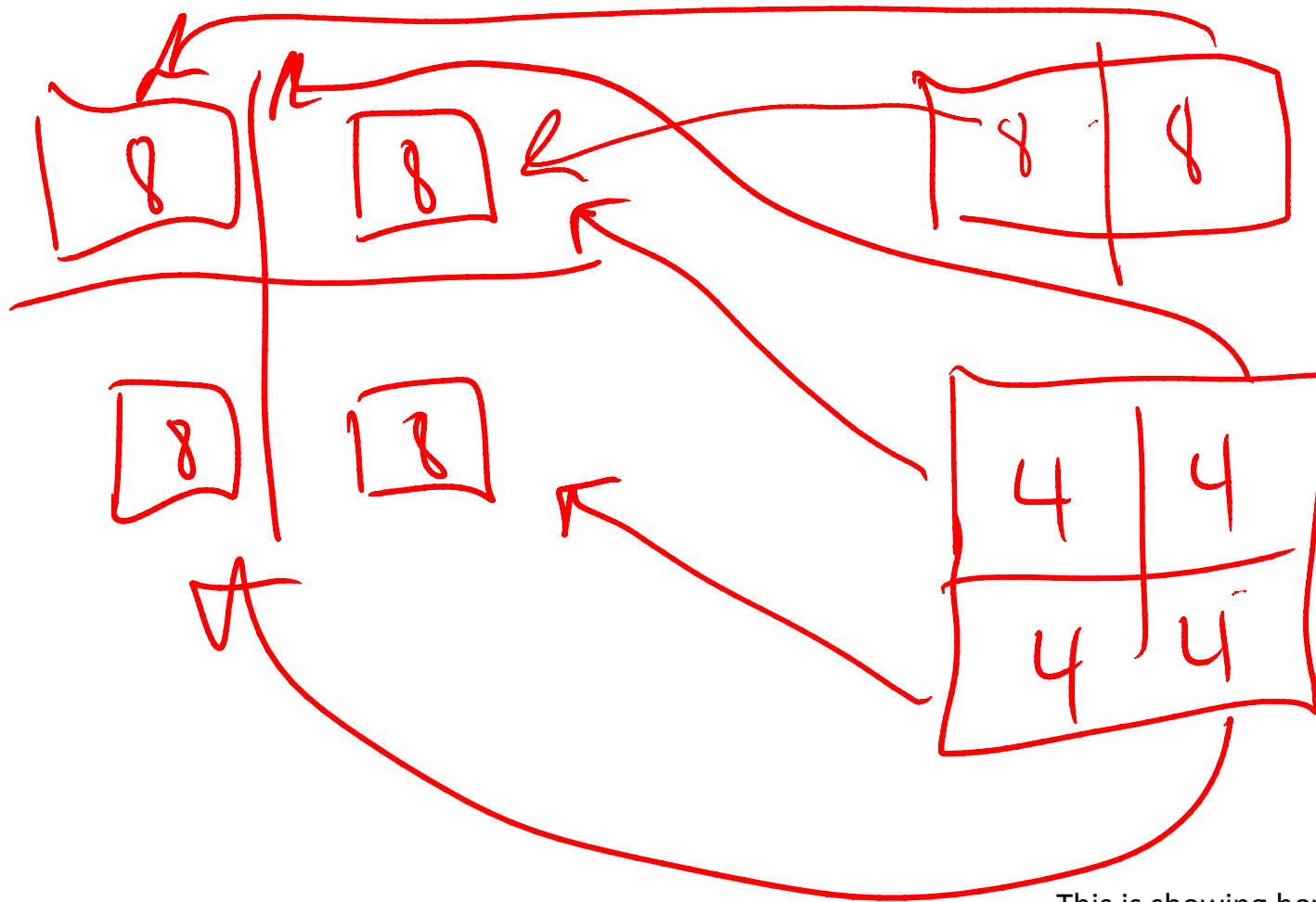


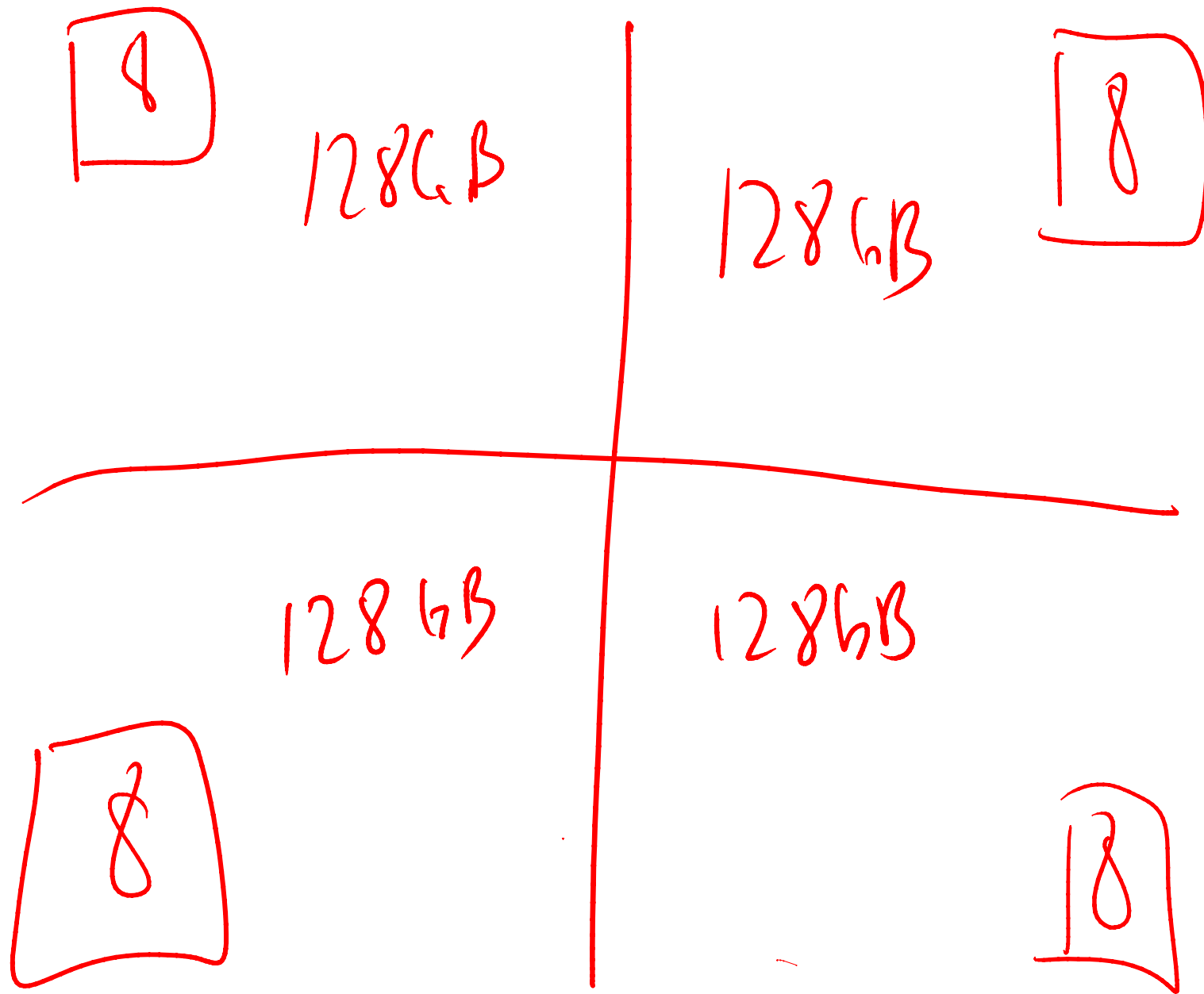
1GB	OS		4GB
+ 1GB	4GB	4-16GB	12GB Max
+ 1GB	8GB	> 16GB	

This is showing how to calculate a basic starting value for max server memory based on the following formula:

Reserve 1 GB of RAM for the OS, 1 GB for each 4 GB of RAM installed from 4–16 GB, and then 1 GB for every 8 GB RAM installed above 16 GB RAM.



This is showing how vNUMA can be setup for a VM that exceeds 8 vCPU to pass virtual NUMA configurations through to the VM. In the top configuration 2 vNUMA nodes are presented and SQL Server would have 2 memory nodes and 2 Lazywriters. In the bottom configuration it has 4 vNUMA nodes so SQL would have 4 memory nodes and 4 Lazywriters.

