

# Cloud Migration

# Report

# Book StoreCloud Migration

# Report

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Book Store

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### Executive Summary

The Migration/Upgrade of the bookstore IT infrastructure

The head office of this bookstore has concerns about the integrity and feasibility of Its ongoing infrastructure and has expressed interest in moving some or all its servers to the cloud (Azure/AWS). This is due to past power interruptions and the hardware in the servers becoming outdated.

Proposed Solution

The proposed solution for this business will include:

* A migration of the high power/process usage servers to an AWS cloud service.
* A reduction in the number of servers, which will be replaced by 3-5 highly specificized servers in the cloud.
* A use of IaaS and PaaS services in the cloud.
* The Advantages and Disadvantages of this upgrade.

What will this do to the company?

This migration to the cloud will be significantly cheaper than upgrading all the servers of the business. It will also give an upgrade path to the business in the future as the company can acquire more utilization from AWS.

What will be discussed to prove the migration of the server(s)?

1. The advantages and disadvantages of the cloud.
2. The use and privacy concerns of the cloud system.
3. IaaS and File share solutions to the servers.
4. Security and encryption of the bookstores data.

### The advantages and disadvantages of Traditional servers

**Advantages of a traditional:**

1. One advantage of a traditional on-premises server is that you have full control of the IT environment and the services you have, allowing you to have direct management and control of the services.
2. **privacy of your network and data security:**

The bookstore can manage and implement their own network security policies. It also guarantees that customer data and financial records stay on-premises, which reduces the exposure of external threats.

1. **Latency and performance:**

The internal servers have minimal latency due to the servers being in the bookstores LAN. Therefor the bookstores database is quick to access and does not have to rely on external connections to the WWW.

1. **Offline Access:**

Due to the occurrence of an internet disruption, the bookstore does not have to rely on an external service.

**Disadvantages of a traditional:**

1. **Cost:**

The main disadvantages of an on-premises servers are the upfront costs like software licensing, installation, and employees to maintain the server and the constant costs like energy costs.

1. **Maintenance:**

As I expressed in my first point, the business would have to employ IT staff or external staff to manage maintenance and support. Another point for maintenance is the regular hardware and software updates.

1. **Limited Scalability:**

Due to the space limitations in the bookstore, there are a lot of limitations to the number of times you could upgrade the hardware in the server room, for example limited rack storage comes into account and they require manual adjustments.

1. **Disruptions:**

Any external and internal disruptions like a power outage or even a storage device failing can affect access to the servers, which could impact workflow in the company.

1. **Lack Of Redundancy:**

An on-premises server lacks redundancy compared to cloud services and on single point of failure can disrupt operation.

### The advantages and disadvantages of The Cloud

**Advantages of Cloud:**

1. **Cost:**

A Cloud service eliminates the need of upfront costs when it comes to deploying servers as AWS provides purchase options like Pay-as-you-go or you can commit a certain amount of investment at the start of the deployment to save costs. Cloud is a good option for the bookstore as high consumption services can be migrated to the cloud. (Microsoft, 2023)

1. **Reliability:**

Cloud services, such as AWS provide high reliability on servers and the bookstore can experience minimal downtime due to AWS having an uptime of at least 99.9%.

1. **Backups:**

Recovery plans are available to the company from AWS and provide automatic backups. In comparison to the tape drives stored locally in the company which if a disaster were to happen, could get destroyed or corrupted. (Pritchett, 2020)

1. **Maintenance:**

The bookstore does not have to rely on constantly maintaining the cloud server as AWS maintains the Updates\* and hardware replacements of the system.

\*Depending on the service you need, some updates must be performed by the IT team.

1. **Resources:**

A cloud server can allocate resources efficiently, making the bookstore to only pay for what resources they use and reduces the wasted capacity or idle servers which would be consuming energy in the premises.

1. **New Technologies:**

AWS could introduce innovative technologies to the business to streamline most services needed and can improve customer experience.

1. **The use of TPMs:** (David Molnar, 2010)

These are modules paired with hardware certificates to certify the hardware and allow the hardware to cryptographically sign statements about its properties, which the cloud provider can verify that the software is run on specified hardware, which protects the bookstore from malicious hardware attacks.

