JOURNEY TO AZURE – CASE STUDY

Norm Barber, Managing Director (normb@unifycloud.com)

UnifyCloud at-a-glance

A rapidly growing and successful Redmond, WA based Azure consultancy, SI and solutions developer with significant technical resources located in the US and India.

Inc. 5000 #353 2015

Microsoft Gold Partner

CloudAtlas

Microsoft

Cloud Solution Provider (CSP)

CET Solution Assessment Partner

Azure Migrate Partner

Our global focus is on **Cloud**, **Cybersecurity**, **Compliance** (regulatory) and **Cost**.

Effectively migrating from a traditional, on-premises IT environment to a Hybrid IT environment that may include elements of SaaS, IaaS, and PaaS requires a logical set of steps.

Discover and Assess

Target and Migrate

Monitor and Optimize

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Our solutions leverage Microsoft's Azure Migrate approach

Discover and Assess

- Workload and data discovery
- TCO and ROI analysis
- Recommendation reports

CloudRecon

Target and Migrate

- App, virtual machine, and workload migration to Azure
- Convert existing .NET applications to containers (optional)
- Your choice of Azure database destination

CloudPilot

Monitor and Optimize

- Continual health, performance, and cost management
- Access to advanced features in data services
- Application analysis for optimal PaaS migration

CloudSupervisor

Visit AppSource for CloudAtlas® trial subscriptions

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UnifyCloud data discovery Centers of Excellence

- Multiple cloud-specific and traditional SAM discovery tool support
- 7 x 24 global coverage from two centers
- Support for deployment, scanning and visualization analysis
- Support for P2P SAM / non-SAM engagement initiatives
- Integration support for CloudRecon® and Azure migration engagements
- Microsoft subsidiary focus:
  - Microsoft North America
  - Microsoft India
  - Microsoft UK (future)
  - Microsoft LATAM (future)

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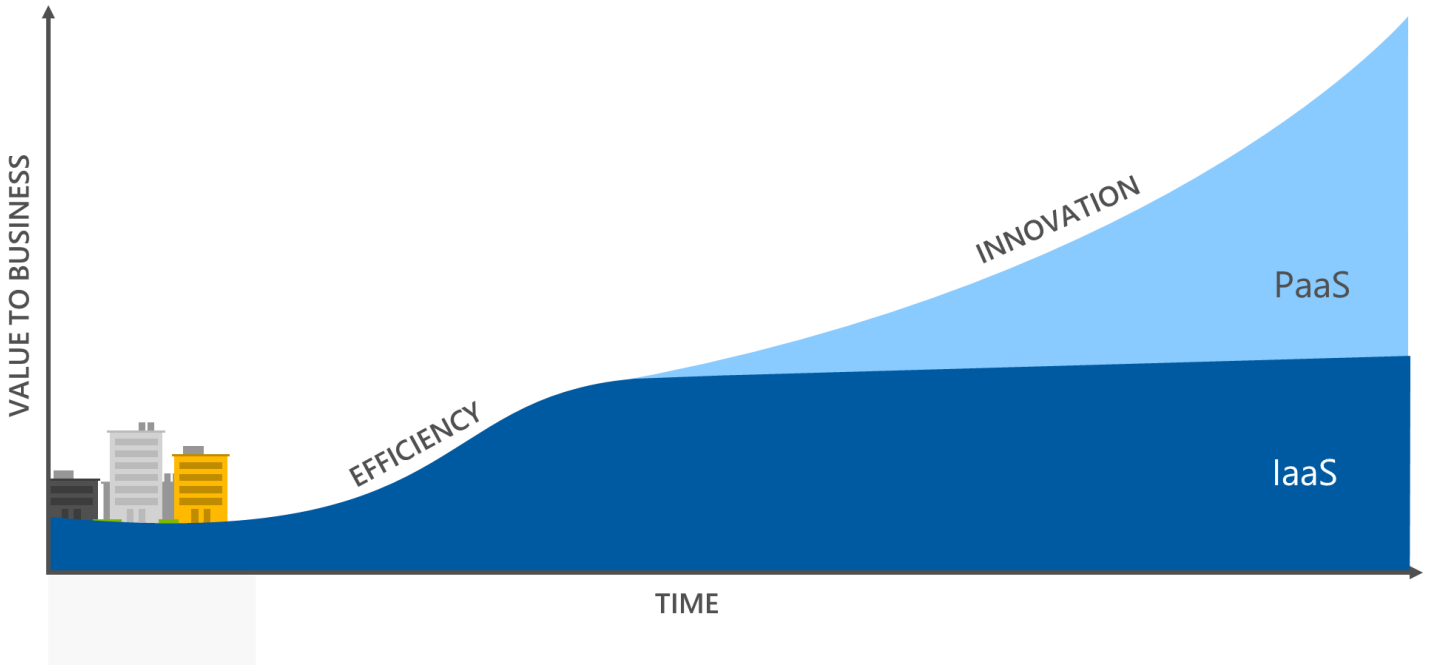
The challenge: Getting to the PaaS payoff quickly



IDC estimates that PaaS will grow at a faster rate than IaaS and SaaS with a 5 year CAGR over 30%. "PaaS is important because it's the focus at many companies for rapid application development and mobile app development using the DevOps approach."

Source: IDC Worldwide Semi-annual Public Cloud Services Spending Guide – January 2016

There are significant financial and business benefits of shifting application development and deployment from Azure IaaS to Azure PaaS.

