

LAB ASSIGNMENT-5

CSN-361 Computer Networks Laboratory

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Problem Statements

1. Using OPNET create **Bus** topology among a set of N computer nodes out of which two nodes are source and the rest are sink nodes. Model the traffic of source and sink nodes individually and demonstrate the packet transfer between them using Ethcoax (Ethernet using coaxial) cables. Use network scale as the “campus” of area 1km x 1km.
2. Using OPNET create **Star** topology among a set of N computer nodes out of which one node is source and the rest are sink nodes. Model the traffic of source and sink nodes individually and demonstrate the packet transfer between them using Ethcoax (Ethernet using coaxial) cables. Use network scale as the “campus” of area 1km x 1km.

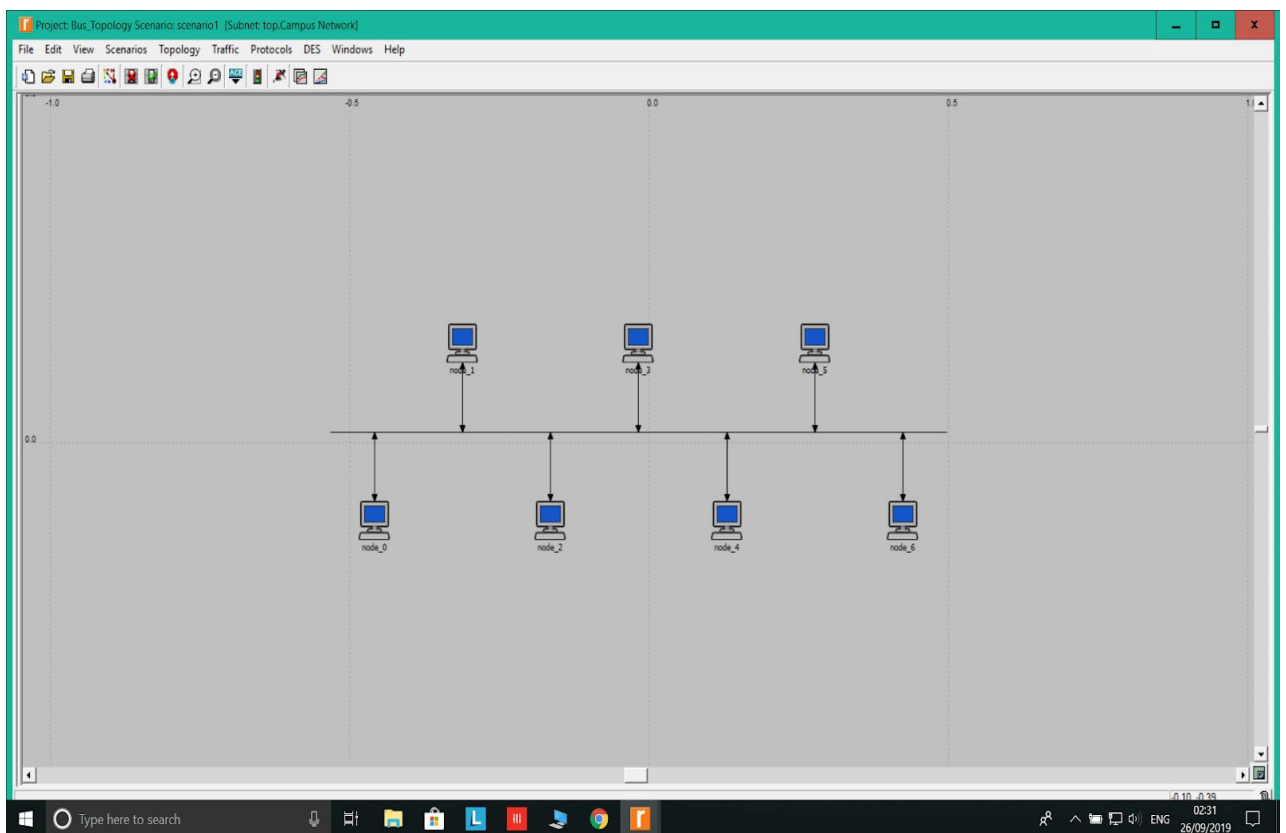
1

Implementations details

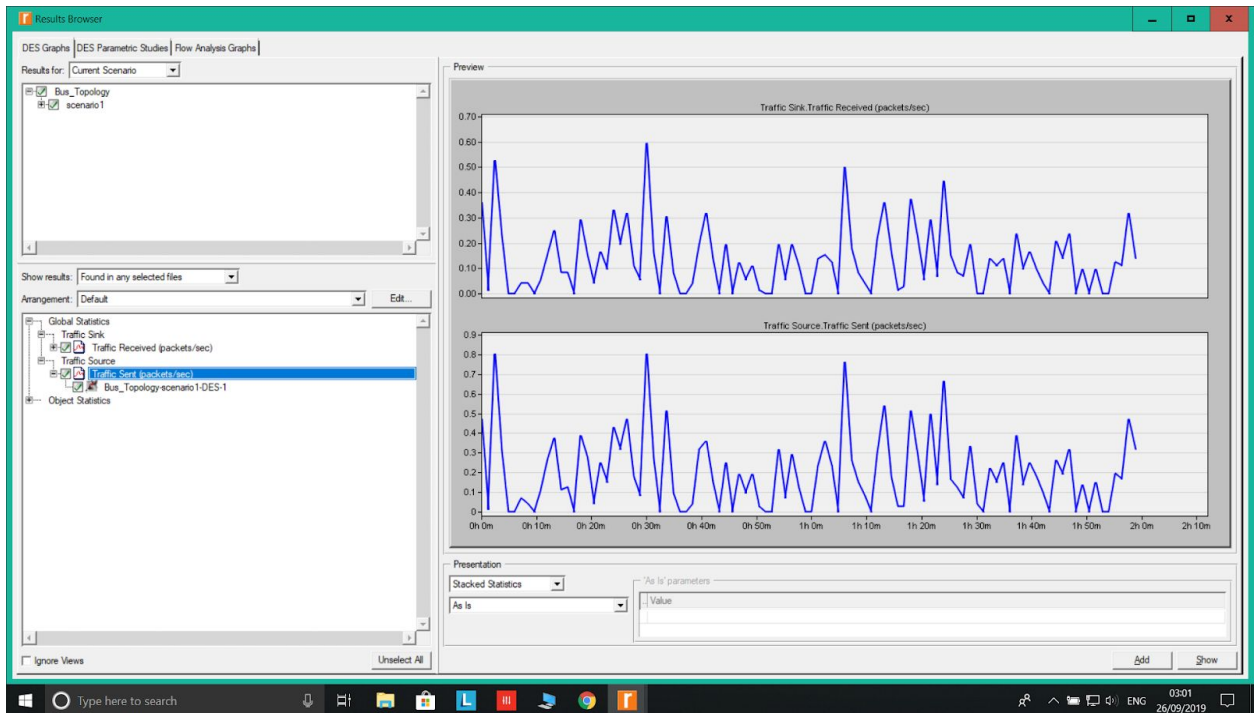
We have implemented Bus topology for n computer nodes (using Opnet) in which there are two source nodes and the rest are sink nodes. We have used ethcoax cables for this implementation.

A bus topology is a topology for a Local Area Network (LAN) in which all the nodes are connected to a single cable. The cable to which the nodes connect is called a "backbone". If the backbone is broken, the entire segment fails.

