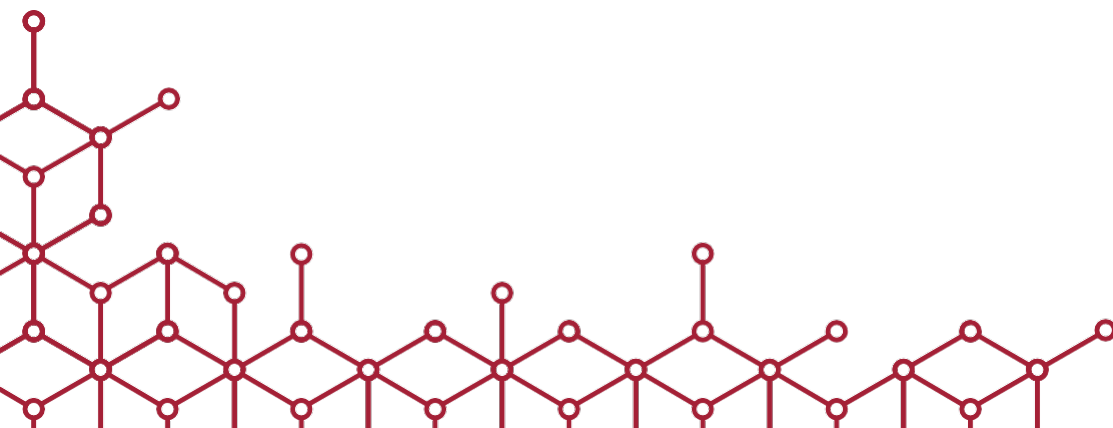


MANAGED AZURE CLOUD FOUNDATION SERVICE

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INTRODUCTION TO MANAGED AZURE SERVICES

The promise of cloud computing is extremely compelling. It can drive business transformation and deliver unprecedented flexibility and agility.

Azure, however, is constantly evolving with features regularly being released and updated, creating complexity that can be challenging to navigate. Making the right investment and architecture choices is vital to unlocking the full potential of cloud services. Azure is a powerful platform but navigating the many options, features and choices requires the guidance of a trusted, expert partner.

This is where Aptum can help, as we simplify the journey so that you can focus on your core business. With a strong background in managing mission-critical infrastructure solutions for customers, we are well placed to advise on the best strategies to secure, scale and leverage the power of Azure. We start by understanding the business outcomes your cloud deployment must achieve. We will leverage our experience and that of our technology partners to ensure that the best possible cloud architecture is designed for your specific needs. We will manage the build of your Azure environment, the migration of your data and applications, and look after the ongoing management and optimization with the backing of a 24/7/365 team of expert's keen to reduce complexity and risk.

The result is you can focus on your business and your customers are safe in the knowledge that your Azure platform is in expert hands and your cloud spend is delivering maximum value.

ABOUT MANAGED AZURE CLOUD SERVICES

Aptum provides a flexible support model that can augment your existing Cloud Engineers to provide an outsourced experience

At the Premium level of service Aptum Managed Microsoft Azure provides day-to-day operational management of infrastructure within the Azure Cloud, including best practice advice, configuration assistance and troubleshooting services, along with OS patching, anti-malware, monitoring, proactive services and backup services.

You make one call to our support team, and we'll keep you informed as we work on your issue through to resolution. If there is a problem with your infrastructure, our team of system administrators will get to work to make it right – as soon as possible.

You are provided cloud expertise available around the clock, no surprise costs, a fully secure environment, governance meets “best practice” and a resilient, redundant solution that addresses any problem providing baked in business continuity.

Managed Azure also now offers three enhanced managed service tiers to create more flexibility. Whether you choose Foundation, Advanced or Premium Service we will align with your needs, specific business outcomes and cloud modernization goals wherever you are on your cloud journey.

APTUM MANAGED AZURE CLOUD FOUNDATION SERVICE

Managed Azure Cloud Foundation Service you receive simple platform support with light touch points inclusive of delivery of a health check assessment. It provides self-service access to tools for cost optimization and support requests and is backed by Premier Microsoft Support Agreement.

