# Reducing the Risk of Failure of a Cloud-Migration Project

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Many organizations seek to improve the efficiency of their systems. In order to achieve that goal, organizations are migrating their systems and data to the cloud. In this paper, log management is an important subject that will be discussed in great detail. Virtualization is also another crucial aspect of cloud computing. If an organization wishes to migrate their systems and applications to the cloud, virtualization will need to be integrated into the workflows. Steps to achieve that will also be discussed.

## Log Management

Log management is the practice of gathering, storing, and processing data from programs and applications in order to improve system efficiency, identify issues, improve resource management, and fortify security measures (Kent & Souppaya, 2006). Log management typically follows six main categories. The collection phase ensures that data from the OS, applications, servers, etc. is aggregated within an organization. The monitoring phase tracks events and activity, as well as, the time they occurred. The analysis phase reviews the collection of logs from the log server to identify bugs, security vulnerabilities, and other issues. The retention phase designates how long log data should be retained in the log server. The indexing phase helps filter and search data across all logs. Finally, the reporting phase ensures that reporting of the logs are automated in regards to performance, resource allocation, and security compliance. A log management solution is important for organizations as it

enables real-time analysis of system health and operations. An effective log management plan will unify data storage, improve security through a reduced attack surface, improve observability, enhance customer experience, and ensure troubleshooting is faster and more precise. There are a few challenges that are associated with log management that need to be considered. Since logs are extracted from many different applications and services, all data from logs must be consolidated into a single system with the same format (CrowdStrike, 2022). This will ensure that professionals can properly analyze log data. Log data is produced at an incredible rate. A log management system must be designed to manage the extreme amount of log data produced and still provide timely analysis. Log file indexing can be strenuous on computer hardware, which can cause latency between log data entering a system and being included in search results.

## Virtualization Integration

In order to properly integrate virtualization into workflows, careful planning and patience is required to ensure that the cost of testing is minimized and efficiency is maximized (Scroggins, 2013). Firstly, a free version of a cloud service that supports virtualization such as Microsoft Azure has to be acquired. The free version of Azure would be used to start creating simple virtualized services and modifying them as they go through change. As a result, testing and development will be done in a completely isolated environment. Next, more team members could be added to the environment to improve progress for

development. This is achieved because more people on a project means more ideas on how to improve efficiency and reduce bottlenecks. At this point, an enterprise solution will need to be purchased to further progress with virtualization integration. Once an enterprise license has been acquired, a virtualization center will need to be created to build new virtual services when the need arises. Processes have to be created to onboard virtualization initiatives. Acceptance criteria will also have to be created to ensure that changes do not negatively impact performance and efficiency. A virtualization server will be created so that in the event a team member shuts down their machine when they are away from work, other users will still be able to access the machine and its services. Finally, a collaborative workspace would be created to allow more developers to make their own services and work on existing services.

## Conclusion

In order to reduce the risk of cloud migration failure, elements such as log management and virtualization integration must be carefully considered by the organization that wishes to migrate to the cloud. Log management is an important concept that is used to analyze log data to improve system health and efficiency. Challenges such as volume of data, latency, and compatibility can be issues when working with log data and creating an effective log management plan. Virtualization integration can be a convoluted subject, but with the right planning, it can be extremely beneficial for the organization.

## References


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