**Disadvantages of Cloud:**

1. **Data Security:**

Data access and leaks without permission between multiple virtual machines/devices on the same server can be a security issue to a select few businesses, although security measures have been put in place since.

1. **Possibility of ‘Hackers’:**

In the risk of hackers breaking into the virtual machines of the business, they can leak and distribute sensitive information about the company.

1. **Migrating to another cloud provider:**

Migrating to another cloud provider can be difficult as the organization can have specific applications and services you use, and the new service may not have those services.

1. **Limited Setups:**

If for example your business had a specific type of system you need, there is a small possibility due to security policies and other factors, you may not be able to implement those services on the cloud.

1. **Internet Connectivity:**

The bookstore would need to have a reliable ISP to provide a constant internet connection as the services would be off premises and can impact productivity/income of the business (for example, the inventory database may be in the cloud, making the service unreachable due to a network interruption).

1. **Less Control:**

The cloud provider does not allow direct control of the machine as decisions relating to the hardware, maintenance and upgrades are implemented by the cloud provider.

### deployment model and service offering recommendations.

**Deployment models**

**Full Cloud:** In terms of a full cloud deployment model, I do not recommend the business to go full cloud as for a few services it can be either due to bandwidth limitations or requirements for the service. One service which is difficult to run efficiently in the cloud is the CCTV server, as constantly uploading large video files could affect the employees’ work or even the customers using the connection in the building. Another service which would not benefit from the cloud is the employee database as a lot of personal data is in this database, therefore it would be a security risk for the business. Most other services are perfect for the cloud as they can benefit from the accessibility and scalability of the cloud.

**Private Cloud:** When it comes to private cloud, it is a different aspect of cloud services. Compared to public cloud services (AWS), a private cloud is only for one organization compared to the multitude of customers AWS has. The payment scheme is also different between both as a private cloud is charged per GB usage along with the bandwidth transfer (Vikas, 2013). This would be a more tedious and higher cost compared to other deployments.

**Hybrid Cloud:** The business would benefit the most from a hybrid model. A hybrid deployment model is where the business uses both cloud and on premises servers. For the bookstore, the employee database would benefit from being on premises due to privacy reasons. Another server that would benefit from this is the CCTV server. In terms of the CCTV server, this may use a lot of storage space depending on the amount of time recorded video is saved. All other services would benefit from the scalability of the cloud as it would benefit the company as when the business expands, the servers can be upgraded easily or using AWSs’ Auto Scaling service.

**Service offerings.**

**IaaS**:This service provides the business with delivering computing, storage, networking, and other services which the business can manage and install with full control. An IaaS service does not provide the user with hardware access as that is managed with by the provider. The business can have little network infrastructure control, for example implementing a firewall to the instance. This service would be useful for the company as many services can be implemented to an IaaS service. (Mohammed, 2021)

**PaaS:** This service provides the business with a framework to build applications and programs to distribute them on the network without worrying about the environment installed, example: A database. In this service the provider is not in control of the hardware, networks, storage and most importantly, the OS. This service would be useful for the company as it reduces the risk of employee error while updating a system. (Mohammed, 2021)

**SaaS:** This service is mostly managed by the provider of the cloud service and gives minimal control to the business. One example of this is Amazon Chime, which is a document editing service which is accessed through a web interface. This service is mostly used for an end-user consumer. These services give minimal customization; therefore, it is not recommended for the business to incorporate SaaS as it does not provide highly tailored services. (Mohammed, 2021)

### What services should be moved to the cloud?

When it comes to the bookstore moving to the cloud, I mentioned previously that a hybrid model would suit the store the most. I constructed a list of services that would be moved to the cloud, and which will not be moved:

|  |  |
| --- | --- |
| Services to be moved to cloud | Services kept on-premises |
| Inventory management system | Payroll system |
| Website/ Apache server | CCTV server |
| eBook Service | Employee Database |
| Book rental record server | Network monitoring server |
| Email Server |  |
| eCommerce Server |  |
| CRM system |  |
| File share server |  |

**Justification**

Here is the justification of this hybrid model of a service for the bookstore. Firstly, I will state my reasoning for keeping certain services on premises.

