Migrating Fishtank LTD to AWS Cloud

# Introduction

Fishtank LTD produces post-production VFX work for feature films, providing services to Broadcasters in EMEA and LATAM. Ryan Pothecary, FiskTank Ltd's new CTO, is embarking on a new IT strategy which involves moving from third-party data centres to the cloud to help resolve current IT issues. The cloud uses a network of remote servers hosted on the internet to store, manage, and process data, rather than a local server or a personal computer. In this documentation, I will outline the problems faced by FishTank LTD, and how moving to AWS cloud can help resolve these issues categorised by short-, medium-, and long-term goals. The main benefits include protection from technical disasters, scalability, cost efficiency and focus on innovation. Finally, it will outline any objections and cultural issues faced during this project.

# Main Problems

1. **Lack of Disaster Recovery** – FishTank LTD currently has no disaster recovery plan in place. Disaster recovery is an organisation’s plan to protect its IT systems and data from disaster and allows businesses to recover and minimise downtime and losses. FishTank LTD is currently at risk of this, and operations could halt.
2. **Inefficient IT Resource Scalability for Fluctuating Demands** – High demand and tight timescales are leading FishTank LTD to interruptions in projects and diminishing the quality of customer service.
3. **Addressing Business Expansion** – FishTank LTD foresee an increase in customer demand and have long-term plans to expand to North America and APJC. Efficiently managing this growth is crucial to their success.

# Migrating to the cloud

Migration is moving data or software from one location to another. First, to seek the benefits of AWS cloud you must migrate all data from the third-party data centres to AWS cloud. To continue serving customers while any migration to the cloud takes place, it is required to choose the correct migration strategy.

Strategy Rehost, also known as lift and shift, will move applications to the cloud without making changes to the application. Although objections may arise asking about the disruptions and downtime, Rehost will ensure you will not need to be concerned with application compatibility and performance disruption as your applications will continue to serve users while the migration takes place.

# Benefits

## Short-term benefits

**Disaster recovery DR**

By migrating to the AWS cloud, FishTank LTD will benefit from fast, secure solutions for disasters. Cloud DR will allow FishTank LTD to back up virtual environments, ready in the case of disruption and ensure business continuity. This will ensure customer experience and business reputation are kept high. AWS has a range of disaster recovery plans to back up your data available. I would recommend Backup & Disaster Recovery as a service and AWS Elastic Disaster Recovery. The Backup & Disaster recovery as a service uses the S3 (Simple Storage Service) for backups as it provides a good baseline for backing data without high operational costs. The con of this service is that it could take a longer time to recover depending on the data. To combat this, I have also recommended AWS Elastic Disaster Recovery, which you can use for important data as it has a rapid recovery rate, and high security and will allow business continuity. Although this service is priced higher, I believe it should be used to minimise losses due to downtime. Thus, I would recommend Backup & Disaster Recovery and AWS Elastic Disaster Recovery combined to ensure protection. Furthermore, continue to evaluate and monitor this usage and cost as this might need to be changed as the business shifts.

**Low cost**

Unlike moving data centres, moving to the cloud requires no upfront expense, making it a more cost-effective solution. Data centres require a high up-front cost as well as purchasing more hardware to ensure seamless usage for peak times and time spent creating maximum utilisation plans for data centres. This can lead to high amounts of spending which reduces the opportunity for finances to be used more efficiently e.g. innovation. With AWS cloud, you only pay for what you use, leading to significant savings compared to traditional data centres. Therefore, low upfront costs, reduced planning and pay-as-you-go policies allow for a smoother and financially efficient transition into the cloud.

**Scalability**

Switching to the cloud will help with adaptability to the growing business. Physical data centres on the other hand can be expensive and hard to scale. Switching will help resolve the issue currently faced where timescales can be short and FishTank must sacrifice customer satisfaction to meet deadlines. Now, scaling can increase or decrease depending on business needs.

## Medium-term benefits

**Cost Reduction and Efficiency**

Over time, FishTank LTD will benefit from economies of scale with AWS cloud. Economies of scale refer to cost savings achieved by increasing production. In the short term, switching from data centres allows FishTank to respond to more customers and lower variable expenses. As the business moves from servers to services, the engineers will have more free time to add value to the business. This enables the company to reinvest profits into IT developments, fostering continued business growth.

## Long-term benefits

**Scalability and globalisation**

As previously mentioned, scalability is made easy with AWS cloud as it is relatively cheap and instant so can increase quickly with customers' demand and grow the business smoothly removing barriers to globalisation. This is crucial for FishTank as they have predicted increased customer demand in North America and APJC. On the other hand, if the demand decreases, there is no charge to remove systems which makes keeping up with peaks as well as troughs easy and affordable. The long-term benefit of moving to the cloud is building future-proof applications to ensure a business's success.

**AWS Cloud Media Services**

As FishTank continues to evolve and become established in the cloud environment, they can take advantage of the AWS Coud Media Services offered. A few key services I would recommend:

* **AWS Elemental MediaConvert:** This service can be used to convert and transcode high-quality video files, ensuring that the final output is compatible with various distribution platforms.
* **AWS Elemental MediaStore**: Provides a high-performance storage service optimized for media content. It ensures low-latency access to VFX assets and media files during the post-production process.
* **AWS Nimble Studio**: Accelerate visual content creation in the cloud to streamline the VFX production process.

These are just a few of the media services that FishTank can use to their advantage. These tools empower them to innovate and scale effectively in the competitive media industry.

**Integrate Machine Learning (ML) and Artificial Intelligence (AI)**

FishTank can integrate ML and AI to optimise performance in various parts of the business. For example:

* **Personalised customer experience:** Utilising AWS Personalise, FishTank can create personalised recommendations based on customer needs which would improve customer satisfaction and improve business success.
* **Enhanced Quality Control and Automation:** AWS SageMaker can create models to detect anomalies in the visual effect sequences, ensuring high quality output.

Overall, FishTank can utilise these services to innovate beyond what traditional IT infrastructure would allow.

# Cultural Issues Switching to the Cloud

Current IT staff at FishTank may be unfamiliar with AWS Cloud and, therefore, might have some resistance to switching from data centres due to a change in processes. I would recommend sharing the benefits outlined here with staff and using the AWS training available. In addition, you should sign up for an AWS support plan to aid in a smoother transition. It provides 24/7 customer service, AWS documentation, technical papers, and support forums.

# Conclusion

In this documentation, I have outlined the short, medium, and long-term benefits of moving FishTank LTD to AWS Cloud by finding solutions to their problems. Throughout the report, I have touched on any objections and cultural issues which may be faced and how to tackle them. Overall, by moving FishTank to the AWS cloud they can benefit from low costs, become more customer-focused through innovation and have a disaster recovery plan. To continue to reap the benefits from AWS cloud continue to monitor costs to ensure they are kept at a minimum and make use of the AWS support plan.