Source: "The Total Economic Impact Of Microsoft Azure PaaS," a commissioned study conducted by Forrester Consulting, June 2016

466%
Return on Investment

$5.91M
Net Present Value

80%
IT Time Saved

50%
Faster Service Deployment Time to Market

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CloudAtlas® supports an accelerated migration to Azure

CloudAtlas

- Key steps along the Azure Migrate approach
- CloudAtlas® solutions that accelerate progress
- UnifyCloud or partner wrap-around services

Workload and App Discovery

CloudRecon

Discover and Assess

Backup / Disaster Recovery Migration

Non-Prod & Dev/Test VM Migration

Prod VM Migration (by App Groups)

Containerize Application (optional)

CloudPilot

Database Migration Service

Data Migration

Target and Migrate

CloudSupervisor

Performance Management and Cost Optimization

Containerize Application

Modernization

Code Refactor

CloudPilot

Services Migration to PaaS

Monitor and Optimize

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FY19 Solution Assessment engagement analysis flow

Solution Assessment Engagement

Workload and App Discovery

CloudRecon

- Engagement approach: scan once / multiple analytic pivots
- Use a broad range of discovery tools depending upon data requirements
- Our enhanced BI solution, CloudRecon®, is the multi-pivot analysis tool
- We will snap to the new structure to help us scale in the US

Deliverable Contents

Foundation Assessment (FA)	Azure Economic Assessment (AEA)	Azure Migration / Consumption Assessment	Modern Workplace Economic Assessment
Server Optimization / Azure Readiness	Detailed Server Categorization / Sizing	Azure Economic Assessment Refinement	
	Azure Migration / On-Premises Analysis	(3 – 5) App-level Scanning and Analysis	
	Azure Consumption (HUB/RI) / 5-year TCO	(2) Containerized App Migration	
Cybersecurity Assessment			GDPR Capability Assessment (M365)
Desktop / User Assessment			M365 E3 to E5 Assessment
(1 – 3) Weeks	FA + (2 – 3) Weeks	AEA + (3 – 4) Weeks	FA + (2 – 3) Weeks

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Case Study

What the customer needed to know for migration decisions

Solution Assessment Engagement

Workload and App Discovery

CloudRecon

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We leveraged leading IT discovery tool (Movere)

1. Microsoft commissioned us to begin and authorized tool use (24 – 36 hours)
2. We provided deployment guides and scheduled a 1-hour kick off call (< 1 week)
3. We scheduled a 2-hour deployment walk-through call and started scans
4. We scheduled 15-minute checkpoint calls with your team every other day
5. Within 8 weeks we delivered the Azure Migration / Consumption Assessment

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What the customer needed to know for migration decisions

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Workload and App Discovery

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Key questions we answered

- What parts of your IT Infrastructure are candidates for migration to Azure:
  - Infrastructure as a Service – IaaS (VMs, Storage, Dev / Test, Containerized Apps)?
  - Platform as a Service – PaaS (Custom Apps)?
- What will it cost to operate these workloads in Azure?
- What is the effort / cost to migrate / modernize these workloads to run on Azure?
- What are the key success factors in operating on Azure for these workloads:
  - Application-level security (e.g., authentication, encryption, backup)?
  - Dev/Ops best practices?
  - Efficient Service cost management?
  - Compliance against standards / regulations (e.g., GDPR)?

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We collaboratively worked with the customer on decisions

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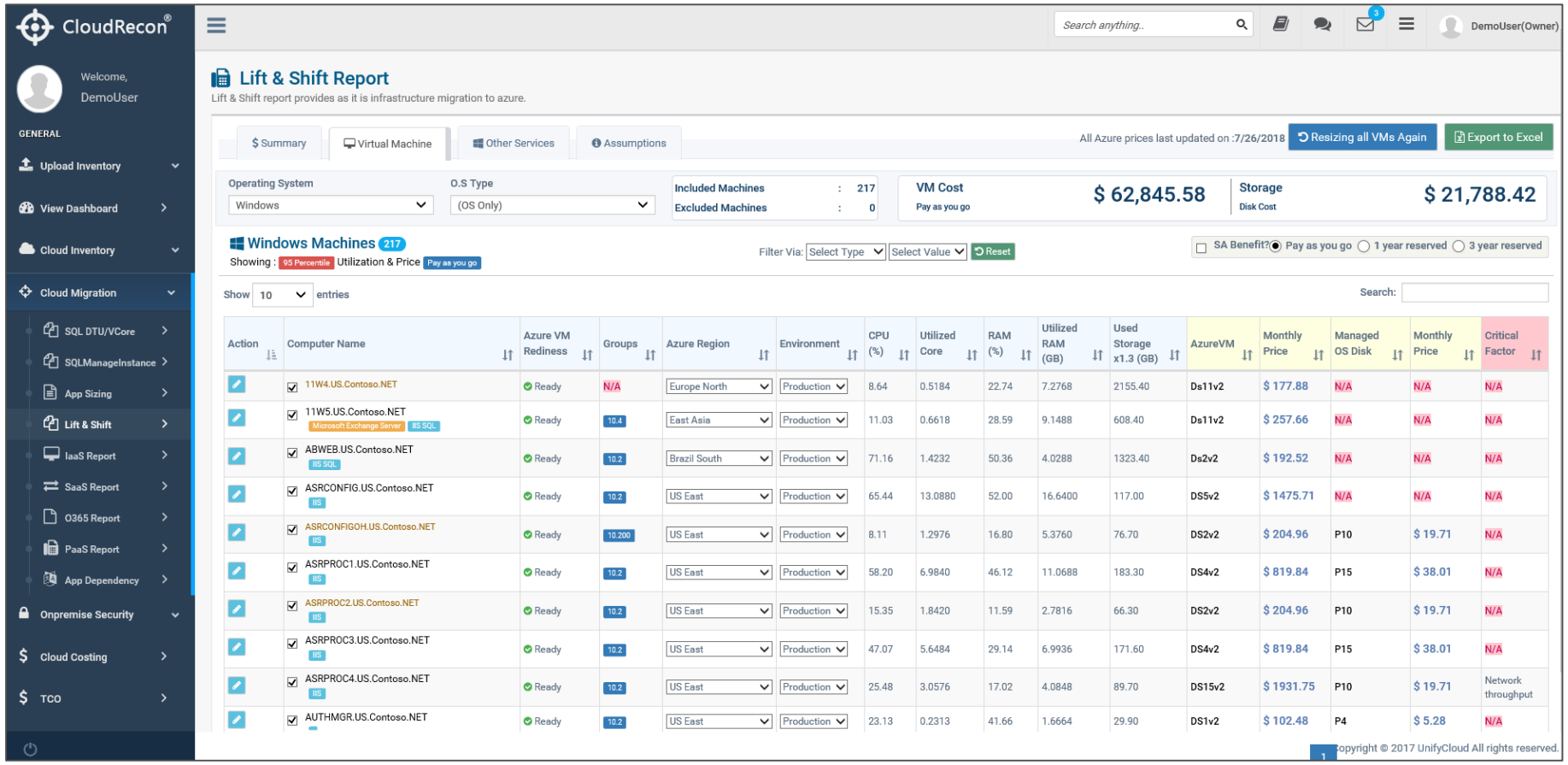

