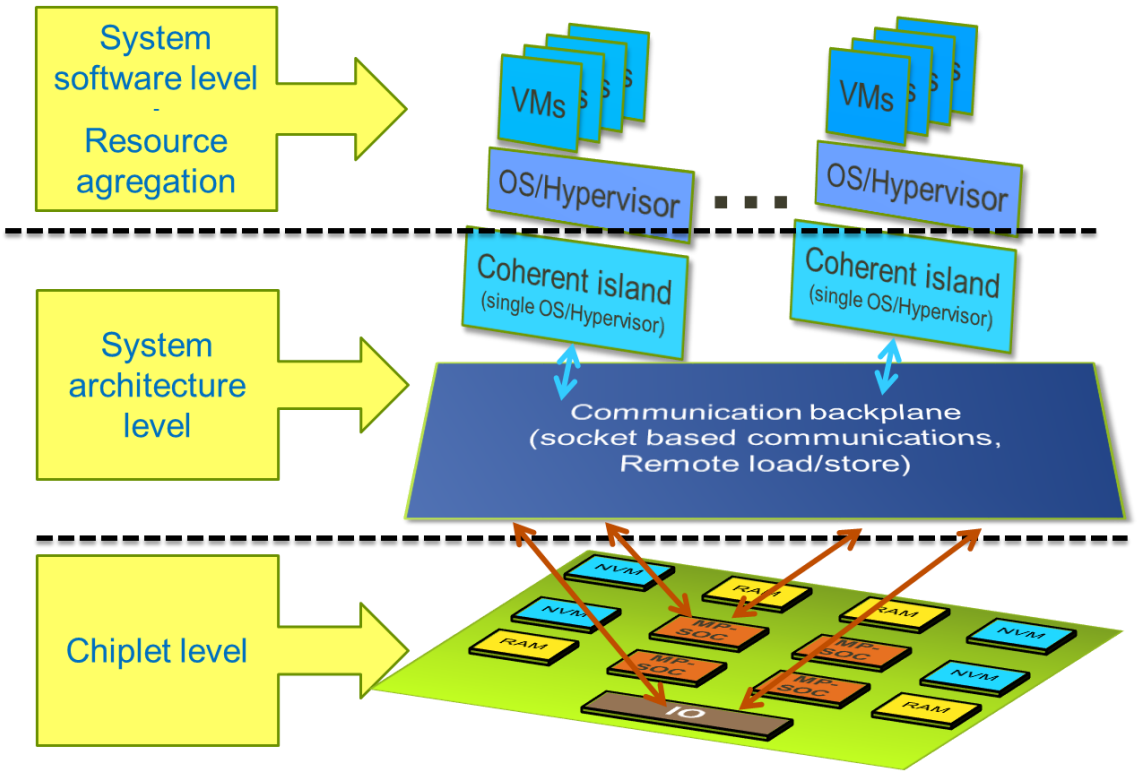
INNOVATIONS

EUROSERVER will design and prototype technology, architecture, and systems software for the next generation of "Micro-Servers" to be used in building datacentres.

EUROSERVER has the following **key objectives**:

1. **Reduced Energy consumption** through: *(i)* 64-bit ARM cores, which are the world-leading low-power processors; *(ii)* novel interposer packaging technology, which drastically reduces the core-to-memory distance; and *(iii)* improving on the "energy proportionality".
2. **Reduced Cost** to build and operate each micro-server, owing to: *(i)* improved manufacturing yield by duplicating multiple small chiplets and placing them on an interposer (2.5D); *(ii)* reduced physical volume of the packaged interposer module; and *(iii)* an energy efficient semiconductor process (FD-SOI).
3. **Better Software efficiency**: Next Generation system software that: *(i*) manages the resources in a server consisting of multiple coherence-islands; and *(ii)* isolates and protects the multiple workloads from each other when they use the shared server resources of I/O, storage, memory, and interconnects.


System software level
Resource agregation
VMs
OS/Hypervisor
VMs
OS/Hypervisor
Coherent island
(single OS/Hypervisor)
Coherent island
(single OS/Hypervisor)
System architecture level
Communication backplane
(socket based communications,
Remote load/store)
Chiplet level
NVM
RAM
MP-SOC
IO