

Over the past few years, the evolution of distributed systems beyond microservices architecture has led to the emergence of containerization and serverless computing. Containerization technology, which allows for the creation of lightweight and portable containers to package and deploy applications seamlessly across different environments, has gained significant popularity. According to Mistry and Modi (2020), Docker and Kubernetes are widely used containerization platforms in the industry. This technology has enabled developers to focus on writing code without having to worry about infrastructure management, thus resulting in faster deployment and application scalability.

In recent years, serverless computing has also emerged as a popular alternative to traditional server-based architectures. Serverless computing allows developers to run code without the need to manage underlying infrastructure. A number of cloud service providers, including Amazon Web Services, Google Cloud Platform, and Microsoft Azure, offer serverless computing platforms. According to Sharma and Maurya (2020), serverless computing has gained momentum due to its low operational costs, scalability, and reduced time to market.

In addition to containerization and serverless computing, edge computing has become an important trend in distributed systems. Edge computing is a paradigm that involves processing data at the edge of the network, closer to the source of data generation. Edge computing can reduce latency and improve the performance of applications by processing data locally rather than transmitting it to a central server. According to Yu et al. (2019), edge computing has been applied in various fields, such as autonomous vehicles, smart cities, and healthcare.

Furthermore, fog computing, which was introduced by Bonomi et al. (2012) as a paradigm that extends cloud computing to the edge of the network, has evolved to encompass edge computing. Fog computing involves using a network of distributed devices that are capable of performing data processing and analysis. According to Rehmani et al. (2020), fog computing has become an important solution for data-intensive applications that require real-time processing and low-latency communication.

In summary, the next phase of evolution history after microservices architecture involves the adoption of containerization and serverless computing, as well as the emergence of edge computing and fog computing. These technologies are gaining momentum due to their ability to enhance application scalability, reduce operational costs, and improve performance and latency.

References:

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