A Vision for the Next Generation Platform-as-a-Service

In an increasingly interconnected world, new opportunities for telecom-based services are emerging. Innovative applications profit from cloud versatility and scalability, but require a platform to combine the optimized 5G network fabric with the advancements in the domain of cloud computing, Software Defined Networking (SDN) and Network Function Virtualization (NFV). In this multi-domain context, we find that available service platforms are lagging, because they tend to be tightly coupled to a constrained set of technologies. In practice, we need the flexibility to deploy different microservices over a heterogeneous range of infrastructure types, aggregating various virtualization, orchestration and control mechanisms. Moreover, the integration of the service requires collaboration among a wide mix of actors (e.g. developers, operators, hardware/software vendors, infrastructure/service providers or vertical integrators). We propose a next-generation Platform-as-a-Service (NGPaaS), devised as a modular framework for the development and operation of network services, while targeting a high degree of both customization and automation. The presented architecture is built around a workflow-based orchestrator which coordinates custom-built tasks across a tailored group of specialized infrastructure or platforms. We also explain how NGPaaS enhances DevOps-principles, to achieve a more efficient integration process across the many isolated administrative domains in the modern telco landscape.

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