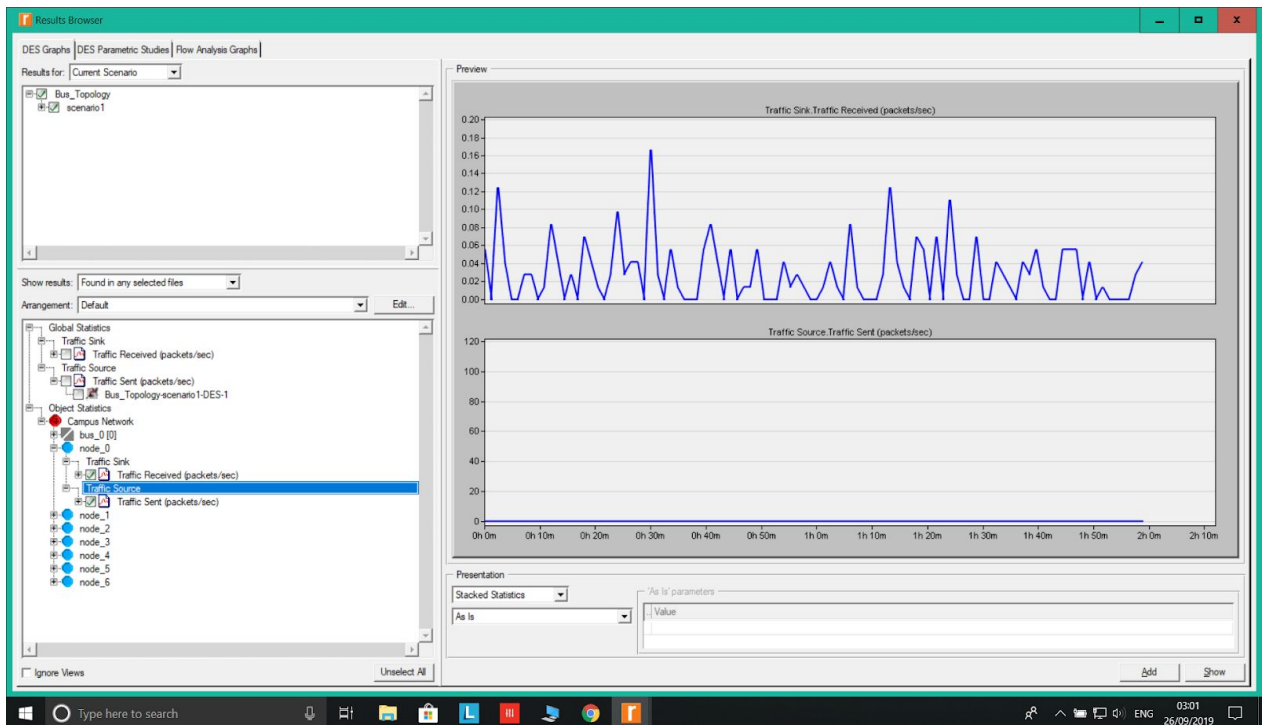
Structure



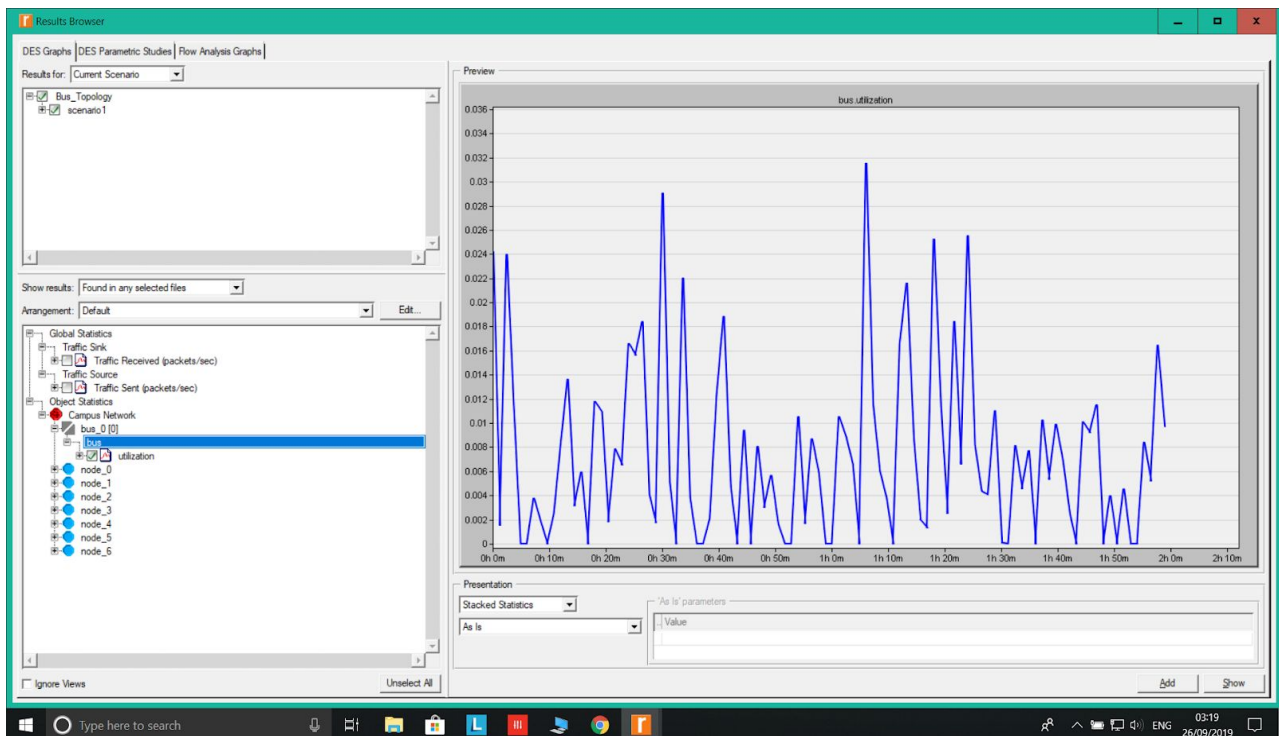
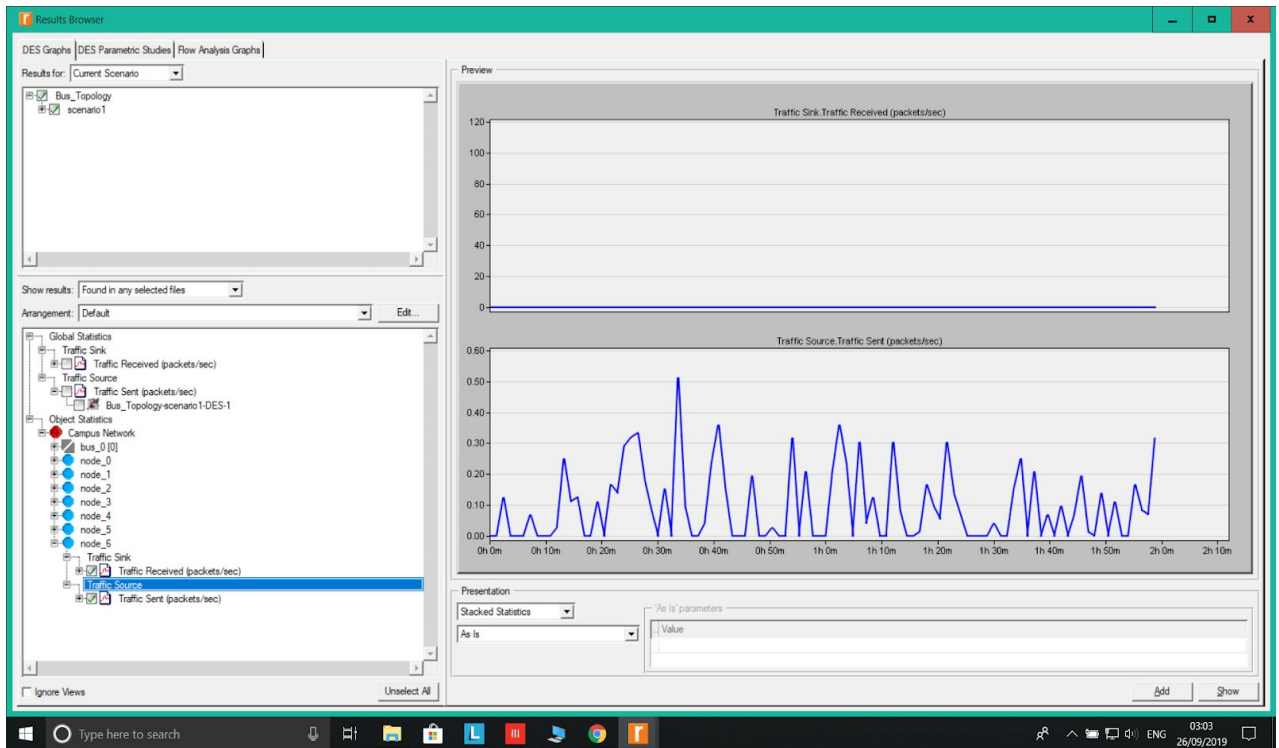
Graphs



Global statistics (traffic received and traffic sent in packets/sec)



Sink statistics (in packets/sec)