CUSTOMER BENEFITS

- **Managed Microsoft Azure services** Aptum takes on the responsibilities of managing the infrastructure, allowing you to focus on your customers, growing your business and maximizing your return on investment. In addition, there are many other benefits which include:
- **Faster and more reliable connections with lower latencies** – As a Microsoft Connectivity provider we can deliver hybrid infrastructure via ExpressRoute, facilitating the transfer of data between on-premises and Azure which can result in significant cost savings
- **Hybrid Cloud Manager** – to deliver cost and security analytics recommendations. Historical usage and predicted bills Budget management, security management and governance tooling available.
- **Flexible, adaptable solutions and the ability to meet fast growth** – Paired with a choice of additional services, you can adapt the level of management required for each of your Azure subscriptions. We will work with you to create the flexibility and reliability you need to fully accommodate your business. Whether you've been in business for years or are a start-up company, Managed Microsoft Azure services will adapt to accommodate your business operations today and grow with you in the future.
- **Fast, secure, and reliable solutions** – Our team of experts will tailor the solution to your needs using best practice recommendations that consider resiliency, security, and performance. Configured to receive security and critical update alerts our teams monitor your systems to detect and resolve problems early on, so you will enjoy increased security and system uptime.
- **Budget friendly and cost efficient** – The management service is designed to scale with your business in the same way as your cloud infrastructure solution does. As a result, you will pay for management services only when the cloud services are active.
- **Personalized and direct contact with our team of experts** – You receive high quality service and flexibility through our white glove service. Our goal is to ensure efficient and effective collaboration for all our customers and hence you will have direct contact with our team of experts. You will not only receive the solutions you need, but these will be delivered the way you want.
- **Increased security with our Identity Access Management System** – Aptum service passwords are automatically burned and rotated once viewed and we have the ability to audit administrator access at any time. Additionally, you can leverage private IP's on your solutions to limit the attack surface and still receive management services.
- **Protecting your critical data** – We will configure and monitor the completion of Azure backups thereby protecting your business-critical infrastructure, according to the backup schedule and retention policy required by your business for data protection and compliance purposes.

MANAGED AZURE CLOUD FOUNDATION SERVICE

Leverage the power of Azure safely with the knowledge that the Aptum team of experts are here to help. Choose between the simple Platform Support included in the Aptum Managed Azure Foundation Service or upgrade to a Managed Cloud subscription with Aptum Managed Azure Service.

Changing your level of management may require prior assessments/gaps/remediation and may require additional services.

The matrix below provides an overview of Managed Azure Cloud Foundation service:

OFFERING	MANAGED AZURE CLOUD FOUNDATION
Cloud Marketplace Procurement	✓
Subscription management and Cloud billing support	✓
Online Service Request Portal	✓
Cloud Platform Service Availability and Health Monitoring	✓
Cloud Cost Insights and Utilization Dashboard	✓
Cloud Advisory Services	✓
Cloud Health Check Assessment	✓
24x7 Escalation Management for Azure Platform	✓

* Note all tickets escalated to Microsoft are at premier support level.

* Cloud workload not including the application layer

* DRaaS as an additional service is required. Test plan and a yearly test is required

MANAGED AZURE CLOUD FOUNDATION SERVICE

SCOPE OF WORK

Managed Azure Cloud Foundation Managed Azure Cloud Foundation provides tooling and 24x7 access to human expertise. Managed Azure Cloud Foundation provides the straightforward platform support you need with the addition of assessments, a cost insight dashboard, cost optimization tools and the ability to call on us as required for support. Additionally, our managed services are backed by a Microsoft Premier Support Agreement.

SERVICE DELIVERABLES

With Managed Azure Cloud Foundation service, you will be entitled to receive the following deliverables.

Subscription Management and Cloud Billing Support

You will be provided with administration access to the Aptum Cloud Marketplace to be able to place orders for Azure and associated managed services. You will be provided with detailed billing information in arrears at the end of each billing period.

Cloud Platform Service Availability and Health Monitoring

Aptum will integrate our service with your Azure Service Health API to monitor for Azure Platform service outages and maintenance events. Events will be triaged by Aptum to determine if they are service impacting before being raised as incidents; Aptum will pass along informational event notifications to your technical contacts.

Cloud Cost and Utilization Insights

You will be onboarded to Aptum's Cost Management Tool and receive support with configuring the tool to align to your cost reporting requirements. The Cost Management Tool will provide visibility into costs as well as utilization of deployed Azure resources

Cloud Advisory Service

You will have access to Aptum Cloud Advisory Service for Azure service guidance, support with cloud licensing, billing and cost management inquiries, and requests for reserved capacity investments. The Cloud Advisory Services team will prescribe regular service touch points to help discover, assess, and develop a plan to optimize your cloud environment, as well as coordinate your cloud journey.

Cloud Health Check Assessment (Prerequisite of greater than \$5000 CAD in Azure Consumption)

A Cloud Health Check Assessment will be coordinated by the Advisory Services team and delivered during the service onboarding period. The Cloud Health Check Assessment will measure the environment Performance, Reliability, Security and Costs against a Best Practice baseline.

