

Practical case 5

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Task

In this task we will calculate cost management of a project migrated from an on-premise server.

First we will calculate the billing with the specifications given by the client and considering the worst scenario, all instances will be on-demand.

Specifications given by the client are:

- **Cloudfront** traffic will be 2T per month.
- **S3 bucket** storage capacity will be 500G and it will receive 4.000.000 requests per month and it will have a bucket replica in another region.
- **NAT Gateways** have a traffic of 5T per month.
- **Wordpress instances** are 4 and the type is **t3.2xlarge**.
- **EFS** has 1T storage capacity.
- **MySQL database** with main instance and read replica instance, **db.m5.xlarge**. The same thing for **memcached**.
- An **Application Load Balancer**.
- One **Bastion Host**.

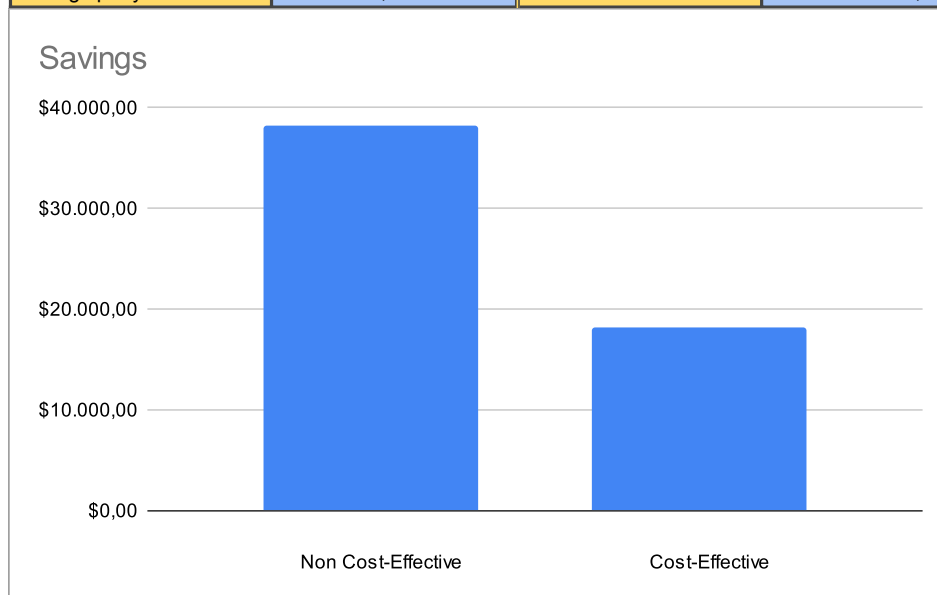
Amazon **Server Migration Service** is free until 2160 hours of use and we estimate that we don't need so much time, so we don't take care of it.

Then we will **improve** this budget by changing instance types with the same or better specifications but more cost-effective and we will change the pricing strategy, we will change **on-demand** for **3 years saving plans**, we'll **RDS with MySQL** for **Aurora** compatible with MySQL and we will omit **bastion host** to use **IAM policies** and **AWS Session Manager** instead, these 2 services are free.

All costs are calculated in the North Virginia region.

AWS Service	Non cost-effective plan price per month	Cost-Effective plan price per month	Cost-Effective plan payments upfront
Cloud Front	87,04\$	87,04\$	-
S3 bucket main	18,10\$	18,10\$	-
S3 bucket replica	11,50\$	11,50\$	-
Nat Gateway	526,50\$	526,50\$	-
Wordpress instances x4	983,78\$	9,60\$	10.617,12\$
EFS	81,92\$	81,92\$	-
Database main	506,22\$	3,53\$	9.512\$
Database read replica	253,11\$	-	-
ElastiCache (Memcache)	454,06\$	0\$	7.030\$
Bastion Host	245,94\$	-	-
Elastic Load Balancer	24,62\$	24,62\$	-
Elastic IP	0\$	0\$	-
Total per month	3.192,79\$	762,81\$	
Total per year	38.313,48\$	9.153,72\$	
Total Upfront Cost			27.159,12\$

Cost per year combining upfront payments		Real payments per year	Non cost-effective	Cost-Effective
Non cost-effective plan	38.313,48\$	1st year	38.313,46\$	36312,84\$
Cost-Effective plan	18.206,76\$	2nd year	38.313,46\$	9.153,72
Savings per year \$	20.106,70\$	3rd year	38.313,46\$	9153,72\$
Savings per year %	47,52%	Total	114.940,44\$	54.620,28\$