1. The payroll system is a service that relies on a lot of security as it contains a lot of financial information about the company and the employees. Also keeping this on premises reduces the worry about trusting an external company with sensitive information. This service does require maintenance, although this may be only a regular update.
2. The CCTV server is a viable choice to keep on premises. This provides quick and easy access to the recordings of the CCTV footage from the store, additionally this service can include a remote access service in case of a break-in. This service also requires maintenance and strict security, although can be managed by one of the IT administrators.
3. The employee database was another service chosen to be kept on premises, as it contains personal information about the companies’ employees. This database is not that large and does not use many resources.

### What services should be moved to the cloud? (Cont.)

When it comes to the services moved to the cloud, I have moved a lot of high usage services to the cloud as they can be scaled due to that specific services usage at the time. I have also made a price estimate in both Microsoft azure and Amazon AWS and have decided to have 2 instances with 16 VCPUS, 64 GB of ram and 1536GB of storage each for the instances. These are powerful machines which can be used for multiple services.

In terms of the Pricing of the cloud services, AWS provided a quote of $1274.82\* per month and azure with an estimate of $1183.78\* per month. Although Azure is the cheaper option, AWS provides an easier user experience and can be easily expanded in the future.

1. The Inventory Management system is highly recommended to be moved to the cloud as this database is very robust and can result in high usage on premises. This can also be scaled up if additional books/records are being added in the future.
2. The Website Server was another recommended service to be moved as the cloud provides a simple way to deploy a website. For ease of use, I recommend the business to use a self-managed service with a Linux EC2 instance running a WASP service on the cloud. It reduces the risk of having a “no-mans-land” on the bookstores network design, reducing security risks.
3. Another service moved to the cloud would be the book rental server. This at times can be very resource-intensive, and other times may not be. Compared to this service on premises, it can be easily scaled to the usage of the service.
4. Customer Relationship Management is another service recommended to move as it can implement automatic updates and is easily scaled compared to being on premises, which requires special equipment to run internally, and can be a high usage service depending on day-to-day interaction.
5. The email server is another recommendation to be moved as it is a simple service that can be run as a service in one of the instances. This service will be a lightweight service as there are only 25 employees in the business.

In terms of the File sharing server, AWS provided a quote of $337.92\* per month, while Azure provided a quote of $386.03\*. Again, I chose AWS for this service as it can be integrated into the EC2 instances and are all managed on the same user portal.

1. Finally, the last server recommended to be moved is the file share system. This system is not a high usage service, although it is a better option to move this to the cloud as it adds easy upgradability and cheaper to upgrade compared to adding more storage servers and Hard drives etc.

\*All price summaries are imported as appendices at the end of the Document.

### Server migration framework design

As stated above I priced 2 vendors of cloud services. I decided to use AWS due to simplicity and the ease of integration into the internal services still running on-premises.

In terms of the internal servers, the bookstores server was in a high usage state in all server. Therefore, I did some calculations and I found that in terms of actual usage of resources, the business was using 90% of 10, 3 core server with 75% usage on 16GB of RAM with 20% usage on 1TB internal storage on each. So, I decided to minimize the number of servers on the cloud to a total of 2. This would reduce the cost of the instances and have around 10-12% extra resources for the services. I decided to use 2 of amazon AWSs m6g.4xlarge instances which provide 16 vCPUs, 64GB of RAM and added 1536GB (1.5TB) of block storage to each instance. The diagram below shows my example of cloud deployment. When it comes to the file share system, I have implemented a S3 bucket with 3 TB of fast SSD storage and the users will use the AWS storage portal to access files.

