network:example.net:2012:port-X:in:adaptationService" />

 </nml:Relation>

 </nml:Port>

 <nml:AdaptationService id="urn:ogf:network:example.net:2012:port-X:in:adaptationService">

 <nml:Relation type="http://schemas.ogf.org/nml/2012/10/relation/providesPort">

 <nml:Port idRef="urn:ogf:network:example.net:2012:port-X.1501:in" />

 </nml:Relation>

 </nml:SwitchingService>

 <nml:Port id="urn:ogf:network:example.net:2012:port-X.1501:in">

 <nml:Label encoding="http://schemas.ogf.org/nml/2012/10/ethernet/vlan">1501</nml:Label>

 </nml:Port>

* + DeadaptationService

 <nml:Port id="=" urn:ogf:network:example.net:2012:port-X.1501:in ">

 <nml:Label encoding="http://schemas.ogf.org/nml/2012/10/ethernet/vlan">1501</nml:Label>

 <nml:Relation type="hasService">

 <nml:DeadaptationService idRef=" urn:ogf:network:example.net:2012:port-X.1501:in:deadaptationService" />

 </nml:Relation>

 </nml:Port>

 <nml:DeadaptationService id="urn:ogf:network:example.net:2012:port-X.1501:in:deadaptationService">

 <nml:Relation type="http://schemas.ogf.org/nml/2012/10/relation/providesPort">

 <nml:Port idRef="urn:ogf:network:example.net:2012:port-X:in" />

 </nml:Relation>

 </nml:SwitchingService>