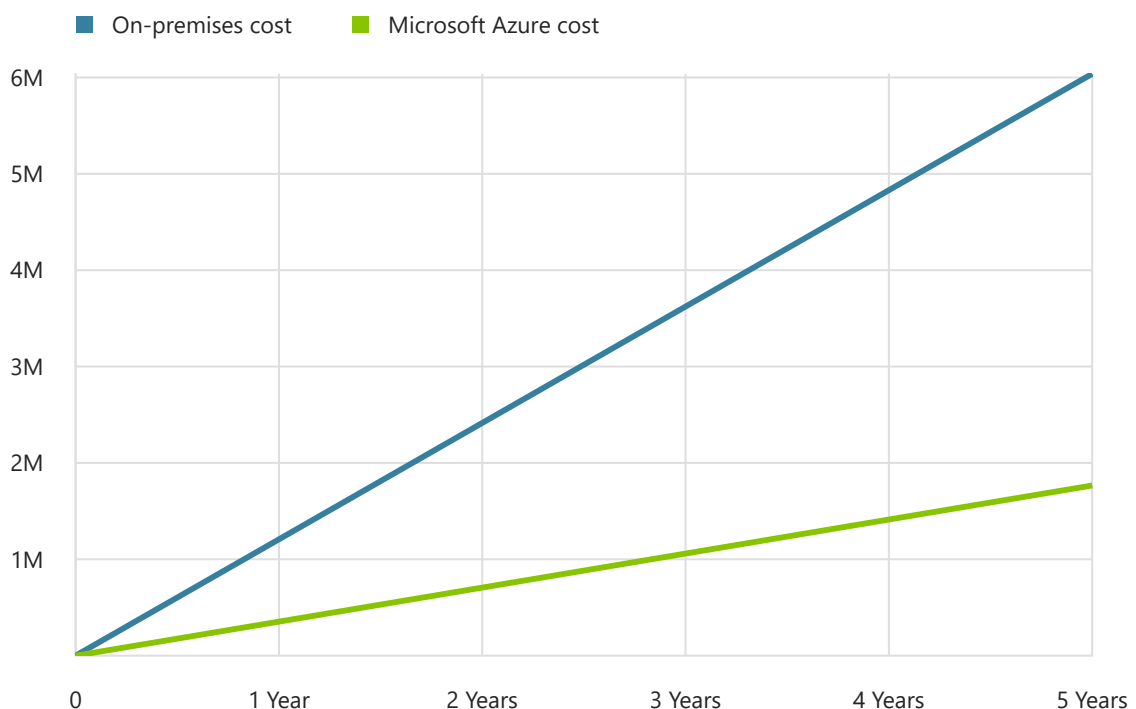# Total Cost of Ownership (TCO) Calculator

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

# Over 5 year(s) with Microsoft Azure, your estimated cost savings could be as much as $4,271,759
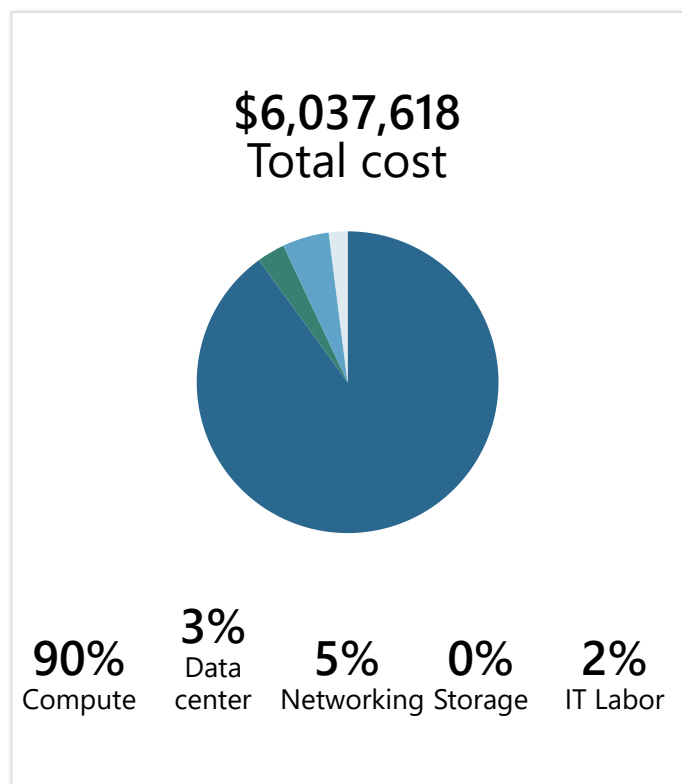
## Total on-premises vs. Azure cost over time

Savings from running workloads in Azure accrue over time. The following shows how those savings add up over years.