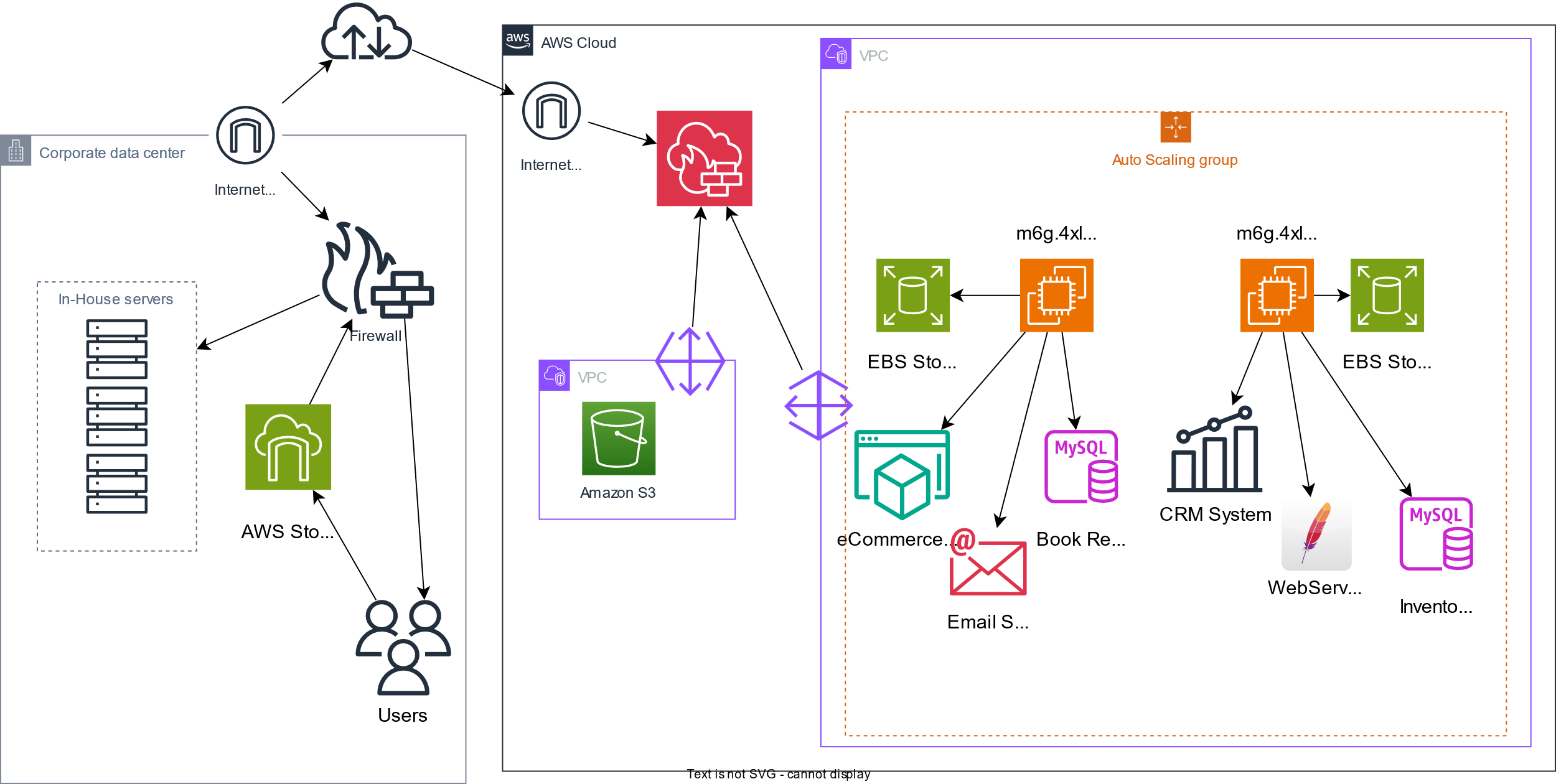


Figure 1: provided by draw.io.

This diagram is a simple layout of what I have designed, and I will explain the security implementations in the security and data protection implications section.

### The risks in migrating and maintaining the systems in the cloud.

**Migration**

One big risk in migrating the systems to the cloud is the long migration process. This could impact the productivity of employees as some resources are in the process of being moved to the cloud. Another risk may be the security risks associated with migrating sensitive data through the internet. If security policies are not updated in sync with the migration, the data may be exposed to an attacker. (Checkpoint, 2023). Having the services in the cloud can also affect performance as there is a bigger latency gap between off premises and on premises servers although, this would not affect the bookstore significantly as I have chosen the servers to be in the Irish Datacenter Region. Another risk is an unclear strategy, for example all data must comply with GDPR, that is why I decided to keep the employee data on – premises so the business does not have to go through the process of complex policies. Another risk is the possibility of a network outage during the migration process, which could corrupt the data being migrated and may have to be restarted.

