To achieve these goals, the initial phase of the project will be to lift and shift the existing application to the cloud, utilizing Kubernetes, containerization and Postgres to replicate the existing application functionality. This system architecture is documented in detail in Microsoft's Cloud Migration Strategy guide and is included in this proposal in Figure 2 below (AKS is the abbreviation used for the Azure Kubernetes Service by Microsoft).





The second phase of the project is to decompose the existing application into a microservices/function based serverless architecture, to free developers and the organization from worrying about infrastructure and hardware implementations. In the Microsoft Cloud Migration playbook, another standard architecture is documented, to be used as a starting point for further development and learning for any organization investigating this strategy. This architecture is detailed in Figure 3 below.





This service oriented architectural standard solution consists of a Function as a Service system and a distributed database solution, which will allow for compute and storage for any type of service offered. These solutions may also contain fine grained ingress and API management, load balancing, tracing, and other management features, and in our proposal these functions will be managed using a service mesh. This will allow for many different applications to all tap into business logic and data persistence at scale and in an intuitive fashion. Because each function is self-contained, unit testing and CI/CD is extremely easy to integrate and will be documented in the serverless architecture reference document.