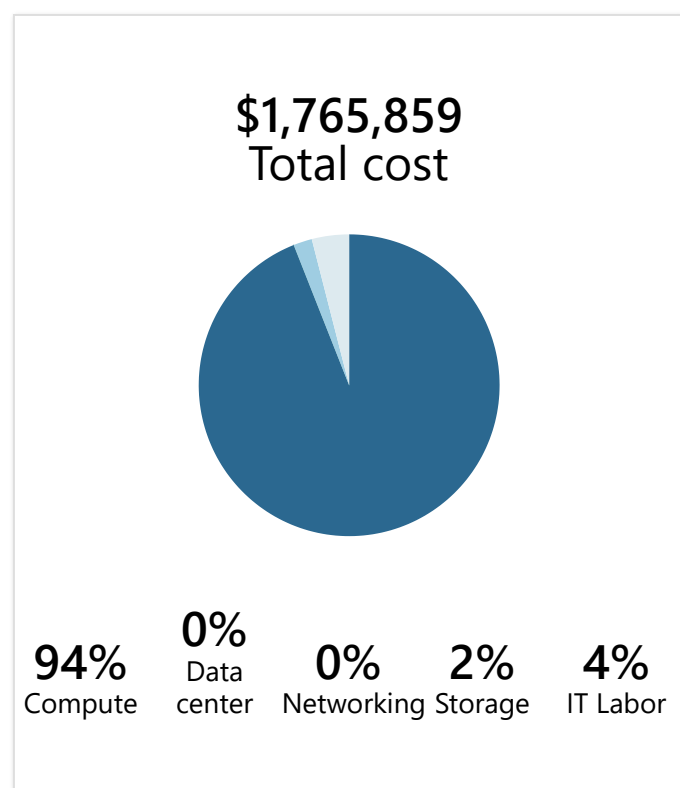■ On-premises cost　　■ Microsoft Azure cost

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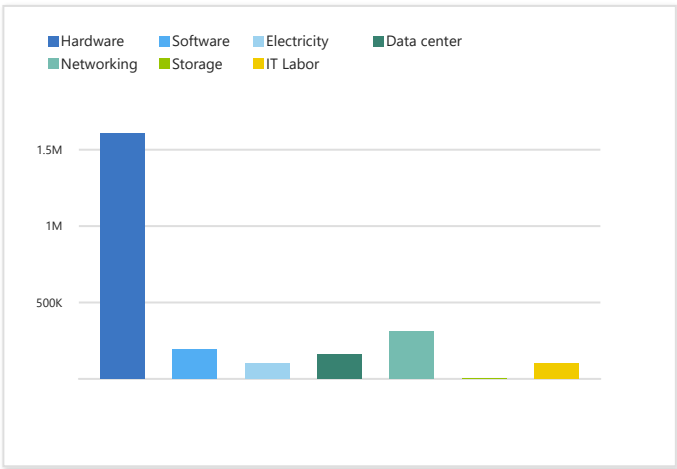
In Azure, certain cost categories decrease or go away completely.

$6,037,618
Total cost

**90%**
Compute

**3%**
Data center

**5%**
Networking

**0%**
Storage

**2%**
IT Labor

$1,765,859
Total cost

**94%**
Compute

**0%**
Data center

**0%**
Networking

**2%**
Storage

**4%**
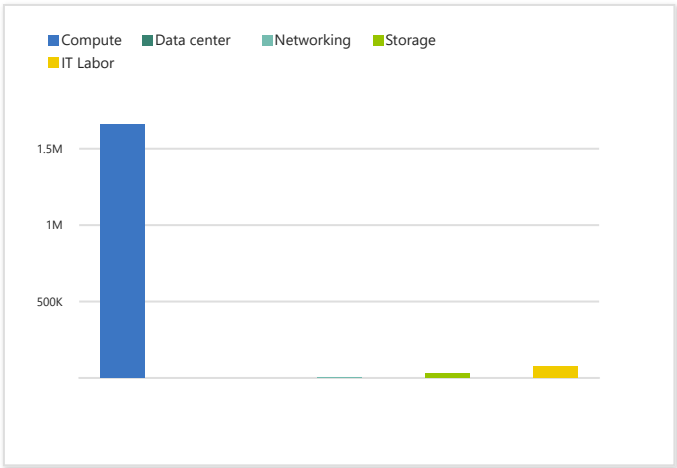IT Labor

## 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

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



Legend: Hardware, Software, Electricity, Data center, Networking, Storage, IT Labor

$6,037,618
Cost over 5 year(s)



Legend: Compute, Data center, Networking, Storage, IT Labor

$1,765,859
Cost over 5 year(s)

