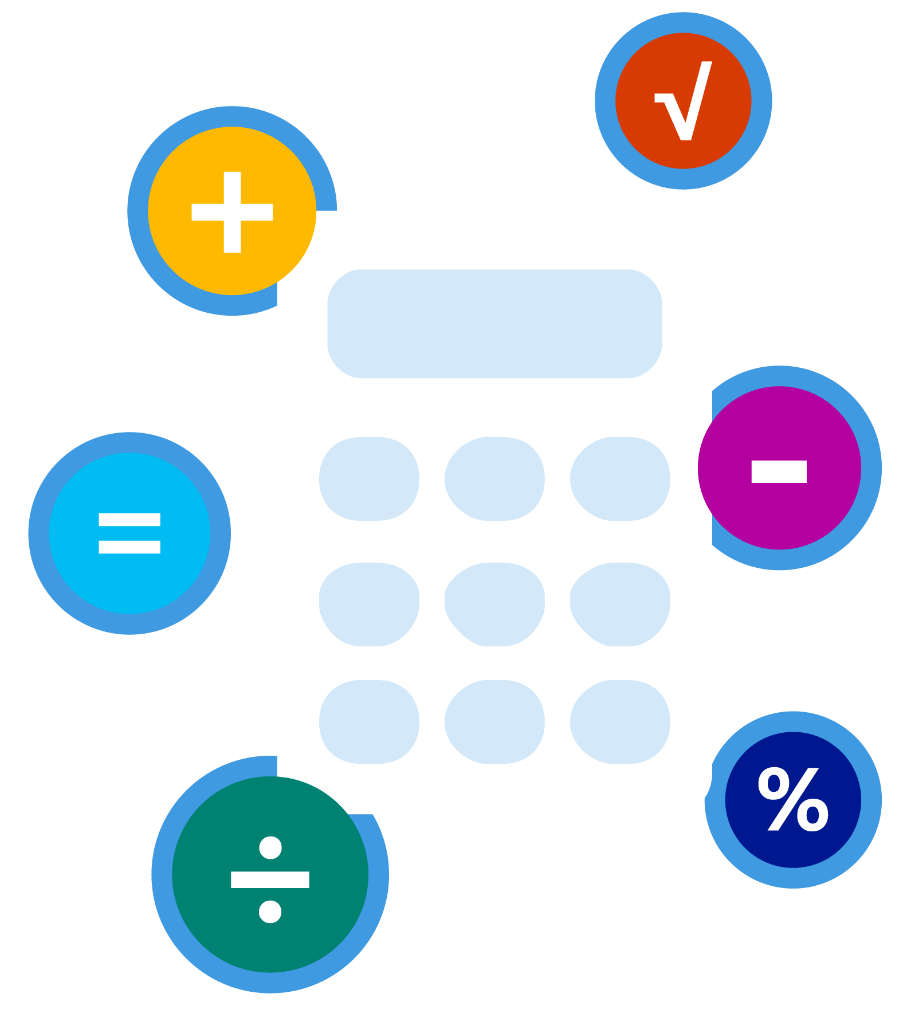


Azure  
Total Cost of Ownership (TCO) summary

Prepared for

Lexi Brown

April 2018



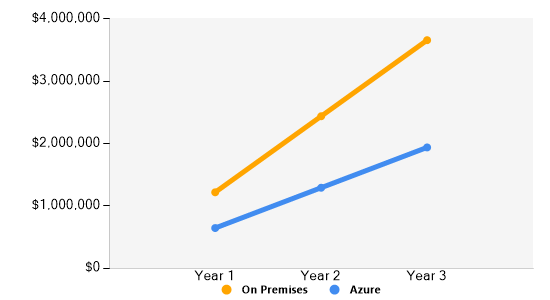
Assumptions and inputs

|  |
| --- |
| Compute |
| **Physical servers**   |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | | **# Servers** | **OS** | **Proc(s) per server** | **Total cores** | **RAM (GB)** | **Optimize by** | **GPU** | | 100 | Linux | 2 | 8 | 112 | 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 **$ 1,720,865 (47%)**  
over **3** year(s) with Microsoft Azure.

