Azure Cost Optimization

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Mark Beech

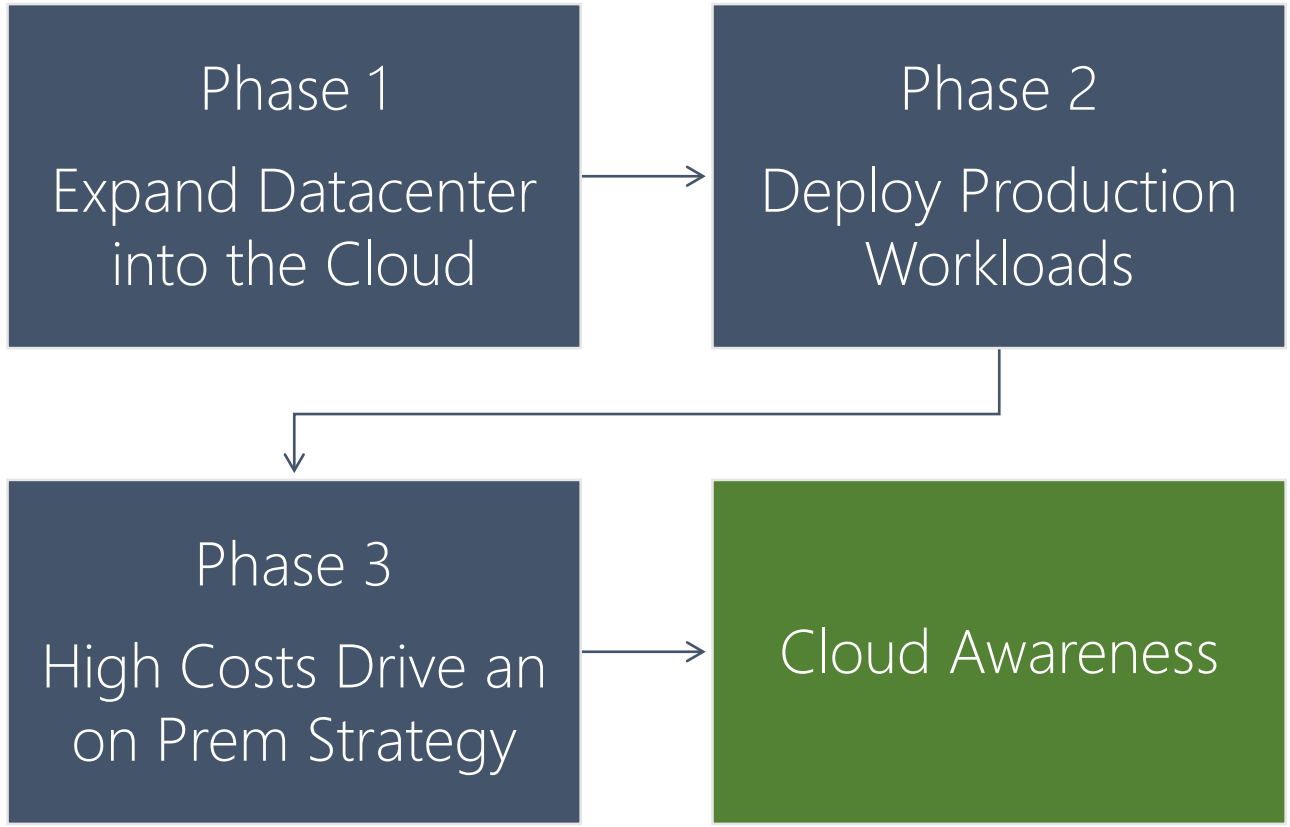
Advanced Infrastructure Consultant

- Azure
- Active Directory
- ADFS
- PKI
- Server Virtualization

Azure Cost Optimization

- Common Scenario
- Benefits of Azure
- Best Practice to Reduce Azure Cost
- Cost Management Tools
- What BA Can Offer
- Microsoft 365 E3/E5 cost effectiveness

