



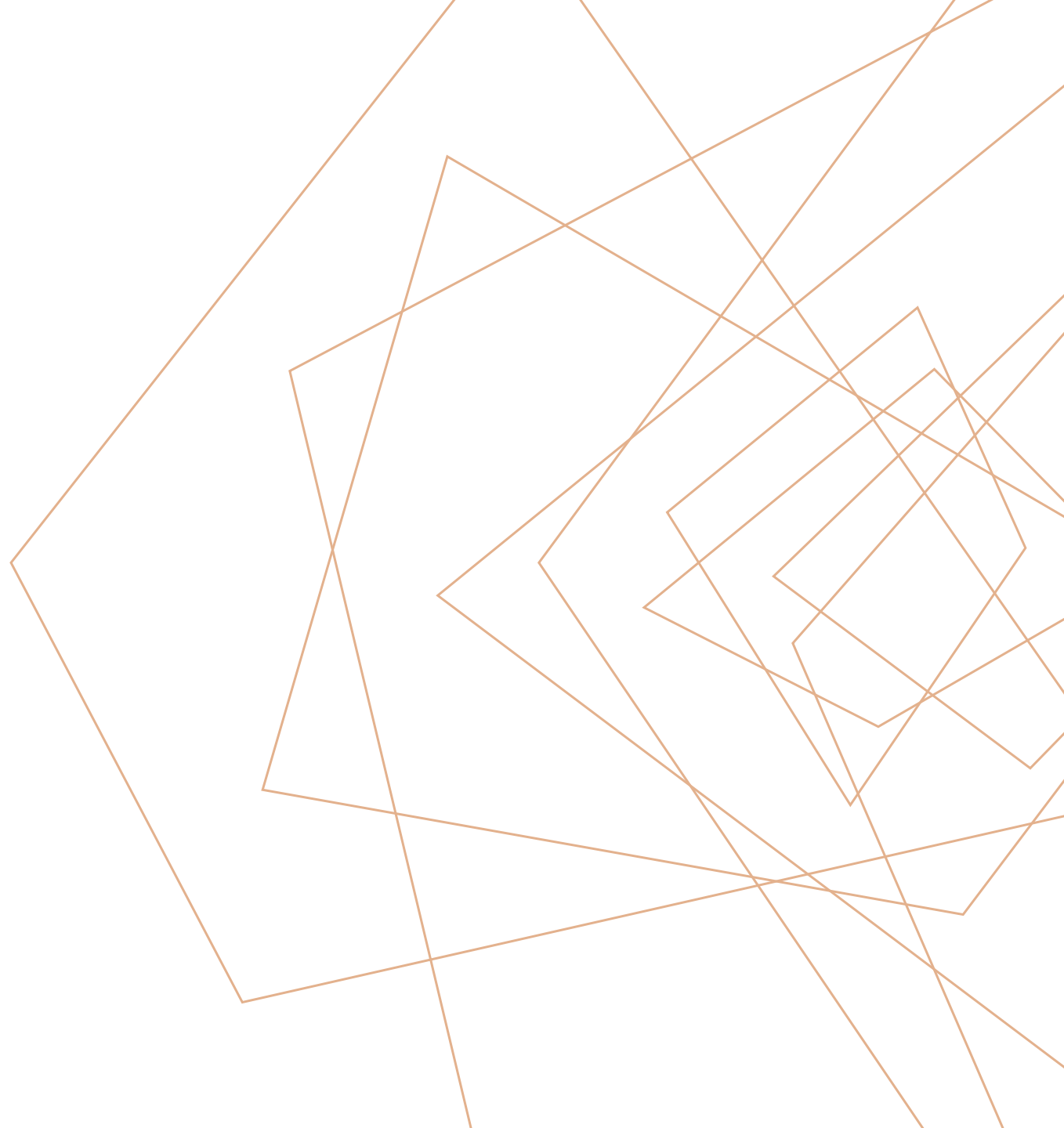
# CSE 322

# NS3 PROJECT UPDATE 2

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# ABOUT THE PROJECT

TCP-Peach is a modification on the TCP-Reno type congestion control. For the project, a wi-fi topology is needed. For the initial unmodified testing, here, I have created a wireless high rate (802.11) static network