MANAGED AZURE SUPPORT DELIVERABLES

24x7 Escalation Management for Azure Platform

You will have access to contact Aptum cloud experts 24x7 for support with Cloud Platform outages. Support requests will be triaged to determine if cause of outage is Azure Platform related or with your solution.

For Azure Platform related outages, an escalation to Microsoft may be required; Aptum will manage escalations on your behalf.

Escalations to Microsoft may be required in the following scenarios:

- An issue with the Azure platform itself where multiple customers are impacted.
- An issue where Aptum lacks access required to complete the request.
- An issue where Aptum has exhausted internal knowledge for a specific area.
- An Azure SLA credit request.

All Microsoft Azure SLA Credits are passed through to you.

Cloud Support Plans

Support of your solutions is not covered above the Azure Platform under the Managed Azure Cloud Foundation service. You can request support either through Cloud Support Plans or be billed at Aptum standard hourly rates.

BILLING

A onetime activation fee is included as part of the service transition to Aptum Premium Managed Services. This covers setup and configuration of tools and runbooks.

For existing Azure environments or workload migrations that are being transitioned to Aptum, an Azure Cloud environment assessment is performed, and remediation activities will be covered under a separate Aptum professional service SOW as part of the Aptum Support Promise.

For new Azure environments that are architected and provisioned by Aptum, they will automatically qualify for the Aptum Support Promise.

The Managed Azure Cloud Premium Service will be billed in arrears as it is calculated based on your Azure Cloud resource usage. The variable usage element is billed as a percentage of your Azure Cloud resource usage billing.

Please refer to the sales quotation for more information on the subscription and variable usage elements as they relate to your account.

ROLES AND RESPONSIBILITIES

Reducing risk and setting clear expectations around the roles and responsibilities is key to a successful deployment and the management of your Azure infrastructure solution. The responsibilities matrix below provides you with the necessary details relating to the services included with your Aptum Managed Azure Foundation service and Azure environment. The table also includes best practice recommendations for you and your development partner as you work together to support your business applications.

RACI: R = Responsible | A = Accountable | C = Consulted | I = Informed

ACTIVITY – MANAGED AZURE CLOUD FOUNDATION SERVICE	CUSTOMER	APTUM
SERVICE LEVEL ACTIVITIES		
Customer Online Portal	CI	RA
24/7 Response to Incident Management & Service Requests via tickets or phone	RA	C
Change management through ticketing	RACI	RCI
Escalation management for Microsoft Azure platform	CI	RA
ACCOUNT & SOLUTION MANAGEMENT ACTIVITIES		
Consolidated billing of customer Azure CSP subscriptions	CI	RA
Management of Enterprise Agreement for PAYGO Subscription	RA	
Allocate resources to the Azure Managed Cloud, or Azure Platform Support subscriptions	RA	
Provide a named Account Manager for the account	CI	RA
Provide named Customer Experience Manager (CEM) for eligible accounts	CI	RA
SOLUTION DESIGN ADVISORY SERVICE		
Understand customer objectives	RACI	RCI
Provide solution best practice recommendations	CI	RA
Select and implement preferred solution	RA	CI

ACTIVITY – MANAGED AZURE CLOUD FOUNDATION SERVICE	CUSTOMER	APTUM
SOLUTION ARCHITECTURE (OPTIONAL DESIGN & BUILD SERVICE)		
Understand customer business objectives	RACI	RCI
Deep technical discovery session	CI	RA
Provide additional detailed implementation requirements	RACI	CI
Make recommendations on architecture for new solution based on customer business objectives and with considerations for high availability, security, scalability and performance	CI	RA
Decide on preferred architecture for new solution	RA	CI
Create logical solution diagram & Statement of Work (SOW) document with detailed configuration information (e.g. Virtual Networks, IP addresses, security groups, etc.)	CI	RA
SOLUTION DEPLOYMENT (OPTIONAL DESIGN & BUILD SERVICE)		
Prepare and deploy customer infrastructure environment (e.g. Compute, Network and storage)	CI	RA
Initial deployment and configuration of supported IaaS virtual machine infrastructure	CI	RA
Initial deployment and configuration of unsupported IaaS virtual machines	CI	RA
Ongoing configuration of unsupported IaaS virtual machines	RA	CI
Configure and test Aptum supplied connectivity elements (VPNs and ExpressRoute)	RCI	RACI
User acceptance testing and sign off	RA	CI
NETWORK SERVICES & SECURITY		
Assistance with creating, configuring identity access management (IAM) roles & application of policies	RACI	
Creating and configuring Azure network security groups (NSGs)	RACI	
Creating, configuring and testing load balancer rules	RACI	
Installation of antivirus agent and definition updates	RACI	