Key analytical areas:

- SQL Managed Instance
- VM Right-sized Migration
- SQL Database / App Service
- Azure DR / Backup
- Azure Network / Security

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We provided engineering level details and TCO deliverables

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Workload and App Discovery

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						Machine 95 Percentile Utilization						Machir
ComputerName	CurrentOperatingSystem	IOPS	MaxNetworkThroughputMB_S	Storage(GB)	Used_Storage(GB)	CPUUtilization(%)	CoreUtilizationCount	RAM(%)	UtilizedRAM(GB)	AzureVmSize	Payasyougo	Payasyougo + SA
11W4.US.Contoso.NET	Windows Server 2008 Standard R2	971	70.71	1813	1658	8.64	0.5184	22.74	7.2768	Ds11v2	$177.88	$177.88
11W5.US.Contoso.NET	Windows Server 2008 Standard R2	4601	25.39	1813	468	11.03	0.6618	28.59	9.1488	Ds11v2	$257.66	$167.63
ABWEB.US.Contoso.NET	Windows Server 2008 Standard R2	1019	83.57	1600	1018	71.16	1.4232	50.36	4.0288	Ds2v2	$192.52	$192.52
ASRCONFIG.US.Contoso.NET	Windows Server 2012 Standard R2	1389	0.34	1124	90	65.44	13.088	52	16.64	DS5v2	$1,475.71	$1,475.71
ASRCONFIGOH.US.Contoso.NET	Windows Server 2012 Standard R2	1173	5.62	300	59	8.11	1.2976	16.8	5.376	DS2v2	$204.96	$106.87
ASRPROC1.US.Contoso.NET	Windows Server 2012 Standard R2	742	99.93	1124	141	58.20	6.984	46.12	11.0688	DS4v2	$819.84	$428.22
ASRPROC2.US.Contoso.NET	Windows Server 2012 Standard R2	619	31.75	1124	51	15.35	1.842	11.59	2.7816	DS2v2	$204.96	$106.87
ASRPROC3.US.Contoso.NET	Windows Server 2012 Standard R2	2004	151.57	1124	132	47.07	5.6484	29.14	6.9936	DS4v2	$819.84	$428.22
ASRPROC4.US.Contoso.NET	Windows Server 2012 Standard R2	1133	13301.73	1124	69	25.48	3.0576	17.02	4.0848	DS15v2	$1,931.75	$1,356.40
AUTHMGR.US.Contoso.NET	Windows Server 2012 Standard R2	684	19.20	100	23	23.13	0.2313	41.66	1.6664	DS1v2	$102.48	$53.44
AXCONVERSION.US.Contoso.NET	Windows Server 2012 Standard R2	245	43.42	100	61	16.30	0.326	7.57	1.8168	DS1v2	$102.48	$53.44
AXCONVTEST.US.Contoso.NET	Windows Server 2012 Standard R2	351	85.70	100	86	16.79	0.3358	5.08	1.2192	DS1v2	$102.48	$53.44
AXDEVCONV.US.Contoso.NET	Windows Server 2012 Standard R2	1741	62.18	606	423	25.98	0.5196	47.02	7.5232	DS11v2	$241.56	$135.42
AXDEVCONV2.US.Contoso.NET	Windows Server 2012 Standard R2	3946	59.20	555	456	24.78	0.4956	39.98	6.3968	DS2v2	$204.96	$106.87
AXPRODAOS1.US.Contoso.NET	Windows Server 2012 Standard R2	783	37.87	200	121	9.69	0.7752	39.51	14.2236	DS12v2	$477.26	$271.57
AXPRODAOS2.US.Contoso.NET	Windows Server 2012 Standard R2	798	3440.27	200	107	8.74	0.6992	50.04	18.0144	DS4v2	$819.84	$428.22
AXPRODAOS3.US.Contoso.NET	Windows Server 2012 Standard R2	675	40.66	100	33	8.90	0.712	46.03	16.5708	DS12v2	$477.26	$271.57
AXPRODAOS4.US.Contoso.NET	Windows Server 2012 Standard R2	559	46.11	100	39	12.59	1.0072	54.84	19.7424	DS12v2	$477.26	$271.57
AXPRODAOS5.US.Contoso.NET	Windows Server 2012 Standard R2	719	25124.04	100	58	19.59	1.5672	100	24	D64sv3	$4,403.71	$2,248.70
AXPRODAOS6.US.Contoso.NET	Windows Server 2012 Standard R2	1397	51.06	100	44	18.68	1.4944	67.49	16.1976	DS12v2	$477.26	$271.57
AXPRODREP.US.Contoso.NET	Windows Server 2012 Standard R2	1353	5897.69	100	56	58.04	3.4824	16.75	10.72	DS4v2	$819.84	$428.22
AXPRODWEB.US.Contoso.NET	Windows Server 2012 Standard R2	1441	37.92	600	103	40.39	0.8078	58.82	18.8224	DS12v2	$477.26	$271.57
AXQAAOS1.US.Contoso.NET	Windows Server 2012 Standard R2	623	53.59	100	77	9.75	0.78	26.09	8.3488	DS11v2	$241.56	$135.42
AXQAAOS2.US.Contoso.NET	Windows Server 2012 Standard R2	N/A	779.07	100	73	8.18	0.6544	14.33	4.5856	DS2v2	$204.96	$106.87
AXQAWEB.US.Contoso.NET	Windows Server 2012 Standard R2	737	51.86	100	59	27.95	0.559	18.44	5.9008	DS2v2	$204.96	$106.87
AXSQLPREPROD.US.Contoso.NET	Windows Server 2012 Standard R2	4804	119.27	3168	2636	45.64	3.6512	100	32	DS13v2	$858.64	$542.41
AXTRAINING.US.Contoso.NET	Windows Server 2012 Standard R2	743	31.93	100	52	80.25	4.815	17.95	5.744	DS4v2	$819.84	$428.22
AXUAT.US.Contoso.NET	Windows Server 2012 Standard R2	668	32.47	100	78	21.93	0.8772	54	12.96	DS11v2	$241.56	$135.42
BESWEB3.US.Contoso.NET	Windows Server 2008 Standard R2	N/A	N/A	137	102	27.74	2.2192	40.93	13.0976	DS3v2	$409.92	$214.48
BESWEB4.US.Contoso.NET	Windows Server 2008 Standard R2	N/A	N/A	137	113	27.74	6.6576	40.93	13.0976	DS4v2	$819.84	$428.22
BESWEB5.US.Contoso.NET	Windows Server 2008 Standard R2	N/A	N/A	137	114	27.74	6.6576	40.93	13.0976	DS4v2	$819.84	$428.22
BIDEV.US.Contoso.NET	Windows Server 2012 Standard R2	6681	98.92	4029	2584	11.45	0.916	56.48	36.1472	DS13v2	$858.64	$542.41