Common Azure Adoption Cycle



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Advantages of Azure

- Flexibility
- Agility
- Security
- Compliance
- Backup
- Disaster Recovery

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Best Practice For Cost Management

Correctly Size Your VMs

- Charged by the second
- Use Calculators
- Research new VM types and convert where necessary
- Be mindful of location

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Disk Comparison

Disk Type	Premium SSD	new Standard SSD	Standard HDD
Summary	Designed for IO intensive enterprise workloads. Delivers consistent performance with low latency and high availability.	Designed to provide consistent performance for low IOPS workloads. Delivers better availability and latency compared to HDD Disks.	Optimized for low-cost mass storage with infrequent access. Can exhibit some variability in performance.
Workload	Demanding enterprise workloads such as SQL Server, Oracle, Dynamics, Exchange Server, MySQL, Cassandra, MongoDB, SAP Business Suite, and other production workloads	Web servers, low IOPS application servers, lightly used enterprise applications, and Dev/Test	Backup storage
Max IOPS	7,500 IOPS provisioned	Up to 500 IOPS	Up to 500 IOPS
Max Throughput	250 MBPS provisioned	Up to 60 MBPS	Up to 60 MBPS

Calculators and VM Types

https://azure.microsoft.com/en-us/pricing/calculator/

https://azure.microsoft.com/en-us/pricing/details/virtual-machines/series/

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Don't Rush Workload Migrations

- Azure Migrate
- Understand utilization Peaks and Troughs
- Embrace technology that can dynamically adapt to business needs
- Consolidation
- Future Proof design
- Security

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Up Time is Money 

01

Turn servers off when not in use

02

Enable auto shut-off for Dev servers

03

Use Azure Automation accounts to power down production servers on schedule

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Server Lifecycle Management

1

Understand what your servers do

2

Decommission servers

3

Use Tags to track assets

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- For Servers With Active Software Assurance
- Datacenter Licenses can be used on Azure and on Prem
- Save up to 40% on Azure fees

Hybrid Use Benefit

Reserved Instance (RI)

- Up to 72% Cost Reduction
- Commit to a 1 or 3 year Term for VMs
- Flexibility to Exchange or Cancel Instances
- Available for Pay as you Go and Enterprise Agreements

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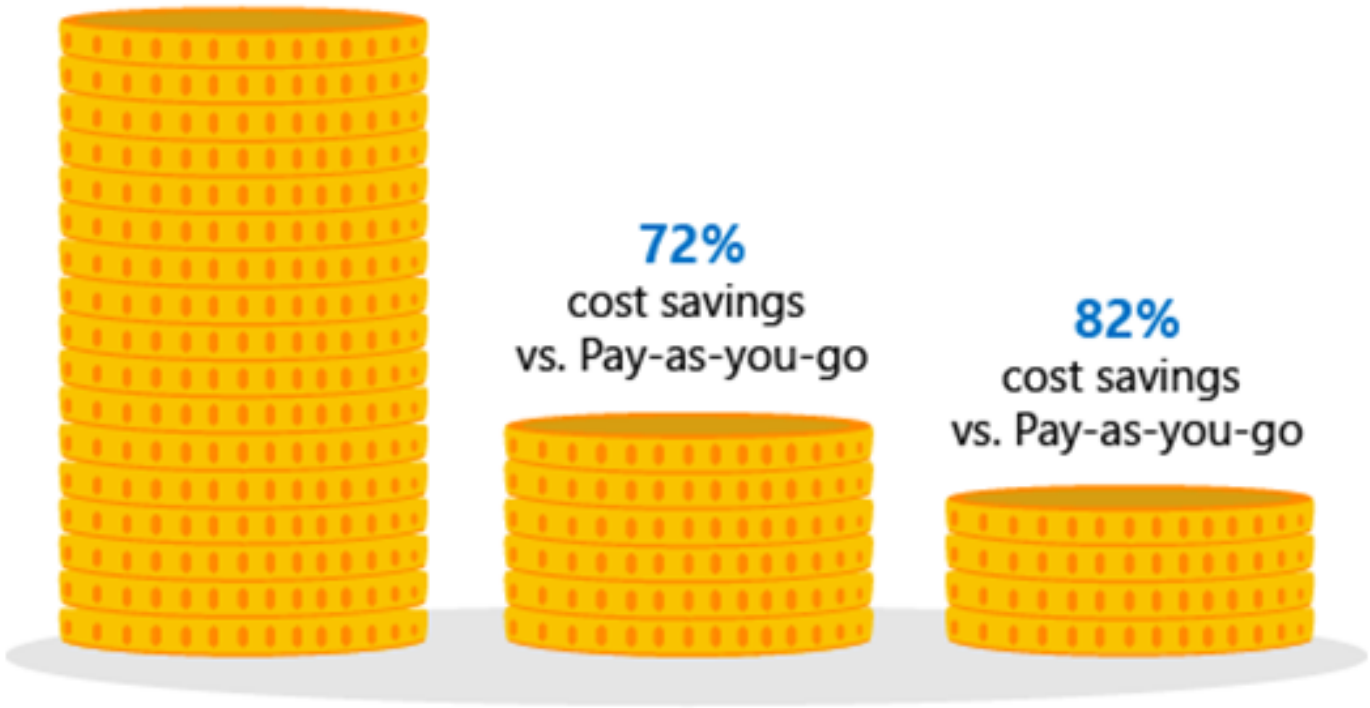
Save up to **82%** with RIs and Azure Hybrid Benefit



