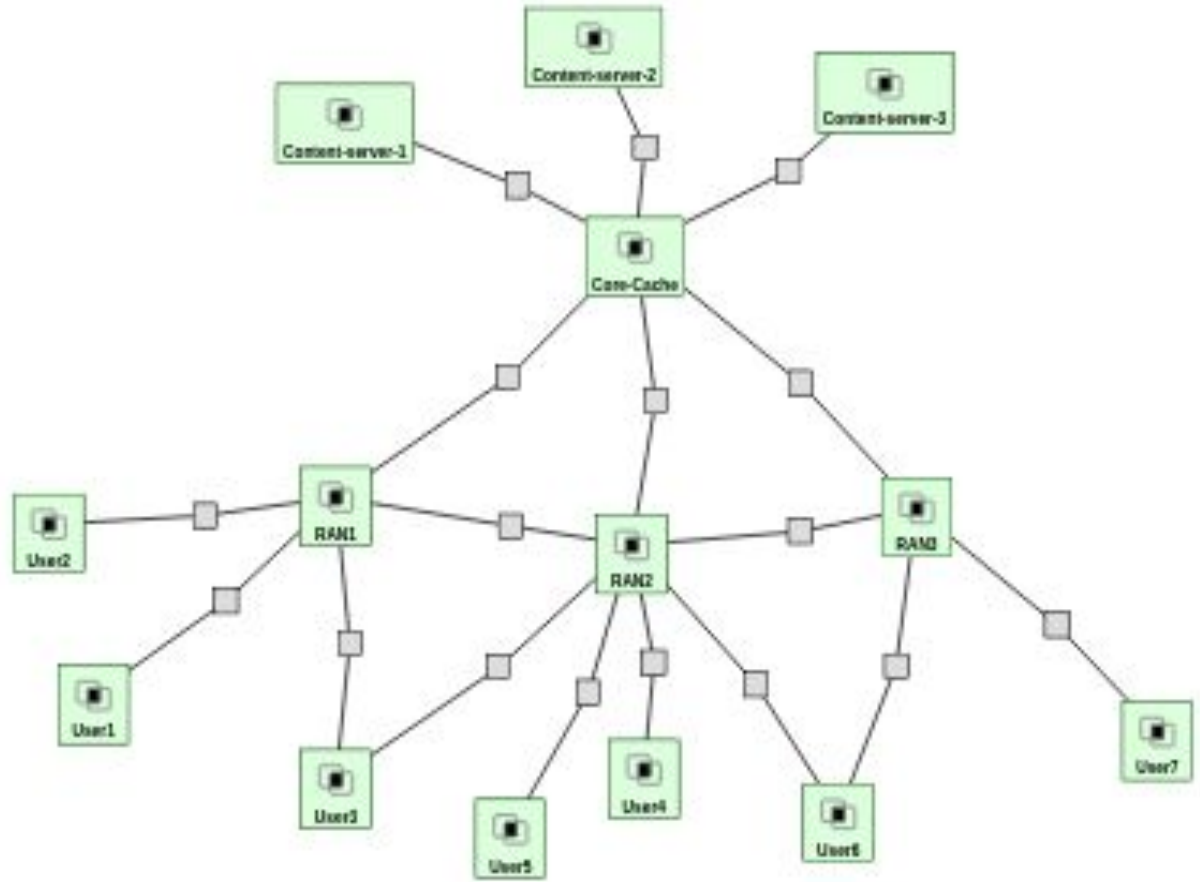# Edge-Caching

Experiment: Hit Rate v/s Cache Size

Used a simple topology to generate data regarding Hit-Rate at any cache(not necessarily the first one hit), by varying total cache size.

Topology used.

Can be considered as 1 location

Parameters decided upon:

- Total Content size was fixed.

- Constant upper limit on individual object size.

- Cache size in Small Cell was set much lower than Core cache size.

- Some files were treated much more popular than most others, some not as much, and some were requested rarely.

- Transmission capacity was not taken into account.