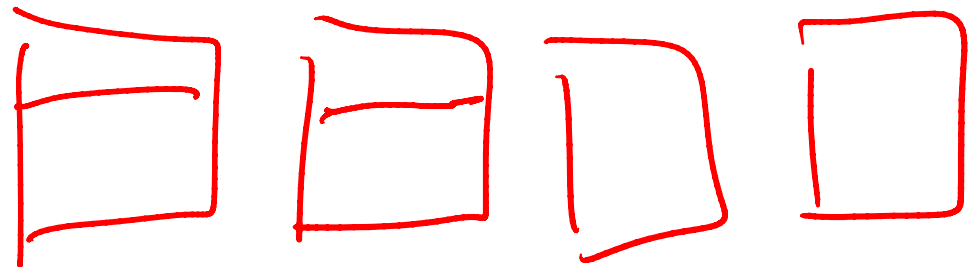


This is showing how 512GB RAM is typically laid out in a 4 NUMA node server with 8 core CPUs.

Bin Packing

4 p CPU

2 vCPU
80%



4 vCPU 30%

This is explaining the Bin Packing problem that exists in HyperV if you have CPU Reserve set for multiple VM's. If you have 2 vCPU VM with a 80% reserve configured a 4 vCPU VM with a 30% reserve would not be able to start since it would exceed 100% on the first two CPUs, even though the first VM is only using 40% of the total CPU resources, and the second VM is only using 30% of the total resources logically.