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We provided engineering level details and TCO deliverables

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Workload and App Discovery

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Environment	Category	Service	Region	Quantity	Price	Cost Assumption
Production	Security	Security Center	N/A	281 Nodes	4215	Tier : Standard + 281 nodes + $15.00 Per GB
		Azure Advisor	N/A		0	There are no charges to use Azure Advisor.
		Azure Active Directory	Central US	N/A	120.2	Tier : Premium P2 + 1 User + 1 Per User + 0-25000 Directory Objects
		Key Vault	East US	100	103	Region : Australia East , 1000000 Operation + 0 Advanced Operation + 0 Certificate Renewals + 100 HSM Protected Keys + 0 Advanced HSM Protected Keys
		Application Gateway	East US	10 Instance	3279.4	1 Gateway Instance $367.29 Price,upto 40 Data Proccessed Size price $ 0.00 after 40,1 Data Proccessed Size TB $3.58 Price & 1 Zone Size TB $122.28 Price.
		Backup	East US	1 Instance	694.15	Includes 10 TB of Geo Redundant Storage Standard IO - Block Blob
	Networking	Bandwidth	East US	1 TB	88.65	Region : East US + 1 TB
		Traffic Manager	East US	20 Endpoints	7.2	DNS query cost Million/month : US $ 0.54, Azure Health check cost /EndPoints :$ 0.36, Fast Interval Health Checks Add-on (Azure) cost :$ 1.00, External cost /EndPoints :$ 0.54, Fast Interval Health Checks Add-on (External) cost /EndPoints :$ 2.00, Real User Measurements (Preview) /Million measurements cost :$ 2.00 and Traffic View (Preview) /Million data points processed cost :$ 2.00
		Network Watcher	East US	1 Instance	843	Region : East US + 50 Network Logs Collected + 0 Network Diagnostic Tool + 281 Connection Monitoring + 0 Ping Mesh + 0 Network Analytics
		Load Balancer	East US		0	
		Express Route	East US	1 Instance	575	Port Speed : 100Mbps + Unlimited Data Plan
		Virtual Network	East US	1 Instance	20.48	Region : Same Region + 1 GB Outbound Data Transfer + 1 GB Inbound Data Transfer
		IP Addresses	East US	2 Instance	5.86	Type: Basic (ARM) + 1 Dynamic IP + 1 Static IP = Sub total $5.86
	Monitoring	Log Analytics	East US	281 Nodes	1281.1	VMs monitored : 281 + Total data ingested (GB) : 2
				Total Cost Estimate	**11233.04**	

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Workload and App Discovery

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Cost Summary Lift and Shift

Pay as you go (Monthly Price)	
Windows VM Machines	
VM Cost	$62,845.58
Storage Cost	$22,899.83
Total Cost	**$85,745.41**
SQL VM Machines	
VM Cost	$58,891.57
Storage Cost	$8,941.68
Total Cost	**$67,833.25**
LINUX VM Machines	
VM Cost	$475.07
Storage Cost	N/A
Total Cost	**$475.07**

1 Year Reserved (Monthly Price)	
Windows VM Machines	
VM Cost	$36,926.28
Storage Cost	$22,899.83
Total Cost	**$59,826.11**
SQL VM Machines	
VM Cost	$47,149.49
Storage Cost	$8,941.68
Total Cost	**$56,091.17**
LINUX VM Machines	
VM Cost	$240.04
Storage Cost	N/A
Total Cost	**$240.04**

3 year reserved (Monthly Price)	
Windows VM Machines	
VM Cost	$31,257.16
Storage Cost	$22,899.83
Total Cost	**$54,156.99**
SQL VM Machines	
VM Cost	$43,969.94
Storage Cost	$8,941.68
Total Cost	**$52,911.62**
LINUX VM Machines	
VM Cost	$173.17
Storage Cost	N/A
Total Cost	**$173.17**

Azure Services Costing (Pay as you go)	
Azure Service	**Cost**
Compute	$122,212.22
Storage	$31,841.51
Network/Other	$11,233.04
Total Cost	$165,286.77

Azure Services Costing (1 year reserved)	
Azure Service	**Cost**
Compute	$84,315.81
Storage	$31,841.51
Network/Other	$11,233.04
Total Cost	$127,390.36

Azure Services Costing (3 year reserved)	
Azure Service	**Cost**
Compute	$75,400.27
Storage	$31,841.51
Network/Other	$11,233.04
Total Cost	$118,474.82

Virtual machine Count			
MachineType	Physical	Virtual	Total
Windows Server	58	159	217
Biztalk Server	0	0	0
SQL Server	26	34	60
Linux Server	0	4	4
Total Machines	84	197	281

Virtual machine Count			
MachineType	Production	Dev/Test	Total
Windows Server	217	0	217
Biztalk Server	0	0	0
SQL Server	60	0	60
Linux Server	4	0	4
Total Machines	281	0	281