**Maintaining**

In terms of maintaining the systems, a big risk is again unauthorized access to data on the cloud. One of many ways to reduce this is to implement user groups and user authentication for the services. If not monitored correctly, the services prices could spiral out of control if not managed properly, therefore implementing capacity measures is a good idea to implement. Improper scheduling/backup times could interfere with the business’s workday. It is best to schedule these times on days/hours the business is closed. Another risk to maintaining systems is improper training to employees; the business should have meetings and training sessions with the employees to show all procedures to keep data secure and how to use the system to minimize security breaches.

### Security and data protection implications.

**Amazon Virtual Private Cloud (VPC):** one of the security services that I have researched and decided to include is AWS VPC. This service lets you launch AWS resources in a logically isolated virtual network that you may create and customize to the bookstore’s own specifications. The VPC replicates a network the business previously had on premises. The features that I have recommended to implement include are:

* **Ip Addressing:** I recommend making changes to the original IPv4 addresses as they are randomly generated and using the VPC, the business can create static and service specific Ips.
* **Routing:** A routing table can be introduced to make the services accessible to Ip addresses available by the business, which can minimize security breaches.
* **Traffic Mirroring:** this feature implements the use of an external device to monitor traffic and send it to security appliances for packet inspection. (Amazon, 2024).

**Identity and Access Management (IAM):** this resource is readily available for the user which can define access rights to certain applications. This, for example, can group the employees into multiple user groups and can give them certain roles and control over services. This can reduce the risk of an employee accessing resources they do not need to use or have no training for (e.g. prevents a regular employee from accessing the inventory management system and accidentally tampering with it. Another great use for this service is IAM roles and policies which the technician can implement to services to be able to access data. For example, the EBS storage is partitioned into separate partitions for the applications. The use of multiple roles and users in this drive and instance can prevent applications from accessing data which is not applicable to it and prevents corruption/ data mix-up. (Amazon Web Services, 2022)

**Encryption of data:** in terms of data stored in the cloud data encryption is a vital resource to be used for the company as sensitive archived emails (email server) or private data on the databases can be stolen. With services like AWS KMS, you can encrypt the data stored in S3 buckets (file share) or on EBS (Instance storage) and KMS can manage secret keys to the data. When it comes to the data transferring to and from the business TLS is implemented into the packets and AWS provides a Certificate manager to manage TLS/SSL certificates. (Amazon Web Services, 2022)

**AWS Security hub:** This service is a service which can assess security alerts and can conduct automated security checks to the cloud service. This service can be useful to the IT administrator as it gives the employee an easy way to respond to any security alerts and potential attacks. (Amazon, 2024)

### Other businesses stories and trends in cloud migration.

In this final section of the report, I will display past stories from reputable companies that also have used AWS and current trends in companies moving to the cloud.

1. Shopline is a company that provides an all-in-one commerce service to businesses. I will highlight the “serverless infrastructure” and the reduction of stress compared to standard server deployments. Shopline states that they were able to “work at full speed without worrying about cost, workforce, security or constantly acquiring knowledge about emerging technologies”. (Shopline, 2021) this provided the company with more capital to expand their business, which can be implemented in this business as this can create new opportunities for the bookstore.
2. Pinterest is an American image sharing and social media service to share and save information. Pinterest uses amazon S3 to provide capacity for its Pinterest Lens application and found that using a scaling process on AWS buckets, therefore the capacity increases the more images get posted. This scaling usage can be used for the bookstores’ possibilities of opening an eBook service and can lead to a bigger customer base. (Ed Jimenez, 2021)
3. Razer is a gaming company which in 2015 decided to move some services to EC2. Razer moved over 80% of its services to EC2, including all production workloads and a fully managed container service for running containers in the cloud. This is a good example of cost saving. The bookstore can implement this type of conversion as most services were lightweight and reduce the cost by a drastic amount. (Razer, 2022)

Here I will outline a major trend of migrating to the cloud and why the cloud is an optimal choice for this business.