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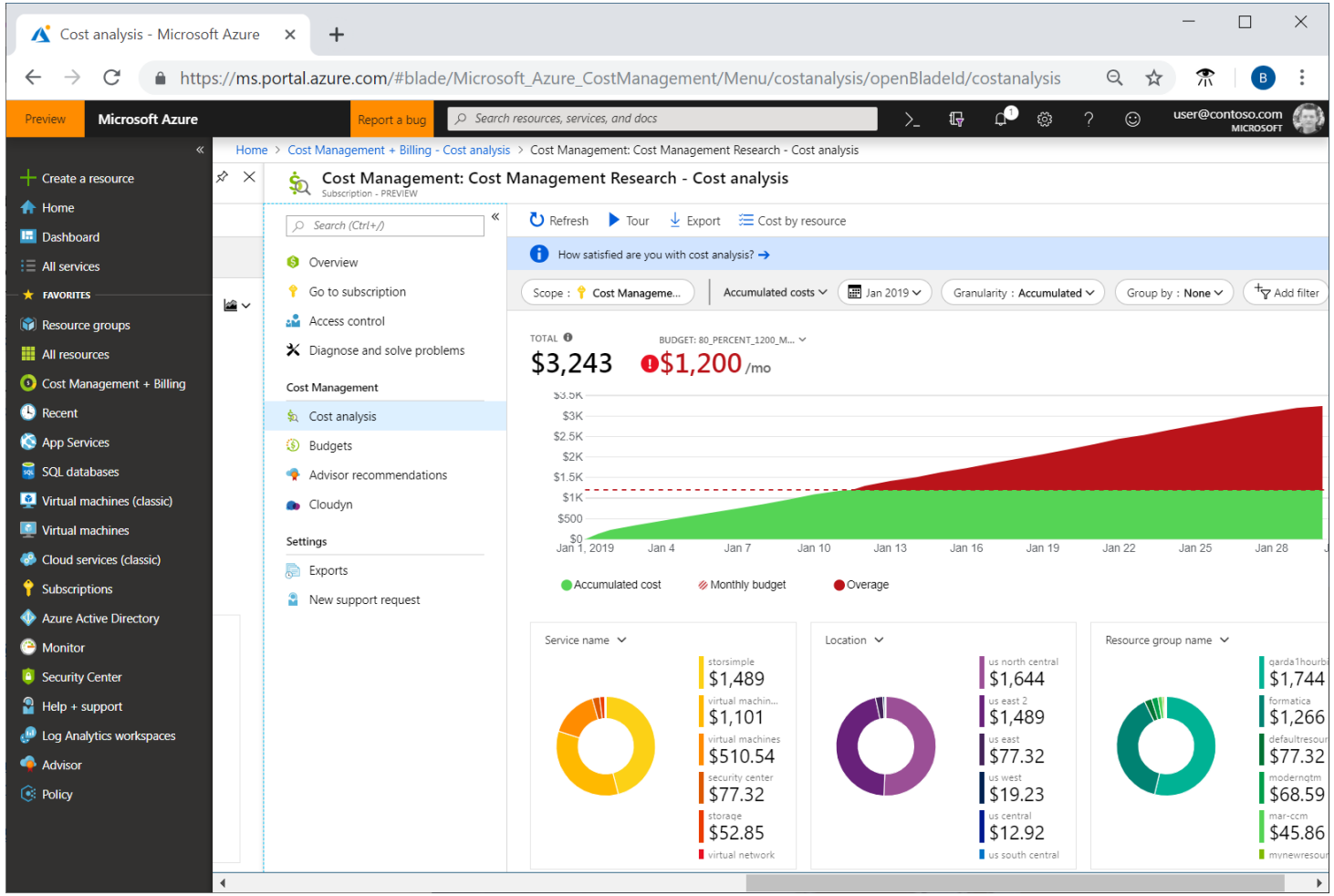
