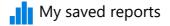
# Total Cost of Ownership (TCO) Calculator

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

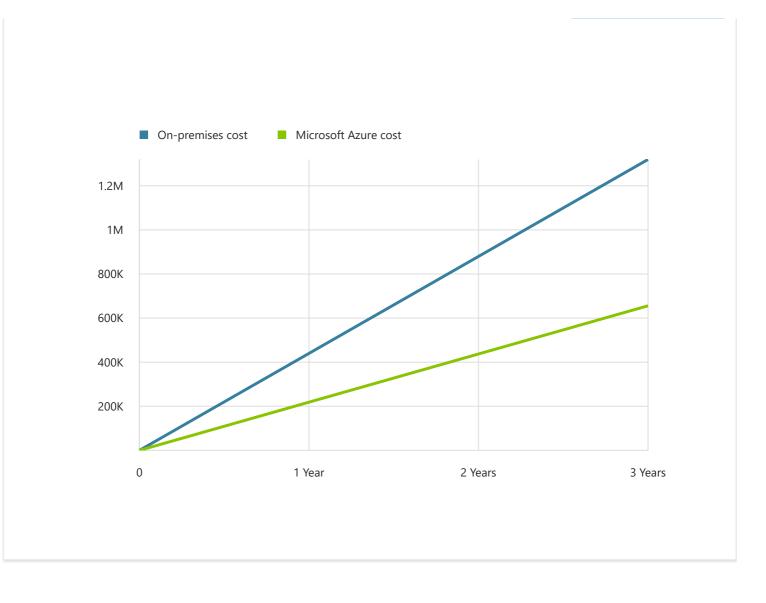




# Over 3 year(s) with Microsoft Azure, your estimated cost savings could be as much as $\$663,\!656$

#### 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.



# Total on-premises over 3 year(s)

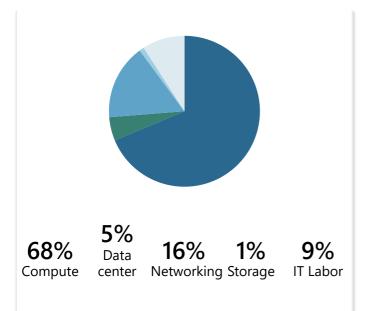
TCO of on-premises environments tends to be driven by compute and data center costs.

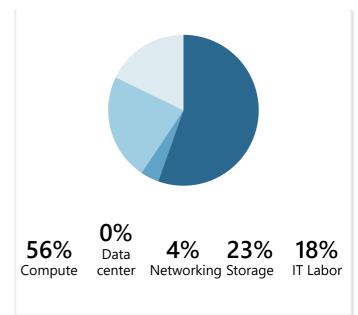
# Total Azure cost over 3 year(s)

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

**\$1,319,436** Total cost

**\$655,780** Total cost



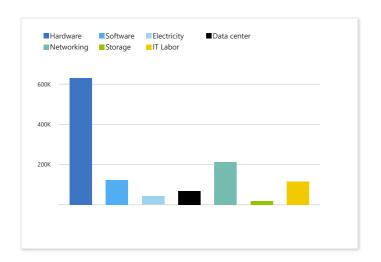


# Total on-premises cost breakdown

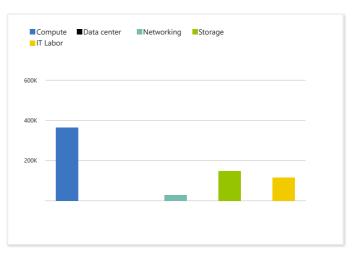
In Azure, several of the cost categories from the on-premises environment are consolidated and decrease with the efficiency that comes with the cloud.

#### Total Azure cost breakdown

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



\$1,319,436 Cost over 3 year(s)



\$655,780 Cost over 3 year(s)

On-premises cost breakdown summary

Azure cost breakdown summary

Category	Cost
Compute	\$903,106.08

Category	Cost
Category	Cos

Hardware Software Electricity Virtualization	\$632,224.00 \$123,100.00 \$42,166.08 \$105,616.00	Compute  Data Center  Networking	\$364,284.00 \$0.00 \$27,639.00
Data Center	\$68,917.56	Storage	\$148,856.83
Networking	\$213,237.39	IT Labor	\$115,000.23
Storage	\$19,174.40		
IT Labor	\$115,000.23		

Total	\$1,319,436.00
Total	Ψ1,515,150.00

Total \$655,780.00

Estimated on-premises cost (3 year(s))

Estimated Azure cost (3 year(s))

Compute cost

### Azure compute cost

#### Hardware cost

Virtual machine density - Number of virtual cores that can be created per physical core	3
Cost per 4 proc 32 core, 2000 GB RAM virtualization server for Windows	\$98,785.00
Number of servers needed for 50 virtual machine(s) - 8 core, 16 GB RAM	2
Cost per 4 proc 32 core, 2000 GB RAM virtualization server for Linux	\$98,785.00
Number of servers needed for 50 virtual machine(s) - 8 core, 16 GB RAM	2
Total cost for virtualization server(s)	\$395,140.00
Cost of maintaining virtualization server(s) - 20% of cost of virtualization server(s)	\$79,028.00
Total cost of maintaining server(s) over three year(s)	\$237,084.00
Total hardware cost over three year(s)	\$632,224.00
Software cost	
Cost of Windows datacenter license per 4 proc, 32 core, 2000 GB RAM virtualization server	\$49,240.00
Number of servers needed for 50 virtual machine(s) - 8 core, 16 GB RAM	2
Total software license cost	\$98,480.00
Total Software Assurance cost	\$24,620.00

#### **Virtual Machines cost**

Number of hours per month	730
F8sv2 Standard (8 core, 16 GB RAM) Windows (Azure Hybrid Benefit)	SKU# AAD- 10155
Number of virtual machines Total virtual machine cost per	50 \$5,059.50
month	\$5,059.50
F8sv2 Standard (8 core, 16 GB RAM) Linux Number of virtual machines Total virtual machine cost per month	SKU# AAD- 10188 50 \$5,059.50

# Total Azure Virtual Machines \$364,284.00

NOTE: For Azure compute costs, one 3 year Reserved VM in use.

