

REQUEST FOR PROPOSAL: PETRA

Application Migration to AWS Cloud

FishTank Ltd – cloud migration project

Summary:

This phased migration plan is designed to seamlessly transition Fishtank Ltd.'s critical line-of-business application, PETRA, to the Amazon Web Services cloud. The strategy focuses on minimizing downtime and ensuring uninterrupted business operations during the migration process.

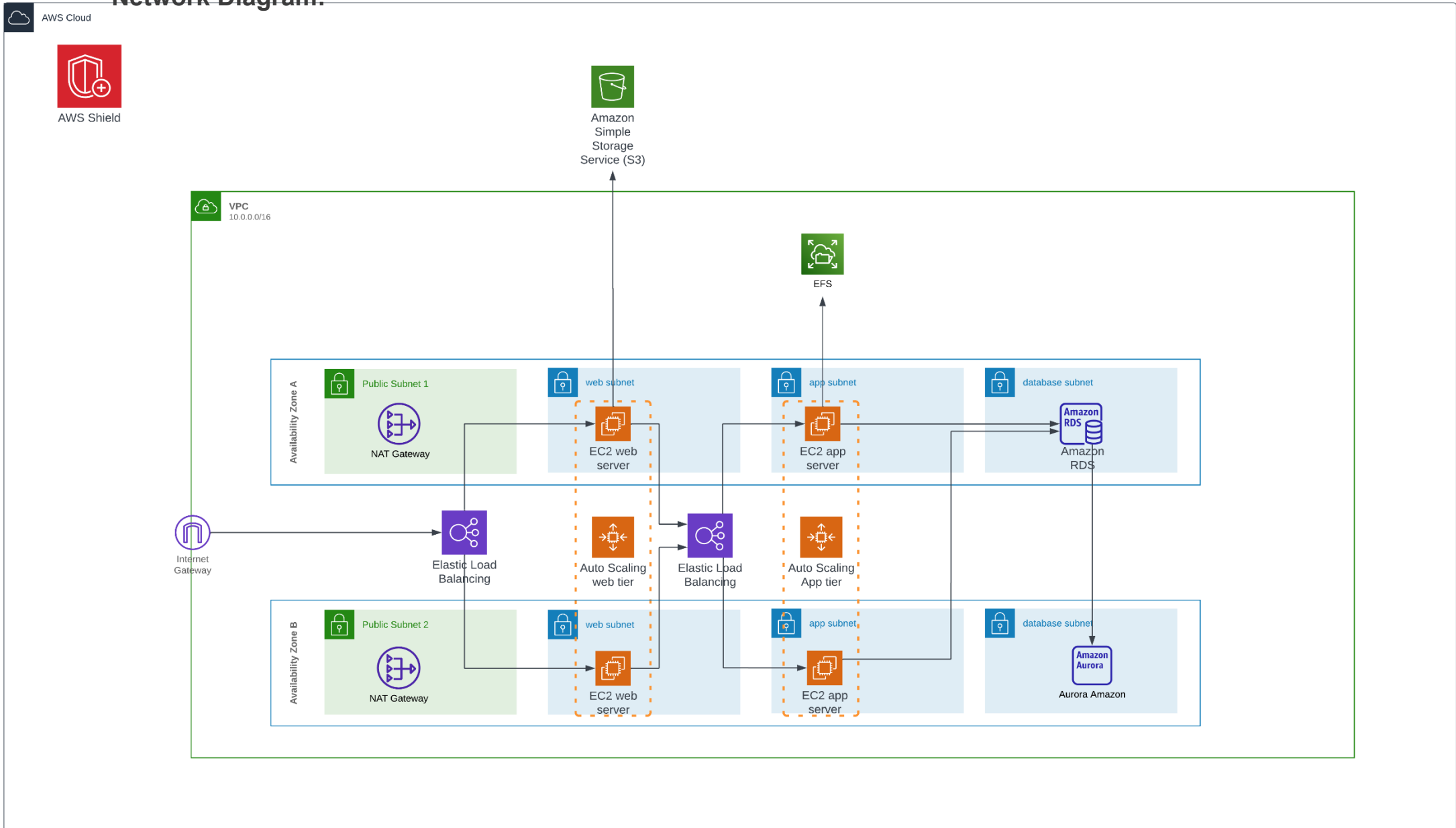
Objectives:

- **Seamless Migration:**
 - Ensure a smooth and phased migration of PETRA to AWS, minimizing downtime and disruption to FishTank Ltd.'s business operations.
- **Modernization:**
 - Upgrade the outdated components of PETRA, including the Windows Server and SQL Server versions, to ensure compatibility and compliance with current standards.
- **Efficient Resource Utilization:**
 - Optimize the AWS resources to achieve cost-effectiveness while maintaining the performance and scalability required by PETRA.
- **Enhanced Security:**
 - Implement robust security measures, including security groups, network access control lists (NACLs), and encryption, to safeguard PETRA's data and infrastructure in the AWS environment.
- **Reliable Network Design:**
 - Develop a reliable and scalable network architecture, leveraging AWS services like VPC, Direct Connect, and Elastic Load Balancer to ensure secure and efficient communication between PETRA components.