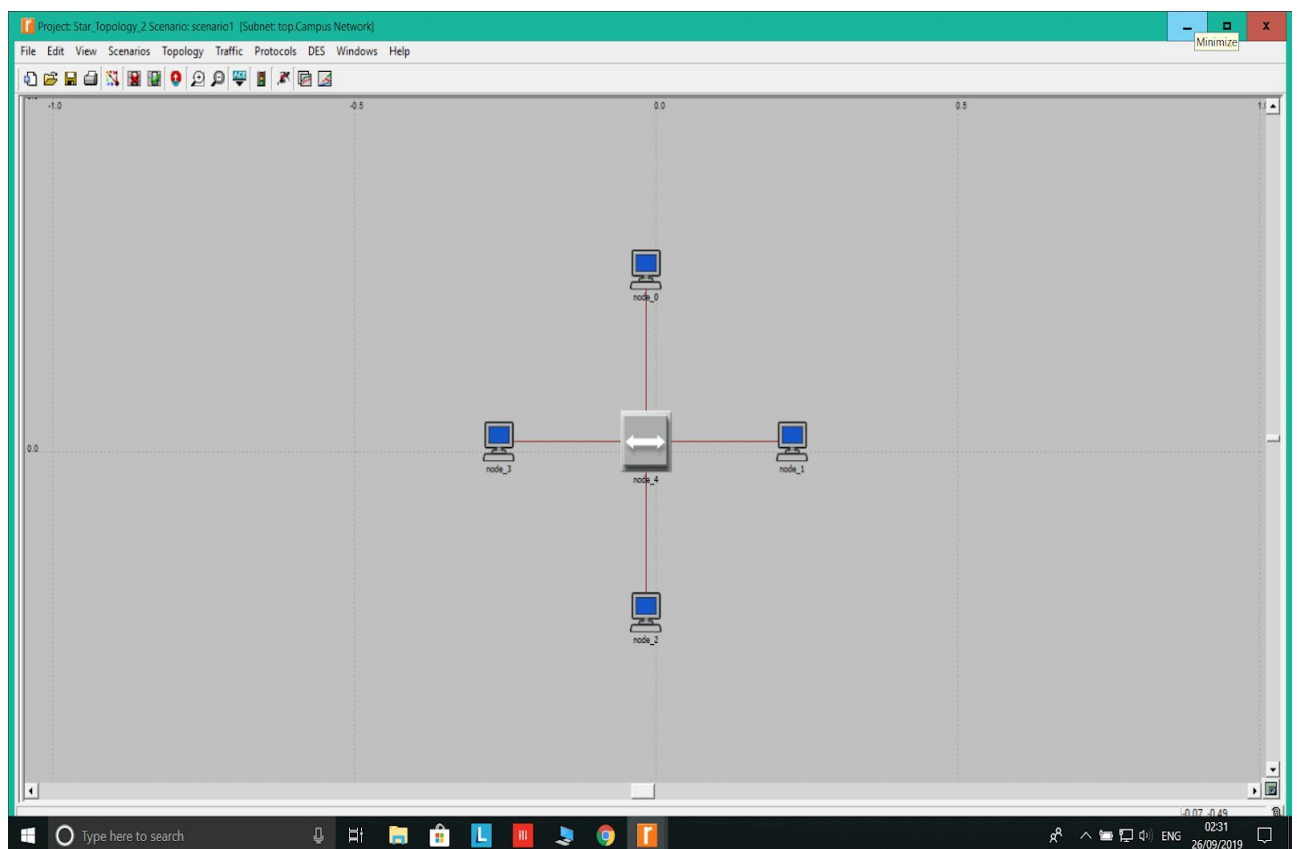
2

Implementations details

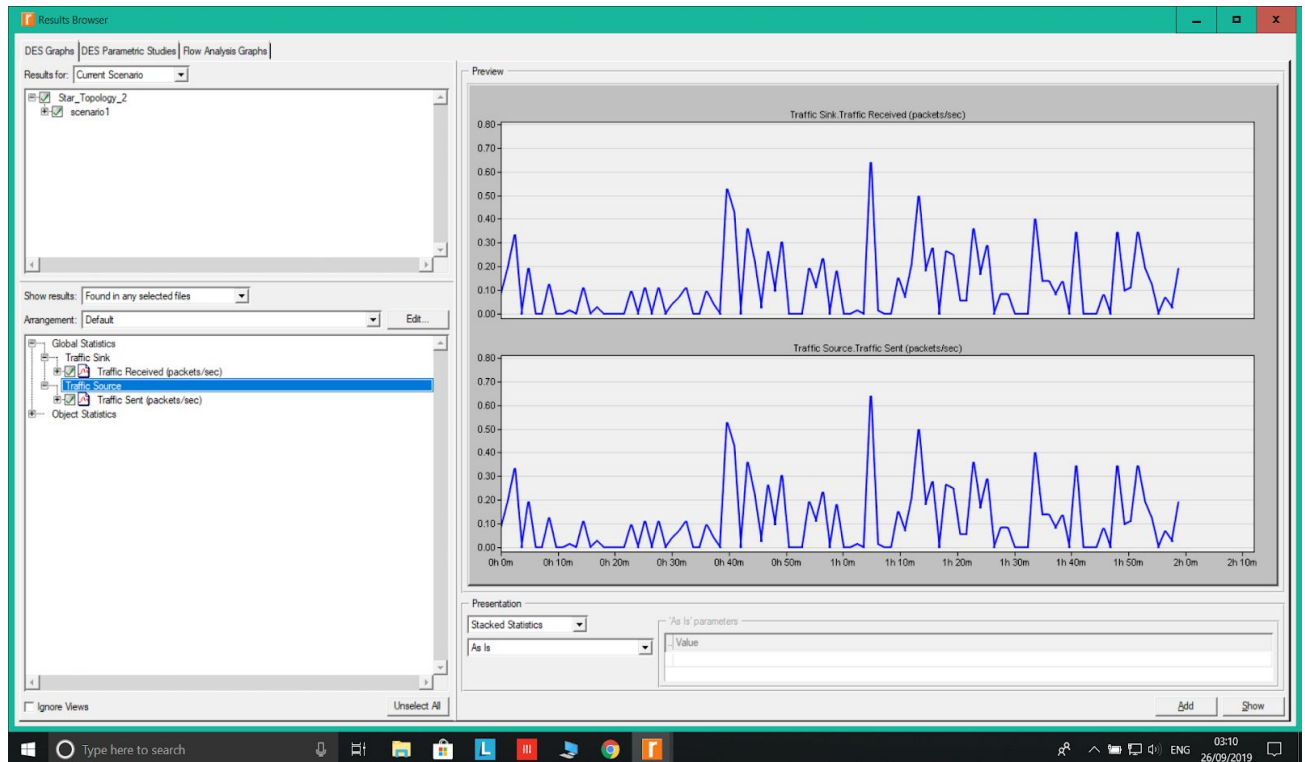
We have implemented Star topology for n computer nodes (using Opnet) in which there is one source and the rest are sink nodes. We have used ethcoax cables for this implementation.

A star topology is a topology for a Local Area Network (LAN) in which all nodes are individually connected to a central connection point, like a hub or a switch. A star takes more cable than a bus, but the benefit is that if a cable fails, only one node will be brought down.