ACTIVITY – MANAGED AZURE CLOUD FOUNDATION SERVICE	CUSTOMER	APTUM
VIRTUAL MACHINES		
Operating system user management	RACI	
Installation and management of third-party applications and code	RACI	
Automated installation of Operating system updates	RACI	
Configuration assistance and troubleshooting of operating system components*	RACI	
BACKUPS		
Selecting data backup strategy (choice of backup tools)	RACI	
Implement backup strategy and configure policies	RACI	
Monitoring of backup failures to be investigated	RACI	
Validation and testing of backup strategy	RACI	
Maintenance of local backup script	RACI	
Initial configuration of scripted database backup	RACI	
Restoration of data from backup tool	RACI	
MONITORING AND ALERT HANDLING		
Configure monitoring for customer servers	RACI	
Specification of run-book actions	RACI	
Validation of monitoring alerts (testing)	RACI	
Incident management of basic alerts	RACI	

ACTIVITY – MANAGED AZURE CLOUD FOUNDATION SERVICE	CUSTOMER	APTUM
STANDARD MONITORING (OPTIONAL MONITORING PACKAGE)		
Selection of monitoring level (options)	RACI	
Monitoring alert threshold tuning (optimization based on requirements)	RACI	
Configuration of alerts	RACI	
Response and remediation of alerts	RACI	
APPLICATION CONFIGURATION		
Acquire licenses for custom applications	RACI	
Installation and ongoing management of custom applications	RACI	
Auto-scaling for custom applications	RACI	
Code deployment	RACI	
Migration of application data	RACI	

APPENDIX A

Customer Onboarding Process

Aptum will schedule a kickoff call with you to begin the onboarding process and gather the list of prerequisite information required.

To onboard Cloud Infrastructure for the managed services, Aptum will need access to the platform as listed below.

For Cloud Platform:

- i. A service principal account in your Azure tenant that will be leveraged for delegated access via Azure Lighthouse. This will enable a just in time access role, to manage resources on Azure Cloud.
- ii. To integrate, Azure account with Aptum Ticketing, we need Access Key ID and Secret access key of a user with Read only permissions for all Azure resources.
- iii. A User account for administrative/root level privilege for Operating System (Windows/Linux)

Customer Support Readiness

There are two channels to obtain support from Aptum:

- 1. Toll-Free number: Aptum will provide a Toll-free number during the kick-off call, which can be used to reach Aptum support helpdesk for logging high priority P1 issue/ or getting any update on the P1 tickets.
- 2. Ticketing Tool: Aptum will need a list of users (email ID) from each Customer who will have access to the ticketing tool and can raise a new Service request/Incident or update an existing ticket for any concerns.

APPENDIX B

FLEXIBILITY TO MOVE BETWEEN MANAGED AZURE CLOUD SERVICE LEVELS

Aptum Managed Azure is a partnership that will provide stability, predictability, and assurance. Your journey through the cloud is challenged by your organizations ability to navigate through an increasing complex digital environment. We provide tools, resources, and programs to support your journey of transformation, optimization, and innovation. Our multi-tiered Managed Azure Cloud Service allows you to adapt our services to meet your requirements.

- **Azure Managed Foundation Services** – This is designed as a pay per use managed service for customers that may only require occasional reactive support. Please note that this support level does not include any deployment activities. Additional packages are available to assist with this if required.
- **Azure Managed Advanced Services** – This is an enhancement to Azure Foundation and offers you peace of mind that we will support your virtual machines and infrastructure in line with the service description outlined in this document by proactively monitoring your Infrastructure environment. Please note that this support level does not include any deployment activities. Additional packages are available to assist with this if required.
- **Managed Microsoft Azure Cloud Premium Services** – This is an enhancement to Managed Azure Cloud Advanced Service and builds further on what is offered at the Foundation and Advanced levels, inclusive of support of your virtual machines, and containers at the operating system layer, and provides an enhanced monitoring service that includes remediation.

The flexibility of our service levels allows you to choose different managed service levels for your different environments. In order to support multiple managed service levels, you must provision multiple Azure subscriptions and choose the managed support level. You can then simply allocate resources to the appropriate subscription, based on the desired level of service needed for that resource.

Please note – while it is possible to migrate services between subscriptions, it can be complicated to make the technical modifications necessary to reconfigure the Azure environment and these changes may be service impacting.

If you require deployment activities, there are additional expanded service and support plans available to assist you.