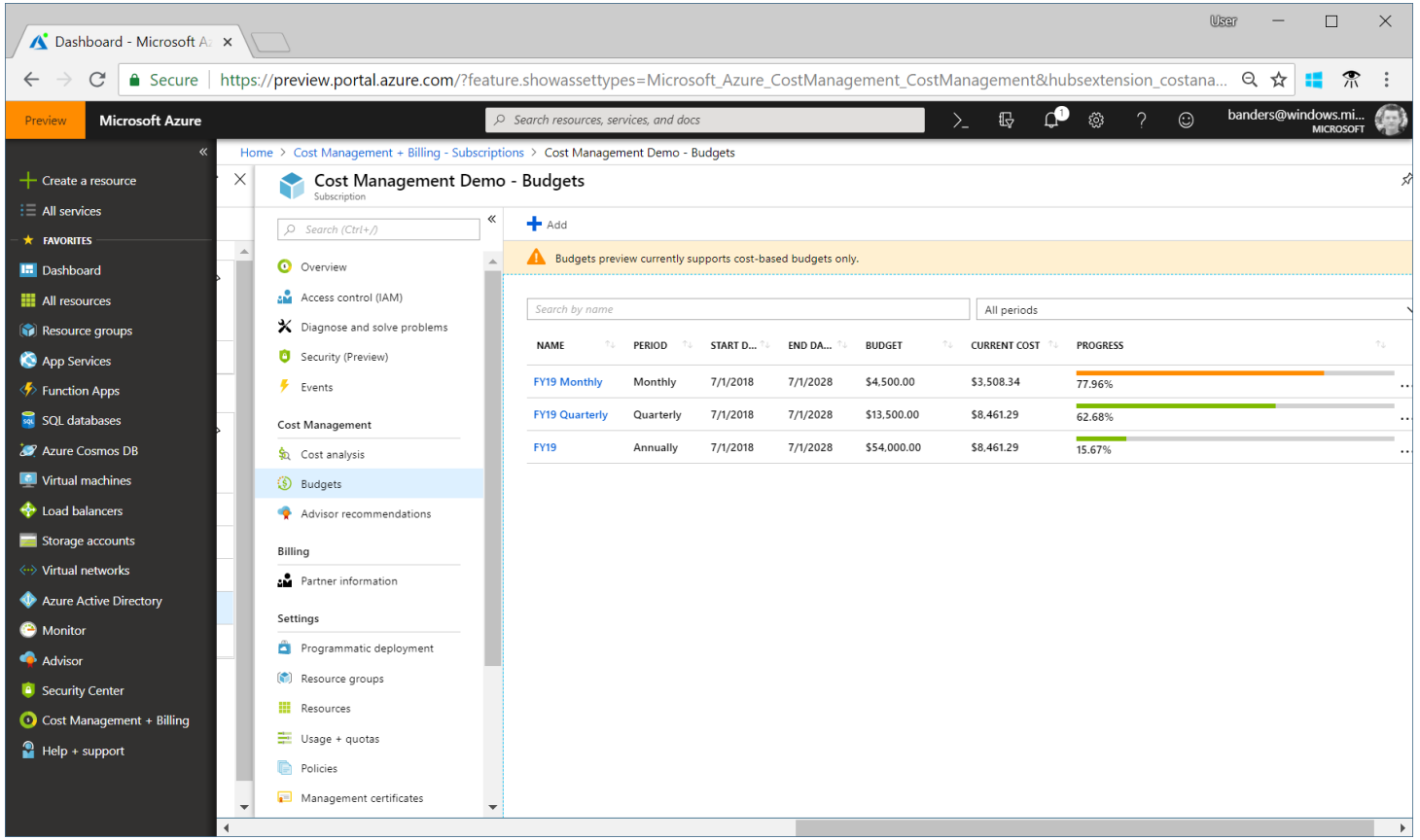
Cost Management

