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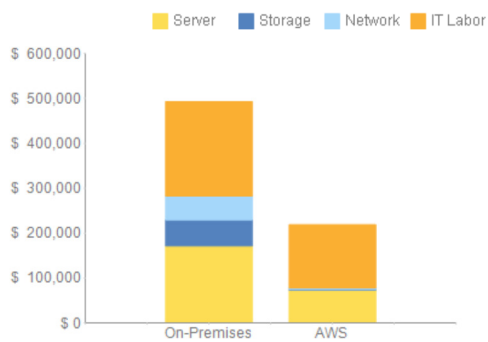
AWS Total Cost of Ownership (TCO) Calculator

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On-Premises vs. AWS Summary

You could save **56%** a year by moving your infrastructure to AWS.Your three year total savings would be **\$ 274,200**.

3 Years Cost Breakdown



3 Yr. Total Cost of Ownership

	On-Premises	AWS
Server	\$ 171,559	\$ 73,399
Storage	\$ 58,263	\$ 1,535
Network	\$ 53,067	\$ 3,755
IT-Labor	\$ 210,000	\$ 140,000
Total	\$ 492,889	\$ 218,689

AWS cost includes business level support

Environment Details

Your On-Premises environment

Environment : Virtual					
# of VMs	vCPU	RAM (GB)	OS	Avg. Utilization	Optimize by
10	2	40	Linux	80%	RAM

Your AWS environment : EU (Ireland)

Closest AWS Instances					
# Instances	Instance	vCPU	RAM (GiB)	Optimize by	Instance type
10	m4.2xlarge	8	32	RAM	3 Yr. Partial Upfront RI

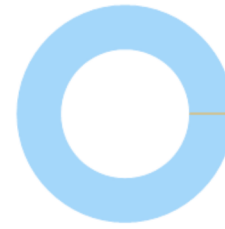
Storage (TB)			Bandwidth (Mbps)	
SAN	NAS	Object	Pipe Size	Peak/Avg. Ratio
1	0	0	100	3

EC2 Instance Mapping Criteria	
Optimize by	Description
CPU	Option matches by VCPU count and then finds the lowest priced EC2 instance from the available choices
RAM	Option matches by RAM size and then finds the lowest priced EC2 instance from the available choices
Storage IO	Option matches by I/O requirements and then finds the lowest priced EC2 instance from the available choices

Cost Breakdown

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Storage



EBS



Network



Calculations

Server

On-Premises - Server Costs

Server Hardware Costs

Virtual Host Sizing for Virtualized Environments

App	# VMs	Host Type	# Cores	RAM	# Servers	VM Density
	10	Host 1	16	96	5	2

Server Hardware Costs

# of Servers	# of Cores	RAM (GB)	Units (U)	Power (KW)	Unit Cost	Unit Discount	Total Cost
5	16	96	10	3.75	\$ 10,189	25%	\$ 38,209
5			10	3.75			\$ 38,209

Total Server Hardware cost \$ 38,209

Server Hardware Maintenance cost for 3 Yrs. (@15%/Yr.) \$ 17,194

Total number of Racks required (1 Rack=42U, 28U occupied by servers, 4U by ToR switches and PDUs) 1

Total Peak power consumed (kW) 3.75

Rack Infrastructure Costs

Rack Chassis with PDU (@\$3500/rack) cost \$ 3,500

PDUs, dual 280V per rack (@\$540 each, 2/rack for HA) cost \$ 1,080

AWS - EC2 Costs

EC2 Instance Costs (3 Yr.) – On-Demand and Reserved Instances

3 Yr. Partial Upfront Reserved Instance

AWS Instance	Upfront	Hourly	Total Costs
m4.2xlarge	\$ 3,364	\$ 0.128	\$ 67,371
Total Cost:			\$ 67,371

Total costs = (upfront cost + hourly cost*8,784 hours/yr.*3 years)* # of instances (Applied to the whole term whether or not you're using the Reserved Instance)

On-Demand

AWS Instance	Upfront	Hourly	Total Costs
m4.2xlarge	\$ -	\$ 0.556	\$ 117,214
Total Cost:			\$ 117,214

Total costs = (hourly cost*8,784 hours*3 years*utilization)* # of instances (Hourly usage fee charged for each hour you use the instance)