## On-premises cost breakdown summary

| Category | Cost |
|---|---|
| Compute | $5,456,301.75 |
|    Hardware | $1,604,440.00 |
|    Software | $192,368.75 |
|    Electricity | $99,093.00 |
|    Database | $3,560,400.00 |
| Data Center | $163,574.25 |
| Networking | $310,849.51 |
| Storage | $3,392.00 |
| IT Labor | $103,500.00 |
| **Total** | **$6,037,618.00** |

## Azure cost breakdown summary

| Category | Cost |
|---|---|
| Compute | $1,661,110.20 |
| Data Center | $0.00 |
| Networking | $495.60 |
| Storage | $27,586.56 |
| IT Labor | $76,667.05 |
| **Total** | **$1,765,859.00** |

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

## Compute cost

### Hardware cost

| | |
|---|---|
| Cost per 2 proc 4 core, 14 GB RAM physical server for Windows | $6,964.00 |
| Number of servers required | 20 |
| Cost of M60 | $6,000.00 |
| Number of M60 required | 40 |
| Cost per 2 proc 4 core, 14 GB RAM physical server for Windows | $6,964.00 |
| Number of servers required | 20 |
| Cost of K80 | $5,000.00 |
| Number of K80 required | 40 |
| Cost per 4 proc 4 core, 32 GB RAM physical server for Windows | $16,732.00 |
| Number of servers required | 5 |
| Total cost for physical server(s) | $802,220.00 |
| Cost of maintaining physical server(s) - 20% of cost of physical server(s) | $160,444.00 |
| Total cost of maintaining server(s) over five year(s) | $802,220.00 |

| | |
|---|---|
| **Total hardware cost over five year(s)** | **$1,604,440.00** |

### Software cost

| | |
|---|---|
| Cost of Windows data center license per 4 core, 14 GB RAM physical machine | $3,078.00 |
| Number of licenses needed | 20 |
| Cost of Windows data center license per 4 core, 14 GB RAM physical machine | $3,078.00 |
| Number of licenses needed | 20 |

# Estimated Azure cost (5 year(s))

## Azure compute cost

### Virtual Machines cost

| | |
|---|---|
| Number of hours per month | 730 |
| NC12 Standard (12 core, 112 GB RAM) Windows (Azure Hybrid Benefit) | SKU# AAA-20076 |
| Number of virtual machines | 20 |
| Total virtual machine cost per month | $13,695.360 |
| NC12 Standard (12 core, 112 GB RAM) Windows (Azure Hybrid Benefit) | SKU# AAA-20076 |
| Number of virtual machines | 20 |
| Total virtual machine cost per month | $13,695.360 |

| | |
|---|---|
| **Total Azure Virtual Machines cost** | **$1,643,443.20** |

NOTE: For Azure compute costs, 3 year Reserved VM and two 1 year Reserved VM in use.

### SQL Database cost

| | |
|---|---|
| Single Standard S2 | $0.10083 /hr SKU# 4WP-00006 |
| Instance Count | 5 |
| Cost Per Month | $58.89 |

| | |
|---|---|
| **Total SQL Database cost over five year(s)** | **$17,667.00** |

| | |
|---|---|
| Cost of Windows data center license per 4 core, 32 GB RAM physical machine | $6,155.00 |
| Number of licenses needed | 5 |
| Total software license cost | $153,895.00 |
| Total Software Assurance cost | $38,473.75 |

| | |
|---|---|
| **Total software cost over five year(s)** | **$192,368.75** |

## Electricity cost

| | |
|---|---|
| Price of electricity per kWh | $0.1334 |
| Power rating of 4 core, 14 GB RAM server | 324 Watts |
| Total electricity cost consumed by 20 server(s) - 4 core, 14 GB RAM server per month | $631.00 |
| Power rating of 4 core, 14 GB RAM server | 324 Watts |
| Total electricity cost consumed by 20 server(s) - 4 core, 14 GB RAM server per month | $631.00 |
| Power rating of 4 core, 32 GB RAM server | 800 Watts |
| Total electricity cost consumed by 5 server(s) - 4 core, 32 GB RAM server per month | $389.55 |

| | |
|---|---|
| **Total electricity cost over five year(s)** | **$99,093.00** |

## SQL Database cost

| | |
|---|---|
| Total CPU cores | 80 |
| SQL Server Enterprise License cost per 2 cores | $14,256.00 |
| Enterprise cores | 80 |
| Total license cost | $2,851,200.00 |
| Enterprise Software Assurance cost per 2 cores | $3,546.00 |
| Enterprise cores | 80 |
| Total Software Assurance cost | $709,200.00 |

| | |
|---|---|
| **Total SQL Database cost over five year(s)** | **$3,560,400.00** |

| | |
|---|---|
| **Total cost over five year(s)** | **$5,456,301.75** |

| | |
|---|---|
| **Total Azure compute cost over five year(s)** | **$1,661,110.20** |