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Workload and App Discovery

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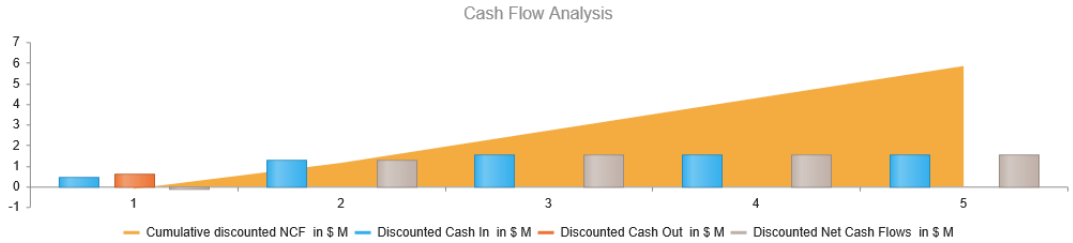
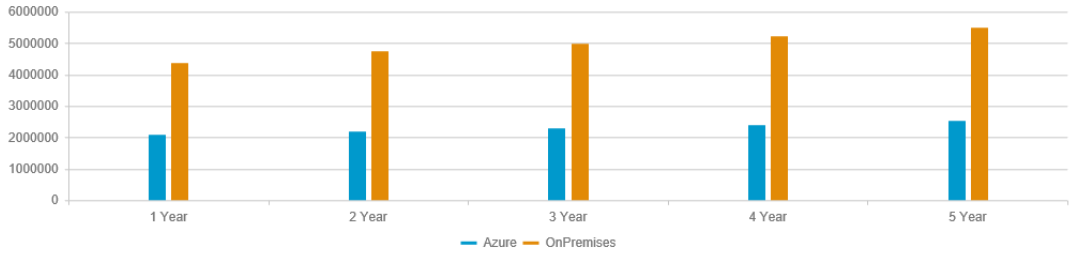
On-Premises Vs Azure | Servers | Database | Storage | Customer Input | Benefits | Migration | CashFlow | Assumptions



Business Case - Summary Statistics	
Total Benefits in $ M	6.44
Total Sum invested in M	0.60
NPV of Benefits in $ M	6.17
Internal Rate of Return	1106%
Discounted Payback Period in Months	1.18



On-Premises Cost $5,485,350.53 VS Azure Cost $2,517,748.24

The Cloud is 2.18X Less

On-premises Details

Category	1st Year	2nd Year	3rd Year	4th Year	5th Year
+ Compute	$ 2,118,256.46	$ 2,379,575.37	$ 2,498,554.14	$ 2,623,481.84	$ 2,754,655.94
Data Center	$ 99,834.00	$ 104,825.70	$ 110,066.99	$ 115,570.33	$ 121,348.85
+ Networking	$ 446,410.20	$ 468,730.71	$ 492,167.25	$ 516,775.61	$ 542,614.39
Storage	$ 1,257,850.00	$ 1,320,742.50	$ 1,386,779.63	$ 1,456,118.61	$ 1,528,924.54
It Labour	$ 439,200.00	$ 461,160.00	$ 484,218.00	$ 508,428.90	$ 533,850.35
End Point Protection	$ 3,255.00	$ 3,417.75	$ 3,588.64	$ 3,768.07	$ 3,956.47

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Decisions on Azure Commitment happened quickly

contoso

Azure Economic Assessment

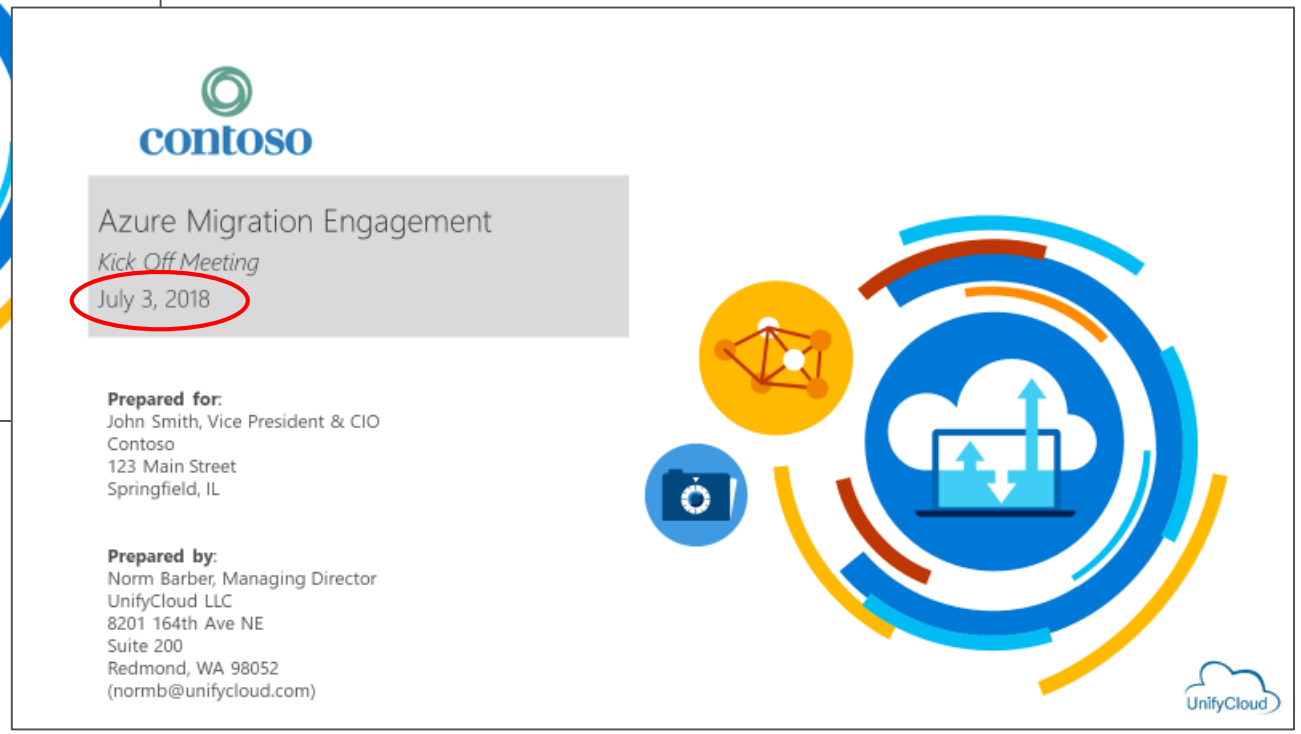
Data Analysis Review and Final Recommendations

June 1, 2018

Prepared for:
John Smith, Vice President & CIO
Contoso
123 Main Street
Springfield, IL

Prepared by:
Norm Barber, Managing Director
UnifyCloud LLC
8201 164th Ave NE
Suite 200
Redmond, WA 98052
(normb@unifycloud.com)

- US East Coast Enterprise customer with outsourced IT
- Solution Assessment engagement started mid-April



contoso

Azure Migration Engagement

Kick Off Meeting

July 3, 2018

Prepared for:
John Smith, Vice President & CIO
Contoso
123 Main Street
Springfield, IL

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8201 164th Ave NE
Suite 200
Redmond, WA 98052
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- Azure Commitment signed mid-June
- Projected Azure spend $4.3M over 3 years
- Migrate 77 app / 318 VMs by 12/31/18

