Lecture 13:
ns3: On-Off for TCP Application

On-Off Application

- UDP On-Off Application

```
uint16_t port = 9;
OnOffHelper onoff(
    "ns3::UdpSocketFactory",
    InetSocketAddress("10.1.2.4", port));
//onoff.SetAttribute("OnTime",StringValue("ns3::ConstantRandomVariable[Constant=1]"));
onoff.SetAttribute("OnTime",StringValue("ns3::ConstantRandomVariable[Constant=1]"));
onoff.SetAttribute("OffTime",StringValue("ns3::ConstantRandomVariable[Constant=0]"));
onoff.SetAttribute("DataRate", StringValue("512Kbps"));
onoff.SetAttribute("PacketSize", StringValue("1500"));


//ApplicationContainer apps = onoff.Install(wifiStaNodes.Get(nWifi-1));
ApplicationContainer apps = onoff.Install(wifiStaNodes);
apps.Start(Seconds(5.0));
apps.Stop(Seconds(20.0));

PacketSinkHelper sink(
      "ns3::UdpSocketFactory",
      InetSocketAddress("10.1.2.4", port));
  sink.Install(csmaNodes.Get(nCsma));
```

On-Off Application

- TCP On-Off Application

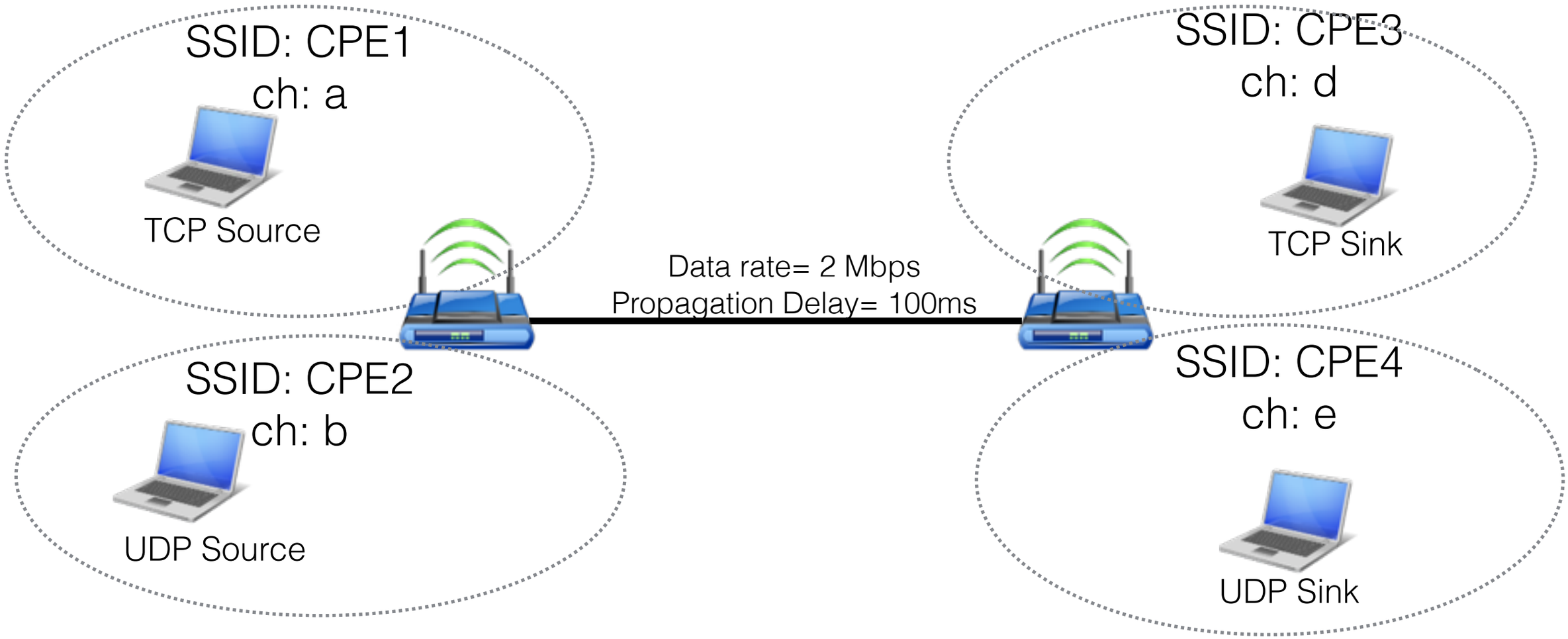
```
uint16_t port = 9;
OnOffHelper onoff(
    "ns3::TcpSocketFactory",
     InetSocketAddress("10.1.2.4", port));
//onoff.SetAttribute("OnTime",StringValue("ns3::ConstantRandomVariable[Constant=1]"));
onoff.SetAttribute("OnTime",StringValue("ns3::ConstantRandomVariable[Constant=1]"));
onoff.SetAttribute("OffTime",StringValue("ns3::ConstantRandomVariable[Constant=0]"));
onoff.SetAttribute("PacketSize", StringValue("1500"));


//ApplicationContainer apps = onoff.Install(wifiStaNodes.Get(nWifi-1));
ApplicationContainer apps = onoff.Install(wifiStaNodes);
apps.Start(Seconds(5.0));
apps.Stop(Seconds(20.0));

PacketSinkHelper sink(
      "ns3::TcpSocketFactory",
      InetSocketAddress("10.1.2.4", port));
  sink.Install(csmaNodes.Get(nCsma));
```

Due: Dec 12, 2014

Assignment



TCP and UDP start time = 1.2 s, stop time = 120 s
Packet Size = 1024 bytes

UDP data rate: 1, 2 and 4 Mbps

Monitor: throughput, e2e delay, packet loss