One point which I think is a big trend why companies are moving to the cloud is the Cloud disaster recovery systems.

When it comes to security, a lot of companies are moving to the cloud due to its robust systems that offer security features such as encryption, MFA , and network isolation, which in a traditional deployment require multiple employees to manage, require on site or offsite systems using backup tapes whereas on the cloud, continuously replicates your data to a remote cloud provided by a cloud disaster service provider. (Cohesity, Inc., 2024)

This type of disaster recovery can be very useful to the bookstore as the local tape drive recovery system can be mostly removed (keeping some for critical disasters) and can be offloaded to a secure, trusted company and can be kept running smoothly by them.

### Conclusion

When it comes to the cloud, I think this business made a great choice in moving to the cloud. The servers previously hosted in the business were highly inefficient and the business has had issues with them in the past. Moving to the cloud created an opportunity for this business to expand its services, while being cost effective. The hybrid approach to this company is also a great option as this provides some in-house services that need to be accessed frequently or have sensitive information the business prefers to keep in safe hands. The move to the cloud also reduces the energy consumption of the business. This business can now focus on new strategies to get more customers, for example: implementing an eBook service to its customers that can be operated in the cloud and managed by the company which can improve customer satisfaction.

# Bibliography

Amazon Web Services, 2022. Module 4: AWS Cloud Security. *AWS Academy Cloud Foundations,* pp. 1-82.

Amazon, 2024. *AWS Security Hub.* [Online]   
Available at: https://aws.amazon.com/security-hub/  
[Accessed 14 Feburary 2024].

Amazon, 2024. *What is Amazon VPC?.* [Online]   
Available at: https://docs.aws.amazon.com/vpc/latest/userguide/what-is-amazon-vpc.html  
[Accessed 14 Feburary 2024].

Checkpoint, 2023. *Cloud Migration Risks.* [Online]   
Available at: https://www.checkpoint.com/cyber-hub/cloud-security/what-is-cloud-migration/cloud-migration-risks/#:~:text=Security%20Risks%3A%20In%20addition%20to,may%20be%20exposed%20to%20attack.  
[Accessed 14 Feburary 2023].

Cohesity, Inc., 2024. *Cloud disaster recovery.* [Online]   
Available at: https://www.cohesity.com/glossary/cloud-disaster-recovery/#:~:text=Security%20of%20data%20and%20systems,factor%20authentication%2C%20and%20network%20isolation.  
[Accessed 15 Feburary 2024].

David Molnar, S. S., 2010. *Self Hosting vs. Cloud Hosting: Accounting for the security impact of hosting in the cloud,* s.l.: WEIS (Vol. 2010, pp. 1-18).

Ed Jimenez, 2021. *AWS is How: Pinterest Lens Helps Pinners Find and Buy the Perfect Item.* [Online]   
Available at: https://aws.amazon.com/blogs/industries/aws-is-how-pinterest-lens-helps-pinners-find-and-buy-the-perfect-item/?did=cr\_card&trk=cr\_card  
[Accessed 14 Feburary 2024].

K. H. Masiyev, I. Q. V. B. a. M. B., 2012. *Cloud computing for business,* Tbilisi, Georgia: IEEE.

Microsoft, 2023. *What is a cloud server?.* [Online]   
Available at: https://azure.microsoft.com/en-us/resources/cloud-computing-dictionary/what-is-a-cloud-server/

Mohammed, C. a. Z. S., 2021. Sufficient comparison among cloud computing services: IaaS, PaaS, and SaaS: A review.. *International Journal of Science and Business,* pp. 20-21.

Pritchett, A., 2020. *6-pros-and-cons-of-cloud-storage-for-business.* [Online]   
Available at: https://www.comparethecloud.net/articles/6-pros-and-cons-of-cloud-storage-for-business/

Razer, 2022. *Razer Achieves Over 70 Percent Cost Savings in Compute Spend Using Amazon EC2 Spot Instances and Amazon ECS.* [Online]   
Available at: https://aws.amazon.com/solutions/case-studies/razer-case-study/?did=cr\_card&trk=cr\_card  
[Accessed 14 Feburary 2024].