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Preliminary migration groups from Phase 1 engagement

Solution Assessment Engagement

Workload and App Discovery

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- App-focused recommendations based on app details provided
- All costs are monthly

Discover and Assess

S.No.	Function	App Count	Server Count	Core Count	RAM (GB)	Storage (GB)	Throughput (MB)	Compute	Storage	Network	Total Cost
1	Accounting & Treasury	35	89	144	328	9818.9	1153993	$19,428	$3,502		$22,930
2	Acquisitions & Development	3	8	4	12	1896.7	117416	$423	$228		$651
3	Asset Management	1	6	4	12	2259.4	117416	$0	$0		$0
4	Corporate Marketing	5	8	0	0	3312.6	0	$2,424	$2,592		$5,016
5	Design & Construction	6	26	16	48	3391.7	498876	$605	$2,018		$2,623
6	Equity Capital Markets	4	12	4	12	4032.2	132022	$977	$73		$1,050
7	Financial Planning & Analysis	8	20	26	48	2966.6	267629	$0	$0		$0
8	Human Capital Management	9	40	32	56	4382.3	377476	$2,857	$4,708		$7,564
9	Information Technology	15	31	36	92	8650.2	362274	$5,209	$11,859		$17,068
10	Leasing & Sales	6	16	12	36	3599.7	250716	$1,507	$220	$26,417	$1,727
11	Legal & Compliance	6	13	8	24	1976	264044	$4,605	$994		$5,599
12	Payroll	3	6	4	12	1896.7	117416	$406	$1,271		$1,677
13	Property Management	5	6	4	12	1976	132022	$1,733	$293		$2,025
14	Records Management	9	13	0	0	3836.4	0	$6,945	$1,820		$8,766
15	Rockefeller Center	13	25	64	106	1976	462077	$7,061	$1,816		$8,877
16	Tax	3	13	8	24	1976	264044	$135	$155		$290
17	z~Speyers	1	N/A	N/A	N/A	N/A	N/A	$4,341	$671		$5,012
18	Function Area Not Available	2	N/A	N/A	N/A	N/A	N/A	N/a	N/A		N/A
Total		**134**	**332**	**366**	**822**	**57947.4**	**4517421**	**$58,655.40**	**$32,220.97**	**$26,417.00**	**$117,293.37**

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Migration of “lift & shift” underway

Milestone	Stage / Task	Date
	Pre-Migration Stage	
1	Create an Azure Center of Excellence (ACoE)	15-Jul-18
2	Build out an enterprise grade Azure deployment subscription for ~300 VMs	30-Jul-18
3	Conduct a migration pilot (assumes 1 app and associated VMs)	15-Aug-18
	Migration Stage 1 (~100 VMs)	
4	Prioritize into manageable group of VMs for Dev/Test	30-Aug-18
5	Leverage specialized migration factory to migrate VMs in group	15-Sep-18
6	Reporting on progress using CloudAtlas tools	30-Sep-18
	Migration Stage 2 (~100 VMs)	
7	Prioritize into manageable group of VMs for Dev/Test	15-Oct-18
8	Leverage specialized migration factory to migrate VMs in group	30-Oct-18
9	Reporting on progress using CloudAtlas tools	15-Nov-18
	Migration Stage 3 (~118 VMs)	
7	Prioritize into manageable group of VMs for Dev/Test	30-Nov-18
8	Leverage specialized migration factory to migrate VMs in group	15-Dec-18
9	Reporting on progress using CloudAtlas tools	30-Dec-18

- July 3 start date
- Final workplan set once all contractual matters were complete
- Monitoring Stage begins at completion of each migration
- 3-month Managed Service commences at completion of final migration stage including Tishman skill transfer

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App-level migration decisions are in-flight

CloudPilot®

- Overview
- App Service Assessment
- Container Assessment
- Virtual Machine Assessment
- Database Assessment
- Project Dependency Tree
- Security Recommendation
- Azure Compliance Report
- Azure Canvas Report

Application Name : AUTempquote

Application Recommendation

Azure Web Apps enables you to build and host web applications in the programming language of your choice without managing infrastructure. It offers auto-scaling and high availability, supports both Windows and Linux, and enables automated deployments from GitHub, Visual Studio Team Services, or any Git repo. More Info...

Why : - This application is a good choice to move to Azure app services, as it has no blockers & has additional features without any cost.

Other Option : - Azure Container Service and Virtual Machine.

Azure Infrastructure Cost : Application

Azure App Service	**Standard S2 (US $146.00)**
Virtual Machine	Standard DS2V2 (US $978.12)
Azure Container	Standard DS2V2 (US $890.62)

Database Recommendation

Recommended Database Platform - SQL Database is a general-purpose relational database service that supports structures such as relational data, JSON, spatial, and XML. It delivers dynamically scalable performance and provides options such as columnstore indexes for extreme analytic analysis and reporting, and in-memory OLTP for extreme transactional processing. Microsoft handles all patching and updating of the SQL code base seamlessly and abstracts away all management of the underlying infrastructure.

Why : - Highly Scalable without downtime. Enable Failover clustering in minutes. Supports in built auditing , logging , query performance optimization and elastic query in a single connection.

Other Option : SQL Service running on IaaS Virtual Machine. More Info...

Azure Infrastructure Cost : Database

Azure SQL DB	**Standard DS2V2 (US $147.18)**
SQL Service running on IaaS	Standard DS2V2 (US $470.12)

Pricing Region : *North Europe* | **Pricing Type : *Pay As You Go***

Scan Result

 # Application : 1
 # Database : 2
 # Application Projects : 18
 # Code Lines : 1143261

Recommendations Result

Containers Recommendations: 14
App Service Recommendations : 27
Virtual Machine Recommendations : 4
Azure SQL Recommendations : 18
SQL running On VM Recommendations : 3

Migration Effort

Application	Database
Container : 6 Days 2 Hours **App Service :** 14 Days 5 Hours **Virtual Machine :** 3 Days 2 Hours	**Azure SQL :** 9 Days **SQL running on VM :** 3 Days

Application Dependency

#Application Components : 2 View
Storage : N/A
Other Application : N/A
Network : N/A

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Sample Code Recommendations

Application & Platform Design	Tracing

Reason for change

Tracing enables you to view diagnostic information about a single request for an ASP.NET page,follow a page's execution path, display diagnostic information at run time, and debug your application.

