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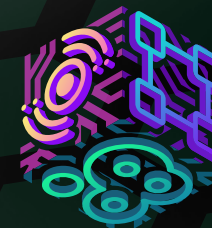nephele-project.eu

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A lightweight software stack and synergetic metaorchestration framework for the next generation compute continuum

NEPHELE's vision is to enable the efficient, reliable and secure **end-to-end orchestration of distributed applications** over programmable infrastructure that is spanning across **the compute continuum from Cloud-to-Edge-to-IoT**, removing existing **openness** and **interoperability** barriers.
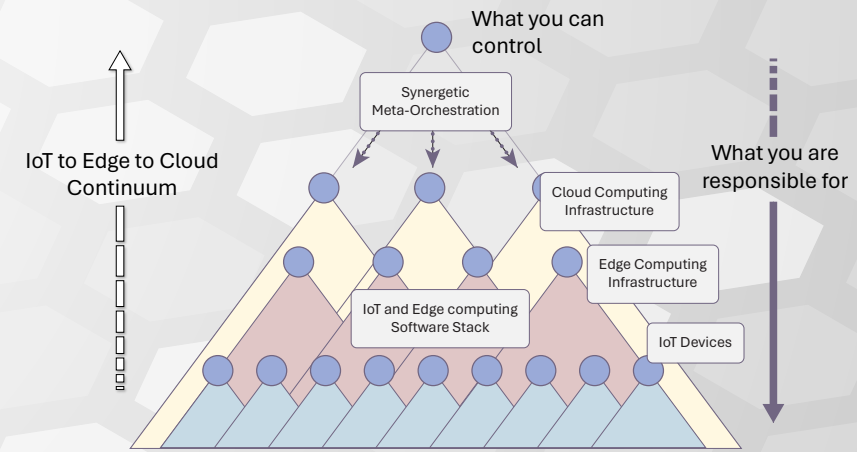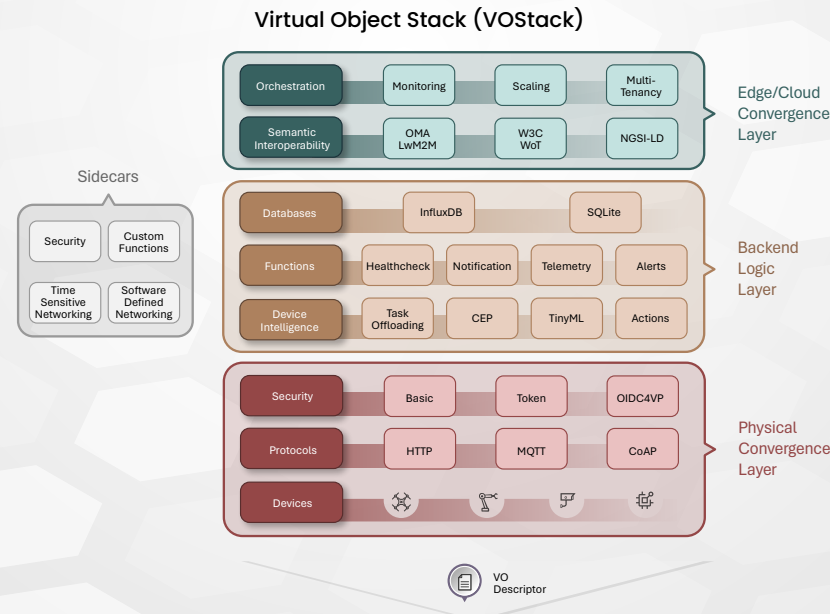
NEPHELE introduces two core innovations:

An IoT and edge computing software stack (VOStack) for leveraging virtualization of IoT devices at the edge and supporting openness and interoperability aspects in a device-independent way.

A **synergetic meta-orchestration framework** for managing distributed applications in the **compute continuum** based on the adoption of a **"system of systems"** approach.

Virtual Object Stack (VOStack)

Sidecars

The NEPHELE outcomes have been demonstrated in use cases across various vertical industries, including areas such as **disaster management**, logistic operations in **ports**, energy management in **smart buildings** and remote **healthcare** services. Two **open calls** have provided funding to 16 SMEs/Mid-Caps to validate the NEPHELE architectural approach.