Total Cost of Ownership (TCO) Calculator

Estimate the cost savings you can realize by migrating your workloads to Azure

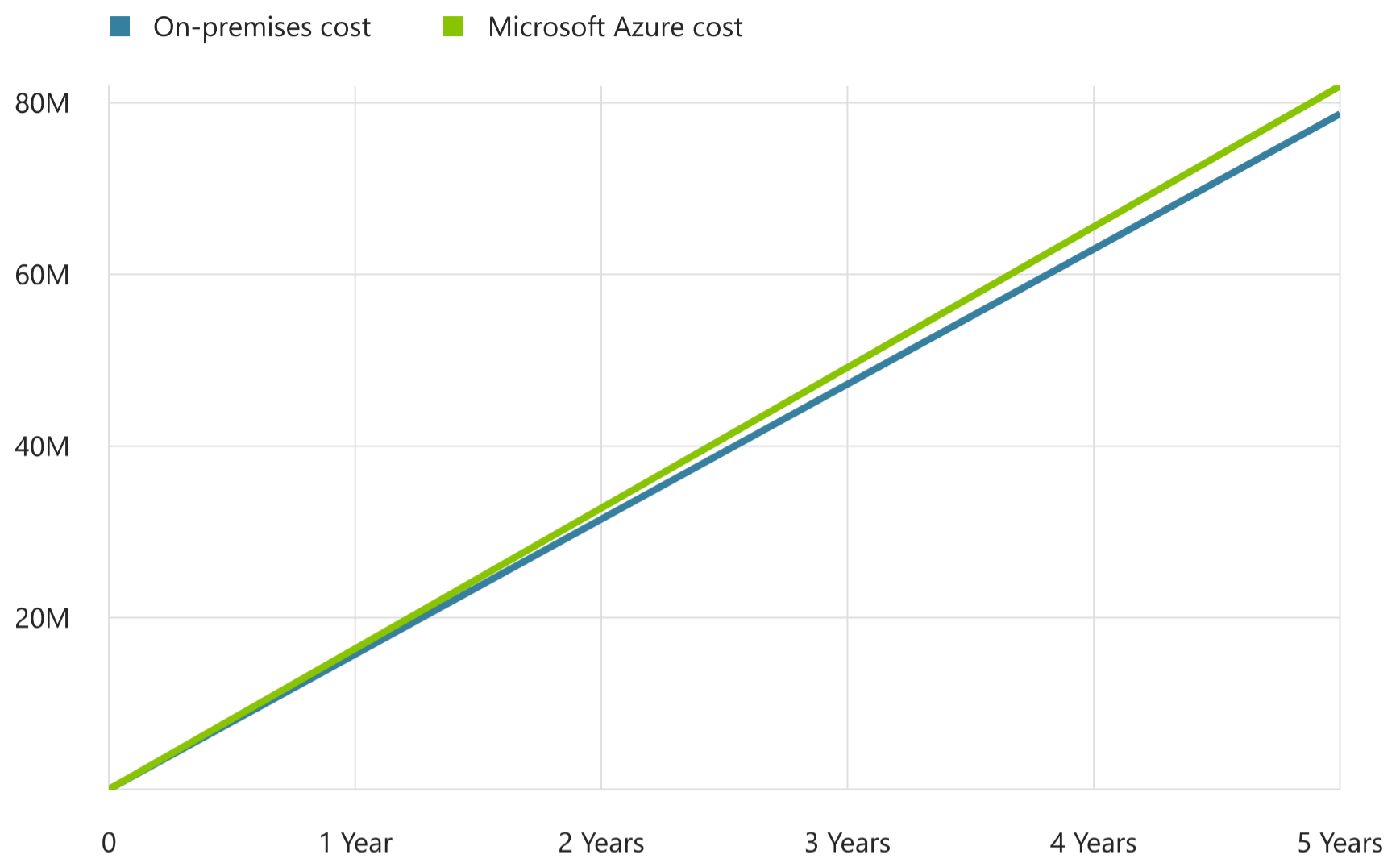## According to your inputs, it looks like there are no cost savings in this instance.

