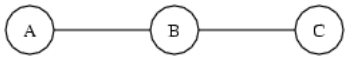

Figure 1: The nodes A,B and C

4 Network topology

A simple topology, which doesn't impose any structure on the network, can be memorised with a simple map. In this map, all the information regarding the nodes of the network have to be memorized. Surely, this kind of map cannot be

4.1.2 Level n

We further subdivide the network topology in *groups of*
and we continue to name them as gnode.
At this point, we repeat recursively this subdivision process until we can group all the nodes of the network into a single gnode.

Doing so, we've structured the network in $n + 1$ levels (from 0 to n).
In the base level (level 0), there are 256 single nodes.
In the first level (level 1), there are 256 normal gnodes. Each of them contains 256 single nodes.

In this topology, each gnode contains four nodes, i.e. each group contains four elements. The network is structured in 5 levels. The red elements, are single nodes. The bright green circle are groups of nodes. The dark green circles are groups of groups of nodes. The dark blue circle are groups of groups of groups of nodes. Finally, the bright blue circle is the gnode which contains the whole network.

4.1.3 Membership

Let's assign a numeric ID to each (g)gnode, starting from the last level:

1. in the last level (*n*) there's only one giant gnode, thus we assign to it the ID "0". Our global ID will be:

   0

2.

4.2 Fractal map

The advantages of using a fractal topology are clear.
The node *N*

^_^