Code block	Line no	File path
Trace.Write($"{type.FullName}: {false}");	68	D:\src\TempContoso \main\Api\IContosoA :.Api\App_Start\WebApiConfig.
Trace.WriteLine(Environment.NewLine);	69	D:\src\TempContoso \main\Api\IContosoA :.Api\App_Start\WebApiConfig.

Recommendation

If you want to specify a custom logging configuration, you must call the Start method and supply the storage account and your custom DiagnosticMonitorConfiguration object as parameters to the method. This call is shown in the following example : Add the following method in the WebRole.cs file.

Sample Code

Copy Code

```
public override bool OnStart()
{
Microsoft.WindowsAzure.Diagnostics.DiagnosticMonitorConfiguration dmc = Microsoft.WindowsAzure.Diagnostics.DiagnosticMonitor.GetDefaultInitialConfiguration();
dmc.Logs.ScheduledTransferPeriod = TimeSpan.FromMinutes(1);
Microsoft.WindowsAzure.Diagnostics.DiagnosticMonitor.Start("DiagnosticsConnectionString", dmc);
}
```

Specify a storage location where the diagnostics data will be transferred, i.e specify Windows Azure storage account . For example, modify your ServiceConfiguration.cscfg file to include the following lines if you want to store diagnostics data in the Windows Azure storage account:

Estimated Efforts

1.00 Hours **Size :**Small

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Sample Code Recommendations

Application & Platform Design	JETProvider	

Reason for change

Application uses Microsoft.ACE.OLEDB provider. Microsoft.ACE.OLEDB need to install on Service but you cannot install on Azure App Service environment. Use EPPlus nuget pagkage or Open XML to perform Excel Import/Export Operations .

Code block	Line no	File path
dbc.Open "Provider=Microsoft.Jet.OLEDB.4.0;Data Source=" & ServerPath & ";Extended Properties=""Excel 8.0;HDR=YES;IMEX=1"""	31	C:\Users\ samle\Desktop\CH\XYZ_Refresh_BackUp_2015.08.17 \ch_load_data_excel_reconciliacion.asp
dbc.Open "Provider=Microsoft.Jet.OLEDB.4.0;Data Source=" & ServerPath & ";Extended Properties=""Excel 8.0;HDR=YES;IMEX=1"""	27	C:\Users\ samle\Desktop\CH\Old_programs\ch_load_data_excel_ 20091029.asp
Show All		

Recommendation

Install ExcelPackage using nuget packagemanager console
1.Go to References in Application.
2. Click on EPPlus.
3.Select Copy Local= tue.
4.Change the Excel Import Code.
Sample Code
public string Import() { string sWebRootFolder = _hostingEnvironment.WebRootPath; string sFileName = @"demo.xlsx"; FileInfo file = new FileInfo(Path.Combine(sWebRootFolder, sFileName)); try { using (ExcelPackag package = new ExcelPackage(file)) { StringBuilder sb = new StringBuilder(); ExcelWorksheet worksheet = package.Workbook.Worksheets[1]; int rowCount = worksheet.Dimension.Rows; int ColCount = worksheet.Dimension.Columns; bool bHeaderRow = true; for (int row = 1; row <= rowCount; row++) { for (int col = 1; col <= ColCount; col++) { if (bHeaderRow) { sb.Append(worksheet.Cells[row, col].Value.ToString() + "\t"); } else { sb.Append(worksheet.Cells[row, col].Value.ToString() + "\t"); } } sb.Append(Environment.NewLine); } return sb.ToString(); } } catch (Exception ex) { return "Some error occured while importing." + ex.Message; } }

Impact

Mandatory

Estimated Efforts

8 Hours

Help URL

https://social.technet.microsoft.com/wiki/contents/articles/31790.asp-net-mvc-upload-read-excel-file.aspx

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APPENDIX

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CloudPilot & Application PaaS Migration – Case Study

- Sample Application
  - 438,606 Lines of Code & SQL Scripts
  - Estimate: 3 developer-days to scan 10,000 lines of code
  - 129 person-days to manually scan for changes needed to migrate
  - CloudPilot scanned in 8:37 minutes
  - Identified 32 Mandatory code changes required to run in Azure PaaS
    - Identify specific line(s) of code to change
    - Provide sample code for remediation
    - Links to authoritative guidance
    - Ensure meets Security & Compliance requirements

Reality: Cloud work is not a linear, left to right approach

Scenario #1 (Strategy)

Want to move to the Cloud, but don't know how or what to migrate, how much it can save, and what it will cost

I was brought in last year to drive Cloud migration, but we are nowhere and the Board is in my face about this.

CIO – East Coast Property Management Company

Scenario #2 ("Lift & Shift")

Need to move to Azure, but not sure that there is time to stop and modernize apps and use PaaS

I need to be out of the German Datacenter in like 6 months and we just need to get this done.

CIO – Global Tier 1 Automotive Supplier

Scenario #3 (Reduce Cost)

Moved some workloads to Azure, but just got this huge bill. They need help to deal with what they are running in Azure

I get the security and compliance capabilities, but go back to the cost management view.

CISO – Leading Technology Company

Scenario #4 (Optimize)

Committed to Azure and have saved money, but not taking advantage of the real strategic value of the Cloud with PaaS

We have some apps that are mission critical and the IaaS approach is not really scalable. We need to look at this again.

DevOps Director – Global Manufacturer

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App Modernization: CloudAtlas

Accelerate your journey to Cloud at scale

CloudAtlas

- CloudRecon – Assess on-premise IT environment to develop cloud migration strategy, including detailed cost savings.
- CloudPilot – Static-code scan of an application and its related databases for migration to Containers, VMs and PaaS
- CloudSupervisor – Monitor Azure subscriptions for cost, security, and regulatory compliance
- CloudOrigin – Knolwedgebase of Azure best practices and authoring tool for security and GRC controls and budgets.