Here are other ways Azure could help lower your costs:

- Rightsize your infrastructure as you migrate to the cloud for substantial savings. Explore Azure Migrate (/en-us/services/azure-migrate/) to analyze your environment and get intelligent recommendations for your cloud infrastructure.

- Consider replatforming your applications to save costs. Save more by moving to managed services like Azure App Service or Azure SQL Database, which costs less and have smaller management costs.

- Using lower cost Azure regions with the same services can lead to lower TCO. From the View Report section, explore some nearby Azure regions to model your cost savings.

- Take advantage of additional discount programs when you enroll in an Enterprise Agreement with Microsoft. Please contact your Microsoft sales representative for more information.

Over 5 year(s) with Microsoft Azure, your estimated cost savings could be as much as $0
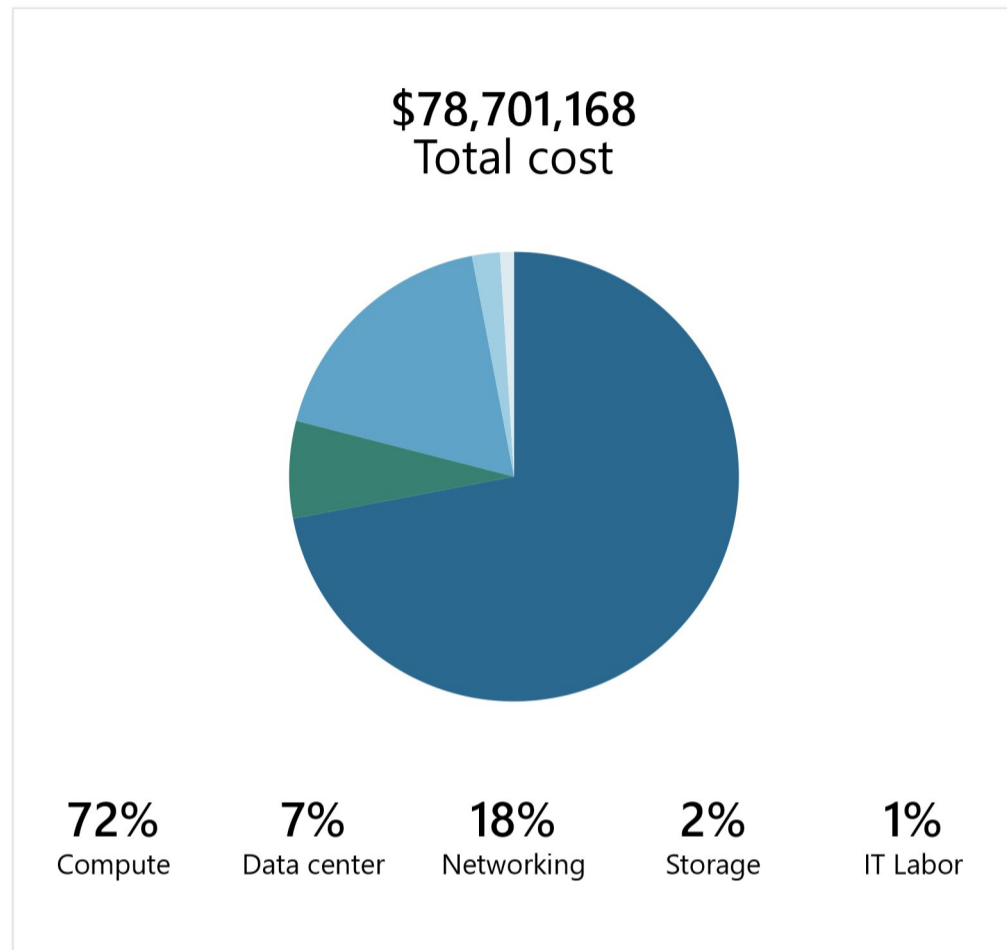
Total on-premises vs. Azure cost over time

