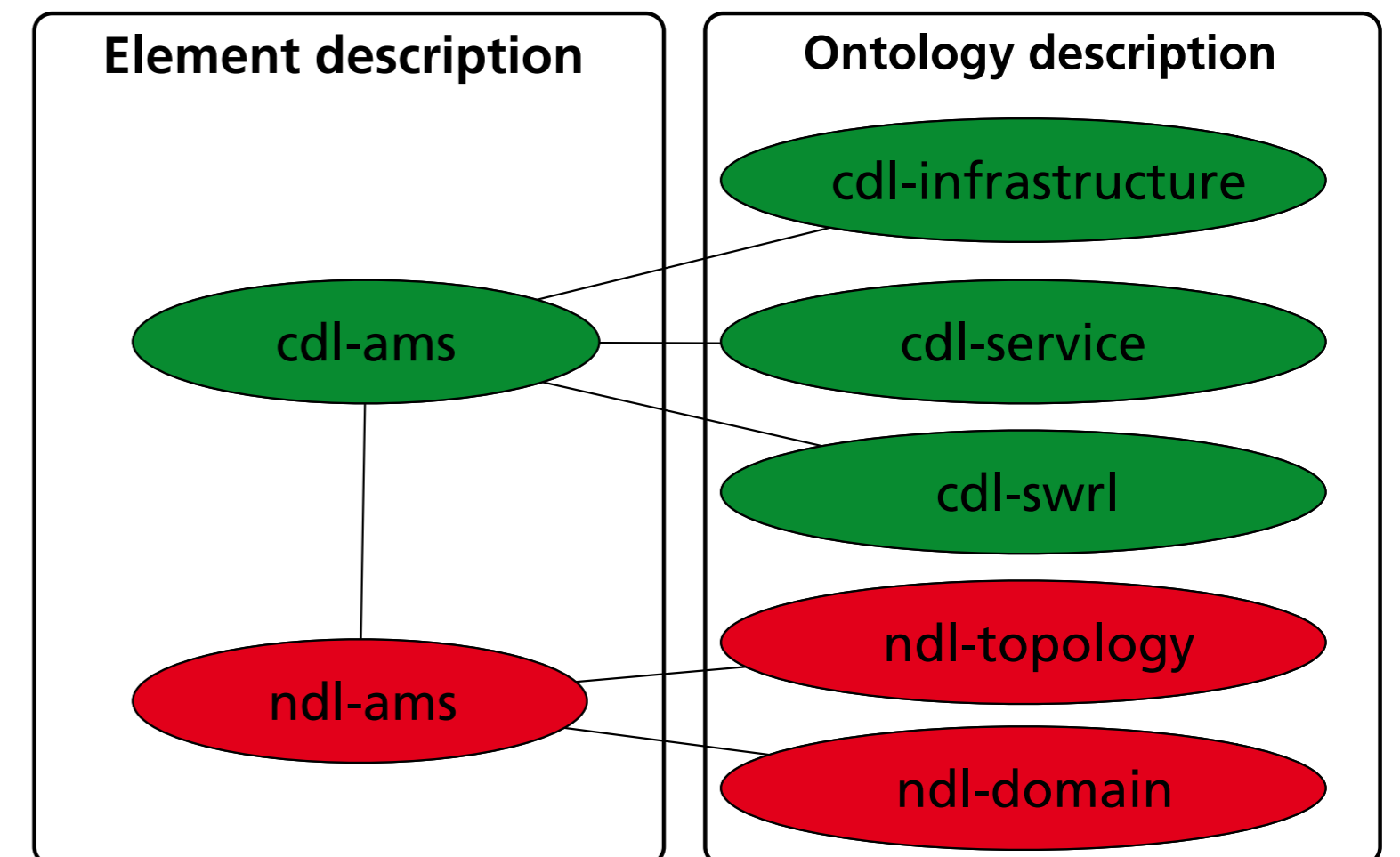


CineGrid Description Language



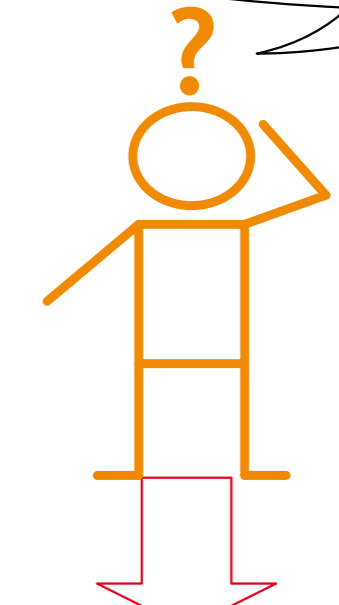
CineGrid is an initiative to facilitate the exchange, storage and display of high-quality digital media.

The CineGrid Description Language (CDL) describes CineGrid resources. Streaming, display and storage components are organized in a hierarchical way. CDL has bindings to the NDL ontology that enables descriptions of network components and their interconnections. With CDL we can reason on the CineGrid infrastructure and its services.

