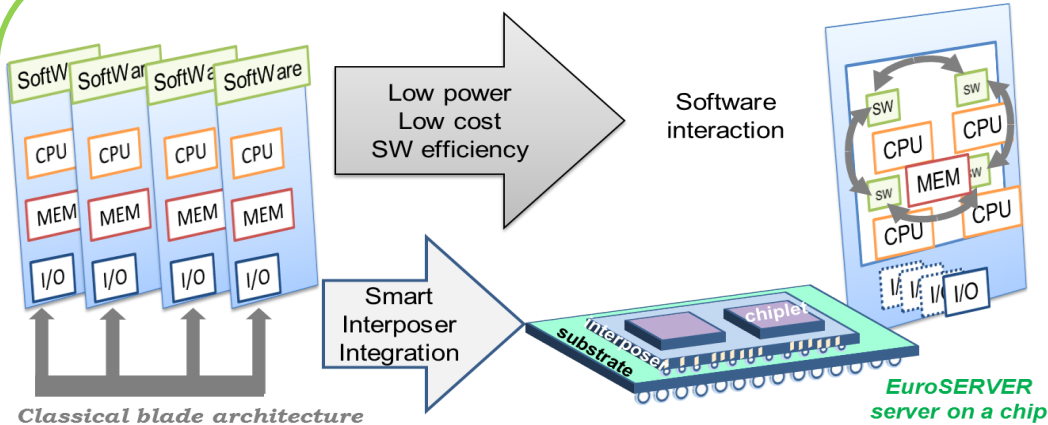




## VISION



Classical blade architecture

EuroSERVER server on a chip

### Innovative design:

64-bit ARM cores, 2.5D heterogeneous integration, FD-SOI, coherence islands

## OBJECTIVES

Combine micro-server architecture, silicon implementation, system integration and software development to

- Improve Energy efficiency
- Improve Total cost of ownership
- Improve Software efficiency

To redesign "Micro-Servers" to be used in building datacenters

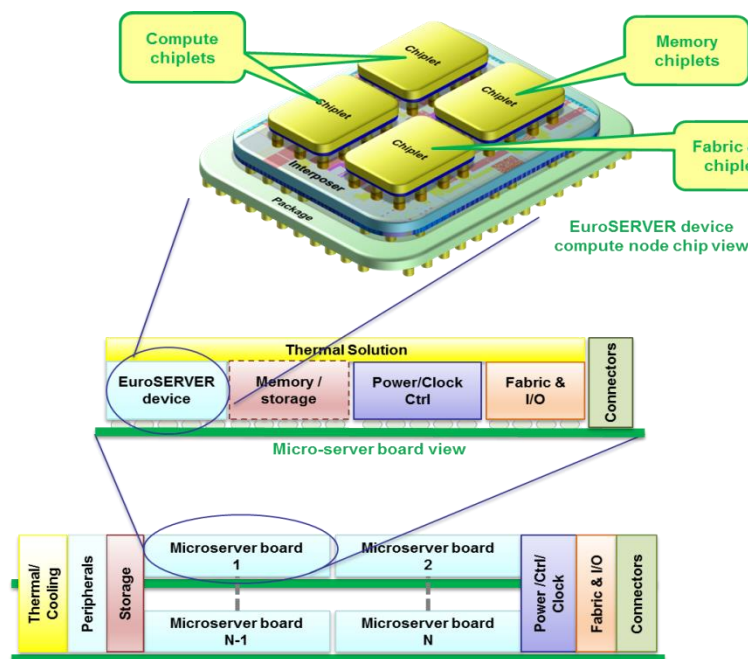
## APPLICATIONS

- Data Centers & Cloud computing
- Telecom infrastructures
- High-end Embedded systems

### Typical workloads:

- Web-server hosting (LAMP/WAMP),
- Distributed databases (HADOOP)
- OLAP, OLTP workloads
- relational databases (MySQL)
- Network communications,
- Vehicle on-board computer,
- Automatic vehicle location tracking

## INTEGRATION

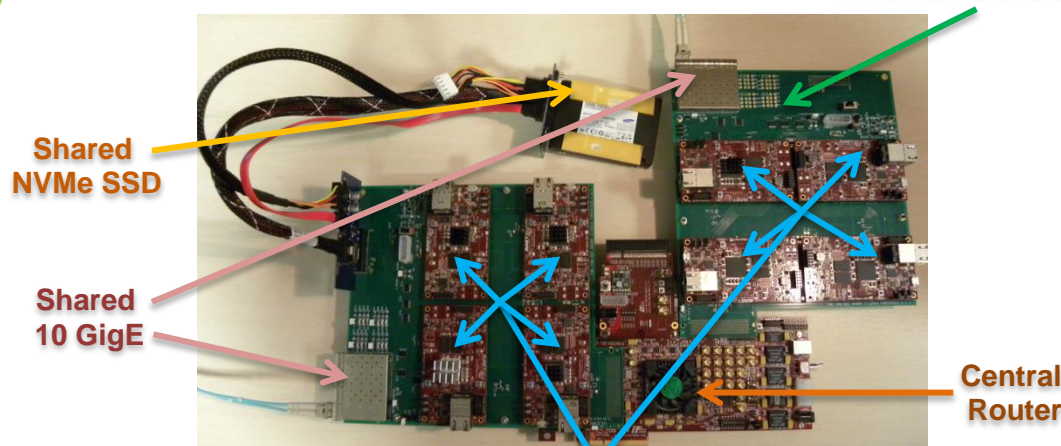


## FACTS

- FP7 collaborative project, 9 partners
- Started in Oct 2013, three years duration
- Total budget 12.9 M€, EU contr. 8.6 M€
- <http://projectnetboard.absiskey.com/website/euroserver>
- The only European project to design, prototype, and evaluate a chiplet suitable for efficient microservers

## DISCRETE PROTOTYPE

FMC Fan-Out Board



2x4 MicroZeds (ARM Cortex-A9)

### Architecture:

- Hierarchical Interconnect
- Partitioned Global Address Space (UNIMEM)
- Shared 10 GigE NIC
- Shared NVM-based storage
- Hardware-assisted virtualization

### Systems Software:

- UNIMEM support
- NUMA-aware Linux
- Sockets over RDMA
- Device Drivers for shared I/O

