

### **Assignment 3: Implement a specific Network Topology with respect to Tcp.**

**Aim: To implement specific Network topology(Bus topology ) with respect to Tcp.**

#### **Theory:**

**Bus topology:**

- 1] Topology is the arrangement or physical layout of devices in a network .**
- 2] In Bus topology , the devices are connected to a central cable which acts as a backbone.**
- 3] It is cost effective and easy to setup.**
- 4] But, it is not fault tolerant.**

#### **Code:**

```
set ns [new Simulator]
```

```
set nf [open out.nam w]  
$ns namtrace-all $nf
```

```
set np [open out.tr w]  
$ns trace-all $np
```

```
proc finish {} {  
    global ns nf np  
    $ns flush-trace  
    close $nf  
    exec nam out.nam &  
    exit 0  
}
```

**}**

**set n0 [\$ns node]  
set n1 [\$ns node]  
set n2 [\$ns node]  
set n3 [\$ns node]**

**\$ns duplex-link \$n0 \$n1 2Mb 10ms DropTail  
\$ns duplex-link \$n1 \$n2 2Mb 10ms DropTail  
\$ns duplex-link \$n2 \$n3 2Mb 10ms DropTail**

**\$ns queue-limit \$n0 \$n1 5  
\$ns queue-limit \$n1 \$n2 5  
\$ns queue-limit \$n2 \$n3 5**

**\$ns duplex-link-op \$n0 \$n1 queuePos 0.5  
\$ns duplex-link-op \$n1 \$n2 queuePos 0.5  
\$ns duplex-link-op \$n2 \$n3 queuePos 0.5**

**set tcp [new Agent/TCP]  
\$ns attach-agent \$n0 \$tcp**

**set sink [new Agent/TCPSink]  
\$ns attach-agent \$n3 \$sink  
\$ns connect \$tcp \$sink**

**set ftp [new Application/FTP]  
\$ftp attach-agent \$tcp**

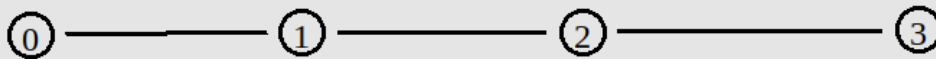
**\$ns at 0.1 "\$ftp start"**

**\$ns at 4.0 "\$ftp stop"**

**\$ns at 5.0 "finish"**

**\$ns run**

**Example:**



**Conclusion:**

**The TCP Sink Agent acts as the receiver, accepting data from the TCP Agent that functions as the sender**

**LO mapping: 103,105**