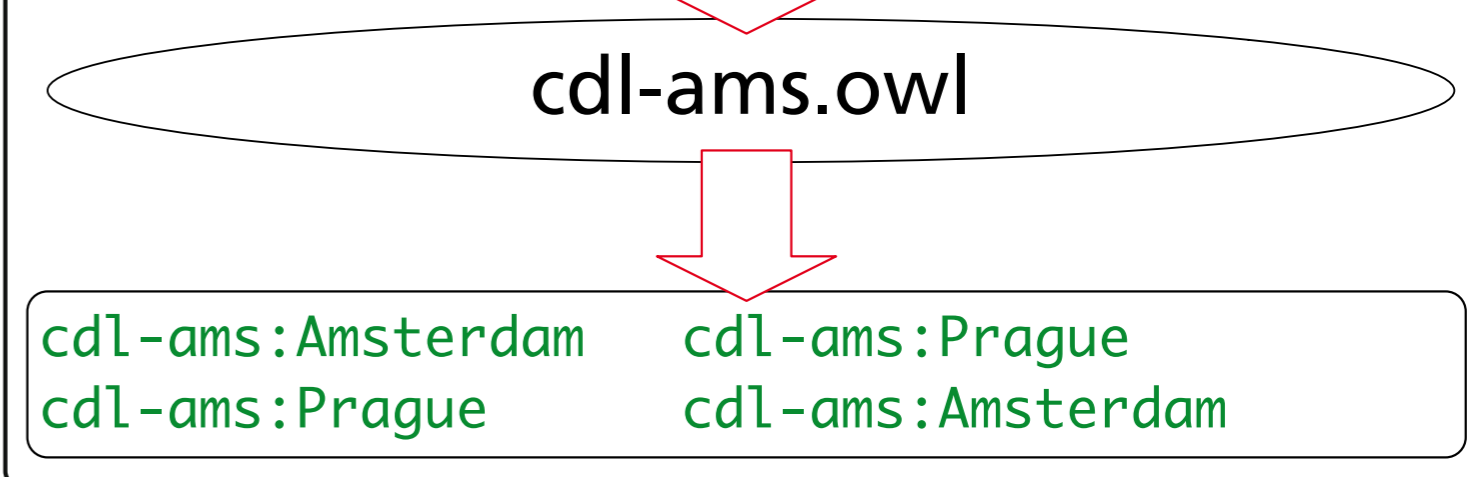


SQWRL is used to query the Ontology.

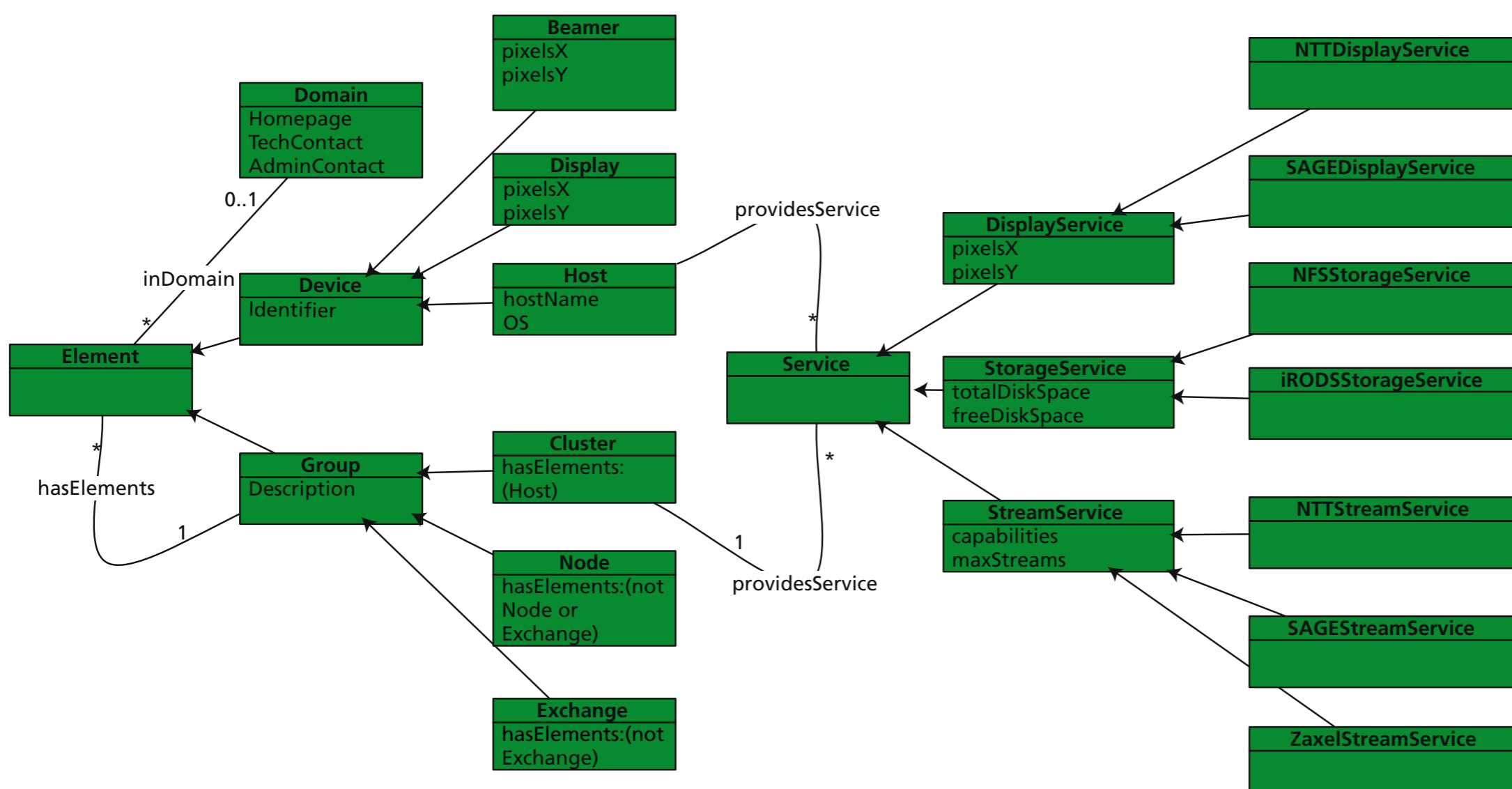
Which CineGrid nodes are directly connected?



```
cdl:hasElements(?node1, ?host1) ^
ndl-topo:hasInterface(?host1, ?if1) ^ ndl-
topo:connectedTo(?if1, ?if2) ^
ndl-topo:hasInterface(?host2, ?if2) ^
cdl:hasElements(?node2, ?host2) ->
sqwrl:select(?node1, ?node2)
```