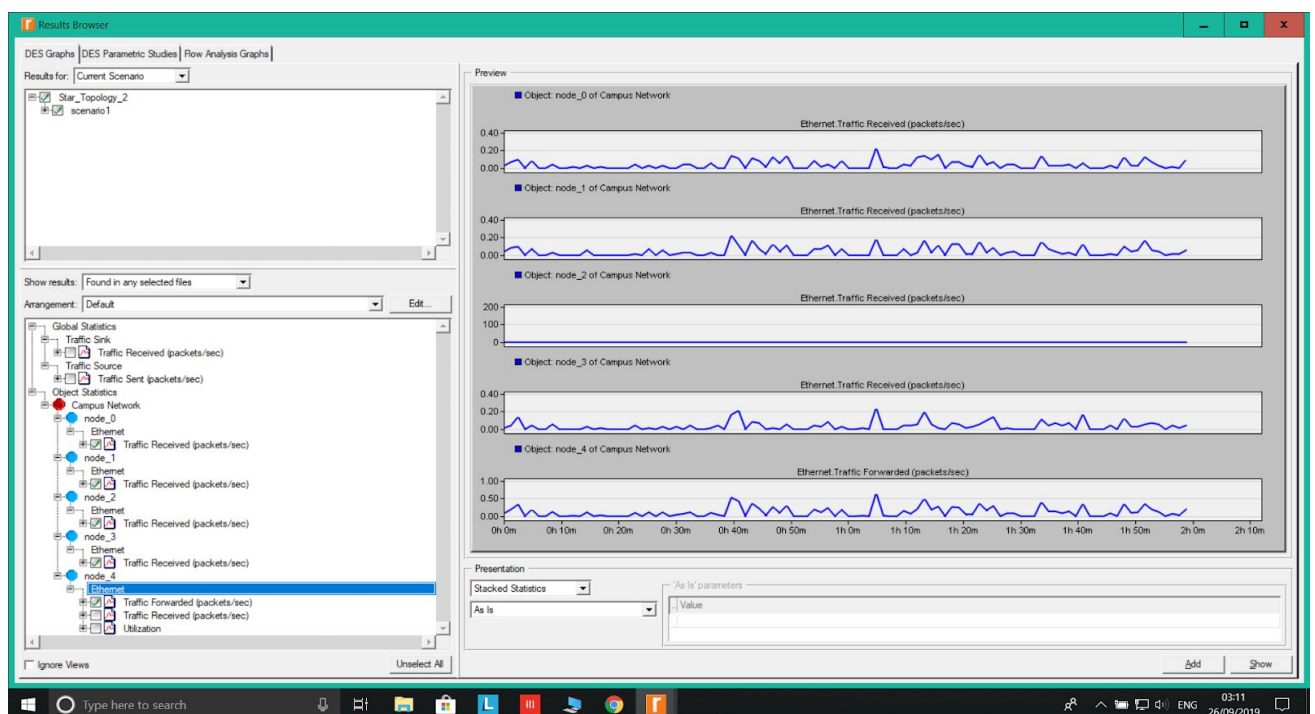
Structure



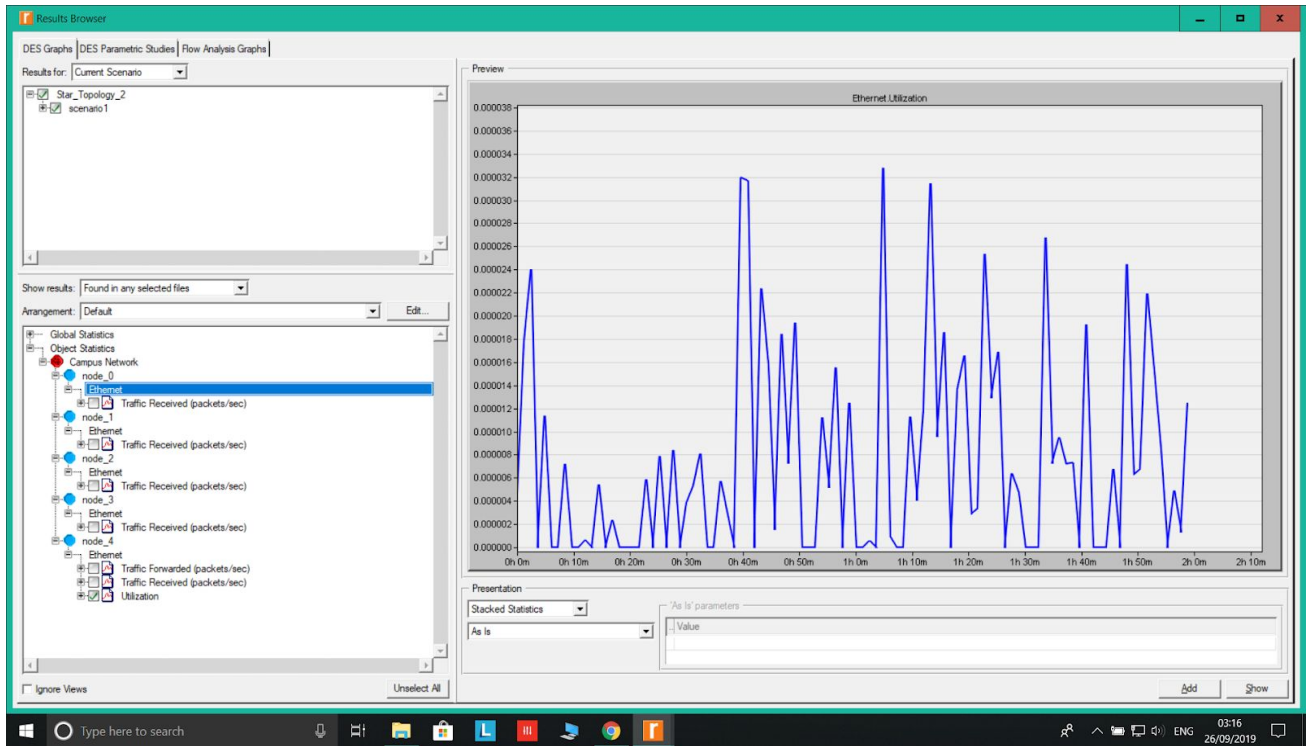
Graphs



Global statistics (traffic received and traffic sent in packets/sec)



Individual statistics (in packets/sec)



Utilization of Ethernet