THE NETWORK

Wireless high-rate (802.11) (static)

NUMBER OF  
NETWORKS

3

NUMBER OF  
NODES

10

NUMBER OF  
FLOWS

$4 * 2 = 8$

SIMULATION SETUP

CONGESTION  
CONTROL ALGO

TCP NewReno

ROUTING  
PROTOCOL

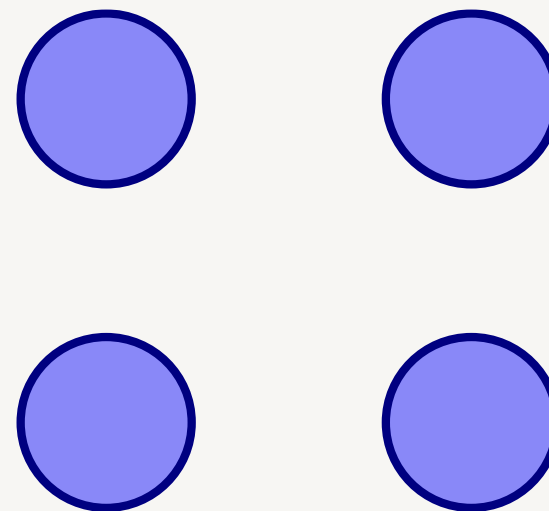
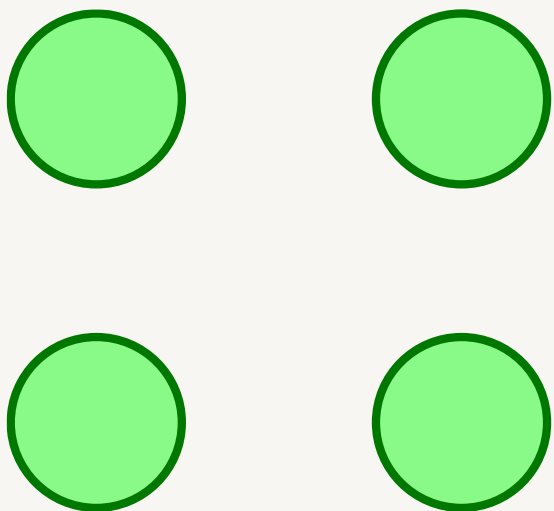
NS3 default for Ipv4GlobalRouting

SIMULATION SETUP

# THE TOPOLOGY



# THE TOPOLOGY



# THE TOPOLOGY

```
NodeContainer p2pNodes;  
p2pNodes.Create (n_routers);  
  
PointToPointHelper pointToPoint;  
pointToPoint.SetDeviceAttribute ("DataRate", StringValue ("5Mbps"));  
pointToPoint.SetChannelAttribute ("Delay", StringValue ("2ms"));  
  
NetDeviceContainer p2pDevices;  
p2pDevices = pointToPoint.Install (p2pNodes);  
  
NodeContainer staWifiNodes_1;  
staWifiNodes_1.Create (n_half_nodes);  
NodeContainer apWifiNode_1 = p2pNodes.Get (0);  
  
NodeContainer staWifiNodes_2;  
staWifiNodes_2.Create (n_half_nodes);  
NodeContainer apWifiNode_2 = p2pNodes.Get (1);
```



**METRICS**





## FLOW 1

Flow Id	: 1
Src Addr	: 10.1.2.2
Dst Addr	: 10.1.3.2
Sent Packets	: 416
Received Packets	: 410
Lost Packets	: 6
Packet Delivery Ratio	: 98.5577%
Packet Loss Ratio	: 1.44231%
Delay	: +2.62063e+10ns
Jitter	: +1.25952e+09ns
Throughput	: 710.896 kbps