Lowest Priced Instance


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Provision for spare servers for 3 Yrs. (@5% spare capacity/Yr.)	\$	8,310
Total Rack costs (rack infrastructure and server hardware)	\$	79,543
Virtualization Software Costs		
Total virtualization license and maintenance cost (3 Yrs.)	\$	-
Total Server Cost (Hardware and Software) - 3 Yr.	\$	79,543
Facilities Costs (data center space, power and cooling)) - On-Premises		
Total Power consumed by servers (kW)		3.75
Metered cost per kWh	\$	0.28
Estimated power cost/month	\$	756.00
Monthly cost to operate a rack	\$	1,800.00
Total rack costs/month	\$	1,800.00
Total monthly Facilities costs	\$	2,556.00
Facilities costs - On-Premises (3 Yr.)	\$	92,016

Server cost break-down

Server cost break-down

Category	Cost	% of Total Cost
Hardware	\$ 79,543	46%
Software	\$ -	0%
Operating Costs (3 Yrs.)	\$ 92,016	54%
Total	\$ 171,559	100%

Total server costs, including operational cost (3 Yr.) **\$ 171,559**

Storage

On-Premises - Storage Costs

Only raw capacity specified, no IO requirements; use HDD by default

SAN Cost

Starting capacity/raw capacity (TB) - user provided	1
Starting capacity/raw capacity (GB)	1,024
Capacity after OS Penalty (~7%, capacity OS recognizes) (GB)	952
Usable capacity based on RAID (RAID 10 assumed) configuration (GB)	476
\$/raw GB purchase price	\$ 4.40
Discounted \$/raw purchase price (50% storage hardware discount applied)	\$ 2.20
Acquisition Cost of SAN storage	\$ 2,253

Storage backup cost

Total amount of storage to be backed up (TB)	1.25
Total amount of storage to be backed up (GB)	1,280
Type of Tape Library used	LTO-5
Max uncompressed speed (MB/s) for Tape Library	140
Max uncompressed speed - TB/day	11.54
Backup Window Time(hr.)	8
TBs processed/drive for backup window	3.85
Number of Tape drives required	1
Tape Library price/drive	\$ 1,800
Backup cost (3 Yr.)	\$ 1,800

Storage Overhead cost (data center space, power, cooling, storage administrator)

Typical TB managed by a storage admin/Yr.	1000
Storage Admin Costs (3 Yr.)	\$ 210

Amount of TBs hosted by a single rack (TB)	1500
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Instance	Cost	Type			
m4.2xlarge	\$ 67,371	3 Yr. Partial Upfront RI			
Total Cost:	\$ 67,371				
EC2 Reserved Instances					
AWS Instance	Instance type	# Instances	Upfront fee	Hourly	Total Cost
m4.2xlarge	3 Yr. Partial Upfront RI	10	\$ 3,364	\$ 0.128	\$ 67,371
Total fee				\$	67,371
Discount Tier Applicable					0%
AWS Business Support (EC2)				\$	6,028
EC2 Costs (3 Yr.) after discount and support				\$	73,399

AWS - Storage Costs

EBS Storage - Only Standard EBS used with no IOPS requirements

EBS Costs - Equivalent to On-Premises SAN environment

Starting capacity (GB)	476.16
Equivalent EBS storage volume	General Purpose (Magnetic)
Number of EBS volumes required	1
EBS volumes cost/month	\$ 26.19
Initial snapshot cost(one-time)	\$ 45.24
EBS incremental snapshots cost/month	\$ 11.31
Total EBS cost /month	\$ 37

EBS Costs (3 Yr) - no IOPS **\$ 1,395**

EBS Costs (3 Yr.) **\$ 1,535**

AWS Business Support (EBS) **\$ 140**

Total AWS Storage Costs (3 Yr.) including support **\$ 1,534.66**

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Total data center space, power, cooling costs (3 Yr.) \$ 54,000

Storage cost break-down

Storage cost break-down

Category	Cost	% of Total Cost
Raw Capacity (Incl. IOPS)	\$ 2,253	4%
Backup	\$ 1,800	3%
Overhead (excl. storage admin)	\$ 54,000	93%
Storage Admin	\$ 210	0%
Total	\$58,263	100%

