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Throughout the Gartner article, it had showed us a lot about the upcoming wave of computer evolution. From a time of virtual machines to containers and then to serverless servers. Over the years, the industry had changed the enterprise architecture (EA) in multiple ways as the demand for hybrid deployment has increased. This is due to demand for more agility, elasticity, and automation in modern applications. By Gartner’s research, more than 90% of global organizations will be running containerized applications, 50% in serverless functions and 80% AI will be using containers as part of their work loads.

In enterprise architecture, it consists of 3 deployment models, namely virtual machines, containers, and serverless functions. Virtual machines have many use cases, when applications are monolithic and requires very specific version of OS this would be the best case to use it. At the same time, running applications BareMetal is not always most efficient solutions. Having VMs this can save a lot of hardware to create multiple guest OS on the machine which then can be used to create separated isolated operating systems. The second model are containers, they are software that is hosted under an OS. A container images contain a shared dependencies and libraries that is required to run the application. This can scale down the runtime significantly due to the low maintenance dependencies compared to VMs. Containers should be used when applications are lightweight, highly distributed and requires high dynamic deployment. As containers became more popular there is a new technology that orchestrate containers called Kubernetes. There are many types of Container/Kubernetes models such as DIY, public cloud containers, serverless, hybrid and many more. A lot of solutions are from known technology companies like AWS, Red Hat, Alibaba, VMware, and Google. Lastly, serverless computing has also been another popular infrastructure that is in many software deployments. Serverless computing are building applications and services without manually managing the servers. The infrastructure will scale the applications as demand is needed. This is extremely useful for applications like multimedia or event driven services like Netflix and Hulu. Serverless computing are packages in functions, the functions will remove the runtime of environments that would help deployers to focus more on design and configurations of the infrastructure.

There are many ways to host applications, every application has different needs. As any monolithic mission critical application, it should be deployed in VMs since every little bit of mess up will cause extreme damage to the application. There are also many hybrids architecture that will be combined both VMs and containers for isolations of applications. In the future will see more complex infrastructure designs and more serverless functions deployed for scenarios that are more events driven.