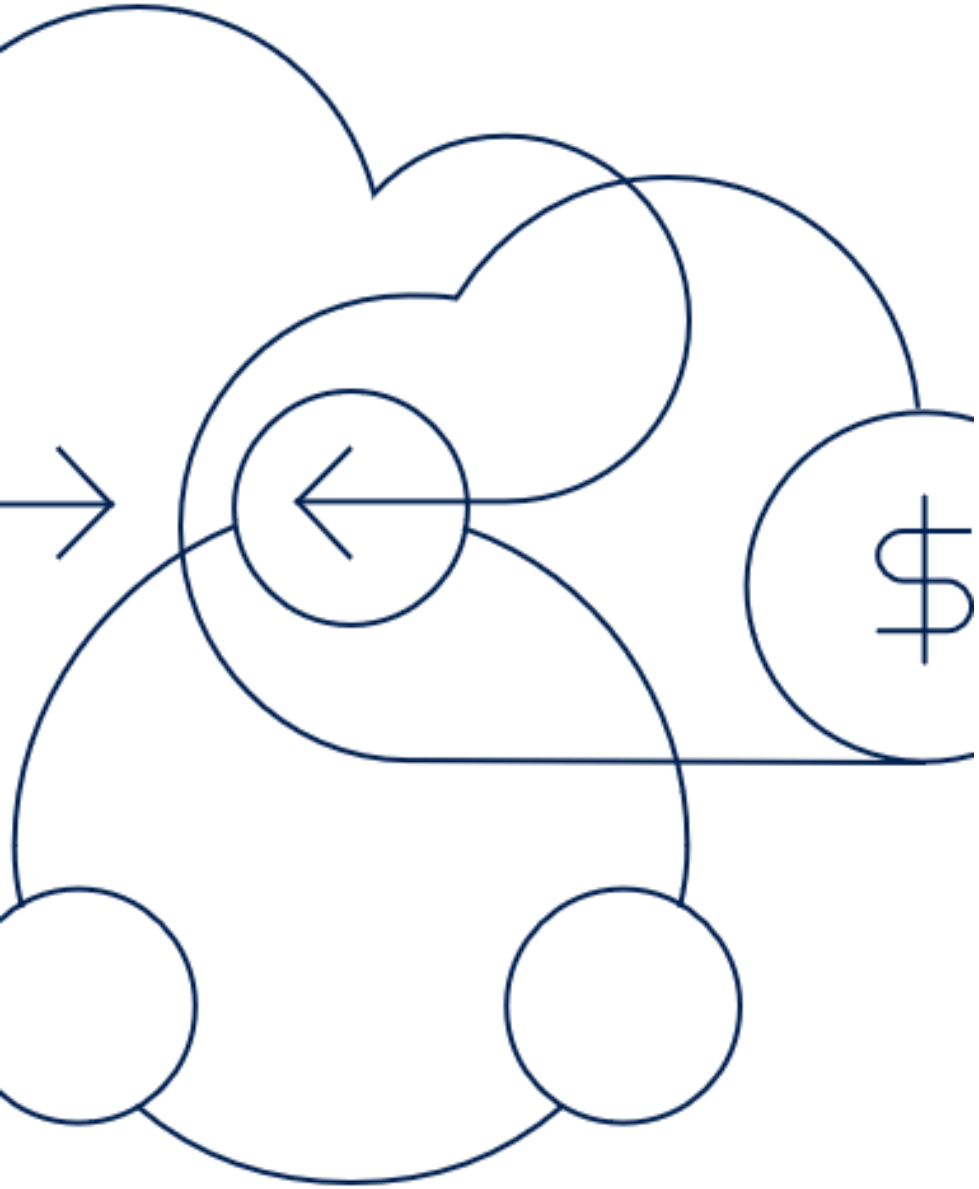
- Review Cost Analysis regularly to identify potential overage early
- Assign Billing Reader Role to Team members that need visibility to cost info
- Use Resource Tagging to provide cost visibility for particular projects