## FLOW 2

Flow Id	: 2
Src Addr	: 10.1.2.3
Dst Addr	: 10.1.3.3
Sent Packets	: 772
Received Packets	: 767
Lost Packets	: 5
Packet Delivery Ratio	: 99.3523%
Packet Loss Ratio	: 0.647668%
Delay	: +5.75595e+10ns
Jitter	: +1.66612e+09ns
Throughput	: 1345.77 kbps



## FLOW 3

Flow Id	: 3
Src Addr	: 10.1.2.4
Dst Addr	: 10.1.3.4
Sent Packets	: 1160
Received Packets	: 1150
Lost Packets	: 10
Packet Delivery Ratio	: 99.1379%
Packet Loss Ratio	: 0.862069%
Delay	: +1.15772e+11ns
Jitter	: +2.57281e+09ns
Throughput	: 2045.28 kbps



## FLOW 4

Flow Id	: 4
Src Addr	: 10.1.2.5
Dst Addr	: 10.1.3.5
Sent Packets	: 523
Received Packets	: 513
Lost Packets	: 10
Packet Delivery Ratio	: 98.088%
Packet Loss Ratio	: 1.91205%
Delay	: +3.24418e+10ns
Jitter	: +1.4217e+09ns
Throughput	: 860.106 kbps



## FLOW 5

Flow Id	: 5
Src Addr	: 10.1.3.4
Dst Addr	: 10.1.2.4
Sent Packets	: 708
Received Packets	: 708
Lost Packets	: 0
Packet Delivery Ratio	: 100%
Packet Loss Ratio	: 0%
Delay	: +2.5604e+09ns
Jitter	: +1.71714e+08ns
Throughput	: 63.9329 kbps



## FLOW 6

Flow Id	: 6
Src Addr	: 10.1.3.2
Dst Addr	: 10.1.2.2
Sent Packets	: 234
Received Packets	: 234
Lost Packets	: 0
Packet Delivery Ratio	: 100%
Packet Loss Ratio	: 0%
Delay	: +1.37881e+09ns
Jitter	: +1.28334e+08ns
Throughput	: 20.1512 kbps



## FLOW 7

Flow Id	: 7
Src Addr	: 10.1.3.5
Dst Addr	: 10.1.2.5
Sent Packets	: 304
Received Packets	: 304
Lost Packets	: 0
Packet Delivery Ratio	: 100%
Packet Loss Ratio	: 0%
Delay	: +1.71141e+09ns
Jitter	: +1.47541e+08ns
Throughput	: 25.8045 kbps



