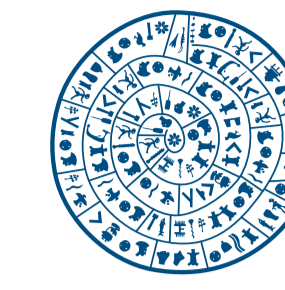




RISC-V for cloud services

Coordination by



FORTH

INSTITUTE OF COMPUTER SCIENCE

<https://riser-project.eu>

<https://twitter.com/RiserProject>

RISER will develop the first all-European RISC-V cloud server infrastructure, significantly enhancing Europe's open strategic autonomy.

Develop & validate open-source designs for standardized form-factor system platforms

- PCIe Acceleration Card, Microserver (Blade)
 - Acceleration of memory-intensive computation in cloud workloads
 - Networked object and key-value storage
 - Containerized execution as part of a provider managed IaaS environment

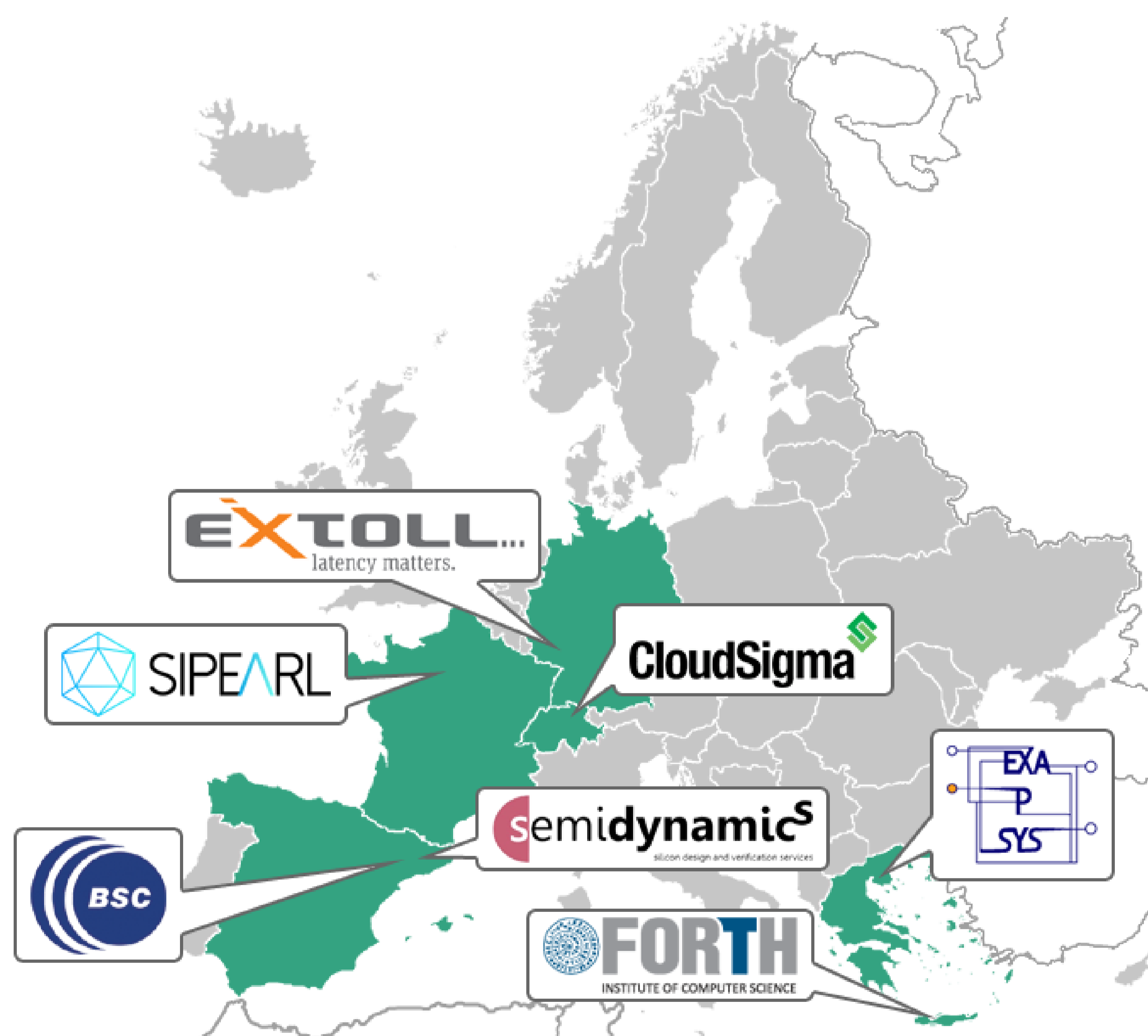
Enabling the path towards a European-based cloud infrastructure

- The first Cloud architecture using RISC-V processor technology being developed within the EPI and EUPILLOT projects
- Key technologies: RISC-V processors, PCI-Express/CXL, Cache-coherent Chip-to-Chip links