UML representation of CDL



CDL links to NDL using the **owl:SameAs** property. CDL defines the services, NDL the network interfaces and links. The combination of the two ontologies identifies the host pairs that support matching services via existing network connections.

```
<cdl:hasElements>
<cdl:Host rdf:ID="cgvideo">
<cdl:hasDomain rdf:resource="#UvA-SNE"/>
<owl:sameAs rdf:resource="http://cinegrid.uvalight.nl/owl/ndl-amsterdam.owl#cgvideo"/>
<cdl:providesService>
<cdl:SAGEDisplayService rdf:ID="SAGEDisplayService_cgvideo">
<cdl:pixelsX rdf:datatype="http://www.w3.org/2001/XMLSchema#int"
3840/><cdl:pixelsX>
<cdl:providedBy rdf:resource="#cgvideo"/>
<cdl:pixelsY rdf:datatype="http://www.w3.org/2001/XMLSchema#int"
2160/><cdl:pixelsY>
</cdl:SAGEDisplayService>
</cdl:providesService>
<cdl:providesService>
<cdl:LocalStorageService rdf:ID="LocalStorageService_cgvideo">
<cdl:providedBy rdf:resource="#cgvideo"/>
</cdl:LocalStorageService>
</cdl:providesService>
<cdl:providesService>
<cdl:SAGEStreamingService rdf:ID="SAGEStreamingService_cgvideo">
<cdl:providedBy rdf:resource="#cgvideo"/>
</cdl:SAGEStreamingService>
</cdl:providesService>
</cdl:Host>
</cdl:hasElements>
```

```
<ndl-domain:inAdminDomain>
<ndl-domain:AdministrativeDomain rdf:ID="UvA-SNE"/>
<ndl-domain:inAdminDomain>
<rdfs:comment rdf:datatype="http://www.w3.org/2001/XMLSchema#text"
Development machine.</rdfs:comment>
</ndl-topo:Device>
<ndl-topo:Device rdf:ID="cgvideo">
<ndl-topo:hasInterface rdf:resource="#cgvideo-eth3"/>
<ndl-topo:hasInterface>
<ndl-topo:StaticInterface rdf:ID="cgvideo-eth1">
<ndl-topo:connectedTo>
<ndl-topo:ConnectionPoint rdf:ID="Internet8"/>
</ndl-topo:connectedTo>
</ndl-topo:StaticInterface>
</ndl-topo:hasInterface>
<ndl-domain:inAdminDomain rdf:resource="#UvA-SNE"/>
</ndl-topo:Device>
<ndl-topo:Device rdf:ID="cgdaemon">
<ndl-domain:inAdminDomain rdf:resource="#UvA-SNE"/>
<ndl-topo:hasInterface>
<ndl-topo:StaticInterface rdf:ID="cgdaemon-eth1">
<ndl-topo:connectedTo>
<ndl-topo:ConnectionPoint rdf:ID="Internet5"/>
</ndl-topo:connectedTo>
</ndl-topo:StaticInterface>
```