Savings from running workloads in Azure accrue over time. The following shows how those savings add up over years.
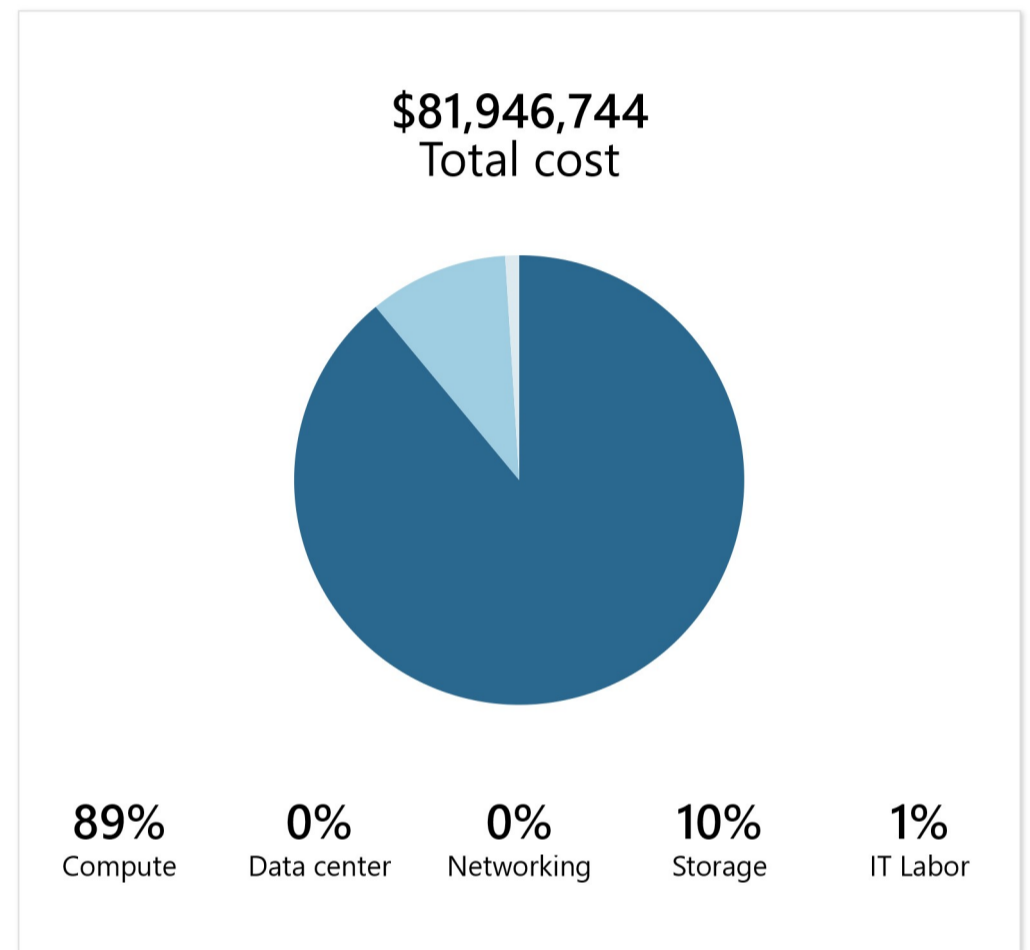
On-premises cost   **Microsoft Azure cost**

	0	1 Year	2 Years	3 Years	4 Years	5 Years
80M						
60M						
40M						
20M						

Total on-premises over 5 year(s)

TCO of on-premises environments tends to be driven by compute and data center costs.

Total Azure cost over 5 year(s)

In Azure, certain cost categories decrease or go away completely.

