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FishTank Ltd - Migration to cloud

05.09.2024

**Overview**

FishTank Ltd require a proposal stating why they should move to the cloud, what are the

short, medium and long term benefits of such a move.

The current IT Estate of Fishtank is split inside two data centres but we currently have no

disaster recovery in place and a move to the cloud must address this in the most cost-

effective way possible.

# Problems with current infrastructure

## Third party data centre

FishTank Ltd is currently renting several racks from a third party data centre. This is not a huge problem as it is better than having on-premise servers that require networking professionals on site to manage and maintain all the hardware at all times. It is also cheaper than having an on-premise server, however, you will still need to pay the rent for the racks even if you are not using maximum capacity. Currently, there is no disaster recovery in place meaning if something goes wrong FishTank can be at a huge loss and there may be no way of getting back any lost data. The cost of time and money will be crippling to the company.

## Data centre risk factors and recovery

“50% of companies face a downtime event that lasts longer than 8 hours and costs them an average of $20k.”

External risks

External risks are things that are outside of the data centres control, such as, natural disasters, supplier outages and human-caused events. Supplier outages occur when suppliers of either power, connectivity, or another important deliverable are unable to deliver.

Facility risks

In a data centre facility, there are some areas where any disruption is unwelcome: power, water, climate control, infrastructure, fire safety, communication systems, and security measures.

Data centre risks

Data system risks are those that involve shared infrastructure. It is vital to pay attention to all single points of failure in the system’s architecture and see how those failures can be avoided.

Look at how the data centre protects against contamination between servers and its effectiveness at blocking attacks. An understanding of how vulnerable a data centre is involves understanding how easily targeted they are.

# How is the cloud better than using a third party data centre

## Accessibility

Cloud services can be accessed from anywhere as long as you have an internet connection. Each and every resource within AWS can be monitored which makes it easier to make adjustments and optimisations where they may be needed. With traditional data centres you are limited to those specific locations of where the data centres are.

## Cost effective

Cloud mostly operates on a pay-as-you-go model meaning that you will only pay for what you use. For example, if you are to terminate or stop a service temporarily, the costs of running that resource will also stop. Therefore you will be saving money as long as you are not using a resource compared to renting from a third party data centre where you will still be paying for what you're not using. There are larger upfront costs and most likely you will be paying for a surplus in case the company grows.

## Scalability

Cloud computing offers quick and easy scalability. This will enable FishTank Ltd to increase or decrease their resources based on the demand. With their current set up it can take time for them to expand as it requires time and resources.

## Security

AWS has many services dedicated to the security of your cloud solution. These cover things such as access management, encryption and compliance.

Identity and access management

AWS Identity Services help you securely manage identities, resources, and permissions at scale. With AWS, you have identity services for your workforce and customer-facing applications to get started quickly and manage access to your workloads and applications.

Data protection

AWS provides services that help you protect your data, accounts, and workloads from unauthorised access. AWS data protection services provide encryption capabilities, key management, and sensitive data discovery to help you protect your data and workloads.

Detection and response

AWS detection and response services help you enhance your security posture and streamline security operations across your entire AWS environment by continuously identifying and prioritising security risks, while integrating security practices earlier in the development lifecycle.

Network and application protection

Network and application protection services help you enforce fine-grained security policy at network control points across your organisation. AWS services help you inspect and filter traffic to prevent unauthorised resource access at the host, network, and application level boundaries.

Compliance

AWS gives you a comprehensive view of your compliance status and continuously monitors your environment using automated compliance checks based on the AWS best practices and industry standards your organisation follows.

## Maintenance and management

Cloud computing takes away the burden from the business of having to maintain and manage the hardware and other tasks. This is all managed by the cloud provider. This means FishTank can focus on the core of their business. FishTank usually runs on short timescales and budgets with limited IT resources so having less tasks to do will in turn increase efficiency of the business.

# Disaster recovery

With AWS, they have lots of disaster recovery methods that we can use and they also have a service called Elastic Disaster Recovery which can reduce downtime and data loss. Some of the best methods of disaster recovery are backing up your data, using the EDS service and virtualisation. Businesses back up their data and operations using offsite virtual machines (VMs) not affected by physical disasters. With virtualization as part of the disaster recovery plan, businesses automate some processes, recovering faster from a natural disaster. The continuous transfer of data and workloads to VMs like Amazon EC2 is essential for effective virtualization. Utilising the cloud will allow FishTank to have a disaster recovery plan in place.

# Moving into other regions

AWS has made it easy to move into other regions. They have lots of migration and transfer services that simplify the process. With AWS regions and availability zones, there are many different data centres to choose from. In North America there are currently 7 regions with an 8th coming soon in mexico. In APJC there are 10 regions with another 2 coming soon. FishTank Ltd can choose from any region and by selecting a region that is closer to their customers it will reduce latency.

# Short and long terms benefits of moving to cloud

## Short term

When moving into the cloud you will be saving costs immediately as you are paying what you use. There aren't any large upfront costs. The performance of the hardware will be significantly better and can be upgraded or downgraded at any time. The security of a cloud solution will be drastically better than an on premise data centre. All of the hardware is managed and maintained by the cloud provider so it is less work for the business.

## Long term

In the long term moving to the cloud will be more cost effective. You could potentially save millions. The cloud offers quick scalability so if the company grows you can increase the size of your resources to cater for the businesses needs. Cloud computing is also more sustainable and has less of a negative environmental impact. Overall your business will improve in all aspects and the flexibility you get from the cloud is unbeatable compared to data centres.