

<https://www.nsnam.org/docs/models/html/point-to-point.html>

## Using the PointToPointNetDevice

The PointToPoint net devices and channels are typically created and configured using the associated PointToPointHelper object. The various ns3 device helpers generally work in a similar way, and their use is seen in many of our example programs and is also covered in the *ns-3* tutorial.

The conceptual model of interest is that of a bare computer "husk" into which you plug net devices. The bare computers are created using a NodeContainer helper. You just ask this helper to create as many computers (we call them Nodes) as you need on your network:

```
NodeContainer nodes;  
nodes.Create (2);
```

Once you have your nodes, you need to instantiate a PointToPointHelper and set any attributes you may want to change. Note that since this is a point-to-point (as compared to a point-to-multipoint) there may only be two nodes with associated net devices connected by a PointToPointChannel.:

```
PointToPointHelper pointToPoint;  
pointToPoint.SetDeviceAttribute ("DataRate", StringValue ("5Mbps"));  
pointToPoint.SetChannelAttribute ("Delay", StringValue ("2ms"));
```

Once the attributes are set, all that remains is to create the devices and install them on the required nodes, and to connect the devices together using a PointToPoint channel. When we create the net devices, we add them to a container to allow you to use them in the future. This all takes just one line of code.:

```
NetDeviceContainer devices = pointToPoint.Install (nodes);
```