## FLOW 8

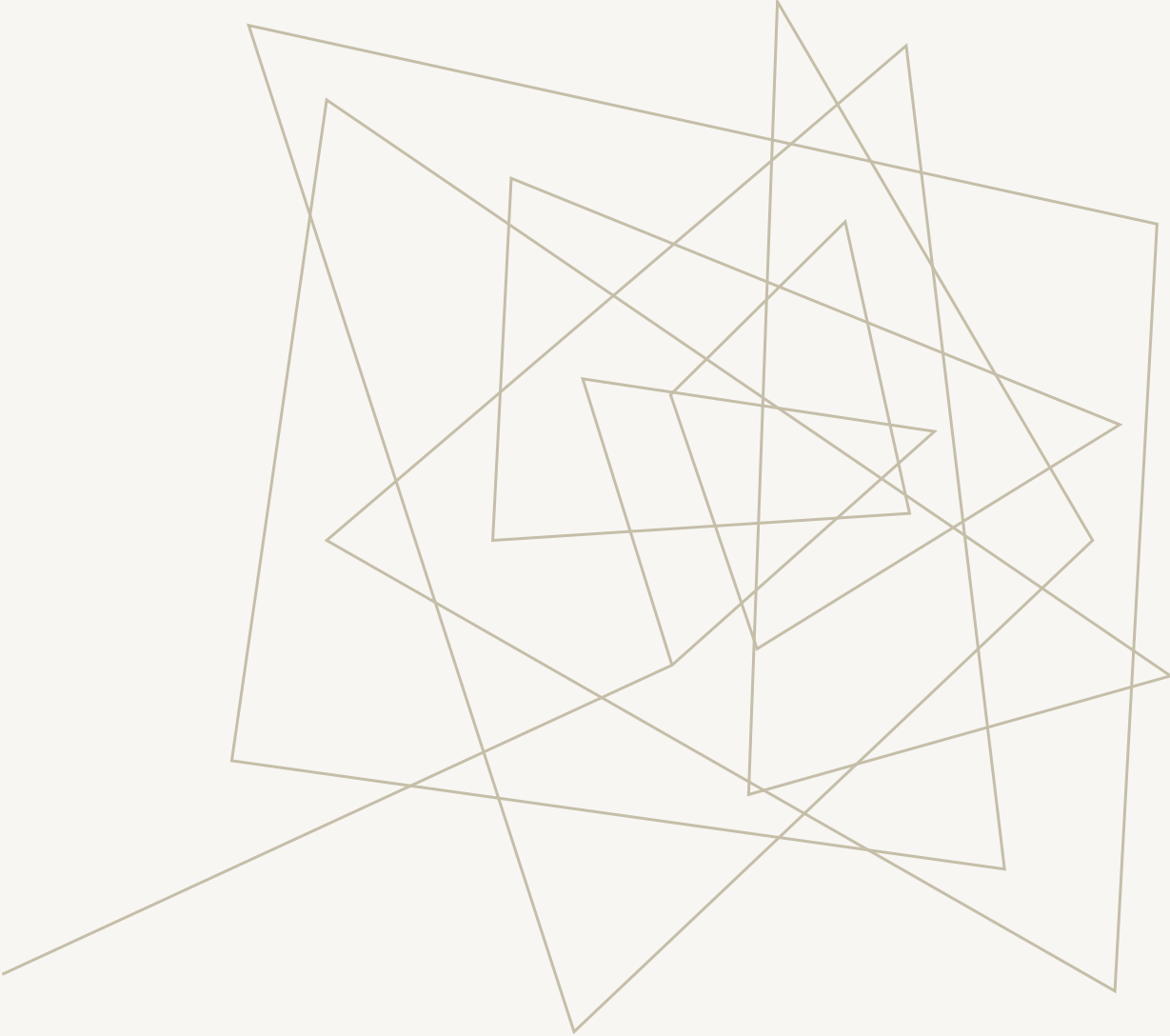
Flow Id	: 8
Src Addr	: 10.1.3.3
Dst Addr	: 10.1.2.3
Sent Packets	: 440
Received Packets	: 440
Lost Packets	: 0
Packet Delivery Ratio	: 100%
Packet Loss Ratio	: 0%
Delay	: +2.0022e+09ns
Jitter	: +9.97094e+08ns
Throughput	: 38.462 kbps



