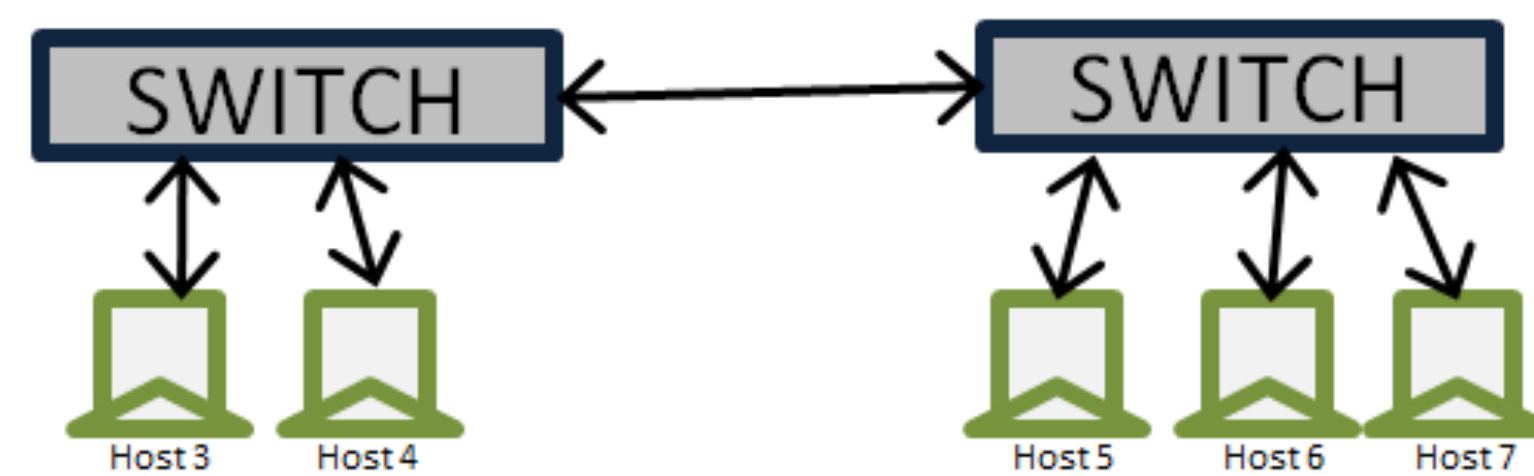




Network Complexity Index (NCI): $B(N) = \text{Max } j, X[j] \geq j$

where N = Given network, $X[j]$ = number of nodes in sub-community(size), $\text{Max}(j)$ = Total number of sub-communities

Topology



Calculating NCI:

1. Nodes(vertex):

{3, 4, 5, 6, 7}

2. Edges:

{4,5},{6,5},{5,5},{4,3},{3,6},{3,5},
{3,4},{3,3},{3,3},{3,7}}

3. Labeling:

{4,a},{3,a},{5,b},{7,a},{6,b}}

4. Community

{[4,3,7],a},{[5,6],b}}

5. Grouping:

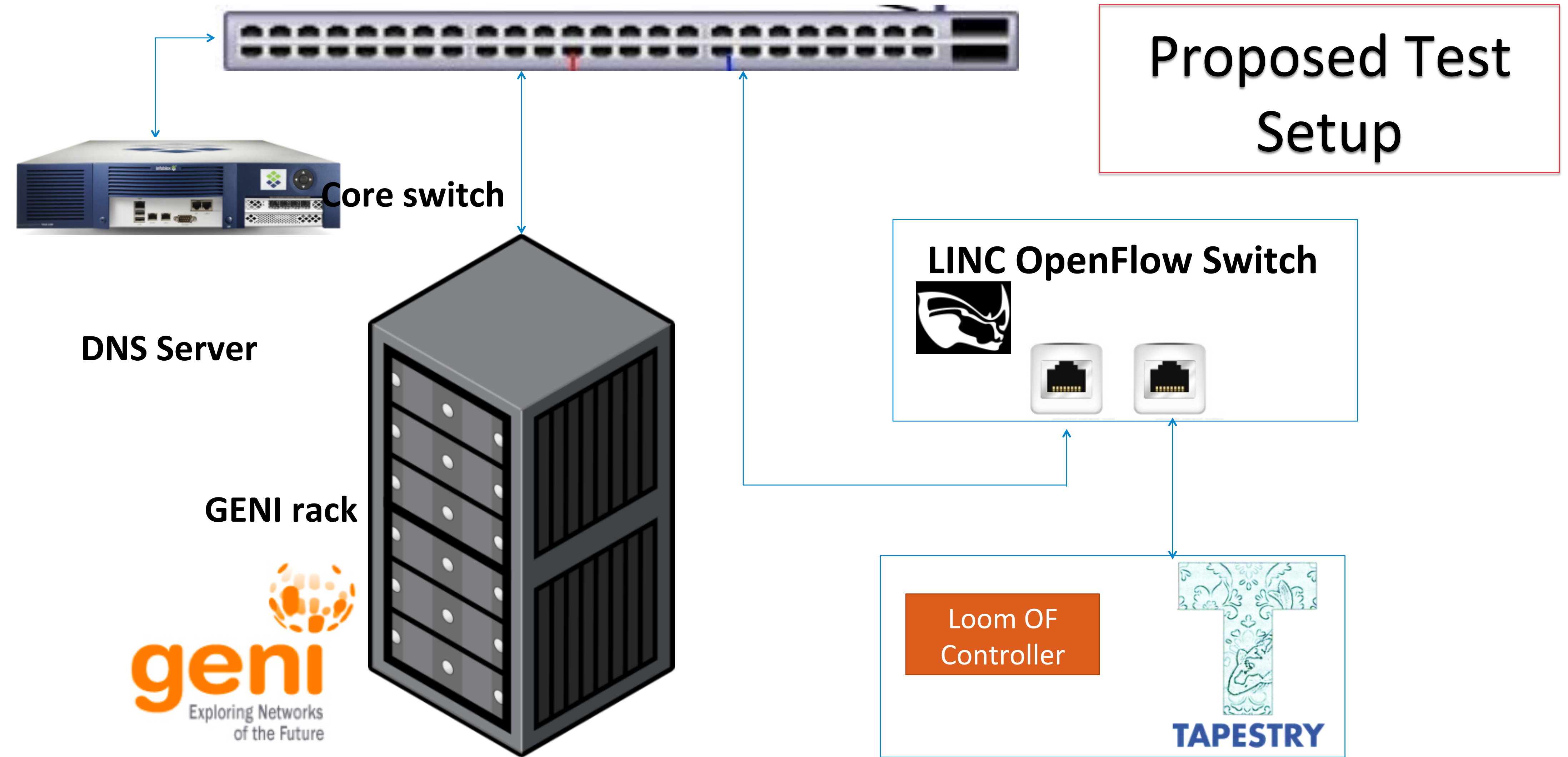
{a,3},{b,2}}

6. Sorting

{a,3},{b,2}}

7. Calculating NCI

$B(N) = \text{Max } j, X[j] \geq j \rightarrow \text{NCI} = 2$



NCI Graph