Available Expanded Services and Support Plans

OPTIONAL SERVICES	MANAGED AZURE CLOUD FOUNDATION SUPPORT	MANAGED AZURE CLOUD ADVANCED SUPPORT	MANAGED AZURE CLOUD PREMIUM SUPPORT
Cloud Support Plans A, Fixed Managed Azure Cloud Service Block • Defined project-based work that can span multiple months with a defined end period. These are simple projects that do not require a SOW or dedicated project manager. • Hours carry over until project completion B. Monthly Managed Azure Cloud Service Plan • Hourly blocks of hours designed to augment your cloud operations or provide cloud expertise not available to your team. • This offers volume based prepurchase managed services in a 3, 6, or 12 month term. • A cost-effective way to bring the skills and resources to your cloud environment. • Block of hours does not roll over month to month and we can help identify optimizations to your cloud environment	Available as an additional service	Available as an additional service	Project Managed Service Hours can be added to existing Managed Services
Detailed Architectural Design and Deployment Services – Design Build Service • Discovery sessions run by an experienced solutions consultant and architect team. • Full documentation is created, including the Statement of Work document and detailed solution diagrams. • Delivery of a customized infrastructure solution fully architected and deployed based on business requirements.	Available as an additional service	Available as an additional service	Available as an additional service
Migration Services • Services to help with migrating your applications and data to the new environment.	Available as an additional service	Available as an additional service	Available as an additional service
Project Management • Experienced project managers to coordinate large and complex deployment projects.	Available as an additional service	Available as an additional service	Available as an additional service
DBA Packages and Professional Services • A team of certified DBA's who can help with performance and security optimizations of your business-critical databases. • Available for MySQL, MariaDB and Microsoft SQL Server platforms.	Available as an additional service	Available as an additional service	Available as an additional service

APPENDIX C

Azure Capability Matrix

Aptum strives to keep up the pace of innovation within Azure and is continuously adding support for new Azure features. The table below represents the Microsoft Azure services currently supported by Aptum. Aptum will make every effort to support Azure services not identified in the table below.

AZURE FEATURE	SUPPORTED FUNCTIONALITY
COMPUTE	
Virtual Machines	✓
Virtual Machine Scale Set	✓
App services	✓
STORAGE	
Storage	✓
Managed Disks	✓
Blob Storage	✓
Disk Storage	✓
Backup (Azure Backup)	✓
NETWORKING	
Virtual Networks	✓
Traffic Manager	✓
Azure DNS	✓
Network Security Groups	✓
ExpressRoute	✓
Load Balancer / Application Gateway	✓
VPN/ ExpressRoute Gateway	✓
Azure CDN	✓

*Service availability, connectivity and troubleshooting only included in the package. Optional DBA services are available for assistance with advanced optimizations relating to database performance, scalability, replication, and disaster recovery.

APPENDIX D

MICROSOFT AZURE SERVICE LEVEL AGREEMENT (SLA)

Network uptime and server availability are of the highest importance and Azure solutions and may be backed up by the Microsoft Azure Service Level Agreement (“Azure SLA”).

When thinking about your Azure solution, it is important to design for availability to ensure every step has been taken to minimize downtime caused by maintenance or faults. Microsoft reflects this in the Azure SLAs; for instance, virtual machines in an availability group are offered a 99.95% SLA, whereas a single instance (non-redundant) virtual machine with Standard HDD Managed Disk receives a reduced SLA of 95%.

The Microsoft Azure Service Level Agreement found at <https://azure.microsoft.com/en-gb/support/legal/sla/> applies to the Microsoft Azure services purchased through your Azure subscriptions.

Microsoft does not automatically issue SLA credits, so if you believe that you are eligible for an Azure SLA credit, please submit a service request ticket to the Aptum support team who will contact Microsoft on your behalf.

LEARN HOW APTUM CAN UNLOCK THE POTENTIAL OF YOUR DATA INFRASTRUCTURE.

Visit www.aptum.com or email info@aptum.com

ABOUT APTUM TECHNOLOGIES

Aptum Technologies enables customers to unlock the potential of their data infrastructure to drive tangible business outcomes and maximize the value of their technology investments. Aptum's Data Center, Cloud, Hosting and Connectivity solutions, underpinned with expert Managed and Professional Services, offer genuine choice and adaptability combined with international reach spanning North America, Latin America and Europe. In Canada, through its Fiber business, Aptum is the first neutral host provider of turnkey small cell connectivity, augmenting an extensive metro network across Toronto and Montreal. Aptum is a portfolio company of Digital Colony, a global investment firm dedicated to strategic opportunities in digital infrastructure. For more information, visit www.aptum.com.