Phased Migration plan:

- **Assessment Phase:**
 - Conduct a thorough assessment of current on-premises infrastructure and dependencies.
 - Review security and compliances requirements
- **Environment setup:**
 - Upgrade SQL server to a compatible AWS version
 - Validate data integrity and synchronization mechanisms.
- **Phased server migration.**
 - **Lift and Shift migration over weekends for minimal disruption**
 - Web Servers
 - Migrate Web servers to AWS EC2 instances.
 - Test and validate functionality in the AWS environment.
 - Application servers
 - Migrate PETRA App servers to AWS EC2 instances.
 - Validate communication between web and app servers.
 - Database server
 - Migrate Database Server to AWS RDS
 - Optimize and tune the database for AWS environment.
- **Dependency Migration**
 - Set up DNS and active directory services within AWS.
 - Ensure seamless integration between on-premises services and AWS.
- **Security Implementation**
 - Create Security groups for Web servers, App servers and Database.
 - Implement AWS IAM and ACL for improved internal security at the subnet level.
 - apply encryption for data in transit and rest.
- **Full-scale Data Migration**
 - Develop a seamless data migration plan for the PETRA database.
 - Execute data migration over weekends for minimal downtime during work week.
- **Optimization**
 - Implement monitoring tools for proactive issue resolution.
 - Fine-tune application and database performance
- **Employee Migration**
 - Train the FishTank team on managing the AWS environment.
 - Provide comprehensive documentation to users in adapting to the AWS environment and for any post-migration issues.

Network Diagram:



Rollback Procedures:

Establish clear rollback procedures in case of unexpected issues during any phase of the migration. Regularly test these procedures to ensure their effectiveness.

Expenses

- **Roll rates:**
 - Approximate roll rates during/post migration period

Amount	Role	Rate (£)	Total
1	Business Analyst	400	400
1	Cloud Consultant	2000	2000
2	Solution Architect	1000	2000
2	Server Migration Engineer	650	1300
2	Database Migration Engineer	750	1500
2	First / Second line Cloud Support	250	500
1	Third line Cloud support	350	350
		Total (£)	8050

- **Expenses**
 - Attached to the end of the document is an approximate expense which will change over the optimization period.

Conclusion:

This detailed and phased migration plan aims to minimize disruption and ensure a smooth transition of FishTank Ltd.'s PETRA application to AWS. Our approach emphasizes thorough testing, robust security, and optimization for long-term efficiency.

Export date: **01/02/2024**

Language: **English**

Estimate URL: <https://calculator.aws/#/estimate?id=bb3b3df485f2016edc8c7f62097838711cad51cf>

Estimate summary		
Upfront cost	Monthly cost	Total 12 months cost
0.00 USD	6,910.95 USD	82,931.40 USD
		Includes upfront cost

Detailed Estimate

Name	Group	Region	Upfront cost	Monthly cost
Amazon Simple Storage Service (S3)	No group applied	EU (London)	0.00 USD	24.74 USD
Status: -				
Description:				
Config summary: S3 INT Average Object Size (16 MB), Percentage of Storage in INT-Frequent Access Tier (1), S3 INT storage (1 TB per month)				
Amazon Elastic File System (EFS)	No group applied	EU (London)	0.00 USD	106.76 USD
Status: -				
Description:				
Config summary: Desired Storage Capacity (1.2 TB per month)				
Elastic Load Balancing	No group applied	EU (London)	0.00 USD	1,265.03 USD
Status: -				
Description:				
Config summary: Number of Application Load Balancers (2)				

Amazon RDS Custom for SQL Server	No group applied	EU (London)	0.00 USD	2,429.44 USD
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Status: -

Description:

Config summary: Storage for each RDS Custom for SQL Server instance (General Purpose SSD (gp2)), Storage amount (100 GB), Instance type (db.r5.xlarge), Number of RDS Custom for SQL Server instances (2), Utilization (On-Demand only) (100 %Utilized/Month), Database edition (Developer), Deployment option (Multi-AZ), License (Customer-provided), Pricing strategy (OnDemand)

Amazon EC2	No group applied	EU (London)	0.00 USD	8.18 USD
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Status: -

Description:

Config summary: Tenancy (Shared Instances), Operating system (Linux), Workload (Consistent, Number of instances: 4), Advance EC2 instance (t4g.nano), Pricing strategy (Compute Savings Plans 3yr No Upfront), Enable monitoring (disabled), DT Inbound: Not selected (0 TB per month), DT Outbound: Not selected (0 TB per month), DT Intra-Region: (0 TB per month)

AWS Shield	No group applied	EU (London)	0.00 USD	3,076.80 USD
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Status: -

Description:

Config summary: Cloud Front Usage (1 TB per month), Elastic Load Balancing (ELB) Usage (1 TB per month)

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. [Learn more](#) 