On-Premises vs. D14 Azure Costs

|  |  |
| --- | --- |
| On-premises cost breakdown summary | Azure cost breakdown summary |
| |  |  | | --- | --- | | Category | Costs | | Compute | $2,431,424 | | Hardware Software Electricity | $2,260,000 $0 $171,424 | | Data Center | $470,646 | | Networking | $678,036 | | Storage | $2,662 | | IT labor | $78,398 | | Total | **$3,661,166** | | |  |  |  |  | | --- | --- | --- | --- | |  |  |  |  | | Category | **Web direct cost** | **1 Year Reserved VM** | **3 Years Reserved VM** | | Compute | $3,145,716 | $2,930,100 | $1,880,800 | | Data center | $0 | $0 | $0 | | Networking | $0 | $0 | $0 | | Storage | $921 | $921 | $921 | | IT labor | $58,581 | $58,581 | $58,581 | | Total | $3,205,218 | $2,989,602 | $1,940,302 | |

\*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 10 core, 128GB RAM physical server | $14,125 | | Number of server(s) required | 100 | | **Total cost for physical server(s)** | **$1,412,500** | | Cost of maintaining physical server(s) - 20% of cost of physical server(s) | $282,500 | | **Total cost of maintaining server(s) over 3 year(s)** | **$847,500** | | **Total hardware costs over 3 year(s)** | **$2,260,000** | | 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 10 core, 128 GB RAM server | 652 Watts | | Total electricity cost consumed by 100server(s) - 2 proc, 10 core, 128 GB RAM server per month | $4,759.60 | | **Total electricity costs over 3 year(s)** | **$171,424** | |  | |  |  | | --- | --- | |  |  | | Web direct cost | | Number of hours per month | 730 | | Average utilization | 100% | | Physical Servers Costs | | D14v2 Standard (16 vCPU, 112 GB RAM)Linux | $1.197/ hr | |  | SKU# 997-02769 | | Number of virtual machine(s) needed | 100 | | **Total virtual machine costs per month** | **$87,381** | | **Total web direct virtual machine costs over 3 year(s)** | **$3,145,716** | | 1 Year Reserved VM | | Number of hours per month | 730 | | Average utilization | 100% | | Physical Servers Costs | | DS14 Standard (16 vCPU, 112 GB RAM)Linux | $1.115/ hr | | Number of virtual machine(s) needed | 100 | | **Total 1-Year Reserved Cost over3 year(s)** | **$2,930,100** | | 3 Years Reserved VM | | Number of hours per month | 730 | | Average utilization | 100% | | Physical Servers Costs | | DS14 Standard (16 vCPU, 112 GB RAM)Linux | $0.716/ hr | | Number of virtual machine(s) needed | 100 | | **Total 3-Year Reserved Cost over 3 years** | **$1,880,800** | |
| |  |  | | --- | --- | |  |  | | **Total compute cost over 3 year(s)** | **$2,431,424** | |  | |  |  | | --- | --- | |  |  | | **Total Azure compute cost over 3 year(s)** | **$1,880,800** | |

## Datacenter cost

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  | | --- | --- | |  |  | | Data center Compute cost | | 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 Azure Data center costs over 3 year(s) | $0 | |
| |  |  | | --- | --- | |  |  | | **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) | $2,260,000 | | Network hardware and software costs assumed to be 25% of hardware and software costs over 3 year(s) | $565,000 | | Network maintenance cost assumed to be 20% of network hardware and software costs over 3 year(s) | $113,000 | | 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)** | **$678,036** | |  | |  |  | | --- | --- | |  |  | | 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 on-premises networking cost over 3 year(s)** | **$678,036** | |  | |  |  | | --- | --- | |  |  | | **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 over3 year(s)** | **$614** | |  | |  |  | | --- | --- | |  |  | | 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 on-premises storage cost** | **$2,662** | |  | |  |  | | --- | --- | |  |  | | **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 estimated Azure IT labor cost** | **$58,581** | |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  | | --- | --- | |  |  | | **Total on-premises cost over 3 year(s)** | **$3,661,166** | |  | |  |  | | --- | --- | |  |  | | **Total Azure cost over 3 year(s)** | **$1,940,302** | |

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