Shopline, 2021. *SHOPLINE Buys Time and New Customers with Serverless on AWS.* [Online]   
Available at: https://aws.amazon.com/solutions/case-studies/shopline/?did=cr\_card&trk=cr\_card  
[Accessed 14 Feburary 2024].

Vikas, S. G. K. V. M. a. P. K., 2013. Private Vs Public Cloud. *International Journal of Computer Science & Communication Networks, ,* pp. 3(2), p.79..

### Appendix

Appendix A: Amazon AWS price estimate

**Estimate summary**

**Acknowledgement**

AWS Pricing Calculator provides only an estimate of your AWS fees and doesn't include any taxes that might apply.

Your actual fees depend on a variety of factors, including your actual usage of AWS services.



Contact your AWS representative

:

Export date

:

**14/02/2024**

Language

:

**English**

Estimate URL

:

**https://calculator.aws/#/estimate?**

**id=46ff14af3b7eb25eb609e3798be31896664303da**

**Upfront cost**

**0.00**

**USD**

**Monthly cost**

**1**

**,612.74 USD**

**Total 12 months cost**

**19**

**,352.88 USD**

Includes upfront cost

**Detailed Estimate**

**Name**

Group

Region

Upfront cost

Monthly cost

**Amazon EC2**

No group

applied

EU (Ireland)

0.00

USD

1

,274.82 USD

**Status**

:

-

**Description**

:

**Config summary**

:

Tenancy (Shared Instances), Operating system (Linux), Workload (Consistent,

Number of instances: 2), Advance EC2 instance (m6g.4xlarge), Pricing strategy (On-Demand

Utilization: 100 %Utilized/Month), Enable monitoring (disabled), EBS Storage amount (1536 GB),

DT Inbound: Not selected (0 TB per month), DT Outbound: Not selected (0 TB per month), DT

Intra-Region: (0 TB per month)

**Amazon Elastic**

**Block Store (EBS)**

No group

applied

EU (Ireland)

0.00

USD

337.92

USD

**Status**

:

-

**Description**

:

**Config summary**

:

Number of volumes (1), Average duration each instance runs (730 hours per

month), Storage amount per volume (3 TB), Snapshot Frequency (No snapshot storage)

Appendix B: Microsoft Azure Price Estimate

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Microsoft Azure Estimate** | | |  |  | |  | |  | |
| **Bookstore Final Estimate** | | |  |  | |  | |  | |
| **Service category** | **Service type** | **Region** | **Description** | | **Estimated monthly cost** | | **Estimated upfront cost** | |
| Compute | Virtual Machines | North Europe | 2 B16as v2 (16 vCPUs, 64 GB RAM) x 730 Hours (Pay as you go), Linux, (Pay as you go); 6 managed disks – E20; Inter-region transfer type, 5 GB outbound data transfer from North Europe to East Asia | | $1,183.78 | | $0.00 | |
| Storage | Storage Accounts | North Europe | Block Blob Storage, Blob Storage, Hierarchical Namespace, LRS Redundancy, Hot Access Tier, 3 TB Capacity - Pay as you go, 30 x 10,000 Write operations, 30 x 10,000 Read operations, 30 x 10,000 Iterative Read operations, 30 x 100 Iterative Write operations, 3 TB Data Retrieval, 1,000 GB Data Write, SFTP enabled for 730 Hours, 3 TB Index, 1 x 10,000 Other operations | | $386.03 | | $0.00 | |
| Support |  | **Support** |  | | $0.00 | | $0.00 | |
|  |  | **Licensing Program** | **Microsoft Customer Agreement (MCA)** | |  | |  | |
|  |  | **Billing Account** |  | |  | |  | |
|  |  | **Billing Profile** |  | |  | |  | |
|  |  | **Total** |  | | **$1,569.81** | | **$0.00** | |
|  |  |  |  | |  | |  | |
| **Disclaimer** |  |  |  | |  | |  | |
| *All prices shown are in United States – Dollar ($) USD. This is a summary estimate, not a quote. For up to date pricing information please visit https://azure.microsoft.com/pricing/calculator/* | | | | | | | | | |
| *This estimate was created at 2/14/2024 4:41:10 PM UTC.* | | | | | | | | | |
|  |  |  |  |  | |  | |  | |