X axis:Total Cache size alloted (% of total content)

Y axis: Hit rate (%)
         (at any cache)
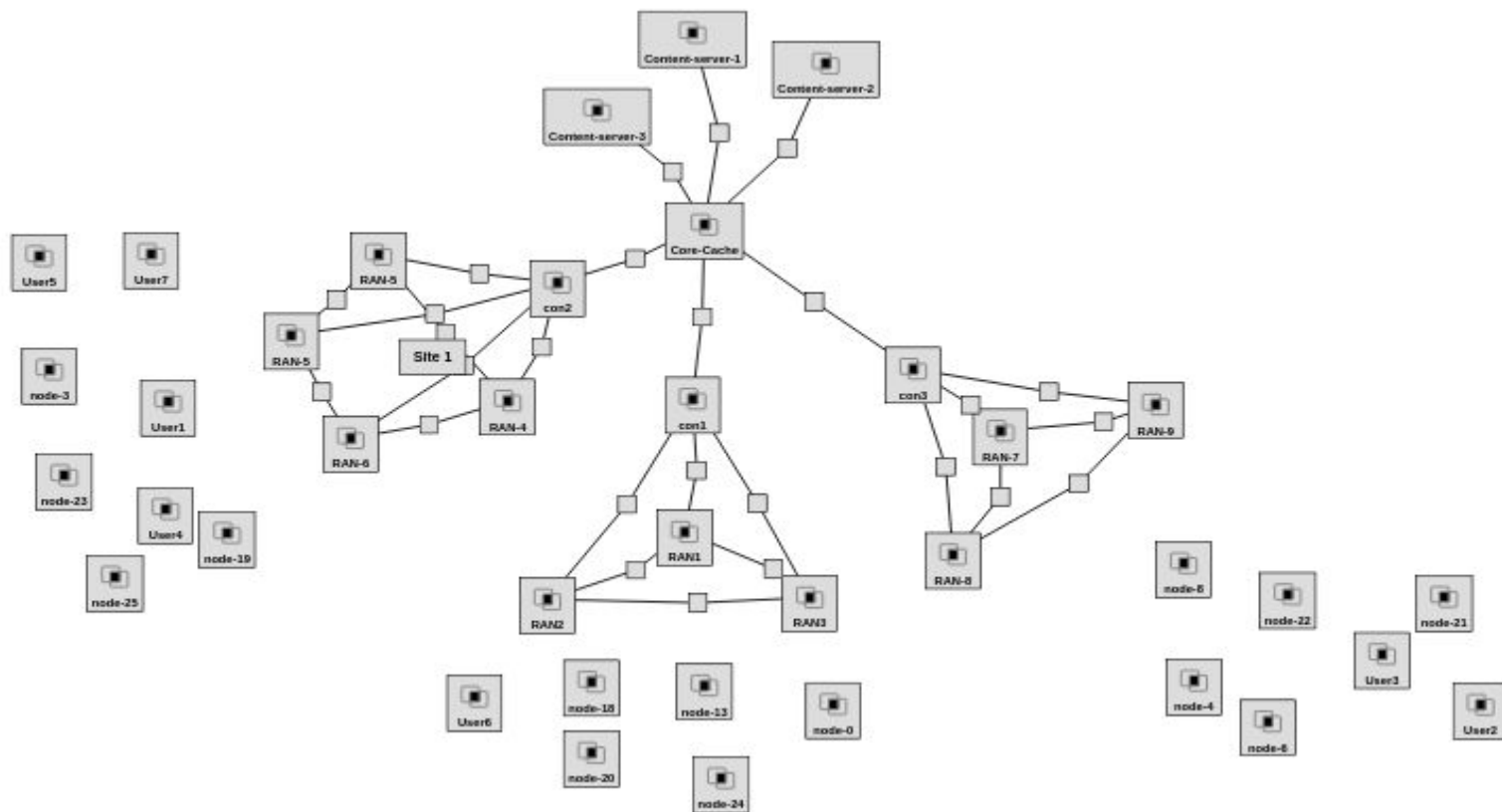
The decreasing slope is intuitive.
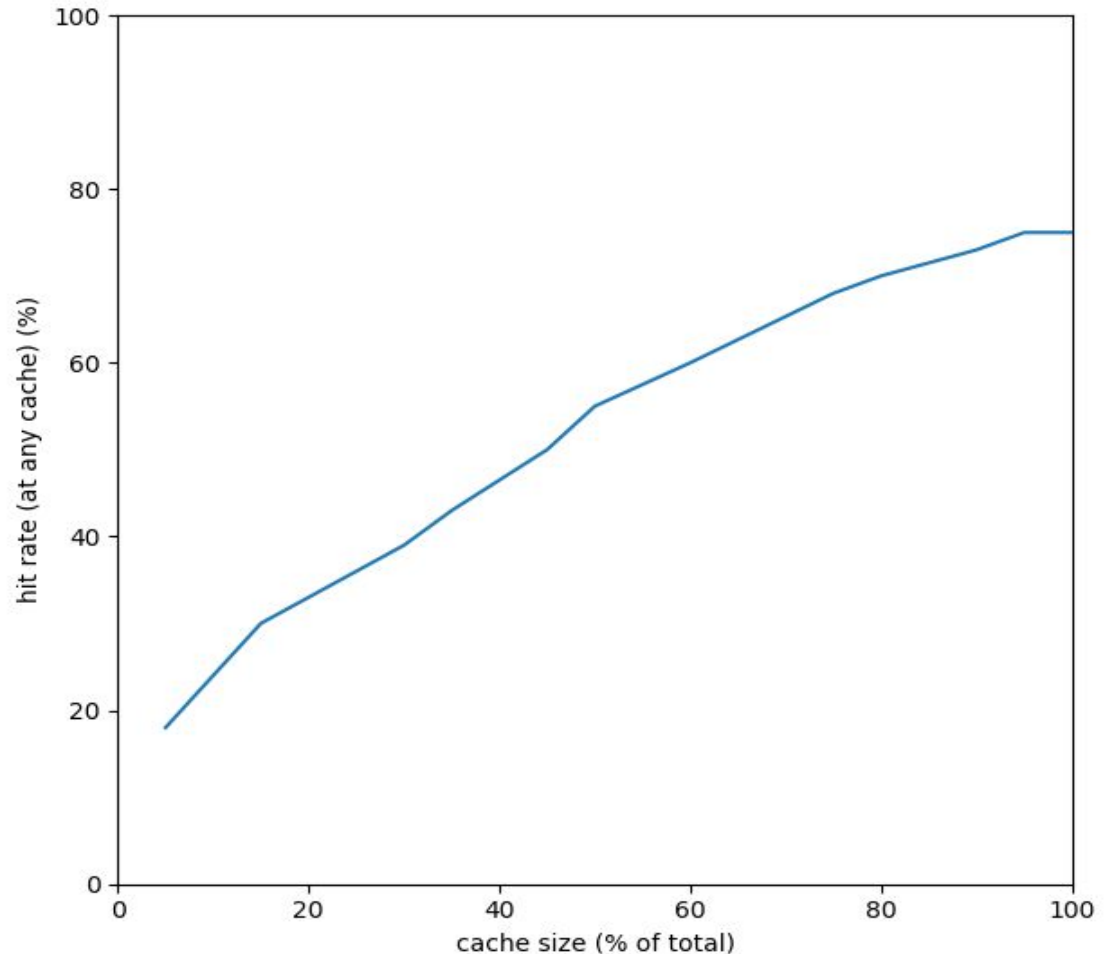
Limitations

- Not a very realistic case

- Small cells were not able to communicate properly among themselves.

- Issue of redundancy of cache: in Core and Small Cells

- 1 User only contacted 1 Small cell.

- File popularity was constant; needs to change dynamically, and so do the cached files

Next Steps

Apart from taking care of these limitations,

- Implement a dense network, more user-end devices per cell
- Formulate the problem at hand (mathematically)
- Run experiments for different metrics on which the problem depends.
- Introduce other factors that edge caching would depend on.

Next Steps

Thank You