Contact your AWS representative:
<https://aws.amazon.com/contact-us/>

Export date: **10/11/2022**

Language: **English**

Estimate title: **Unfavorable scenario**

Estimate URL: <https://calculator.aws/#/estimate?id=a8f90f22bd9860d9027ffe12366c737aeceb9e39>

Estimate summary

Upfront cost

0.00 USD

Monthly cost

3,192.79 USD

Total 12 months cost

38,313.48 USD

Includes upfront cost

Date Range:

Detailed Estimate

Name	Group	Region	Upfront cost	Monthly cost
Amazon Simple Storage Service (S3)	No group applied	US East (N. Virginia)	0.00 USD	18.10 USD
Description: S3 main Config summary: S3 Standard storage (500 GB per month) DT Inbound: Not selected (0 TB per month), DT Outbound: US East (Ohio) (500 GB per month)				
Amazon Simple Storage Service (S3)	No group applied	US East (Ohio)	0.00 USD	11.50 USD
Description: S3 replica Config summary: S3 Standard storage (500 GB per month)				
Amazon Virtual Private Cloud (VPC)	No group applied	US East (N. Virginia)	0.00 USD	526.50 USD
Description: VPC and NAT gateway Config summary: Working days per month (22) Number of NAT Gateways (2)				
Amazon CloudFront	No group applied	US East (N. Virginia)	0.00 USD	87.04 USD
Description: Config summary: Data transfer out to internet (1 TB per month)				
Amazon EC2	No group	US East (N.	0.00 USD	983.78 USD

applied Virginia)

Description: EC2 instances t3.2xlarge x4**Config summary:** Operating system (Linux), Quantity (4), Pricing strategy (On-Demand Instances), Storage amount (30 GB), Instance type (t3.2xlarge)

Amazon RDS for MySQL	No group applied	US East (N. Virginia)	0.00 USD	506.22 USD
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Description: RDS MySQL**Config summary:** Storage for each RDS instance (General Purpose SSD (gp2)), Storage amount (30 GB), Quantity (1), Instance type (db.m5.xlarge), Utilization (On-Demand only) (100 %Utilized/Month), Deployment option (Multi-AZ), Pricing strategy (OnDemand)

Amazon ElastiCache	No group applied	US East (N. Virginia)	0.00 USD	454.06 USD
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Description: Memcached**Config summary:** Nodes (2), Instance type (cache.m5.xlarge), Utilization (On-Demand only) (100 %Utilized/Month), Cache Engine (Memcached), Cache Node Type (Standard), Pricing strategy (OnDemand), Nodes (0), Instance type (cache.r6gd.12xlarge), Utilization (On-Demand only) (100 %Utilized/Month), Cache Engine (Redis), Cache Node Type (Memory optimized), Pricing strategy (OnDemand)

Amazon RDS for MySQL	No group applied	US East (N. Virginia)	0.00 USD	253.11 USD
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Description: RDS MySQL Read Replica**Config summary:** Storage for each RDS instance (General Purpose SSD (gp2)), Storage amount (30 GB), Quantity (1), Instance type (db.m5.xlarge), Utilization (On-Demand only) (100 %Utilized/Month), Deployment option (Single-AZ), Pricing strategy (OnDemand)

Amazon Elastic File System (EFS)	No group applied	US East (N. Virginia)	0.00 USD	81.92 USD
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Description: EFS configuration**Config summary:** Desired Storage Capacity (1 TB per month)

Elastic Load Balancing	No group applied	US East (N. Virginia)	0.00 USD	24.62 USD
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Description: Load Balancer to wordpress**Config summary:** Number of Application Load Balancers (1)

Amazon EC2	No group applied	US East (N. Virginia)	0.00 USD	245.94 USD
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Description: Bastion Host**Config summary:** Operating system (Linux), Quantity (1), Pricing strategy (On-Demand Instances), Storage amount (30 GB), Instance type (t3.2xlarge)

Amazon Elastic IP	No group applied	US East (N. Virginia)	0.00 USD	0.00 USD
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Description: Elastic IP**Config summary:** Number of EC2 instances (1), Number of EIPs per instance (1)

Summary: Number of EC2 instances (1), Number of EBS per instance (1)

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](#) .
