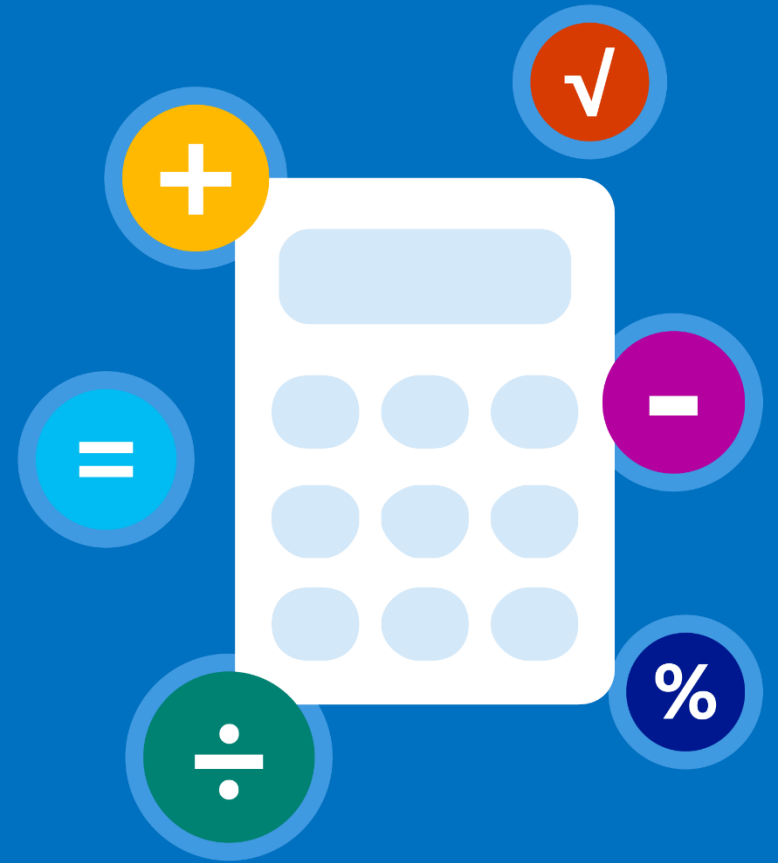# Azure
Total Cost of Ownership (TCO) summary

Prepared for
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April 2018

Microsoft

Assumptions and inputs

Compute

Physical servers

# Servers	OS	Proc(s) per server	Total cores	RAM (GB)	Optimize by	GPU
100	Linux	2	8	56	CPU	None

Virtual machines

# VMs	OS	Virtualization	Core(s)	RAM (GB)	Optimize by

Storage

Storage type	Disk type	Capacity	Backup	Archive	Accessibility %
Local Disk/SAN	HDD	1 TB	0 TB	0 TB	100

Networking

Outbound bandwidth (GB)/Month

5 GB

Azure region

US East 2

Your estimated savings are **$ 2,591,689 (71%)** over **3** year(s) with Microsoft Azure.

On-Premises vs. D5v2 Azure Costs
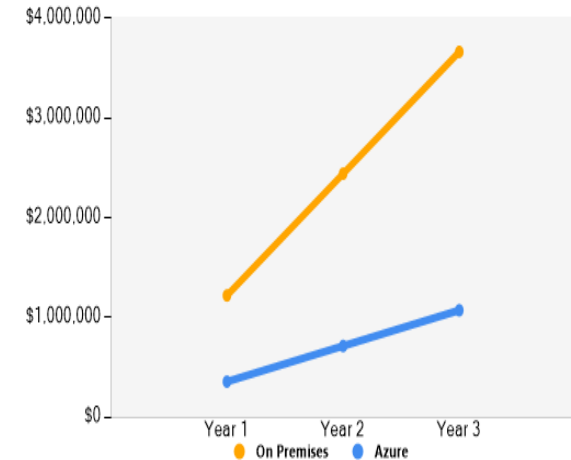
On-premises cost breakdown summary

Category	Costs
Compute	$2,436,108
Hardware	$2,256,800
Software	$0
Electricity	$179,308
Data Center	$470,646
Networking	$677,076
Storage	$2,662
IT labor	$78,398
Total	**$3,664,890**

Azure cost breakdown summary

Category	Web direct cost	1 Year Reserved VM	3 Years Reserved VM
Compute	$2,407,248	$1,563,600	$1,013,700
Data center	$0	$0	$0
Networking	$0	$0	$0
Storage	$921	$921	$921
IT labor	$58,581	$58,581	$58,581
Total	$2,466,750	$1,623,102	$1,073,202

*The Azure Compute pre-purchase (CPP) plan offers you discounts up to 63 percent off standard prices on virtual machines in Azure, for an upfront pre-purchase of 12 months of a particular instance (instance family, size, region, and operating system).