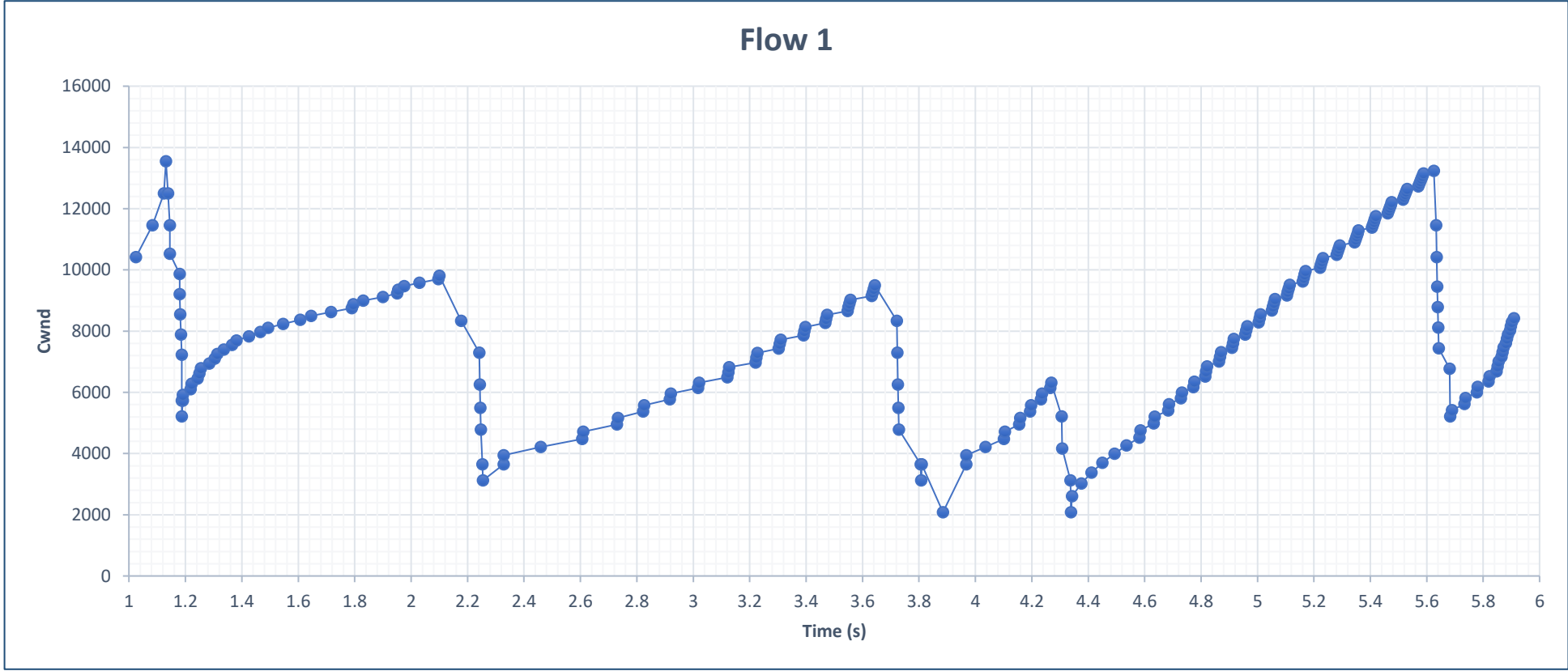


## FLOW AVG

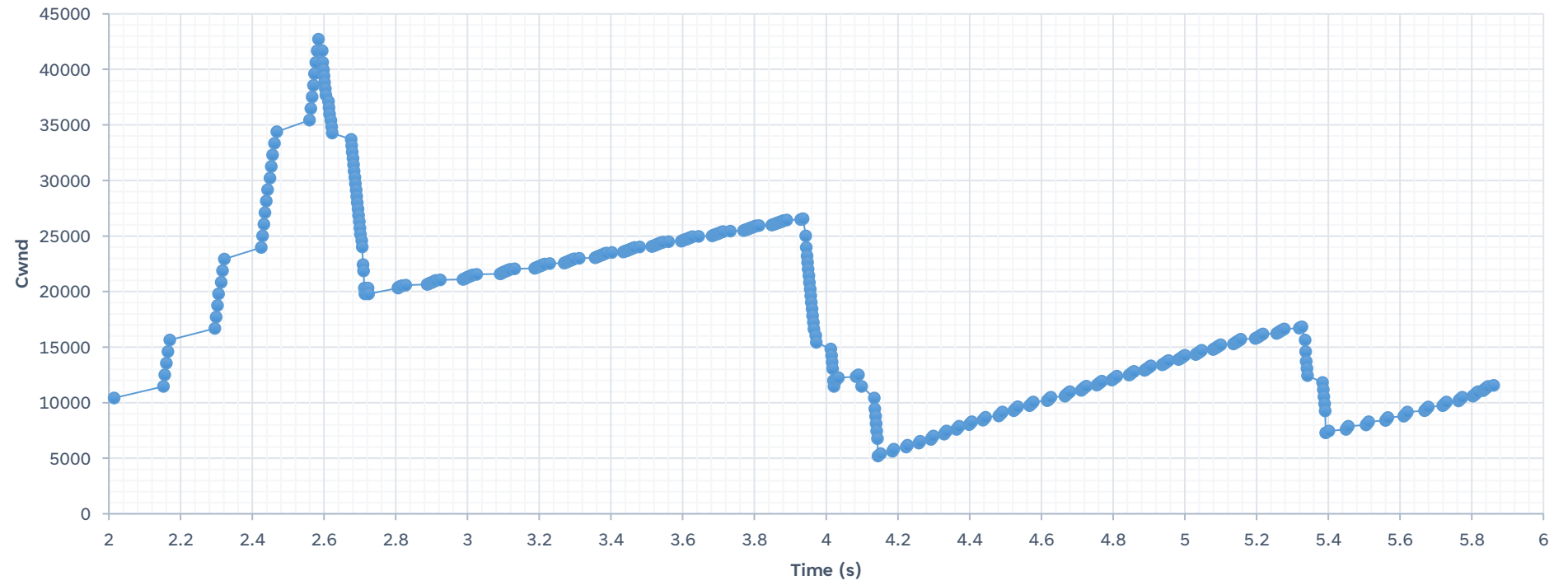
Total Sent packets	: 4557
Total ReceivedPackets	: 4526
Total Lost Packets	: 31
Packet Loss Ratio	: 0.680272%
Packet Delivery Ratio	: 99.3197%
Average Throughput	: 638.8 kbps
End to end delay	: +2.39632e+11ns
End to end jitter	: +8.36483e+09ns
Total Flow ID	: 8



