



### Step in packet receiving process

7. **UdpSocketImpl** itself calls the **Recv()** callback set by the **Application** when data is ready to be read. The application can then call the **socket Recv()** or **RecvFrom()** methods to read data (or dummy data) from the socket.

6. **Ipv4EndPoint** has a callback where a **Socket** object is able to register a receive method. Here, this callback calls to **UdpSocketImpl::ForwardUp()**

5. **UdpL4Protocol** is where the socket-independent protocol logic for UDP is implemented. The **Receive()** method removes the UDP header and looks up the per-flow context state, which is one or more **Ipv4EndPoint** objects stored in an **Ipv4EndPointDemux** (indexed by src addr, src port, dest addr, dest port). It then calls **Ipv4EndPoint::ForwardUp()** when done.

4. **Ipv4L3Protocol** removes the IP header, checks checksum (if implemented), and passes the packet to the **Ipv4RoutingProtocol** registered with **Ipv4L3Protocol**. The routing protocol in this case decides the packet is for the local host, so it calls back to **Ipv4L3Protocol::LocalDeliver()**. This function looks up the protocol (in this case UDP) and calls the **Receive()** method for that protocol.

3. **Node::ReceiveFromDevice** stores a set of callbacks (protocol handlers) that are looked up based on protocol number and device. In this case, the lookup will result in an **Ipv4L3Protocol::Receive()** being called.

2. This is typically the **Node::ReceiveFromDevice()** function

1. **NetDevice** calls the function registered at **Node::m\_receiveCallback**