Estimated on-premises cost (three years) vs. estimated Azure cost (three years)

Compute cost

Hardware cost

Physical Servers Costs	
Cost per 2 proc 8 core, 64GB RAM physical server	$14,105
Number of server(s) required	100
Total cost for physical server(s)	**$1,410,500**
Cost of maintaining physical server(s) - 20% of cost of physical server(s)	$282,100
Total cost of maintaining server(s) over 3 year(s)	**$846,300**
Total hardware costs over 3 year(s)	**$2,256,800**

Software cost

Physical Servers Costs	
Total Windows licensing costs over 3 year(s)	**$0**

Electricity cost

Price of electricity per kWh	$0.1
Physical Servers Costs	
Power rating of 2 proc 8 core, 64 GB RAM server	682 Watts
Total electricity cost consumed by 100server(s) - 2 proc, 8 core, 64 GB RAM server per month	$4,978.60
Total electricity costs over 3 year(s)	**$179,308**

Web direct cost

Number of hours per month	730
Average utilization	100%
Physical Servers Costs	
D5v2 Standard (16 vCPU, 56 GB RAM)Linux	$0.916/ hr
	SKU# 997-02661
Number of virtual machine(s) needed	100
Total virtual machine costs per month	**$66,868**
Total web direct virtual machine costs over 3 year(s)	**$2,407,248**

1 Year Reserved VM

Number of hours per month	730
Average utilization	100%
Physical Servers Costs	
DS5v2 Standard (16 vCPU, 56 GB RAM)Linux	$0.595/ hr
Number of virtual machine(s) needed	100
Total 1-Year Reserved Cost over3 year(s)	**$1,563,600**

3 Years Reserved VM

Number of hours per month	730
Average utilization	100%
Physical Servers Costs	

DS5v2 Standard (16 vCPU, 56 GB RAM)Linux	$0.386/ hr
Number of virtual machine(s) needed	100
Total 3-Year Reserved Cost over 3 years	**$1,013,700**

Total compute cost over 3 year(s)	**$2,436,108**	**Total Azure compute cost over 3 year(s)**	**$1,013,700**

Datacenter cost

Data center Compute cost

Total Azure Data center costs over 3 year(s) $0

Number of rack units per rack	42
Physical Servers Costs	
Total number of rack units required	400
Total number of rack units required for all server(s)	400
Number of racks required	10
Data Center construction cost per rack amortized over 20 years	$14,262
Total Data center compute costs over 3 year(s)	**$427,860**

Data center storage cost

Rack mounting/installation cost	$14,262
Total Data center storage costs over 3 year(s)	**$42,786**

Total Data Center cost over 3 year(s)	$470,646		Total Azure Data center costs over 3 year(s)	$0

Networking cost

Networking cost

Total hardware + software costs over 3 year(s)	$2,256,800
Network hardware and software costs assumed to be 25% of hardware and software costs over 3 year(s)	$564,200
Network maintenance cost assumed to be 20% of network hardware and software costs over 3 year(s)	$112,840
Service provider cost/GB per month	$0.20
Amount of bandwidth needed (GB) per month	5
Total service provider cost per month	**$1**
Total network hardware and software cost over 3 year(s)	**$677,076**

Total estimated on-premises networking cost over 3 year(s)	**$677,076**

Azure Networking cost

Total outgoing bandwidth needed/month	5
Total outgoing bandwidth cost/month	$0
Total networking cost for 5 GB / Month over 3 year(s)	**$0**

Total estimated Azure networking cost	**$0**

Storage cost

Storage cost

Hardware infrastructure

Local Disk/SAN-HDD

Cost per GB	$2
Amount of HDD (RAID 10) storage needed (TB)	1,024.00
Total storage procurement cost over 3 year(s)	**2,048**

Storage maintenance

Storage maintenance cost (% of storage procurement cost) over 3 year(s)	**$614**
Total storage maintenance over 3 year(s)	**$614**

Total estimated on-premises storage cost	**$2,662**

Azure storage cost

Storage maintenance

Page Blob storage - LRS

Usable storage volume (RAID 10 configuration) in GB	512.00
Storage cost per GB	$0.05
Annual storage cost per usable volume	**$307**
Number of storage transactions required per usable volume	5,000
Azure page blob transaction pricing per 10000 transactions	$0.00036
	SKU# N9H-00439
Total annual transactions cost	**$0**
Total LRS storage maintenance cost over 3 year(s)	**$921**

Total estimated Azure storage cost	**$921**

IT labor cost

On-premises IT labor cost

Number of IT admin hour(s) needed per year	522.66
Hourly rate for IT administrator	$50

Azure IT labor cost

Number of IT admin hour(s) needed per year	390.53
Hourly rate for IT administrator	$50.00

Total estimated on-premises IT labor cost	**$78,398**

Total on-premises cost over 3 year(s)	**$3,664,890**

Total estimated Azure IT labor cost	**$58,581**

Total Azure cost over 3 year(s)	**$1,073,202**

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