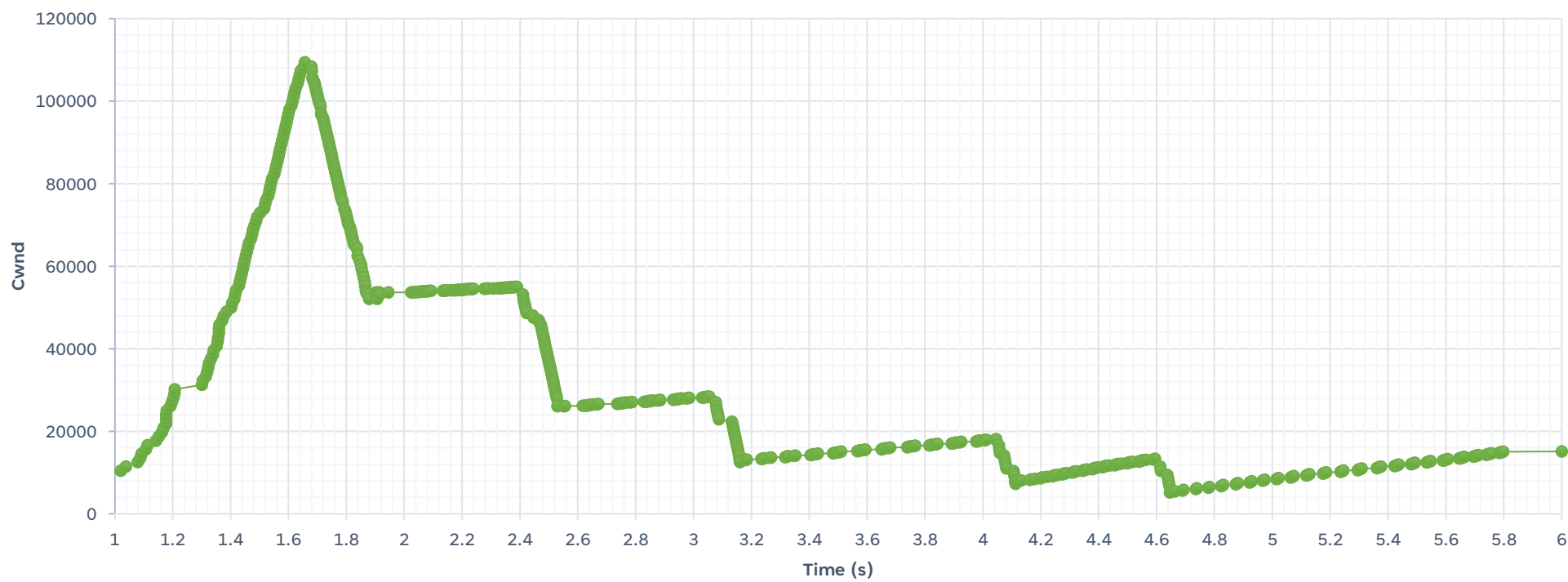
# CONGESTION WINDOW PLOT



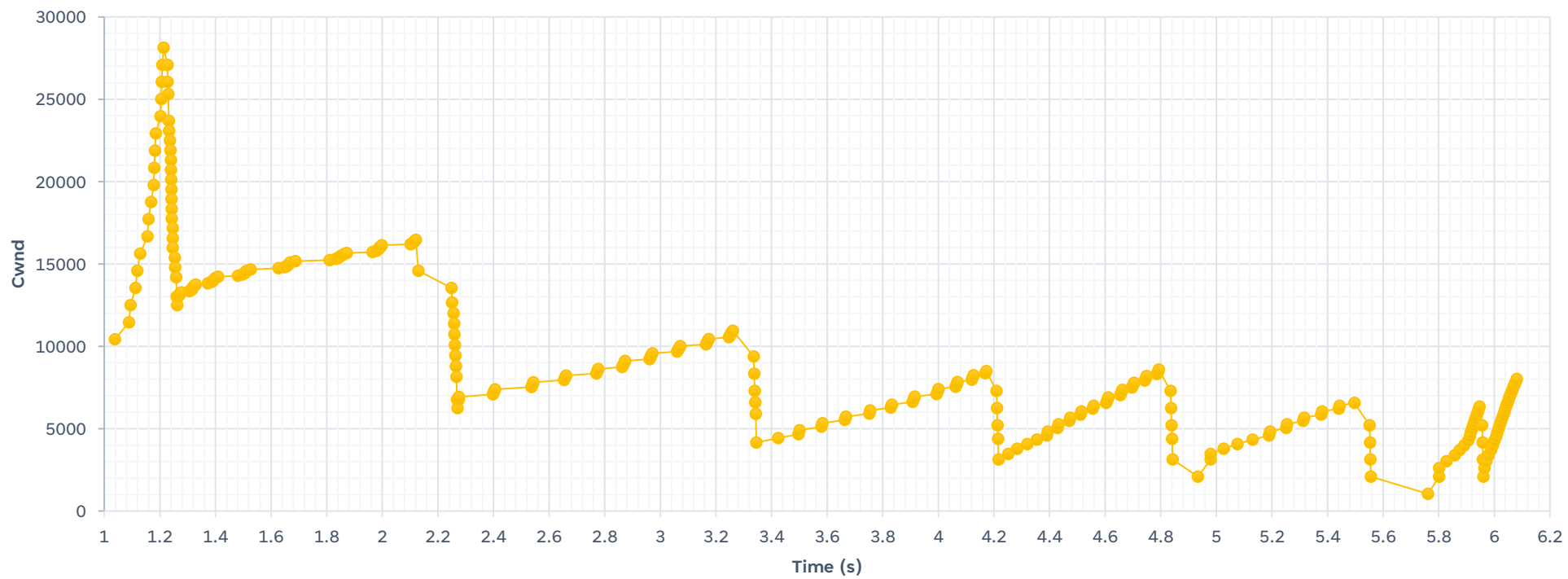
Flow 2



Flow 3



## Flow 4



A series of thin, light brown lines forming various geometric shapes and patterns on the left side of the slide.

# FIN.

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