Total software cost over three year(s)	\$123,100.00
Electricity cost	
Price of electricity per kWh	\$0.1334
Power rating of 32 core, 2000 GB RAM server Total electricity cost for 2	3,006.9 Watts
server(s) - 32 core, 2000 GB RAM server per month	\$585.64
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	\$585.64
Total electricity cost over three year(s)	\$42,166.08
	\$42,166.08
three year(s)	\$ <b>42,166.08</b> \$10,144.00
Virtualization cost Virtualization software license	
Virtualization cost  Virtualization software license cost  Per virtual machine, per month, cost to load balance, backup and patch virtual	\$10,144.00
Virtualization cost  Virtualization software license cost  Per virtual machine, per month, cost to load balance, backup and patch virtual machines	\$10,144.00 \$26.52
Virtualization cost  Virtualization software license cost  Per virtual machine, per month, cost to load balance, backup and patch virtual machines  Number of virtual machines  Virtual machine management	\$10,144.00 \$26.52

Total cost over three year(s) \$903,106.08

Total Azure compute cost over three year(s)

\$364,284.00

# Azure data center cost

\$0.00

Compute cost		
Number of rack units per rack	42	Total Azure data center cost
Rack units required per 32	4	over three year(s)
core, 2000 GB RAM server Number of 32 core, 2000 GB		
RAM server Total number of rack units	2	
required	8	
Rack units required per 32 core, 2000 GB RAM server	4	
Number of 32 core, 2000 GB RAM server	2	
Total number of rack units	8	
required	· ·	
Total number of rack units required for all server(s)	16	
Data center construction cost per rack unit amortized over 20 years	\$302.27	
Data center compute cost	\$4,836.32	
Total Data center compute cost over three year(s)	\$14,508.96	
Storage cost		
Total number of rack units	60	
required for all storage Number of rack units for	60	
DAS or SAN		
Rack mounting/installation cost	\$18,136.20	
Total Data center storage cost over three year(s)	\$54,408.60	

\$68,917.56

Total Data center cost over three year(s)

# **Networking cost**

# Azure networking cost

		over three year(s)	<del>+</del> 21,000.00
Total networking cost over three year(s)	\$213,237.39	Total Azure networking cost	\$27,639.00
Total service provider cost per month	\$2,304.00		
Service provider cost/GB per month Amount of bandwidth needed (GB) per month	\$0.15 15,360		
Network maintenance cost assumed to be 15% of network hardware and software cost over three year(s)	\$16,994.79		
Network hardware and software cost assumed to be 15% of hardware and software cost over three year(s)	\$113,298.60	Total outgoing bandwidth needed per month  Total outgoing bandwidth cost per month	15 TB \$767.75
Total hardware + software cost over three year(s)	\$755,324.00		

# Storage cost

#### Azure storage cost

Н	la	rd	l۱۸	ıa	re
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Local Disk/SAN-HDD	
Cost per GB	\$0.20
Storage (RAID 10 configuration) volume in GB	61,440

# Page Blob storage

Usable storage volume in GB	30,720
Storage cost per GB/month	\$0.045
Annual storage cost per usable volume	\$16,588.80

Total storage procurement cost	\$12,288.00	Total Page Blob LRS storage maintenance cost over three year(s)	\$49,766.4
Backup		Backup	
Total backup and archive volume in GB	122,880 HP LTO-7	Total backup and archive volume in GB	122,88
Backup volume per tape in	BB873A	Storage cost per GB	\$0.022
TB Number of Tape drives required	6 20		SKU# AAI 3183
Cost per Tape Drive	\$160.00		
Backup and Archive cost over three year(s)	\$3,200.00	Backup and Archive maintenance cost over three year(s)	\$99,090.4
Storage Maintenance			
Storage maintenance cost (10% of storage procurement cost) over three year(s)	\$3,686.40		
Total storage maintenance cost over three year(s)	\$3,686.40		
Total storage cost over three year(s)	\$19,174.40	Total Azure storage cost over	\$148,856.8
IT labor cost		Azure IT labor cost	<u>'</u>
		Azure ii lubor cost	
Number of IT admin hour(s) needed per year Hourly rate for IT administrator	1,666.67 \$23.00	Number of IT admin hour(s) needed per year Hourly rate for IT administrator	1,666.6 \$23.0

Total IT labor cost over three \$115,000.33

year(s) \$113,000.23
Total Azure IT labor cost over three year(s)

r \$115,000.23

Total on-premises cost over three year(s)

\$1,319,436.00

Total Azure cost over three year(s)

\$655,780.00

A total savings of \$663,656.00 with Microsoft Azure