

Debate: Microservices and Microkernels

The forum has a message that says: "Torvalds has been proven wrong and it only took nearly thirty years. Microservices and microkernels are the future. "

On the forum post a message either agreeing or disagreeing with the above and give a justification (ideally with an academic reference) supporting your view.

Microservices are an architectural style that evolved from service-oriented architecture (SOA), with the goal of transferring notions that worked in the large (i.e., for cross-organization business-to-business activity) into the small (inside an application). (O. Al-Debagy, et al, 2018)

Some of the main advantages of microservices architecture are:

Microservices can take use of technology heterogeneity, which means that each service in a system can utilise a different technology than the others to achieve the same goals and performance. And another benefit is that if one system component fails, it does not affect the entire system.

When compared to monolithic application scaling, the microservices architecture can be more accessible since only the services that require actual scaling are scaled, whereas a monolithic programme must be scaled as a whole unit, which may result in higher hardware utilisation. because each service can be deployed individually without compromising the operation of other services, microservices make deployment easier.

Microservices design enables businesses to align their architecture with their organisational structure, reducing the number of employees working on a single codebase. Microservices, as a result, facilitate organisational alignment.

(O. Al-Debagy, et al, 2018)

In a monolithic design, on the other hand, applications can be made up of tens or hundreds of separate services that are tightly integrated in a single codebase. This can cause plenty of issues for teams working together in the same environment. As a result, many businesses are adopting microservices design to make it easier for their development teams to collaborate. easily (O. Al-Debagy, et al, 2018)

Yes, I agree that microservices and microkernels are the way of the future because of the numerous advantages they bring to systems and system implementations, particularly in an era when everything is migrating to the cloud and functions are distributed. Monolithic services, on the other hand, have a place in specific scenarios and will continue to be used.

References:

O. Al-Debagy and P. Martinek, "A Comparative Review of Microservices and Monolithic Architectures," *2018 IEEE 18th International Symposium on Computational Intelligence and Informatics (CINTI)*, 2018, pp. 000149-000154, Doi: 10.1109/CINTI.2018.8928192.