$78,701,168
Total cost

72%	7%	18%	2%	1%
Compute	Data center	Networking	Storage	IT Labor

$81,946,744
Total cost

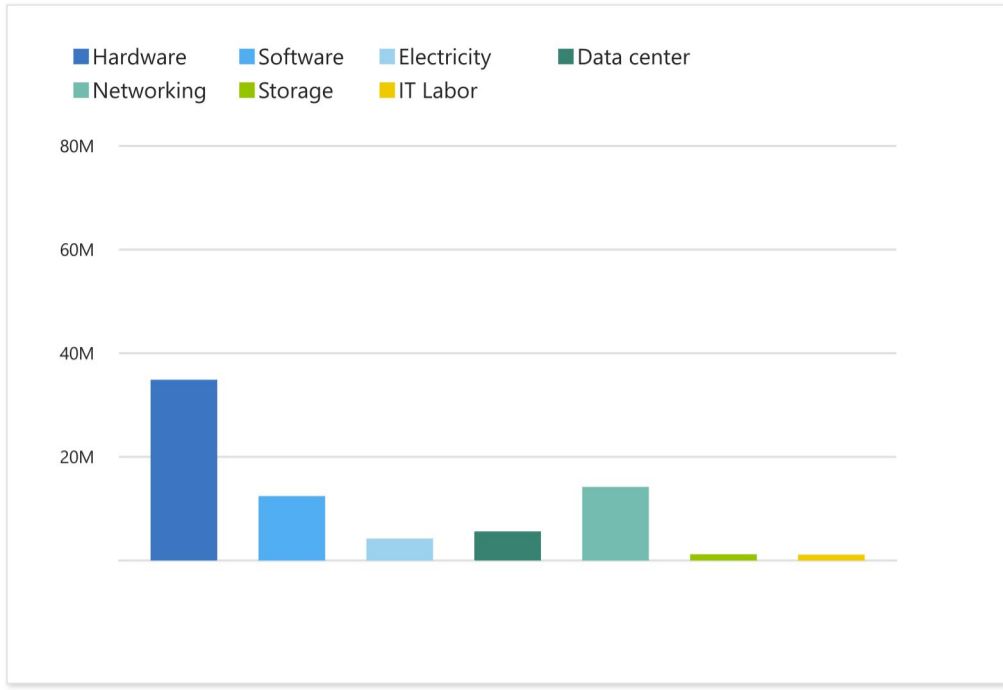| 89%	0%	0%	10%	1%
Compute	Data center	Networking	Storage	IT Labor

Total on-premises cost breakdown

In Azure, several of the cost categories from the on-premises environment are consolidated and decrease with the efficiency that comes with the cloud.

Total Azure cost breakdown
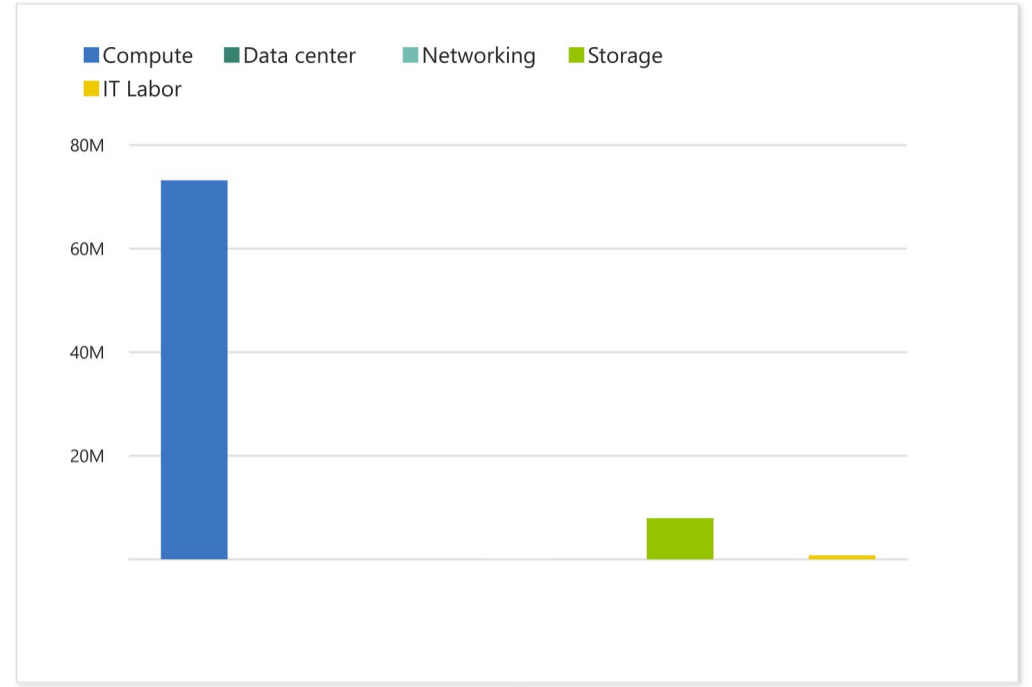
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$78,701,168
Cost over 5 year(s)