## Data center cost

## Azure data center cost

### Compute cost

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

| | |
|---|---|
| Number of rack units per rack | 42 |
| Rack units required per 4 core, 14 GB RAM server | 2 |
|    Number of 4 core, 14 GB RAM server | 20 |
|    Total number of rack units required | 40 |
| Rack units required per 4 core, 14 GB RAM server | 2 |
|    Number of 4 core, 14 GB RAM server | 20 |
|    Total number of rack units required | 40 |
| Rack units required per 4 core, 32 GB RAM server | 3 |
|    Number of 4 core, 32 GB RAM server | 5 |
|    Total number of rack units required | 15 |
| Total number of rack units required for all server(s) | 95 |
| Data center construction cost per rack unit amortized over 20 years | $311.57 |
| Data center compute cost | $29,599.15 |

| | |
|---|---|
| **Total Data center compute cost over five year(s)** | **$147,995.75** |

### Storage cost

| | |
|---|---|
| Total number of rack units required for all storage | 10 |

| | |
|---|---|
| Number of rack units for DAS or SAN | 10 |
| Rack mounting/installation cost | $3,115.70 |

| | |
|---|---|
| **Total Data center storage cost over five year(s)** | **$15,578.50** |

| | | | |
|---|---|---|---|
| **Total Data center cost over five year(s)** | **$163,574.25** | **Total Azure data center cost over five year(s)** | **$0.00** |

## Networking cost

## Azure networking cost

| | | | |
|---|---|---|---|
| Total hardware + software cost over five year(s) | $1,796,808.75 | | |
| Network hardware and software cost assumed to be 15% of hardware and software cost over five year(s) | $269,521.31 | Total outgoing bandwidth needed per month | 100 GB |
| | | Total outgoing bandwidth cost per month | $8.26 |
| Network maintenance cost assumed to be 15% of network hardware and software cost over five year(s) | $40,428.20 | | |
| Service provider cost/GB per month | $0.15 | | |
| Amount of bandwidth needed (GB) per month | 100 | | |
| Total service provider cost per month | $15.00 | | |

| | | | |
|---|---|---|---|
| **Total networking cost over five year(s)** | **$310,849.51** | **Total Azure networking cost over five year(s)** | **$495.60** |

## Storage cost

## Azure storage cost

## Hardware

Local Disk/SAN-HDD
| | |
|---|---:|
| Cost per GB | $0.20 |
| Storage (RAID 10 configuration) volume in GB | 10,240 |

| | |
|---|---:|
| **Total storage procurement cost** | **$2,048.00** |

## Backup

| | |
|---|---:|
| Total backup and archive volume in GB | 10,240 |
| | HP LTO-7 BB873A |
| Backup volume per tape in TB | 6 |
| Number of Tape drives required | 2 |
| Cost per Tape Drive | $160.00 |

| | |
|---|---:|
| **Backup and Archive cost over five year(s)** | **$320.00** |

## Storage Maintenance

| | |
|---|---:|
| Storage maintenance cost (10% of storage procurement cost) over five year(s) | $1,024.00 |

| | |
|---|---:|
| **Total storage maintenance cost over five year(s)** | **$1,024.00** |

| | |
|---|---:|
| **Total storage cost over five year(s)** | **$3,392.00** |

## Page Blob storage

| | |
|---|---:|
| Usable storage volume in GB | 5,120 |
| Storage cost per GB/month | $0.045 |
| Annual storage cost per usable volume | $2,764.80 |

| | |
|---|---:|
| **Total Page Blob LRS storage maintenance cost over five year(s)** | **$13,824.00** |

## Backup

| | |
|---|---:|
| Total backup and archive volume in GB | 10,240 |
| Storage cost per GB | $0.0224 |
| | SKU# AAA-70203 |

| | |
|---|---:|
| **Backup and Archive maintenance cost over five year(s)** | **$13,762.56** |

| | |
|---|---:|
| **Total Azure storage cost over five year(s)** | **$27,586.56** |

## IT labor cost

## Azure IT labor cost

| | | | | |
|---|---|---|---|---|
| Number of IT admin hour(s) needed per year | 900 | | Number of IT admin hour(s) needed per year | 666.67 |
| Hourly rate for IT administrator | $23.00 | | Hourly rate for IT administrator | $23.00 |

| | | | | |
|---|---|---|---|---|
| Total IT labor cost over five year(s) | $103,500.00 | | Total Azure IT labor cost over five year(s) | $76,667.05 |

| | | | |
|---|---|---|---|
| Total on-premises cost over five year(s) | $6,037,618.00 | Total Azure cost over five year(s) | $1,765,859.00 |

A total **savings** of $4,271,759.00 with **Microsoft Azure**