	Discover	CloudRecon Assess & Target	CloudPilot Modernize	CloudSupervisor Monitor & Optimize	CloudOrigin® Continuous Control
	3rd Party Infrastructure Assessment Tools: • Azure Migrate • System Center • MSFT MAP Tool • Movere • Cloudamize • ServiceNow • Turbonomic • Others….	Consume Infrastructure Data to create inventory of apps, data & workloads: • Lift & Shift, PaaS & Stack • Cloud costs and ROI • Cybersecurity Report	Static code analysis for apps and databases • 'No Code Change' Migrations to Containers, VMs and PaaS • Modernize apps for PaaS	• Control: Cost, Cybersecurity, and Compliance (GRC) • Configure baselines of enterprise standards & report on app compliance	• Cost, Cybersecurity and Compliance (GRC) controls • Always current Knowledgebase of Azure Services and best practices
Option #1	**Cloud Strategy:** Want to move to the Cloud, but don't know how	●	●		
Option #2	**Lift & Shift:** Need to move to Azure, but no time to modernize apps and use PaaS		●	●	
Option #3	**Reduce Costs:** Moved some workloads to Azure, and need to reduce costs of what's running in Azure			●	●
Option #4	**Optimize:** Committed to Azure and saved money, but not taking advantage of the real strategic value of the Cloud with PaaS		●	●	●

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Redmond, WA based ISV with significant technical resources located in the US and India. Our global focus is on **Cloud**, **Cybersecurity**, **Compliance** (regulatory) and **Cost**.

Inc. 5000 #353 2015

Microsoft Gold Partner

Microsoft

Cloud Solution Provider (CSP)

Data & Insights Solution Assessment Partner

Azure Migrate Partner

Effectively migrating from a traditional, on-premises IT environment to a Hybrid IT environment that may include elements of SaaS, IaaS, and PaaS requires a logical set of steps.

Discover

3rd Party Infrastructure Assessment Tools*:

- Azure Migrate*
- MSFT MAP Tool*
- System Center*
- Movere*
- Cloudamize*
- ServiceNow*
- Turbonomic*
- SAM Live!*
- Lansweeper
- Flexera
- SNOW Software
- Etc.

* Currently able to capture Performance Data.

Assess & Target

CloudRecon

Consume Infrastructure Data to create inventory of apps, data & workloads:

- Lift & Shift, PaaS & Stack
- Cloud costs and ROI
- Detailed Data Assessment – SQL MI

Migrate & Optimize

CloudPilot

Static code analysis for apps and databases

- .NET, Java & JavaScript
- MySQL and SQL Server
- Modernize Data/Apps for Azure PaaS

Monitor

CloudSupervisor

- Control: Cost, Cybersecurity, and Compliance (GRC)
- Configure baselines of enterprise standards & report on app compliance

Continuous Control

CloudOrigin®

- Cost, Cybersecurity and Compliance (GRC) controls
- Always current Knowledgebase of Azure Services and best practices

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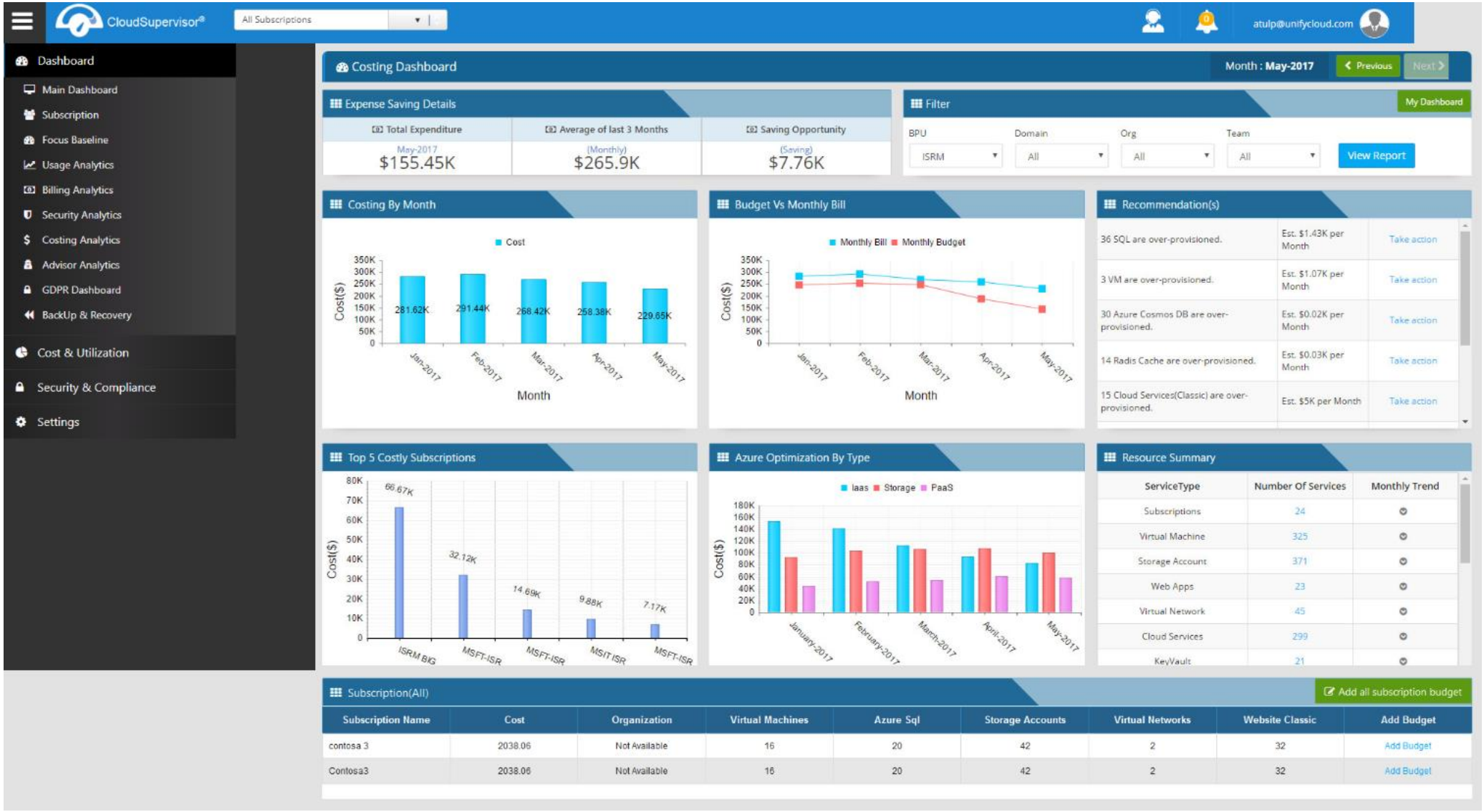
3-month Managed Service will optimize Azure cost



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