Azure Budgets

- Account for Azure services you consume
- Drive Organizational Accountability for Budgets
- Trigger notifications when thresholds are reached
- Link to a Subscription or Resource Group



Cloudyn

- Consolidated Cost view across multiple cloud environments
- Track Usage and Cost trends
- Forecast future spend
- Detect Spend anomalies
- Custom Dashboards
- Allocate costs and usage to teams or projects

Workload Migration Cost Assessment

- Configure tools to gather data about on prem usage
- Analyze data
- Make recommendations for cloud requirements
- Provide real cost predictions

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Azure Cost Optimization Workshop

- Analyze current environment and look for areas to save cost
- Identify machines that can be taken offline periodically to reduce cost
- Identify where new technology could be implemented to save money

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Microsoft 365 E3/E5 cost effectiveness

- Current state of affairs in the majority of companies:
  - Still using on-premise Exchange/SharePoint/Lync servers
  - Paying separately for Windows licenses
  - Paying separately for Office licenses
  - 3rd party MDM solution
  - 3rd party audio/video conferencing
  - 3rd party anti-virus software
  - 3rd party email front-end security
  - 3rd party collaboration/project management tools
  - On-premise PBX system + desk phones
  - ….and many more various appliance and software solutions

Customer Assessment	Quantity	Which One	Total Cost		Comparison	Cost per month
Customer has Exchange on-premise? If yes how many servers?	2	Enterprise	$272.08		Microsoft 365 E3	$16,000.00
How many user Mailboxes on-premise? (no shared, room or resource)	500		$2,916.67		Microsoft 365 E5	$28,500.00
How many users have Windows 7/8/10?	500	Windows 10 Enterprise	$4,652.78		Microsoft 365 F1	$5,000.00
How many users have Office 201x?	500	Office 2016 Professional	$13,555.56		Office 365 E1	$4,000.00
How many users have MDM setup?	500	MobileIron Enterprise Mobility	$4,665.00		Office 365 E3	$10,000.00
How many users have audio/video conferencing capabilities?	500	WebEx Business	$15,000.00		Office 365 E5	$17,500.00
Does customer have on-premise PBX system?	Yes		$527.78		Office 365 F1	$2,000.00
How many users have a deskphone?	500		$4,861.11			
How many endpoints are protected with AntiVirus software?	500	Symantec Endpoint Security	$2,250.00			
Any front end email security and how many users protected?	500	Proofpoint essentials	$13,200.00			
Any project Management tools and used by how many users?	500	Monday Enterprise	$12,000.00			
Customer has SharePoint on-premise? If yes how many servers?	4		$2,525.33			
Customer has Lync on-premise? If yes how many servers?	2		$626.28			
Other internal chat tools and used by how many users?	500	Slack Plus	$7,500.00			
Total monthly fee			**$84,552.58**			

Microsoft 365 E3/E5 cost effectiveness

Thank you!

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Thank You

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