$81,946,744
Cost over 5 year(s)

On-premises cost breakdown summary

Azure cost breakdown summary

Category	Cost
Compute	$56,538,390.00
Hardware	$34,887,940.00
Software	$12,433,100.00
Electricity	$4,231,140.00
Virtualization	$339,960.00
Database	$4,646,250.00
Data Center	$5,616,487.80
Networking	$14,208,600.00
Storage	$1,207,200.00
IT Labor	$1,130,490.00

Category	Cost
Compute	$73,202,940.00
Data Center	$0.00
Networking	$6,114.00
Storage	$7,962,495.36
IT Labor	$775,195.00

Total	$78,701,168.00

Total	$81,946,744.00

Estimated on-premises cost (5 year(s))

Estimated Azure cost (5 year(s))

Compute cost

Azure compute cost

Hardware cost

Cost per 4 proc 8 core, 112 GB RAM physical server for Windows	$21,558.00
Number of servers required	800
Total cost for physical server(s)	$17,246,400.00
Cost of maintaining physical server(s) - 20% of cost of physical server(s)	$3,449,280.00
Virtual machine density - Number of virtual cores that can be created per physical core	2
Cost per 4 proc 32 core, 2000 GB RAM virtualization server for Windows	$98,785.00
Number of servers needed for 100 virtual machine(s) - 400 core, 8 GB RAM	2
Total cost for virtualization server(s)	$197,570.00
Cost of maintaining virtualization server(s) - 20% of cost of virtualization server(s)	$39,514.00
Total cost of maintaining server(s) over five year(s)	$17,443,970.00

Total hardware cost over five year(s)	$34,887,940.00

Software cost

Cost of Windows data center license per 8 core, 112 GB RAM physical machine	$12,310.00
Number of licenses needed	800
Cost of Windows data center license per 32 core, 2000 GB RAM virtualization server	$49,240.00

Virtual Machines cost

Number of hours per month	730
D32v3 Standard (32 core, 128 GB RAM) Windows (Azure Hybrid Benefit)	SKU# AAA-54275
Number of virtual machines	800
Total virtual machine cost per month	$1,211,216.00

Total Azure Virtual Machines cost	$72,672,960.00

SQL Database cost

Single Standard S2	$0.12100 /hr
	SKU# AAA-15712
Instance Count	100
Cost Per Month	$88.33

Total SQL Database cost over five year(s)	$529,980.00

Number of servers needed for 100 virtual machine(s) - 400 core, 8 GB RAM	2
Total software license cost	$9,946,480.00
Total Software Assurance cost	$2,486,620.00
Total software cost over five year(s)	**$12,433,100.00**

Electricity cost

Price of electricity per kWh	$0.10
Power rating of 8 core, 112 GB RAM server	1,200 Watts
Total electricity cost consumed by 800 server(s) - 8 core, 112 GB RAM server per month	$70,080.00
Power rating of 32 core, 2000 GB RAM server	3,006.9 Watts
Total electricity cost for 2 server(s) - 32 core, 2000 GB RAM server per month	$439.00
Total electricity cost over five year(s)	**$4,231,140.00**

Virtualization cost

Virtualization software license cost	$27,960.00
Per virtual machine, per month, cost to load balance, backup and patch virtual machines	$52.00
Number of virtual machines	100
Virtual machine management cost per month	$5,200.00
Virtual machine management cost per year	$62,400.00
Total virtualization cost over five year(s)	**$339,960.00**