Total Storage Costs (3 Yr.) \$ 58,263

Network

On-Premises - Networking Costs

Networking Hardware and Software Costs

Network overhead cost as a % of server hardware acquisition cost	20%
Network hardware and software cost	\$ 15,908.62
Network hardware and software maintenance/Yr.	15%
Maintenance cost (3 Yr.)	\$ 7,158.88
Total Network Hardware and Software costs (3 Yr.)	\$ 23,067

Bandwidth Costs (On-Premises)

Size of Network Pipe (Mbps)	100
Peak/Avg. Ratio	3
Average Bandwidth	33.33
On-premises Bandwidth costs/Mbps	\$ 11.00
Bandwidth costs/month	\$ 366.67
Avg. data transferred per month (TB)- Inbound + Outbound	10.3
Avg. data transferred per month (TB)- North/South	2.06
Avg. data transferred per month (TB) - Outbound	1.03

Bandwidth costs - On-Premises (3 Yr.) \$ 13,200

Network Admin Costs

Network admin effort as % of total IT admin effort	8%
Avg. burdened salary for your Network Admin	\$ 70,000
IT labor cost (1 Yr.)	\$ 70,000
Network admin costs (1 Yr.)	\$ 5,600
Network admin costs (3 Yr.)	\$ 16,800

Total Networking Costs (3 Yr.) \$ 53,067

AWS - Data Transfer Costs

Monthly Data Transfer Out (TB)

1.03

Data Transfer Costs			
	EU (Ireland)	Tier(GB)	Monthly Cost
First 1 GB per month	\$ -	1	\$ -
Up to 10 TB per Month	\$ 0.09	1054	\$ 94.83
Next 40 TB per Month	\$ 0.09	0	\$ -
Next 100 TB per Month	\$ 0.07	0	\$ -
Over 350 TB per Month	\$ 0.05	0	\$ -

Total monthly data transfer costs \$ 94.83

AWS Business Support (data transfer) \$ 341

Data Transfer Costs (3 Yr.) including support \$ 3,755

IT Labor

On-Premises - IT Labor Costs

Number of VMs managed by an Admin	10
Avg. burdened salary for your IT Admin	\$ 70,000
Number of VMs in your current environment	10
Admin effort required for your current environment	100%
IT labor costs (1 Yr.)	\$ 70,000

Total IT Admin Costs -based on number of VMs / Servers (3 Yr.) \$ 210,000

AWS - IT Labor Costs

# of EC2 instances managed by an admin	15
Avg. burdened salary for your IT Admin	\$ 70,000
# of EC2 instances in your environment	10
Admin effort Required for your current environment	67%
IT labor costs (1 Yr.)	\$ 46,667

Total IT Admin Costs -based on number of VMs / Servers (3 Yr.) \$ 140,000

AWS Support

AWS - Support Costs

Monthly EC2 Spend	\$ 936.97
Monthly EBS Spend	\$ 38.75
Monthly S3 Spend	\$ -
Monthly S3IA Spend	\$ -
Monthly Data Transfer Spend	\$ 94.83

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10% of monthly AWS usage for the first \$0 – \$10K

\$ 107.06

7% of monthly AWS usage from \$10K – \$80K

\$ -

5% of monthly AWS usage from \$80K – \$250K

\$ -

3% of monthly AWS usage over \$250K

\$ -

Monthly AWS Support cost for all services**\$ 107****AWS Support cost for all services (3 Yr.)****\$ 3,854****EC2 Reserved Instances Upfront cost after discount****\$ 33,640****Support Costs - Reserved Instances****Business Level Support****Cost**

10% of monthly AWS usage for the first \$0 – \$10K

\$ 1,000.00

7% of monthly AWS usage from \$10K – \$80K

\$ 1,654.80

5% of monthly AWS usage from \$80K – \$250K

\$ -

3% of monthly AWS usage over \$250K

\$ -

AWS Reserved Instance Support cost (One- Time)**\$ 2,655****Total AWS Support cost (Business) - 3 Yr.****\$ 6,509**[Collapse](#)**Methodology****Assumptions****FAQ**

This Calculator provides an estimate of usage charges for On-Premises/Colocation and equivalent AWS services based on the information you provide. AWS monthly charges will be based on your actual usage of AWS services, and may vary from the estimates the Calculator has provided. [Give us your feedback](#)

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