Open hardware interfaces

- Expand the interface possibilities of EPI/EUPILLOT processors:
 - High-speed networking & storage capabilities
 - Essential support for cloud applications and services deployment

Integrated all-European Hardware & Open-Source Software for Cloud Services and Applications



RISER: RISC-V for cloud services

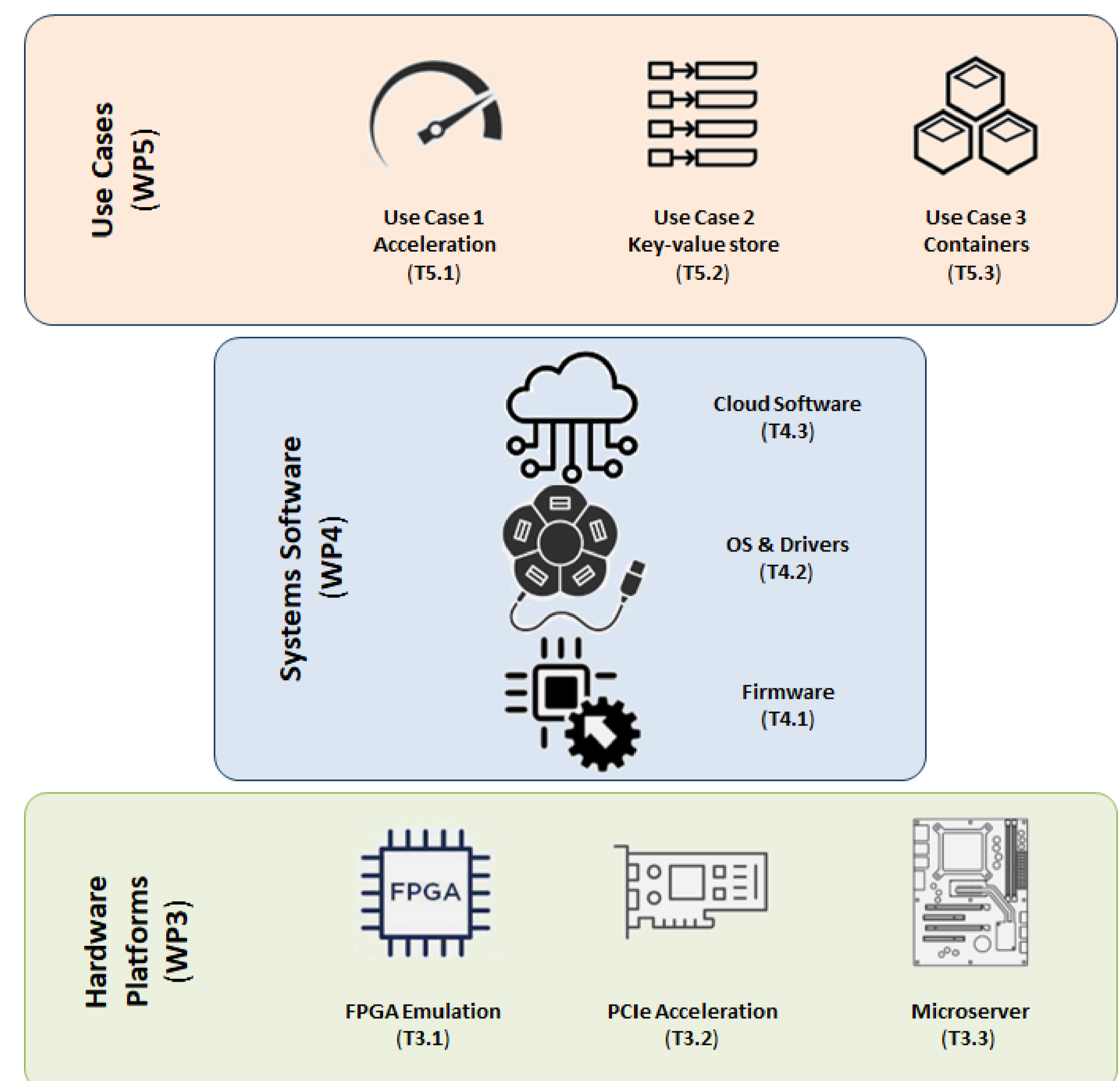
Call: Open source for cloud-based services

Grant Agreement: 101092993, (HaDEA)

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FORTH - Institute of Computer Science, GREECE



Horizon Europe
2021-2027



... Consortium Skills and Contributions

RISC-V Processors

Source: EPI and EUPilot projects (chips)

*Currently operating on system boards designed for dev/test purposes

Server Boards (PCB + firmware)

Standard form factors (PCIe accelerator card, Microserver)

*Following industry standards to utilize server I/O peripherals

- DRAM Memory
- NVM-Express Storage
- 100 Gbps Ethernet

Boot Firmware

Initialization of execution platform, Including high-speed I/O peripherals (storage, networking)

OS, drivers, runtime

Configured/adapted for cloud services: Workload acceleration, networked storage, containerized execution

*Integration in IaaS environment