SQL Database cost

Total CPU cores	400
SQL Server Standard License cost per 2 cores	$3,717.00
Standard cores	400
Total license cost	$3,717,000.00
Standard Software Assurance cost per 2 cores	$929.25
Standard cores	400
Total Software Assurance cost	$929,250.00
Total SQL Database cost over five year(s)	**$4,646,250.00**

NOTE: A minimum of four core licenses are required for each physical processor on the server or VM

Total cost over five year(s)	**$56,538,390.00**

Total Azure compute cost over five year(s)	**$73,202,940.00**

Data center cost

Azure data center cost

Compute cost

Number of rack units per rack	42	
Rack units required per 8 core, 112 GB RAM server	4	
Number of 8 core, 112 GB RAM server	800	
Total number of rack units required	3,200	
Rack units required per 32 core, 2000 GB RAM server	4	Total Azure data center cost over five year(s)
Number of 32 core, 2000 GB RAM server	2	
Total number of rack units required	8	
Total number of rack units required for all server(s)	3,208	
Data center construction cost per rack unit amortized over 20 years	$339.57	
Data center compute cost	$1,089,340.56	

Total Azure data center cost over five year(s) — $0.00

Total Data center compute cost over five year(s)	**$5,446,702.80**

Storage cost

Total number of rack units required for all storage	100
Number of rack units for DAS or SAN	100
Rack mounting/installation cost	$33,957.00

Total Data center storage cost over five year(s)	**$169,785.00**

Total Data center cost over five year(s)	**$5,616,487.80**

Total Azure data center cost over five year(s)	$0.00

Networking cost

Azure networking cost

Total hardware + software cost over five year(s)	$47,321,040.00
Network hardware and software cost assumed to be 25% of hardware and software cost over five year(s)	$11,830,260.00
Network maintenance cost assumed to be 20% of network hardware and software cost over five year(s)	$2,366,052.00

Total outgoing bandwidth needed per month	1 TB
Total outgoing bandwidth cost per month	$101.90

Service provider cost/GB per month	$0.20
Amount of bandwidth needed (GB) per month	1,024
Total service provider cost per month	$204.80

Total networking cost over five year(s)	**$14,208,600.00**

Total Azure networking cost over five year(s)	$6,114.00

Storage cost

Hardware

Local Disk/SAN-HDD

Cost per GB	$2.00
Storage (RAID 10 configuration) volume in GB (GRS enabled Storage volume doubled to provide geo-redundant capability)	102,400

Total storage procurement cost	**$204,800.00**

Backup

Total backup and archive volume in GB	1,228,800
	HP LTO-7 BB873A
Backup volume per tape in TB	6
Number of Tape drives required	200
Cost per Tape Drive	$4,500.00

Backup and Archive cost over five year(s)	**$900,000.00**

Storage Maintenance

Storage maintenance cost (10% of storage procurement cost) over five year(s)	$102,400.00

Total storage maintenance cost over five year(s)	**$102,400.00**

Total storage cost over five year(s)	**$1,207,200.00**

Azure storage cost

Page Blob storage

Usable storage volume in GB	51,200
Storage cost per GB/month	$0.069
Annual storage cost per usable volume	$42,393.60

Total Page Blob GRS storage maintenance cost over five year(s)	**$211,968.00**

Backup

Total backup and archive volume in GB	1,228,800
Storage cost per GB	$0.16
	SKU# AAA-70201

Backup and Archive maintenance cost over five year(s)	**$7,750,527.36**

Total Azure storage cost over five year(s)	**$7,962,495.36**

IT labor cost

Number of IT admin hour(s) needed per year	4,521.96
Hourly rate for IT administrator	$50.00

Total IT labor cost over five year(s)	**$1,130,490.00**

Azure IT labor cost

Number of IT admin hour(s) needed per year	3,100.78
Hourly rate for IT administrator	$50.00

Total Azure IT labor cost over five year(s)	**$775,195.00**

Total on-premises cost over five year(s) $78,701,168.00

Total Azure cost over five year(s) $81,946,744.00

A total **savings** of $0.00   with **Microsoft Azure**